

# MBS DynaPDF Plugin Documentation

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## 0.1 Introduction

This is the PDF version of the documentation for the Xojo Plug-in from Monkeybread Software Germany.  
Plugin part: MBS DynaPDF Plugin

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# Chapter 3

## DynaPDF

### 3.1 class DynaPDFAnnotationExMBS

#### 3.1.1 class DynaPDFAnnotationExMBS

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for extended annotation information.

**Example:**

```
dim pdf as DynaPDFMBS // your instance

dim c as Integer = pdf.GetAnnotCount

for i as Integer = 0 to c-1
dim a as DynaPDFAnnotationExMBS = pdf.GetAnnotEx(i)

MsgBox str(a.Type)
next
```

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

**Blog Entries**

- [News from the MBS Xojo Plugins Version 23.5](#)
- [MBS Xojo Plugins, version 23.5pr1](#)
- [MBS Xojo Plugins, version 21.4pr3](#)
- [MBS Real Studio Plugins, version 11.3pr13](#)

- [MBS REALbasic Plugins, version 11.1pr5](#)
- [MBS REALbasic Plugins, version 11.1pr4](#)

### 3.1.2 Methods

### 3.1.3 Constructor

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.1.4 DashPattern(index as UInt32) as single

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The dash pattern.

**Notes:** If BorderStyle is kbsDashed.

### 3.1.5 InkList(index as UInt32) as Single()

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The ink list.

**Notes:** Ink annotations only. Array of array.

Index is from 0 to InkListCount-1.

### 3.1.6 Operator\_Convert as DynaPDFAnnotationMBS

Plugin Version: 23.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Converts this annotation object to older DynaPDFAnnotationMBS.

**Example:**

```
Dim d As New DynaPDFMBS

// create a new annotation
Call d.CreateNewPDF
Call d.append
Dim n As Integer = d.WebLink(0, 0, 100, 100, "about:blank")

// now query as old class and convert to new class
Dim a1 As DynaPDFAnnotationMBS = d.GetAnnot(n)
```

### 3.1. CLASS DYNAPDFANNOTATIONEXMBS

```
Dim a2 As DynaPDFAnnotationExMBS = a1

// now query as new class and convert to old class
Dim e1 As DynaPDFAnnotationExMBS = d.GetAnnotEx(n)
Dim e2 As DynaPDFAnnotationMBS = e1

// please update all your code to move to DynaPDFAnnotationExMBS
Break
```

**Notes:** The fields not supported by DynaPDFAnnotationMBS are lost in the conversion.

#### 3.1.7 QuadPoints(index as UInt32) as single

Plugin Version: 12.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Gets a quad point value.

**Notes:** Index from 0 to QuadPointsCount-1.  
Highlight, Link, and Redact annotations only.

#### 3.1.8 Vertices(index as UInt32) as single

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The vertices array.

**Notes:** Line, PolyLine, and Polygon annotations only.

#### 3.1.9 Properties

##### 3.1.10 AnnotFlags as UInt32

Plugin Version: 9.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The flags for this annotation.

**Notes:** You can use this constants:

(Read only property)

##### 3.1.11 Author as String

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

kafNone	=	&h0000000
kafInvisible	=	&h0000001
kafHidden	=	&h0000002
kafPrint	=	&h0000004
kafNoZoom	=	&h0000008
kafNoRotate	=	&h0000010
kafNoView	=	&h0000020
kafReadOnly	=	&h0000040

**Function:** Annotation's author.

**Notes:** This string is either an unicode encoded string or an ASCII encoded string.  
(Read only property)

### 3.1.12 BackColor as UInt32

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Background color.

**Notes:** (Read only property)

### 3.1.13 BBox as DynaPDFRectMBS

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Bounding box in bottom-up coordinates.

**Notes:** (Read only property)

### 3.1.14 BorderColor as UInt32

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Border color.

**Notes:** (Read only property)

### 3.1.15 BorderEffect as Integer

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The border effect.

**Notes:** Circle, Square, FreeText, and Polygon annotations.  
(Read only property)

### 3.1.16 BorderStyle as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Border style.

**Notes:** (Read only property)

### 3.1.17 BorderWidth as Single

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Border width.

**Notes:** (Read only property)

### 3.1.18 Caption as Boolean

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If true, the annotation string Content is used as caption.

**Notes:** The string is shown in a PopUp annotation otherwise.  
(Read only property)

### 3.1.19 CaptionOffsetX as Single

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Horizontal offset of the caption from its normal position.

**Notes:** (Read only property)

### 3.1.20 CaptionOffsetY as Single

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Vertical offset of the caption from its normal position.

**Notes:** (Read only property)

### 3.1.21 CaptionPos as Integer

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The position where the caption should be drawn if present.

**Notes:** (Read only property)

### 3.1.22 Content as String

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Annotation's contents.

**Notes:** This string is either a unicode encoded string or an ASCII encoded string.

(Read only property)

### 3.1.23 CreateDate as String

Plugin Version: 9.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creation Date ->Optional

**Notes:** (Read only property)

### 3.1.24 DashPatternCount as UInt32

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of values in the array.

**Notes:** (Read only property)

### 3.1.25 Deleted as Boolean

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Is this annotation marked as deleted?

**Notes:** (Read only property)

### 3.1.26 DestFile as String

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The destination file.

**Notes:** For File link or web link annotations.

(Read only property)

### 3.1.27 DestPage as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The destination page.

**Notes:** For Page link annotations only.

(Read only property)

### 3.1.28 DestPos as DynaPDFRectMBS

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The destination position.

**Notes:** For Page link annotations only.

(Read only property)

### 3.1.29 DestType as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The destination type.

**Notes:** For Page link annotations only.

(Read only property)

### 3.1.30 EmbeddedFileHandle as Integer

Plugin Version: 9.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The handle for the embedded file.

**Notes:** For FileAttach annotations only. Use the handle with the GetEmbeddedFile function.

(Read only property)

### 3.1.31 Grouped as Boolean

Plugin Version: 9.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Meaningful only if Parent `<>-1` and Type `<>katPopUp`.

**Notes:** If true, the annotation is part of an annotation group. Properties like Content, CreateDate, ModDate, BackColor, Subject, and Open must be taken from the parent annotation.

(Read only property)

### 3.1.32 Handle as Integer

Plugin Version: 12.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The internal object reference.

**Notes:** (Read only property)

### 3.1.33 HighlightMode as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Visual effect.

**Notes:** (Read only property)

### 3.1.34 Icon as Integer

Plugin Version: 9.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The icon type for this annotation.

**Notes:** The Icon type depends on the annotation type. If the annotation type is `atText` then the Icon is of type `TAnnotIcon`. If the annotation type is `atFileAttach` then it is of type `kTFileAttachIcon`. If the annotation type is `atStamp` then the Icon is the stamp type (`kTRubberStamp`).

For any other annotation type this value is not set (-1).

(Read only property)

### 3.1.35 InkListCount as Integer

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of ink arrays.

**Notes:** (Read only property)

### 3.1.36 Intent as String

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Markup annotations only.

**Notes:** The intent allows to distinguish between different uses of an annotation. For example, line annotations have two intents: LineArrow and LineDimension.

(Read only property)

### 3.1.37 LE1 as Integer

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Style of the start point ->Line and PolyLine annotations only.

**Notes:** (Read only property)

### 3.1.38 LE2 as Integer

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Style of the end point ->Line and PolyLine annotations only.

**Notes:** (Read only property)

### 3.1.39 LeaderLineExtend as Single

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional leader line extend beyond the leader line.

**Notes:** (Read only property)

### 3.1.40 LeaderLineLen as Single

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Length of the leader lines (positive or negative)

**Notes:** (Read only property)

### 3.1.41 LeaderLineOffset as Single

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Amount of space between the endpoints of the annotation and the leader lines.

**Notes:** (Read only property)

### 3.1.42 MarkupAnnot as Boolean

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If true, the annotation is a markup annotation.

**Notes:** Markup annotations can be flattened separately, see FlattenAnnots function.

(Read only property)

### 3.1.43 ModDate as String

Plugin Version: 9.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Modification Date ->Optional

**Notes:** (Read only property)

### 3.1.44 Name as String

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Annotation's name.

**Notes:** This string is either an unicode encoded string or an ASCII encoded string.

(Read only property)

### 3.1.45 OC as Integer

Plugin Version: 15.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Handle of an OCG or OCMD or -1 if not set.

**Notes:** Annotations can be part of an Optional Content Group (OCG) or Optional Content Membership Dictionary (OCMD). If OC is greater -1 an OCG or OCMD handle was set. To determine whether an OCG handle was set, check whether the value is smaller &#x40000000.

(Read only property)

### 3.1.46 Opacity as Single

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The annotation's opacity.

**Notes:** Opacity = 1.0 = Opaque, Opacity <1.0 = Transparent, Markup annotations only (Read only property)

### 3.1.47 Open as Boolean

Plugin Version: 9.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Meaningful only for annotations which have a corresponding PopUp annotation.

**Notes:** (Read only property)

### 3.1.48 PageIndex as UInt32

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The page index is used to sort form fields.

**Notes:** See SortFieldsByIndex().  
(Read only property)

### 3.1.49 PageNum as UInt32

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Page on which the annotation appears.

**Notes:** (Read only property)

### 3.1.50 Parent as Integer

Plugin Version: 9.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Parent annotation handle of a PopUp Annotation or the parent annotation if this annotation represents a state of a base annotation.

**Notes:** In this case, the annotation type is always atText and only the following members should be considered:

The PopUp annotation of a text annotation which represent an Annotation State must be ignored.  
(Read only property)

State	The current state
StateModel	Marked, Review, and so on
CreateDate	Creation Date
ModDate	Modification Date
Author	The user who has set the state
Content	Not displayed in Adobe's Acrobat...
Subject	Not displayed in Adobe's Acrobat...

### 3.1.51 PopUp as Integer

Plugin Version: 9.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Handle of the corresponding PopUp annotation if any.

**Notes:** (Read only property)

### 3.1.52 QuadPointsCount as UInt32

Plugin Version: 12.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of quad points.

**Notes:** Highlight, Link, and Redact annotations only.

(Read only property)

### 3.1.53 RD as DynaPDFRectMBS

Plugin Version: 16.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The rectangular difference between the annotations bounding box and the content area.

**Notes:** Caret, Circle, Square, and FreeText annotations.

(Read only property)

### 3.1.54 RichStyle as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional default style string.

**Notes:** For FreeText annotations.

(Read only property)

### 3.1.55 RichText as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional rich text string (RC key).

**Notes:** For Markup annotations.

(Read only property)

### 3.1.56 Rotate as Integer

Plugin Version: 16.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The rotation for caret annotations.

**Notes:** Caret and FreeText annotations only. Must be zero or a multiple of 90.

(Read only property)

### 3.1.57 StampName as String

Plugin Version: 9.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The stamp name.

**Notes:** Set only, if Icon property is rsUserDefined.

(Read only property)

### 3.1.58 State as String

Plugin Version: 9.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The state of the annotation.

**Notes:** (Read only property)

### 3.1.59 StateModel as String

Plugin Version: 9.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The state model (Marked, Review, and so on).

**Notes:** (Read only property)

### 3.1.60 Subject as String

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Annotation's subject.

**Notes:** This string is either an unicode encoded string or an ASCII encoded string.  
(Read only property)

### 3.1.61 Subtype as String

Plugin Version: 10.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The subtype.

**Notes:** Set only, if Type = katUnknownAnnot.  
(Read only property)

### 3.1.62 Type as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Annotation type.

**Notes:** See at\* constants.  
(Read only property)

### 3.1.63 VerticesCount as UInt32

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of values in the vertices array.

**Notes:** This is the raw number of floating point values. Since a vertice requires always two coordinate pairs, the number of vertices or points is VerticeCount divided by 2.  
(Read only property)

## 3.2 class DynaPDFAnnotationMBS

### 3.2.1 class DynaPDFAnnotationMBS

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for annotation information.

**Example:**

```
dim pdf as DynaPDFMBS // your instance

dim c as Integer = pdf.GetAnnotCount

for i as Integer = 0 to c-1
dim a as DynaPDFAnnotationMBS = pdf.GetAnnot(i)

MsgBox str(a.Type)
next
```

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

**Blog Entries**

- [News from the MBS Xojo Plugins Version 23.5](#)
- [MBS Xojo Plugins, version 23.5pr1](#)
- [MBS Xojo / Real Studio Plugins, version 14.5pr4](#)

### 3.2.2 Methods

### 3.2.3 Constructor

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.2.4 Operator\_Convert as DynaPDFAnnotationExMBS

Plugin Version: 23.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Converts this annotation object to newer DynaPDFAnnotationExMBS.

**Example:**

```

Dim d As New DynaPDFMBS

// create a new annotation
Call d.CreateNewPDF
Call d.append
Dim n As Integer = d.WebLink(0, 0, 100, 100, "about:blank")

// now query as old class and convert to new class
Dim a1 As DynaPDFAnnotationMBS = d.GetAnnot(n)
Dim a2 As DynaPDFAnnotationExMBS = a1

// now query as new class and convert to old class
Dim e1 As DynaPDFAnnotationExMBS = d.GetAnnotEx(n)
Dim e2 As DynaPDFAnnotationMBS = e1

// please update all your code to move to DynaPDFAnnotationExMBS
Break

```

**Notes:** The fields not supported by DynaPDFAnnotationMBS are all zero.

### 3.2.5 Properties

#### 3.2.6 Author as String

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Annotation's author.

**Notes:** This string is either an unicode encoded string or an ASCII encoded string.  
(Read only property)

#### 3.2.7 BackColor as UInt32

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Background color.

**Notes:** (Read only property)

#### 3.2.8 BBox as DynaPDFRectMBS

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Bounding box in bottom-up coordinates.

**Notes:** (Read only property)

### 3.2.9 BorderColor as UInt32

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Border color.

**Notes:** (Read only property)

### 3.2.10 BorderStyle as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Border style.

**Notes:** (Read only property)

### 3.2.11 BorderWidth as Single

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Border width.

**Notes:** (Read only property)

### 3.2.12 Content as String

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Annotation's contents.

**Notes:** This string is either a unicode encoded string or an ASCII encoded string.  
(Read only property)

### 3.2.13 Deleted as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Is this annotation marked as deleted?

**Notes:** (Read only property)

### 3.2.14 Handle as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Annotation handle.

**Notes:** (Read only property)

### 3.2.15 HighlightMode as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Visual effect.

**Notes:** See hm\* constants.

(Read only property)

### 3.2.16 Name as String

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Annotation's name.

**Notes:** This string is either a unicode encoded string or an ASCII encoded string.

(Read only property)

### 3.2.17 PageNum as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Page on which the annotation appears.

**Notes:** (Read only property)

### 3.2.18 Subject as String

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Annotation's subject.

**Notes:** This string is either a unicode encoded string or an ASCII encoded string.

(Read only property)

### 3.2.19 Type as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Annotation type.

**Notes:** See at\* constants.

(Read only property)

## 3.3 class DynaPDFBarcode2MBS

### 3.3.1 class DynaPDFBarcode2MBS

Plugin Version: 20.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for barcode creation parameters.

**Blog Entries**

- [News from the MBS Xojo Plugins Version 21.3](#)
- [MBS Xojo Plugins, version 21.3pr1](#)
- [News from the MBS Xojo Plugins Version 20.5](#)

**Xojo Developer Magazine**

- [19.2, pages 30 to 31: Getting Started with DynaPDF, If you've never tried DynaPDF, you don't know how easy it is!](#) by Stefanie Juchmes

### 3.3.2 Properties

#### 3.3.3 BarcodeType as Integer

Plugin Version: 20.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The type of barcode that should be created.

**Notes:** See kbct\* constants.

(Read and Write property)

#### 3.3.4 BgColor as Integer

Plugin Version: 20.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Background color.

**Notes:** Default: NO\_COLOR (transparent)

(Read and Write property)

#### 3.3.5 BorderWidth as Integer

Plugin Version: 20.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Border width

**Notes:** Default is zero.

(Read and Write property)

### 3.3.6 Data as String

Plugin Version: 20.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The data in the barcode.

**Notes:** (Read and Write property)

### 3.3.7 DataType as Integer

Plugin Version: 20.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Data type and escape flag.

**Notes:** Default is kbcdtBinary.

See kbcdt\* constants.

(Read and Write property)

### 3.3.8 DotSize as Single

Plugin Version: 20.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Dotty mode only.

**Notes:** Default is 4.0/5.0.

(Read and Write property)

### 3.3.9 Eci as Integer

Plugin Version: 20.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Extended Channel Interpretation mode.

**Notes:** Default 0.

(Read and Write property)

### 3.3.10 FgColor as Integer

Plugin Version: 20.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** RGB Foreground color

**Notes:** (Read and Write property)

### 3.3.11 FSizeFactor as Single

Plugin Version: 20.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Font size correction factor.

**Notes:** Default 0.7.

(Read and Write property)

### 3.3.12 Option1 as Integer

Plugin Version: 20.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Various options, depends on barcode type.

**Notes:** Default value is -1.

For QRCode:

Option1 is the ECC Level with values from 1 = low, 2 = middle, 3 = better, 4 high. Default is low.

Option2 is version code from 1 to 40. Default is 0 to auto select.

For MicroQR you can use ECC Level 1 to 3 as 4 is not supported.

For Data Matrix:

Option2 size from 1 to 30. 0 is auto. See table in zint manual pdf.

Option3 can be 100 to force square size.

For Code 39:

You can set Option2 to 1 to add module 43 checksum.

For MaxiCode:

Option 1 is the mode.

For PDF 417:

Option 1 is a number between 0 and 8 where the number of codewords used for check information is determined by  $2^{(value + 1)}$ .

Option 2 is the number of columns between 1 and 30.

(Read and Write property)

### 3.3.13 Option2 as Integer

Plugin Version: 20.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Various options, depends on barcode type.

**Notes:** Default value is 0.

(Read and Write property)

### 3.3.14 Option3 as Integer

Plugin Version: 20.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Various options, depends on barcode type.

**Notes:** Default value is 0.

(Read and Write property)

### 3.3.15 Options as Integer

Plugin Version: 20.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Output options.

**Notes:** See kbc0\* constants.

(Read and Write property)

### 3.3.16 Orientation as Integer

Plugin Version: 20.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The orientation of the barcode.

**Notes:** Supported values: 0, 90, -90, 180, -180, 270, -270.

(Read and Write property)

### 3.3.17 OuterBorder as DynaPDFRectMBS

Plugin Version: 21.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional border around the scaled barcode measured in user space.

**Notes:** The member OuterBorder can be used to extend the background rectangle. Each side of OuterBorder specifies the line width of the corresponding side of the rectangle. OuterBorder is measured in user space whereas BorderWidth is measured in pixels of the reference grid.

Note that the background rectangle is drawn only if BgColor is set to another value than NO\_COLOR (default).

(Read and Write property)

### 3.3.18 Primary as String

Plugin Version: 20.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Primary data message (max 127 bytes).

**Notes:** Composite codes only.

Image based barcodes only.

(Read and Write property)

### 3.3.19 Scale as Single

Plugin Version: 20.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Image based barcodes only.

**Notes:** Default value is 1.0.

(Read and Write property)

### 3.3.20 ShowText as Boolean

Plugin Version: 20.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Show human readable text?

**Notes:** Default is true.

(Read and Write property)

### 3.3.21 SpaceWidth as Integer

Plugin Version: 20.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whitespace width in pixels

**Notes:** Default value is 0 (auto).

(Read and Write property)

### 3.3.22 SymbHeight as Integer

Plugin Version: 20.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Symbol height

**Notes:** Default is 50.

(Read and Write property)

### 3.3.23 TextOffsetY as Single

Plugin Version: 20.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Offset to correct the y-coordinate of text.

**Notes:** The default value is zero.

(Read and Write property)

### 3.3.24 Constants

#### Data Type Flags

Constant	Value	Description
kbcdtBinary	0	Binary data.
kbcdtEscapeMode	8	Scan input data for escape sequences. This is a flag that can be combined with the other constants, e.g. pass EscapeMode and Unicode.
kbcdtGS1Mode	2	Encodes GS1 data using FNC1 characters.
kbcdtUnicode	1	UTF-8.

#### Output Flags

Constant	Value	Description
kbcoBind	2	Boundary bars above and below the symbol and between rows if stacking multiple symbols.
kbcoBoldText	64	Embolden human readable text.
kbcoBox	4	Add a box surrounding the symbol and whitespace.
kbcoDefault	0	Use default settings.
kbcoDottyMode	&h00000100	Plot a matrix symbol using dots rather than squares.
kbcoGS1_GS_Separator	&h00000200	Use GS instead FNC1 as GS1 separator.
kbcoImageOutput	&h01000000	Draw the barcode as an image. Images are usually larger than vectors and require more processing time.
kbcoNoASCII	1	Consider non-ASCII characters when creating the barcode.
kbcoReaderInit	16	Add a reader initialisation symbol to the data before encoding.
kbcoSmallText	32	Use a smaller font for human readable text.
kbcoUseActiveFont	&h02000000	Vector output only. If set, text is output with the active font. Helvetica is used otherwise.

#### Barcode Types

Constant	Value	Description
kbctAustraliaPost	63	Australia Post Standard Customer
kbctAustraliaRedir	68	Australia Post Redirection
kbctAustraliaReply	66	Australia Post Reply Paid
kbctAustraliaRout	67	Australia Post Routing
kbctAztec	92	Aztec Code
kbctAztecRunes	&h00000080	Aztec Runes
kbctC2Of5IATA	4	Code 2 of 5 IATA
kbctC2Of5Industrial	7	Code 2 of 5 Industrial
kbctC2Of5Interleaved	3	Interleaved 2 of 5
kbctC2Of5Logic	6	Code 2 of 5 Data Logic
kbctC2Of5Matrix	2	Standard Code 2 of 5
kbctChannelCode	&h0000008C	Channel Code
kbctCodabar	18	Codabar
kbctCodablockF	74	Codablock-F
kbctCode11	1	Code 11
kbctCode128	20	Code 128 (automatic subset switching)
kbctCode128B	60	Code 128 (Subset B)
kbctCode16K	23	Code 16K
kbctCode32	&h00000081	Code 32
kbctCode39	8	Code 3 of 9 (Code 39)
kbctCode49	24	Code 49
kbctCode93	25	Code 93
kbctCodeOne	&h0000008D	Code One
kbctDAFT	93	DAFT Code
kbctDataBarExpanded	31	GS1 DataBar Expanded / RSS_EXP
kbctDataBarExpStacked	81	GS1 DataBar Expanded Stacked
kbctDataBarLimited	30	GS1 DataBar Limited / RSS_LTD
kbctDataBarOmniTrunc	29	GS1 DataBar-14 Omnidirectional and truncated / RSS14
kbctDataBarStacked	79	GS1 DataBar-14 Stacked
kbctDataBarStackedO	80	GS1 DataBar-14 Stacked Omnidirectional
kbctDataMatrix	71	Data Matrix ECC200
kbctDotCode	&h00000073	DotCode
kbctDPD	96	DPD code
kbctDPIIdentCode	22	Deutsche Post Identcode
kbctDPLeitcode	21	Deutsche Post Leitcode
kbctEAN128	16	GS1-128 (UCC.EAN-128)
kbctEAN128_CC	&h00000083	Composite Symbol with GS1-128 linear component
kbctEAN14	72	EAN-14
kbctEANX	13	EAN in various sizes.
kbctEANXCheck	14	EAN + Check Digit
kbctEANX_CC	&h00000082	Composite Symbol with EAN linear component
kbctExtCode39	9	Extended Code 3 of 9 (Code 39+)
kbctFIM	49	FIM
kbctFlattermarken	28	Flattermarken
kbctHIBC_Aztec	&h00000070	HIBC Aztec Code
kbctHIBC_CodablockF	&h0000006E	HIBC Codablock-F
kbctHIBC_Code128	98	HIBC Code 128
kbctHIBC_Code39	99	HIBC Code 39
kbctHIBC_DataMatrix	&h00000066	HIBC Data Matrix ECC200
kbctHIBC_MicroPDF417	&h0000006C	HIBC MicroPDF417
kbctHIBC_PDF417	&h0000006A	HIBC PDF417
kbctHIBC_QR	&h00000068	HIBC QR Code
kbctISBNX	69	ISBN (EAN-13 with verification stage)
kbctITF14	89	ITF-14
kbctJapanPost	76	Japanese Postal Code
kbctKIX	90	Dutch Post KIX Code
kbctKoreaPost	77	Korea Post
kbctLOGMARS	50	LOGMARS

## 3.4 class DynaPDFBarcodeMBS

### 3.4.1 class DynaPDFBarcodeMBS

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for detail information on barcode fields.

**Blog Entries**

- [MBS REALbasic Plugins, version 11.1pr4](#)

### 3.4.2 Properties

#### 3.4.3 Caption as String

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional, the caption.

**Notes:** (Read and Write property)

#### 3.4.4 ECC as Single

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The error correction code.

**Notes:** 0..8 for PDF417, or 0..3 for QRCode  
(Read and Write property)

#### 3.4.5 Height as Single

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Height in inches.

**Notes:** (Read and Write property)

#### 3.4.6 nCodeWordCol as Single

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of codewords per barcode coloumn.

**Notes:** Required for PDF417.

(Read and Write property)

### 3.4.7 nCodeWordRow as Single

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of codewords per barcode row.

**Notes:** Required for PDF417.

(Read and Write property)

### 3.4.8 Resolution as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The resolution.

**Notes:** Required. Should be 300.

(Read and Write property)

### 3.4.9 Symbology as String

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The symbology.

**Notes:** PDF417, QRCode, or DataMatrix.

(Read and Write property)

### 3.4.10 Version as Single

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The version of this object.

**Notes:** Should be 1

(Read and Write property)

### 3.4.11 Width as Single

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Width in inches.

**Notes:** (Read and Write property)

### 3.4.12 XSymHeight as Single

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The vertical distance between two barcode modules, measured in pixels.

**Notes:** Only needed for PDF417.

The ratio XSymHeight/XSymWidth shall be an integer value. For PDF417, the acceptable ratio range is from 1 to 4. For QRCode and DataMatrix, this ratio shall always be 1.

(Read and Write property)

### 3.4.13 XSymWidth as Single

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Required. The horizontal distance, in pixels, between two barcode modules.

**Notes:** (Read and Write property)

## 3.5 class DynaPDFBitmapMBS

### 3.5.1 class DynaPDFBitmapMBS

Plugin Version: 14.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a bitmap in DynaPDF.

**Notes:** Currently only used for RenderAnnotOrField function.

This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

### 3.5.2 Methods

### 3.5.3 Constructor

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.5.4 Properties

### 3.5.5 Buffer as Memoryblock

Plugin Version: 14.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Raw image buffer.

**Notes:** To avoid problems, this is a copy of the image data.

(Read and Write property)

### 3.5.6 BufSize as Integer

Plugin Version: 14.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Buffer size in bytes.

**Notes:** (Read and Write property)

### 3.5.7 DestX as Integer

Plugin Version: 14.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** x-coordinate in the main image (the rendered page)

**Notes:** (Read and Write property)

### 3.5.8 DestY as Integer

Plugin Version: 14.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** y-coordinate in the main image (the rendered page)

**Notes:** (Read and Write property)

### 3.5.9 Height as Integer

Plugin Version: 14.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Image height in pixels.

**Notes:** (Read and Write property)

### 3.5.10 Stride as Integer

Plugin Version: 14.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Scanline length in bytes.

**Notes:** (Read and Write property)

### 3.5.11 Width as Integer

Plugin Version: 14.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Image width.

**Notes:** (Read and Write property)

## 3.6 class DynaPDFBookmarkMBS

### 3.6.1 class DynaPDFBookmarkMBS

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for bookmark information.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

**Blog Entries**

- [MBS Xojo Plugins, version 23.1pr1](#)
- [MBS Xojo Plugins, version 18.0pr9](#)
- [MBS Real Studio Plugins, version 11.3pr13](#)

### 3.6.2 Methods

### 3.6.3 Constructor

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.6.4 Properties

### 3.6.5 ColorValue as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Bookmark color (PDF 1.4).

**Notes:** (Read and Write property)

### 3.6.6 DestPage as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Destination page.

**Notes:** (Read and Write property)

### 3.6.7 DestPos as DynaPDFRectMBS

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Destination position.

**Notes:** (Read and Write property)

### 3.6.8 DestType as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Destination type.

**Notes:** (Read and Write property)

### 3.6.9 Handle as Integer

Plugin Version: 18.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The bookmark handle.

**Notes:** Index from 0 to GetBookmarkCount-1.

(Read and Write property)

### 3.6.10 Open as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** True if the bookmark appears open.

**Notes:** (Read and Write property)

### 3.6.11 Parent as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Parent bookmark if any or -1.

**Notes:** (Read and Write property)

### 3.6.12 Style as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Text style (PDF 1.4).

**Notes:** (Read and Write property)

### 3.6.13 Title as String

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The title string.

**Notes:** This string is either an unicode encoded string or an ASCII encoded string.  
(Read and Write property)

### 3.6.14 TitleLen as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The title length.

**Notes:** (Read and Write property)

## 3.7 class DynaPDFChoiceValueMBS

### 3.7.1 class DynaPDFChoiceValueMBS

Plugin Version: 10.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for choice values in a PDF.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

**Blog Entries**

- [MBS REALbasic Plugins, version 11.1pr4](#)

### 3.7.2 Methods

### 3.7.3 Constructor

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.7.4 Properties

### 3.7.5 ExpValue as String

Plugin Version: 10.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The ExpValue.

**Notes:** (Read and Write property)

### 3.7.6 Selected as Boolean

Plugin Version: 10.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether the choice value is selected.

**Notes:** (Read and Write property)

### 3.7.7 Value as String

Plugin Version: 10.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The value.

**Notes:** (Read and Write property)

## 3.8 class DynaPDFCIDMetricMBS

### 3.8.1 class DynaPDFCIDMetricMBS

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a CID Metric.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

### 3.8.2 Methods

### 3.8.3 Constructor

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.8.4 Properties

### 3.8.5 Width as Double

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Width value.

**Notes:** (Read and Write property)

### 3.8.6 x as Double

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** X value.

**Notes:** (Read and Write property)

### 3.8.7 y as Double

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Y value.

**Notes:** (Read and Write property)



## 3.9 class DynaPDFCMapMBS

### 3.9.1 class DynaPDFCMapMBS

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a character map in DynaPDF.

**Notes:** This class contains several duplicate fields because CMap files contain usually a DSC comment section which provides Postscript specific initialization code. With exception of DSCResName the strings in the DSC section should not differ from their CMap counterparts. The Identity mapping of a character collection should contain the DSC comment ”%%BeginResource: CMap (Identity)”. Otherwise the string should be set to the CMap name.

This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

### 3.9.2 Methods

### 3.9.3 Constructor

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.9.4 Properties

### 3.9.5 BaseCMap as String

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If set, this base cmap is required when loading the cmap.

**Notes:** (Read only property)

### 3.9.6 CIDCount as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The ID count.

**Notes:** 0 if not set.

(Read only property)

### 3.9.7 CMapName as String

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The CMap name.

**Notes:** (Read only property)

### 3.9.8 CMapType as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The CMap type.

**Notes:** Should be 1!

(Read only property)

### 3.9.9 CMapVersion as Double

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The CMap version.

**Notes:** (Read only property)

### 3.9.10 DSCBaseCMap as String

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** DSC comment.

**Notes:** (Read only property)

### 3.9.11 DSCCMapVersion as Double

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The DSC CMap version.

**Notes:** (Read only property)

### 3.9.12 DSCResName as String

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** DSC comment.

**Notes:** If the CMap uses an Identity mapping this string should be set to Identity.  
(Read only property)

### 3.9.13 DSCTitle as String

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The DSC title.

**Notes:** DSC comment ->DSC CMap name + Registry + Ordering + Supplement, e.g. "GB-EUC-H Adobe GB1 0"  
(Read only property)

### 3.9.14 FileName as String

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The file name.

**Notes:** The file name and CMap name should be identical!  
(Read only property)

### 3.9.15 FilePath as String

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The file path.

**Notes:** (Read only property)

### 3.9.16 Ordering as String

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The ordering.

**Notes:** CIDSystemInfo ->The Character Collection, e.g. Japan1.  
(Read only property)

### 3.9.17 Registry as String

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The registry string.

**Notes:** CIDSystemInfo ->The registrant of the Character Collection is usually Adobe.  
(Read only property)

### 3.9.18 Supplement as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Supplement number.

**Notes:** CIDSystemInfo ->The Supplement number should be supported in the used PDF Version.  
(Read only property)

### 3.9.19 WritingMode as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The writing mode.

**Notes:** 0 == Horizontal, 1 == Vertical  
(Read only property)

## 3.10 class DynaPDFColorProfilesExMBS

### 3.10.1 class DynaPDFColorProfilesExMBS

Plugin Version: 16.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A set of ICC profiles for color management.

**Notes:** In general, the DefInXXX profiles are used if no other profile is available for the color space. Possible sources are DefaultGray, DefaultRGB, DefaultCMYK, and the Rendering Intents.

The SoftProof profile emulates the output device. This is typically a printer profile or a default CMYK profile. If no profile is set then no device will be emulated. What you see is maybe not what you get on a printer.

To disable color management set the parameter Profiles of InitColormangement() to nil.

Please use DynaPDFColorProfilesExMBS when you have profiles in memory and DynaPDFColorProfilesMBS when you have them as files.

### 3.10.2 Properties

### 3.10.3 DefInCMYK as String

Plugin Version: 16.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The CMYK Profile.

**Notes:** Optional, CMYK colors are the problematic ones.

The other profiles can be created on demand but this is not possible with a CMYK profile. So, this is the most important input profile.

(Read and Write property)

### 3.10.4 DefInGray as String

Plugin Version: 16.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The gray profile.

**Notes:** Optional

(Read and Write property)

### 3.10.5 DefInRGB as String

Plugin Version: 16.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The RGB profile.

**Notes:** Optional, sRGB is the default.  
(Read and Write property)

### 3.10.6 DeviceProfile as String

Plugin Version: 16.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The output device profile.

**Notes:** Optional, the output profile must be compatible with the output color space.  
At this time only Gray or RGB profiles are supported. This is the monitor profile! Default is sRGB.  
(Read and Write property)

### 3.10.7 SoftProof as String

Plugin Version: 16.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The proofing profile.

**Notes:** Optional but very important. This profile emulates the output device.  
(Read and Write property)

## 3.11 class DynaPDFColorProfilesMBS

### 3.11.1 class DynaPDFColorProfilesMBS

Plugin Version: 11.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A set of ICC profiles for color management.

**Notes:** In general, the DefInXXX profiles are used if no other profile is available for the color space. Possible sources are DefaultGray, DefaultRGB, DefaultCMYK, and the Rendering Intents.

The SoftProof profile emulates the output device. This is typically a printer profile or a default CMYK profile. If no profile is set then no device will be emulated. What you see is maybe not what you get on a printer.

To disable color management set the parameter Profiles of InitColormangement() to nil.

Please use DynaPDFColorProfilesExMBS when you have profiles in memory and DynaPDFColorProfilesMBS when you have them as files.

#### Blog Entries

- [DynaPDF Basics](#)
- [MBS Real Studio Plugins, version 11.3pr9](#)

### 3.11.2 Properties

### 3.11.3 DefInCMYK as FolderItem

Plugin Version: 11.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The CMYK Profile.

**Notes:** Optional, CMYK colors are the problematic ones.

The other profiles can be created on demand but this is not possible with a CMYK profile. So, this is the most important input profile.

(Read and Write property)

### 3.11.4 DefInGray as FolderItem

Plugin Version: 11.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The gray profile.

**Notes:** Optional

(Read and Write property)

### 3.11.5 DefInRGB as FolderItem

Plugin Version: 11.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The RGB profile.

**Notes:** Optional, sRGB is the default.

(Read and Write property)

### 3.11.6 DeviceProfile as FolderItem

Plugin Version: 11.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The output device profile.

**Notes:** Optional, the output profile must be compatible with the output color space.

At this time only Gray or RGB profiles are supported. This is the monitor profile! Default is sRGB.

(Read and Write property)

### 3.11.7 SoftProof as FolderItem

Plugin Version: 11.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The proofing profile.

**Notes:** Optional but very important. This profile emulates the output device.

(Read and Write property)

## 3.12 class DynaPDFColorSpaceMBS

### 3.12.1 class DynaPDFColorSpaceMBS

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The color space class.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

**Blog Entries**

- [MBS Xojo / Real Studio Plugins, version 16.0pr6](#)
- [MBS REALbasic Plugins, version 11.1pr4](#)

### 3.12.2 Methods

#### 3.12.3 BlackPoint(index as Integer) as Double

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** CIE blackpoint.

**Notes:** If set, the array contains exactly 3 values. (index 0 to 2)

#### 3.12.4 Colorants(index as Integer) as string

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Colorant names (Separation, DeviceN, and NChannel only).

**Example:**

```
Sub DrawSomething(pdf as DynaPDFMBS)
  // draw all colorants with their own color
  Dim MyX, MyY as Double

  MyX = 10
  MyY = 100

  // set a font
  call pdf.SetFont "Times", pdf.kfsItalic, 10.0, true, pdf.kcp1252

  // loop over all color spaces
  dim Colorcount as Integer = pdf.GetColorSpaceCount

  For j as Integer = 0 to Colorcount-1
    MyX = 10
```

```

dim MyColourSpace as DynaPDFColorSpaceMBS = PDF.GetColorSpaceObj(j)
dim ColorantsCount as Integer = MyColourSpace.ColorantsCount
dim c as Integer = MyColourSpace.NumInComponents
Call pdf.SetExtColorSpace j

// draw name of each colorant
for i as Integer = 0 to c-1

// build array with colors and set 100% for the one color we need
dim values() as Double
redim values(c-1)
values(i) = 1.0

// get name
dim name as string = "#" + str(i)
if i <= ColorantsCount then
name = MyColourSpace.Colorants(i)
end if

// seaw name
Call pdf.SetFillColor(values)
call pdf.WriteText(MyX,MyY, name)

// next
MyX = MyX + pdf.GetTextWidth(name) + 20
next

// next
MyY = MyY+20
Next
End Sub

```

**Notes:** This array contains ColorantsCount strings.

The plugin marks the string as UTF-8 and it should contain UTF-8. Be we saw PDF files form other applications which put here WindowsANSI or MacRoman strings.

### 3.12.5 Constructor

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.12.6 Gamma(index as Integer) as Double

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The gamma values.

**Notes:** If set, one value per component.

### 3.12.7 Matrix(index as Integer) as Double

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** XYZ matrix.

**Notes:** If set, the array contains exactly 9 values.

### 3.12.8 Range(index as Integer) as Double

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The range values.

**Notes:** min/max for each component or for the .a and .b components of a Lab color space. Index is zero based.

### 3.12.9 WhitePoint(index as Integer) as Double

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** CIE whitepoint.

**Notes:** If set, the array contains exactly 3 values. (index 0 to 2)

### 3.12.10 Properties

### 3.12.11 Alternate as DynaPDFColorSpaceMBS

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The alternative color space.

**Notes:** Only set if the color space contains an alternate or base color space.  
(Read only property)

### 3.12.12 AlternateType as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Alternate color space or base space of an Indexed or Pattern color space.

**Notes:** (Read only property)

### 3.12.13 Buffer as string

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Contains either an ICC profile or the color table of an Indexed color space.

**Notes:** (Read only property)

### 3.12.14 BufferSize as Integer

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The buffer length in bytes.

**Notes:** (Read only property)

### 3.12.15 ColorantsCount as Integer

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of colorants in the array.

**Example:**

```
Sub DrawSomething(pdf as DynaPDFMBS)
// draw all colorants with their own color
Dim MyX, MyY as Double

MyX = 10
MyY = 100

// set a font
call pdf.SetFont "Times", pdf.kfsItalic, 10.0, true, pdf.kcp1252

// loop over all color spaces
dim Colorcount as Integer = pdf.GetColorSpaceCount

For j as Integer = 0 to Colorcount-1
MyX = 10
dim MyColourSpace as DynaPDFColorSpaceMBS = PDF.GetColorSpaceObj(j)
```

```

dim ColorantsCount as Integer = MyColourSpace.ColorantsCount
dim c as Integer = MyColourSpace.NumInComponents
Call pdf.SetExtColorSpace j

// draw name of each colorant
for i as Integer = 0 to c-1

// build array with colors and set 100% for the one color we need
dim values() as Double
redim values(c-1)
values(i) = 1.0

// get name
dim name as string = "#" + str(i)
if i <= ColorantsCount then
name = MyColourSpace.Colorants(i)
end if

// seaw name
Call pdf.SetFillColor(values)
call pdf.WriteText(MyX,MyY, name)

// next
MyX = MyX + pdf.GetTextWidth(name) + 20
next

// next
MyY = MyY+20
Next
End Sub

```

**Notes:** (Read only property)

### 3.12.16 Description as String

Plugin Version: 16.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The description text for color space.

**Notes:** For color spaces with valid ICC profile only.  
(Read only property)

### 3.12.17 DeviceNAttributes as DynaPDFDeviceNAttributesMBS

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional attributes of DeviceN or NChannel color spaces.

**Notes:** (Read only property)

### 3.12.18 Handle as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The internal handle for this color space object.

**Notes:** An IColorSpaceObj reference.

(Read only property)

### 3.12.19 HasBlackPoint as Boolean

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether the black point array has values.

**Notes:** (Read only property)

### 3.12.20 HasGamma as Boolean

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether the gamma array has values.

**Notes:** (Read only property)

### 3.12.21 HasMatrix as Boolean

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether the matrix array has values.

**Notes:** (Read only property)

### 3.12.22 HasRange as Boolean

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether the range array has values.

**Notes:** (Read only property)

### 3.12.23 HasWhitePoint as Boolean

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether the white point array has values.

**Notes:** (Read only property)

### 3.12.24 Index as Integer

Plugin Version: 16.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The index in the color space list for current document.

**Notes:** Can be -1 if not known by plugin.

In that case you would need to get list of all colorspaces and compare handle values to see which entry you got.

(Read only property)

### 3.12.25 Manufacturer as String

Plugin Version: 16.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The manufacturer text for color space.

**Notes:** For color spaces with valid ICC profile only.

(Read only property)

### 3.12.26 MetaData as string

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional XMP metadata stream ->ICCBased only.

**Notes:** (Read only property)

### 3.12.27 MetadataSize as Integer

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Metadata length in bytes.

**Notes:** (Read only property)

### 3.12.28 Model as String

Plugin Version: 16.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The model text for color space.

**Notes:** For color spaces with valid ICC profile only.

(Read only property)

### 3.12.29 Name as String

Plugin Version: 16.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The name of the color space.

**Notes:** For color spaces with valid ICC profile only.

The plugin picks name from Model, Description and Manufacturer properties.

(Read only property)

### 3.12.30 NumColors as Integer

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of colors in this color space.

**Notes:**  $\text{HiVal} + 1$  as specified in the color space. Indexed color space only.

(Read only property)

### 3.12.31 NumInComponents as Integer

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of input components.

**Notes:** (Read only property)

### 3.12.32 NumOutComponents as Integer

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of output components.

**Notes:** (Read only property)

### 3.12.33 Type as Integer

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The type of this color space.

**Notes:** (Read only property)

### 3.12.34 TypeString as String

Plugin Version: 16.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The type as string for viewing in debugger.

**Notes:** (Read only property)

## 3.13 class DynaPDFDeviceNAttributesMBS

### 3.13.1 class DynaPDFDeviceNAttributesMBS

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for information about a Device N.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

**Blog Entries**

- [MBS REALbasic Plugins, version 11.1pr4](#)

### 3.13.2 Methods

### 3.13.3 Constructor

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.13.4 ProcessColorants(index as Integer) as string

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns process colorants with the given index.

**Notes:** Raises out of bounds exceptions on bad index or if object does not have such an array. Index is zero based.

### 3.13.5 Separations(index as Integer) as DynaPDFColorSpaceMBS

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional array of separation color spaces.

**Notes:** Raises out of bounds exceptions if used with wrong index parameter. Index is zero based.

### 3.13.6 Properties

#### 3.13.7 ProcessColorantsCount as Integer

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of process colorants in the array or zero if not set.

**Notes:** (Read and Write property)

#### 3.13.8 ProcessColorSpace as DynaPDFColorSpaceMBS

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The process color space.

**Notes:** (Read and Write property)

#### 3.13.9 SeparationsCount as Integer

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of color spaces in the Separations array.

**Notes:** (Read and Write property)

## 3.14 class DynaPDFEditTextMBS

### 3.14.1 class DynaPDFEditTextMBS

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The text editor.

**Notes:** If you have problems with asian characters, please make sure you use SetCMapDir and load the CMAPs.

FindPattern needs at least Lite license and ReplacePattern needs a Pro license.

#### Blog Entries

- [MBS Xojo Plugins, version 18.3pr2](#)
- [MonkeyBread Software Releases the MBS Xojo plug-ins in version 17.0](#)
- [MBS Xojo / Real Studio Plugins, version 17.0pr1](#)
- [MonkeyBread Software Releases the MBS Real Studio plug-ins in version 12.5](#)
- [MBS Real Studio Plugins, version 12.5pr1](#)

#### Xojo Developer Magazine

- [15.2, page 9: News](#)
- [11.1, page 9: News](#)

### 3.14.2 Methods

#### 3.14.3 Constructor(PDF as DynaPDFMBS)

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Initializes the edit text class with the given PDF instance.

#### 3.14.4 Destructor

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The destructor.

### 3.14.5 FindPattern(text as string) as Integer

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Searches the text on the current PDF page for the given text.

**Notes:** Returns the number of occurrences.

If you have problems with asian characters, please make sure you use SetCMapDir and load the CMAPs.

FindPattern needs at least Lite license and ReplacePattern needs a Pro license.

### 3.14.6 ReplacePattern(NewText as string)

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Replaces the text with a new one or deletes it if the new string is an empty string.

**Notes:** Use the PrepareWrite event.

If you have problems with asian characters, please make sure you use SetCMapDir and load the CMAPs.

FindPattern needs at least Lite license and ReplacePattern needs a Pro license.

### 3.14.7 Properties

### 3.14.8 Parent as DynaPDFMBS

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The reference of the DynaPDFMBS object.

**Notes:** (Read only property)

### 3.14.9 Events

### 3.14.10 PrepareWrite(M as DynaPDFMatrixMBS, text as string, FillCS as Integer, FillColor as UInt32, StrokeCS as Integer, StrokeColor as UInt32, FontSize as Double, x as Double, y as Double, w as Double, h as Double, font as DynaPDFFontMBS) as boolean

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: .

**Function:** The event called before replace function writes.

**Notes:** Changed font, text size or color here.

If you return true, the text is not written.

Like if you draw it yourself or delete it.

Add new parameters for fill color, stroke color, font size, rectangle and font information in version 17.0.

## 3.15 class DynaPDFEmbFileNodeMBS

### 3.15.1 class DynaPDFEmbFileNodeMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for an embedded file node.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

### 3.15.2 Methods

### 3.15.3 Constructor

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.15.4 Properties

### 3.15.5 EF as DynaPDFFileSpecMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Embedded file.

**Notes:** (Read only property)

### 3.15.6 Name as String

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The name.

**Notes:** UTF-8 encoded name. This key contains usually a 7 bit ASCII string.  
(Read only property)

### 3.15.7 NextObject as DynaPDFEmbFileNodeMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Next node if any.

**Notes:** (Read only property)

## 3.16 class DynaPDFErrorExceptionMBS

### 3.16.1 class DynaPDFErrorExceptionMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The error exception.

**Notes:** We report errors as exceptions if Error event is not implemented or you return kErrorEventRaise there.

Subclass of the RuntimeException class.

#### Blog Entries

- [Quick encrypt or decrypt with DynaPDF](#)
- [News from the MBS Xojo Plugins Version 20.4](#)
- [MonkeyBread Software Releases the MBS Xojo Plugins in version 20.4](#)
- [MBS Xojo Plugins, version 20.4pr1](#)
- [Improvements for MBS Xojo DynaPDF Plugin](#)
- [MBS REALbasic Plugins, version 11.1pr4](#)

#### Xojo Developer Magazine

- [19.6, page 12: Things you can do with DynaPDF, The MBS DynaPDF Plugin is more powerful than you think by Stefanie Juchmes](#)
- [18.6, page 10: News](#)

## 3.17 class DynaPDFErrorMBS

### 3.17.1 class DynaPDFErrorMBS

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for an entry in the error log.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

**Blog Entries**

- [MBS Xojo Plugins, version 21.5pr1](#)
- [MBS REALbasic Plugins, version 11.1pr4](#)

### 3.17.2 Methods

### 3.17.3 Constructor

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.17.4 Properties

### 3.17.5 ErrorCode as Integer

Plugin Version: 21.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The error code.

**Notes:** ErrorCode and ErrType are set if the error mode was set to kemUseErrLog.

See SetErrorMode() for further information.

(Read and Write property)

### 3.17.6 ErrType as Integer

Plugin Version: 21.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The error type.

**Notes:** ErrorCode and ErrType are set if the error mode was set to kemUseErrLog.

See SetErrorMode() for further information.

(Read and Write property)

### 3.17.7 Message as String

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The error message

**Notes:** (Read and Write property)

### 3.17.8 ObjNum as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Object Number.

**Notes:** -1 if not available

(Read and Write property)

### 3.17.9 Offset as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The offset.

**Notes:** -1 if not available

(Read and Write property)

### 3.17.10 SrcFile as String

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The source file.

**Notes:** (Read and Write property)

### 3.17.11 SrcLine as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Source Line.

**Notes:** (Read and Write property)

## 3.18 class DynaPDFExtGState2MBS

### 3.18.1 class DynaPDFExtGState2MBS

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The extended graphics state class.

### 3.18.2 Methods

### 3.18.3 BlendMode(index as Integer) as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The blend modes.

**Notes:** See bm\* constants.

### 3.18.4 Properties

### 3.18.5 AlphaIsShape as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The AlphaIsShape property.

**Notes:** PDF\_MAX\_INT if not set.

(Read and Write property)

### 3.18.6 AutoStrokeAdjust as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The AutoStrokeAdjust property.

**Notes:** PDF\_MAX\_INT if not set.

(Read and Write property)

### 3.18.7 BlackGen as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function handle or 0.

**Notes:** (Read and Write property)

### 3.18.8 BlackGen2 as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function handle or 0.

**Notes:** (Read and Write property)

### 3.18.9 BlendModeCount as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The blend mode count.

**Notes:** (Read and Write property)

### 3.18.10 FillAlpha as Single

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The fill alpha.

**Notes:** -1.0 if not set.

(Read and Write property)

### 3.18.11 FlatnessTol as Single

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The FlatnessTol property.

**Notes:** -1.0 if not set.

(Read and Write property)

### 3.18.12 Halftone as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The halftone handle or 0.

**Notes:** (Read and Write property)

### 3.18.13 OverPrintFill as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The OverPrintFill property.

**Notes:** PDF\_MAX\_INT if not set.

(Read and Write property)

### 3.18.14 OverPrintMode as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The OverPrintMode property.

**Notes:** PDF\_MAX\_INT if not set.

(Read and Write property)

### 3.18.15 OverPrintStroke as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The OverPrintStroke property.

**Notes:** PDF\_MAX\_INT if not set.

(Read and Write property)

### 3.18.16 RenderingIntent as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The rendering intent.

**Notes:** riNone if not set

(Read and Write property)

### 3.18.17 SmoothnessTol as Single

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The SmoothnessTol property.

**Notes:** -1.0 if not set.

(Read and Write property)

### 3.18.18 SoftMask as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Soft mask handle.

**Notes:** (Read and Write property)

### 3.18.19 SoftMaskNone as Boolean

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If true, the softmask must be disabled.

**Notes:** (Read and Write property)

### 3.18.20 StrokeAlpha as Single

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The stoke alpha value.

**Notes:** -1.0 if not set.

(Read and Write property)

### 3.18.21 TextKnockout as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The TextKnockout property.

**Notes:** PDF\_MAX\_INT if not set.

(Read and Write property)

## 3.19 class DynaPDFExtGStateMBS

### 3.19.1 class DynaPDFExtGStateMBS

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The extended graphics state class.

**Blog Entries**

- [DynaPDF with gradients in DeviceN colorspace](#)

### 3.19.2 Properties

### 3.19.3 AlphaIsShape as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The AlphaIsShape property.

**Notes:** PDF\_MAX\_INT if not set.

(Read and Write property)

### 3.19.4 AutoStrokeAdjust as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The AutoStrokeAdjust property.

**Notes:** PDF\_MAX\_INT if not set.

(Read and Write property)

### 3.19.5 BlendMode as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The blend mode.

**Notes:** See bm\* constants.

Default bmNotSet.

(Read and Write property)

### 3.19.6 FillAlpha as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The fill alpha.

**Notes:** -1.0 if not set.

(Read and Write property)

### 3.19.7 FlatnessTol as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The FlatnessTol property.

**Notes:** -1.0 if not set.

(Read and Write property)

### 3.19.8 OverPrintFill as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The OverPrintFill property.

**Notes:** PDF\_MAX\_INT if not set.

(Read and Write property)

### 3.19.9 OverPrintMode as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The OverPrintMode property.

**Notes:** PDF\_MAX\_INT if not set.

(Read and Write property)

### 3.19.10 OverPrintStroke as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The OverPrintStroke property.

**Notes:** PDF\_MAX\_INT if not set.

(Read and Write property)

### 3.19.11 RenderingIntent as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The rendering intent.

**Notes:** riNone if not set  
(Read and Write property)

### 3.19.12 SmoothnessTol as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The SmoothnessTol property.

**Notes:** -1.0 if not set.  
(Read and Write property)

### 3.19.13 SoftMask as Integer

Plugin Version: 11.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Soft mask pointer or nil. See CreateSoftMask for further information.

**Notes:** (Read and Write property)

### 3.19.14 SoftMaskNone as Boolean

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Disables the active soft mask.

**Notes:** (Read and Write property)

### 3.19.15 StrokeAlpha as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The stroke alpha value.

**Notes:** -1.0 if not set.  
(Read and Write property)

### 3.19.16 TextKnockout as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The TextKnockout property.

**Notes:** PDF\_MAX\_INT if not set.

(Read and Write property)

## 3.20 class DynaPDFFieldExMBS

### 3.20.1 class DynaPDFFieldExMBS

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for extended field information.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

#### Blog Entries

- [MBS Xojo Plugins, version 23.6pr1](#)
- [Embracing for each loops](#)
- [News from the MBS Xojo Plugins in version 21.5](#)
- [MBS Xojo Plugins, version 21.5pr3](#)
- [MBS Xojo Plugins, version 18.2pr5](#)
- [MBS Real Studio Plugins, version 12.1pr6](#)
- [MBS REALbasic Plugins, version 11.1pr4](#)

### 3.20.2 Methods

#### 3.20.3 Close

Plugin Version: 12.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The destructor.

**Notes:** You can call close to release all values now or simply let it go automatically later.

#### 3.20.4 Constructor

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

#### 3.20.5 Kids(index as Integer) as DynaPDFFieldExMBS

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Array of child fields.

### 3.20.6 Properties

#### 3.20.7 Action as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Action handle or -1 if not set.

**Notes:** This action is executed when the field is activated.

(Read only property)

#### 3.20.8 ActionType as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The type of action.

**Notes:** See kat\* constants.

Meaningful only, if Action  $\geq 0$ .

(Read only property)

#### 3.20.9 BackColor as UInt32

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Background color.

**Notes:** (Read only property)

#### 3.20.10 BackColorSP as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Color space of the background color.

**Notes:** (Read only property)

#### 3.20.11 Barcode as DynaPDFBarcodeMBS

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If present, this field is a barcode field.

**Notes:** The field type is set to kftText since barcode fields are extended text fields.

(Read only property)

### 3.20.12 BBox as DynaPDFRectMBS

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Bounding box of the field in bottom-up coordinates.

**Notes:** (Read only property)

### 3.20.13 BorderColor as UInt32

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Border color.

**Notes:** (Read only property)

### 3.20.14 BorderColorSP as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Color space of the border color.

**Notes:** (Read only property)

### 3.20.15 BorderStyle as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Border style.

**Notes:** (Read only property)

### 3.20.16 BorderWidth as Single

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Border width.

**Notes:** (Read only property)

### 3.20.17 CaptionPos as Integer

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Where to position the caption.

**Notes:** Use constants kbcpCaptionAbove, kbcpCaptionBelow, kbcpCaptionLeft, kbcpCaptionOnly, kbcpCaptionOver, kbcpCaptionRight or kbcpImageOnly.

(Read only property)

### 3.20.18 CharSpacing as Single

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The char spacing.

**Notes:** Text fields only.

(Read only property)

### 3.20.19 CheckBoxChar as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The ZapfDingbats character that is used to display the on state.

**Notes:** (Read only property)

### 3.20.20 Checked as Boolean

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The check value.

**Notes:** Check boxes only

(Read only property)

### 3.20.21 DefState as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The default state.

**Notes:** Check boxes only

(Read only property)

### 3.20.22 DefValue as String

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional default value.

**Notes:** (Read only property)

### 3.20.23 Deleted as Boolean

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If true, the field was marked as deleted by DeleteField().

**Notes:** (Read only property)

### 3.20.24 DownCaption as String

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Caption of the down state.

**Notes:** (Read only property)

### 3.20.25 DownImage as Integer

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Image handle of the down state.

**Notes:** You can use this image handle with GetImageObj to get the image.  
(Read only property)

### 3.20.26 EditFont as String

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Postscript name of the editing font.

**Notes:** (Read only property)

### 3.20.27 Events as DynaPDFObjEventMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The events for this fields.

**Notes:** (Read only property)

### 3.20.28 ExpValCount as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Combo and list boxes only.

**Notes:** The values can be accessed with GetFieldExpValueEx().  
(Read only property)

### 3.20.29 ExpValue as String

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The exp value.

**Notes:** Check boxes only.  
(Read only property)

### 3.20.30 FieldFlags as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Field flags.

**Notes:** (Read only property)

### 3.20.31 FieldFont as String

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Postscript name of the font.

**Notes:** (Read only property)

### 3.20.32 FieldName as String

Plugin Version: 12.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The field name.

**Notes:** Note that children of a field group or radio button have no name.  
(Read only property)

### 3.20.33 FieldType as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Field type.

**Notes:** (Read only property)

### 3.20.34 FmtText as String

Plugin Version: 21.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The formatted field value.

**Notes:** Text fields only.

The formatted field value if the field contains an OnFormat Javascript action.

(Read only property)

### 3.20.35 FmtTextColor as Integer

Plugin Version: 21.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The text color for formatting.

**Notes:** Text fields only.

Zero if not set. Usually RGB red otherwise.

(Read only property)

### 3.20.36 FontSize as Double

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Font size. 0.0 means auto font size.

**Notes:** (Read only property)

### 3.20.37 FullyQualifiedFieldName as String

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The fully qualified name of a field.

**Notes:** Note that children of a radio button, for example, have no name by its own. The export value must be compared to distinguish the children fields in this case.

(Read only property)

### 3.20.38 GroupType as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If GroupType <>FieldType the field is a terminal field of a field group.

**Notes:** (Read only property)

### 3.20.39 Handle as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Field handle.

**Notes:** (Read only property)

### 3.20.40 HighlightMode as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Highlight mode.

**Notes:** (Read only property)

### 3.20.41 IEditFont as DynaPDFFontMBS

Plugin Version: 12.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The edit font object.

**Notes:** The object is created on demand the first time you access and cached.

(Read only property)

### 3.20.42 IEditFontInfo as DynaPDFFontInfoMBS

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The edit font info object.

**Notes:** The object is created on demand the first time you access and cached.

(Read only property)

### 3.20.43 IFieldFont as DynaPDFFontMBS

Plugin Version: 12.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The field font object.

**Notes:** The object is created on demand the first time you access and cached.  
(Read only property)

### 3.20.44 IFieldFontInfo as DynaPDFFontInfoMBS

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The field font info object.

**Notes:** The object is created on demand the first time you access and cached.  
(Read only property)

### 3.20.45 IsCalcField as Boolean

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If true, the OnCalc event of the field is connected with a JavaScript action.

**Notes:** (Read only property)

### 3.20.46 KidCount as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of fields in the Kids array.

**Notes:** (Read only property)

### 3.20.47 MapName as String

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional unique mapping name of the field.

**Notes:** (Read only property)

### 3.20.48 MaxLen as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The maximum text length.

**Notes:** Text fields only ->zero means not restricted.

(Read only property)

### 3.20.49 ModDate as String

Plugin Version: 13.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Modification date.

**Notes:** (Read only property)

### 3.20.50 OC as Integer

Plugin Version: 15.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Handle of an OCG or OCMD or -1.

**Notes:** Fields can be part of an Optional Content Group (OCG) or Optional Content Membership Dictionary (OCMD). If OC is greater -1 an OCG or OCMD handle was set. To determine whether an OCG handle was set, check whether the value is smaller &h4000000.

(Read only property)

### 3.20.51 PageIndex as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Array index to change the tab order.

**Notes:** see SortFieldsByIndex().

(Read only property)

### 3.20.52 PageNum as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Page on which the field is used or -1.

**Notes:** (Read only property)

### 3.20.53 RollCaption as String

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Caption of the roll over state.

**Notes:** (Read only property)

### 3.20.54 RollImage as Integer

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Image handle of the roll over state.

**Notes:** You can use this image handle with GetImageObj to get the image.  
(Read only property)

### 3.20.55 Rotate as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Rotation angle in degrees.

**Notes:** (Read only property)

### 3.20.56 Signature as DynaPDFSigDictMBS

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The signature details.

**Notes:** Signature fields only. Present only for imported signature fields which have a value. That means the file was digitally signed. -

Signed signature fields are always marked as deleted!

(Read only property)

### 3.20.57 TextAlign as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The text align.

**Notes:** Text fields only.

(Read only property)

### 3.20.58 TextColor as UInt32

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Text color.

**Notes:** (Read only property)

### 3.20.59 TextColorSP as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Color space of the field's text.

**Notes:** (Read only property)

### 3.20.60 TextScaling as Single

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The text scaling.

**Notes:** Text fields only.

(Read only property)

### 3.20.61 ToolTip as String

Plugin Version: 12.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The tooltip text.

**Notes:** Optional tool tip.

(Read only property)

### 3.20.62 UniqueName as String

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional unique name (NM key).

**Notes:** (Read only property)

### 3.20.63 UpCaption as String

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Caption of the up state.

**Notes:** (Read only property)

### 3.20.64 UpImage as Integer

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Image handle of the up state.

**Notes:** You can use this image handle with `GetImageObj` to get the image.  
(Read only property)

### 3.20.65 Value as String

Plugin Version: 12.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The value of the field.

**Notes:** (Read only property)

### 3.20.66 WordSpacing as Single

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The word spacing.

**Notes:** Text fields only.  
(Read only property)

## 3.21 class DynaPDFFieldMBS

### 3.21.1 class DynaPDFFieldMBS

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use DynaPDFFieldExMBS instead. **Function:** The class for field information.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

**Blog Entries**

- [MBS REALbasic Plugins, version 11.1pr4](#)

### 3.21.2 Methods

### 3.21.3 Constructor

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.21.4 Properties

### 3.21.5 BackColor as UInt32

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Background color.

**Notes:** (Read only property)

### 3.21.6 BackCS as UInt32

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Color space of background / border color

**Notes:** (Read only property)

### 3.21.7 BBox as DynaPDFRectMBS

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Bounding box.

**Notes:** (Read only property)

### 3.21.8 BorderColor as UInt32

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Border color.

**Notes:** (Read only property)

### 3.21.9 Checked as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Only set if the field is a check box.

**Notes:** (Read only property)

### 3.21.10 Deleted as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If true, the field was deleted.

**Notes:** (Read only property)

### 3.21.11 FieldName as String

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Field name.

**Notes:** May be unicode or ASCII encoded.

(Read only property)

### 3.21.12 FieldNameLen as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Field name length in characters.

**Notes:** (Read only property)

### 3.21.13 FieldType as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Field type (see ft\* constants)

**Notes:** (Read only property)

### 3.21.14 Font as String

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Used font by the field (PostScript name).

**Notes:** (Read only property)

### 3.21.15 FontSize as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Font size.

**Notes:** (Read only property)

### 3.21.16 Handle as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Field handle.

**Notes:** (Read only property)

### 3.21.17 KidCount as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Greater zero if the field has childs.

**Notes:** (Read only property)

### 3.21.18 Parent as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Parent field handle if any.

**Notes:** (Read only property)

### 3.21.19 TextColor as UInt32

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Text color.

**Notes:** (Read only property)

### 3.21.20 TextCS as UInt32

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Color space of text color.

**Notes:** (Read only property)

### 3.21.21 ToolTip as String

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Tool tip if any.

**Notes:** Unicode or ASCII encoded.

(Read only property)

### 3.21.22 Value as String

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Field value.

**Notes:** Unicode or ASCII encoded.

(Read only property)

## 3.22 class DynaPDFFileSpecExMBS

### 3.22.1 class DynaPDFFileSpecExMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for an extended file specification.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

### 3.22.2 Methods

### 3.22.3 Constructor

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.22.4 Properties

### 3.22.5 AFRelationship as String

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The relationship.

**Notes:** PDF 2.0

(Read and Write property)

### 3.22.6 ColItem as Ptr

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If <>nil the embedded file contains a collection item with user defined data.

**Notes:** This entry can occur in PDF Collections only (PDF 1.7). See "PDF Collections" in the help file for further information.

(Read and Write property)

### 3.22.7 Description as String

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional description string.

**Notes:** (Read and Write property)

### 3.22.8 DOS as String

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional DOS file name.

**Notes:** (Read and Write property)

### 3.22.9 EmbFileNode as DynaPDFEmbFileNodeMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The embedded file node for embedded file.

**Notes:** (Read and Write property)

### 3.22.10 FileName as String

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** File name as 7 bit ASCII string.

**Notes:** (Read and Write property)

### 3.22.11 FileNameIsURL as Boolean

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If true, FileName contains a URL.

**Notes:** (Read and Write property)

### 3.22.12 ID1 as String

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional file ID.

**Notes:** Meaningful only if FileName points to a PDF file.  
(Read and Write property)

### 3.22.13 ID2 as String

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional file ID.

**Notes:** Meaningful only if FileName points to a PDF file.  
(Read and Write property)

### 3.22.14 IsVolatile as Boolean

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If true, the file changes frequently with time.

**Notes:** (Read and Write property)

### 3.22.15 Mac as String

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional Mac file name.

**Notes:** (Read and Write property)

### 3.22.16 Thumb as DynaPDFImageMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional thumb nail image.

**Notes:** (Read and Write property)

### 3.22.17 UFileName as String

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The file name.

**Notes:** PDF 1.7. Same as FileName but Unicode is allowed.  
(Read and Write property)

### 3.22.18 Unix as String

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional Unix file name.

**Notes:** (Read and Write property)

## 3.23 class DynaPDFFileSpecMBS

### 3.23.1 class DynaPDFFileSpecMBS

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A class for information about an embedded file.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

### 3.23.2 Methods

### 3.23.3 Constructor

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.23.4 Properties

### 3.23.5 Buffer as String

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Buffer of an embedded file.

**Notes:** (Read and Write property)

### 3.23.6 BufferSize as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Buffer size in bytes.

**Notes:** (Read and Write property)

### 3.23.7 Checksum as String

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** 16 byte MD5 digest if set.

**Notes:** (Read and Write property)

### 3.23.8 CollItem as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Pointer to user defined collection item.

**Notes:** (Read and Write property)

### 3.23.9 Compressed as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Should be false if Decompress was true.

**Notes:** (Read and Write property)

### 3.23.10 CreateDate as String

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creation date as string.

**Notes:** (Read and Write property)

### 3.23.11 Description as String

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Description.

**Notes:** This string is either an unicode encoded string or an ASCII encoded string.  
(Read and Write property)

### 3.23.12 FileName as String

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** File name as 7 bit ASCII string.

**Notes:** (Read and Write property)

### 3.23.13 FileSize as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Decompressed stream size or zero if not known.

**Notes:** (Read and Write property)

### 3.23.14 IsURL as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If true, FileName contains a URL.

**Notes:** (Read and Write property)

### 3.23.15 MIMETYPE as String

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** MIME media type name (RFC 2046).

**Notes:** See also MimeTypeToFileExtensionMBS function.  
(Read and Write property)

### 3.23.16 ModDate as String

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Modification date as string.

**Notes:** (Read and Write property)

### 3.23.17 Name as String

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Name of the file specification in the name tree.

**Notes:** This string is either an unicode encoded string or an ASCII encoded string.  
This value is always present.  
(Read and Write property)

### 3.23.18 UnicodeFileName as String

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Same as FileName but Unicode is allowed.

**Notes:** PDF 1.7.

This string is either an unicode encoded string or an ASCII encoded string.  
(Read and Write property)

## 3.24 class DynaPDFFontInfoMBS

### 3.24.1 class DynaPDFFontInfoMBS

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for DynaPDF font info.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

**Blog Entries**

- [Improvements for MBS Xojo DynaPDF Plugin](#)
- [MBS Xojo Plugins, version 18.1pr3](#)

### 3.24.2 Methods

### 3.24.3 Constructor

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.24.4 HorzWidths(index as UInt32) as Single

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Horizontal glyph widths.

**Notes:** Index from 0 to HorzWidthsCount -1.

### 3.24.5 VertWidths(index as UInt32) as DynaPDFCIDMetricMBS

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Vertical glyph widths array.

### 3.24.6 Properties

### 3.24.7 Ascent as Single

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Ascent (optional).

**Notes:** (Read only property)

### 3.24.8 AvgWidth as Single

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Average character width (optional).

**Notes:** (Read only property)

### 3.24.9 BaseEncoding as Integer

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The base encoding.

**Notes:** Valid only if HaveEncoding is true.

Can be kbeWinAnsi, kbeStandard, kbeMacRoman or kbeMacExpert.

(Read only property)

### 3.24.10 BaseFont as String

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** PostScript Name or Family Name.

**Notes:** (Read only property)

### 3.24.11 CapHeight as Single

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Cap height (optional).

**Notes:** (Read only property)

### 3.24.12 CharSet as String

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The charset describes which glyphs are present in the font.

**Notes:** (Read only property)

### 3.24.13 CharSetSize as UInt32

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Length of the CharSet in bytes.

**Notes:** (Read only property)

### 3.24.14 CIDOrdering as String

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** SystemInfo ->Character collection.

**Notes:** (Read only property)

### 3.24.15 CIDRegistry as String

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** SystemInfo ->Issuer of the character collection.

**Notes:** (Read only property)

### 3.24.16 CIDSet as MemoryBlock

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** CID fonts only.

**Notes:** This is a table of bits indexed by CIDs.  
(Read only property)

### 3.24.17 CIDSetSize as UInt32

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Length of the CIDSet in bytes.

**Notes:** (Read only property)

### 3.24.18 CIDSupplement as UInt32

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** CIDSystemInfo ->Supplement number.

**Notes:** (Read only property)

### 3.24.19 CIDToGIDMap as MemoryBlock

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Allowed for embedded TrueType based CID fonts only.

**Notes:** (Read only property)

### 3.24.20 CIDToGIDMapSize as UInt32

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Length of the CIDToGIDMap in bytes.

**Notes:** (Read only property)

### 3.24.21 CMapBuf as MemoryBlock

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The CMap data.

**Notes:** Only available if the CMap was embedded.

(Read only property)

### 3.24.22 CMapBufSize as UInt32

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** CMAP Buffer size in bytes.

**Notes:** (Read only property)

### 3.24.23 CMapName as String

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** CID fonts only external CMap name or encoding.

**Notes:** (Read only property)

**3.24.24 Descent as Single**

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Descent (optional).

**Notes:** (Read only property)

**3.24.25 Encoding as MemoryBlock**

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Unicode mapping 0..255.

**Notes:** not available for CID fonts.

(Read only property)

**3.24.26 FirstChar as UInt32**

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** First char (simple fonts only).

**Notes:** (Read only property)

**3.24.27 Flags as UInt32**

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Font flags.

**Notes:** See DynaPDF manual.

The font flags describe certain properties of the font. The most important flags are the following:

Flag	Description
1	Fixed pitch font
2	Serif style
4	Symbol font
8	Script style
&h20	Non-symbolic font
&h40	Italic style
&h40000	Force Bold (Type1 fonts only)

The full set of available flags can be found in the PDF Reference.  
(Read only property)

### 3.24.28 FontBBox as DynaPDFRectMBS

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This is the size of the largest glyph in this font.

**Notes:** (Read only property)

### 3.24.29 FontBuffer as MemoryBlock

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The font data.

**Notes:** Available if the font was embedded or loaded from a buffer.

(Read only property)

### 3.24.30 FontBufSize as UInt32

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Font file size in bytes..

**Notes:** (Read only property)

### 3.24.31 FontFamily as String

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional Font Family (Family Name).

**Notes:** (Read only property)

### 3.24.32 FontFilePath as String

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The font file path.

**Notes:** Only available for system fonts.

(Read only property)

### 3.24.33 FontFileType as Integer

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The font file type.

**Notes:** Can be:

kffsType1C, kffsOpenTypeC, kffsOpenType, kffsNoSubtype, kffsCIDFontType2 or kffsCIDFontType0C.

(Read only property)

### 3.24.34 FontName as String

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Font name (should be the same as BaseFont).

**Notes:** (Read only property)

### 3.24.35 FontStretch as String

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The font stretch.

**Notes:** Optional ->Condensed, and so on.

(Read only property)

### 3.24.36 FontType as Integer

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The font type.

**Notes:** If ftType0 the font is a CID font.

(Read only property)

### 3.24.37 FontWeight as Single

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Font weight (optional).

**Notes:** (Read only property)

### 3.24.38 FullName as String

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The full name.

**Notes:** System fonts only.  
(Read only property)

### 3.24.39 HaveEncoding as Boolean

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether encoding is known.

**Notes:** If true, BaseEncoding was set from the font's encoding.  
(Read only property)

### 3.24.40 HorzWidthsCount as UInt32

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of horizontal widths in the array.

**Notes:** (Read only property)

### 3.24.41 Imported as Boolean

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether font is imported.

**Notes:** If true, the font was imported from an external PDF file.  
(Read only property)

### 3.24.42 ItalicAngle as Single

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Italic angle.

**Notes:** (Read only property)

### 3.24.43 Lang as String

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional language code defined by BCP 47.

**Notes:** (Read only property)

### 3.24.44 LastChar as UInt32

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Last char (simple fonts only).

**Notes:** (Read only property)

### 3.24.45 Leading as Single

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Leading (optional).

**Notes:** (Read only property)

### 3.24.46 Length1 as UInt32

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Length of the clear text portion of a Type1 font.

**Notes:** (Read only property)

### 3.24.47 Length2 as UInt32

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Length of the encrypted portion of a Type1 font program.

**Notes:** (Read only property)

### 3.24.48 Length3 as UInt32

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Length of the fixed-content portion of a Type1 font program.

**Notes:** (Read only property)

### 3.24.49 MaxWidth as Single

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Maximum glyph width (optional).

**Notes:** (Read only property)

### 3.24.50 Metadata as MemoryBlock

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional XMP metadata stream about the font file.

**Notes:** (Read only property)

### 3.24.51 MetadataSize as UInt32

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** MetaData size in bytes.

**Notes:** (Read only property)

### 3.24.52 MisWidth as Single

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Missing width (default = 0.0).

**Notes:** (Read only property)

### 3.24.53 Panose as MemoryBlock

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional 12 bytes long Panose string.

**Notes:** CID fonts only.

(Read only property)

### 3.24.54 PostScriptName as String

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** System fonts only.

**Notes:** (Read only property)

### 3.24.55 SpaceWidth as Single

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Space width in font units.

**Notes:** A default value is set if the font contains no space character.

(Read only property)

### 3.24.56 StemH as Single

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The thickness of horizontal stems.

**Notes:** (Read only property)

### 3.24.57 StemV as Single

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The thickness of vertical stems.

**Notes:** (Read only property)

### 3.24.58 ToUnicode as MemoryBlock

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** ToUnicode CMap.

**Notes:** Only available for imported fonts.

(Read only property)

### 3.24.59 ToUnicodeSize as UInt32

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** ToUnicode CMap size in bytes.

**Notes:** (Read only property)

### 3.24.60 VertDefPos as DynaPDFPointMBS

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Default vertical displacement vector.

**Notes:** (Read only property)

### 3.24.61 VertWidthsCount as UInt32

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of vertical widths in the array.

**Notes:** (Read only property)

### 3.24.62 WMode as UInt32

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Writing Mode.

**Notes:** 0: Horizontal

1: Vertical.

(Read only property)

### 3.24.63 XHeight as Single

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The height of lowercase letters measured from the baseline.

**Notes:** (Read only property)

## 3.25 class DynaPDFFontMBS

### 3.25.1 class DynaPDFFontMBS

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A class for pdf font information.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

**Blog Entries**

- [MBS REALbasic Plugins, version 11.1pr4](#)

### 3.25.2 Methods

### 3.25.3 Constructor

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.25.4 Encoding(Index as Integer) as string

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Unicode mapping 0..255 if set.

**Notes:** Index from 0 to 255.

### 3.25.5 Widths(Index as Integer) as single

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Glyph widths.

**Notes:** Index from 0 to WidthsCount-1.

### 3.25.6 Properties

### 3.25.7 Ascent as Single

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The ascent of this font.

**Notes:** (Read and Write property)

### 3.25.8 BaseFont as String

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** PostScript Name or Family Name.

**Notes:** (Read and Write property)

### 3.25.9 CapHeight as Single

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Cap height.

**Notes:** (Read and Write property)

### 3.25.10 DefWidth as Single

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Default character widths ->CID fonts only.

**Notes:** (Read and Write property)

### 3.25.11 Descent as Single

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Descent.

**Notes:** (Read and Write property)

### 3.25.12 FirstChar as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The first character.

**Notes:** (Read and Write property)

**3.25.13 Flags as Integer**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Font flags.

**Notes:** (Read and Write property)

**3.25.14 FontFamily as String**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional Font Family (Family Name).

**Notes:** Unicode or ASCII encoded.

(Read and Write property)

**3.25.15 FontFile as Memoryblock**

Plugin Version: 11.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Font file buffer.

**Notes:** Only imported fonts are returned.

(Read and Write property)

**3.25.16 FontFileType as Integer**

Plugin Version: 11.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The font file subtype.

**Notes:** See kffs\* constants like those:

Name	Value	Description
kffsType1C	0	CFF based Type1 font
kffsCIDFontType0C	1	CFF based Type1 CID font
kffsOpenType	2	TrueType based OpenType font
kffsOpenTypeC	3	CFF based OpenType font
kffsCIDFontType2	4	TrueType based CID Font
kffsNoSubtype	9	The font file is in the format of FontType

(Read and Write property)

### 3.25.17 FontName as String

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Font name.

**Notes:** (Read and Write property)

### 3.25.18 FontType as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The font type.

**Notes:** If ftType0 the font is a CID font.

(Read and Write property)

### 3.25.19 ItalicAngle as Single

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Italic angle.

**Notes:** (Read and Write property)

### 3.25.20 LastChar as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Last char.

**Notes:** (Read and Write property)

### 3.25.21 Length1 as Integer

Plugin Version: 11.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Length of the clear text portion of the Type1 font, or the length of the entire font program if FontType <>kffType1.

**Notes:** (Read and Write property)

### 3.25.22 Length2 as Integer

Plugin Version: 11.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Length of the encrypted portion of the Type1 font program (Type1 fonts only).

**Notes:** (Read and Write property)

### 3.25.23 Length3 as Integer

Plugin Version: 11.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Length of the fixed-content portion of the Type1 font program or zero if not present.

**Notes:** (Read and Write property)

### 3.25.24 SpaceWidth as Single

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Space width in font units or default value.

**Notes:** (Read and Write property)

### 3.25.25 WidthsCount as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of widths in the array.

**Notes:** (Read and Write property)

### 3.25.26 XHeight as Single

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The x-height.

**Notes:** (Read and Write property)

## 3.26 class DynaPDFFontMetricsMBS

### 3.26.1 class DynaPDFFontMetricsMBS

Plugin Version: 19.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for font metrics.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

**Blog Entries**

- [MBS Xojo Plugins, version 21.2pr2](#)

### 3.26.2 Methods

### 3.26.3 Constructor

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.26.4 Properties

### 3.26.5 Ascent as Single

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Ascent.

**Notes:** (Read and Write property)

### 3.26.6 AvgWidth as Single

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Average character width.

**Notes:** (Read and Write property)

### 3.26.7 CapHeight as Single

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Cap height.

**Notes:** (Read and Write property)

### 3.26.8 DefWidth as Single

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Default width.

**Notes:** (Read and Write property)

### 3.26.9 Descent as Single

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Descent.

**Notes:** (Read and Write property)

### 3.26.10 FirstChar as UInt32

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** First char.

**Notes:** (Read and Write property)

### 3.26.11 FixedWidth as Single

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Width of all glyphs in a fixed pitch font.

**Notes:** (Read and Write property)

### 3.26.12 FontBBox as DynaPDFRectMBS

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Font's bounding box.

**Notes:** (Read and Write property)

### 3.26.13 FontStyle as UInt32

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Font style with which the font was loaded.

**Example:**

```
dim pdf as DynaPDFMBS // your instance

// set font
call pdf.SetFont("Helvetica", pdf.kfsNone, 12)

// and check whether it is bold
dim m as DynaPDFFontMetricsMBS = pdf.GetFontMetrics(pdf.GetActiveFont)
if BitwiseAnd(m.FontStyle, pdf.kfsBold) = pdf.kfsBold then
  MsgBox "is bold"
else
  MsgBox "is not bold"
end if

// set bold font
call pdf.SetFont("Helvetica", pdf.kfsBold, 12)

// and check whether it is bold
m = pdf.GetFontMetrics(pdf.GetActiveFont)
if BitwiseAnd(m.FontStyle, pdf.kfsBold) = pdf.kfsBold then
  MsgBox "is bold"
else
  MsgBox "is not bold"
end if
```

**Notes:** See kfs\* constants in DynaPDFMBS class.  
(Read and Write property)

### 3.26.14 IsFixedPitch as Boolean

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Is this a fixed pitch font?

**Notes:** (Read and Write property)

### 3.26.15 IsStdFont as Boolean

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Is this is a standard font?

**Notes:** (Read and Write property)

### 3.26.16 IsSymbolFont as Boolean

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Is this is a symbolic font?

**Notes:** (Read and Write property)

### 3.26.17 ItalicAngle as Single

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Italic angle of italic fonts.

**Notes:** (Read and Write property)

### 3.26.18 LastChar as UInt32

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Last char.

**Notes:** (Read and Write property)

### 3.26.19 LineGap as Single

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Typographic line gap.

**Notes:** (Read and Write property)

### 3.26.20 MacStyle as UInt32

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** macOS style flags.

**Notes:** (Read and Write property)

### 3.26.21 RealStyle as UInt32

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This is the real style of the font (bold and italic styles are maybe emulated)

**Notes:** See kfs\* constants in DynaPDFMBS class.

(Read and Write property)

### 3.26.22 StemV as Single

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Width of vertical stems.

**Notes:** (Read and Write property)

### 3.26.23 StrikeoutPos as Single

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Strikeout position.

**Notes:** (Read and Write property)

### 3.26.24 StrikeoutWidth as Single

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Width of the strikeout line.

**Notes:** (Read and Write property)

### 3.26.25 TypoAscender as Single

Plugin Version: 21.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** sTypoAscender of the OS/2 table of TrueType and OpenType fonts.

**Notes:** (Read and Write property)

### 3.26.26 TypoLeading as Single

Plugin Version: 21.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Typographic leading or line height of the font. T

**Notes:** This is TypoAscender - Descent + LineGap.

If typographic metrics are not available then TypoAscender is set to Ascent.  
(Read and Write property)

### 3.26.27 UnderlinePos as Single

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Underline position.

**Notes:** (Read and Write property)

### 3.26.28 UnderlineWidth as Single

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Width of the underline.

**Notes:** (Read and Write property)

### 3.26.29 UnicodeRange1 as UInt32

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Bitset for unicode ranges.

**Notes:** (Read and Write property)

### 3.26.30 UnicodeRange2 as UInt32

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Bitset for unicode ranges.

**Notes:** (Read and Write property)

### 3.26.31 UnicodeRange3 as UInt32

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Bitset for unicode ranges.

**Notes:** (Read and Write property)

### 3.26.32 UnicodeRange4 as UInt32

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Bitset for unicode ranges.

**Notes:** (Read and Write property)

### 3.26.33 Weight as UInt32

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Font weight.

**Notes:** (Read and Write property)

### 3.26.34 WidthClass as UInt32

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Width class of the font.

**Notes:** (Read and Write property)

### 3.26.35 WinDescent as Single

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** usWinDescent of the OS/2 table of TrueType and OpenType fonts

**Notes:** (Read and Write property)

### 3.26.36 WinStyle as UInt32

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** fsSelection of the OS/2 table of TrueType and OpenType fonts

**Notes:** (Read and Write property)

### 3.26.37 XHeight as Single

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** X-height.

**Notes:** (Read and Write property)

### 3.26.38 Constants

Unicode Ranges

Constant	Value	Description
kurAlphabeticPresentationForms	&h40000000	
kurAncientGreekNumbers	64	
kurAncientSymbols	&h00800000	
kurArabic	&h00002000	
kurArabicPresentationFormsA	&h80000000	
kurArabicPresentationFormsB	8	
kurArmenian	&h00000400	
kurArrows	32	
kurBalinese	&h08000000	
kurBasicLatin	1	
kurBengali	&h00010000	
kurBlockElements	&h00001000	
kurBopomofo	&h00080000	
kurBoxDrawing	&h00000800	
kurBraillePatterns	&h00040000	
kurBuginese	1	
kurCarian	&h02000000	
kurCham	&h00400000	
kurCherokee	&h00001000	
kurCJKCompatibility	&h00800000	
kurCJKStrokes	&h20000000	
kurCJKSymbolsAndPunctuation	&h00010000	
kurCJKUnifiedIdeographs	&h08000000	
kurCombDiacritMarksForSymbols	4	
kurCombiningDiacriticalMarks	64	
kurCombiningHalfMarks	1	
kurControlPictures	&h00000100	
kurCoptic	&h00000100	
kurCountingRodNumerals	&h00008000	
kurCuneiform	&h00004000	
kurCurrencySymbols	2	
kurCypriotSyllabary	&h00000800	
kurCyrillic	&h00000200	
kurDeseret	&h00800000	
kurDevanagari	&h00008000	
kurDingbats	&h00008000	
kurDominoTiles	&h04000000	
kurEnclosedAlphanumerics	&h00000400	
kurEnclosedCJKLettersAndMonths	&h00400000	
kurEthiopic	&h00000800	
kurGeneralPunctuation	&h80000000	
kurGeometricShapes	&h00002000	
kurGeorgian	&h04000000	
kurGlagolitic	2	
kurGothic	&h00400000	
kurGreekandCoptic	&h00000080	
kurGreekExtended	&h40000000	
kurGujarati	&h00040000	
kurGurmukhi	&h00020000	
kurHalfwidthAndFullwidthForms	16	
kurHangulCompatibilityJamo	&h00100000	
kurHangulJamo	&h10000000	
kurHangulSyllables	&h01000000	
kurHebrew	&h00000800	
kurHiragana	&h00020000	
kurIPAExtensions	16	
kurKannada	&h00400000	
kurKatakana	&h00040000	

## 3.27 class DynaPDFGlyphOutlineMBS

### 3.27.1 class DynaPDFGlyphOutlineMBS

Plugin Version: 16.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for glyph outline.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

### 3.27.2 Methods

### 3.27.3 Constructor

Plugin Version: 16.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.27.4 Outline(index as Integer) as DynaPDFPointMBS

Plugin Version: 16.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries point with given index.

**Notes:** Index from 0 to OutlineCount-1.

### 3.27.5 Outlines as DynaPDFPointMBS()

Plugin Version: 16.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries array with all points.

### 3.27.6 Properties

### 3.27.7 AdvanceX as Single

Plugin Version: 16.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Glyph width in horizontal writing mode.

**Notes:** (Read only property)

### 3.27.8 AdvanceY as Single

Plugin Version: 16.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Glyph height in vertical writing mode.

**Notes:** (Read only property)

### 3.27.9 BBox as DynaPDFRectMBS

Plugin Version: 16.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Bounding box of the glyph outline.

**Notes:** (Read and Write property)

### 3.27.10 HaveBBox as Boolean

Plugin Version: 16.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If true, BBox was computed.

**Notes:** (Read and Write property)

### 3.27.11 Lsb as Integer

Plugin Version: 16.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Left side bearing (already applied, info only).

**Notes:** (Read and Write property)

### 3.27.12 OriginX as Single

Plugin Version: 16.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Placement vector (vertical writing mode only).

**Notes:** (Read only property)

### 3.27.13 OriginY as Single

Plugin Version: 16.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Placement vector (vertical writing mode only).

**Notes:** (Read only property)

### 3.27.14 OutlineCount as Integer

Plugin Version: 16.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of points.

**Notes:** (Read and Write property)

### 3.27.15 Tsb as Integer

Plugin Version: 16.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Top side bearing (already applied, info only).

**Notes:** (Read and Write property)

## 3.28 class DynaPDFGoToActionMBS

### 3.28.1 class DynaPDFGoToActionMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for details on a GoTo action.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

### 3.28.2 Methods

### 3.28.3 Constructor

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.28.4 DestPos(index as Integer) as Single

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Destination position.

**Notes:** Array of 4 floating point values if set.

Index from 0 to 3.

### 3.28.5 Properties

### 3.28.6 DestFile as DynaPDFFileSpecExMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The destination file.

**Notes:** (Read only property)

### 3.28.7 DestName as String

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional named destination that shall be loaded when opening the file.

**Notes:** (Read only property)

### 3.28.8 DestPage as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Destination page (the first page is denoted by 1).

**Notes:** (Read only property)

### 3.28.9 DestType as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Destination type.

**Notes:** (Read only property)

### 3.28.10 NewWindow as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to open a new window.

**Notes:** Meaningful only if the destination file points to a PDF file.

-1 = viewer default, 0 = false, 1 = true.

(Read only property)

### 3.28.11 NextAction as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The index of the action.

**Notes:** -1 or next action handle to be executed if any.

(Read only property)

### 3.28.12 NextActionType as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The type of the action.

**Notes:** Only set if NextAction is  $\geq 0$ .



## 3.29 class DynapdfGraphicsPathItemMBS

### 3.29.1 class DynapdfGraphicsPathItemMBS

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a path item.

**Notes:** MBS Plugin needs to collect what path items you added, so we can later draw them to the PDF.

**Blog Entries**

- [MBS Xojo Plugins, version 20.2pr1](#)

### 3.29.2 Properties

#### 3.29.3 clockwise as Boolean

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The clockwise parameter.

**Notes:** For drawing arcs.

(Read only property)

#### 3.29.4 cornerHeight as Double

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The corner height.

**Notes:** for round rectangle.

(Read and Write property)

#### 3.29.5 cornerWidth as Double

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The corner width.

**Notes:** for round rectangle.

(Read and Write property)

#### 3.29.6 cp1X as Double

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** First control point X coordinate.

**Notes:** (Read and Write property)

### 3.29.7 cp1Y as Double

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** First control point Y coordinate.

**Notes:** (Read and Write property)

### 3.29.8 cp2X as Double

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Second control point X coordinate.

**Notes:** (Read and Write property)

### 3.29.9 cp2Y as Double

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Second control point Y coordinate.

**Notes:** (Read and Write property)

### 3.29.10 cpX as Double

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Control point X coordinate.

**Notes:** (Read and Write property)

### 3.29.11 cpY as Double

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Control point Y coordinate.

**Notes:** (Read and Write property)

### 3.29.12 endRadian as Double

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The radian for the end angle.

**Notes:** (Read and Write property)

### 3.29.13 height as Double

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The height parameter.

**Notes:** (Read and Write property)

### 3.29.14 radius as Double

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The radius for an arc.

**Notes:** (Read and Write property)

### 3.29.15 startRadian as Double

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The radian for the start angle.

**Notes:** (Read and Write property)

### 3.29.16 Type as Integer

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The type of path item.

**Notes:** See type constants.

(Read only property)

### 3.29.17 width as Double

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The width parameter.

**Notes:** (Read and Write property)

### 3.29.18 x as Double

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** X coordinate.

**Notes:** (Read and Write property)

### 3.29.19 y as Double

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Y coordinate.

**Notes:** (Read and Write property)

### 3.29.20 Constants

Types

Constant	Value	Description
TypeAddArc	1	Add arc
TypeAddCurveToPoint	2	Add curve to point
TypeAddLineToPoint	3	Add line to point
TypeAddQuadraticCurveToPoint	4	Add quadratic curve to point
TypeAddRectangle	5	Add rectangle
TypeAddRoundRectangle	6	Add round rectangle
TypeMoveToPoint	7	Move to point
TypeUnknown	0	Unknown type. Only for an uninitialized object.

## 3.30 class DynapdfGraphicsPathMBS

### 3.30.1 class DynapdfGraphicsPathMBS

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a path.

**Notes:** We subclass the GraphicsPath class in Xojo 2019r2 and newer to be able to record what methods you call.

Subclass of the GraphicsPath class.

**Blog Entries**

- [Improvements for MBS Xojo DynaPDF Plugin](#)
- [New in the MBS Xojo Plugins Version 20.2](#)
- [MonkeyBread Software Releases the MBS Xojo Plugins in version 20.2](#)
- [MBS Xojo Plugins, version 20.2pr1](#)

### 3.30.2 Methods

#### 3.30.3 AddArc(x As Double, y As Double, radius As Double, startRadian As Double, endRadian As Double, clockwise As Boolean)

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds an arc to the path.

#### 3.30.4 AddCurveToPoint(cp1X As Double, cp1Y As Double, cp2X As Double, cp2Y As Double, x As Double, y As Double)

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds a cubic Bézier curve to the point in the path.

#### 3.30.5 AddLineToPoint(x As Double, y As Double)

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Draws a line from the Point to the specified point.

### 3.30.6 AddQuadraticCurveToPoint(cpX As Double, cpY As Double, x As Double, y As Double)

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds a quadratic Bézier curve to the point in the path.

### 3.30.7 AddRectangle(x As Double, y As Double, width As Double, height As Double)

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds a rectangle to the path.

### 3.30.8 AddRoundRectangle(x As Double, y As Double, width As Double, height As Double, cornerWidth As Double, cornerHeight As Double)

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds a rounded rectangle to the path.

### 3.30.9 MoveToPoint(x As Double, y As Double)

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Moves to the point without drawing anything.

### 3.30.10 PathItems as DynapdfGraphicsPathItemMBS()

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries array of path items.

### 3.30.11 Properties

### 3.30.12 Count as Integer

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries count of items.

**Notes:** (Read only property)

## 3.31 class DynaPDFHideActionMBS

### 3.31.1 class DynaPDFHideActionMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a hide action.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

### 3.31.2 Methods

### 3.31.3 Constructor

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.31.4 Fields(index as Integer) as DynaPDFFieldExMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Array of fields.

### 3.31.5 Properties

### 3.31.6 FieldsCount as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of fields in the array.

**Notes:** (Read only property)

### 3.31.7 Hide as Boolean

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A flag indicating whether to hide or show the fields in the array.

**Notes:** (Read only property)

### 3.31.8 NextAction as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The handle of the next action to use.

**Notes:** -1 or next action handle to be executed if any.  
(Read only property)

### 3.31.9 NextActionType as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The type of the next action.

**Notes:** Only set if NextAction is  $\geq 0$ .  
(Read only property)

## 3.32 class DynaPDFImageMBS

### 3.32.1 class DynaPDFImageMBS

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A class for dynapdf for passing image data.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

#### Blog Entries

- [News from the MBS Xojo Plugins Version 21.1](#)
- [MBS Xojo Plugins, version 21.1pr1](#)
- [MBS Xojo Plugins, version 19.2pr1](#)
- [MBS Xojo / Real Studio Plugins, version 16.4pr3](#)
- [MBS Xojo / Real Studio Plugins, version 15.0pr8](#)
- [MBS REALbasic Plugins, version 11.1pr4](#)

#### Xojo Developer Magazine

- [19.6, page 14: Things you can do with DynaPDF, The MBS DynaPDF Plugin is more powerful than you think by Stefanie Juchmes](#)

### 3.32.2 Methods

#### 3.32.3 Constructor

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

#### 3.32.4 Decode as Single()

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The decode array.

**Notes:** If set, samples must be decoded. The array contains 2 \* NumComponents values.

The decode array is never set if the image is returned decompressed since it is already applied during de-compression.

### 3.32.5 MaskImage(Flags as UInt32 = 0) as DynaPDFImageMBS

Plugin Version: 14.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries the image details on the soft mask for this image.

**Notes:** If set, a 1 bit image is used as a transparency mask.

Plugin calls GetImageObjEx with the given flags to decode the image.

### 3.32.6 PictureData(ImageFormat as Integer = 0, ImageFilter as Integer = 0) as String

Plugin Version: 16.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Requests images in the given format.

**Notes:** Default for ImageFormat is Tiff (kifmTIFF is zero) and default Image Filter is flate (kcfFlate is zero).

You can pass different constants.

If you request JPEG or JPEG 2000 and the image is already in that format, we pass through.

Else we recompress image.

### 3.32.7 SoftMask(Flags as UInt32 = 0) as DynaPDFImageMBS

Plugin Version: 14.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries the image details on the soft mask for this image.

**Notes:** If set, a grayscale image is used as alpha channel.

Plugin calls GetImageObjEx with the given flags to decode the image.

### 3.32.8 Properties

#### 3.32.9 BitsPerPixel as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Bit depth of the image buffer.

**Notes:** Possible values are 1, 2, 4, 8, 24, 32, and 64.

(Read only property)

### 3.32.10 Buffer as String

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The buffer for the image data as a string.

**Notes:** Each scanline is aligned to a full byte.  
(Read only property)

### 3.32.11 BufferPtr as Ptr

Plugin Version: 14.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The buffer for the image data.

**Notes:** Each scanline is aligned to a full byte.  
(Read only property)

### 3.32.12 BufferSize as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The size of the image buffer in bytes.

**Notes:** (Read only property)

### 3.32.13 ColorCount as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of colors in the color table.

**Notes:** (Read only property)

### 3.32.14 ColorMask as Memoryblock

Plugin Version: 14.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Pointer to color mask.

**Notes:** The array contains ranges in the form min/max (2 values per component) for each component before decoding.  
(Read only property)

### 3.32.15 ColorSpace as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The color space refers either to the image buffer or to the color table if set.

**Notes:** Note that 1 bit images can occur with and without a color table.

(Read only property)

### 3.32.16 ColorSpaceObject as DynaPDFColorSpaceMBS

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The original color space.

**Notes:** (Read only property)

### 3.32.17 ColorTable as Memoryblock

Plugin Version: 14.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The color table or nil.

**Notes:** (Read only property)

### 3.32.18 DestHeight as Single

Plugin Version: 20.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Destination height (can be negative).

**Notes:** (Read only property)

### 3.32.19 DestWidth as Single

Plugin Version: 20.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Destination width (can be negative).

**Notes:** (Read only property)

### 3.32.20 DestX1 as Single

Plugin Version: 20.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The X1 coordinate of the parallelogram into which the image is drawn.

**Notes:** (Read only property)

### 3.32.21 DestX2 as Single

Plugin Version: 20.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The X2 coordinate of the parallelogram into which the image is drawn.

**Notes:** (Read only property)

### 3.32.22 DestX3 as Single

Plugin Version: 20.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The X3 coordinate of the parallelogram into which the image is drawn.

**Notes:** (Read only property)

### 3.32.23 DestX4 as Single

Plugin Version: 20.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The X4 coordinate of the parallelogram into which the image is drawn.

**Notes:** (Read only property)

### 3.32.24 DestY1 as Single

Plugin Version: 20.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Y1 coordinate of the parallelogram into which the image is drawn.

**Notes:** (Read only property)

### 3.32.25 DestY2 as Single

Plugin Version: 20.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Y2 coordinate of the parallelogram into which the image is drawn.

**Notes:** (Read only property)

### 3.32.26 DestY3 as Single

Plugin Version: 20.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Y3 coordinate of the parallelogram into which the image is drawn.

**Notes:** (Read only property)

### 3.32.27 DestY4 as Single

Plugin Version: 20.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Y4 coordinate of the parallelogram into which the image is drawn.

**Notes:** (Read only property)

### 3.32.28 FillColor as Integer

Plugin Version: 21.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The current fill color.

**Notes:** An image mask is drawn with the current fill color.

(Read only property)

### 3.32.29 FillColorSpace as Integer

Plugin Version: 21.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The color space in which FillColor is defined.

**Notes:** (Read only property)

### 3.32.30 Filter as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Required decode filter if the image is compressed.

**Notes:** Required decode filter if the image is compressed.

Possible values are dfDCTDecode (JPEG), dfJPXDecode (JPEG2000), and dfJBIG2Decode. Other filters

are already removed by DynaPDF since a conversion to a native file format is then always required.

(Read only property)

### 3.32.31 Height as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Image height in pixel.

**Notes:** (Read only property)

### 3.32.32 ImageHandle as Ptr

Plugin Version: 21.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The image handle if known.

**Notes:** (Read only property)

### 3.32.33 ImageIndex as Integer

Plugin Version: 21.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The image index if known.

**Notes:** (Read only property)

### 3.32.34 IMaskImageHandle as Integer

Plugin Version: 16.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The index of the mask image.

**Notes:** This is the index to use with DynaPDFMBS.GetImageObj function.  
(Read only property)

### 3.32.35 InlineImage as Boolean

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If true, the image is an inline image.

**Notes:** (Read only property)

### 3.32.36 Intent as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The rendering intent.

**Notes:** Default riNone.

(Read only property)

### 3.32.37 Interpolate as Boolean

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If true, image interpolation should be performed.

**Notes:** (Read and Write property)

### 3.32.38 ISoftMaskHandle as Integer

Plugin Version: 16.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The index of the soft mask image.

**Notes:** This is the index to use with DynaPDFMBS.GetImageObj function.

(Read only property)

### 3.32.39 JBIG2Globals as String

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional global page 0 segment (kdfJBIG2Decode filter only).

**Notes:** (Read only property)

### 3.32.40 JBIG2GlobalsSize as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The size of the bit stream in bytes.

**Notes:** (Read only property)

### 3.32.41 Measure as DynaPDFMeasureMBS

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional measure dictionary.

**Notes:** (Read only property)

### 3.32.42 Metadata as String

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional XML Metadata stream.

**Notes:** (Read only property)

### 3.32.43 MetadataSize as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Length of Metadata in bytes.

**Notes:** (Read only property)

### 3.32.44 MinIsWhite as Boolean

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If true, the colors of 1 bit images are reversed.

**Notes:** (Read only property)

### 3.32.45 NumComponents as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of components stored in the image buffer.

**Notes:** (Read only property)

### 3.32.46 OCG as Integer

Plugin Version: 15.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Handle of an OCG or OCMD or -1.

**Notes:** Images can be part of an Optional Content Group (OCG) or Optional Content Membership Dictionary (OCMD). If OC is greater -1 an OCG or OCMD handle was set. To determine whether an OCG handle was set, check whether the value is smaller &h40000000.

(Read only property)

### 3.32.47 OrgFilter as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The image was compressed with this filter in the PDF file.

**Notes:** This info is useful to determine which compression filter should be used when creating a new image file from the image buffer.

(Read only property)

### 3.32.48 PDF as DynaPDFMBS

Plugin Version: 14.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The reference to the parent DynaPDF object.

**Notes:** (Read and Write property)

### 3.32.49 PtData as DynaPDFPointDataDictionaryMBS

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Point Data dictionary.

**Notes:** (Read only property)

### 3.32.50 ResolutionX as Single

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Image resolution on the x-axis.

**Notes:** (Read only property)

### 3.32.51 ResolutionY as Single

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Image resolution on the y-axis.

**Notes:** (Read only property)

### 3.32.52 ScanLineLength as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The length of a scanline in bytes.

**Notes:** (Read only property)

### 3.32.53 SMaskInData as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The SMaskInData value.

**Notes:** JPXDecode only, PDF\_MAX\_INT if not set. See PDF Reference for further information.

(Read only property)

### 3.32.54 Transparent as Boolean

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The transparent mode.

**Notes:** The meaning is different depending on the bit depth and whether a color table is available. If the image is a 1 bit image and if no color table is available, black pixels must be drawn with the current fill color. If the image contains a color table ColorMask contains the range of indexes in the form min/max index which appears transparent. If no color table is present ColorMask contains the transparent ranges in the form min/max for each component.

(Read only property)

### 3.32.55 Width as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Image width in pixel.

**Notes:** (Read only property)

## 3.33 class DynaPDFImportDataActionMBS

### 3.33.1 class DynaPDFImportDataActionMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for an import data action.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

### 3.33.2 Methods

### 3.33.3 Constructor

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.33.4 Properties

### 3.33.5 Data as DynaPDFFileSpecExMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The data or file to be loaded.

**Notes:** (Read only property)

### 3.33.6 NextAction as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The handle to the next action.

**Notes:** -1 or next action handle to be executed if any

(Read only property)

### 3.33.7 NextActionType as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The type of the next action.

**Notes:** Only set if NextAction is  $\geq 0$ .

(Read only property)

## 3.34 class DynaPDFIteratorMBS

### 3.34.1 class DynaPDFIteratorMBS

Plugin Version: 23.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The iterator object use for for-each loops in Xojo.

**Notes:** Implements Iterable and Iterator interfaces.

This class is hidden for auto complete as you don't need to use it manually. Please use it using for each loops.

This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

#### Blog Entries

- [MBS Xojo Plugins, version 23.6pr1](#)
- [News from the MBS Xojo Plugins Version 23.5](#)
- [Embracing for each loops](#)
- [MonkeyBread Software Releases the MBS Xojo Plugins in version 23.5](#)
- [MBS Xojo Plugins, version 23.5pr1](#)

#### Xojo Developer Magazine

- [22.1, page 9: News](#)

Interfaces: Iterator, Iterable

### 3.34.2 Methods

### 3.34.3 Constructor

Plugin Version: 23.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The private constructor.

### 3.34.4 Iterator as Iterator

Plugin Version: 23.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Queries the iterator object.

**Notes:** Returns self and is used internally by Xojo for the for each loops.

Part of the Iterable interface and needed for for-each loops.

### 3.34.5 MoveNext as Boolean

Plugin Version: 23.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Moves to next object for iterator.

**Notes:** Returns true on success and false in case of an error like end of iterator.  
Part of the Iterator interface and needed for for-each loops.

### 3.34.6 Value as Variant

Plugin Version: 23.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Current value for the iterator.

**Notes:** The type of object depends on what you iterate over.

Part of the Iterator interface and needed for for-each loops.

### 3.34.7 Properties

### 3.34.8 PDF as DynaPDFMBS

Plugin Version: 23.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The object reference to the parent DynaPDFMBS object.

**Notes:** (Read only property)

## 3.35 class DynaPDFJavaScriptActionMBS

### 3.35.1 class DynaPDFJavaScriptActionMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a javascript action.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

### 3.35.2 Methods

### 3.35.3 Constructor

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.35.4 Properties

### 3.35.5 NextAction as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The handle to the next action.

**Notes:** -1 or next action handle to be executed if any  
(Read only property)

### 3.35.6 NextActionType as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The type of the next action.

**Notes:** Only set if NextAction is  $\geq 0$ .  
(Read only property)

### 3.35.7 Script as String

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The script.

**Notes:** (Read only property)

## 3.36 class DynaPDFLaunchActionMBS

### 3.36.1 class DynaPDFLaunchActionMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for details on a launch action.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

### 3.36.2 Methods

### 3.36.3 Constructor

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.36.4 Properties

### 3.36.5 AppName as String

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional. The name of the application that should be launched.

**Notes:** (Read only property)

### 3.36.6 DefDir as String

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional default directory.

**Notes:** (Read only property)

### 3.36.7 File as DynaPDFFileSpecExMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The file specification for the launch.

**Notes:** (Read only property)

### 3.36.8 NewWindow as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to launch in new window.

**Notes:** -1 = viewer default, 0 = false, 1 = true.

(Read only property)

### 3.36.9 NextAction as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The handle to the next action.

**Notes:** -1 or next action handle to be executed if any

(Read only property)

### 3.36.10 NextActionType as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The type of the next action.

**Notes:** Only set if NextAction is  $\geq 0$ .

(Read only property)

### 3.36.11 Operation as String

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional string specifying the operation to perform (open or print).

**Notes:** (Read only property)

### 3.36.12 Parameter as String

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional parameter string that shall be passed to the application (AppName).

**Notes:** (Read only property)

## 3.37 class DynaPDFLayerGroupMBS

### 3.37.1 class DynaPDFLayerGroupMBS

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a DynaPDF Layer Group.

**Notes:** Used to link layers in hierarchies.

This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

### 3.37.2 Methods

### 3.37.3 Constructor

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.37.4 Properties

### 3.37.5 Handle as Integer

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The internal object reference.

**Notes:** (Read only property)

### 3.37.6 Owner as DynaPDFMBS

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The link to the parent DynaPDF object.

**Notes:** (Read only property)

## 3.38 class DynaPDFLineAnnotParameterMBS

### 3.38.1 class DynaPDFLineAnnotParameterMBS

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for line annotation parameters.

### 3.38.2 Properties

#### 3.38.3 Caption as Boolean

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Specifies whether the parameter Content of the function LineAnnot should be used as caption of the measure line.

**Notes:** (Read and Write property)

#### 3.38.4 CaptionOffsetX as Single

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Horizontal offset of the caption from its normal position.

**Notes:** (Read and Write property)

#### 3.38.5 CaptionOffsetY as Single

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Vertical offset of the caption from its normal position.

**Notes:** (Read and Write property)

#### 3.38.6 CaptionPos as Integer

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The position where the caption should be drawn if present.

**Notes:** (Read and Write property)

### 3.38.7 LeaderLineExtend as Single

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional leader line extend beyond the leader line (must be a positive value or zero).

**Notes:** (Read and Write property)

### 3.38.8 LeaderLineLen as Single

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Length of the leader lines (positive or negative).

**Notes:** (Read and Write property)

### 3.38.9 LeaderLineOffset as Single

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Amount of space between the endpoints of the annotation and the leader lines (must be a positive value or zero)

**Notes:** (Read and Write property)

## 3.39 class DynaPDFMatrixMBS

### 3.39.1 class DynaPDFMatrixMBS

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a DynaPDF matrix structure.

**Notes:** in the documentation known as TCTM struct.

**Blog Entries**

- [MBS Xojo Plugins, version 20.2pr2](#)
- [DynaPDF Text Position Examples updated](#)
- [DynaPDF Text Position Examples](#)
- [MBS Xojo / Real Studio Plugins, version 17.0pr1](#)
- [MBS Real Studio Plugins, version 11.1pr8](#)

### 3.39.2 Methods

### 3.39.3 Constructor

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a new matrix and sets it to identity.

**Example:**

```
dim m as new DynaPDFMatrixMBS
MsgBox m
```

See also:

- [3.39.4 Constructor\(a as Double, b as Double, c as Double, d as Double, x as Double, y as Double\)](#) 237
- [3.39.5 Constructor\(other as DynaPDFMatrixMBS\)](#) 238

### 3.39.4 Constructor(a as Double, b as Double, c as Double, d as Double, x as Double, y as Double)

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a new instance with setting values to the given parameters.

**Example:**

`dim m as new DynaPDFMatrixMBS(1,2,3,4,5,6)`  
 MsgBox m

See also:

- 3.39.3 Constructor 237
- 3.39.5 Constructor(other as DynaPDFMatrixMBS) 238

### 3.39.5 Constructor(other as DynaPDFMatrixMBS)

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a matrix object with copying the values.

**Example:**

`dim m as new DynaPDFMatrixMBS(1,2,3,4,5,6)`  
`dim n as new DynaPDFMatrixMBS(m)`  
 MsgBox n

See also:

- 3.39.3 Constructor 237
- 3.39.4 Constructor(a as Double, b as Double, c as Double, d as Double, x as Double, y as Double) 237

### 3.39.6 Identity as DynaPDFMatrixMBS

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates new object with identity matrix.

**Example:**

`dim m as DynaPDFMatrixMBS = DynapdfMatrixMBS.Identity`

MsgBox m // shows [ 1.000000 0.000000 0.000000 1.000000 0.000000 0.000000 ]

### 3.39.7 Invert

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Inverts the matrix.

**Example:**

```
dim m as new DynaPDFMatrixMBS
```

```
m.Invert
```

```
MsgBox m // shows [ 1.000000 -0.000000 -0.000000 1.000000 0.000000 0.000000 ]
```

### 3.39.8 LeftMultiply(a as Double, b as Double, c as Double, d as Double, x as Double, y as Double)

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Multiplies both matrix where self is on the left side.

See also:

- 3.39.9 LeftMultiply(other as DynaPDFMatrixMBS)

239

### 3.39.9 LeftMultiply(other as DynaPDFMatrixMBS)

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Multiplies both matrix where self is on the left side.

**Example:**

```
dim m1 as new DynaPDFMatrixMBS
```

```
dim m2 as new DynaPDFMatrixMBS
```

```
m1.Rotate 0.1
```

```
m2.Scale 2.0, 3.0
```

```
dim m3 as new DynaPDFMatrixMBS(m1)
```

```
m3.LeftMultiply(m2)
```

```
MsgBox m1.Str+EndOfLine+m2.Str+EndOfLine+m3.Str
```

See also:

- 3.39.8 LeftMultiply(a as Double, b as Double, c as Double, d as Double, x as Double, y as Double) 239

### 3.39.10 Operator\_Compare(other as DynaPDFMatrixMBS) as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Compares two matrix objects whether they have same values.

**Example:**

```
dim m1 as new DynaPDFMatrixMBS
dim m2 as new DynaPDFMatrixMBS

if m1 = m2 then
  MsgBox "Equal, same values."
else
  MsgBox "Not equal ->Bug in Plugin."
end if

if m1 is m2 then
  MsgBox "Equal ->Bug in Xojo."
else
  MsgBox "Not equal, different objects."
end if
```

### 3.39.11 Operator\_Convert as string

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Converts matrix into a string for displaying in log files.

**Example:**

```
dim m as new DynaPDFMatrixMBS
MsgBox m // shows [ 1.000000 0.000000 0.000000 1.000000 0.000000 0.000000 ]
```

**Notes:** Added for debugging.

### 3.39.12 Operator\_Multiply(other as DynaPDFMatrixMBS) as DynapdfMatrixMBS

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Multiplies both matrix where self is on the left side.

**Example:**

```
dim m1 as new DynaPDFMatrixMBS
dim m2 as new DynaPDFMatrixMBS
```

```
m1.Rotate 0.1
m2.Scale 2.0, 3.0
```

```
dim m3 as DynaPDFMatrixMBS = m1*m2
```

```
MsgBox m1.Str+EndOfLine+m2.Str+EndOfLine+m3.Str
```

### 3.39.13 Operator\_MultiplyRight(other as DynaPDFMatrixMBS) as Dynapdf-MatrixMBS

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Multiplies both matrix where self is on the right side.

### 3.39.14 RightMultiply(a as Double, b as Double, c as Double, d as Double, x as Double, y as Double)

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Multiplies both matrix where self is on the right side.

See also:

- 3.39.15 RightMultiply(other as DynaPDFMatrixMBS)

241

### 3.39.15 RightMultiply(other as DynaPDFMatrixMBS)

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Multiplies both matrix where self is on the right side.

See also:

- 3.39.14 RightMultiply(a as Double, b as Double, c as Double, d as Double, x as Double, y as Double)

241

### 3.39.16 Rotate(angle as Double)

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Rotates matrix with the given angle.

**Example:**

```

dim m as new DynaPDFMatrixMBS
const pi = 3.14159265
dim angle as Double = 30.0/180.0*pi
m.Rotate(angle)
MsgBox m // shows [ 0.866025 0.500000 -0.500000 0.866025 0.000000 0.000000 ]

```

**Notes:** Angle in radians:  $2\pi = 360$  degree

### 3.39.17 Scale(sx as Double, sy as Double)

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Scales the matrix.

**Example:**

```

dim m as new DynaPDFMatrixMBS
m.Scale 2.0, 3.0
MsgBox m // [ 2.000000 0.000000 0.000000 3.000000 0.000000 0.000000 ]

```

### 3.39.18 SetIdentity

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets values back to the identity matrix.

**Example:**

```

dim m as new DynaPDFMatrixMBS
m.Scale 2.0, 3.0 // modify values
m.SetIdentity // and reset
MsgBox m // [ 1.000000 0.000000 0.000000 1.000000 0.000000 0.000000 ]

```

**3.39.19 SetValues(a as Double, b as Double, c as Double, d as Double, x as Double, y as Double)**

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets all the values in one method

**Example:**

```
dim m as new DynaPDFMatrixMBS
```

```
m.SetValues 1,2,3,4,5,6
```

```
MsgBox m
```

**3.39.20 Transform(byref x as Double, byref y as Double)**

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Applies the matrix to the given point.

**Example:**

```
dim m as new DynaPDFMatrixMBS
```

```
const pi = 3.14159265
```

```
dim angle as Double = 30.0/180.0*pi
```

```
m.Rotate(angle)
```

```
m.Translate 2.0, 3.0
```

```
dim x as Double = 100.0
```

```
dim y as Double = 100.0
```

```
m.Transform x,y
```

```
MsgBox str(x)+" " +str(y) // 36.83459 140.2006
```

**3.39.21 TransformInv(byref x as Double, byref y as Double)**

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Applies the matrix to the given point in inverse mode.

**Example:**

```
dim m as new DynaPDFMatrixMBS
```

```

const pi = 3.14159265
dim angle as Double = 30.0/180.0*pi
m.Rotate(angle)
m.Translate 2.0, 3.0

dim x as Double = 100.0
dim y as Double = 100.0

// transform
m.Transform x,y

MsgBox str(x)+" "+str(y) // 36.83459 140.2006

// transform back
m.TransformInv x,y

MsgBox str(x)+" "+str(y) // 100 100#

```

**Notes:** Like you have a point and want to know whether it was before the matrix was applied.

### 3.39.22 Translate(x as Double, y as Double)

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Translates matrix by given values.

**Example:**

```

dim m as new DynaPDFMatrixMBS

m.Translate 2,3

MsgBox m // shows [ 1.000000 0.000000 0.000000 1.000000 2.000000 3.000000 ]

```

### 3.39.23 Properties

#### 3.39.24 a as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** One of the matrix properties.

**Notes:** (Read and Write property)

### 3.39.25 b as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** One of the matrix properties.

**Notes:** (Read and Write property)

### 3.39.26 c as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** One of the matrix properties.

**Notes:** (Read and Write property)

### 3.39.27 d as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** One of the matrix properties.

**Notes:** (Read and Write property)

### 3.39.28 IsIdentity as boolean

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Checks whether matrix is the identity matrix.

**Example:**

```
dim m as new DynaPDFMatrixMBS
```

```
MsgBox str(m.IsIdentity)
```

```
m.a = 3.0
```

```
MsgBox str(m.IsIdentity)
```

**Notes:** Returns true if a = 1, b = 0, c = 0, d = 1, x = 0 and y = 0.  
(Read only property)

### 3.39.29 RotationAngle as Double

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Calculates the rotate angle.

**Example:**

```
dim m as DynaPDFMatrixMBS = DynapdfMatrixMBS.Identity
```

```
m.Rotate 0.1
```

```
MsgBox str(m.GetRotationAngle) // shows 0.1
```

**Notes:** In radians from  $-\pi$  to  $\pi$ .

Used to be named GetRotationAngle before.

(Read only property)

### 3.39.30 ScaleFactor as Double

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Calculates the scale factor.

**Example:**

```
dim m as DynaPDFMatrixMBS = DynapdfMatrixMBS.Identity
```

```
m.Scale 3.0, 4.0
```

```
MsgBox str(m.GetScaleFactor) // shows 3.535534
```

**Notes:** Used to be named GetScaleFactor before.

(Read only property)

### 3.39.31 StringValue as string

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Converts matrix into a string for displaying in log files.

**Example:**

```
dim m as new DynaPDFMatrixMBS
```

```
MsgBox m.Str // shows [ 1.000000 0.000000 0.000000 1.000000 0.000000 0.000000 ]
```

**Notes:** Added for debugging.  
Used to be named Str.  
(Read only property)

### 3.39.32 x as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** One of the matrix properties.  
**Notes:** (Read and Write property)

### 3.39.33 y as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** One of the matrix properties.  
**Notes:** (Read and Write property)

## 3.40 class DynaPDFMBS

### 3.40.1 class DynaPDFMBS

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The dynapdf class.

**Notes:** A pdf library to create, modify, import pdf files.

You need a separate dynapdf license key for this class.

Please note that all constants have the prefix k. In the dynapdf\_help.pdf file, the constants don't have a k prefix. And the C functions there have IPDF parameters which the plugin automatically passes for you. So

```
SI32 pdfSetPageCoords(const void* IDPF, TPageCoord PageCoords)
```

translates in Xojo to

```
function SetPageCoords(PageCoords as Integer) as Integer
```

and you call it like this:

```
call pdf.SetPageCoords pdf.kpcTopDown
```

where in this sample the DynaPDF object is named pdf.

Pro license is required for the following functions:

- BeginTransparencyGroup
- ConvertColors
- Create3DAnnot
- CreateSoftMask
- FlattenForm
- GetPageText
- ImportPage and ImportPageEx
- ParseContent
- RenderAnnotOrField

- RenderPage
- SetCMapDir
- SetExtColorSpace, SetExtFillColorSpace and SetExtStrokeColorSpace.
- SetUseGlobalImpFiles

Lite is required for:

- AddRenderingIntent and AddRenderingIntentEx
- CreateFormFields
- CloseFileEx
- ConvertEMFSpool
- CreateCollection
- CreateExtGState
- InsertMetafile and InsertMetafileEx
- OpenImportBuffer, OpenImportFile and OpenImportStream
- SetPDFVersion for PDF/A and PDF/X

And all functions relying on those functions internally.

#### **Blog Entries**

- [MBS Xojo Plugins, version 24.1pr2](#)
- [News from the MBS Xojo Plugins in version 21.5](#)
- [DynaPDF with gradients in DeviceN colorspace](#)
- [News from the MBS Xojo Plugins Version 21.4](#)
- [News from the MBS Xojo Plugins Version 21.3](#)
- [Text Encoding Speedups](#)
- [ZUGFeRD 2.0 and Factur-X for Xojo](#)
- [DynaPDF Tracing](#)
- [PDF Standard Fonts](#)
- [MBS Plugins 11.1 Release notes](#)

#### **Videos**

- [MBS Plugin Installation on Windows](#)
- [MBS Plugin Installation on macOS](#)
- [Xojo and DynaPDF](#)
- [Presentation from Munich conference about MBS Plugins.](#)
- [Presentation from London conference about MBS Plugins.](#)
- [Presentation from Xojo Developer Conference 2019 in Miami.](#)

### Xojo Developer Magazine

- [8.5, page 18: Printing PDFs, Easy PDF printing on Mac and Windows](#)
- [21.6, page 16: Multi-column PDFs, Making Multi-column PDFs with DynaPDF by Stefanie Juchmes](#)
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- [20.4, page 42: PDF Pie Charts, Adding Xojo Charts to Your PDFs by Stefanie Juchmes](#)
- [20.4, page 10: News](#)
- [19.6, page 12: Things you can do with DynaPDF, The MBS DynaPDF Plugin is more powerful than you think by Stefanie Juchmes](#)
- [19.2, page 31: Getting Started with DynaPDF, If you've never tried DynaPDF, you don't know how easy it is! by Stefanie Juchmes](#)
- [19.2, page 24: Getting Started with DynaPDF, If you've never tried DynaPDF, you don't know how easy it is! by Stefanie Juchmes](#)
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### 3.40.2 Methods

#### 3.40.3 `ActivateAltFontList(FontListHandle as Integer, EnableSysFonts as Boolean) as Boolean`

Plugin Version: 22.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Activates or deactivates an alternate font list that was created by `CreateAltFontList()`.

**Notes:** An alternate font list represents a list of fallback fonts which are tested if one or more required glyphs were not found in the current font.

If no compatible font was found in the list, then system fonts are tested if `EnableSysFonts` was set to true. Although `EnableSysFonts` should be set to true in most cases, it is sometimes useful to disable system fonts, e.g. to restrict the number of fonts which can be embedded.

In order to disable the current alternate font list set the parameter `Handle` to -1. The value of `EnableSysFonts`

is ignored this case. To fully deactivate font substitution disable system fonts with `SetUseSystemFonts()` before calling a text function.

Please note that alternate font lists are used only, if complex text layout was enabled. This can be done by setting the flag `kgfComplexText` with `SetGStateFlags()`.

See also [ActivateAltFontList](#) function in DynaPDF manual.

### 3.40.4 AddActionToObj(ObjType as Integer, theEvent as Integer, ActHandle as Integer, ObjHandle as Integer) as boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function adds an action to a PDF object.

See also [AddActionToObj](#) function in DynaPDF manual.

### 3.40.5 AddAnnotToPage(PageNum as UInt32, Handle as UInt32) as boolean

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds an annotation to a page.

**Notes:** With exception of PopUp annotations all annotation types can be drawn on multiple pages. Watermark or Stamp annotations are typical annotations which can be placed on multiple pages.

Returns true on success.

See also [AddAnnotToPage](#) function in DynaPDF manual.

### 3.40.6 AddArticle(PosX as Double, PosY as Double, Width as Double, Height as Double) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function creates a new article and adds it to the currently open article thread that must be created with `CreateArticleThread()` beforehand.

See also [AddArticle](#) function in DynaPDF manual.

### 3.40.7 AddBookmark(title as String, parent as Integer, DestPage as Integer, Open as boolean) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function adds a bookmark to the global outline tree of the document.

**Notes:** The title parameter is converted to unicode.

See also [AddBookmark](#) function in DynaPDF manual.

### 3.40.8 AddBookmarkAnsi(title as String, parent as Integer, DestPage as Integer, Open as boolean) as Integer

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** This function adds a bookmark to the global outline tree of the document.

**Notes:** The title parameter is converted to ANSI.

### 3.40.9 AddBookmarkEx(title as String, parent as Integer, NamedDest as Integer, Open as boolean) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function adds a bookmark to the global outline tree of the document.

**Notes:** The title parameter is converted to unicode.

See also [AddBookmarkEx](#) function in DynaPDF manual.

### 3.40.10 AddBookmarkEx2(title as String, parent as Integer, NamedDest as String, unicode as boolean, Open as boolean) as Integer

Plugin Version: 12.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function adds a bookmark to the global outline tree of the document.

**Notes:** If unicode is true, the plugin passes NamedDest as unicode, else as Windows ANSI text.

See also [AddBookmarkEx2](#) function in DynaPDF manual.

### 3.40.11 AddBookmarkEx2Ansi(title as String, parent as Integer, NamedDest as String, unicode as boolean, Open as boolean) as Integer

Plugin Version: 12.1, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** This function adds a bookmark to the global outline tree of the document.

**Notes:** If unicode is true, the plugin passes NamedDest as unicode, else as Windows ANSI text.

### 3.40.12 AddBookmarkExAnsi(title as String, parent as Integer, NamedDest as Integer, Open as boolean) as Integer

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** This function adds a bookmark to the global outline tree of the document.

**Notes:** The title parameter is converted to ANSI.

### 3.40.13 AddButtonImage(BtnHandle as Integer, State as Integer, Caption as string, ImgFile as FolderItem) as boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function adds an image to a push button to one or more of the three different states of a button.

See also [AddButtonImage](#) function in DynaPDF manual.

### 3.40.14 AddButtonImageEx(BtnHandle as Integer, State as Integer, Caption as string, hbitmap as Integer) as boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function adds a memory bitmap to a push button in the same ways as AddButtonImage() but accepts a HBITMAP handle as input image.

See also [AddButtonImageEx](#) function in DynaPDF manual.

### 3.40.15 AddButtonImageEx2(BtnHandle as integer, State as integer, Caption as string, ImageData as MemoryBlock) as boolean

Plugin Version: 21.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds image to a button.

**Notes:** The function adds an image to a push button in the same way as AddButtonImage(), but accepts an image buffer as input.

The function supports all image formats that InsertImageEx() supports, e.g. JPEG or PNG.

If the function succeeds the return value is true. If the function fails the return value is false.

See also [AddButtonImageEx2](#) function in DynaPDF manual.

See also:

- 3.40.16 AddButtonImageEx2(BtnHandle as integer, State as integer, Caption as string, ImageData as

String) as boolean

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### 3.40.16 AddButtonImageEx2(BtnHandle as integer, State as integer, Caption as string, ImageData as String) as boolean

Plugin Version: 21.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds image to a button.

**Notes:** The function adds an image to a push button in the same way as AddButtonImage(), but accepts an image buffer as input.

The function supports all image formats that InsertImageEx() supports, e.g. JPEG or PNG.

If the function succeeds the return value is true. If the function fails the return value is false.

See also [AddButtonImageEx2](#) function in DynaPDF manual.

See also:

- 3.40.15 AddButtonImageEx2(BtnHandle as integer, State as integer, Caption as string, ImageData as MemoryBlock) as boolean 253

### 3.40.17 AddContinueText(text as string) as boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function prints a single text line and adds a line feed.

**Notes:** The text string is converted to Unicode.

See also [AddContinueText](#) function in DynaPDF manual.

### 3.40.18 AddContinueTextAnsi(text as string) as boolean

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** This function prints a single text line and adds a line feed.

**Notes:** The text string is converted to ANSI.

### 3.40.19 AddDeviceNProcessColorants(DeviceNCS as Integer, Colorants() as string, ProcessCS as Integer, Handle as Integer) as boolean

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds DeviceN process colorants.

**Notes:** Returns true on success and false on failure.

See also [AddDeviceNProcessColorants](#) function in DynaPDF manual.

### 3.40.20 AddDeviceNSeparations(DeviceNCS as Integer, Colorants() as string, SeparationCS() as Integer) as boolean

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds device N separations.

**Notes:** Same as AddDeviceNSeparationsAnsi, but here the Xoyo colorant strings are converted to UTF-8 encoding before they are passed to the DynaPDF library.

ubound(Colorants) must be ubound(SeparationCS).  
Returns true on success and false on failure.

Currently limited to 100 colorants on the plugin side.  
See also [AddDeviceNSeparations](#) function in DynaPDF manual.

### 3.40.21 AddDeviceNSeparationsAnsi(DeviceNCS as Integer, Colorants() as string, SeparationCS() as Integer) as boolean

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** Adds device N separations.

**Notes:** Same as AddDeviceNSeparations, but here the Xoyo colorant strings are converted to ANSI encoding before they are passed to the DynaPDF library.

ubound(Colorants) must be ubound(SeparationCS).  
Returns true on success and false on failure.

Currently limited to 100 colorants on the plugin side.

### 3.40.22 AddDPartNode(Parent as Integer, FirstPage as Integer, LastPage as Integer, DPM as String) as Integer

Plugin Version: 23.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a DPart Node.

**Notes:** DPart nodes can be used to add metadata to a single page or range of pages. In addition, DPart

nodes can be nested to form a tree like structure.

Unlike XMP metadata streams which base on XML, Document Part Metadata (parameter DPM) is stored in PDF syntax. This type of metadata supports dictionaries, arrays, strings, name objects, numbers, and boolean values, or almost the entire range of PDF data types.

DPart nodes require a global root node that must be created with `CreateDPartRoot()` before this function can be called the first time.

See also [AddDPartNode](#) function in DynaPDF manual.

### 3.40.23 AddFieldToFormAction(Action as Integer, Field as Integer, Include as Boolean) as boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds a field to a form action.

See also [AddFieldToFormAction](#) function in DynaPDF manual.

### 3.40.24 AddFieldToHideAction(HideAct as Integer, Field as Integer) as boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function adds a field to a hide action.

See also [AddFieldToHideAction](#) function in DynaPDF manual.

### 3.40.25 AddFileComment(Text as string) as boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds one or more comments to the end of the PDF file.

**Notes:** The text parameter is converted to unicode.

See also [AddFileComment](#) function in DynaPDF manual.

### 3.40.26 AddFileCommentAnsi(Text as string) as boolean

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** Adds one or more comments to the end of the PDF file.

**Notes:** The text parameter is converted to ANSI.

### 3.40.27 AddFontSearchPath(path as folderitem, recursive as boolean = true) as Integer

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function adds a search path to the list of available font search paths.

**Example:**

```
dim d as new DynaPDFMBS
if TargetLinux then
call d.AddFontSearchPath "/usr/share/fonts/truetype", true
else
// on Mac and Windows we use system fonts.
end if
```

**Notes:** This function adds a search path to the list of available font search paths. An arbitrary number of search paths can be added at runtime. Subdirectories are included recursively if the parameter Recursive is true.

DynaPDF requires no separate metric files for Type1 fonts.

The list of search directories can be cleared at runtime with the function ClearHostFonts().

If system fonts are enabled (default) DynaPDF adds the default font directories of the operating system automatically to the list of font search paths (Windows and Mac OSX only, see SetUseSystemFonts() for further information). On Windows this is the %Windows%/Fonts directory as well as fonts listed in the Registry and linked fonts.

On Mac OSX the following directories are added to the list of font search paths (in this order):

- users font folder in  
textasciitilde /Library/Fonts
- /Library/Fonts
- /System/Library/Fonts

If the function succeeds the function returns the number of found font files (this is maybe not the number of available fonts, because the list is cleared each time all fonts in the list are processed during font selection). If the function fails a negative error code is returned.

Please call this method on Linux to get fonts loaded from your font folder.  
See also [AddFontSearchPath](#) function in DynaPDF manual.  
See also:

- 3.40.28 AddFontSearchPath(path as string, recursive as boolean = true) as Integer 258

### 3.40.28 AddFontSearchPath(path as string, recursive as boolean = true) as Integer

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function adds a search path to the list of available font search paths.

**Example:**

```
dim d as new DynaPDFMBS
if TargetLinux then
call d.AddFontSearchPath "/usr/share/fonts/truetype", true
else
// on Mac and Windows we use system fonts.
end if
```

**Notes:** This function adds a search path to the list of available font search paths. An arbitrary number of search paths can be added at runtime. Subdirectories are included recursively if the parameter Recursive is true.

DynaPDF requires no separate metric files for Type1 fonts.

This function is implemented in an ANSI and Unicode compatible version. However, Unicode file paths are converted back to ANSI on Windows. On non-Windows operating systems the path is converted to UTF-8 and passed to the ANSI version of the function.

The list of search directories can be cleared at runtime with the function ClearHostFonts().

If system fonts are enabled (default) DynaPDF adds the default font directories of the operating system automatically to the list of font search paths (Windows and Mac OSX only, see SetUseSystemFonts() for further information). On Windows this is the %Windows%/Fonts directory as well as fonts listed in the Registry and linked fonts.

On Mac OSX the following directories are added to the list of font search paths (in this order):

- users font folder in  
textasciitilde /Library/Fonts
- /Library/Fonts

- /System/Library/Fonts

If the function succeeds the function returns the number of found font files (this is maybe not the number of available fonts, because the list is cleared each time all fonts in the list are processed during font selection). If the function fails a negative error code is returned.

Please call this method on Linux to get fonts loaded from your font folder.  
See also [AddFontSearchPath](#) function in DynaPDF manual.  
See also:

- 3.40.27 [AddFontSearchPath](#)(path as folderitem, recursive as boolean = true) as Integer 257

### 3.40.29 [AddImage](#)(Filter as Integer, Flags as Integer, Image as DynaPDFImageMBS) as boolean

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds an image to the current image file.  
**Notes:** For the filter you use one of the kcf\* constants.  
For the flags you use either kicNone of kicUseCCITT4.

TIFF is the only format that supports different compression filters. The Filter parameter of the function [AddImage\(\)](#) is ignored if the image format supports only one specific compression filter.  
Note that images are automatically converted to the nearest supported color space if the image format does not support the color space of the image.  
See also [AddImage](#) function in DynaPDF manual.

### 3.40.30 [AddInkList](#)(InkAnnot as UInt32, points() as DynaPDFPointMBS) as boolean

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds an array of points or path to an Ink Annotation.  
**Notes:** The function must be called within an open page.  
An ink annotation can contain an arbitrary number of paths. The points will be connected by curves to achieve a smooth transition between points. The coordinates are treated in current user space. Any transformation that was applied on the coordinate system will be taken into account.  
If the number of points is zero then all paths will be deleted from the annotation.

Returns true on success.  
See also [AddInkList](#) function in DynaPDF manual.

### 3.40.31 AddJavaScript(Name as string, Script as string) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function adds a global JavaScript to the PDF file.

**Notes:** The script parameter is converted to unicode.

See also [AddJavaScript](#) function in DynaPDF manual.

### 3.40.32 AddJavaScriptAnsi(Name as string, Script as string) as Integer

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function adds a global JavaScript to the PDF file.

**Notes:** The script parameter is converted to ANSI.

### 3.40.33 AddLayerToDisplTree(parent as DynaPDFLayerGroupMBS, layer as UInt32, Title as string) as DynaPDFLayerGroupMBS

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds a layer to the display tree.

See also [AddLayerToDisplTree](#) function in DynaPDF manual.

### 3.40.34 AddLayerToDisplTreeAnsi(parent as DynaPDFLayerGroupMBS, layer as UInt32, Title as string) as DynaPDFLayerGroupMBS

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** Adds a layer to the display tree.

### 3.40.35 AddMaskImage(BaseImage as Integer, Buffer as MemoryBlock, Stride as UInt32, BitsPerPixel as UInt32, Width as UInt32, Height as UInt32) as boolean

Plugin Version: 13.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function adds an image mask to a base image.

**Notes:** Please note that this function can be called with Ptr or Memoryblock.

See also [AddMaskImage](#) function in `dynapdf_help.pdf` manual.

See also [AddMaskImage](#) function in DynaPDF manual.

See also:

- 3.40.36 `AddMaskImage(BaseImage as Integer, Buffer as Ptr, BufSize as UInt32, Stride as UInt32, BitsPerPixel as UInt32, Width as UInt32, Height as UInt32) as boolean` 261

### 3.40.36 `AddMaskImage(BaseImage as Integer, Buffer as Ptr, BufSize as UInt32, Stride as UInt32, BitsPerPixel as UInt32, Width as UInt32, Height as UInt32) as boolean`

Plugin Version: 13.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function adds an image mask to a base image.

**Notes:** Please note that this function can be called with `Ptr` or `MemoryBlock`.

See also `AddMaskImage` function in `dynapdf_help.pdf` manual.

See also [AddMaskImage](#) function in DynaPDF manual.

See also:

- 3.40.35 `AddMaskImage(BaseImage as Integer, Buffer as MemoryBlock, Stride as UInt32, BitsPerPixel as UInt32, Width as UInt32, Height as UInt32) as boolean` 260

### 3.40.37 `AddObjectToLayer(OCG as UInt32, ObjType as Integer, Handle as Integer) as boolean`

Plugin Version: 10.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function adds an object to an Optional Content Group (OCG) or Optional Content Membership dictionary (OCMD).

**Notes:** If the function succeeds the return value is true. If the function fails the return value is false.

For `ObjectType` use the constants: `kooAnnotation`, `kooField`, `kooImage` and `kooTemplate`.

See also [AddObjectToLayer](#) function in DynaPDF manual.

### 3.40.38 `AddOCGToAppEvent(Handle as UInt32, Events as Integer, Categories as Integer) as Boolean`

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds an Optional Content Group (OCG) to an application event.

**Notes:** See `dynapdf_help.pdf` manual for details.

See also [AddOCGToAppEvent](#) function in DynaPDF manual.

### 3.40.39 AddOutputIntent(ICCFile as folderitem) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function adds an ICC color profile to the PDF file that should be used to render device dependent colors.

**Notes:** This function was named AddRenderingIntent before.

Requires DynaPDF Lite license.

See also [AddOutputIntent](#) function in DynaPDF manual.

### 3.40.40 AddOutputIntentEx(buffer as Memoryblock) as Integer

Plugin Version: 13.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function adds an ICC color profile to the PDF file that should be used to render device dependent colors.

**Notes:** This function was named AddRenderingIntentEx before.

Requires DynaPDF Lite license.

See also [AddOutputIntentEx](#) function in DynaPDF manual.

See also:

- 3.40.41 AddOutputIntentEx(buffer as string) as Integer 262

### 3.40.41 AddOutputIntentEx(buffer as string) as Integer

Plugin Version: 10.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function adds an ICC color profile to the PDF file that should be used to render device dependent colors.

**Notes:** This function was named AddRenderingIntentEx before.

Requires DynaPDF Lite license.

See also [AddOutputIntentEx](#) function in DynaPDF manual.

See also:

- 3.40.40 AddOutputIntentEx(buffer as Memoryblock) as Integer 262

### 3.40.42 AddPageLabel(StartRange as UInt32, PageLabelFormat as Integer, Value as string, FirstPageNum as Int32) as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates a page label object.

**Notes:** The Value string is converted to Unicode internally.

See also [AddPageLabel](#) function in DynaPDF manual.

### 3.40.43 AddPageLabelAnsi(StartRange as UInt32, PageLabelFormat as Integer, Value as string, FirstPageNum as Int32) as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function creates a page label object.

**Notes:** The Value string is converted to Windows ANSI internally.

### 3.40.44 AddValToChoiceField(Field as Integer, ExpValue as string, Value as string, Selected as Boolean) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function adds a value to a choice field.

**Notes:** The Value string is converted to Unicode.

See also [AddValToChoiceField](#) function in DynaPDF manual.

### 3.40.45 AofLAB(LAB as Integer) as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns A of a LAB color value.

**Example:**

```
dim lab as Integer = DynaPDFMBS.LAB(1,2,3)
MsgBox str(DynaPDFMBS.AofLAB(lab)) // shows 2
```

### 3.40.46 Append as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function appends an empty page to the document.

**Example:**

```
dim pdf as DynaPDFMBS // your DynaPDF object
dim bBool as Boolean
```

```
// Create a new page
bBool=pdf.Append
```

See also [Append](#) function in DynaPDF manual.

### 3.40.47 AppendTraceFile(File as FolderItem) as Boolean

Plugin Version: 21.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Opens a trace file with appending.

**Notes:** The plugin writes debug messages to this file so you can check what functions you called.

Improved with 16.2 plugin to really cover over 99% of all calls with parameters and result. Please report if you miss something.

While assignment to TraceFile property or CreateTraceFile() always overwrites existing log file, this method can append to it.

### 3.40.48 ApplyAppEvent(TOCAppEvent as Integer, SaveResult as Boolean) as boolean

Plugin Version: 16.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The visibility state of optional content groups (OCGs) can be dynamically changed in application events like Export, View, or Print.

**Notes:** DynaPDF loads the view state when rendering PDF pages by default.

The function can be used to apply the visibility state of another event if necessary. The result can optionally be stored in the PDF file but note that this has only an effect in PDF viewers which support layers but no application events since the events will not be deleted from the PDF file. It is also possible to delete the events with DeleteAppEvents().

If the function succeeds the return value is true. If the function fails the return value is false.

See also [ApplyAppEvent](#) function in DynaPDF manual.

### 3.40.49 ApplyPattern(PattHandle as Integer, ColorMode as Integer, Color-Value as Integer) as boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function sets a tiling pattern as current fill, stroke or fill, and stroke color.

See also [ApplyPattern](#) function in DynaPDF manual.

### 3.40.50 ApplyShading(ShadHandle as Integer) as boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function applies a shading to the current clipping path, or if no clipping is active, to the entire page.

See also [ApplyShading](#) function in DynaPDF manual.

### 3.40.51 AssociateEmbFile(DestObject as Integer, DestHandle as Integer, Relationship as Integer, EmbFile as UInt32) as boolean

Plugin Version: 13.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function associates an embedded file with a PDF object.

**Notes:** The parameter DestHandle must be a valid handle of a PDF object. If destination object type is a page, then the page number must be used as handle. The first page is denoted by one. If the destination object is the documents catalog then the parameter DestHandle is ignored. Set the parameter to zero or -1 in this case.

The parameter EmbFile must be a valid handle of an embedded file. See [AttachFile\(\)](#) or [AttachFileEx\(\)](#) for further information.

Associated files are supported since PDF 2.0 and in PDF/A 3 files. In PDF/A 3 files all embedded files must be associated with a PDF object.

If the function succeeds the return value is true. If the function fails the return value is false.

See also [AssociateEmbFile](#) function in DynaPDF manual.

### 3.40.52 AttachFile(File as folderitem, Description as string, Compress as boolean) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function attaches a file to the document.

**Notes:** On Windows, the description parameter is converted to unicode.

See also [AttachFile](#) function in DynaPDF manual.

### 3.40.53 AttachFileEx(Buffer as Memoryblock, Filename as string, Description as string, Compress as boolean) as Integer

Plugin Version: 13.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function attaches a file to the document in the same way as `AttachFile()` but accepts a file buffer instead of a file path.

See also [AttachFileEx](#) function in DynaPDF manual.

See also:

- 3.40.54 `AttachFileEx(Buffer as string, Filename as string, Description as string, Compress as boolean, as Integer)` 266

### 3.40.54 `AttachFileEx(Buffer as string, Filename as string, Description as string, Compress as boolean)` as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function attaches a file to the document in the same way as `AttachFile()` but accepts a file buffer instead of a file path.

**Example:**

```
dim pdf as DynaPDFMBS // your dynapdf object

// add embedded file to PDF
const Compressed = true
call pdf.AttachFileEx("This is hidden text in an attached file.", "attachment.txt", "", Compressed)
```

See also [AttachFileEx](#) function in DynaPDF manual.

See also:

- 3.40.53 `AttachFileEx(Buffer as Memoryblock, Filename as string, Description as string, Compress as boolean)` as Integer 265

### 3.40.55 `AutoTemplate(Templ as Integer, PosX as Double, PosY as Double, Width as Double, Height as Double)` as boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** To insert a template automatically on newly created pages, use the function `AutoTemplate()`.

See also [AutoTemplate](#) function in DynaPDF manual.

### 3.40.56 `BeginContinueText(PosX as Double, PosY as Double)` as boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function prepares the output of multiple text lines which use the graphics state parameter `Leading` as line height, or the font size if `Leading` is not set.

See also [BeginContinueText](#) function in DynaPDF manual.

### 3.40.57 BeginLayer(OCG as UInt32) as boolean

Plugin Version: 10.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function opens a layer in the current open page or template.

**Notes:** If the function succeeds the return value is true. If the function fails the return value is false.

See also [BeginLayer](#) function in DynaPDF manual.

### 3.40.58 BeginPageTemplate(Name as String, UseAutoTemplates as boolean) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a new page template with given name.

**Notes:** This function creates or opens a page template for editing. Page templates are hidden pages which can be added to the document or overlaid on existing pages via JavaScript.

The usage of the function is like `Append()` or `EditPage()`. If the template does already exist then it will be opened for editing. Page templates support form fields and annotations but it is not allowed to add article beads to them.

See also [BeginPageTemplate](#) function in DynaPDF manual.

### 3.40.59 BeginPattern(PatternType as Integer, TilingType as Integer, Width as Double, Height as Double) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function creates a new tiling pattern.

See also [BeginPattern](#) function in DynaPDF manual.

### 3.40.60 BeginTemplate(Width as Double, Height as Double) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Begins a new template

See also [BeginTemplate](#) function in DynaPDF manual.

### 3.40.61 `BeginTemplateEx(BBox as DynaPDFRectMBS, Matrix as DynaPDF-MatrixMBS) as Integer`

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Begins a new template

**Notes:** The plugin passes nil to the library for the bbox or the matrix parameter if they are nil.

### 3.40.62 `BeginTransparencyGroup(x1 as Double, y1 as Double, x2 as Double, y2 as Double, Isolated as Boolean, Knockout as Boolean, CS as Integer, CSHandle as Int32) as Int32`

Plugin Version: 11.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Begins a new transparency group.

**Notes:** CS: color space, pass kes\* constants.

Requires DynaPDF Pro license.

See also [BeginTransparencyGroup](#) function in DynaPDF manual.

### 3.40.63 `Bezier_1_2_3(x1 as Double, y1 as Double, x2 as Double, y2 as Double, x3 as Double, y3 as Double) as boolean`

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds a bezier path to the pdf.

See also [Bezier\\_1\\_2\\_3](#) function in DynaPDF manual.

### 3.40.64 `Bezier_1_3(x1 as Double, y1 as Double, x3 as Double, y3 as Double) as boolean`

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds a bezier path to the pdf.

See also [Bezier\\_1\\_3](#) function in DynaPDF manual.

### 3.40.65 `Bezier_2_3(x2 as Double, y2 as Double, x3 as Double, y3 as Double) as boolean`

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds a bezier path to the pdf.  
See also [Bezier\\_2\\_3](#) function in DynaPDF manual.

### 3.40.66 BofLAB(LAB as Integer) as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns B of a LAB color value.

**Example:**

```
dim lab as Integer = DynaPDFMBS.LAB(1,2,3)
MsgBox str(DynaPDFMBS.BofLAB(lab)) // shows 3
```

### 3.40.67 BofRGB(RGB as Integer) as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns B of a RGB color value.

**Example:**

```
dim rgb as Integer = DynaPDFMBS.RGB(1,2,3)
MsgBox str(DynaPDFMBS.BofRGB(rgb)) // shows 3
```

### 3.40.68 BuildFamilyNameAndStyle(IFont as Integer, byref name as string, byref style as Integer) as boolean

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Builds a family name and style from a font object.  
See also [BuildFamilyNameAndStyle](#) function in DynaPDF manual.

### 3.40.69 CalcWidthHeight(OrgWidth as Double, OrgHeight as Double, Scaled-Width as Double, ScaledHeight as Double) as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function calculates the scaled width or height of a given size in the same way as `InsertImage()` or `PlaceTemplate()`.

See also [CalcWidthHeight](#) function in DynaPDF manual.

### 3.40.70 **CaretAnnot(PosX as Double, PosY as Double, Width as Double, Height as Double, ColorValue as UInt32, ColorSpace as Integer, Author as string, Subject as string, Content as string) as Integer**

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a caret annotation.

**Notes:** This type of annotation is typically used to mark a position on a page where a user should add or edit text.

If the coordinate system is bottom-up the point PosX, PosY defines the lower left corner of the bounding rectangle. If the coordinate system is top-down it defines the upper left corner.

This annotation type has an associated PopUp annotation that displays the string Content in a floating window. The initial window state of the associated PopUp annotation is closed by default but the state can be changed with SetAnnotOpenState if necessary.

If the function succeeds the return value is the annotation handle, a value greater or equal zero. If the function fails the return value is a negative error code.

See also [CaretAnnot](#) function in DynaPDF manual.

### 3.40.71 **CaretAnnotAnsi(PosX as Double, PosY as Double, Width as Double, Height as Double, ColorValue as UInt32, ColorSpace as Integer, Author as string, Subject as string, Content as string) as Integer**

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** Creates a caret annotation.

**Notes:** This type of annotation is typically used to mark a position on a page where a user should add or edit text.

If the coordinate system is bottom-up the point PosX, PosY defines the lower left corner of the bounding rectangle. If the coordinate system is top-down it defines the upper left corner.

This annotation type has an associated PopUp annotation that displays the string Content in a floating window. The initial window state of the associated PopUp annotation is closed by default but the state can be changed with SetAnnotOpenState if necessary.

If the function succeeds the return value is the annotation handle, a value greater or equal zero. If the function fails the return value is a negative error code.

### 3.40.72 **ChangeAnnotName(Handle as Integer, Name as string) as boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function changes or deletes the optional name of an annotation.

**Notes:** The Name parameter is converted to unicode.  
See also [ChangeAnnotName](#) function in DynaPDF manual.

### 3.40.73 ChangeAnnotNameAnsi(Handle as Integer, Name as string) as boolean

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** This function changes or deletes the optional name of an annotation.

**Notes:** The Name parameter is converted to ANSI.

### 3.40.74 ChangeAnnotPos(Handle as Integer, PosX as Double, PosY as Double, Width as Double, Height as Double) as boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function changes the position and size of an annotation.  
See also [ChangeAnnotPos](#) function in DynaPDF manual.

### 3.40.75 ChangeBookmark(ABmk as Integer, Text as string, Parent as Integer, DestPage as Integer, Open as Boolean) as boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function changes an existing bookmark.  
**Notes:** The text parameter is converted to unicode.  
See also [ChangeBookmark](#) function in DynaPDF manual.

### 3.40.76 ChangeBookmarkAnsi(ABmk as Integer, Text as string, Parent as Integer, DestPage as Integer, Open as Boolean) as boolean

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** This function changes an existing bookmark.  
**Notes:** The text parameter is converted to ANSI.

### 3.40.77 ChangeFont(Handle as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function changes or sets the font to the one defined by the parameter AHandle.  
See also [ChangeFont](#) function in DynaPDF manual.

### 3.40.78 ChangeFontEx(Handle as integer, FontSize as double, Style as Integer) as Boolean

Plugin Version: 21.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Changes or sets the font to the one of the parameter Handle.

**Notes:** Handle must be a valid font handle that was returned by SetFont(), SetFontEx(), SetCIDFont(), or LoadFont().

The style flags should be the same as in the initial SetFont() call with exception of the flags fsUnderline or fsStriked which can be used to underline or strikeout text.

The parameter FontSize must be greater zero.

If the function succeeds the return value is true. If the function fails the return value is false.  
See also [ChangeFontEx](#) function in DynaPDF manual.

### 3.40.79 ChangeFontSize(size as Double) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function changes the font size of the current font.  
See also [ChangeFontSize](#) function in DynaPDF manual.

### 3.40.80 ChangeFontStyle(Style as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function changes the style of the current font.  
See also [ChangeFontStyle](#) function in DynaPDF manual.

### 3.40.81 ChangeFontStyleEx(Style as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function changes the font style of a font like `ChangeFontStyle()` but it accepts also the font styles `fsBold` and `fsItalic`.

See also [ChangeFontStyleEx](#) function in DynaPDF manual.

### 3.40.82 ChangeJavaScript(Handle as Integer, Text as string) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function replaces a global JavaScript with a new one.

**Notes:** The text parameter is converted to unicode.

See also [ChangeJavaScript](#) function in DynaPDF manual.

### 3.40.83 ChangeJavaScriptAction(Handle as Integer, Text as string) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function replaces the script of a JavaScript action with a new one.

**Notes:** The text parameter is converted to unicode.

See also [ChangeJavaScriptAction](#) function in DynaPDF manual.

### 3.40.84 ChangeJavaScriptActionAnsi(Handle as Integer, Text as string) as Boolean

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function replaces the script of a JavaScript action with a new one.

**Notes:** The text parameter is converted to ANSI.

### 3.40.85 ChangeJavaScriptAnsi(Handle as Integer, Text as string) as Boolean

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function replaces a global JavaScript with a new one.

**Notes:** The text parameter is converted to ANSI.

### 3.40.86 ChangeJavaScriptName(Handle as Integer, Text as string) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function changes the name of a global JavaScript.

**Notes:** The text parameter is converted to unicode.

See also [ChangeJavaScriptName](#) function in DynaPDF manual.

### 3.40.87 ChangeJavaScriptNameAnsi(Handle as Integer, Text as string) as Boolean

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** This function changes the name of a global JavaScript.

**Notes:** The text parameter is converted to ANSI.

### 3.40.88 ChangeLinkAnnot(Handle as Integer, URL as string) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function changes the link of a file link or web link annotation.

See also [ChangeLinkAnnot](#) function in DynaPDF manual.

### 3.40.89 ChangeNamedDest(ObjType as Integer, Handle as Integer, Name as String) as Boolean

Plugin Version: 23.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Changes the name of a named destination.

**Notes:** ObjType: Object type to which the handle belongs like kotAction, kotAnnotation, kotBookmark or kotPageLink.

Handle: Object handle

Name: New destination name

Named destinations can be accessed by link annotations, bookmarks, and actions. For link annotations the object type otPageLink or otAnnotation can be used.

If the function succeeds the return value is true. If the function fails the return value is false.

See also [ChangeNamedDest](#) function in DynaPDF manual.

### 3.40.90 ChangeOCGName(Handle as Integer, Name as String) as Boolean

Plugin Version: 21.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Changes the name of an Optional Content Group (OCG).

**Notes:** Returns true on success and false in case of error.

See also [ChangeOCGName](#) function in DynaPDF manual.

### 3.40.91 ChangeSeparationColor(CSHandle as UInt32, NewColor as UInt32, AlternateExtColorSpace as Integer, AltHandle as Integer = -1) as boolean

Plugin Version: 13.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function changes the color of a separation color space.

**Example:**

```
// your instance
dim pdf as DynaPDFMBS

// Create new separation color
dim ColorSpaceHandle as Integer = pdf.CreateSeparationCS("test",DynaPDFMBS.kcsDeviceCMYK,-1,DynapdfMBS.CMYK)
call pdf.SetExtColorSpace(ColorSpaceHandle)

// draw something
call pdf.SetfillColor(255) // 100% of the separation color test
call pdf.DrawCircle(193,389,66, pdf.kfmFill)

// change it to red
call pdf.ChangeSeparationColor(ColorSpaceHandle, 255, DynaPDFMBS.kcsDeviceRGB, -1)
```

**Notes:** The new color value must be defined in the alternate color space. The alternate color space can be any device or ICC based color space including Lab. If a non-device color space is used, the parameter AltHandle must be set to the color space handle of the alternate color space.

Returns true on success or false on failure.

CSHandle is the index in the colorspace table, not the reference to the C++ object. So do not pass handle property from DynaPDFColorSpaceMBS, but the Index property.

See also [ChangeSeparationColor](#) function in DynaPDF manual.

### 3.40.92 CheckCollection as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:**

The function checks whether user defined data fields in embedded files are consistently defined with collection fields.

See also [CheckCollection](#) function in DynaPDF manual.

### 3.40.93 CheckConformance(ConformanceType as Integer, CheckOptions as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The functions checks whether the PDF file is compatible to a specific PDF standard or PDF version depending the parameter Type and modifies anything that is required to get the file compatible to the standard depending on the check options.

See also [CheckConformance](#) function in DynaPDF manual.

### 3.40.94 CheckFieldNames as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function checks all currently defined interactive form fields for invalid duplicate field names. See also [CheckFieldNames](#) function in DynaPDF manual.

### 3.40.95 CircleAnnot(PosX as Double, PosY as Double, Width as Double, Height as Double, LineWidth as Double, FillColor as UInt32, StrokeColor as UInt32, ColorSpace as Integer, Author as string, Subject as string, Comment as string) as Integer

Plugin Version: 13.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function draws a circle annotation on the current open page.

**Notes:** If the parameters Width and Height are equal the function draws a circle, an ellipse otherwise. If the annotation should be drawn without a border, set the parameter LineWidth to zero or StrokeColor to the special constant `kNO_COLOR`.

If the interior should be transparent set FillColor to the special constant `kNO_COLOR`.

Although the line width can be set to any positive floating point value, Adobe's Acrobat or Reader restrict the line width to 0 through 12 units. The line width should be restricted in the same way to avoid issues in Adobe viewer products.

If the function succeeds the return value is the annotation handle, a value greater or equal zero. If the function fails, the return value is a negative error code.

See also [CircleAnnot](#) function in DynaPDF manual.

### 3.40.96 CircleAnnotAnsi(PosX as Double, PosY as Double, Width as Double, Height as Double, LineWidth as Double, FillColor as UInt32, StrokeColor as UInt32, ColorSpace as Integer, Author as string, Subject as string, Comment as string) as Integer

Plugin Version: 13.5, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function draws a circle annotation on the current open page.

**Notes:** If the parameters Width and Height are equal the function draws a circle, an ellipse otherwise. If the annotation should be drawn without a border, set the parameter LineWidth to zero or StrokeColor to the special constant kNO\_COLOR.

If the interior should be transparent set FillColor to the special constant kNO\_COLOR.

Although the line width can be set to any positive floating point value, Adobe's Acrobat or Reader restrict the line width to 0 through 12 units. The line width should be restricted in the same way to avoid issues in Adobe viewer products.

If the function succeeds the return value is the annotation handle, a value greater or equal zero. If the function fails, the return value is a negative error code.

### 3.40.97 ClearAutoTemplates as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function deletes the array of templates which are automatically added to newly created pages.

See also [ClearAutoTemplates](#) function in DynaPDF manual.

### 3.40.98 ClearErrorLog

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Clears the error log.

See also [ClearErrorLog](#) function in DynaPDF manual.

### 3.40.99 ClearHostFonts as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function deletes the array of fonts included in all currently defined font search paths.

See also [ClearHostFonts](#) function in DynaPDF manual.

### 3.40.100 ClearPageGraphics

Plugin Version: 19.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Clears the page graphics objects.

**Notes:** This method clears graphics object.

As the graphics object keeps a reference to DynaPDFMBS object and the DynaPDF object references the graphics object, this call may be required to make sure the circular reference is cleared.

Automatically called in Append, EndPage, CloseFile, ImportPDFFile, ImportPDFPage and CloseFileEx.

### 3.40.101 ClipPath(ClipMode as Integer, FillMode as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function marks the current path as clipping path.

See also [ClipPath](#) function in DynaPDF manual.

### 3.40.102 CloseAndSignFile(CertFile as folderitem, Password as string, Reason as string, Location as string) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function finishes the PDF file, digitally signs it, and frees all used resources if the file was not created in memory.

**Notes:** Only for 1024 bit keys. For longer keys, check our custom signature example.

See also [CloseAndSignFile](#) function in DynaPDF manual.

### 3.40.103 CloseAndSignFileEx(OpenPwd as string, OwnerPwd as string, KeyLen as Integer, Restrict as Integer, CertFile as folderitem, Password as string, Reason as string, Location as string) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function finishes the PDF file, encrypts it, digitally signs it, and frees all used resources if the file was not created in memory.

**Notes:** If you need more than 1024 bit keys, please check our custom signatur example, which shows how to signatures with 2048 or 4096 bit keys and the CloseAndSignFileExt function.

See also [CloseAndSignFileEx](#) function in DynaPDF manual.

### 3.40.104 CloseAndSignFileExt(SigParams as DynaPDFSigParmsMBS) as boolean

Plugin Version: 10.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function closes the PDF file and returns either the file hash or the byte ranges to be signed by an external signature handler.

See also [CloseAndSignFileExt](#) function in DynaPDF manual.

### 3.40.105 CloseAndSignPDFFile(OutputFile as FolderItem, CertificateData as String, Password as String, ContactInfo as String = "", Location as String = "", Reason as String = "") as boolean

Plugin Version: 15.0, Platform: Windows, Targets: All.

**Function:** Closes and signs file.

**Notes:** This uses pdf\_signature.cpp example code from DynaPDF.

The function will on Windows use functions from Crypt DLL on Windows.

Internally calls CloseAndSignFileExt, OpenOutputFile and FinishSignature.

Returns true on success and false on failure.

Loads certificate from provided certificate file data.

Version 15.1 allows OutputFile to be nil.

If you need more than 1024 bit keys, please check our custom signatur example, which shows how to signatures with 2048 or 4096 bit keys and the CloseAndSignFileExt function.

### 3.40.106 CloseAndSignPDFFileWithDialog(OutputFile as FolderItem, StoreName as String = "MY", ContactInfo as String = "", Location as String = "", Reason as String = "") as boolean

Plugin Version: 15.0, Platform: Windows, Targets: All.

**Function:** Closes and signs file.

**Notes:** Picks a certificate from the given certificate store on Windows.

This uses pdf\_signature.cpp example code from DynaPDF.

The function will on Windows use functions from Crypt DLL on Windows.

Internally calls CloseAndSignFileExt, OpenOutputFile and FinishSignature.

Returns true on success and false on failure.

Version 15.1 allows OutputFile to be nil.

### 3.40.107 CloseFile as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function finishes the PDF file and frees all used resources if the file was not created in memory.

**Example:**

```
dim pdf as DynaPDFMBS // your DynaPDF object
dim bBool as Boolean
```

```
bBool=pdf.CloseFile
```

See also [CloseFile](#) function in DynaPDF manual.

### 3.40.108 CloseFileEx(OpenPwd as string, OwnerPwd as string, KeyLen as Integer, Restrict as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function finishes the PDF file, encrypts it, and frees all used resources if the file was not created in memory.

**Notes:** Requires DynaPDF Lite license.

See also [CloseFileEx](#) function in DynaPDF manual.

### 3.40.109 CloseImage as boolean

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Closes the current open image.

See also [CloseImage](#) function in DynaPDF manual.

### 3.40.110 CloseImportFile as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function closes an open import file that was be opened by `OpenImportFile()` or `OpenImportBuffer()`.

**Example:**

```
dim pdf as DynaPDFMBS // your DynaPDF object
```

```
dim bBool as Boolean
```

```
bBool=pdf.CloseImportFile
```

See also [CloseImportFile](#) function in DynaPDF manual.

### 3.40.111 CloseImportFileEx(Handle as Integer) as boolean

Plugin Version: 13.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function closes a specific import file and deletes the corresponding parser instance.

**Notes:** The parameter `Handle` must be a valid file handle that was returned by `OpenImportFile()` or `OpenImportBuffer()`. See `OpenImportFile()` for further information in `dynapdf_help.pdf`.

If the function succeeds the return value is true. If the function fails the return value is false.

See also [CloseImportFileEx](#) function in DynaPDF manual.

### 3.40.112 ClosePath(FillMode as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Closes the current path.

See also [ClosePath](#) function in DynaPDF manual.

**3.40.113 CloseTag as boolean**

Plugin Version: 8.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Closes an open tag.

See also [CloseTag](#) function in DynaPDF manual.

**3.40.114 CMYK(C as Integer, M as Integer, Y as Integer, K as Integer) as UInt32**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Builds a CMYK color value based on the given component values.

**Example:**

```
dim cmyk as Integer = DynaPDFMBS.CMYK(1,2,3,4)
MsgBox hex(cmyk)
```

**Notes:** Returns different values on BigEndian and LittleEndian systems.

**3.40.115 CofCMYK(CMYK as UInt32) as Integer**

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns C of a CMYK color value.

**Example:**

```
dim cmyk as Integer = DynaPDFMBS.CMYK(1,2,3,4)
MsgBox str(DynaPDFMBS.CofCMYK(cmyk)) // shows 1
```

**Notes:** Returns different values on BigEndian and LittleEndian systems.

**3.40.116 ComputeBBox(Flags as Integer) as DynaPDFRectMBS**

Plugin Version: 8.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Computes the bounding box.

See also [ComputeBBox](#) function in DynaPDF manual.

### 3.40.117 ConvColor(Colors() as Double, SourceColorSpaceHandle as Integer, DestColorSpace as Integer) as Integer

Plugin Version: 9.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Converts a color from one ColorSpace to another.

**Example:**

```
// setup Environment
dim dy as new DynaPDFMBS
call dy.CreateNewPDF(nil)

// create a simple RGB colorspace
dim whitePoint as MemoryBlock = NewMemoryBlock(12)
whitePoint.SingleValue(0)=1.0
whitePoint.SingleValue(4)=1.0
whitePoint.SingleValue(8)=1.0

dim BlackPoint as MemoryBlock = nil // default
dim Gamma as MemoryBlock = nil // default
dim Matrix as MemoryBlock = nil // default

dim h as Integer = dy.CreateCIEColorSpace(dy.kesCalRGB, WhitePoint, BlackPoint, Gamma, Matrix)

// do we have one?
if dy.GetColorSpaceCount=0 then
MsgBox "No color space!"
Return
else
MsgBox str(dy.GetColorSpaceCount)+" Colorspace defined"
end if

// Now get the colorspace information including the Object reference:
dim c as DynaPDFColorSpaceMBS = dy.GetColorSpaceObj(h)

dim d(-1) as Double = array(0.3,0.5,0.7)
dim IColorSpace as Integer = c.Handle
dim DestCS as Integer = DynaPDFMBS.kesDeviceCMYK

// convert a color
dim n as Integer = dy.ConvColor(d, IColorSpace, DestCS)

MsgBox hex(n)
```

**Notes:** Colors: The array of color values. 3 values for RGB, 4 values for CMYK and one value for Gray.

IColorSpaceSource: The source color space object reference.

DestCS: The destination color space. One of the kes\* constants.

See also [ConvColor](#) function in DynaPDF manual.

### 3.40.118 ConvertColors(Flags as Integer) as Boolean

Plugin Version: 8.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Converts the colors.

**Notes:** Requires DynaPDF Pro license.

See also [ConvertColors](#) function in DynaPDF manual.

### 3.40.119 ConvertEMFSpool(File as folderitem, LeftMargin as Double, TopMargin as Double, Flags as Integer = 0) as Integer

Plugin Version: 13.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function converts an EMF spool file to PDF.

**Notes:** See `dynapdf_help.pdf` file.

Pass `kspc*` flags.

Requires DynaPDF Lite license.

See also [ConvertEMFSpool](#) function in DynaPDF manual.

### 3.40.120 ConvertStyledText(StyledText as StyledText, LeadingFactor as double = -1) as String

Plugin Version: 16.5, Platforms: macOS, Linux, Windows, Targets: Desktop, Console & Web.

**Function:** Converts styled text to formatting commands.

**Example:**

```
Public Function Convert(s as StyledText) as string
dim d as new DynaPDFMBS
```

```
// create dummy in memory pdf
call d.CreateNewPDF(nil)
```

```
// create dummy page
call d.Append
```

```
// convert
Return d.ConvertStyledText(s)
```

```
// destructor will cleanup
End Function
```

**Notes:** You can use the result with WriteFText, WriteFTextEx or DynaPDFTableMBS.SetCellText functions.

Needs an open page as it loads fonts for you. May cause error events if fonts are not found.

LeadingFactor: Added in v21.0. If you pass a value >0, the plugin will add \LD [ ] commands to styled text to set leading relative to font size. This way you define the spacing between lines. e.g. 1.2

### 3.40.121 CopyChoiceValues(Source as UInt32, Dest as UInt32, Share as Boolean) as Boolean

Plugin Version: 16.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Copies the list items, default value, and value of the source field to the destination field.

**Notes:** The source and destination field can be combo and list boxes. It is allowed to copy the list items of a list box to a combo box or vice versa.

If Share is true, the function adds just a reference to the list item so that both fields share the same list items. This is still the case if more list items will be added to such a field. If Share is false, the list items will be copied to the destination field. Both fields contain independent list items in this case.

Already existing list items of the destination field will be deleted.

See also [CopyChoiceValues](#) function in DynaPDF manual.

### 3.40.122 Create3DAnnot(PosX as Double, PosY as Double, Width as Double, Height as Double, Author as string, Name as string, U3DFile as string, Image as string) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates a 3D annotation from a U3D file.

See also [Create3DAnnot](#) function in DynaPDF manual.

### 3.40.123 Create3DAnnotAnsi(PosX as double, PosY as double, Width as double, Height as double, Author as string, Name as string, U3DFile as string, Image as string) as integer

Plugin Version: 18.5, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function creates a 3D annotation from a U3D file.

### 3.40.124 Create3DBackground(IView as Integer, BackColor as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates a background dictionary for a 3D annotation that is used to change the annotation's background color.

See also [Create3DBackground](#) function in DynaPDF manual.

### 3.40.125 Create3DGotoViewAction(Base3DAnnot as Integer, IView as Integer, Named as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A go to 3D view action can be used to dynamically change the view of a 3D annotation.

See also [Create3DGotoViewAction](#) function in DynaPDF manual.

### 3.40.126 Create3DProjection(IView as Integer, ProjType as Integer, ScaleType as Integer, Diameter as Double, FOV as Double) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates a projection dictionary for a 3D annotation.

See also [Create3DProjection](#) function in DynaPDF manual.

### 3.40.127 Create3DView(Base3DAnnot as Integer, Name as string, SetAsDefault as boolean, Matrix as memoryblock, CamDistance as Double, RenderingMode as Integer, LightingScheme as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates a 3D view for a 3D annotation.

**Notes:** The plugin passes nil for the matrix if the matrix memoryblock parameter is nil.

This is the unicode version and you should prefer it.

See also [Create3DView](#) function in DynaPDF manual.

### 3.40.128 Create3DViewAnsi(Base3DAnnot as integer, Name as string, SetAsDefault as boolean, Matrix as memoryblock, CamDistance as double, RenderingMode as integer, LightingScheme as integer) as Integer

Plugin Version: 19.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function creates a 3D view for a 3D annotation.

**Notes:** The plugin passes nil for the matrix if the matrix memoryblock parameter is nil. This is the older ANSI version of the function.

### 3.40.129 CreateAltFontList as Integer

Plugin Version: 22.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates an alternate font list, that can be filled with data by SetAltFonts().

**Notes:** It is possible to create an arbitrary number of alternate font lists. Multiple lists can be created because different fonts and languages require different fallback fonts. For example, one could create one list for proportional fonts and another one for fixed pitch fonts, or different lists for different languages.

Each list can be activated or deactivated with ActivateAltFontList() arbitrary often. Changing the active alternate font list is very fast and causes no overhead.

Once a font list was created it can be filled with data with SetAltFonts(). A font list that is no longer needed can be deleted with DeleteAltFontList().

Please note that alternate font lists are used only, if complex text layout was enabled. This can be done by setting the flag kgfComplexText with SetGStateFlags().

If the function succeeds the return value is the handle of the font list, a value greater or equal zero. If the function fails the return value is a negative error code.

See also [CreateAltFontList](#) function in DynaPDF manual.

### 3.40.130 CreateAnnotAP(annot as Integer) as Integer

Plugin Version: 8.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates an annotation appearance stream.

**Notes:** Returns the new annotation handle.

You can draw to this template directly.

You must close it with EndTemplate.

This method helps you to create a custom stamp or change different annotation appearance.

See also [CreateAnnotAP](#) function in DynaPDF manual.

### 3.40.131 CreateArticleThread(ThreadName as string) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function creates a new article thread.

**Notes:** ThreadName string is converted to Unicode.

See also [CreateArticleThread](#) function in DynaPDF manual.

### 3.40.132 `CreateArticleThreadAnsi(ThreadName as string) as Integer`

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** This function creates a new article thread.

**Notes:** ThreadName string is converted to ANSI.

### 3.40.133 `CreateAxialShading(sX as Double, sY as Double, eX as Double, eY as Double, SCenter as Double, SColor as Integer, EColor as Integer, Extend1 as Boolean, Extend2 as boolean) as Integer`

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Axial shadings define a color blend that varies along a linear axis between two endpoints and extends indefinitely perpendicular to that axis.

**Notes:** Useful to draw gradients.

See also [CreateAxialShading](#) function in DynaPDF manual.

### 3.40.134 `CreateBarcodeField(Name as string, Parent as Integer, PosX as Double, PosY as Double, Width as Double, Height as Double, Barcode as DynaPDFBarcodeMBS) as Integer`

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function creates a barcode field.

**Notes:**

Note that users require either the full version of Adobe's Acrobat or a separate license of Adobe's Barcodes Paper Forms Solutions to enable the usage of barcode fields in Adobe's Reader.

See also [CreateBarcodeField](#) function in DynaPDF manual.

### 3.40.135 `CreateButton(Name As String, Caption as string, Parent as Integer, PosX as Double, PosY as Double, Width as Double, Height as Double) as Integer`

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function creates a push button.

**Notes:** The Caption parameter is converted to unicode.

See also [CreateButton](#) function in DynaPDF manual.

### 3.40.136 CreateButtonAnsi(Name As String, Caption as string, Parent as Integer, PosX as Double, PosY as Double, Width as Double, Height as Double) as Integer

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** This function creates a push button.

**Notes:** The Caption parameter is converted to ANSI.

### 3.40.137 CreateCheckBox(Name as string, ExpValue as string, Checked as boolean, Parent as Integer, PosX as Double, PosY as Double, Width as Double, Height as Double) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function creates a check box.

See also [CreateCheckBox](#) function in DynaPDF manual.

### 3.40.138 CreateCIEColorSpace(Base as Integer, WhitePoint as memoryblock, BlackPoint as memoryblock, Gamma as memoryblock, Matrix as memoryblock) as Integer

Plugin Version: 8.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates a CIE based color space.

See also [CreateCIEColorSpace](#) function in DynaPDF manual.

### 3.40.139 CreateColItemDate(EmbFile as Integer, Key as string, Value as Integer, Prefix as string) as boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates a user defined collection item which accepts a date time value.

See also [CreateColItemDate](#) function in DynaPDF manual.

### 3.40.140 CreateCollItemNumber(EmbFile as Integer, Key as string, Value as Double, Prefix as string) as boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates a user defined collection item which accepts an arbitrary number as value. See also [CreateCollItemNumber](#) function in DynaPDF manual.

### 3.40.141 CreateCollItemString(EmbFile as Integer, Key as string, Value as string, Prefix as string) as boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates a user defined collection item which accepts an arbitrary string as value.

**Notes:** The value and prefix parameters are converted to unicode.

See also [CreateCollItemString](#) function in DynaPDF manual.

### 3.40.142 CreateCollItemStringAnsi(EmbFile as Integer, Key as string, Value as string, Prefix as string) as boolean

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function creates a user defined collection item which accepts an arbitrary string as value.

**Notes:** The value and prefix parameters are converted to ANSI.

### 3.40.143 CreateCollection(View as Integer) as boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function marks the current PDF file in memory as PDF collection, also known as PDF Package.

**Notes:** Requires DynaPDF Lite license.

See also [CreateCollection](#) function in DynaPDF manual.

### 3.40.144 CreateCollectionField(ColType as Integer, Column as Integer, Name as String, Key as string, Visible as boolean, Editable as boolean) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates a user defined collection field.

**Notes:** The name parameter is converted to unicode.

See also [CreateCollectionField](#) function in DynaPDF manual.

### 3.40.145 CreateCollectionFieldAnsi(ColType as Integer, Column as Integer, Name as String, Key as string, Visible as boolean, Editable as boolean) as Integer

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function creates a user defined collection field.

**Notes:** The name parameter is converted to ANSI.

### 3.40.146 CreateComboBox(Name as string, Sort as boolean, Parent as Integer, PosX as Double, PosY as Double, Width as Double, Height as Double) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function creates a combo box.

See also [CreateComboBox](#) function in DynaPDF manual.

### 3.40.147 CreateDeviceNColorSpace(Colorants() as string, PostScriptFunc as string, AlternateColorSpace as Integer, Handle as Integer) as Integer

Plugin Version: 8.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a new colorspace using the given color names.

**Notes:** Strings are passed as UTF-8 Strings in this function to the library.

Currently the function is limited to 100 colorants on the plugin side.

See also [CreateDeviceNColorSpace](#) function in DynaPDF manual.

### 3.40.148 CreateDeviceNColorSpaceAnsi(Colorants() as string, PostScriptFunc as string, AlternateColorSpace as Integer, Handle as Integer) as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** Creates a new colorspace using the given color names.

**Notes:** Strings are passed as Windows ANSI Strings in this function to the library. Currently the function is limited to 100 colorants on the plugin side.

### 3.40.149 CreateDPartRoot(NodeNameList() as String, RecordLevel as Integer) as Boolean

Plugin Version: 23.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates the DPartRoot dictionary that must be present before DPart nodes can be created with AddDPartNode().

**Notes:** Note that the function will fail if a DPartRoot dictionary was already imported or created by this function. You can check whether a DPartRoot dictionary exists with HaveDPartRoot().

DPart stands for Document Part. DParts are a feature of PDF/VT, a PDF format for the printing industry. See also [CreateDPartRoot](#) function in DynaPDF manual.

### 3.40.150 CreateExtGState(e as DynaPDFExtGStateMBS) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates an extended graphics state dictionary from the structure e.

**Example:**

```
dim h as Integer // handle
dim pdf as DynaPDFMBS
dim state as new DynaPDFExtGStateMBS
```

```
' get pdf, set state properties
```

```
h=pdf.CreateExtGState(state)
```

```
call pdf.SetExtGState(h)
```

**Notes:** Requires DynaPDF Lite license.

See also [CreateExtGState](#) function in DynaPDF manual.

### 3.40.151 CreateGeospatialMeasure(Viewport as UInt32, Attributes as String) as Integer

Plugin Version: 23.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a geospatial measure dictionary.

**Notes:** This kind of measure dictionary can be used to convert PDF units to geographic coordinates. A measure dictionary is used by the measure tool of Adobe's Acrobat and by other PDF viewers which contain a PDF compatible measure tool.

Notice:

This is a low level function for more experienced users who are familiar with PDF. It is assumed that a copy of the ISO Standard 32000-2 or newer is available by these users.

See also [CreateGeospatialMeasure](#) function in DynaPDF manual.

### 3.40.152 CreateGoToAction(DestType as Integer, PageNum as Integer, a as Double, b as Double, c as Double, d as Double) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A go-to action changes the view to a specific destination (page, location, and magnification factor).

See also [CreateGoToAction](#) function in DynaPDF manual.

See also:

- 3.40.153 [CreateGoToAction\(NamedDest as Integer\) as Integer](#) 293

### 3.40.153 CreateGoToAction(NamedDest as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates a go[Ö ] to action which uses a named destination to open the target page.

See also [CreateGoToAction](#) function in DynaPDF manual.

See also:

- 3.40.152 [CreateGoToAction\(DestType as Integer, PageNum as Integer, a as Double, b as Double, c as Double, d as Double\) as Integer](#) 293

### 3.40.154 CreateGoToEAction(Location as Integer, Source as string, SrcPage as Integer, Target as string, DestName as string, DestPage as Integer, NewWindow as boolean) as Integer

Plugin Version: 13.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates an embedded GoTo action.

**Notes:** See also CreateGoToEAction function in dynapdf\_help.pdf manual.

See also [CreateGoToEAction](#) function in DynaPDF manual.

### 3.40.155 CreateGoToRAction(File as folderitem, PageNum as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function creates a go to remote action.

See also [CreateGoToRAction](#) function in DynaPDF manual.

See also:

- 3.40.156 CreateGoToRAction(FilePath as String, PageNum as integer) as integer 294

### 3.40.156 CreateGoToRAction(FilePath as String, PageNum as integer) as integer

Plugin Version: 18.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function creates a go to remote action.

See also [CreateGoToRAction](#) function in DynaPDF manual.

See also:

- 3.40.155 CreateGoToRAction(File as folderitem, PageNum as Integer) as Integer 294

### 3.40.157 CreateGoToRActionEx(File as folderitem, DestName as String, NewWindow as boolean) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates a go-to-remote action that opens a named destination in an external PDF file.

See also [CreateGoToRActionEx](#) function in DynaPDF manual.

See also:

- 3.40.158 CreateGoToRActionEx(FilePath as String, DestName as String, NewWindow as boolean) as integer 295

### 3.40.158 CreateGoToRActionEx(FilePath as String, DestName as String, NewWindow as boolean) as integer

Plugin Version: 18.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates a go-to-remote action that opens a named destination in an external PDF file.

See also [CreateGoToRActionEx](#) function in DynaPDF manual.

See also:

- 3.40.157 CreateGoToRActionEx(File as folderitem, DestName as String, NewWindow as boolean) as Integer 294

### 3.40.159 CreateGoToRActionExU(File as folderitem, DestName as String, NewWindow as boolean) as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates a go-to-remote action that opens a named destination in an external PDF file.

See also:

- 3.40.160 CreateGoToRActionExU(FilePath as String, DestName as String, NewWindow as boolean) as integer 295

### 3.40.160 CreateGoToRActionExU(FilePath as String, DestName as String, NewWindow as boolean) as integer

Plugin Version: 18.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates a go-to-remote action that opens a named destination in an external PDF file.

See also:

- 3.40.159 CreateGoToRActionExU(File as folderitem, DestName as String, NewWindow as boolean) as Integer 295

### 3.40.161 CreateGroupField(Name as string, Parent as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function creates a group field.

See also [CreateGroupField](#) function in DynaPDF manual.

### 3.40.162 CreateHideAction(Field as Integer, Hide as boolean) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A hide action hides or shows one or more interactive form fields on screen by setting or clearing their hidden flags.

See also [CreateHideAction](#) function in DynaPDF manual.

### 3.40.163 CreateICCBasedColorSpace(File as folderitem) as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates an ICC based color space.

**Notes:** Use the value returned for the SetExtColorSpace method.

See also [CreateICCBasedColorSpace](#) function in DynaPDF manual.

See also:

- 3.40.164 CreateICCBasedColorSpace(Path as String) as Integer 296

### 3.40.164 CreateICCBasedColorSpace(Path as String) as Integer

Plugin Version: 19.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates an ICC based color space.

**Notes:** Use the value returned for the SetExtColorSpace method.

See also [CreateICCBasedColorSpace](#) function in DynaPDF manual.

See also:

- 3.40.163 CreateICCBasedColorSpace(File as folderitem) as Integer 296

### 3.40.165 CreateICCBasedColorSpaceEx(Buffer as Memoryblock) as Integer

Plugin Version: 13.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a new ICC based color space from ICC file content in a string buffer.

**Notes:** Returns the color space handle.

See also [CreateICCBasedColorSpaceEx](#) function in DynaPDF manual.

See also:

- 3.40.166 CreateICCBasedColorSpaceEx(Buffer as string) as Integer 296

### 3.40.166 CreateICCBasedColorSpaceEx(Buffer as string) as Integer

Plugin Version: 12.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a new ICC based color space from ICC file content in a string buffer.

**Notes:** Returns the color space handle.

See also [CreateICCBasedColorSpaceEx](#) function in DynaPDF manual.

See also:

- 3.40.165 [CreateICCBasedColorSpaceEx\(Buffer as Memoryblock\)](#) as Integer 296

### 3.40.167 [CreateImage\(file as folderitem, format as Integer\)](#) as boolean

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates an image file with the given image format.

**Notes:** For the format parameter use the kifm\* constants.

If file parameter is nil for [CreateImage](#), you create image in memory and can pick it up with [GetImageBuffer](#) function later after you closed it.

See also [CreateImage](#) function in DynaPDF manual.

### 3.40.168 [CreateImpDataAction\(DataFile as folderitem\)](#) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** An import data action imports FDF data into the document s interactive form.

**Notes:** Also check the dynapdf manual on the pdfCreateImpDataActionA function (pdfCreateImpDataActionW on Windows).

### 3.40.169 [CreateIndexedColorSpace\(Base as Integer, Handle as Integer, ColorTable as memoryblock, NumColors as Integer\)](#) as Integer

Plugin Version: 8.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates an indexed color space which can be used for vector graphics and text output.

**Notes:** Use the value returned for the SetExtColorSpace method.

See also [CreateIndexedColorSpace](#) function in DynaPDF manual.

### 3.40.170 [CreateJSAction\(Script as string\)](#) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function creates a JavaScript action.

**Notes:** The script parameter is converted to unicode.

See also [CreateJSAction](#) function in DynaPDF manual.

### 3.40.171 CreateJSActionAnsi(Script as string) as Integer

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** This function creates a JavaScript action.

**Notes:** The script parameter is converted to ANSI.

### 3.40.172 CreateLaunchAction(OP as Integer, FileName as folderitem, DefDir as string, Param as string, NewWindow as boolean) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A launch action launches an application or opens or prints a document.

See also [CreateLaunchAction](#) function in DynaPDF manual.

### 3.40.173 CreateLaunchActionEx(FileName as folderitem, NewWindow as boolean) as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a launch link.

See also [CreateLaunchActionEx](#) function in DynaPDF manual.

### 3.40.174 CreateListBox(Name as string, Sort as boolean, Parent as Integer, PosX as Double, PosY as Double, Width as Double, Height as Double) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function creates a list box.

See also [CreateListBox](#) function in DynaPDF manual.

### 3.40.175 CreateNamedAction(Action as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function creates a named action.  
See also [CreateNamedAction](#) function in DynaPDF manual.

### 3.40.176 CreateNamedDest(Name as string, DestPage as Integer, DestType as Integer, a as Double, b as Double, c as Double, d as Double) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates a named destination that can be accessed from external PDF files.

**Notes:** The name parameter is converted to unicode.  
See also [CreateNamedDest](#) function in DynaPDF manual.

### 3.40.177 CreateNamedDestAnsi(Name as string, DestPage as Integer, DestType as Integer, a as Double, b as Double, c as Double, d as Double) as Integer

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function creates a named destination that can be accessed from external PDF files.  
**Notes:** The name parameter is converted to ANSI.

### 3.40.178 CreateNewPDF(OutPDF as folderitem = nil) as boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function creates a new PDF file.

**Example:**

```
dim dest as folderitem // where to save?
dim pdf as DynaPDFMBS // your DynaPDF object
dim bBool as Boolean
```

```
// create new pdf
bBool=pdf.CreateNewPDF(dest)
if bBool=False then
MsgBox "Failed to create pdf file "+dest.NativePath
Return
end if
```

See also [CreateNewPDF](#) function in DynaPDF manual.

### 3.40.179 **CreateOCG(name as string, DisplayInUI as boolean, Visible as boolean, Intent as Integer) as Integer**

Plugin Version: 10.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates an Optional Content Group (OCG).

**Notes:** CreateOCG stores the name in unicode encoding and CreateOCGAnsi in Windows ANSI encoding. See also [CreateOCG](#) function in DynaPDF manual.

### 3.40.180 **CreateOCGAnsi(name as string, DisplayInUI as boolean, Visible as boolean, Intent as Integer) as Integer**

Plugin Version: 10.5, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function creates an Optional Content Group (OCG).

**Notes:** CreateOCG stores the name in unicode encoding and CreateOCGAnsi in Windows ANSI encoding.

### 3.40.181 **CreateOCMD(Visibility as Integer, OCGs() as Integer) as Integer**

Plugin Version: 10.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates an Optional Content Membership Dictionary (OCMD).

**Notes:** For Visibility use the constants kovAllOff, kovAllOn, kovAnyOff, kovAnyOn and kovNotSet. See also [CreateOCMD](#) function in DynaPDF manual.

### 3.40.182 **CreateRadialShading(sX as Double, sY as Double, R1 as Double, eX as Double, eY as Double, R2 as Double, SCenter as Double, SColor as Integer, EColor as Integer, Extend1 as boolean, Extend2 as boolean) as Integer**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Radial shadings define a color blend that varies between two circles.

**Notes:** Useful to draw gradients.

See also [CreateRadialShading](#) function in DynaPDF manual.

### 3.40.183 CreateRadioButton(Name as string, ExpValue as string, Checked as boolean, Parent as Integer, PosX as Double, PosY as Double, Width as Double, Height as Double) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A radio button field is a set of related toggle controls (check boxes), at most one of which may be on at any given time; selecting any one of the button automatically deselects all others.

See also [CreateRadioButton](#) function in DynaPDF manual.

### 3.40.184 CreateRectilinearMeasure(ViewPort as Integer, Scale as Double, UnitDescription as String, LabelDistance as String, LabelArea as String) as Integer

Plugin Version: 19.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a rectilinear measure dictionary.

**Notes:** This kind of measure dictionary can be used to convert PDF units to an arbitrary other unit like millimeters, meters, feet, and so on.

A measure dictionary is used by the measure tool of Adobe's Acrobat and by other PDF viewers which contain a PDF compatible measure tool.

The parameter Viewport must be a viewport handle that was returned by CreateViewport(). Scale is the required scaling factor to convert a PDF unit (1/72 inch) to the wished destination unit. The parameters UnitDescription, LabelDistance, and LabelArea are all required and cannot be NULL.

UnitDescription is a description of the coordinate conversion, e.g. "Inch to mm". LabelDistance is the label for the distance tool, e.g. "mm".

LabelArea is the label for the area tool, e.g. "mm2".

If the function succeeds the return value is a measure handle, a value greater or equal zero. If the function fails the return value is a negative error code.

See also [CreateRectilinearMeasure](#) function in DynaPDF manual.

### 3.40.185 CreateRectilinearMeasureAnsi(ViewPort as Integer, Scale as Double, UnitDescription as String, LabelDistance as String, LabelArea as String) as Integer

Plugin Version: 19.5, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** Creates a rectilinear measure dictionary.

**Notes:** This kind of measure dictionary can be used to convert PDF units to an arbitrary other unit like millimeters, meters, feet, and so on.

A measure dictionary is used by the measure tool of Adobe's Acrobat and by other PDF viewers which

contain a PDF compatible measure tool.

The parameter Viewport must be a viewport handle that was returned by CreateViewport(). Scale is the required scaling factor to convert a PDF unit (1/72 inch) to the wished destination unit. The parameters UnitDescription, LabelDistance, and LabelArea are all required and cannot be NULL.

UnitDescription is a description of the coordinate conversion, e.g. "Inch to mm". LabelDistance is the label for the distance tool, e.g. "mm".

LabelArea is the label for the area tool, e.g. "mm2".

If the function succeeds the return value is a measure handle, a value greater or equal zero. If the function fails the return value is a negative error code.

This is ANSI version, so all strings are converted to ANSI encoding.

### 3.40.186 CreateResetAction as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A reset form action resets all or specific fields of an interactive form to their default values.

See also [CreateResetAction](#) function in DynaPDF manual.

### 3.40.187 CreateSeparationCS(Colorant as string, Alternate as Integer, Handle as Integer, ColorValue as Integer) as Integer

Plugin Version: 8.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates a Separation color space.

**Notes:** This function passes colorant string in UTF-8 encoding to the library.

See also [CreateSeparationCS](#) function in DynaPDF manual.

### 3.40.188 CreateSeparationCSAnsi(Colorant as string, Alternate as Integer, Handle as Integer, ColorValue as Integer) as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function creates a Separation color space.

**Notes:** This function passes colorant string in Windows ANSI encoding to the library.

**3.40.189 CreateSetOCGStateAction(On() as UInt32, Off() as UInt32, Toggle() as UInt32, PreserveRB as boolean) as Integer**

Plugin Version: 10.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates a SetOCGState action that can be used to change the visibility state of certain Optional Content Groups (OCGs).

See also [CreateSetOCGStateAction](#) function in DynaPDF manual.

**3.40.190 CreateSigField(Name as string, Parent as Integer, PosX as Double, PosY as Double, Width as Double, Height as Double) as Integer**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function creates an empty signature field which can be used to digitally sign the PDF file.

**Notes:** If you see errors in Acrobat Reader with signing multiple fields, please try DynaPDF.CreateStructureTree function and test whether it works then.

See also [CreateSigField](#) function in DynaPDF manual.

**3.40.191 CreateSigFieldAP(SigField as Integer) as Integer**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates a signature appearance template in the exact size of the base signature field.

See also [CreateSigFieldAP](#) function in DynaPDF manual.

**3.40.192 CreateSoftMask(TranspGroup as UInt32, MaskType as Integer, BackColor as UInt32) as Integer**

Plugin Version: 11.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a new soft mask.

**Notes:** MaskType: pass ksmtAlpha or ksmtLuminosity constants.

Requires DynaPDF Pro license.

See also [CreateSoftMask](#) function in DynaPDF manual.

**3.40.193 CreateStdPattern(Pattern as Integer, LineWidth as Double, Distance as Double, LineColor as Integer, BackColor as Integer) as Integer**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function creates a hatch pattern.  
See also [CreateStdPattern](#) function in DynaPDF manual.

### 3.40.194 CreateStructureTree as boolean

Plugin Version: 8.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a global structure tree that is required to create Tagged PDF files.

**Notes:** Tagged PDF files require a root node of type Art, Div, Document, Part, or Sect. This function creates a root node of type Document if nothing else was already imported. Other types can be created with the function [CreateStructureTreeEx](#).

Notice:

DynaPDF is able to extend an existing structure tree that was imported from an external PDF file. However, when editing external PDF files the following rules must be considered:

- The structure information of a PDF file will only be imported when the entire PDF file is imported with [ImportPDFFile\(\)](#). When importing single pages with [ImportPage\(\)](#) or [ImportPageEx\(\)](#) of a PDF file that contains structure information then tagging will be disabled because DynaPDF is not able to import the structure information of a PDF file on a per page basis.
- Import first the PDF file and call then [CreateStructureTree\(\)](#). The reverse order causes that the structure tree will not be imported and tagging will be disabled!
- Only one PDF file with structure information can be imported without invalidating the structure information.
- Keep in mind that the structure tree of a PDF file is a complex global structure that is difficult to edit. Because of this, probably millions of PDF files exist that contain damages in the structure tree, mostly due to editing actions in certain viewer applications. When opening an existing page with [EditPage\(\)](#) the function tries to find the corresponding [StructParents](#) array of the page in the [ParentTree](#) of the document's Structure Tree. When this action fails then tagging will be disabled for this page. [OpenTag\(\)](#) and [CloseTag\(\)](#) do not produce further warnings in this case. The function [GetIsTaggingEnabled\(\)](#) can be used to determine whether tagging is still enabled after an existing page was opened for editing.

When creating Tagged PDF files it is important to create the PDF file in the logical reading order.

If the function succeeds the return value is true. If the function fails the return value is false.  
See also [CreateStructureTree](#) function in DynaPDF manual.

**3.40.195 CreateStructureTreeEx(Tag as Integer) as Boolean**

Plugin Version: 23.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates the global structure tree as described at `CreateStructureTree()`.

**Notes:** The only difference is that the type of the root node can be specified.

Returns true on success and false on failure.

See also `CreateStructureTreeEx` function in DynaPDF manual.

**3.40.196 CreateSubmitAction(Flags as Integer, URL as string) as Integer**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A submit form action submits the field values of an interactive form to a web server.

See also `CreateSubmitAction` function in DynaPDF manual.

**3.40.197 CreateTable(AllocRows as UInt32, NumCols as UInt32, width as Double, DefRowHeight as Double) as DynaPDFTableMBS**

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a table with the given size.

**Notes:** Returns a new table object.

See also `CreateTable` function in DynaPDF manual.

**3.40.198 CreateTextField(Name as string, Parent as Integer, Multiline as boolean, MaxLen as Integer, PosX as Double, PosY as Double, Width as Double, Height as Double) as Integer**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function creates a text field.

**Example:**

```
Dim pdf As DynapdfMBS // your PDF environment with open page
```

```
// create field on current page
```

```
Dim Field1 As Integer = pdf.CreateTextField("Field1", -1, True, 0, 50.0, 100, 200.0, 100.0)
```

```
// and fill value
```

```
Call pdf.SetTextFieldValue(Field1, "Hello", ""), pdf.ktaLeft)
```

See also [CreateTextField](#) function in DynaPDF manual.

### 3.40.199 CreateTraceFile(File as FolderItem) as Boolean

Plugin Version: 21.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a trace file.

**Notes:** The plugin writes debug messages to this file so you can check what functions you called.

Improved with 16.2 plugin to really cover over 99% of all calls with parameters and result. Please report if you miss something.

While assignment to TraceFile property or CreateTraceFile() always overwrites existing log file, the AppendTraceFile method can append to it.

### 3.40.200 CreateURIAction(URL as string) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:**

A uniform resource identifier (URI) is a string that identifies (resolves to) a resource on the internet - typically a file that is the destination of a hyperlink, although it can also resolve to a query or other entity.

**Notes:**

A URI action causes a URI to be resolved. The parameter URL must be 7√Ö ] bit ASCII string.

See also [CreateURIAction](#) function in DynaPDF manual.

### 3.40.201 CreateViewport(Name as String, X1 as Double, Y1 as Double, X2 as Double, Y2 as Double) as Integer

Plugin Version: 19.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a viewport.

**Notes:** A viewport is a rectangular region of a page that can be associated with a measure dictionary. A measure dictionary achieves a coordinate conversion so that the distance and area can be calculated in other units like meters, feet, or millimeters, for example.

This is especially useful for CAD drawings which are not defined in PDF units. A PDF unit represents 1/72 inch.

A page can contain an arbitrary number of viewports and every viewport can be assigned with its own

measure dictionary, e.g. to calculate coordinates in different units on the same page.

Viewports should be created in drawing order. Since viewports might overlap a PDF viewer examines the array starting with the last one and iterates in reverse order. The first one whose bounding box contains the point or cursor coordinate is chosen.

See also `CreateRectilinearMeasure()`.

See also [CreateViewport](#) function in DynaPDF manual.

### 3.40.202 `CreateViewportAnsi(Name as String, X1 as Double, Y1 as Double, X2 as Double, Y2 as Double) as Integer`

Plugin Version: 19.5, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** Creates a viewport.

**Notes:** A viewport is a rectangular region of a page that can be associated with a measure dictionary. A measure dictionary achieves a coordinate conversion so that the distance and area can be calculated in other units like meters, feet, or millimeters, for example.

This is especially useful for CAD drawings which are not defined in PDF units. A PDF unit represents 1/72 inch.

A page can contain an arbitrary number of viewports and every viewport can be assigned with its own measure dictionary, e.g. to calculate coordinates in different units on the same page.

Viewports should be created in drawing order. Since viewports might overlap a PDF viewer examines the array starting with the last one and iterates in reverse order. The first one whose bounding box contains the point or cursor coordinate is chosen.

See also `CreateRectilinearMeasure()`.

This is ANSI version, so all strings are converted to ANSI encoding.

### 3.40.203 CreateXFASStream(Name as String, Buffer as String) as Integer

Plugin Version: 19.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates an XFA stream and adds it to the global XFA resource array.

**Notes:** The parameter Name must be the name of the XFA resource. Buffer must be a valid XFA stream buffer or "", if the buffer should be set later with SetXFASStream().

If the function succeeds the return value is the stream handle, a value greater or equal zero. If the function fails the return value is a negative error code.

See also [CreateXFASStream](#) function in DynaPDF manual.

### 3.40.204 DecryptPDF(File as folderitem, PwdType as Integer, Password as string) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function decrypts a PDF file by using the supplied password to decrypt the file.

See also [DecryptPDF](#) function in DynaPDF manual.

### 3.40.205 DecryptPDFAnsi(Path as string, PwdType as Integer, Password as string) as Integer

Plugin Version: 12.2, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** This function decrypts a PDF file by using the supplied password to decrypt the file.

**Notes:** Same as DecryptPDF, but takes path name in Windows ANSI encoding.

### 3.40.206 DeleteAcroForm

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Deletes an acrobat reader form.

See also [DeleteAcroForm](#) function in DynaPDF manual.

### 3.40.207 DeleteActionFromObj(ObjType as Integer, ActHandle as Integer, ObjHandle as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function deletes an action from a PDF object.  
See also [DeleteActionFromObj](#) function in DynaPDF manual.

### 3.40.208 DeleteActionFromObjEx(ObjType as Integer, ObjHandle as Integer, ActIndex as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function can be used to delete an action from an object without using an action handle.  
See also [DeleteActionFromObjEx](#) function in DynaPDF manual.

### 3.40.209 DeleteAltFontList(FontListHandle as Integer) as Boolean

Plugin Version: 22.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Deletes an alternate font list that was created by DynaPDF.CreateAltFontList.

**Notes:** If the parameter Handle was set to -1 all available lists will be deleted.

Returns true on success.

See also [DeleteAltFontList](#) function in DynaPDF manual.

### 3.40.210 DeleteAnnotation(Handle as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function deletes an annotation.

See also [DeleteAnnotation](#) function in DynaPDF manual.

### 3.40.211 DeleteAnnotationFromPage(PageNum as UInt32, Handle as UInt32) as boolean

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Deletes an annotation from a page.

See also [DeleteAnnotationFromPage](#) function in DynaPDF manual.

### 3.40.212 DeleteAppEvents(ApplyEvent as Boolean, TOCAppEvent as Integer) as Integer

Plugin Version: 16.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function deletes all application events if any.

**Notes:** The function can optionally apply the visibility state of an event before the application events will be deleted. The new visibility state will be stored in the PDF file. To apply the visibility state of a specific event without deletion call `ApplyAppEvent()` instead.

If the function succeeds and if application events were deleted the return value is 1. If the no application events were defined the return value is 0. If the function fails the return value is a negative error code.

See also [DeleteAppEvents](#) function in DynaPDF manual.

### 3.40.213 DeleteBookmark(ABmk as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function deletes a bookmark.

See also [DeleteBookmark](#) function in DynaPDF manual.

### 3.40.214 DeleteDPartNode(Handle as Integer) as Boolean

Plugin Version: 23.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The deletes a dpart node.

**Notes:** The deletes a dpart node or the entire dpart structure if Handle was set to -1. DPart stands for Document Parts, a feature of PDF/VT. If the dpart node contains children then all child nodes will be deleted too.

If the function succeeds the return value is true. If the function fails the return value is false.

See also [DeleteDPartNode](#) function in DynaPDF manual.

### 3.40.215 DeleteEmbeddedFile(handle as Integer) as boolean

Plugin Version: 8.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Deletes the embedded file with the given handle.

See also [DeleteEmbeddedFile](#) function in DynaPDF manual.

### 3.40.216 DeleteField(Field as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function deletes an interactive form field.  
See also [DeleteField](#) function in DynaPDF manual.

### 3.40.217 DeleteFieldEx(URL as string) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function deletes an interactive form field by using its full qualified name, that is the name of any parent group field separated by a period (.) plus the field name.  
See also [DeleteFieldEx](#) function in DynaPDF manual.

### 3.40.218 DeleteJavaScripts(DelJavaScriptActions as boolean)

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Deletes java scripts.  
See also [DeleteJavaScripts](#) function in DynaPDF manual.

### 3.40.219 DeleteNamedDest(Name as String) as Boolean

Plugin Version: 21.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Deletes a named destination.  
**Notes:** If Name is an empty string all named destinations will be deleted.  
See also [DeleteNamedDest](#) function in DynaPDF manual.

### 3.40.220 DeleteNamedDestByIndex(Index as integer) as Boolean

Plugin Version: 21.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Deletes a named destination.  
**Notes:** If Index is set to a negative value all named destinations will be deleted.  
See also [DeleteNamedDestByIndex](#) function in DynaPDF manual.

### 3.40.221 DeleteOCGFromAppEvent(Handle as UInt32, Events as Integer, Categories as Integer, DelCategoryOnly as Boolean) as Boolean

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Deletes an OCG or layer from one or more application events, or it deletes only one or more categories from an application event in which the OCG was found (if DelCategoryOnly is true).

**Notes:** If DelCategoryOnly is true, and if no more categories are left in the application event, then the event will be deleted. See also AddOCGToAppEvent() and SetOCGContUsage() for further information.

If the function succeeds the return value is true. If the function fails the return value is false.

See also [DeleteOCGFromAppEvent](#) function in DynaPDF manual.

### 3.40.222 DeleteOCGFromDisplayTree(OCGHandle as UInt32, Recursive as Boolean) as Boolean

Plugin Version: 21.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Deletes a layer or OCG (Optional Content Group) from the display tree of the currently active layer configuration.

**Notes:** Notice:

If the PDF file was not imported with ImportPDFFile() the function ImportOCProperties() must be called in order to import the global Optional Content Properties.

It is also required to load a layer configuration with LoadLayerConfig() before the function can be called.

The display tree is a linked list that contains UI nodes. UI stands for User Interface. Every node in this tree can contain an OCG or an array of OCGs with an optional label.

This function can be used to delete an OCG from the display tree without traversing every node of it with GetOCUINode() beforehand. Therefore, the function is suitable for console applications but GUI based applications should use DeleteOCUINode() instead. DeleteOCUINode() can also be used to delete the entire display tree with just one function call.

If the function succeeds the return value is true. If the function fails the return value is false.

See also [DeleteOCGFromDisplayTree](#) function in DynaPDF manual.

### 3.40.223 DeleteOCUINode(OCGNodeHandle as Integer) as Boolean

Plugin Version: 22.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Deletes an OCUINode.

**Notes:** Deletes an OCUINode (Optional Content User Interface Node) from the display tree of the currently active layer configuration or the entire tree if Node is set to 0.

If the PDF file was not imported with ImportPDFFile() the function ImportOCProperties() must be called in order to import the global Optional Content Properties.

It is also required to load a layer configuration with LoadLayerConfig() before the function can be called.

Note that the deletion of the display tree does not delete any layer or OCG (Optional Content Group). All

OCGs still exists and are fully functional. However, users are not able to change the visibility state of OCGs which are not included in the display tree of the corresponding layer configuration.

If the parameter Node is set then it must be a valid pointer of an OCUINode that was returned by GetOCUINode(). Note that the deletion of a node invalidates all pointers which were previously returned by GetOCUINode().

Return value: If the function succeeds the return value is true. If the function fails the return value is false. See also [DeleteOCUINode](#) function in DynaPDF manual.

### 3.40.224 DeleteOutputIntent(Index as Integer) as Integer

Plugin Version: 14.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Can be used to delete a specific or all output intents.

**Notes:** A PDF file can contain more than one output intent. Call GetOutputIntentCount to determine the number of available output intents. If the parameter Index is set to -1 all output intents will be deleted.

If the function succeeds the return value is the remaining number of output intents. If the function fails the return value is a negative error code.

See also [DeleteOutputIntent](#) function in DynaPDF manual.

### 3.40.225 DeletePage(PageNum as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function deletes a page.

**Example:**

```
// new PDF
Dim pdf As New MyDynampdfMBS

pdf.SetLicenseKey "Lite" // For this example you can use a Lite, Pro or Enterprise License

// create output file
Dim outFile As folderitem = SpecialFolder.Desktop.Child("NewPDF.pdf")
Call pdf.CreateNewPDF(outFile)

// set flags to import all
Dim flags As Integer = Bitwise.BitOr(pdf.kifImportAsPage, pdf.kifImportAll)
Call pdf.SetImportFlags(flags)

// import PDF
```

```
Dim inFile As folderitem = SpecialFolder.Desktop.Child("test.pdf")

Call pdf.OpenImportFile(inFile)
Call pdf.ImportPDFFile(1)

// now delete one page
Call pdf.DeletePage(2)

// close output file
Call pdf.closefile
```

See also [DeletePage](#) function in DynaPDF manual.

### 3.40.226 DeletePageLabels

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function deletes all page labels contained in the current open document, if any.  
See also [DeletePageLabels](#) function in DynaPDF manual.

### 3.40.227 DeleteSeparationInfo(AllPages as boolean) as boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function deleted the separation of the current open page or of all pages if the parameter AllPages is set to true.  
See also [DeleteSeparationInfo](#) function in DynaPDF manual.

### 3.40.228 DeleteTemplate(handle as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function deletes a template.  
See also [DeleteTemplate](#) function in DynaPDF manual.

### 3.40.229 DeleteTemplateEx(index as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function deletes a template by using an index instead of a template handle.  
See also [DeleteTemplateEx](#) function in DynaPDF manual.

### 3.40.230 DeleteWatermark(PageNum as Integer, InclAnnots as Boolean) as Integer

Plugin Version: 23.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Delete a watermark template.

**Notes:** The function can be used to delete watermarks from a single page or from the entire document if PageNum is set to -1. If InclAnnots is true, watermark annotations will be deleted too, if any.

A watermark in PDF terms is a regular template that has a `ADBE_CompoundType` property of type `Watermark`. Such templates can be created with the `Watermark` tool of Adobe Acrobat, or with DynaPDF, for example. See `MarkTemplateAsWatermark()` for further information.

Return values:

If the function succeeds the return value is the number of deleted watermarks. Note that deleted watermark annotations do not increment the return value. If the function fails, the return value is a negative error code. See also [DeleteWatermark](#) function in DynaPDF manual.

### 3.40.231 DeleteXFAForm

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Deletes XFA Form.

See also [DeleteXFAForm](#) function in DynaPDF manual.

### 3.40.232 DrawArc(PosX as Double, PosY as Double, Radius as Double, StartAngle as Double, EndAngle as Double) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function draws an arc by using a start and end angle.

See also [DrawArc](#) function in DynaPDF manual.

### 3.40.233 DrawArcEx(PosX as Double, PosY as Double, Width as Double, Height as Double, StartAngle as Double, EndAngle as Double) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function draws an elliptical arc.

**Example:**

```
dim pdf as new DynaPDFMBS
dim f as FolderItem = SpecialFolder.Desktop.Child("Create PDF.pdf")

pdf.SetLicenseKey "Starter" // For this example you can use a Starter, Lite, Pro or Enterprise License

// create new PDF
call pdf.CreateNewPDF f

// We want to use top-down coordinates
call pdf.SetPageCoords pdf.kpcTopDown

// new page
call pdf.Append

// black
call pdf.SetStrokeColor 0

// draw an arc
call pdf.DrawArcEx 100,100,100,100, 90,180
call pdf.StrokePath

// and a second one
call pdf.DrawArcEx 200,200,100,100, 0,90
call pdf.StrokePath

// and a third one. 0 to 0 gives a full circle
call pdf.DrawArcEx 300,300,100,100, 0,0
call pdf.StrokePath

// finish page
call pdf.EndPage

// Close file
call pdf.CloseFile

// open PDF
f.Launch
```

See also [DrawArcEx](#) function in DynaPDF manual.

### 3.40.234 DrawChord(PosX as Double, PosY as Double, Width as Double, Height as Double, StartAngle as Double, EndAngle as Double, FillMode as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function draws an elliptical chord (a region bounded by the intersection of an ellipse and a line segment, called a secant).

See also [DrawChord](#) function in DynaPDF manual.

### 3.40.235 DrawCircle(PosX as Double, PosY as Double, Radius as Double, FillMode as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function draws a circle.

**Example:**

```
dim pdf as new DynaPDFMBS
dim f as FolderItem = SpecialFolder.Desktop.Child("Create PDF with Line.pdf")

pdf.SetLicenseKey "Starter" // For this example you can use a Starter, Lite, Pro or Enterprise License

// Create a new PDF
call pdf.CreateNewPDF f

// We want to use top-down coordinates
call pdf.SetPageCoords pdf.kpcTopDown

// Add a page
call pdf.Append

// a circle, filled
call pdf.SetFillColor pdf.RGB(0,255,0) // green
call pdf.DrawCircle(100, 100, 100, pdf.kfmFill)

// a circle, stoked
call pdf.SetStrokeColor pdf.RGB(255,0,0) // red
call pdf.DrawCircle(200, 200, 100, pdf.kfmStroke)

// end page
call pdf.EndPage

// Close page
call pdf.CloseFile
```

```
// Open PDF  
f.Launch
```

See also [DrawCircle](#) function in DynaPDF manual.

### 3.40.236 DrawNGon(PosX as double, PosY as double, Radius as double, Alpha as double, NumSides as Integer, FillMode as integer) as Boolean

Plugin Version: 20.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Draws a n-gon.

**Notes:** PosX: X-Coordinate of the midpoint of the ngon

PosY: Y-Coordinate of the midpoint of the ngon

Radius: The radius.

Alpha: Rotation angle in degrees

NumSides: Number of sides. Must be greater 2.

FillMode: Fill mode, e.g. kfmFillStroke

The function A n-gon is a polygon with "n" number of sides. The minimum number of sides is three.

A n-gon is a closed path that can be filled, stroked or both. It is also possible to draw a n-gon invisible to apply the filling rules nonzero winding number or even-odd. The filling rules are described at ClipPath(). The parameter FillMode is ignored if the circle is drawn inside a clipping path. The fill modes are described at ClosePath().

If the function succeeds the return value is true. If the function fails the return value is false.

See also [DrawNGon](#) function in DynaPDF manual.

### 3.40.237 DrawPie(PosX as Double, PosY as Double, Width as Double, Height as Double, StartAngle as Double, EndAngle as Double, FillMode as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function draws a pie-shaped wedge bounded by the intersection of an ellipse and two angles.

See also [DrawPie](#) function in DynaPDF manual.

### 3.40.238 EditPage(PageNum as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function prepares a page for editing.

**Example:**

```
dim pdf as DynaPDFMBS // your dynapdf instance

// edit page 1
call pdf.EditPage(1)
// set a font
call pdf.SetFont( "Times New Roman",pdf.kfsNone,46,True,pdf.kcp1252 )
// set a color
call pdf.SetFillColor(0)

// now add a text annotation
call pdf.FreeTextAnnot( 100, 100, 100, 100, "author", "test", 0 )

// end page
call pdf.EndPage
```

See also [EditPage](#) function in DynaPDF manual.

### 3.40.239 EditTemplate(index as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function prepares a template for editing.

See also [EditTemplate](#) function in DynaPDF manual.

### 3.40.240 EditTemplate2(handle as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function prepares the template for editing.

See also [EditTemplate2](#) function in DynaPDF manual.

### 3.40.241 Ellipse(PosX as Double, PosY as Double, Width as Double, Height as Double, FillMode as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function draws an ellipse.

See also [Ellipse](#) function in DynaPDF manual.

### 3.40.242 EnableMutex(Value as boolean)

Plugin Version: 14.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to enable mutex or not.

### 3.40.243 EncryptPDF(File as folderitem, OpenPwd as string, OwnerPwd as string, KeyLen as Integer, Restrict as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function encrypts a PDF file.  
See also [EncryptPDF](#) function in DynaPDF manual.

### 3.40.244 EncryptPDFAnsi(Path as string, OpenPwd as string, OwnerPwd as string, KeyLen as Integer, Restrict as Integer) as Integer

Plugin Version: 12.2, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** This function encrypts a PDF file.  
**Notes:** Same as [EncryptPDF](#), but takes path name in Windows ANSI encoding.

### 3.40.245 EndContinueText as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. **Function:** This function finishes a continue text block that was created with the function [BeginContinueText\(\)](#) beforehand.  
See also [EndContinueText](#) function in DynaPDF manual.

### 3.40.246 EndLayer as boolean

Plugin Version: 10.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function closes a layer that was opened by [BeginLayer](#).  
**Notes:** If the function succeeds the return value is true. If the function fails the return value is false.

See also [EndLayer](#) function in DynaPDF manual.

### 3.40.247 EndPage as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function closes an open page that was opened by Append() or EditPage().

**Example:**

```
dim pdf as DynaPDFMBS // your DynaPDF object
dim bBool as Boolean
```

```
bBool=pdf.EndPage
```

See also [EndPage](#) function in DynaPDF manual.

### 3.40.248 EndPattern as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function closes an open pattern that was opened by BeginPattern() or CreateStdPattern().

See also [EndPattern](#) function in DynaPDF manual.

### 3.40.249 EndTemplate as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function closes an open template that was opened by BeginTemplate(), EditTemplate() or EditTemplate2().

See also [EndTemplate](#) function in DynaPDF manual.

### 3.40.250 EnumDocFonts as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function enumerates all fonts used in the current PDF document.

**Notes:** Will call the EnumDocFont event.

See also [EnumDocFonts](#) function in DynaPDF manual.

### 3.40.251 EnumDocFontsCount as Integer

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function enumerates all fonts used in the current PDF document and returns the count.

**Notes:** Returns the number of fonts found. Does not call the event.

### 3.40.252 EnumHostFonts as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use GetSysFontInfos instead.

**Function:** This function enumerates all fonts found in the search directories by passing the font names to a callback function.

**Notes:** Calls the EnumHostFont event.

See also [EnumHostFonts](#) function in DynaPDF manual.

### 3.40.253 EnumHostFontsCount as Integer

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use GetSysFontInfos instead.

**Function:** This function enumerates all fonts found in the search directories.

**Notes:** Returns the number of fonts found. Does not call the event.

### 3.40.254 EnumHostFontsEx as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use GetSysFontInfos instead.

**Function:** The function enumerates all fonts found in the search directories in the same way as EnumHostFonts().

**Notes:** Calls the EnumHostFontEx event.

See also [EnumHostFontsEx](#) function in DynaPDF manual.

### 3.40.255 EnumHostFontsExCount as Integer

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use GetSysFontInfos instead.

**Function:** The function enumerates all fonts found in the search directories in the same way as EnumHostFontsCount().

**Notes:** Returns the number of fonts found. Does not call the event.

### 3.40.256 ExchangeBookmarks(Bmk1 as Integer, Bmk2 as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function exchanges two bookmarks.  
See also [ExchangeBookmarks](#) function in DynaPDF manual.

### 3.40.257 ExchangePages(first as Integer, second as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function exchanges two pages.  
See also [ExchangePages](#) function in DynaPDF manual.

### 3.40.258 ExtractPageText(RemoveText as boolean = false) as String

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Extracts text of current open page.  
**Notes:** This is a convenience function so you don't need to use DynaPDFStackMBS class yourself.  
Returns the text of the page. Use `EditPage()` to open a page and than `EndPage()` to close it.

If you have problems with asian characters, please make sure you use `SetCMapDir` and load the CMAPs.  
Requires DynaPDF Pro license.

Deprecated in favor of newer `ExtractText` function.

### 3.40.259 ExtractPageTextRect(Left as Double, Top as Double, Right as Double, Bottom as Double, RemoveText as boolean = false) as String

Plugin Version: 16.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Extracts text of current open page within given rectangle.  
**Notes:** Text that starts within the given rectangle is captured.  
Be aware that PDF coordinates start on bottom left of page with 0/0.

This is a convenience function so you don't need to use DynaPDFStackMBS class yourself.  
Returns the text of the page. Use `EditPage()` to open a page and than `EndPage()` to close it.

If you have problems with asian characters, please make sure you use `SetCMapDir` and load the CMAPs.  
Requires DynaPDF Pro license.

Deprecated in favor of newer ExtractText function.

### 3.40.260 ExtractText(PageNum as Integer, Flags as Integer, rect as DynaPDFRectMBS = nil, byref text as string) as Boolean

Plugin Version: 18.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Extracts the text of the page PageNum.

**Example:**

```
dim pdf as DynaPDFMBS

dim Page as Integer = 1 // first page
dim Flags as Integer = ktefDefault
dim text as string
dim ok as boolean = pdf.ExtractText(Page, Flags, text)

if ok then
msgbox text
end if
```

**Notes:** The first page is denoted by 1.

Text lines can be sorted in x- and y-direction. The flag `ktefDeleteOverlappingText` causes that identical text records which are placed on the same position (with a tolerance of 2 units) will be deleted. The records must occur one after the other in order to detect them.

The optional parameter `Area` can be set to restrict the text extraction to that rectangle. The rectangle must be defined according to the current coordinate system. That means either in bottom up or top down coordinates, see `SetPageCoords()` for further information. Note also that the function considers the orientation of the page. The width and height of the rectangle must be exchanged if the orientation is 90, -90, 270, or -270 degrees.

If the function succeeds the return value is true. If the function fails the return value is false. See also [ExtractText](#) function in DynaPDF manual.

### 3.40.261 FileAttachAnnot(PosX as Double, PosY as Double, Icon as Integer, Author as string, Desc as string, File as folderitem, Compress as boolean) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function inserts a file attachment annotation on the current open page.

**Notes:** On Windows, the Desc and the Author parameters are converted to unicode.

See also [FileAttachAnnot](#) function in DynaPDF manual.

### 3.40.262 FileAttachAnnotEx(PosX as double, PosY as double, Icon as integer, Author as string, Desc as string, Filename as String, FileBuffer as MemoryBlock, Compress as boolean) as Integer

Plugin Version: 18.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a file attachment annotation exactly in the same way as FileAttachAnnot() but accepts a file buffer as input.

**Notes:** See FileAttachAnnot() for further information. The parameter FileName is required. It should contain the file name including extension, e.g. "MyImage.jpg".

If the function succeeds the return value is the annotation handle, a value greater or equal zero. If the function fails the return value is a negative error code.

See also [FileAttachAnnotEx](#) function in DynaPDF manual.

See also:

- 3.40.263 FileAttachAnnotEx(PosX as double, PosY as double, Icon as integer, Author as string, Desc as string, Filename as String, FileBuffer as String, Compress as boolean) as Integer 325

### 3.40.263 FileAttachAnnotEx(PosX as double, PosY as double, Icon as integer, Author as string, Desc as string, Filename as String, FileBuffer as String, Compress as boolean) as Integer

Plugin Version: 18.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a file attachment annotation exactly in the same way as FileAttachAnnot() but accepts a file buffer as input.

**Notes:** See FileAttachAnnot() for further information. The parameter FileName is required. It should contain the file name including extension, e.g. "MyImage.jpg".

If the function succeeds the return value is the annotation handle, a value greater or equal zero. If the function fails the return value is a negative error code.

See also [FileAttachAnnotEx](#) function in DynaPDF manual.

See also:

- 3.40.262 FileAttachAnnotEx(PosX as double, PosY as double, Icon as integer, Author as string, Desc as string, Filename as String, FileBuffer as MemoryBlock, Compress as boolean) as Integer 325

### 3.40.264 FileLink(PosX as Double, PosY as Double, Width as Double, Height as Double, FileLink as string) as Integer

Plugin Version: 12.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates a file link annotation.

**Notes:** Here you can pass a string which may be a relative file path like simply the file name of other pdf file in same folder.

See also [FileLink](#) function in DynaPDF manual.

### 3.40.265 FileLinkAnsi(PosX as Double, PosY as Double, Width as Double, Height as Double, FileLink as string) as Integer

Plugin Version: 12.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function creates a file link annotation.

**Notes:** Here you can pass a string which may be a relative file path like simply the file name of other pdf file in same folder.

### 3.40.266 FindBookmark(DestPage as Integer, Text as string) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function searches for a bookmark in the document outline tree.

**Notes:** The text parameter is converted to unicode.

See also [FindBookmark](#) function in DynaPDF manual.

### 3.40.267 FindBookmarkAnsi(DestPage as Integer, Text as string) as Integer

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** This function searches for a bookmark in the document outline tree.

**Notes:** The text parameter is converted to ANSI.

### 3.40.268 FindEmbeddedFile(Name as string) as Integer

Plugin Version: 16.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Searches for the embedded file Name and returns the handle of it when it can be found.

**Notes:** The file can then be extracted with GetEmbeddedFile().

If the function succeeds the return value is an embedded file handle, a value greater or equal zero. If the file cannot be found the return value is -1.

See also [FindEmbeddedFile](#) function in DynaPDF manual.

### 3.40.269 FindField(Name as string) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function searches for an interactive form field by using the fully qualified field name.

**Notes:** The Name parameter is converted to unicode.

See also [FindField](#) function in DynaPDF manual.

### 3.40.270 FindFieldAnsi(Name as string) as Integer

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** This function searches for an interactive form field by using the fully qualified field name.

**Notes:** The Name parameter is converted to ANSI.

### 3.40.271 FindLinkAnnot(URL as string) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function searches for a file link or web link annotation.

See also [FindLinkAnnot](#) function in DynaPDF manual.

### 3.40.272 FindNextBookmark as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function searches for the next bookmark with the same search parameters which were used by a previous call of FindBookmark().

See also [FindNextBookmark](#) function in DynaPDF manual.

### 3.40.273 FinishSignature(PKCS7 as Memoryblock) as boolean

Plugin Version: 13.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function writes the PKCS#7 signature object to the PDF file and writes finally the finish PDF file to disk and frees all used resources if the file was not created in memory.

**Notes:** If the file was created in memory `GetBuffer()` can now be called to obtain the finish PDF buffer. `CloseAndSignFileExt()` must be called prior this function can be called.

Return values: If the function succeeds the return value is true. If the function fails the return value is false. See also [FinishSignature](#) function in DynaPDF manual.

See also:

- 3.40.274 [FinishSignature\(PKCS7 as string\) as boolean](#) 328

### 3.40.274 FinishSignature(PKCS7 as string) as boolean

Plugin Version: 10.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function writes the PKCS#7 signature object to the PDF file and writes finally the finish PDF file to disk and frees all used resources if the file was not created in memory.

**Notes:** If the file was created in memory `GetBuffer()` can now be called to obtain the finish PDF buffer. `CloseAndSignFileExt()` must be called prior this function can be called.

Return values: If the function succeeds the return value is true. If the function fails the return value is false. See also [FinishSignature](#) function in DynaPDF manual.

See also:

- 3.40.273 [FinishSignature\(PKCS7 as Memoryblock\) as boolean](#) 328

### 3.40.275 FlattenAnnotOrField(AnnotationOrFieldHandle as Integer, AnnotFlattenFlags as Integer) as Boolean

Plugin Version: 20.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Draws an annotation or form field on the current open page.

**Notes:** Form fields are annotations of type `atWidget`. The annotations of a page can be enumerated with `GetPageAnnotEx()` / `GetPageAnnotCount()`.

The annotation or form field is deleted from the page's annotation array after it was flattened. If the function succeeds the return value is true. If the function fails the return value is false.

See also [FlattenAnnotOrField](#) function in DynaPDF manual.

**3.40.276 FlattenAnnots(AnnotFlattenFlags as Integer = 0) as Integer**

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Flattens the annotations.

**Notes:** By default all annotations which have an appearance stream and which have the print flag set are flattened.

All annotations are deleted when the function returns with the exception of file attachment annotations.

If you want to flatten the view state then set the flag `affUseViewState`.

Annotation flags:

<code>kaffNone</code>	0	Printable annotations independent of the type
<code>kaffUseViewState</code>	1	If set, annotations which are visible in a viewer become flattened.
<code>kaffMarkupAnnots</code>	2	If set, markup annotations are flattened only. Link, Sound, or FileAttach annotations are no markup annotations. These types will be left intact.

See also [FlattenAnnots](#) function in DynaPDF manual.

**3.40.277 FlattenForm as Boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function converts all fields of an Interactive Form to native PDF vector graphics and deletes the form after all fields are converted, incl. all JavaScript actions which are connected with form fields, pages, or the catalog object, and global JavaScript functions.

**Notes:** Requires DynaPDF Pro license.

See also [FlattenForm](#) function in DynaPDF manual.

**3.40.278 FlushPageContent(stack as DynaPDFStackMBS) as boolean**

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function replaces the content stream of a page or template that was changed with the function `ReplacePageText()` or `ReplacePageTextEx()` beforehand.

**Notes:** The function must be called after all changes are made. See `GetPageText()` for an example application.

Return values:

If the function succeeds the return value is true. If the function fails the return value is false.

See also [FlushPageContent](#) function in DynaPDF manual.

### 3.40.279 FlushPages(Flags as Integer = 0) as boolean

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Flushes pages.

**Notes:** Do not use FlushPages and SetUseSwapFile together. Use one function.

See also [FlushPages](#) function in DynaPDF manual.

### 3.40.280 FlushPagesEx(Flags as integer, LastPage as Integer) as boolean

Plugin Version: 20.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Writes the pages in memory to the PDF file exactly like FlushPages().

**Notes:** The only difference is that the last page can be specified. The function calls FlushPages() if LastPage is smaller than 1.

See also [FlushPagesEx](#) function in DynaPDF manual.

### 3.40.281 FreeImageBuffer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Frees the current image buffer.

See also [FreeImageBuffer](#) function in DynaPDF manual.

### 3.40.282 FreeImageObj(Handle as UInt32) as boolean

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function releases memory that was allocated by GetImageObj to decompress the image.

**Notes:** If the function succeeds the return value is true. If the function fails the return value is false.

See also [FreeImageObj](#) function in DynaPDF manual.

### 3.40.283 FreePDF as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function frees all used resources except the font cache.

See also [FreePDF](#) function in DynaPDF manual.

### 3.40.284 FreeTextAnnot(PosX as Double, PosY as Double, Width as Double, Height as Double, Author as string, Text as string, Align as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function creates a free text annotation.

**Example:**

```
dim pdf as DynaPDFMBS // your dynapdf instance

// edit page 1
call pdf.EditPage(1)
// set a font
call pdf.SetFont( "Times New Roman",pdf.kfsNone,46,True,pdf.kcp1252 )
// set a color
call pdf.SetFillColor(0)

// now add a text annotation
call pdf.FreeTextAnnot( 100, 100, 100, 100, "author", "test", 0 )

// end page
call pdf.EndPage
```

**Notes:** The Name and Author parameters are converted to unicode.  
See also [FreeTextAnnot](#) function in DynaPDF manual.

### 3.40.285 FreeTextAnnotAnsi(PosX as Double, PosY as Double, Width as Double, Height as Double, Author as string, Text as string, Align as Integer) as Integer

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** This function creates a free text annotation.

**Notes:** The Name and Author parameters are converted to ANSI.

### 3.40.286 Get3DAnnotStream(Annot as UInt32, byref Data as String, byref SubType as String) as Boolean

Plugin Version: 18.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Retrieves the data stream of a 3D annotation.

**Notes:** At time of publication, PDF supports U3D and PRC files. Check the value of the string SubType to determine the file type. The default format is U3D. SubType can be "" in this case. For PRC files, SubType is required to be present.

Returns true on success and false on failure.

See also [Get3DAnnotStream](#) function in DynaPDF manual.

### 3.40.287 GetActionCount as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the number of actions contained in a document.

See also [GetActionCount](#) function in DynaPDF manual.

### 3.40.288 GetActionHandle(ObjType as Integer, ObjHandle as UInt32, ActIndex as UInt32) as Integer

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns the handle of an action.

**Notes:** To determine the number of available actions of a specific object call GetObjActionCount. Since the Catalog object contains no handle, the parameter ObjHandle will be ignored for this object type.

If the function succeeds the return value is the action handle, a value greater or equal zero. If the function fails the return value is a negative error code.

See also [GetActionHandle](#) function in DynaPDF manual.

### 3.40.289 GetActionType(ActHandle as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the type of an annotation.

See also [GetActionType](#) function in DynaPDF manual.

**3.40.290 GetActionTypeEx(ObjType as Integer, ObjHandle as Integer, ActIndex as Integer) as Integer**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the action type of an action used by a specific PDF object. See also [GetActionTypeEx](#) function in DynaPDF manual.

**3.40.291 GetActiveFont as Integer**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the handle of the active font or -1 if no font is set. See also [GetActiveFont](#) function in DynaPDF manual.

**3.40.292 GetAllocBy as Integer**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the pre allocated buffer size of page content streams in bytes. See also [GetAllocBy](#) function in DynaPDF manual.

**3.40.293 GetAnnot(ahandle as Integer) as DynaPDFAnnotationMBS**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use [GetAnnotEx](#) instead.

**Function:** This function retrieves the most important properties of an annotation.

**Example:**

```
dim pdf as DynaPDFMBS // your instance

dim c as Integer = pdf.GetAnnotCount

for i as Integer = 0 to c-1
dim a as DynaPDFAnnotationMBS = pdf.GetAnnot(i)

MsgBox str(a.Type)
next
```

See also [GetAnnot](#) function in DynaPDF manual.

### 3.40.294 GetAnnotBBox(ahandle as Integer) as DynaPDFRectMBS

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function retrieves the bounding box of an annotation measured in bottom up coordinates. See also [GetAnnotBBox](#) function in DynaPDF manual.

### 3.40.295 GetAnnotCount as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the number of annotations currently used in the document. See also [GetAnnotCount](#) function in DynaPDF manual.

### 3.40.296 GetAnnotEx(ahandle as Integer) as DynaPDFAnnotationExMBS

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function retrieves the most important properties of an annotation.

**Example:**

```
dim pdf as DynaPDFMBS // your instance

dim c as Integer = pdf.GetAnnotCount

for i as Integer = 0 to c-1
dim a as DynaPDFAnnotationExMBS = pdf.GetAnnotEx(i)

MsgBox str(a.Type)
next
```

See also [GetAnnotEx](#) function in DynaPDF manual.

### 3.40.297 GetAnnotFlags as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the default flags used for newly created annotations. See also [GetAnnotFlags](#) function in DynaPDF manual.

### 3.40.298 GetAnnotLink(Handle as Integer) as string

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function returns the URL or file path of a file link annotation.  
See also [GetAnnotLink](#) function in DynaPDF manual.

### 3.40.299 GetAnnotType(Handle as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the type of a specific annotation.  
See also [GetAnnotType](#) function in DynaPDF manual.

### 3.40.300 GetAscent as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the ascender of the active font.  
See also [GetAscent](#) function in DynaPDF manual.

### 3.40.301 GetBBox(boundary as Integer) as DynaPDFRectMBS

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns a bounding box of a PDF page.

**Example:**

```
// Just set the trim box to the same value as the media box as an example
```

```
dim r as DynaPDFRectMBS = pdf.GetBBox(pdf.kpbMediaBox)
call pdf.SetBBox(pdf.kpbTrimBox, r.Left, r.Bottom, r.Right, r.Top)
```

See also [GetBBox](#) function in DynaPDF manual.

### 3.40.302 GetBidiMode as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the current bidirectional mode.

**Notes:** Useful constants:

<code>kbmLeftToRight</code>	0	Apply the bidi algorithm in Left to Right layout
<code>kbmRightToLeft</code>	1	Apply the bidi algorithm in Right to Left layout
<code>kbmNone</code>	2	Default ->do not apply the bidi algorithm

See also [GetBidiMode](#) function in DynaPDF manual.

### 3.40.303 GetBookmark(ahandle as Integer) as DynaPDFBookmarkMBS

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function returns the properties of a bookmark.  
See also [GetBookmark](#) function in DynaPDF manual.

### 3.40.304 GetBookmarkCount as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the number of bookmarks defined in the document.  
See also [GetBookmarkCount](#) function in DynaPDF manual.

### 3.40.305 GetBorderStyle as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the global border style which is used for newly created Interactive Form fields.  
See also [GetBorderStyle](#) function in DynaPDF manual.

### 3.40.306 GetBuffer as string

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns a pointer to the buffer of a memory based PDF file.  
**Notes:** The result string has no encoding set.  
See also [GetBuffer](#) function in DynaPDF manual.

### 3.40.307 GetBufferMemory as Memoryblock

Plugin Version: 13.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns a pointer to the buffer of a memory based PDF file.  
**Notes:** The result string has no encoding set.

### 3.40.308 GetCapHeight as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the cap height of the active font.  
See also [GetCapHeight](#) function in DynaPDF manual.

### 3.40.309 GetCharacterSpacing as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the current character spacing.  
See also [GetCharacterSpacing](#) function in DynaPDF manual.

### 3.40.310 GetCheckBoxChar as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the character used for newly created check boxes.  
See also [GetCheckBoxChar](#) function in DynaPDF manual.

### 3.40.311 GetCheckBoxCharEx(Field as Integer) as Integer

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries the check box character for the given field.  
See also [GetCheckBoxCharEx](#) function in DynaPDF manual.

### 3.40.312 GetCheckBoxDefState(Field as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function returns the default state of a check box, that is 1 == checked or 0 == unchecked.  
See also [GetCheckBoxDefState](#) function in DynaPDF manual.

### 3.40.313 GetCMap(index as Integer) as DynaPDFCMapMBS

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns the CMap object with the given index.  
See also [GetCMap](#) function in DynaPDF manual.

**3.40.314 GetCMapCount as Integer**

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns the number of character maps.  
See also [GetCMapCount](#) function in DynaPDF manual.

**3.40.315 GetColorSpace as Integer**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the active color space.  
See also [GetColorSpace](#) function in DynaPDF manual.

**3.40.316 GetColorSpaceCount as Integer**

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of color spaces.

**Example:**

```
Sub DrawSomething(pdf as DynaPDFMBS)
// draw all colorants with their own color
Dim MyX, MyY as Double

MyX = 10
MyY = 100

// set a font
call pdf.SetFont "Times", pdf.kfsItalic, 10.0, true, pdf.kcp1252

// loop over all color spaces
dim Colorcount as Integer = pdf.GetColorSpaceCount

For j as Integer = 0 to Colorcount-1
MyX = 10
dim MyColourSpace as DynaPDFColorSpaceMBS = PDF.GetColorSpaceObj(j)
dim ColorantsCount as Integer = MyColourSpace.ColorantsCount
dim c as Integer = MyColourSpace.NumInComponents
Call pdf.SetExtColorSpace j

// draw name of each colorant
for i as Integer = 0 to c-1

// build array with colors and set 100% for the one color we need
```

```
dim values() as Double
redim values(c-1)
values(i) = 1.0

// get name
dim name as string = "#" + str(i)
if i <= ColorantsCount then
name = MyColourSpace.Colorants(i)
end if

// seaw name
Call pdf.SetFillColor(values)
call pdf.WriteText(MyX,MyY, name)

// next
MyX = MyX + pdf.GetTextWidth(name) + 20
next

// next
MyY = MyY+20
Next
End Sub
```

See also [GetColorSpaceCount](#) function in DynaPDF manual.

### 3.40.317 GetColorSpaceObj(index as Integer) as DynaPDFColorSpaceMBS

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries a ColorSync Profile for the given index.

**Notes:** Index from 0 to GetColorSpaceCount-1.

See also [GetColorSpaceObj](#) function in DynaPDF manual.

### 3.40.318 GetCompressionFilter as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the standard compression filter for images.

See also [GetCompressionFilter](#) function in DynaPDF manual.

### 3.40.319 GetCompressionLevel as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the active compression level.

See also [GetCompressionLevel](#) function in DynaPDF manual.

### 3.40.320 GetContent as string

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function returns a pointer to the content stream of the currently open page or template.

**Notes:** The result string has no encoding set.

See also [GetContent](#) function in DynaPDF manual.

### 3.40.321 GetDefBitsPerPixel as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns default color depth in bits per pixel, which determines whether images should be down sampled.

See also [GetDefBitsPerPixel](#) function in DynaPDF manual.

### 3.40.322 GetDescent as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the descender of the active font.

See also [GetDescent](#) function in DynaPDF manual.

### 3.40.323 GetDocInfo(dinfo as Integer) as string

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function retrieves a document info entry as Unicode string.

**Notes:** The result is an unicode string.

See also [GetDocInfo](#) function in DynaPDF manual.

### 3.40.324 GetDocInfoCount as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the number of document info entries defined in the document.  
See also [GetDocInfoCount](#) function in DynaPDF manual.

### 3.40.325 GetDocInfoEx(index as Integer, byref DInfo as Integer, byref key as string, byref value as string) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns a document info entry.  
**Notes:** Key is an ascii string and value an unicode string.  
See also [GetDocInfoEx](#) function in DynaPDF manual.

### 3.40.326 GetDocumentColorSpaces as DynaPDFColorSpaceMBS()

Plugin Version: 16.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries Colorspace objects for all colorspace in the current working document.

### 3.40.327 GetDocUsesTransparency(Flags as UInt32 = 0) as boolean

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Checks whether this document uses transparency.  
**Notes:** Checks whether a PDF file uses native PDF Transparency (PDF 1.4). The file uses transparency when it contains soft masks, blend modes other than Normal, or fill or stroke alpha values smaller than 1.0. The function checks all pages, templates, extended graphics states, images, annotations, and form fields. If the file uses transparency the return value is true. If it uses no transparency the return value is false.  
See also [GetDocUsesTransparency](#) function in DynaPDF manual.

### 3.40.328 GetDrawDirection as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the actual draw direction for closed vector graphics such as rectangles, circles, ellipses and so on.  
See also [GetDrawDirection](#) function in DynaPDF manual.

**3.40.329 GetDynaPDFVersion as string**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the version string of DynaPDF.

**Notes:** Result is an ASCII string.

See also [GetDynaPDFVersion](#) function in DynaPDF manual.

**3.40.330 GetEmbeddedFile(Handle as Integer, byref FileSpec as DynaPDFFileSpecMBS, Decompress as boolean) as boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function retrieves the most important properties of an embedded file as well as a pointer to the file buffer.

**Example:**

```
// new PDF Environment
dim pdf as new MyDynaPDFMBS
call pdf.CreateNewPDF nil

// import PDF file
dim f as FolderItem = SpecialFolder.Desktop.Child("Create PDF with hidden data.pdf")
call pdf.SetImportFlags(pdf.kifImportAll + pdf.kifImportAsPage)
call pdf.OpenImportFile(f)
call pdf.ImportPDFFile(1)

// walk over list of embedded files and get their data
dim c as Integer = pdf.GetEmbeddedFileCount
for i as Integer = 0 to c-1
dim e as DynaPDFFileSpecMBS
if pdf.GetEmbeddedFile(i, e, true) then
dim data as string = e.Buffer

Break
end if
next

// cleanup
call pdf.CloseFile
```

See also [GetEmbeddedFile](#) function in DynaPDF manual.

### 3.40.331 GetEmbeddedFileCount as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the number of embedded files available in the PDF file.

**Example:**

```
// new PDF Environment
dim pdf as new MyDynaPDFMBS
call pdf.CreateNewPDF nil

// import PDF file
dim f as FolderItem = SpecialFolder.Desktop.Child("Create PDF with hidden data.pdf")
call pdf.SetImportFlags(pdf.kifImportAll + pdf.kifImportAsPage)
call pdf.OpenImportFile(f)
call pdf.ImportPDFFile(1)

// walk over list of embedded files and get their data
dim c as Integer = pdf.GetEmbeddedFileCount
for i as Integer = 0 to c-1
dim e as DynaPDFFileSpecMBS
if pdf.GetEmbeddedFile(i, e, true) then
dim data as string = e.Buffer

Break
end if
next

// cleanup
call pdf.CloseFile
```

See also [GetEmbeddedFileCount](#) function in DynaPDF manual.

### 3.40.332 GetEMFPatternDistance as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns the distance between lines of standard patterns during EMF conversion.

See also [GetEMFPatternDistance](#) function in DynaPDF manual.

### 3.40.333 GetErrLogMessage(index as Integer) as DynaPDFErrorMBS

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries the error message details for the given index.

**Notes:** Index from 0 to GetErrLogMessageCount-1.

See also [GetErrLogMessage](#) function in DynaPDF manual.

### 3.40.334 GetErrLogMessageCount as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns the number of error log messages.

See also [GetErrLogMessageCount](#) function in DynaPDF manual.

### 3.40.335 GetErrorMessage as string

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the last error message as a string, or "" if no error occurred.

See also [GetErrorMessage](#) function in DynaPDF manual.

### 3.40.336 GetErrorMode as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the current error mode.

See also [GetErrorMode](#) function in DynaPDF manual.

### 3.40.337 GetField(index as Integer) as DynaPDFFieldMBS

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use GetFieldEx instead.

**Function:** The function retrieves the most important properties of a field.

See also [GetField](#) function in DynaPDF manual.

### 3.40.338 GetFieldBackColor as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the default background color used for newly created interactive form fields.

See also [GetFieldBackColor](#) function in DynaPDF manual.

### 3.40.339 GetFieldBorderColor as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the default border color used for newly created interactive form fields. See also [GetFieldBorderColor](#) function in DynaPDF manual.

### 3.40.340 GetFieldBorderStyle(Field as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the border style of a specific form field. See also [GetFieldBorderStyle](#) function in DynaPDF manual.

### 3.40.341 GetFieldBorderWidth(aField as Integer) as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the line width of the border of a field. See also [GetFieldBorderWidth](#) function in DynaPDF manual.

### 3.40.342 GetFieldCalcOrder as UInt32()

Plugin Version: 19.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries field calculation order.

**Notes:** Retrieves the calculation order of form fields which contain an action in the OnCalc event (see [AddActionToObj\(\)](#) for further information). This is the order in which their values will be recalculated when the value of any field changes. The retrieved array values are field handles.

To change the calculation order of a specific field call [SetFieldCalcOrder\(\)](#). See also [GetFieldCalcOrder](#) function in DynaPDF manual.

### 3.40.343 GetFieldChoiceValue(Field as Integer, ValIndex as Integer) as DynaPDFChoiceValueMBS

Plugin Version: 10.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries the choice values for this field.

See also [GetFieldChoiceValue](#) function in DynaPDF manual.

### 3.40.344 GetFieldColor(Field as Integer, ColorType as Integer, byref ColorSpace as Integer, byref ColorValue as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function retrieves a specific color of an interactive form field.  
See also [GetFieldColor](#) function in DynaPDF manual.

### 3.40.345 GetFieldCount as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the number of fields contained in the document.  
See also [GetFieldCount](#) function in DynaPDF manual.

### 3.40.346 GetFieldEx(index as Integer) as DynaPDFFieldExMBS

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the most important properties of a field.

**Example:**

```
dim pdf as new MyDynaPDFMBS

pdf.SetLicenseKey "Lite" // For this example you can use a Lite, Pro or Enterprise License

call pdf.CreateNewPDF(nil)
call pdf.SetImportFlags(BitwiseOr(pdf.kifImportAll, pdf.kifImportAsPage))

dim filePath as FolderItem=SpecialFolder.Desktop.Child("acroform.pdf")
if (pdf.OpenImportFile(filePath, pdf.kptOpen, "") <0) then
  MsgBox "Input file """"+filePath.name+"""" not found!"
  quit
end if

// import all pages
dim r as Integer = pdf.ImportPDFFile( 1, 1.0, 1.0)

// now check all fields
dim n as Integer = pdf.GetFieldCount
for i as Integer = 0 to n-1
  dim f as DynaPDFFieldExMBS = pdf.GetFieldEx(i)

break // inspect in debugger
next
```

**Notes:** See `dynapdf_help.pdf` for more details.  
See also [GetFieldEx](#) function in DynaPDF manual.

### 3.40.347 GetFieldExpValCount(Field as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the number of values/export values which are defined for a field.  
See also [GetFieldExpValCount](#) function in DynaPDF manual.

### 3.40.348 GetFieldExpValue(Field as Integer) as string

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function retrieves the export value(s) of a check box, list box, or combo box.  
See also [GetFieldExpValue](#) function in DynaPDF manual.

### 3.40.349 GetFieldExpValueEx(Field as Integer, ValIndex as Integer, byref Value as string, byref ExpValue as string, byref Selected as boolean) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function can be used to enumerate the choice values of a combo box, list box, or radio button.  
See also [GetFieldExpValueEx](#) function in DynaPDF manual.

### 3.40.350 GetFieldFlags(Field as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the flags of a specific interactive form field.  
See also [GetFieldFlags](#) function in DynaPDF manual.

### 3.40.351 GetFieldGroupType(Field as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the base type of a field group.  
See also [GetFieldGroupType](#) function in DynaPDF manual.

### 3.40.352 GetFieldHighlightMode(Field as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the highlight mode of buttons, checkboxes, and signature fields.  
See also [GetFieldHighlightMode](#) function in DynaPDF manual.

### 3.40.353 GetFieldIndex(Field as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the index or tab order of the field.  
See also [GetFieldIndex](#) function in DynaPDF manual.

### 3.40.354 GetFieldMapName(Field as Integer) as string

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function retrieves the mapping name of a specific form field if set.  
**Notes:** The result string is in unicode or ASCII encoding.  
See also [GetFieldMapName](#) function in DynaPDF manual.

### 3.40.355 GetFieldName(Field as Integer) as string

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function retrieves the name of a specific interactive form field.  
See also [GetFieldName](#) function in DynaPDF manual.

### 3.40.356 GetFieldOrientation(Field as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the orientation of a field.  
See also [GetFieldOrientation](#) function in DynaPDF manual.

### 3.40.357 GetFieldTextAlign(Field as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the text alignment of a text field or button field.  
See also [GetFieldTextAlign](#) function in DynaPDF manual.

### 3.40.358 GetFieldTextColor as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the default text color used for newly created fields.  
See also [GetFieldTextColor](#) function in DynaPDF manual.

### 3.40.359 GetFieldToolTip(Field as Integer) as string

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function retrieves a pointer to the tool tip string of a specific interactive form field.  
**Notes:** The result string has either unicode or ascii encoding.  
See also [GetFieldToolTip](#) function in DynaPDF manual.

### 3.40.360 GetFieldType(Field as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the field type.  
See also [GetFieldType](#) function in DynaPDF manual.

### 3.40.361 GetFillColor as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the current color used for fillings.  
See also [GetFillColor](#) function in DynaPDF manual.

**3.40.362 GetFontCount as Integer**

Plugin Version: 8.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries the font count.

See also [GetFontCount](#) function in DynaPDF manual.

**3.40.363 GetFontEx(index as Integer) as DynaPDFFontMBS**

Plugin Version: 8.5, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use [GetFontInfo](#) instead.

**Function:** Queries the font information for the font specified by the index value.

**Example:**

```
// create PDF object with page
dim pdf as new DynaPDFMBS
call pdf.CreateNewPDF(nil)
call pdf.Append

// draw some text
call pdf.SetFont "Times", pdf.kfsItalic, 40.0, true, pdf.kcp1252
call pdf.WriteFText pdf.ktaCenter, "My first Xojo output!"

// and list all fonts:
dim n as Integer = pdf.GetFontCount-1

for i as Integer = 0 to n
  MsgBox pdf.GetFontEx(i).FontName
next
```

**Notes:** Returns nil on any error.

Index from 0 to [GetFontCount](#)-1.

See also [GetFontEx](#) function in DynaPDF manual.

**3.40.364 GetFontInfoEx(index as Integer) as DynaPDFFontInfoMBS**

Plugin Version: 14.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Retrieves the most important properties of a font.

**Notes:** This function accepts a font handle instead. A font handle is a simple array index. To enumerate all fonts of a document execute the function in a loop from zero to [GetFontCount](#) - 1.

If the function succeeds the return value is font info object. If the function fails the return value is nil.  
See also [GetFontInfoEx](#) function in DynaPDF manual.

### 3.40.365 GetFontMetrics(FontHandle as Integer) as DynaPDFFontMetricsMBS

Plugin Version: 19.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries font metrics for a font handle.  
See also [GetFontMetrics](#) function in DynaPDF manual.

### 3.40.366 GetFontOrigin as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the current font origin.  
See also [GetFontOrigin](#) function in DynaPDF manual.

### 3.40.367 GetFontSearchOrder as Integer()

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns the font search order.  
**Notes:** The values in the array use this constants:

kfbtTrueType	TrueType, TrueType Collections, or OpenType fonts with TrueType outlines
kfbtType1	Type1 font
kfbtOpenType	OpenType font with Postscript outlines
kfbtStdFont	PDF Standard font
kfbtDisabled	This value can be used to disable a specific font format.

The array has 4 values.  
See also [GetFontSearchOrder](#) function in DynaPDF manual.

### 3.40.368 GetFontSelMode as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the current font selection mode.  
See also [GetFontSelMode](#) function in DynaPDF manual.

### 3.40.369 GetFontWeight as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the weight that will be used to emulate a bold font style.  
See also [GetFontWeight](#) function in DynaPDF manual.

### 3.40.370 GetFTextHeight(Align as Integer, aText as string) as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function measures the height of a formatted text block.

**Notes:** The text parameter is converted to unicode.

See also [GetFTextHeight](#) function in DynaPDF manual.

### 3.40.371 GetFTextHeightAnsi(Align as Integer, aText as string) as Double

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function measures the height of a formatted text block.

**Notes:** The text parameter is converted to ANSI.

### 3.40.372 GetFTextHeightEx(Width as Double, Align as Integer, aText as string) as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function measures the height of a formatted text block.

**Notes:** The text parameter is converted to unicode.

See also [GetFTextHeightEx](#) function in DynaPDF manual.

### 3.40.373 GetFTextHeightExAnsi(Width as Double, Align as Integer, aText as string) as Double

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function measures the height of a formatted text block.

**Notes:** The text parameter is converted to ANSI.

### 3.40.374 GetGlyphIndex(Index as UInt32) as Integer

Plugin Version: 16.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the glyph index of the given code page or Unicode index.

**Notes:** How Index must be defined depends on the code page with which the font was loaded. For example, if the font was loaded with a 8 bit code page, then indexes below 256 are treated as index into the code page table. Higher indexes are treated as Unicode value in this case. Note that all Unicode encoded glyphs of the font are accessible in this case, also if the font was loaded with a 8 bit code page!

At time of publication the function does not support CJK code pages which require a conversion to Unicode, e.g. cpCJK\_Big5\_Uni, cpCJK\_EUC\_JP\_Uni, and so on.

If the function succeeds the return value is greater or equal zero. If the function fails the return value is a negative error code.

See also [GetGlyphIndex](#) function in DynaPDF manual.

### 3.40.375 GetGlyphOutline(Index as UInt32) as DynaPDFGlyphOutlineMBS

Plugin Version: 16.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the outline of a glyph of the active font.

**Notes:** Note that not all glyphs have an outline. A space character, for example, has no outline and therefore the size can be zero. The function returns normalized outlines scaled to a font size of 1000 units.

Please see `dynapdf_help.pdf` and our example project on how to process the outline data.

See also [GetGlyphOutline](#) function in DynaPDF manual.

### 3.40.376 GetGoToAction(index as Integer, Decompress as Boolean = false, ImageParseFlags as Integer = &h00000080) as DynaPDFGoToActionMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries details for a GoToR action.

**Notes:** Index is from 0 to GetActionCount-1.

If Decompress is true, all file specification containing compressed data are uncompressed. And ImageParseFlags defines how GetImageObj is called internally to decompress image. Default is to only get image info, but you can pass other values to actually get image data. See also [GetGoToAction](#) function in DynaPDF manual.

### 3.40.377 GetGoToRAction(index as Integer, Decompress as Boolean = false, ImageParseFlags as Integer = &h00000080) as DynaPDFGoToActionMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries details for a GoTo action.

**Notes:** Index is from 0 to GetActionCount-1.

If Decompress is true, all file specification containing compressed data are uncompressed. And ImageParseFlags defines how GetImageObj is called internally to decompress image. Default is to only get image info, but you can pass other values to actually get image data. See also [GetGoToAction](#) function in DynaPDF manual.

### 3.40.378 GetGStateFlags as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the current graphics state flags.

See also [GetGStateFlags](#) function in DynaPDF manual.

### 3.40.379 GetHideAction(index as Integer) as DynaPDFHideActionMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries details for a hide action.

**Notes:** Index is from 0 to GetActionCount-1.

See also [GetHideAction](#) function in DynaPDF manual.

### 3.40.380 GetIconColor as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the icon color used for newly created text annotations.

See also [GetIconColor](#) function in DynaPDF manual.

### 3.40.381 GetImageBuffer as string

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns the image buffer.

See also [GetImageBuffer](#) function in DynaPDF manual.

### 3.40.382 GetImageBufferMemory as memoryblock

Plugin Version: 13.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns the image buffer.

### 3.40.383 GetImageCount(File as folderitem) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the number of images contained in a multi page image.

See also [GetImageCount](#) function in DynaPDF manual.

See also:

- 3.40.384 [GetImageCount\(Path as string\) as Integer](#) 356

### 3.40.384 GetImageCount(Path as string) as Integer

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the number of images contained in a multi page image.

See also [GetImageCount](#) function in DynaPDF manual.

See also:

- 3.40.383 [GetImageCount\(File as folderitem\) as Integer](#) 356

### 3.40.385 GetImageCountEx(Buffer as Memoryblock) as Integer

Plugin Version: 13.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function determines the number of images in a multi-page image in the same way as [GetImageCount\(\)](#), but accepts a file buffer as input.

See also [GetImageCountEx](#) function in DynaPDF manual.

See also:

- 3.40.386 `GetImageCountEx(Buffer as string)` as Integer 357

### 3.40.386 `GetImageCountEx(Buffer as string)` as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function determines the number of images in a multi-page image in the same way as `GetImageCount()`, but accepts a file buffer as input.

See also [GetImageCountEx](#) function in DynaPDF manual.

See also:

- 3.40.385 `GetImageCountEx(Buffer as Memoryblock)` as Integer 356

### 3.40.387 `GetImageHeight(Handle as Integer)` as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the height of an image in pixel.

See also [GetImageHeight](#) function in DynaPDF manual.

### 3.40.388 `GetImageObj(Handle as UInt32, Flags as Integer = 0)` as `DynaPDFImageMBS`

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function retrieves the properties of an image as well as the decompressed image buffer if needed.

**Notes:** For the flags use the constants: `kpfNone`, `kpfDecomprAllImages`, `kpfNoJPXDcode`, `kpfDitherImagesToBW`, `kpfConvImagesToGray`, `kpfConvImagesToRGB`, `kpfConvImagesToCMYK` or `kpfImageInfoOnly`.

By default all images are returned decompressed, with exception of image types which are already stored in a valid file format like JPEG and JPEG 2000 images.

If all image types should be decompressed set the flag `kpfDecompressAllImages`.

This function allocates memory that should be released with `FreeImageObj` when finish.

Image handles are simple array indexes. The number of image objects can be determined with `GetImageObjCount`. Note that this array does not include inline images which are stored in content streams. Such images can only be accessed with `ParseContent()`.

Returns the function succeeds the return value is true. If the function fails the return value is false.

See also [GetImageObj](#) function in DynaPDF manual.

### 3.40.389 GetImageObjCount as Integer

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns the number of image objects which were loaded with DynaPDF functions or imported from external PDF files.

**Notes:** The images can be accessed with GetImageObj().

The return value is the number of image objects. This function cannot fail.

See also [GetImageObjCount](#) function in DynaPDF manual.

### 3.40.390 GetImageWidth(Handle as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the width of an image in pixel.

See also [GetImageWidth](#) function in DynaPDF manual.

### 3.40.391 GetImportDataAction(index as Integer, Decompress as Boolean = false, ImageParseFlags as Integer = &h00000080) as DynaPDFImportDataActionMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries details for an import action.

**Notes:** Index is from 0 to GetActionCount-1.

If Decompress is true, all file specification containing compressed data are uncompressed.

And ImageParseFlags defines how GetImageObj is called internally to decompress image. Default is to only get image info, but you can pass other values to actually get image data.

See also [GetImportDataAction](#) function in DynaPDF manual.

### 3.40.392 GetImportFlags as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the current import flags used to import PDF files.

See also [GetImportFlags](#) function in DynaPDF manual.

### 3.40.393 GetImportFlags2 as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries import flags 2.

See also [GetImportFlags2](#) function in DynaPDF manual.

### 3.40.394 GetInBBox(PageNum as Integer, Boundary as Integer) as DynaPDFRectMBS

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function retrieves a bounding box of an external PDF page.

**Example:**

```
dim pdf as new MyDynaPDFMBS

// open some PDF
call pdf.CreateNewPDF(nil)
call pdf.OpenImportFile(file, 0, "")

// query page size
dim bounds as DynaPDFRectMBS = pdf.GetInBBox(1, pdf.kpbMediaBox)
```

See also [GetInBBox](#) function in DynaPDF manual.

### 3.40.395 GetInDocInfo(DInfo as Integer, byref value as string) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function retrieves a document info entry from an external PDF file as Unicode string.

See also [GetInDocInfo](#) function in DynaPDF manual.

### 3.40.396 GetInDocInfoCount as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the number of available document info entries of the currently opened import file or a negative error code on failure.

See also [GetInDocInfoCount](#) function in DynaPDF manual.

### 3.40.397 GetInDocInfoEx(index as Integer, byref DInfo as Integer, byref key as string, byref value as string) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns a document info entry from the currently opened import file.

**Example:**

```

dim p as new DynaPDFMBS

call p.CreateNewPDF(nil)

// Skip anything that is not required
call p.SetImportFlags p.kifImportAll+p.kifImportAsPage

// From which PDF file do you want to extract the information?
call p.OpenImportFile(file, p.kptOpen, "")

// lookup all document information

dim count as integer = p.GetInDocInfoCount
for i as integer = 0 to count-1

    dim DInfo as integer
    dim key as string
    dim value as string
    if p.GetInDocInfoEx(i, DInfo, key, value) >= 0 then

        dim Type as string
        select case dinfo
        case p.kdiAuthor
            type = "Author"
        case p.kdiCreator
            type = "Creator"
        case p.kdiKeywords
            type = "Keywords"
        case p.kdiProducer
            type = "Producer"
        case p.kdiSubject
            type = "Subject"
        case p.kdiTitle
            type = "Title"
        case p.kdiCompany
            type = "Company"
        case p.kdiPDFX_Ver
            type = "PDF/X Version"
        case p.kdiCustom
            type = "Custom"
    
```

```

case p.kdiPDFX_Conf
type = "PDF/X Config"
case p.kdiCreationDate
type = "Creation Date"
case p.kdiModDate
type = "Modification Date"
else
Break
type = "?"
end Select

List.AddRow type, key, value
end if

next

// close import file
call p.CloseImportFile

```

**Notes:** The key result is an ASCII string.  
The value result is an ASCII or Unicode string.  
See also [GetInDocInfoEx](#) function in DynaPDF manual.

### 3.40.398 GetInEncryptionFlags as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the encryption flags of the currently opened import file.  
See also [GetInEncryptionFlags](#) function in DynaPDF manual.

### 3.40.399 GetInFieldCount as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns number of field in open import file.  
See also [GetInFieldCount](#) function in DynaPDF manual.

### 3.40.400 GetInIsCollection as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function checks whether the currently opened import file is a portable collection.

**Notes:** Changed to integer in order to allow returning error codes besides 0 for false and 1 for true.

See also [GetInIsCollection](#) function in DynaPDF manual.

### 3.40.401 GetInIsEncrypted as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function checks whether the currently opened import file is encrypted.

**Notes:** Changed to integer in order to allow returning error codes besides 0 for false and 1 for true.

See also [GetInIsEncrypted](#) function in DynaPDF manual.

### 3.40.402 GetInIsSigned as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function can be used to determine whether a PDF file contains a digital signature.

**Notes:** Changed to integer in order to allow returning error codes besides 0 for false and 1 for true.

See also [GetInIsSigned](#) function in DynaPDF manual.

### 3.40.403 GetInIsTaggedPDF as integer

Plugin Version: 21.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether the currently open import file is a Tagged PDF file.

**Notes:** The PDF file must be opened beforehand with `OpenImportFile()` or `OpenImportBuffer()`. The return value is a set flags indicating the tagging status of the file.

If the function succeeds, the return value is greater or equal zero. If the function fails, the return value is a negative error code.

See also [GetInIsTaggedPDF](#) function in DynaPDF manual.

### 3.40.404 GetInIsTrapped as Integer

Plugin Version: 10.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether the input PDF is trapped.

**Notes:** Changed to integer in order to allow returning error codes besides 0 for false and 1 for true.

See also [GetInIsTrapped](#) function in DynaPDF manual.

### 3.40.405 GetInIsXFAForm as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether the input PDF is a XFA form.

**Notes:** Changed to integer in order to allow returning error codes besides 0 for false and 1 for true.

See also [GetInIsXFAForm](#) function in DynaPDF manual.

### 3.40.406 GetInMetadata(PageNum as Integer) as String

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Access the optional metadata streams of pages or the global metadata stream of the current open import file.

**Notes:** Metadata streams are in XMP format that is a superset of XML. The PDF file must be opened with `OpenImportImportFile` or `OpenImportBuffer` beforehand.

Although the global XMP stream does usually exist in todays PDF files, metadata streams are optional and maybe not present. The function returns true if no error occurs, also if no metadata stream is present.

See also [GetInMetadata](#) function in DynaPDF manual.

### 3.40.407 GetInOrientation(PageNum as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the orientation of a specific page within the currently open import file (see also `OpenImportFile()`).

See also [GetInOrientation](#) function in DynaPDF manual.

### 3.40.408 GetInPageCount as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the number of pages contained in an external PDF file.

See also [GetInPageCount](#) function in DynaPDF manual.

### 3.40.409 GetInPDFVersion as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the minor PDF version number of an external PDF file.

See also [GetInPDFVersion](#) function in DynaPDF manual.

### 3.40.410 GetInPDFVersionEx as DynaPDFVersionInfoMBS

Plugin Version: 21.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function retrieves the version information of the currently open import file.

See also [GetInPDFVersionEx](#) function in DynaPDF manual.

### 3.40.411 GetInPrintSettings as DynaPDFPrintSettingsMBS

Plugin Version: 8.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries the print settings for the imported document.

**Notes:** This is a PDF 1.7 extension.

See also [GetInPrintSettings](#) function in DynaPDF manual.

### 3.40.412 GetInRepairMode as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function can be used to determine whether the current open import file was opened in repair or normal mode.

**Notes:** Changed to integer in order to allow returning error codes besides 0 for false and 1 for true. See also [GetInRepairMode](#) function in DynaPDF manual.

### 3.40.413 GetIsFixedPitch as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns 1 if the active font is a fixed pitch font or 0 if the font is a variable pitch font.

**Notes:** Changed to integer in order to allow returning error codes besides 0 for false and 1 for true. See also [GetIsFixedPitch](#) function in DynaPDF manual.

### 3.40.414 GetIsTaggingEnabled as boolean

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether tagging is enabled.

See also [GetIsTaggingEnabled](#) function in DynaPDF manual.

### 3.40.415 GetItalicAngle as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the italic angle in degrees that will be used to emulate italic style fonts.

See also [GetItalicAngle](#) function in DynaPDF manual.

### 3.40.416 GetJavaScript(Handle as Integer) as string

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns a global JavaScript as string.

**Notes:** The result text string has either unicode or ASCII encoding.

You can use JavaScriptEngineMBS class to execute JavaScript without HTMLViewer in our own cross platform JavaScript engine.

If the JavaScript is attached to a field, please use GetFieldEx functions to get the action handle (DynaPDFFieldExMBS.Action) and then use GetJavaScriptAction instead.

See also [GetJavaScript](#) function in DynaPDF manual.

### 3.40.417 GetJavaScriptAction(Handle as Integer) as string

Plugin Version: 8.5, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use `GetJavaScriptActionEx` instead. **Function:** Returns a java script action value for the given handle.

**Notes:** May return an unicode string.

See also [GetJavaScriptAction](#) function in DynaPDF manual.

See also:

- 3.40.418 `GetJavaScriptAction(ObjType as Integer, ObjHandle as Integer, ActIndex as Integer, byref ObjEvent as Integer) as string` 366

### 3.40.418 GetJavaScriptAction(ObjType as Integer, ObjHandle as Integer, ActIndex as Integer, byref ObjEvent as Integer) as string

Plugin Version: 8.5, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use `GetJavaScriptActionEx` instead. **Function:** Returns a java script action value for the given object.

**Notes:** May return an unicode string.

The `ObjEvent` parameter was added in plugin version 9.3 and contains a value from the `koe*` constants.

See also [GetJavaScriptAction](#) function in DynaPDF manual.

See also:

- 3.40.417 `GetJavaScriptAction(Handle as Integer) as string` 366

### 3.40.419 GetJavaScriptActionEx(index as Integer) as DynaPDFJavaScriptActionMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries details for an javascript action.

**Notes:** Index is from 0 to `GetActionCount-1`.

See also [GetJavaScriptActionEx](#) function in DynaPDF manual.

### 3.40.420 GetJavaScriptCount as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the number of global JavaScripts contained in a document.  
See also [GetJavaScriptCount](#) function in DynaPDF manual.

### 3.40.421 GetJavaScriptEx(Name as string) as string

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns a global JavaScript as string by using the script s name instead of a handle to identify the script.

**Notes:** The result string is an unicode or an ASCII string.

You can use JavaScriptEngineMBS class to execute JavaScript without HTMLViewer in our own cross platform JavaScript engine.

If the JavaScript is attached to a field, please use GetFieldEx functions to get the action handle (DynaPDFFieldExMBS.Action) and then use GetJavaScriptAction instead.  
See also [GetJavaScriptEx](#) function in DynaPDF manual.

### 3.40.422 GetJavaScriptName(Handle as Integer) as string

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the name of a global JavaScript.

**Notes:** The result string has either unicode or ASCII encoding.

See also [GetJavaScriptName](#) function in DynaPDF manual.

### 3.40.423 GetJPEGQuality as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the current JPEG compression quality in percent used for newly inserted images which are compressed with JPEG.

See also [GetJPEGQuality](#) function in DynaPDF manual.

### 3.40.424 GetJPEGVersion as String

Plugin Version: 17.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries JPEG library version.

**Notes:** Currently reporting 9.1 for version 9b.

### 3.40.425 GetLanguage as string

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the language identifier of the document as an ISO 3166 language tag or IANA tag, or "" if not set.

See also [GetLanguage](#) function in DynaPDF manual.

### 3.40.426 GetLastTextOffset as UInt32

Plugin Version: 23.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns current text offset for WriteFText.

**Notes:** This lets you know how much text is left to write when you get a page break event.

### 3.40.427 GetLastTextPosX as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the x coordinate of the last printed text.

### 3.40.428 GetLastTextPosY as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the y coordinate of the last printed text.

### 3.40.429 GetLaunchAction(index as Integer, Decompress as Boolean = false, ImageParseFlags as Integer = &h00000080) as DynaPDFLaunchActionMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries details for a launch action.

**Notes:** Index is from 0 to GetActionCount-1.

If Decompress is true, all file specification containing compressed data are uncompressed.

And ImageParseFlags defines how GetImageObj is called internally to decompress image. Default is to only

get image info, but you can pass other values to actually get image data.  
See also [GetLaunchAction](#) function in DynaPDF manual.

### 3.40.430 GetLayerConfig(Index as Integer) as DynaPDFOCLayerConfigMBS

Plugin Version: 17.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Retrieves the most important properties of a layer configuration.

**Notes:** A PDF file can contain one or more layer configurations so that different layers can be initially shown or hidden.

A PDF file that contains layers (Optional Content Groups in PDF syntax) contains usually at least a default configuration dictionary. This configuration is loaded by default when the visibility state of a layer or optional content group must be determined, e.g. when rendering a page.

To determine the number of available configurations call `GetLayerConfigCount()`. The first index is denoted by 0.

If the function succeeds the return value is the object. If the function fails the return value is nil.

See also [GetLayerConfig](#) function in DynaPDF manual.

### 3.40.431 GetLayerConfigCount as Integer

Plugin Version: 17.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns the number of available layer configurations.

**Notes:** Note that it is possible that a document contains layers but no layer configuration. To determine whether a document contains layers or optional content groups use `GetOCGCount()`.

To load a specific layer configuration call `LoadLayerConfig()`.

See also [GetLayerConfigCount](#) function in DynaPDF manual.

### 3.40.432 GetLeading as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the current leading.

See also [GetLeading](#) function in DynaPDF manual.

### 3.40.433 GetLineCapStyle as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the current line cap style used for vector graphics.  
See also [GetLineCapStyle](#) function in DynaPDF manual.

### 3.40.434 GetLineJoinStyle as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the current line join style used for vector graphics.  
See also [GetLineJoinStyle](#) function in DynaPDF manual.

### 3.40.435 GetLineWidth as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the current line width used for stroked vector graphics and the border of interactive objects.  
See also [GetLineWidth](#) function in DynaPDF manual.

### 3.40.436 GetLinkHighlightMode as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the current highlight mode used for newly created annotations.  
See also [GetLinkHighlightMode](#) function in DynaPDF manual.

### 3.40.437 GetLogMetafileSize(FileName as folderitem) as DynaPDFRectMBS

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function retrieves the logical bounding box of an enhanced or Windows metafile.  
See also [GetLogMetafileSize](#) function in DynaPDF manual.

### 3.40.438 GetLogMetafileSizeEx(Buffer as Memoryblock) as DynaPDFRectMBS

Plugin Version: 13.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function retrieves the logical bounding box of an enhanced or Windows metafile.  
See also [GetLogMetafileSizeEx](#) function in DynaPDF manual.  
See also:

3.40. CLASS DYNAPDFMBS 371

- 3.40.439 GetLogMetafileSizeEx(Buffer as string) as DynaPDFRectMBS 371

### 3.40.439 GetLogMetafileSizeEx(Buffer as string) as DynaPDFRectMBS

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function retrieves the logical bounding box of an enhanced or Windows metafile.  
See also [GetLogMetafileSizeEx](#) function in DynaPDF manual.  
See also:

- 3.40.438 GetLogMetafileSizeEx(Buffer as Memoryblock) as DynaPDFRectMBS 370

### 3.40.440 GetMatrix(byref Matrix as DynaPDFMatrixMBS) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function retrieves the current transformation.  
See also [GetMatrix](#) function in DynaPDF manual.

### 3.40.441 GetMaxFieldLen(TxtField as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the allowed maximum string length of a text field, or zero if the length is not restricted.  
See also [GetMaxFieldLen](#) function in DynaPDF manual.

### 3.40.442 GetMetaConvFlags as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the conversion flags used to convert enhanced metafiles to PDF.  
See also [GetMetaConvFlags](#) function in DynaPDF manual.

### 3.40.443 GetMetadata(ObjType as Integer, Handle as Integer) as String

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function can be used to access the optional metadata streams of pages, fonts, images, pages, templates, as well as the global metadata stream that is associated with the Catalog object.  
**Notes:** Metadata streams are in XMP format that is a superset of XML.

The global metadata stream will be created when this function is called. The returned stream is a preview of the XMP stream that will be stored in the file when `CloseFile` or `CloseFileEx` is called. Note that the creation and modification date will be updated when the file is closed.

The original global XMP stream of external PDF files can be accessed with `GetInMetadata()`.

Metadata streams are optional and maybe not present. The function returns true if no error occurs, also if no metadata stream is present.

See also [GetMetadata](#) function in DynaPDF manual.

#### 3.40.444 GetMissingGlyphs as UInt32()

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns an array with missing glyphs.

**Notes:** See also `GetMissingGlyphsString`.

See also [GetMissingGlyphs](#) function in DynaPDF manual.

#### 3.40.445 GetMissingGlyphsString as String

Plugin Version: 12.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns a string containing the missing glyphs characters.

**Notes:** This is a convenience function which builds a string from the array given by `pdfGetMissingGlyphs`.

See also `GetMissingGlyphs`.

#### 3.40.446 GetMiterLimit as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the current miter limit used to draw stroked vector graphics.

See also [GetMiterLimit](#) function in DynaPDF manual.

#### 3.40.447 GetMovieAction(index as Integer, Decompress as Boolean = false, ImageParseFlags as Integer = &h00000080) as DynaPDFFieldMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries details for a movie action.

**Notes:** Index is from 0 to `GetActionCount-1`.

If Decompress is true, all file specification containing compressed data are uncompressed. And ImageParseFlags defines how GetImageObj is called internally to decompress image. Default is to only get image info, but you can pass other values to actually get image data. See also [GetMovieAction](#) function in DynaPDF manual.

### 3.40.448 GetNamedAction(index as Integer) as DynaPDFNamedActionMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries details for a named action.

**Notes:** Index is from 0 to GetActionCount-1.

See also [GetNamedAction](#) function in DynaPDF manual.

### 3.40.449 GetNamedDest(index as Integer) as DynaPDFNamedDestMBS

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries information about the named destination with the given index.

**Notes:** Index from 0 to GetNamedDestCount-1.

Returns nil on any error.

See also [GetNamedDest](#) function in DynaPDF manual.

### 3.40.450 GetNamedDestCount as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries number of named destination objects.

See also [GetNamedDestCount](#) function in DynaPDF manual.

### 3.40.451 GetNeedAppearance as boolean

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether appearance is needed.

See also [GetNeedAppearance](#) function in DynaPDF manual.

### 3.40.452 `GetObjActionCount(ObjType as Integer, ObjHandle as Integer) as Integer`

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use `GetObjActions` instead.

**Function:** The function returns the number of actions used by an object.

See also [GetObjActionCount](#) function in DynaPDF manual.

### 3.40.453 `GetObjActions(ObjType as Integer, ObjHandle as Integer, byref Actions as DynaPDFObjActionsMBS) as Integer`

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries details for an object action.

**Notes:** Index is from 0 to `GetActionCount-1`.

The function retrieves the first action and additional trigger events that should be executed when a specific event occurs.

If the object type is a page, then use the page number as handle.

Trigger events are supported by the global Catalog object (this is the document root), Pages, and Form Fields. All other objects do not support trigger events.

Actions are defined as a single linked list. That means one action can execute another action (if `NextAction` of that action is  $\geq 0$ ).

Note that an action can reference itself! The application must check whether an action is already in the execution list before it will be executed.

If an error occurred, the plugin returns nil.

On success, we provide the `DynaPDFObjActionsMBS` object in `Actions` parameter.

Return values:

- <0 An error occurred, e.g. due to an invalid handle.
- 0 The object contains no action or trigger event.
- 1 The object contains an action.
- 2 The object contains a trigger event.
- 3 The object contains an action and a trigger event.

See also [GetObjActions](#) function in DynaPDF manual.

### 3.40.454 GetOCG(Handle as UInt32) as DynaPDFOCGMBS

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns the properties of an OCG, also called layer.

**Notes:** An OCG handle is a simple array index. You can loop over all available OCGs from 0 to GetOCGCount - 1.

If the member HaveContUsage is true, the OCG contains a Content Usage dictionary. The contents of this dictionary can be accessed with the function GetOCGContUsage. A Content Usage dictionary contains additional information about a layer or OCG.

If the OCG is also included in an application event, this is the case if AppEvent is non-zero, then the Content Usage dictionary is used to control the visibility state of the layer. The member Categories specifies which categories control the visibility state.

Returns nil on any error.

See also [GetOCG](#) function in DynaPDF manual.

### 3.40.455 GetOCGContUsage(Handle as UInt32) as DynaPDFOCGContUsageMBS

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns the properties of the Content Usage dictionary that is associated with an OCG or layer.

**Notes:** If the OCG is not included in an application event, then the contents in this dictionary serves as pure information.

If the OCG is included in one or more application events, then these settings control also the visibility state of the OCG. The function GetOCG returns the events and categories which control the layer visibility.

If UserNamesCount is greater zero, the dictionary contains also user names. The user names can be accessed with GetOCGUsageUserName.

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Returns nil on any error.

See also [GetOCGContUsage](#) function in DynaPDF manual.

### 3.40.456 GetOCGCount as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns the number of OCGs or layers which are available in document.

**Notes:** This function cannot fail, the return value is always greater or equal zero.

See also [GetOCGCount](#) function in DynaPDF manual.

### 3.40.457 GetOCGUsageUserName(Handle as UInt32, Index as UInt32, byref Name as String) as Boolean

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns a user name of a Content Usage dictionary that is associated with an OCG or layer.

**Notes:** The function returns a pointer to the original string that is stored in the PDF file.

If the function succeeds the return value is true. If the function fails the return value is false.

See also [GetOCGUsageUserName](#) function in DynaPDF manual.

### 3.40.458 GetOCUINode(Node as Integer) as DynaPDFOCUINodeMBS

Plugin Version: 17.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Retrieves the most important properties of an Optional Content UI node (UI stands for User Interface).

**Notes:** If the PDF file was not already imported with `ImportPDFFile()` the function `ImportOCProperties()` must be called to import the global Optional Content Properties.

UI nodes are part of a layer configuration. Therefore, a layer configuration must be loaded with `LoadLayerConfig()` before the function can be called.

Optional Content Groups (OCGs) which are returned by this function should be visible in the user interface of a viewer application. All other OCGs should not be shown by default.

UI nodes are stored in a single linked list. To get the pointer of the root node set the parameter `Node` to 0. The parameter `OutNode` will be ignored in this case but it is required otherwise.

The next node of the root is in the `NextItem` property. If no further node is available the return value will be 0.

Every node can contain one or more child nodes, an optional label, or a reference to an OCG.

See also [GetOCUINode](#) function in DynaPDF manual.

### 3.40.459 GetOpacity as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the opacity value used to draw the visible appearance of an annotation (requires Acrobat 5 or higher).

See also [GetOpacity](#) function in DynaPDF manual.

### 3.40.460 GetOrientation as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the orientation of the current open page if an open page was detected or the default orientation for newly created pages if no open page was detected.  
See also [GetOrientation](#) function in DynaPDF manual.

### 3.40.461 GetOutputIntent(Index as Integer) as DynaPDFOutputIntentMBS

Plugin Version: 14.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns an output intent as well as the properties of it.

**Notes:** An output intent is an ICC profile that describes the characteristics of the output device. The profile is mostly embedded but certain standards like PDF/X 4p, for example, allow also the usage of non-embedded profiles.

The parameter Index is the array index of the output intent. To determine the number of available intents call [GetOutputIntentCount](#).

Returns nil in case of error.

See also [GetOutputIntent](#) function in DynaPDF manual.

### 3.40.462 GetOutputIntentCount as Integer

Plugin Version: 14.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns the number of available output intents.

See also [GetOutputIntentCount](#) function in DynaPDF manual.

### 3.40.463 GetPage(PageNum as UInt32) as DynaPDFPageMBS

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns the page object for the given page number.

**Notes:** If you like to open a page for editing, please use [editpage](#) function.

### 3.40.464 GetPageAnnot(index as Integer) as DynaPDFAnnotationMBS

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use [GetPageAnnotEx](#) instead.

**Function:** Retrieves the page annotation with the given index.

See also [GetPageAnnot](#) function in DynaPDF manual.

### 3.40.465 GetPageAnnotCount as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries the page annotation count.

See also [GetPageAnnotCount](#) function in DynaPDF manual.

### 3.40.466 GetPageAnnotEx(index as Integer) as DynaPDFAnnotationExMBS

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries an extended annotation with the given index.

See also [GetPageAnnotEx](#) function in DynaPDF manual.

### 3.40.467 GetPageColorSpaces as DynaPDFColorSpaceMBS()

Plugin Version: 16.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries for current open page the color spaces used.

**Notes:** Color spaces used for drawing colors (Stroke and Fill Color) and for image color space. The list may be empty if for example everything is drawn in standard color spaces like RGB.

### 3.40.468 GetPageCoords as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries the page coordinate system setting.

**Notes:** The native coordinate system of the Portable Document Format is bottom up.

See also [GetPageCoords](#) function in DynaPDF manual.

### 3.40.469 GetPageCount as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the number of pages of the current PDF file if any.

See also [GetPageCount](#) function in DynaPDF manual.

### 3.40.470 GetPageField(Index as Integer) as DynaPDFFieldMBS

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use GetPageFieldEx instead.

**Function:** The function retrieves the most important properties of a field.

See also [GetPageField](#) function in DynaPDF manual.

### 3.40.471 GetPageFieldCount as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the number of fields used by a page.

See also [GetPageFieldCount](#) function in DynaPDF manual.

### 3.40.472 GetPageFieldEx(Index as Integer) as DynaPDFFieldExMBS

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function retrieves the most important properties of a field.

**Notes:** The parameter Index must be a valid index to the page's field array. To enumerate the fields of a page execute the function in a loop from 0 to GetPageFieldCount - 1.

See also [GetPageFieldEx](#) function in DynaPDF manual.

### 3.40.473 GetPageHeight as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the height of the currently open page.

See also [GetPageHeight](#) function in DynaPDF manual.

### 3.40.474 GetPageLabel(index as Integer, byref Label as DynaPDFPageLabelMBS) as boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function retrieves the properties of a page label.

See also [GetPageLabel](#) function in DynaPDF manual.

### 3.40.475 GetPageLabelCount as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the number of page labels defined in the document.  
See also [GetPageLabelCount](#) function in DynaPDF manual.

### 3.40.476 GetPageLayout as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the page layout that is used when opening the document with Adobe's Acrobat.  
See also [GetPageLayout](#) function in DynaPDF manual.

### 3.40.477 GetPageMode as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the page mode that is used when opening the document with Adobe's Acrobat.  
See also [GetPageMode](#) function in DynaPDF manual.

### 3.40.478 GetPageNum as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the page number of the currently open page.  
See also [GetPageNum](#) function in DynaPDF manual.

### 3.40.479 GetPageText(stack as DynaPDFStackMBS) as boolean

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function can be used to extract the text of a page or template, or to find a specific text that should be replaced or deleted with the function [ReplacePageText\(\)](#) or [ReplacePageTextEx\(\)](#).  
**Notes:** [InitStack](#) must be called before you use [GetPageText](#).

If you have problems with asian characters, please make sure you use [SetCMapDir](#) and load the CMAPs.  
Requires DynaPDF Pro license.

See also [GetPageText](#) function in DynaPDF manual.

### 3.40.480 GetPageWidth as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the width of the currently open page.  
See also [GetPageWidth](#) function in DynaPDF manual.

### 3.40.481 GetPDFVersion as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the minor version of the output PDF file as Integer value.

**Notes:** Zero stand for PDF 1.0, one for PDF 1.1 and so on.

See also [GetPDFVersion](#) function in DynaPDF manual.

### 3.40.482 GetPDFVersionEx as DynaPDFVersionInfoMBS

Plugin Version: 21.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Retrieves the major and minor version of the PDF document as well as the underlying PDF standard, if any.

**Example:**

```
Dim d As New DynaPDFMBS
Dim v As DynaPDFVersionInfoMBS = d.GetPDFVersionEx
```

Break *// check in debugger*

**Notes:** Result includes:

Major	PDF major version, e.g. 1
Minor	PDF minor version, e.g. 7
MainVer	Set only if the file conforms to a specific PDF standard, e.g. "PDF/X // 1a:2003", "PDF/A 3b", and so on.
SubVer	e.g. "ZUGFeRD 2.0", "Factur-X", and so on

Returns nil in case of an error.

See also [GetPDFVersionEx](#) function in DynaPDF manual.

### 3.40.483 GetPNGVersion as String

Plugin Version: 17.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries PNG library version used in DynaPDF.

### 3.40.484 GetPrintSettings as DynaPDFPrintSettingsMBS

Plugin Version: 8.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries the print settings for the current document.

**Notes:** This is a PDF 1.7 extension.

See also [GetPrintSettings](#) function in DynaPDF manual.

### 3.40.485 GetResetAction(Handle as UInt32) as DynaPDFResetFormActionMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the properties of a Reset Form Action.

See also [GetResetAction](#) function in DynaPDF manual.

### 3.40.486 GetResolution as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the resolution in DPI (Dots per Inch), in which images are stored by DynaPDF.

See also [GetResolution](#) function in DynaPDF manual.

### 3.40.487 GetSaveNewImageFormat as boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If false, images are not downscaled if necessary.

See also [GetSaveNewImageFormat](#) function in DynaPDF manual.

### 3.40.488 GetSeparationInfo(byref Colorant as string, byref ColorSpace as Integer) as boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the separation info stored in the current open page.  
See also [GetSeparationInfo](#) function in DynaPDF manual.

### 3.40.489 GetSpaceWidth(FontHandle as Integer, FontSize as Double) as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns the width of the space character of the font depending on the font size.  
**Notes:** If the font contains no space character a default size is used to compute the space width.  
The parameter FontHandle must be a valid pointer to a PDF font. Such a reference is returned by GetPageText, EnumDocFonts, or by the content parser (see ParseContent).

Returns: If the function succeeds the return value is the space width. If the function fails the return value is zero. This function does not use the exception handling of DynaPDF. No error message is set on failure.

See also [GetSpaceWidth](#) function in DynaPDF manual.

### 3.40.490 GetStrokeColor as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the current stroke color.  
See also [GetStrokeColor](#) function in DynaPDF manual.

### 3.40.491 GetSubmitAction(Handle as UInt32) as DynaPDFSubmitFormAction-MBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the properties of a Submit Form Action.  
**Notes:** Returns nil in case of an error.  
See also [GetSubmitAction](#) function in DynaPDF manual.

**3.40.492 GetSysFontInfo as DynaPDFSysFontMBS**

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns the most important properties of a system font.

**Example:**

```
// list all fonts
dim d as new DynaPDFMBS

dim f as DynaPDFSysFontMBS = d.GetSysFontInfo
while f<>nil
Listbox1.AddRow f.FamilyName

f = f.NextFont
wend
```

**Notes:** The function returns the fonts in the current font search order. That means if the search order is { fbtTrueType, fbtOpenType, fbtType1, fbtStdFont } , for example, then the function returns first all TrueType fonts sorted in ascending order, then all OpenType fonts, and so on.

Since standard fonts are no system fonts, these fonts are not returned.

See also [GetSysFontInfo](#) function in DynaPDF manual.

See also:

- 3.40.493 GetSysFontInfo(PostscriptName as String) as DynaPDFSysFontMBS

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**3.40.493 GetSysFontInfo(PostscriptName as String) as DynaPDFSysFontMBS**

Plugin Version: 17.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries system font with given postscript name.

**Example:**

```
dim d as new DynaPDFMBS

// find one font with postscript name
dim font as DynaPDFSysFontMBS = d.GetSysFontInfo("Verdana-BoldItalic")

// find all with family name
dim fonts() as DynaPDFSysFontMBS = d.GetSysFontInfos("Verdana")

Break // see in debugger
```

**Notes:** Returns nil if font is not found.

See also [GetSysFontInfo](#) function in DynaPDF manual.

See also:

- 3.40.492 GetSysFontInfo as DynaPDFSysFontMBS 384

### 3.40.494 GetSysFontInfos as DynaPDFSysFontMBS()

Plugin Version: 16.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns an array with the most important properties of system fonts.

**Example:**

```
dim pdf as new MyDynaPDFMBS

// get all fonts
dim fonts() as DynaPDFSysFontMBS = pdf.GetSysFontInfos

// add one row for each font
for each f as DynaPDFSysFontMBS in fonts

dim name as string = f.FamilyName

if f.BaseType = pdf.kfbtOpenType and f.CIDOrdering = "" then
// This font cannot be used with Unicode

else
// Anything is ok
end if

next
```

**Notes:** The function returns the fonts in the current font search order. That means if the search order is { fbtTrueType, fbtOpenType, fbtType1, fbtStdFont }, for example, then the function returns first all TrueType fonts sorted in ascending order, then all OpenType fonts, and so on. Since standard fonts are no system fonts, these fonts are not returned.

See also:

- 3.40.495 GetSysFontInfos(Name as String) as DynaPDFSysFontMBS() 385

### 3.40.495 GetSysFontInfos(Name as String) as DynaPDFSysFontMBS()

Plugin Version: 17.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns an array with the most important properties of system fonts.

**Example:**

```

dim d as new DynaPDFMBS

// find one font with postscript name
dim font as DynaPDFSysFontMBS = d.GetSysFontInfo("Verdana-BoldItalic")

// find all with family name
dim fonts() as DynaPDFSysFontMBS = d.GetSysFontInfos("Verdana")

Break // see in debugger

```

**Notes:** Matches fonts by family name, full name or Postscript name.

The function returns the fonts in the current font search order. That means if the search order is { fbt-TrueType, fbtOpenType, fbtType1, fbtStdFont }, for example, then the function returns first all TrueType fonts sorted in ascending order, then all OpenType fonts, and so on.

Since standard fonts are no system fonts, these fonts are not returned.

See also:

- 3.40.494 `GetSysFontInfos` as `DynaPDFSysFontMBS()` 385

### 3.40.496 `GetTabLen` as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the tabulator length in spaces that is used to emulate tabulators during text formatting (see `WriteFText()` for further information).

See also `GetTabLen` function in DynaPDF manual.

### 3.40.497 `GetTemplCount` as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the number of templates used by a page.

See also `GetTemplCount` function in DynaPDF manual.

### 3.40.498 `GetTemplHandle` as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the handle of the current open template or a negative error code on failure.

See also `GetTemplHandle` function in DynaPDF manual.

**3.40.499 GetTemplHeight(Handle as Integer) as Double**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the height of a template.  
See also [GetTemplHeight](#) function in DynaPDF manual.

**3.40.500 GetTemplWidth(Handle as Integer) as Double**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns the width of a template. The parameter Handle must be a valid template handle.  
**Notes:** If the function succeeds the return value is the width of the template. If the function fails the return value is a negative error code.  
See also [GetTemplWidth](#) function in DynaPDF manual.

**3.40.501 GetTextDrawMode as Integer**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the text draw mode. See draw modes are described in detail under Set-TextDrawMode().  
See also [GetTextDrawMode](#) function in DynaPDF manual.

**3.40.502 GetTextFieldValue(Field as Integer, byref Value as string, byref DefaultValue as string) as Boolean**

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries the text of a field.  
**Notes:** The strings may be ANSI or Unicode encoded.  
See also [GetTextFieldValue](#) function in DynaPDF manual.

### 3.40.503 GetTextHeight(Align as Integer, aText as string) as Double

Plugin Version: 13.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function measures the height of a formatted text block.

**Example:**

```
dim pdf as DynaPDFMBS // your PDF instance

dim text as string = "Hello \ul#World"

dim h1 as Integer = pdf.GetTextHeight(pdf.ktaLeft, text)
dim h2 as Integer = pdf.GetFTextHeight(pdf.ktaLeft, text)

dim h3 as Integer = pdf.GetTextHeightEx(150, pdf.ktaLeft, text)
dim h4 as Integer = pdf.GetFTextHeightEx(150, pdf.ktaLeft, text)

// see different heights in debugger.
```

**Notes:** GetTextHeight does escape backslashes so no formatting commands are taken from the string. The text parameter is converted to unicode.

### 3.40.504 GetTextHeightAnsi(Align as Integer, aText as string) as Double

Plugin Version: 13.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function measures the height of a formatted text block.

**Notes:** GetTextHeightAnsi does escape backslashes so no formatting commands are taken from the string.

The text parameter is converted to ANSI.

### 3.40.505 GetTextHeightEx(Width as Double, Align as Integer, aText as string) as Double

Plugin Version: 13.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function measures the height of a formatted text block.

**Example:**

```
dim pdf as new MyDynaPDFMBS

call pdf.CreateNewPDF nil
```

```
call pdf.Append
```

```
call pdf.SetFont("Helvetica", pdf.kfsnone, 12, true, pdf.kcpUnicode)
```

```
dim h as Double = pdf.GetTextHeightEx(100, pdf.ktaLeft, "Hello World. Just a test string.")
```

```
MsgBox "height: "+str(h)
```

```
call pdf.EndPage
```

```
call pdf.CloseFile
```

**Notes:** GetTextHeightEx does escape backslashes so no formatting commands are taken from the string. The text parameter is converted to unicode.

### 3.40.506 GetTextHeightExAnsi(Width as Double, Align as Integer, aText as string) as Double

Plugin Version: 13.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function measures the height of a formatted text block.

**Notes:** GetTextHeightExAnsi does escape backslashes so no formatting commands are taken from the string. The text parameter is converted to ANSI.

### 3.40.507 GetTextRect(byref PosX as Double, byref PosY as Double, byref Width as Double, byref Height as Double) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function retrieves the bounding rectangle to output formatted text. See also [GetTextRect](#) function in DynaPDF manual.

### 3.40.508 GetTextRise as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the current text rise used to output text. See also [GetTextRise](#) function in DynaPDF manual.

### 3.40.509 GetTextScaling as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the current value of horizontal text scaling.  
See also [GetTextScaling](#) function in DynaPDF manual.

### 3.40.510 GetTextWidth(aText as string) as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function calculates the width of a string.

**Notes:** The text parameter is converted to unicode.

See also [GetTextWidth](#) function in DynaPDF manual.

See also:

- 3.40.511 GetTextWidth(FontHandle as integer, Text as String, CharSpacing as Single, WordSpacing as Single, TextScale as Single) as double 390

### 3.40.511 GetTextWidth(FontHandle as integer, Text as String, CharSpacing as Single, WordSpacing as Single, TextScale as Single) as double

Plugin Version: 18.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Calculates text width.

**Notes:** The function can be used to calculate the width of a sub string that was returned by the content parser (see ParseContent() for further information). The parameter FontHandle must be a valid handle of a font object that was provided in the SetFont event. Note that this function is optimized for speed and does not use the normal error handling of DynaPDF. The parameters CharSpacing, WordSpacing, and TextScale must be taken from the current graphics state.

If the function succeeds the return value is the string width measured in text space. If the parameter FontHandle is set 0 the return value is 0.0.

See also [GetTextWidth](#) function in DynaPDF manual.

See also:

- 3.40.510 GetTextWidth(aText as string) as Double 390

### 3.40.512 GetTextWidthAnsi(aText as string) as Double

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function calculates the width of a string.

**Notes:** The text parameter is converted to ANSI.

### 3.40.513 GetTIFFVersion as String

Plugin Version: 17.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries version of tiff library.

**Notes:** Should be 3.7.2 on plugins 17.1.

Version is always same on Mac, Windows and Linux.

If you notice a mismatch, something is wrong!

### 3.40.514 GetTransparentColor as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the transparent color value that is used for newly inserted images.

See also [GetTransparentColor](#) function in DynaPDF manual.

### 3.40.515 GetTrapped as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the trapped key of the document.

See also [GetTrapped](#) function in DynaPDF manual.

### 3.40.516 GetTypoLeading as double

Plugin Version: 21.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns the typographic leading or line height of a font.

**Notes:** This is  $sTypoAscender - sTypoDescender + sTypoLineGap$  of the OS/2 table of TrueType and OpenType fonts. The value is scaled to the current font size. Type1 fonts do not support these metrics.

The function can be called after a font was activated in the graphics state, e.g. with `SetFont()`, `SetFontEx()`, `SetCIDFont()`, or `ChangeFont()`.

If typographic metrics are not available the return value is  $Ascent - Descent$ . If the value is smaller than the font size then the font size is returned.

If the function succeeds the return value is the typographic leading of the active font, this is a value greater zero. If the function fails the return value is a negative error code.

See also [GetTypoLeading](#) function in DynaPDF manual.

### 3.40.517 GetURIAction(index as Integer) as DynaPDFURIActionMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries details for an URI action.

**Notes:** Index is from 0 to GetActionCount-1.

See also [GetURIAction](#) function in DynaPDF manual.

### 3.40.518 GetUseExactPwd as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If the property UseExactPwd is false, an encrypted PDF file can always be decrypted, if either the open or owner password in the file is an empty string.

See also [GetUseExactPwd](#) function in DynaPDF manual.

### 3.40.519 GetUseGlobalImpFiles as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The property specifies whether import files should be loaded permanent into memory, e.g. to enable splitting of large PDF files.

See also [GetUseGlobalImpFiles](#) function in DynaPDF manual.

### 3.40.520 GetUserRights as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the encryption flags of an imported PDF file or -1 if the imported PDF file was not encrypted.

See also [GetUserRights](#) function in DynaPDF manual.

### 3.40.521 GetUserUnit as single

Plugin Version: 11.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the user unit of the current open page.

**Notes:** A user unit acts like a scaling factor. The page format and all page coordinates are multiplied with this factor in a viewer application. The default size of a PDF unit is 1/72 inch and the default user unit is 1.0. User units can be useful if the page format would be too large to be expressed in standard PDF units. The largest page format in PDF is limited to 14400 units or 200 inches. This limit can be extended with the user unit.

The largest value that is supported is 75.0 which results in a maximum page format of 15,000 x 15,000 inches or 1,800,000 units.

See also [GetUserUnit](#) function in DynaPDF manual.

### 3.40.522 GetUseStdFonts as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns 1 (true) if the 14 standard fonts are enabled.

See also [GetUseStdFonts](#) function in DynaPDF manual.

### 3.40.523 GetUsesTransparency(Page as Integer = -1) as Boolean

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Checks whether a page or the entire document uses transparency.

**Notes:** This is no quick check as `GetDocUsesTransparency()` applies. The function parses the page or pages to determine whether transparent objects are really used.

To check whether a specific page uses transparency set the parameter `PageNum` to the wished page number. The first page is denoted by 1. To check the entire PDF file set `PageNum` to -1.

The return value is a bit mask on success (a positive integer value), or a negative error code on failure.

The following flags are defined:

- 0: The page or document uses no transparency.
- 1: The content stream of a page contains transparent objects.
- 2: A page defines the blending color space (Group dictionary).
- 4: A page contains transparent annotations or form fields.

The above values can occur in any combination. To check whether a specific flag was set use a binary and operator: `BitwiseAnd(value, flag)`

See also [GetUsesTransparency](#) function in DynaPDF manual.

### 3.40.524 `GetUseSystemFonts` as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The property specifies whether the %Windows%/Fonts directory should be added automatically to the list of available font search paths.

See also [GetUseSystemFonts](#) function in DynaPDF manual.

### 3.40.525 `GetUseTransparency` as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The property specifies whether images should get a transparent background.

See also [GetUseTransparency](#) function in DynaPDF manual.

### 3.40.526 `GetUseVisibleCoords` as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The property specifies whether DynaPDF should consider the crop box to calculate to position of an object.

See also [GetUseVisibleCoords](#) function in DynaPDF manual.

### 3.40.527 `GetViewerPreferences`(byref Preference as Integer, byref AddVal as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function retrieves the viewer preferences specified in the document.

See also [GetViewerPreferences](#) function in DynaPDF manual.

### 3.40.528 `GetViewport`(Page as UInt32, index as Integer) as DynaPDFViewportMBS

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns a viewport that is associated with a page.

**Notes:** A viewport is a rectangular region of a page, that specifies usually a measure coordinate system or points in a geospatial coordinate system.

Since viewports might overlap, to determine the viewport to use for any point on a page, the viewports in the array shall be examined, starting with the last one and iterating in reverse, and the first one whose BBox

entry contains the point shall be chosen.

To determine how viewports and measure dictionaries can be used, please have a look into the PDF Reference 2.0, ISO/DIS 32000-2, Section Measurement properties.

Returns nil on any error.

See also [GetViewport](#) function in DynaPDF manual.

### 3.40.529 GetViewportCount(Page as UInt32) as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns the number of viewports which are associated with a page.

**Notes:** The first page has the page number 1.

If the function succeeds the return value is the number of viewports, a number greater or equal zero. If the function fails the return value is a negative error code. The function can only fail if the page number is invalid.

See also [GetViewportCount](#) function in DynaPDF manual.

### 3.40.530 GetWMFDefExtent(byref width as Integer, byref height as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function retrieves the default size which is used to convert non portable WMF files to EMF.

See also [GetWMFDefExtent](#) function in DynaPDF manual.

### 3.40.531 GetWMFPixelPerInch as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the default pixels per inch of the y-axis which are used to convert portable WMF files to EMF.

See also [GetWMFPixelPerInch](#) function in DynaPDF manual.

### 3.40.532 GetWordSpacing as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the current word spacing.

See also [GetWordSpacing](#) function in DynaPDF manual.

### 3.40.533 GetXFASStream(Handle as UInt32) as DynaPDFXFASStreamMBS

Plugin Version: 16.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns an XFA stream.

**Notes:** The parameter Index is the array index. The function GetXFASStreamCount() returns the number of available streams.

An XFA form consist of several XML streams. The stream name must be used to determine which stream was returned.

If the function succeeds the return value is 1. If the function fails the return value is 0.

See also [GetXFASStream](#) function in DynaPDF manual.

### 3.40.534 GetXFASStreamCount as Integer

Plugin Version: 16.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns the number of available XFA streams.

**Notes:** XFA streams are available after a PDF file was imported.

If the function succeeds the return value is the number of available XFA streams. If the function fails the return value is a negative error code.

See also [GetXFASStreamCount](#) function in DynaPDF manual.

### 3.40.535 GetZlibVersion as String

Plugin Version: 17.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries version of zlib library.

**Notes:** Should be 1.2.7 on plugins 17.x.

Version is always same on Mac, Windows and Linux.

If you notice a mismatch, something is wrong!

### 3.40.536 GofRGB(RGB as Integer) as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns G of a RGB color value.

**Example:**

```
dim rgb as Integer = DynaPDFMBS.RGB(1,2,3)
MsgBox str(DynaPDFMBS.GofRGB(rgb)) // shows 2
```

### 3.40.537 HaveDPartRoot as Boolean

Plugin Version: 23.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Checks whether the PDF file in memory contains a DPartRoot dictionary.

**Notes:** DPart stands for Document Parts. DParts are a feature of PDF/VT, a PDF format for the printing industry.

The function should be used to determine whether a DPart structure is already in memory, before calling `CreateDPartRoot()` since the function would fail if this is the case.

An existing DPart structure can be extended with additional DPart nodes, but it is not yet possible to edit existing nodes.

If the document contains a DPartRoot dictionary, the return value is true or false otherwise.

See also [HaveDPartRoot](#) function in DynaPDF manual.

### 3.40.538 HaveOpenDoc as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If an error occurred it is not always clear whether the PDF file was already deleted or if it is still in memory.

See also [HaveOpenDoc](#) function in DynaPDF manual.

### 3.40.539 HaveOpenPage as Boolean

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether a page is open.

See also [HaveOpenPage](#) function in DynaPDF manual.

### 3.40.540 HighlightAnnot(SubType as Integer, PosX as Double, PosY as Double, Width as Double, Height as Double, ColorValue as Integer, Author as string, Subject as string, Comment as string) as Integer

Plugin Version: 8.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds a highlight annotation with unicode text.

See also [HighlightAnnot](#) function in DynaPDF manual.

### 3.40.541 **HighlightAnnotAnsi**(SubType as Integer, PosX as Double, PosY as Double, Width as Double, Height as Double, ColorValue as Integer, Author as string, Subject as string, Comment as string) as Integer

Plugin Version: 8.7, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** Adds a highlight annotation with ANSI text.

### 3.40.542 **HighlightOnAllPages**(SearchText as string, ColorValue as Color, CaseInsenitive as boolean = false) as Integer

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Highlights text on all pages of the current document.

**Notes:** If CaseInsenitive is true, the case of letters is ignored (also umlauts and accents)

Searches on all pages in the document.

Returns number of times the text was found.

### 3.40.543 **HighlightOnCurrentPage**(SearchText as string, ColorValue as Color, CaseInsenitive as boolean = false) as Integer

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Highlights text on all pages of the current page.

**Notes:** If CaseInsenitive is true, the case of letters is ignored (also umlauts and accents)

Use EditPage function to open the page before you search on it.

Returns number of times the text was found.

### 3.40.544 **ImportBookmarks** as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function imports the outline tree of the currently opened import file (see OpenImportFile() or OpenImportBuffer()).

See also [ImportBookmarks](#) function in DynaPDF manual.

### 3.40.545 **ImportCatalogObjects** as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function imports global objects of the currently opened import file such as bookmarks, JavaScripts, embedded files, open actions, invisible page templates, rendering intents, the document info entries, and certain other global properties such as the page mode or page layout.

See also [ImportCatalogObjects](#) function in DynaPDF manual.

### 3.40.546 ImportDocInfo as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function imports the document info entries from the currently opened import file.

See also [ImportDocInfo](#) function in DynaPDF manual.

### 3.40.547 ImportEncryptionSettings as Boolean

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Imports the encryption settings from the currently open import file (see [OpenImportFile\(\)](#) or [OpenImportBuffer\(\)](#) for further information).

**Notes:** If the PDF file is not encrypted, the function does nothing. To determine whether the open PDF file is encrypted call [GetInIsEncrypted\(\)](#).

The encryption settings should be imported to make sure that the PDF file can be saved with the same settings after it was edited. The user rights should be considered if the file was opened with the open password, also if the password was just an empty string. See [GetUserRights\(\)](#) for further information.

If the file was opened with the owner password, then all editing rights should be granted. The PDF file must be closed with [CloseFile\(\)](#) or [CloseAndSignFile\(\)](#) for example. Don't use

[CloseFileEx\(\)](#) for example since this function would override the encryption settings.

If the file should be saved unencrypted call [ResetEncryptionSettings\(\)](#) before closing the file. Return values:

If the function succeeds the return value is true. If the function fails the return value is false.

See also [ImportEncryptionSettings](#) function in DynaPDF manual.

### 3.40.548 ImportOCProperties as Boolean

Plugin Version: 17.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Imports the global Optional Content Properties of the current open import file.

**Notes:** OC properties are normally automatically imported by functions like [ImportPDFFile\(\)](#) or when importing a page that contains layers. However, a viewer application must be able to access the OC properties right after the PDF file was opened so that the layer configuration and the layer tree can be loaded (see [LoadLayerConfig\(\)](#) and [GetOCUINode\(\)](#) for further information).

The function can be called multiple times without causing unwanted side effects.

If the function succeeds the return value is true. If the function fails the return value is false.

See also [ImportOCProperties](#) function in DynaPDF manual.

### 3.40.549 ImportPage(PageNum as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function imports a page of an external PDF file and converts this page to a template.

**Notes:** Requires DynaPDF Pro license.

See also [ImportPage](#) function in DynaPDF manual.

### 3.40.550 ImportPageEx(PageNum as Integer, ScaleX as Double = 1.0, ScaleY as Double = 1.0) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function imports a PDF page of an external PDF file incl. interactive objects such as annotations, form fields and so on, if any.

**Notes:** Requires DynaPDF Pro license.

See also [ImportPageEx](#) function in DynaPDF manual.

### 3.40.551 ImportPDFFile(DestPage as Integer, ScaleX as Double = 1.0, ScaleY as Double = 1.0) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function imports an external PDF file incl. interactive objects such as annotations, bookmarks, form fields and so on.

**Example:**

```
// new PDF
Dim pdf As New MyDynapdfMBS

pdf.SetLicenseKey "Lite" // For this example you can use a Lite, Pro or Enterprise License

// create output file
Dim outFile As folderitem = SpecialFolder.Desktop.Child("NewPDF.pdf")
Call pdf.CreateNewPDF(outFile)

// set flags to import all
Dim flags As Integer = Bitwise.BitOr(pdf.kifImportAsPage, pdf.kifImportAll)
Call pdf.SetImportFlags(flags)

// import PDF
```

```
Dim inFile As folderitem = SpecialFolder.Desktop.Child("test.pdf")

Call pdf.OpenImportFile(inFile)
Call pdf.ImportPDFFile(1)

// now delete one page
Call pdf.DeletePage(2)

// close output file
Call pdf.closefile
```

**Notes:** Scaling factor is ignored if importing as pages (not templates).

This function returns the page number of the last page imported. It does not return how many pages are imported. If you need number of imported pages, please use returned value minus DestPage. See also [ImportPDFFile](#) function in DynaPDF manual.

### 3.40.552 ImportPDFPage(PageNum as Integer, ScaleX as Double = 1.0, ScaleY as Double = 1.0) as Integer

Plugin Version: 15.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Imports a PDF page.

**Notes:** If a page is open, this function calls EndPage.

Than it appends a new page, calls ImportPageEx and Endpage.

On success the return value is zero. If the function fails the return value is a negative error code.

See also [ImportPDFPage](#) function in DynaPDF manual.

### 3.40.553 InitColorManagement(profiles as DynaPDFColorProfilesMBS, DestSpace as Integer, Flags as Integer) as boolean

Plugin Version: 11.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Initializes color management with the given default profiles.

**Notes:** Pass nil for profiles to disable color management.

DestSpace can be kcsDeviceRGB, kcsDeviceCMYK or kcsDeviceGray.

Flags can be kicmDefault or kicmBPCompensation for:

Black point compensation preserves the black point when converting CMYK colors to different color spaces.

See also [InitColorManagement](#) function in DynaPDF manual.

### 3.40.554 `InitColorManagementEx`(profiles as `DynaPDFColorProfilesExMBS`, DestSpace as Integer, Flags as Integer) as boolean

Plugin Version: 16.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Initialize color management.

**Notes:** The function enables color management in the functions `RenderPage()`, `RenderPageEx()`, `RenderPageToImage()`, and `RenderPDFFile()` exactly like `InitColorManagement()` but accepts ICC profile buffers instead of file paths. See `InitColorManagement()` for further information.

To disable color management set the parameter `Profiles` to `nil`.

Initializing the color management requires a considerable amount of processing time. It is strongly recommended to use one PDF instance as long as possible so that it must not be initialized again when another PDF file will be rendered.

The color management can be initialized right after the PDF instance was created.

Returns true on success or false on failure.

See also `InitColorManagementEx` function in DynaPDF manual.

### 3.40.555 `InitStack`(byref stack as `DynaPDFStackMBS`) as boolean

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function initializes the variable `Stack` with default values and prepares the editing of a content stream.

**Example:**

```
dim s as DynaPDFStackMBS
dim pdf as DynaPDFMBS // get your DynaPDF object

call pdf.InitStack(s)
```

**Notes:** If `stack` is `nil`, a new one will be created and stored in the variable.

Return values:

If the function succeeds the return value is true. If the function fails the return value is false.

See also `InitStack` function in DynaPDF manual.

### 3.40.556 InkAnnot(points() as DynaPDFPointMBS, LineWidth as Double, ColorValue as UInt32, ColorSpace as Integer, Author as string, Subject as string, Content as string) as Integer

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates an Ink annotation.

**Notes:** An ink annotation (PDF 1.3) represents a freehand "scribble" composed of one or more disjoint paths. The parameter Points represents a stroked path. More paths can be added with AddInkList.

The points are interpreted in current user space. Any transformation that was applied on the coordinate system will be taken into account.

The points are connected with bezier curves to achieve a smooth transition between points. If the points should be connected with straight lines, then create a PolyLine annotation instead (see PolyLineAnnot).

This annotation type has an associated PopUp annotation that displays the string Content in a floating window. The initial window state of the associated PopUp annotation is closed by default but the state can be changed with SetAnnotOpenState() if necessary.

If the function succeeds the return value is the annotation handle, a value greater or equal zero. If the function fails the return value is a negative error code.

See also [InkAnnot](#) function in DynaPDF manual.

### 3.40.557 InkAnnotAnsi(points() as DynaPDFPointMBS, LineWidth as Double, ColorValue as UInt32, ColorSpace as Integer, Author as string, Subject as string, Content as string) as Integer

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** Creates an Ink annotation.

**Notes:** An ink annotation (PDF 1.3) represents a freehand "scribble" composed of one or more disjoint paths. The parameter Points represents a stroked path. More paths can be added with AddInkList.

The points are interpreted in current user space. Any transformation that was applied on the coordinate system will be taken into account.

The points are connected with bezier curves to achieve a smooth transition between points. If the points should be connected with straight lines, then create a PolyLine annotation instead (see PolyLineAnnot).

This annotation type has an associated PopUp annotation that displays the string Content in a floating window. The initial window state of the associated PopUp annotation is closed by default but the state can be changed with SetAnnotOpenState() if necessary.

If the function succeeds the return value is the annotation handle, a value greater or equal zero. If the function fails the return value is a negative error code.

### 3.40.558 InsertBarcode(PosX as double, PosY as double, Width as double, Height as double, HAlign as Integer, VAlign as Integer, Barcode as DynaPDFBarcode2MBS) as Integer

Plugin Version: 20.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Inserts a barcode to the current open page.

**Example:**

```
Dim d As New DynapdfMBS
// create/edit a page, then draw barcode:

// UPCA
Dim b1 As New DynaPDFBarcode2MBS
b1.BarcodeType = b1.kbctUPCA
b1.Data = "72527270270"

Call d.InsertBarcode(100, 100, 200, 50, d.kcoLeft, d.kcoTop, b1)
```

**Notes:** See the kbct\* constants for the types supported.

Options are very similar to what we have in our BarcodeGeneratorMBS class as both use the same zint library.

See also [InsertBarcode](#) function in DynaPDF manual.

### 3.40.559 InsertBMPFromBuffer(PosX as Double, PosY as Double, ScaleWidth as Double, ScaleHeight as Double, Buffer as memoryblock) as Integer

Plugin Version: 13.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use InsertImageFromBuffer instead. **Function:** The function inserts a Device Independent Bitmap from a file buffer.

See also [InsertBMPFromBuffer](#) function in DynaPDF manual.

See also:

- 3.40.560 InsertBMPFromBuffer(PosX as Double, PosY as Double, ScaleWidth as Double, ScaleHeight as Double, Buffer as string) as Integer 405
- 3.40.561 InsertBMPFromBuffer(PosX as Double, PosY as Double, ScaleWidth as Double, ScaleHeight as Double, BufferAddress as Integer) as Integer 405

### 3.40.560 InsertBMPFromBuffer(PosX as Double, PosY as Double, ScaleWidth as Double, ScaleHeight as Double, Buffer as string) as Integer

Plugin Version: 13.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use `InsertImageFromBuffer` instead. **Function:** The function inserts a Device Independent Bitmap from a file buffer.

See also [InsertBMPFromBuffer](#) function in DynaPDF manual.

See also:

- 3.40.559 `InsertBMPFromBuffer(PosX as Double, PosY as Double, ScaleWidth as Double, ScaleHeight as Double, Buffer as memoryblock) as Integer` 404
- 3.40.561 `InsertBMPFromBuffer(PosX as Double, PosY as Double, ScaleWidth as Double, ScaleHeight as Double, BufferAddress as Integer) as Integer` 405

### 3.40.561 InsertBMPFromBuffer(PosX as Double, PosY as Double, ScaleWidth as Double, ScaleHeight as Double, BufferAddress as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use `InsertImageFromBuffer` instead. **Function:** The function inserts a Device Independent Bitmap from a file buffer.

See also [InsertBMPFromBuffer](#) function in DynaPDF manual.

See also:

- 3.40.559 `InsertBMPFromBuffer(PosX as Double, PosY as Double, ScaleWidth as Double, ScaleHeight as Double, Buffer as memoryblock) as Integer` 404
- 3.40.560 `InsertBMPFromBuffer(PosX as Double, PosY as Double, ScaleWidth as Double, ScaleHeight as Double, Buffer as string) as Integer` 405

### 3.40.562 InsertBMPFromHandle(PosX as Double, PosY as Double, ScaleWidth as Double, ScaleHeight as Double, hBitmap as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function inserts a bitmap in the same way as `InsertImage()` but accepts a `HBITMAP` handle as input.

See also [InsertBMPFromHandle](#) function in DynaPDF manual.

### 3.40.563 InsertBookmark(title as String, parent as Integer, DestPage as Integer, Open as boolean, AddChildren as boolean) as Integer

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function inserts a bookmark to the global outline tree of the document.

**Notes:** The title parameter is converted to unicode.

See also [InsertBookmark](#) function in DynaPDF manual.

### 3.40.564 **InsertBookmarkAnsi**(title as String, parent as Integer, DestPage as Integer, Open as boolean, AddChildren as boolean) as Integer

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** This function inserts a bookmark to the global outline tree of the document.

**Notes:** The title parameter is converted to ANSI.

### 3.40.565 **InsertBookmarkEx**(title as String, parent as Integer, NamedDest as Integer, Open as boolean, AddChildren as boolean) as Integer

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function inserts a bookmark to the global outline tree of the document.

**Notes:** The title parameter is converted to unicode.

See also [InsertBookmarkEx](#) function in DynaPDF manual.

### 3.40.566 **InsertBookmarkExAnsi**(title as String, parent as Integer, NamedDest as Integer, Open as boolean, AddChildren as boolean) as Integer

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** This function inserts a bookmark to the global outline tree of the document.

**Notes:** The title parameter is converted to ANSI.

### 3.40.567 **InsertImage**(PosX as Double, PosY as Double, ScaleWidth as Double, ScaleHeight as Double, File as folderitem) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use `InsertImage` instead.

**Function:** The function inserts an image from a file.

**Example:**

```

dim pdf as DynaPDFMBS

// ... add page

// use transparency from image
call pdf.SetUseTransparency(False)

// max 300 dpi for recompressed images
call pdf.SetResolution(300)

// use JPEG when compressing new pictures
call pdf.SetCompressionFilter(pdf.kcfJPEG)

// pass through JPEGs if possible
call pdf.SetSaveNewImageFormat(false)

// insert image
dim source as FolderItem = SpecialFolder.Desktop.Child("test.jpg")
call pdf.InsertImage(0, 0, 300, 200, source)

```

**Notes:** Please call `SetUseTransparency(false)` before inserting image if you don't like one of the colors (default white) to become transparent.

DynaPDF 3.0 adds support for pictures with alpha channel for this function. See also [InsertImage](#) function in DynaPDF manual.

### 3.40.568 `InsertImageEx(PosX as Double, PosY as Double, ScaleWidth as Double, ScaleHeight as Double, File as folderitem, index as Integer = 1) as Integer`

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function inserts an image from a file.

**Example:**

```

dim pdf as DynaPDFMBS

// ... add page

// use transparency from image
call pdf.SetUseTransparency(False)

// max 300 dpi for recompressed images
call pdf.SetResolution(300)

```

```
// use JPEG when compressing new pictures
call pdf.SetCompressionFilter(pdf.kcfJPEG)

// pass through JPEGs if possible
call pdf.SetSaveNewImageFormat(false)

// insert image
dim source as FolderItem = SpecialFolder.Desktop.Child("test.jpg")
call pdf.InsertImageEx(0, 0, 300, 200, source)
```

**Notes:** Please call `SetUseTransparency(false)` before inserting image if you don't like one of the colors (default white) to become transparent.

DynaPDF 3.0 adds support for pictures with alpha channel for this function.  
See also [InsertImageEx](#) function in DynaPDF manual.  
See also:

- 3.40.569 `InsertImageEx`(PosX as double, PosY as double, ScaleWidth as double, ScaleHeight as double, Path as String, index as integer = 1) as integer 408

### 3.40.569 `InsertImageEx`(PosX as double, PosY as double, ScaleWidth as double, ScaleHeight as double, Path as String, index as integer = 1) as integer

Plugin Version: 19.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function inserts an image from a file.

**Example:**

```
Dim d As New DynaPDFMBS

// create PDF in memory
Call d.CreateNewPDF

// add a picture
Call d.Append
Call d.InsertImageEx(100, 100, 100, 100, "/Users/cs/Pictures/mond.jpg")
Call d.EndPage

// okay?
If d.HaveOpenDoc Then

// open target file
Call d.OpenOutputFile("/Users/cs/Desktop/mond.pdf")
```

```
// write and close
Call d.CloseFile
```

```
End If
```

**Notes:** Please call `SetUseTransparency(false)` before inserting image if you don't like one of the colors (default white) to become transparent.

DynaPDF 3.0 adds support for pictures with alpha channel for this function.

See also [InsertImageEx](#) function in DynaPDF manual.

See also:

- 3.40.568 `InsertImageEx(PosX as Double, PosY as Double, ScaleWidth as Double, ScaleHeight as Double, File as folderitem, index as Integer = 1) as Integer` 407

### 3.40.570 `InsertImageFromBuffer(PosX as Double, PosY as Double, ScaleWidth as Double, ScaleHeight as Double, Buffer as Memoryblock, index as Integer = 1) as Integer`

Plugin Version: 13.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function inserts an image in exactly the same way as `InsertImageEx()`, but it accepts a file buffer as input.

**Notes:** Please call `SetUseTransparency(false)` before inserting image if you don't like one of the colors (default white) to become transparent.

DynaPDF 3.0 adds support for pictures with alpha channel for this function.

Please pass position and size as doubles. If you use integers, Xojo will give a compile error.

See also [InsertImageFromBuffer](#) function in DynaPDF manual.

See also:

- 3.40.571 `InsertImageFromBuffer(PosX as Double, PosY as Double, ScaleWidth as Double, ScaleHeight as Double, Buffer as string, index as Integer = 1) as Integer` 409

### 3.40.571 `InsertImageFromBuffer(PosX as Double, PosY as Double, ScaleWidth as Double, ScaleHeight as Double, Buffer as string, index as Integer = 1) as Integer`

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function inserts an image in exactly the same way as `InsertImageEx()`, but it accepts a file buffer as input.

**Notes:** Please call `SetUseTransparency(false)` before inserting image if you don't like one of the colors (default white) to become transparent.

DynaPDF 3.0 adds support for pictures with alpha channel for this function.

Please pass position and size as doubles. If you use integers, Xojo will give a compile error.

See also [InsertImageFromBuffer](#) function in DynaPDF manual.

See also:

- 3.40.570 `InsertImageFromBuffer(PosX as Double, PosY as Double, ScaleWidth as Double, ScaleHeight as Double, Buffer as Memoryblock, index as Integer = 1) as Integer` 409

### 3.40.572 `InsertMetafile(FileName as folderitem, PosX as Double, PosY as Double, Width as Double, Height as Double) as Boolean`

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function converts an Enhanced Meta File (EMF) or Windows Meta File (WMF) to a native PDF vector graphic.

**Notes:** Requires DynaPDF Lite license.

See also [InsertMetafile](#) function in DynaPDF manual.

### 3.40.573 `InsertMetafileEx(Buffer as memoryblock, PosX as Double, PosY as Double, Width as Double, Height as Double) as Boolean`

Plugin Version: 13.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function converts an Enhanced Meta File (EMF) or Windows Meta File (WMF) to a native PDF vector graphic in the same way as `InsertMetafile()`.

**Notes:** Requires DynaPDF Lite license.

See also [InsertMetafileEx](#) function in DynaPDF manual.

See also:

- 3.40.574 `InsertMetafileEx(Buffer as string, PosX as Double, PosY as Double, Width as Double, Height as Double) as Boolean` 410

### 3.40.574 `InsertMetafileEx(Buffer as string, PosX as Double, PosY as Double, Width as Double, Height as Double) as Boolean`

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function converts an Enhanced Meta File (EMF) or Windows Meta File (WMF) to a native PDF vector graphic in the same way as `InsertMetafile()`.

**Notes:** Requires DynaPDF Lite license.

See also [InsertMetafileEx](#) function in DynaPDF manual.

See also:

- 3.40.573 [InsertMetafileEx](#)(Buffer as memoryblock, PosX as Double, PosY as Double, Width as Double, Height as Double) as Boolean 410

### 3.40.575 [InsertMetafileExt](#)(FileName as folderitem, View as DynaPDFRectMBS, PosX as Double, PosY as Double, Width as Double, Height as Double) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function converts an Enhanced Meta File (EMF) or Windows Meta File (WMF) to a native PDF vector graphic in the same way as [InsertMetafile\(\)](#).

**Notes:** Requires DynaPDF Lite license.

See also [InsertMetafileExt](#) function in DynaPDF manual.

### 3.40.576 [InsertMetafileExtEx](#)(Buffer as Memoryblock, View as DynaPDFRectMBS, PosX as Double, PosY as Double, Width as Double, Height as Double) as Boolean

Plugin Version: 13.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function converts an Enhanced Meta File (EMF) or Windows Meta File (WMF) to a native PDF vector graphic in the same way as [InsertMetafileExt\(\)](#).

**Notes:** Requires DynaPDF Lite license.

See also [InsertMetafileExtEx](#) function in DynaPDF manual.

See also:

- 3.40.577 [InsertMetafileExtEx](#)(Buffer as String, View as DynaPDFRectMBS, PosX as Double, PosY as Double, Width as Double, Height as Double) as Boolean 411

### 3.40.577 [InsertMetafileExtEx](#)(Buffer as String, View as DynaPDFRectMBS, PosX as Double, PosY as Double, Width as Double, Height as Double) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function converts an Enhanced Meta File (EMF) or Windows Meta File (WMF) to a native PDF vector graphic in the same way as [InsertMetafileExt\(\)](#).

**Notes:** Requires DynaPDF Lite license.

See also [InsertMetafileExtEx](#) function in DynaPDF manual.

See also:

- 3.40.576 `InsertMetafileExtEx(Buffer as Memoryblock, View as DynaPDFRectMBS, PosX as Double, PosY as Double, Width as Double, Height as Double) as Boolean` 411

### 3.40.578 `InsertMetafileFromHandle(hEnhMetafileHandle as Integer, PosX as Double, PosY as Double, Width as Double, Height as Double) as Boolean`

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function inserts an Enhanced Metafile exactly in the same way as `InsertMetafile()` but accepts a `HENHMETAFILE` handle as input.

**Notes:** Requires DynaPDF Lite license.

See also [InsertMetafileFromHandle](#) function in DynaPDF manual.

### 3.40.579 `InsertMetafileFromHandleEx(hEnhMetafileHandle as Integer, View as DynaPDFRectMBS, PosX as Double, PosY as Double, Width as Double, Height as Double) as Boolean`

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function inserts an Enhanced Metafile exactly in the same way as `InsertMetafileExt()` but accepts a `HENHMETAFILE` handle as input.

**Notes:** Requires DynaPDF Lite license.

See also [InsertMetafileFromHandleEx](#) function in DynaPDF manual.

### 3.40.580 `InsertPicture(pic as picture, mask as picture, PosX as Double, PosY as Double, ScaleWidth as Double, ScaleHeight as Double) as Integer`

Plugin Version: 9.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Takes a Xojo picture with a mask and adds it to the PDF.

**Example:**

```
// insert MBS Logo with round Mask
dim d as new MyDynaPDFMBS
dim file as FolderItem = SpecialFolder.Desktop.Child("test.pdf")
```

```
call d.CreateNewPDF file
call d.Append
```

```
// get picture
dim p as Picture = LogoMBS(500)
```

```
// get mask
```

```

dim m as new Picture(500, 500, 32)
m.Graphics.ForeColor = &cFFFFFF
m.Graphics.FillRect 0,0,500,500
m.Graphics.ForeColor = &c000000
m.Graphics.FillOval 0,0,500,500

// add image to pdf
call d.InsertPicture(p, m, 50, 150, 500, 500)

call d.EndPage
call d.CloseFile

```

**Notes:** Please call `SetUseTransparency(false)` before inserting image if you don't like one of the colors (default white) to become transparent.

This is a convenience function to handle picture with mask.

Internally this calls `pdfInsertRawImage` so check the documtation on this function in the dynapdf manual. For images with alpha channel, we pass a PNG via `pdfInsertImageFromBuffer`.

Usually `InsertPicture` with the `mask/alpha` is better.

`PosX` and `PosY` are the destination position and `ScaledWidth` and `ScaledHeight` is the new size of the image. See also:

- 3.40.581 `InsertPicture(pic as picture, PosX as Double, PosY as Double, ScaleWidth as Double, ScaleHeight as Double) as Integer` 413

### 3.40.581 `InsertPicture(pic as picture, PosX as Double, PosY as Double, ScaleWidth as Double, ScaleHeight as Double) as Integer`

Plugin Version: 8.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Takes a Xojo picture and adds it to the PDF.

**Notes:** Please call `SetUseTransparency(false)` before inserting image if you don't like one of the colors (default white) to become transparent.

Internally this calls `pdfInsertRawImage` so check the documtation on this function in the dynapdf manual. For images with alpha channel, we pass a PNG via `pdfInsertImageFromBuffer`.

`PosX` and `PosY` are the destination position and `ScaledWidth` and `ScaledHeight` is the new size of the image. See also:

- 3.40.580 `InsertPicture(pic as picture, mask as picture, PosX as Double, PosY as Double, ScaleWidth as Double, ScaleHeight as Double) as Integer` 412

### 3.40.582 InsertRawImage(Data as String, BitsPerPixel as Integer, ColorCount as Integer, ImgWidth as Integer, ImgHeight as Integer, PosX as Double, PosY as Double, ScaleWidth as Double, ScaleHeight as Double) as Integer

Plugin Version: 13.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function inserts an image from a raw image buffer which contains no image header.

See also [InsertRawImage](#) function in DynaPDF manual.

See also:

- 3.40.583 InsertRawImage(Memory as MemoryBlock, BitsPerPixel as Integer, ColorCount as Integer, ImgWidth as Integer, ImgHeight as Integer, PosX as Double, PosY as Double, ScaleWidth as Double, ScaleHeight as Double) as Integer 414

### 3.40.583 InsertRawImage(Memory as MemoryBlock, BitsPerPixel as Integer, ColorCount as Integer, ImgWidth as Integer, ImgHeight as Integer, PosX as Double, PosY as Double, ScaleWidth as Double, ScaleHeight as Double) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function inserts an image from a raw image buffer which contains no image header.

See also [InsertRawImage](#) function in DynaPDF manual.

See also:

- 3.40.582 InsertRawImage(Data as String, BitsPerPixel as Integer, ColorCount as Integer, ImgWidth as Integer, ImgHeight as Integer, PosX as Double, PosY as Double, ScaleWidth as Double, ScaleHeight as Double) as Integer 414

### 3.40.584 InsertRawImageEx(PosX as Double, PosY as Double, ScaleWidth as Double, ScaleHeight as Double, Image as DynaPDFRawImageMBS) as Integer

Plugin Version: 13.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function inserts an image from a raw image buffer that contains no image header.

**Notes:** See also [InsertRawImageEx](#) in `dynapdf_help.pdf` manual file.

Returns false if image parameter has invalid values.

See also [InsertRawImageEx](#) function in DynaPDF manual.

### 3.40.585 IsBidiText(Text as string) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function returns the position of the first bidirectional character that can be found in the string or -1 if no such character can be found.

**Notes:** The text parameter is converted to unicode.

See also [IsBidiText](#) function in DynaPDF manual.

### 3.40.586 IsColorPage(GrayIsColor as Boolean) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function checks whether a page is a color page or if all graphic elements of the page use black & white only.

**Notes:** Value is 0 for false, 1 for true or negative for an error.

See also [IsColorPage](#) function in DynaPDF manual.

### 3.40.587 IsEmptyPage as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function checks whether a page is empty.

**Notes:** Value is 0 for false, 1 for true or negative for an error.

See also [IsEmptyPage](#) function in DynaPDF manual.

### 3.40.588 IsWrongPwd(errCode as Integer) as boolean

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether an error code is for a wrong password.

**Notes:** We have several error codes which result from different password protections and this function considers them all.

See also [IsWrongPwd](#) function in DynaPDF manual.

### 3.40.589 IterateAnnotations as DynaPDFIteratorMBS

Plugin Version: 23.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Iterate over annotations.

**Example:**

```
Dim d As New DynaPDFMBS
```

```
// load a PDF here or add an annotation
```

`For Each` Annotation `As` DynaPDFAnnotationExMBS `In` d.IterateAnnotations

`Dim` Nmae `As String` = Annotation.Name

Break

Next

**Notes:** The value is a DynaPDFAnnotationExMBS object.

### 3.40.590 IterateBookmarks as DynaPDFIteratorMBS

Plugin Version: 23.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Iterate over bookmarks.

**Example:**

`Dim` d `As New` DynaPDFMBS

`For Each` Bookmark `As` DynaPDFBookmarkMBS `In` d.IterateBookmarks

`Dim` Name `As String` = Bookmark.Title

Break

Next

**Notes:** The value is a DynaPDFBookmarkMBS object.

### 3.40.591 IterateCMaps as DynaPDFIteratorMBS

Plugin Version: 23.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Iterate over character maps.

**Example:**

`Dim` d `As New` DynaPDFMBS

`For Each` CMap `As` DynaPDFCMapMBS `In` d.IterateCMaps

`Dim` Name `As String` = CMap.CMapName

Break

Next

**Notes:** The value is a DynaPDFCMapMBS object.

### 3.40.592 IterateColorSpaces as DynaPDFIteratorMBS

Plugin Version: 23.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Iterate over Colorspaces.

**Example:**

```
Dim d As New DynaPDFMBS
```

```
For Each ColorSpace As DynaPDFColorSpaceMBS In d.IterateColorSpaces
```

```
Dim Name As String = ColorSpace.Name
```

```
Break
```

```
Next
```

**Notes:** The value is a DynaPDFColorSpaceMBS object.

### 3.40.593 IterateEmbeddedFiles(Decompress as boolean = false) as DynaPDFIteratorMBS

Plugin Version: 23.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Iterate over embedded files.

**Example:**

```
Dim d As New DynaPDFMBS
```

```
For Each fileSpace As DynaPDFFileSpecMBS In d.IterateEmbeddedFiles
```

```
Dim Name As String = fileSpace.Name
```

```
Break
```

```
Next
```

**Notes:** The value is a DynaPDFFileSpecMBS object.

### 3.40.594 IterateErrLogMessages as DynaPDFIteratorMBS

Plugin Version: 23.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Iterate over error log messages.

**Example:**

```
Dim d As New DynaPDFMBS

For Each Error As DynaPDFErrorMBS In d.IterateErrLogMessages

Dim Name As String = Error.Message

Break
Next
```

**Notes:** The value is a DynaPDFErrorMBS object.

### 3.40.595 IterateFields as DynaPDFIteratorMBS

Plugin Version: 23.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Iterate over fields.

**Example:**

```
Dim d As New DynaPDFMBS

For Each Field As DynaPDFFieldExMBS In d.IterateFields

Dim Name As String = Field.FieldName

Break
Next
```

**Notes:** The value is a DynaPDFFieldExMBS object.

### 3.40.596 IterateFonts as DynaPDFIteratorMBS

Plugin Version: 23.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Iterate over fonts.

**Example:**

```
Dim d As New DynaPDFMBS

Call d.CreateNewPDF

Call d.Append
Call d.SetFont("Geneva")
```

```
// now we can find fonts like Helvetica (default) and our Geneva
For Each Font As DynaPDFFontMBS In d.IterateFonts
```

```
Dim Name As String = Font.FontName
```

```
Break
```

```
Next
```

**Notes:** The value is a DynaPDFFontMBS object.

### 3.40.597 IterateImages(ImageFlags as Integer = 0) as DynaPDFIteratorMBS

Plugin Version: 23.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Iterate over images.

**Example:**

```
Dim d As New DynaPDFMBS
```

```
// load a PDF here or add pages with images
```

```
For Each Image As DynaPDFImageMBS In d.IterateImages
```

```
Dim Buffer As String = Image.Buffer
```

```
Break
```

```
Next
```

**Notes:** The value is a DynaPDFImageMBS object.

### 3.40.598 IterateLayerConfigurations as DynaPDFIteratorMBS

Plugin Version: 23.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Iterate over layer configurations.

**Example:**

```
Dim d As New DynaPDFMBS
```

```
// load a PDF here or add pages with layers
```

```
For Each layer As DynaPDFOCLayerConfigMBS In d.IterateLayerConfigurations
```

```
Dim Name As String = layer.Name
```

```
Break
```

```
Next
```

**Notes:** The value is a DynaPDFOCLayerConfigMBS object.

### 3.40.599 IterateNamedDestinations as DynaPDFIteratorMBS

Plugin Version: 23.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Iterate over named destinations.

**Example:**

```
Dim d As New DynaPDFMBS
```

```
// load a PDF here or add pages with named destinations
```

```
For Each dest As DynaPDFNamedDestMBS In d.IterateNamedDestinations
```

```
Dim Name As String = dest.Name
```

```
Break
```

```
Next
```

**Notes:** The value is a DynaPDFNamedDestMBS object.

### 3.40.600 IterateOCGs as DynaPDFIteratorMBS

Plugin Version: 23.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Iterate over OCGs.

**Example:**

```
Dim d As New DynaPDFMBS
```

```
// load a PDF here or add pages with layers
```

```
For Each layer As DynaPDFOCGMBS In d.IterateOCGs
```

```
Dim IsVisible As Boolean = layer.IsVisible
```

```
Break
```

```
Next
```

**Notes:** The value is a DynaPDFOCGMBS object.

### 3.40.601 IterateOutputIntents as DynaPDFIteratorMBS

Plugin Version: 23.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Iterate over output intents.

**Example:**

```
Dim d As New DynaPDFMBS

// load a PDF here or add output intent

For Each OutputIntent As DynaPDFOutputIntentMBS In d.IterateOutputIntents

Dim RegistryName As String = OutputIntent.RegistryName

Break
Next
```

**Notes:** The value is a DynaPDFOutputIntentMBS object.

### 3.40.602 IteratePageAnnotations as DynaPDFIteratorMBS

Plugin Version: 23.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Iterate over page annotations.

**Example:**

```
Dim d As New DynaPDFMBS

// load a PDF here or add annotation

For Each Annotation As DynaPDFAnnotationExMBS In d.IteratePageAnnotations

Dim Name As String = Annotation.Name

Break
Next
```

**Notes:** The value is a DynaPDFAnnotationExMBS object.

### 3.40.603 IteratePageLabels as DynaPDFIteratorMBS

Plugin Version: 23.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Iterate over page labels.

**Example:**

```
Dim d As New DynaPDFMBS

// load a PDF here or add page labels

For Each PageLabel As DynaPDFPageLabelMBS In d.IteratePageAnnotations

Dim Prefix As String = PageLabel.Prefix

Break
Next
```

**Notes:** The value is a DynaPDFPageLabelMBS object.

### 3.40.604 IterateSysFonts as DynaPDFIteratorMBS

Plugin Version: 23.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Iterate over system fonts.

**Example:**

```
Dim d As New DynaPDFMBS

For Each Font As DynaPDFSysFontMBS In d.IterateSysFonts

Dim Name As String = Font.FullName

Break
Next
```

**Notes:** The value is a DynaPDFSysFontMBS object.

### 3.40.605 IterateXFASStreams as DynaPDFIteratorMBS

Plugin Version: 23.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Iterate over XFA Streams.

**Example:**

```
Dim d As New DynaPDFMBS
```

```
// load a PDF here or add a XFASStream
```

```
For Each XFASStream As DynaPDFXFASStreamMBS In d.IterateXFASStreams
```

```
Dim Nmae As String = XFASStream.Name
```

```
Break
```

```
Next
```

**Notes:** The value is a DynaPDFXFASStreamMBS object.

### 3.40.606 KofCMYK(CMYK as UInt32) as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns K of a CMYK color value.

**Example:**

```
dim cmyk as Integer = DynaPDFMBS.CMYK(1,2,3,4)
MsgBox str(DynaPDFMBS.KofCMYK(cmyk)) // shows 4
```

**Notes:** Returns different values on BigEndian and LittleEndian systems.

### 3.40.607 LAB(L as Integer, A as Integer, B as Integer) as Integer

Plugin Version: 8.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Builds a LAB color value based on the given component values.

**Example:**

```
dim lab as Integer = DynaPDFMBS.LAB(1,2,3)
MsgBox hex(lab)
```

**3.40.608** `LineAnnot(x1 as Double, y1 as Double, x2 as Double, y2 as Double, LineWidth as Double, StartLineEndStyle as Integer, EndLineEndStyle as Integer, FillColor as UInt32, StrokeColor as UInt32, ColorSpace as Integer, Author as string, Subject as string, Content as string) as Integer`

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds a line annotation.

See also [LineAnnot](#) function in DynaPDF manual.

**3.40.609** `LineAnnotAnsi(x1 as Double, y1 as Double, x2 as Double, y2 as Double, LineWidth as Double, StartLineEndStyle as Integer, EndLineEndStyle as Integer, FillColor as UInt32, StrokeColor as UInt32, ColorSpace as Integer, Author as string, Subject as string, Content as string) as Integer`

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** Adds a line annotation.

**3.40.610** `LineTo(PosX as Double, PosY as Double) as Boolean`

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function draws a path from the current position up to the specified point.

**Example:**

```
dim pdf as new DynaPDFMBS
dim f as FolderItem = SpecialFolder.Desktop.Child("Create PDF with Line.pdf")

pdf.SetLicenseKey "Starter" // For this example you can use a Starter, Lite, Pro or Enterprise License

// Create a new PDF
call pdf.CreateNewPDF f

// We want to use top-down coordinates
call pdf.SetPageCoords pdf.kpcTopDown

// Add a page
call pdf.Append

// black
```

```
call pdf.SetStrokeColor 0
```

```
// line down  
call pdf.MoveTo(100,100)  
call pdf.LineTo(200,200)  
call pdf.StrokePath
```

```
// line up  
call pdf.MoveTo(200,200)  
call pdf.LineTo(300,100)  
call pdf.StrokePath
```

```
// end page  
call pdf.EndPage
```

```
// Close page  
call pdf.CloseFile
```

```
// Open PDF  
f.Launch
```

See also [LineTo](#) function in DynaPDF manual.

### 3.40.611 LoadCMap(CMapName as string, Embed as Boolean) as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Loads a character map.

See also [LoadCMap](#) function in DynaPDF manual.

### 3.40.612 LoadError as String

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The last error message from LoadLibrary call.

**Example:**

```
dim f as FolderItem = SpecialFolder.Desktop.Child("test.dylib")
```

```
if DynaPDFMBS.LoadLibrary(f) then  
  MsgBox "OK"  
else  
  MsgBox DynaPDFMBS.LoadError
```

end if

### 3.40.613 LoadFDFData(FileName as folderitem, Password as string, Flags as Integer) as Boolean

Plugin Version: 9.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Loads PDF form data from the given PDF file.

See also [LoadFDFData](#) function in DynaPDF manual.

### 3.40.614 LoadFDFDataEx(Buffer as memoryblock, Password as string, Flags as Integer) as Boolean

Plugin Version: 13.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Loads PDF form data from the given PDF file in the buffer.

See also [LoadFDFDataEx](#) function in DynaPDF manual.

See also:

- 3.40.615 LoadFDFDataEx(Buffer as string, Password as string, Flags as Integer) as Boolean 426

### 3.40.615 LoadFDFDataEx(Buffer as string, Password as string, Flags as Integer) as Boolean

Plugin Version: 9.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Loads PDF form data from the given PDF file in the buffer.

See also [LoadFDFDataEx](#) function in DynaPDF manual.

See also:

- 3.40.614 LoadFDFDataEx(Buffer as memoryblock, Password as string, Flags as Integer) as Boolean 426

### 3.40.616 LoadFont(Buffer as memoryblock, Style as Integer, size as Double, Embed as Boolean = false, CodePage as Integer = 2, CollectionIndex as UInt32 = 0) as Integer

Plugin Version: 13.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function loads a font from a file buffer.

**Notes:** Added CollectionIndex parameter in 12.1 plugin version.

See also [LoadFont](#) function in DynaPDF manual.

See also:

- 3.40.617 [LoadFont](#)(Buffer as string, Style as Integer, size as Double, Embed as Boolean = false, CodePage as Integer = 2, CollectionIndex as UInt32 = 0) as Integer 427

### 3.40.617 [LoadFont](#)(Buffer as string, Style as Integer, size as Double, Embed as Boolean = false, CodePage as Integer = 2, CollectionIndex as UInt32 = 0) as Integer

Plugin Version: 12.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function loads a font from a file buffer.

**Notes:** Added CollectionIndex parameter in 12.1 plugin version.

See also [LoadFont](#) function in DynaPDF manual.

See also:

- 3.40.616 [LoadFont](#)(Buffer as memoryblock, Style as Integer, size as Double, Embed as Boolean = false, CodePage as Integer = 2, CollectionIndex as UInt32 = 0) as Integer 426

### 3.40.618 [LoadFontEx](#)(File as folderitem, Style as Integer, size as Double, Embed as Boolean = false, CodePage as Integer = 2, CollectionIndex as UInt32 = 0) as Integer

Plugin Version: 12.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function loads a font from a font file and activates it in the graphics state if the function was called within an open page or template.

See also [LoadFontEx](#) function in DynaPDF manual.

See also:

- 3.40.619 [LoadFontEx](#)(Filepath as string, Style as Integer, size as Double, Embed as Boolean = false, CodePage as Integer = 2, CollectionIndex as UInt32 = 0) as Integer 427

### 3.40.619 [LoadFontEx](#)(Filepath as string, Style as Integer, size as Double, Embed as Boolean = false, CodePage as Integer = 2, CollectionIndex as UInt32 = 0) as Integer

Plugin Version: 12.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function loads a font from a font file and activates it in the graphics state if the function was called within an open page or template.

See also [LoadFontEx](#) function in DynaPDF manual.

See also:

- 3.40.618 LoadFontEx(File as folderitem, Style as Integer, size as Double, Embed as Boolean = false, CodePage as Integer = 2, CollectionIndex as UInt32 = 0) as Integer 427

### 3.40.620 LoadLayerConfig(Index as Integer) as Boolean

Plugin Version: 17.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Loads the specified layer configuration.

**Notes:** A PDF file that contains layers (Optional Content Groups in PDF syntax) contains usually at least a default configuration dictionary. This configuration is loaded by default when the visibility state of a layer or optional content group must be determined, e.g. when rendering a page.

Use this function to load another configuration if available. To determine the number of available configurations call GetLayerConfigCount().

The paramter Index can be one of the following:

- -1: Load the default configuration.
- -2: If a configuration was already loaded, leave it unchanged. Load the default configuration otherwise.
- 0..Count -1: Load the specified configuration.

If the function succeeds the return value is true. If the function fails the return value is false. See also [LoadLayerConfig](#) function in DynaPDF manual.

### 3.40.621 LoadLibrary(File as FolderItem) as boolean

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Loads the dynapdf library file.

**Example:**

```
MsgBox "Version before: "+DynaPDFMBS.DynaPDFVersion
```

```
dim f as FolderItem = SpecialFolder.Desktop.Child("dynapdf.dylib")
```

```
if DynaPDFMBS.LoadLibrary(f) then
```

```
MsgBox "Version after: "+DynaPDFMBS.DynaPDFVersion
```

```
else
```

```
MsgBox DynaPDFMBS.LoadError
```

```
end if
```

**Notes:** Returns true on success or false on failure.

While the plugin comes with an internal dynapdf library, you can use this method to load a different version of the library.

See also:

- 3.40.622 LoadLibrary(Path as string) as boolean 429

### 3.40.622 LoadLibrary(Path as string) as boolean

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Loads the dynapdf library file.

**Notes:** Returns true on success or false on failure.

While the plugin comes with an internal dynapdf library, you can use this method to load a different version of the library.

See also:

- 3.40.621 LoadLibrary(File as FolderItem) as boolean 428

### 3.40.623 LockLayer(layer as UInt32) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Unlocks a layer.

See also [LockLayer](#) function in DynaPDF manual.

### 3.40.624 LofLAB(LAB as Integer) as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns L of a LAB color value.

**Example:**

```
dim lab as Integer = DynaPDFMBS.LAB(1,2,3)
MsgBox str(DynaPDFMBS.LofLAB(lab)) // shows 1
```

### 3.40.625 MarkTemplateAsWatermark(TemplateHandle as Integer) as Boolean

Plugin Version: 23.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Marks template as watermark.

**Notes:** The function adds additional metadata to a template (XObject type Form in PDF terms, see BeginTemplate() or BeginTransparencyGroup() for further information) so that PDF editors like Adobe Acrobat are able to identify the template as watermark.

Watermarks can be deleted with Acrobat and many other PDF editors. DynaPDF can delete such watermarks too with DeleteWatermark() or Optimize().

Returns true on success or false on failure.

See also [MarkTemplateAsWatermark](#) function in DynaPDF manual.

### 3.40.626 MofCMYK(CMYK as UInt32) as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns M of a CMYK color value.

**Example:**

```
dim cmyk as Integer = DynaPDFMBS.CMYK(1,2,3,4)
MsgBox str(DynaPDFMBS.MofCMYK(cmyk)) // shows 2
```

**Notes:** Returns different values on BigEndian and LittleEndian systems.

### 3.40.627 MovePage(source as Integer, dest as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function moves a page to another position in the document.

See also [MovePage](#) function in DynaPDF manual.

### 3.40.628 MoveTo(PosX as Double, PosY as Double) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function moves the current position to the point specified by PosX, PosY.

**Example:**

```
dim pdf as new DynaPDFMBS
dim f as FolderItem = SpecialFolder.Desktop.Child("Create PDF with Line.pdf")
```

```
pdf.SetLicenseKey "Starter" // For this example you can use a Starter, Lite, Pro or Enterprise License
```

```
// Create a new PDF
call pdf.CreateNewPDF f

// We want to use top-down coordinates
call pdf.SetPageCoords pdf.kpcTopDown

// Add a page
call pdf.Append

// black
call pdf.SetStrokeColor 0

// line down
call pdf.MoveTo(100,100)
call pdf.LineTo(200,200)
call pdf.StrokePath

// line up
call pdf.MoveTo(200,200)
call pdf.LineTo(300,100)
call pdf.StrokePath

// end page
call pdf.EndPage

// Close page
call pdf.CloseFile

// Open PDF
f.Launch
```

See also [MoveTo](#) function in DynaPDF manual.

### 3.40.629 **MultiplyMatrix(M1 as DynaPDFMatrixMBS, M2 as DynapdfMatrixMBS, NewMatrix as DynapdfMatrixMBS) as boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function multiplies two transformation matrices and stores the result in the parameter NewMatrix.

**Notes:** You must pass three non nil matrix references into the function.

See also [MultiplyMatrix](#) function in DynaPDF manual.

### 3.40.630 `OpenImportBuffer(Buffer as Memoryblock, PwdType as Integer = 0, Password as string = "") as Integer`

Plugin Version: 13.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function reads an external PDF from a file buffer so that it can be imported entirely or parts of it.

**Notes:** Requires DynaPDF Lite license.

See also [OpenImportBuffer](#) function in DynaPDF manual.

See also:

- 3.40.631 `OpenImportBuffer(Buffer as string, PwdType as Integer = 0, Password as string = "") as Integer` 432

### 3.40.631 `OpenImportBuffer(Buffer as string, PwdType as Integer = 0, Password as string = "") as Integer`

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function reads an external PDF from a file buffer so that it can be imported entirely or parts of it.

**Notes:** Requires DynaPDF Lite license.

See also [OpenImportBuffer](#) function in DynaPDF manual.

See also:

- 3.40.630 `OpenImportBuffer(Buffer as Memoryblock, PwdType as Integer = 0, Password as string = "") as Integer` 432

### 3.40.632 `OpenImportFile(File as folderitem, PwdType as Integer = 0, Password as string = "") as Integer`

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function opens an external PDF file so that it can be imported entirely or parts of it.

**Notes:** Requires DynaPDF Lite license.

See also [OpenImportFile](#) function in DynaPDF manual.

See also:

- 3.40.633 `OpenImportFile(Path as String, PwdType as integer = 0, Password as string = "") as integer` 432

### 3.40.633 `OpenImportFile(Path as String, PwdType as integer = 0, Password as string = "") as integer`

Plugin Version: 19.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function opens an external PDF file so that it can be imported entirely or parts of it.

**Notes:** Requires DynaPDF Lite license.

See also [OpenImportFile](#) function in DynaPDF manual.

See also:

- 3.40.632 [OpenImportFile](#)(File as folderitem, PwdType as Integer = 0, Password as string = "") as Integer 432

### 3.40.634 [OpenOutputFile](#)(File as folderitem) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function opens the output file into which the PDF file should be written.

**Example:**

```
Dim d As New DynaPDFMBS
```

```
// create PDF in memory
```

```
Call d.CreateNewPDF
```

```
// add a picture
```

```
Call d.Append
```

```
Call d.InsertImageEx(100, 100, 100, 100, "/Users/cs/Pictures/mond.jpg")
```

```
Call d.EndPage
```

```
// okay?
```

```
If d.HaveOpenDoc Then
```

```
// open target file
```

```
Dim f As FolderItem = SpecialFolder.Desktop.Child("mond.pdf")
```

```
Call d.OpenOutputFile(f)
```

```
// write and close
```

```
Call d.CloseFile
```

```
End If
```

See also [OpenOutputFile](#) function in DynaPDF manual.

See also:

- 3.40.635 [OpenOutputFile](#)(Path as String) as Boolean 433

### 3.40.635 [OpenOutputFile](#)(Path as String) as Boolean

Plugin Version: 19.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function opens the output file into which the PDF file should be written.

**Example:**

```
Dim d As New MyDynaPDFMBS

// create PDF in memory
Call d.CreateNewPDF

// add a picture
Call d.Append
Call d.InsertImageEx(100, 100, 100, 100, "/Users/cs/Pictures/mond.jpg")
Call d.EndPage

// okay?
If d.HaveOpenDoc Then

// open target file
Call d.OpenOutputFile("/Users/cs/Desktop/mond.pdf")

// write and close
Call d.CloseFile

End If
```

See also [OpenOutputFile](#) function in DynaPDF manual.

See also:

- 3.40.634 [OpenOutputFile\(File as folderitem\) as Boolean](#)

433

### 3.40.636 [OpenOutputFileEncrypted\(File as folderitem, OpenPwd as string, OwnerPwd as string, KeyLen as Integer, Restrict as Integer\) as Boolean](#)

Plugin Version: 16.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Opens the output file and sets the encryption parameters.

**Notes:** This function enables in combination with [FlushPages](#) the creation of very large encrypted PDF files with minimal memory usage.

The function can be called in a while statement, e.g. to display a open file dialog if the file could not be opened. Once the function succeeds the PDF file can be finished with [CloseFile](#).

If the function succeeds the return value is true. If the function fails the return value is false.

See also [OpenOutputFileEncrypted](#) function in DynaPDF manual.

See also:

- 3.40.637 [OpenOutputFileEncrypted\(Path as String, OpenPwd as string, OwnerPwd as string, KeyLen](#)

as integer, Restrict as integer) as Boolean

### 3.40.637 **OpenOutputFileEncrypted(Path as String, OpenPwd as string, OwnerPwd as string, KeyLen as integer, Restrict as integer) as Boolean**

Plugin Version: 19.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Opens the output file and sets the encryption parameters.

**Notes:** This function enables in combination with FlushPages the creation of very large encrypted PDF files with minimal memory usage.

The function can be called in a while statement, e.g. to display a open file dialog if the file could not be opened. Once the function succeeds the PDF file can be finished with CloseFile.

If the function succeeds the return value is true. If the function fails the return value is false.

See also [OpenOutputFileEncrypted](#) function in DynaPDF manual.

See also:

- 3.40.636 [OpenOutputFileEncrypted\(File as folderitem, OpenPwd as string, OwnerPwd as string, KeyLen as Integer, Restrict as Integer\) as Boolean](#) 434

### 3.40.638 **OpenTag(Tag as Integer, Lang as string, AltText as string, Expansion as string, BBox as DynaPDFRectMBS = nil) as boolean**

Plugin Version: 8.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Opens a tag.

**Notes:** Rect: Optional parameter BBox that is required by the tags btFigure and btTable.

BBox must be defined in the current coordinate system that is used to output the corresponding contents. All transformations will be taken into account.

See also [OpenTag](#) function in DynaPDF manual.

### 3.40.639 **OpenTagAnsi(Tag as Integer, Lang as string, AltText as string, Expansion as string, BBox as DynaPDFRectMBS = nil) as boolean**

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** Opens a tag with ANSI encoding.

**Notes:** Rect: Optional parameter BBox that is required by the tags btFigure and btTable.

### 3.40.640 OpenTagEx(Tag as integer, Lang as string, AltText as string, Expansion as string, Attributes as String) as Boolean

Plugin Version: 23.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Opens a tag in the very same way as DynaPDF.OpenTag but supports additional parameters which can be set in a JSON (Javascript Object Notation) like format.

**Notes:** The optional parameter Attributes is a JSON like string. The JSON parser in DynaPDF supports a few extensions to make the definition of additional attributes as easy as possible.

See also [OpenTagEx](#) function in DynaPDF manual.

### 3.40.641 Optimize(Flags as Integer = 0, Params as DynaPDFOptimizeParamsMBS = nil) as boolean

Plugin Version: 14.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optimizes PDF.

**Example:**

```
dim pdf as new DynapdfMBS
// import PDF here

dim flags as integer = Bitwise.BitOr(
pdf.kofInMemory, _ // Optimize the file fully in memory. Only useful for small PDF files.
pdf.kofScaleImages, _ // Scale images as specified in the DynaPDFOptimizeParamsMBS class.
pdf.kofNewLinkNames, _ // If set, rename all object links to short names like F1, F2 etc.
pdf.kofDeleteInvPaths, _ // Delete invisible paths.
pdf.kofDeletePrivateData, _ // Delete private data objects from pages, templates, and images.
pdf.kofIgnoreZeroLineWidth, _
pdf.kofDeleteAlternateImages, _ // If set, alternate images will be deleted.
pdf.kofDeleteThumbnails) // Thumbnails can be deleted since PDF viewers can create thumbnails easily on
demand.

// pdf.kofInMemory // Optimize the file fully in memory. Only useful for small PDF files.
// pdf.kofConvertAllColors // If set, Separation, DeviceN, and NChannel color spaces will be converted to
the device space.
// pdf.kofIgnoreICCBased // If set, ICCBased color spaces will be left unchanged.
// pdf.kofScaleImages // Scale all images
// pdf.kofNewLinkNames // If set, rename all object links to short names like F1, F2 etc.
// pdf.kofDeleteInvPaths // Delete invisible paths. An invisible path is a path that was finished with the
no-op operator "n".
// more flags in DynaPDF documentation

Dim o As New DynaPDFOptimizeParamsMBS

o.MinColorRes = 100 // scale images with more than 100 dpi
```

`o.ResColorImages = 150 // down to 150 dpi`

`call pdf.Optimize(flags, o)`

**Notes:** This repairs also a lot of errors in the PDF and can shrink the PDF size. After optimize, please close PDF. If you need to further edit it, please import it again in a new environment.

You need to use `InitColorManagement` to get color conversion working well if needed.

Note that this function requires the DynaPDF Pro. See also [Optimize](#) function in DynaPDF manual.

### 3.40.642 PageLink(PosX as Double, PosY as Double, Width as Double, Height as Double, DestPage as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function inserts a page link onto the current open page. See also [PageLink](#) function in DynaPDF manual.

### 3.40.643 PageLink2(PosX as Double, PosY as Double, Width as Double, Height as Double, NamedDest as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function inserts a page link onto the current open page by using a named destination as target. See also [PageLink2](#) function in DynaPDF manual.

### 3.40.644 PageLink3(PosX as Double, PosY as Double, Width as Double, Height as Double, NamedDest as string) as Integer

Plugin Version: 12.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function adds a page link to the current open page by using a named destination as target. **Notes:** The difference in comparison to `PageLink2()` is that the named destination can be defined as string. This makes it possible to create the link, also if you don't have the required information to create the named destination at this point. If the named destination does not exist when the file is closed then the link does nothing. See also, `CreateNamedDest()`.

Return values:

If the function succeeds the return value is the annotation handle, a value greater or equal zero. If the function fails the return value is a negative error code.

See also [PageLink3](#) function in DynaPDF manual.

### 3.40.645 PageLinkEx(PosX as Double, PosY as Double, Width as Double, Height as Double, DestType as Integer, DestPage as Integer, a as Double = 0.0, b as Double = 0.0, c as Double = 0.0, d as Double = 0.0) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function inserts a page link onto the current open page.  
See also [PageLinkEx](#) function in DynaPDF manual.

### 3.40.646 PageStatistic(page as Integer = -1) as DynaPDFPageStatisticMBS

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries statistics from a page.

**Notes:** If page is -1 the current open page is used. Else the plugin uses `editpage(page)` to open the page and run the statistics on that.

Returns nil on any error or statistic value.

### 3.40.647 ParseContent(ParseInterface as DynaPDFParseInterfaceMBS, flags as Integer) as boolean

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Parses the content of a page.

**Notes:** Requires DynaPDF Pro license.

See also [ParseContent](#) function in DynaPDF manual.

### 3.40.648 PlaceImage(ImgHandle as Integer, PosX as Double, PosY as Double, Width as Double, Height as Double) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Images can be used multiple times on different positions and with different sizes. This function places an image onto a page or template that was already inserted beforehand by an image function. See also [PlaceImage](#) function in DynaPDF manual.

### 3.40.649 PlaceSigFieldValidateIcon(SigField as Integer, PosX as Double, PosY as Double, Width as Double, Height as Double) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function places the validation icon in a signature field to the wished position. See also [PlaceSigFieldValidateIcon](#) function in DynaPDF manual.

### 3.40.650 PlaceTemplate(TmplHandle as Integer, PosX as Double, PosY as Double, Width as Double, Height as Double) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function places a template onto a page, another open template, or pattern. See also [PlaceTemplate](#) function in DynaPDF manual.

### 3.40.651 PlaceTemplateEx(TmplHandle as Integer, PosX as Double, PosY as Double, ScaleWidth as Double, ScaleHeight as Double) as Boolean

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Places a template. See also [PlaceTemplateEx](#) function in DynaPDF manual.

### 3.40.652 PolygonAnnot(Vertices() as DynaPDFPointMBS, LineWidth as Double, FillColor as UInt32, StrokeColor as UInt32, ColorSpace as Integer, Author as string, Subject as string, Content as string) as Integer

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates a Polygon Annotation.

**Notes:** The vertices are connected by straight lines. The path is always closed before it will be drawn. It is not required to close the path explicitly. At least two vertices must be provided.

The coordinates of the vertices are interpreted in current user space. Any transformation that was applied on the coordinate system will be taken into account.

The stroke or fill color can be set to the special constant `kNO_COLOR` to fill or stroke the polygon. It is

not allowed to set both colors to `kNO_COLOR` since this would result in an invisible annotation. This annotation type has an associated PopUp annotation that displays the string `Content` in a floating window. The initial window state of the associated PopUp annotation is closed by default but the state can be changed with `SetAnnotOpenState` if necessary.

◊◊◊

If the function succeeds the return value is the annotation handle, a value greater or equal zero. If the function fails the return value is a negative error code. See also [PolygonAnnot](#) function in DynaPDF manual.

### 3.40.653 PolygonAnnotAnsi(Vertices() as DynaPDFPointMBS, LineWidth as Double, FillColor as UInt32, StrokeColor as UInt32, ColorSpace as Integer, Author as string, Subject as string, Content as string) as Integer

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function creates a Polygon Annotation.

**Notes:** The vertices are connected by straight lines. The path is always closed before it will be drawn. It is not required to close the path explicitly. At least two vertices must be provided.

The coordinates of the vertices are interpreted in current user space. Any transformation that was applied on the coordinate system will be taken into account.

The stroke or fill color can be set to the special constant `kNO_COLOR` to fill or stroke the polygon. It is not allowed to set both colors to `kNO_COLOR` since this would result in an invisible annotation.

This annotation type has an associated PopUp annotation that displays the string `Content` in a floating window. The initial window state of the associated PopUp annotation is closed by default but the state can be changed with `SetAnnotOpenState` if necessary.

◊◊◊

If the function succeeds the return value is the annotation handle, a value greater or equal zero. If the function fails the return value is a negative error code.

### 3.40.654 PolyLineAnnot(Vertices() as DynaPDFPointMBS, LineWidth as Double, StartLineEndStyle as Integer, EndLineEndStyle as Integer, FillColor as UInt32, StrokeColor as UInt32, ColorSpace as Integer, Author as string, Subject as string, Content as string) as Integer

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates a PolyLine Annotation.

**Notes:** The vertices are connected by straight lines. At least two vertices must be provided.

The coordinates of the vertices are interpreted in current user space. Any transformation that was applied on the coordinate system will be taken into account.

The parameter FillColor is only used if the line end style of the start or end point has an interior that can be filled. The special constant kNO\_COLOR represents a transparent interior.

The stroke color is required and must not be set to kNO\_COLOR.

This annotation type has an associated PopUp annotation that displays the string Content in a floating window. The initial window state of the associated PopUp annotation is closed by default but the state can be changed with SetAnnotOpenState if necessary.

The parameter LineWidth must be in the range 0 through 12 units. Values outside the valid range will be adjusted to the nearest allowed value. A zero line width produces a 1 pixel wide line.

The line end styles can be changed if necessary with SetAnnotLineEndStyle.

If the function succeeds the return value is the annotation handle, a value greater or equal zero. If the function fails the return value is a negative error code.

See also [PolyLineAnnot](#) function in DynaPDF manual.

### 3.40.655 PolyLineAnnotAnsi(Vertices() as DynaPDFPointMBS, LineWidth as Double, StartLineEndStyle as Integer, EndLineEndStyle as Integer, FillColor as UInt32, StrokeColor as UInt32, ColorSpace as Integer, Author as string, Subject as string, Content as string) as Integer

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function creates a PolyLine Annotation.

**Notes:** The vertices are connected by straight lines. At least two vertices must be provided.

The coordinates of the vertices are interpreted in current user space. Any transformation that was applied on the coordinate system will be taken into account.

The parameter FillColor is only used if the line end style of the start or end point has an interior that can be filled. The special constant kNO\_COLOR represents a transparent interior.

The stroke color is required and must not be set to kNO\_COLOR.

This annotation type has an associated PopUp annotation that displays the string Content in a floating window. The initial window state of the associated PopUp annotation is closed by default but the state can be changed with SetAnnotOpenState if necessary.

The parameter LineWidth must be in the range 0 through 12 units. Values outside the valid range will be adjusted to the nearest allowed value. A zero line width produces a 1 pixel wide line.

The line end styles can be changed if necessary with SetAnnotLineEndStyle.

If the function succeeds the return value is the annotation handle, a value greater or equal zero. If the function fails the return value is a negative error code.

### 3.40.656 PrintGetDevMode as String

Plugin Version: 17.2, Platform: Windows, Targets: Desktop only.

**Function:** Queries last print dev mode.

**Notes:** You can store this in a preferences file for next printing.  
This is same data structure as in WindowsDeviceModeMBS class.

### 3.40.657 PrintGetDevNames(byref Driver as String, byref Device as String, byref Output as String, byref DefaultFlag as Integer) as Boolean

Plugin Version: 17.2, Platform: Windows, Targets: Desktop only.

**Function:** Queries printer device names.

**Notes:** Driver: File name (without the extension) of the device driver.

Device: Name of the device.

Output: Device name for the physical output medium (output port).

DefaultFlag: 1 if the selected printer is the default one.

Returns true on success or false on failure.

### 3.40.658 PrintPDFFile(TempDir as FolderItem, DocName as string, DCHandle as integer, Flags as Integer = 0, Margin as DynaPDFRectMBS = nil, PrintParams as DynaPDFPrintParamsMBS = nil) as Boolean

Plugin Version: 15.1, Platform: Windows, Targets: All.

**Function:** Prints current PDF file.

**Notes:** Returns true on success and false on failure.

Flags can be a combination of the flag values `kpffPrintAsImage`, `kpffDefault`, `kpffColor`, `kpffAutoRotateAndCenter` and `kpff1Bit`.

Margin can be nil. If not nil, specifies the margins to use.

DCHandle is the handle of the graphics context.

If you only want to print a selection of pages, please only import those pages via `ImportPDFPage` function. Or use `DeletePage` to remove the pages you don't want to print.

Does not work with a graphics handle from Xojo 2016r4 and newer due to switch to `DirectDraw` APIs.

Or in other words, you can use a `HDC` handle from graphics class in Xojo 2016r3 and older to print PDF.

See also [PrintPDFFile](#) function in DynaPDF manual.

See also:

- 3.40.659 `PrintPDFFile(TempDir as FolderItem, DocName as string, PrinterName as String, Flags as`

Integer = 0, Margin as DynaPDFRectMBS = nil, PrintParams as DynaPDFPrintParamsMBS = nil)  
as Boolean 443

### 3.40.659 PrintPDFFile(TempDir as FolderItem, DocName as string, Printer-Name as String, Flags as Integer = 0, Margin as DynaPDFRectMBS = nil, PrintParams as DynaPDFPrintParamsMBS = nil) as Boolean

Plugin Version: 17.2, Platform: Windows, Targets: All.

**Function:** Prints current PDF file.

**Notes:** Returns true on success and false on failure.

Flags can be a combination of the flag values kpffPrintAsImage, kpffDefault, kpffColor, kpffAutoRotateAndCenter and kpff1Bit.

Margin can be nil. If not nil, specifies the margins to use.

PrinterName is the name of the printer to use. The plugin will open the printer and print PDF there with default settings.

If you only want to print a selection of pages, please only import those pages via ImportPDFPage function. Or use DeletePage to remove the pages you don't want to print.

See also [PrintPDFFile](#) function in DynaPDF manual.

See also:

- 3.40.658 PrintPDFFile(TempDir as FolderItem, DocName as string, DCHandle as integer, Flags as Integer = 0, Margin as DynaPDFRectMBS = nil, PrintParams as DynaPDFPrintParamsMBS = nil) as Boolean 442

### 3.40.660 PrintPDFFileWithDialog(TempDir as FolderItem, DocName as string, Flags as Integer = 0, Margin as DynaPDFRectMBS = nil, PrintParams as DynaPDFPrintParamsMBS = nil, parentWindow as Window = nil) as Boolean

Plugin Version: 17.2, Platform: Windows, Targets: Desktop only.

**Function:** Prints current PDF file with dialog.

**Notes:** Returns true on success and false on failure.

Flags can be a combination of the flag values kpffPrintAsImage, kpffDefault, kpffColor, kpffAutoRotateAndCenter and kpff1Bit.

Margin can be nil. If not nil, specifies the margins to use.

Shows print dialog and allows user to set printer.

If you only want to print a selection of pages, please only import those pages via ImportPDFPage function. Or use DeletePage to remove the pages you don't want to print.

After this call you can use PrintGetDevNames and PrintGetDevMode to get printer settings.

And before this call you can use `PrintSetDevMode` and `PrintSetDevNames` to restore printer settings.  
See also:

- 3.40.661 `PrintPDFFileWithDialog(TempDir as FolderItem, DocName as string, Flags as Integer, Margin as DynaPDFRectMBS, PrintParams as DynaPDFPrintParamsMBS, parentWindow as DesktopWindow) as Boolean` 444

### 3.40.661 `PrintPDFFileWithDialog(TempDir as FolderItem, DocName as string, Flags as Integer, Margin as DynaPDFRectMBS, PrintParams as DynaPDFPrintParamsMBS, parentWindow as DesktopWindow) as Boolean`

Plugin Version: 22.0, Platform: Windows, Targets: Desktop only.

**Function:** Prints current PDF file with dialog.

**Notes:** Returns true on success and false on failure.

Flags can be a combination of the flag values `kpffPrintAsImage`, `kpffDefault`, `kpffColor`, `kpffAutoRotateAndCenter` and `kpff1Bit`.

Margin can be nil. If not nil, specifies the margins to use.

Shows print dialog and allows user to set printer.

If you only want to print a selection of pages, please only import those pages via `ImportPDFPage` function.  
Or use `DeletePage` to remove the pages you don't want to print.

After this call you can use `PrintGetDevNames` and `PrintGetDevMode` to get printer settings.

And before this call you can use `PrintSetDevMode` and `PrintSetDevNames` to restore printer settings.

See also:

- 3.40.660 `PrintPDFFileWithDialog(TempDir as FolderItem, DocName as string, Flags as Integer = 0, Margin as DynaPDFRectMBS = nil, PrintParams as DynaPDFPrintParamsMBS = nil, parentWindow as Window = nil) as Boolean` 443

### 3.40.662 `PrintPDFPage(PageNumber as Integer, DocName as string, DCHandle as integer, Flags as Integer = 0, Margin as DynaPDFRectMBS = nil, PrintParams as DynaPDFPrintParamsMBS = nil) as Boolean`

Plugin Version: 17.2, Platform: Windows, Targets: All.

**Function:** Prints a page.

**Notes:** See `PrintPDFFile` for details and options.

See also:

- 3.40.663 `PrintPDFPage(PageNumber as Integer, DocName as string, PrinterName as String, Flags as Integer = 0, Margin as DynaPDFRectMBS = nil, PrintParams as DynaPDFPrintParamsMBS = nil) as Boolean` 445

### 3.40.663 PrintPDFPage(PageNumber as Integer, DocName as string, PrinterName as String, Flags as Integer = 0, Margin as DynaPDFRectMBS = nil, PrintParams as DynaPDFPrintParamsMBS = nil) as Boolean

Plugin Version: 17.2, Platform: Windows, Targets: All.

**Function:** Prints a page.

**Notes:** See PrintPDFFile for details and options.

Version 18.4 and newer use device mode set with DynaPDFMBS.PrintSetDevMode method for printer settings.

See also:

- 3.40.662 PrintPDFPage(PageNumber as Integer, DocName as string, DCHandle as integer, Flags as Integer = 0, Margin as DynaPDFRectMBS = nil, PrintParams as DynaPDFPrintParamsMBS = nil) as Boolean 444

### 3.40.664 PrintPDFPageWithDialog(PageNumber as Integer, DocName as string, Flags as Integer = 0, Margin as DynaPDFRectMBS = nil, PrintParams as DynaPDFPrintParamsMBS = nil, parentWindow as Window = nil) as Boolean

Plugin Version: 17.2, Platform: Windows, Targets: Desktop only.

**Function:** Prints a page with dialog.

**Notes:** See PrintPDFFileWithDialog for details and options.

See also:

- 3.40.665 PrintPDFPageWithDialog(PageNumber as Integer, DocName as string, Flags as Integer, Margin as DynaPDFRectMBS, PrintParams as DynaPDFPrintParamsMBS, parentWindow as DesktopWindow) as Boolean 445

### 3.40.665 PrintPDFPageWithDialog(PageNumber as Integer, DocName as string, Flags as Integer, Margin as DynaPDFRectMBS, PrintParams as DynaPDFPrintParamsMBS, parentWindow as DesktopWindow) as Boolean

Plugin Version: 22.0, Platform: Windows, Targets: Desktop only.

**Function:** Prints a page with dialog.

**Notes:** See PrintPDFFileWithDialog for details and options.

See also:

- 3.40.664 PrintPDFPageWithDialog(PageNumber as Integer, DocName as string, Flags as Integer = 0, Margin as DynaPDFRectMBS = nil, PrintParams as DynaPDFPrintParamsMBS = nil, parentWindow as Window = nil) as Boolean 445

### 3.40.666 PrintSetDevMode(data as MemoryBlock) as Boolean

Plugin Version: 18.5, Platform: Windows, Targets: Desktop only.

**Function:** Set last print dev mode.

**Notes:** Returns true on success.

This is same data structure as in WindowsDeviceModeMBS class.

See also:

- 3.40.667 PrintSetDevMode(data as String) as Boolean 446

### 3.40.667 PrintSetDevMode(data as String) as Boolean

Plugin Version: 17.2, Platform: Windows, Targets: Desktop only.

**Function:** Set last print dev mode.

**Notes:** Returns true on success.

This is same data structure as in WindowsDeviceModeMBS class.

See also:

- 3.40.666 PrintSetDevMode(data as MemoryBlock) as Boolean 446

### 3.40.668 PrintSetDevNames(Driver as String, Device as String, Output as String, DefaultFlag as Integer) as Boolean

Plugin Version: 17.2, Platform: Windows, Targets: Desktop only.

**Function:** Sets printer device names.

**Notes:** Driver: File name (without the extension) of the device driver.

Device: Name of the device.

Output: Device name for the physical output medium (output port).

DefaultFlag: 1 if the selected printer is the default one.

Returns true on success or false on failure.

### 3.40.669 ReadImageFormat(FileName as folderitem, byref Width as Integer, byref Height as Integer, byref BitsPerPixel as Integer, byref UseZip as Boolean) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function retrieves the most important properties of an image file.

See also [ReadImageFormat](#) function in DynaPDF manual.

### 3.40.670 ReadImageFormat2(FileName as folderitem, Index as Integer, byref Width as Integer, byref Height as Integer, byref BitsPerPixel as Integer, byref UseZip as Boolean) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function retrieves the most important properties of an image file.

**Example:**

```
// read image format and resolution and calculate physical size
dim bits as integer
dim useZip as Boolean
dim resX as integer = 0
dim resY as integer = 0
dim physHeight as integer
dim physWidth as integer
dim w as integer
dim h as integer

call pdf.ReadImageFormat2(Source, 1, w, h, bits, useZip)
call pdf.ReadImageResolution(Source, 1, resX, resY)

if (resX <>resY and resX >0 and resY >0) then
if (resX >resY) then
physWidth = w
physHeight = h \ (resX \ resY)
else
physWidth = w \ (resY \ resX)
physHeight = h
end if
else
physHeight = h
physWidth = w
end if
```

See also [ReadImageFormat2](#) function in DynaPDF manual.

### 3.40.671 ReadImageFormatEx(hBitmap as Integer, byref Width as Integer, byref Height as Integer, byref BitsPerPixel as Integer, byref UseZip as Boolean) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function retrieves the most important properties of a memory bitmap.

See also [ReadImageFormatEx](#) function in DynaPDF manual.

### 3.40.672 ReadImageFormatFromBuffer(Buffer as memoryblock, Index as Integer, byref Width as Integer, byref Height as Integer, byref BitsPerPixel as Integer, byref UseZip as Boolean) as Boolean

Plugin Version: 13.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function retrieves the most important properties of an image in the same way as ReadImageFormat2(), but accepts an image buffer as input.

See also [ReadImageFormatFromBuffer](#) function in DynaPDF manual.

See also:

- 3.40.673 ReadImageFormatFromBuffer(Buffer as string, Index as Integer, byref Width as Integer, byref Height as Integer, byref BitsPerPixel as Integer, byref UseZip as Boolean) as Boolean 448

### 3.40.673 ReadImageFormatFromBuffer(Buffer as string, Index as Integer, byref Width as Integer, byref Height as Integer, byref BitsPerPixel as Integer, byref UseZip as Boolean) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function retrieves the most important properties of an image in the same way as ReadImageFormat2(), but accepts an image buffer as input.

See also [ReadImageFormatFromBuffer](#) function in DynaPDF manual.

See also:

- 3.40.672 ReadImageFormatFromBuffer(Buffer as memoryblock, Index as Integer, byref Width as Integer, byref Height as Integer, byref BitsPerPixel as Integer, byref UseZip as Boolean) as Boolean 448

### 3.40.674 ReadImageResolution(FileName as folderitem, Index as Integer, byref ResX as Integer, byref ResY as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function retrieves the horizontal and vertical resolution of an image file.

**Example:**

```
// read image format and resolution and calculate physical size
dim bits as integer
dim useZip as Boolean
dim resX as integer = 0
dim resY as integer = 0
dim physHeight as integer
```

```

dim physWidth as integer
dim w as integer
dim h as integer

call pdf.ReadImageFormat2(Source, 1, w, h, bits, useZip)
call pdf.ReadImageResolution(Source, 1, resX, resY)

if (resX <>resY and resX >0 and resY >0) then
if (resX >resY) then
physWidth = w
physHeight = h \ (resX \ resY)
else
physWidth = w \ (resY \ resX)
physHeight = h
end if
else
physHeight = h
physWidth = w
end if

```

See also [ReadImageResolution](#) function in DynaPDF manual.

### 3.40.675 ReadImageResolutionEx(Buffer as Memoryblock, Index as Integer, byref ResX as Integer, byref ResY as Integer) as Boolean

Plugin Version: 13.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function retrieves the horizontal and vertical resolution of an image file in the same way as `ReadImageResolution()` but accepts an image buffer as input.

See also [ReadImageResolutionEx](#) function in DynaPDF manual.

See also:

- 3.40.676 [ReadImageResolutionEx\(Buffer as string, Index as Integer, byref ResX as Integer, byref ResY as Integer\) as Boolean](#) 449

### 3.40.676 ReadImageResolutionEx(Buffer as string, Index as Integer, byref ResX as Integer, byref ResY as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function retrieves the horizontal and vertical resolution of an image file in the same way as `ReadImageResolution()` but accepts an image buffer as input.

See also [ReadImageResolutionEx](#) function in DynaPDF manual.

See also:

- 3.40.675 ReadImageResolutionEx(Buffer as Memoryblock, Index as Integer, byref ResX as Integer, byref ResY as Integer) as Boolean 449

### 3.40.677 Rectangle(PosX as Double, PosY as Double, Width as Double, Height as Double, FillMode as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function draws a rectangle.  
See also [Rectangle](#) function in DynaPDF manual.

### 3.40.678 ReEncryptPDF(File as folderitem, PwdType as Integer, InPwd as string, OpenPwd as string, OwnerPwd as string, KeyLen as Integer, Restrict as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function encrypts an already encrypted or unencrypted PDF file.  
See also [ReEncryptPDF](#) function in DynaPDF manual.

### 3.40.679 ReEncryptPDFAnsi(Path as string, PwdType as Integer, InPwd as string, OpenPwd as string, OwnerPwd as string, KeyLen as Integer, Restrict as Integer) as Integer

Plugin Version: 12.2, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** This function encrypts an already encrypted or unencrypted PDF file.  
**Notes:** Same as ReEncryptPDF, but takes path name in Windows ANSI encoding.

### 3.40.680 RenameSpotColor(Colorant as string, NewName as string) as Integer

Plugin Version: 10.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Renames a colorant.

**Example:**

```
// your instance
dim pdf as DynaPDFMBS

// rename the color
call pdf.RenameSpotColor("Magenta", "Magenta2")
```

**Notes:** Strings are converted to UTF-8.  
See also [RenameSpotColor](#) function in DynaPDF manual.

### 3.40.681 RenderAnnotOrField(Handle as UInt32, IsAnnot as boolean, State as Integer, Matrix as DynaPDFMatrixMBS, Flags as Integer, PixFmt as Integer, Filter as Integer, byref Out as DynaPDFBitmapMBS) as Integer

Plugin Version: 14.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function renders an annotation or field independent of the page.  
**Notes:** Please check `dynapdf_help.pdf` for details on `RenderAnnotOrField` function.  
Plugin will fill out parameter only if result is zero.  
Requires DynaPDF Pro license.  
See also [RenderAnnotOrField](#) function in DynaPDF manual.

### 3.40.682 RenderPagePicture(PageNum as Integer) as picture

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Renders a picture for the page with the given page number.  
**Example:**

```
dim pdf as new MyDynaPDFMBS

// For this example you can use a Pro or Enterprise License
pdf.SetLicenseKey "Pro"

// create in memory
call pdf.CreateNewPDF nil

// set import flags
call pdf.SetImportFlags pdf.kifImportAsPage

// open the PDF file
dim f as FolderItem = SpecialFolder.Desktop.Child("test.pdf")
call pdf.OpenImportFile(f, 0, "")

// import all the pages
call pdf.ImportPDFFile(1, 1.0, 1.0)

// and render first page
```

```
dim out as Picture = pdf.RenderPagePicture(1)

// display in window
Backdrop = out
```

**Notes:** Please note that for most cases `RenderPageToImage` and `RenderPDFFile` are better choices for rendering. Especially if you plan to compress images later anyway. And you avoid trouble with color matching. For this function to work correct you have to initialize DynaPDF with right color space for screen (Generic RGB on Mac and screen profile for Windows).

The picture size is set to the Cropbox. If no crop box is defined, it uses the media box.

Returns nil on any error.

If you render a lot of pages from the same PDF, consider using `DynaPDFRasterizerMBS` class as it's faster when you reuse the rasterizer.

Currently not available for Linux Desktop apps.  
Requires DynaPDF Pro license.

For pages with orientation of 90 or 270 degree, the plugin will take that into account and swap width/height to have rendered picture have the riught size.  
See also:

- 3.40.683 `RenderPagePicture(PageNum as Integer, Width as Integer, Height as Integer, DefScale as Integer = 2, matrix as DynaPDFMatrixMBS = nil) as picture` 452

### 3.40.683 `RenderPagePicture(PageNum as Integer, Width as Integer, Height as Integer, DefScale as Integer = 2, matrix as DynaPDFMatrixMBS = nil) as picture`

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Renders a picture for the page with the given page number.

**Example:**

```
dim pdf as new MyDynaPDFMBS

// For this example you can use a Pro or Enterprise License
pdf.SetLicenseKey "Pro"

// create in memory
call pdf.CreateNewPDF nil
```

```

// set import flags
call pdf.SetImportFlags pdf.kifImportAsPage

// open the PDF file
dim f as FolderItem = SpecialFolder.Desktop.Child("test.pdf")
call pdf.OpenImportFile(f, 0, "")

// import all the pages
call pdf.ImportPDFFile(1, 1.0, 1.0)

// and render first page with window size
dim out as Picture = pdf.RenderPagePicture(1, Width, Height)

// display in window
Backdrop = out

```

**Notes:** Please note that for most cases `RenderPageToImage` and `RenderPDFFile` are better choices for rendering. Especially if you plan to compress images later anyway. And you avoid trouble with color matching. For this function to work correct you have to initialize DynaPDF with right color space for screen (Generic RGB on Mac and screen profile for Windows).

The picture is created with the given size. The PDF page is scaled to fit size. You can use the constants `kpsFitBest`, `kpsFitHeight` or `kpsFitWidth` for the `DefScale` parameter. The matrix allows you to move, rotate or scale the PDF inside the picture.

Returns nil on any error.

If you render a lot of pages from the same PDF, consider using `DynaPDFRasterizerMBS` class as it's faster when you reuse the rasterizer.

Currently not available for Linux Desktop apps.  
Requires DynaPDF Pro license.

If page is rotated, please swap width and height yourself.  
See also:

- 3.40.682 `RenderPagePicture(PageNum as Integer)` as picture

### 3.40.684 RenderPageToImage(PageNumber as UInt32, OutFile as folderitem, Resolution as UInt32, Width as UInt32, Height as UInt32, Flags as UInt32, PixFmt as UInt32, Filter as UInt32, Format as UInt32) as boolean

Plugin Version: 11.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function renders a PDF page into an image.

**Example:**

```
dim pdf as new MyDynaPDFMBS // your DynaPDF subclass with Error event filled

// where to get PDF page
dim f as FolderItem = SpecialFolder.Desktop.Child("test.pdf")

// where to write
dim t as FolderItem = SpecialFolder.Desktop.Child("test.jpg")

pdf.SetLicenseKey "Pro" // For this example you can use a Pro or Enterprise License

call pdf.CreateNewPDF nil
call pdf.SetImportFlags(pdf.kifImportAll + pdf.kifImportAsPage)

// open file
call pdf.OpenImportFile(f,0,"")

// add page
call pdf.Append

// import the page
call pdf.ImportPageEx(1,1.0,1.0)
call pdf.EndPage

// render the page
call pdf.RenderPageToImage(1, t, 72, ImageView1.Width, ImageView1.Height, DynaPDFRasterImageMBS.krfDefault, DynaPDFRasterizerMBS.kpxfRGB, DynaPDFMBS.kcfJPEG, DynaPDFMBS.kifmJPEG)
```

**Notes:** PixFmt: pass kpxf\* constants like DynaPDFRasterizerMBS.kpxfRGB.

Filter: Pass kcf\* constants like DynaPDFMBS.kcfJPEG.

Format: pass kifm\* constants like DynaPDFMBS.kifmJPEG.

The page that should be rendered must be closed (Append() or EditPage() open a page and EndPage() closes a page).

If the parameter OutFile is set to nil the image is created in memory. In this case call GetImageBuffer() to retrieve the image buffer and finally FreeImageBuffer() to release it.

The output image size can be calculated in different ways:

- If Resolution is >0 the image width and height is calculated according to the specified resolution. On a 32 bit machine it is possible to render pages in up to 1200 DPI depending on the page format. Larger resolutions require special techniques like banding to restrict the memory usage. However, no such feature is available in DynaPDF.
- If Width >0 and if Height == 0 the image height is calculated according to the given width to archive an image with exact proportions.
- If Width == 0 and if Height >0 then image width is calculated according to the given height to archive an image with exact proportions.
- If Width >0 and if Height >0 the image is scaled to the width and height.

The pixel format and the output image format must be compatible. Because TIFF is the only image format that supports different compression filters, the parameter Filter will be ignored for all other output formats. If the function succeeds the return value is true. If the function fails the return value is false.

Requires DynaPDF Pro license.

See also [RenderPageToImage](#) function in DynaPDF manual.

### 3.40.685 **RenderPageToImageMT(PageNumber as UInt32, OutFile as folderitem, Resolution as UInt32, Width as UInt32, Height as UInt32, Flags as UInt32, PixFmt as UInt32, Filter as UInt32, Format as UInt32) as boolean**

Plugin Version: 14.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function renders a PDF page into an image.

**Notes:** PixFmt: pass kpxf\* constants like DynaPDFRasterizerMBS.kpxfRGB.

Filter: Pass kcf\* constants like DynaPDFMBS.kcfJPEG.

Format: pass kifm\* constants like DynaPDFMBS.kifmJPEG.

The page that should be rendered must be closed (Append() or EditPage() open a page and EndPage() closes a page).

If the parameter OutFile is set to nil the image is created in memory. In this case call GetImageBuffer() to retrieve the image buffer and finally FreeImageBuffer() to release it.

The output image size can be calculated in different ways:

- If Resolution is >0 the image width and height is calculated according to the specified resolution. On a 32 bit machine it is possible to render pages in up to 1200 DPI depending on the page format. Larger resolutions require special techniques like banding to restrict the memory usage. However, no such feature is available in DynaPDF.

- If Width >0 and if Height == 0 the image height is calculated according to the given width to archive an image with exact proportions.
- If Width == 0 and if Height >0 then image width is calculated according to the given height to archive an image with exact proportions.
- If Width >0 and if Height >0 the image is scaled to the width and height.

The pixel format and the output image format must be compatible. Because TIFF is the only image format that supports different compression filters, the parameter Filter will be ignored for all other output formats. If the function succeeds the return value is true. If the function fails the return value is false.

Requires DynaPDF Pro license.

The work is performed on a preemptive thread, so this function does not block the application and can yield time to other Xojo threads. Must be called in a Xojo thread to enjoy benefits. If called in main thread will block, but keep other background threads running.

If you run several threads calling MT methods, you can get all CPU cores busy while main thread shows GUI with progress window.

### 3.40.686 **RenderPageToPicture**(PageNum as integer, pic as picture, DefScale as integer = 2, matrix as DynaPDFMatrixMBS = nil, RenderWithAlpha as boolean = false) as boolean

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Renders the page into the given picture.

**Example:**

```
dim pdf as new MyDynaPDFMBS

// For this example you can use a Pro or Enterprise License
pdf.SetLicenseKey "Pro"

// create in memory
call pdf.CreateNewPDF nil

// set import flags
call pdf.SetImportFlags pdf.kifImportAsPage

// open the PDF file
dim f as FolderItem = SpecialFolder.Desktop.Child("test.pdf")
call pdf.OpenImportFile(f, 0, "")

// import all the pages
call pdf.ImportPDFFile(1, 1.0, 1.0)
```

```
// create picture
dim out as new Picture(800, 600, 32)

// render first page in the existing picture
call pdf.RenderPageToPicture(1, out)

// display in window
Backdrop = out
```

**Notes:** Please note that for most cases `RenderPageToImage` and `RenderPDFFile` are better choices for rendering. Especially if you plan to compress images later anyway. And you avoid trouble with color matching. For this function to work correct you have to initialize DynaPDF with right color space for screen (Generic RGB on Mac and screen profile for Windows).

This method draws into an existing picture. The PDF page is scaled to fit size. You can use the constants `kpsFitBest`, `kpsFitHeight` or `kpsFitWidth` for the `DefScale` parameter. The matrix allows you to move, rotate or scale the PDF inside the picture.

Returns nil on any error.

This does not work on Linux desktop targets as the plugin can't write into a picture there.

If you render a lot of pages from the same PDF, consider using `DynaPDFRasterizerMBS` class as it's faster when you reuse the rasterizer.

Requires DynaPDF Pro license.

Added `RenderWithAlpha` parameter in plugin version 19.0.

If `RenderWithAlpha` is true, we render with alpha channel. If the destination is a picture has alpha channel, you should get the alpha there. Otherwise for picture without alpha channel, we only copy RGB channels.

### 3.40.687 `RenderPDFFile(OutFile as folderitem, Resolution as UInt32, Flags as UInt32, PixFmt as UInt32, Filter as UInt32, Format as UInt32) as boolean`

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use `RenderPDFFileEx` instead.

**Function:** The function renders all PDF pages which are currently in memory and stores the result in a proprietary image format.

**Example:**

```

dim file as FolderItem = SpecialFolder.Desktop.Child("test.pdf")
dim pdf as new MyDynaPDFMBS

call pdf.CreateNewPDF nil
call pdf.OpenImportFile(file, 0, "")
call pdf.ImportPDFFile(1, 1.0, 1.0)

// create a TIFF file:

dim outfile as FolderItem = SpecialFolder.Desktop.Child("test.tif")

dim Flags as Integer = DynaPDFRasterImageMBS.krfDefault
dim PixFmt as Integer = DynaPDFRasterizerMBS.kpxfRGB
dim Format as Integer = DynaPDFMBS.kifmTIFF // use kifm* constants
dim Filter as Integer = DynaPDFMBS.kcfLZW // pick a compression scheme for the file format

call pdf.RenderPDFFile(outfile, 300, Flags, PixFmt, Filter, Format)

// create a folder of JPEG file:

dim outfolder as FolderItem = SpecialFolder.Desktop.Child("test files")
outfolder.CreateAsFolder

Flags = DynaPDFRasterImageMBS.krfDefault
PixFmt = DynaPDFRasterizerMBS.kpxfRGB
Format = DynaPDFMBS.kifmJPEG // use kifm* constants
Filter = DynaPDFMBS.kcfJPEG

call pdf.RenderPDFFile(outfolder, 300, Flags, PixFmt, Filter, Format)

```

**Notes:** One page PDF can go to e.g. a JPEG file.  
Multi page PDF file can go to a TIFF file with several images.  
Or you specify a folder and get a folder of JPEG/PNG/TIFF files.  
See also [RenderPDFFile](#) function in DynaPDF manual.

### 3.40.688 **RenderPDFFileEx(OutFile as folderitem, Resolution as UInt32, Width as Integer, Height as Integer, Flags as UInt32, PixFmt as UInt32, Filter as UInt32, Format as UInt32) as boolean**

Plugin Version: 18.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Renders all PDF pages which are currently in memory and stores the result in a proprietary image format.

**Notes:** The pages in memory could be imported from one or more external PDF files, e.g. with Import-

PDFFile(), created with DynaPDF functions, or a combination of both.

The parameter OutFile can be a path to an existing directory or the file name of the output image. The latter type can be used with TIFF images because this format supports multi-page output. When a file path is used with a single page image format only the first page will be rendered.

The function checks whether the path is a directory or a file name.

The function can render pages in a specific resolution, or scale them to a given width or height.

Depending on which parameters are set the image size is calculated as follows:

- Resolution >0 and Width == 0 and Height == 0: Pages are rendered according to the given resolution. Note that PDF pages can be very large. Therefore, it is maybe not possible to render all pages in the wished resolution.
- Resolution >0 and Width <0 and or Height <0: Pages are rendered according to the given resolution. Negative values of Width and Height are interpreted as maximum width or height if Resolution is greater zero. Since PDF pages can be very large, it is recommended to set the maximum width and height to a value that is low enough so that no out of memory exception occurs, e.g. 5000 x 5000 pixels.
- Resolution == 0 and Width >0 or Height >0: Pages are scaled to the given Width or Height. If Width and Height are greater zero then pages are scaled to that size independent of the original page format (not recommended). It is usually best to set the width or height to zero so that the function can calculate the missing value to preserve the aspect ratio.

On a 32 bit system it is possible to render PDF pages in RGB with up to around 1200 DPI, depending on the page format and available memory. The resolution of gray images can be higher but the encoder must be able to handle such large images. The PNG and bitmap encoders accept images in almost arbitrary resolutions but all other encoders can fail when the resolution is larger than about 2000 DPI.

The function calls the progress events.

Returns true on success or false on failure.

See also [RenderPDFFileEx](#) function in DynaPDF manual.

### 3.40.689 RenderPDFFileExMT(OutFile as folderitem, Resolution as UInt32, Width as Integer, Height as Integer, Flags as UInt32, PixFmt as UInt32, Filter as UInt32, Format as UInt32) as boolean

Plugin Version: 18.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Renders all PDF pages which are currently in memory and stores the result in a proprietary image format.

**Notes:** The pages in memory could be imported from one or more external PDF files, e.g. with `ImportPDFFile()`, created with DynaPDF functions, or a combination of both.

The parameter `OutFile` can be a path to an existing directory or the file name of the output image. The latter type can be used with TIFF images because this format supports multi-page output. When a file path is used with a single page image format only the first page will be rendered.

The function checks whether the path is a directory or a file name.

The function can render pages in a specific resolution, or scale them to a given width or height.

Depending on which parameters are set the image size is calculated as follows:

- Resolution  $>0$  and Width  $== 0$  and Height  $== 0$ : Pages are rendered according to the given resolution. Note that PDF pages can be very large. Therefore, it is maybe not possible to render all pages in the wished resolution.
- Resolution  $>0$  and Width  $<0$  and or Height  $<0$ : Pages are rendered according to the given resolution. Negative values of Width and Height are interpreted as maximum width or height if Resolution is greater zero. Since PDF pages can be very large, it is recommended to set the maximum width and height to a value that is low enough so that no out of memory exception occurs, e.g. 5000 x 5000 pixels.
- Resolution  $== 0$  and Width  $>0$  or Height  $>0$ : Pages are scaled to the given Width or Height. If Width and Height are greater zero then pages are scaled to that size independent of the original page format (not recommended). It is usually best to set the width or height to zero so that the function can calculate the missing value to preserve the aspect ratio.

On a 32 bit system it is possible to render PDF pages in RGB with up to around 1200 DPI, depending on the page format and available memory. The resolution of gray images can be higher but the encoder must be able to handle such large images. The PNG and bitmap encoders accept images in almost arbitrary resolutions but all other encoders can fail when the resolution is larger than about 2000 DPI.

The function calls the progress events.

Returns true on success or false on failure.

Same as `RenderPDFFile`, but multithreaded.

Requires DynaPDF Pro license.

The work is performed on a preemptive thread, so this function does not block the application and can yield time to other Xojo threads. Must be called in a Xojo thread to enjoy benefits. If called in main thread will

block, but keep other background threads running.

If you run several threads calling MT methods, you can get all CPU cores busy while main thread shows GUI with progress window.

### 3.40.690 RenderPDFFileMT(OutFile as folderitem, Resolution as UInt32, Flags as UInt32, PixFmt as UInt32, Filter as UInt32, Format as UInt32) as boolean

Plugin Version: 18.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use RenderPDFFileEx instead.

**Function:** The function renders all PDF pages which are currently in memory and stores the result in a proprietary image format.

**Notes:** Same as RenderPDFFile, but multithreaded.

Also check the dynapdf manual on the pdfRenderPDFFileA function (pdfRenderPDFFileW on Windows).

Requires DynaPDF Pro license.

The work is performed on a preemptive thread, so this function does not block the application and can yield time to other Xojo threads. Must be called in a Xojo thread to enjoy benefits. If called in main thread will block, but keep other background threads running.

If you run several threads calling MT methods, you can get all CPU cores busy while main thread shows GUI with progress window.

### 3.40.691 ReOpenImportFile(Handle as Integer) as boolean

Plugin Version: 13.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function re-opens a PDF file so that further contents can be imported from it.

**Notes:** The parameter Handle must be a valid file handle that OpenImportFile() or OpenImportBuffer() returned.

When the file is no longer needed close the parser instance with CloseImportFileEx().

If the function succeeds the return value is true. If the function fails the return value is false.

See also [ReOpenImportFile](#) function in DynaPDF manual.

### 3.40.692 ReplaceFont(PDFFontRef as Integer, Name as string, Style as integer = 0, NameIsFamilyName as boolean = true) as integer

Plugin Version: 17.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Replaces a PDF font with another one.

**Notes:** The function can be called in the `OnFontNotFound` event of the function `CheckConformance()`. The return value of the event should be the return value of this function. The parameter `PDFFontRef` is a parameter of the event. The font reference is required and must be passed unchanged to the function.

On Linux or Unix system fonts must be loaded with `AddFontSearchPath()` before this function can be called. This should be done before the first PDF file is imported.

If the function succeeds the return value is zero. If the function fails the return value is a negative error code.

See also [ReplaceFont](#) function in DynaPDF manual.

### 3.40.693 `ReplaceFontAnsi(PDFFontRef as Integer, Name as string, Style as integer = 0, NameIsFamilyName as boolean = true) as integer`

Plugin Version: 17.2, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** Replaces a PDF font with another one.

**Notes:** The function can be called in the `OnFontNotFound` event of the function `CheckConformance()`. The return value of the event should be the return value of this function. The parameter `PDFFontRef` is a parameter of the event. The font reference is required and must be passed unchanged to the function.

On Linux or Unix system fonts must be loaded with `AddFontSearchPath()` before this function can be called. This should be done before the first PDF file is imported.

If the function succeeds the return value is zero. If the function fails the return value is a negative error code.

### 3.40.694 `ReplaceFontEx(PDFFontRef as Integer, FontFile as FolderItem, Embed as boolean = true) as integer`

Plugin Version: 17.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Replaces a PDF font with another one.

**Notes:** The font file can be loaded directly. It is not required to install the font on the system. The function can be called in the `OnFontNotFound` event of the function `CheckConformance()`. The return value of the event should be the return value of this function. The parameter `PDFFontRef` is a parameter of the event. The font reference is required and must be passed unchanged to the function.

If the function succeeds the return value is zero. If the function fails the return value is a negative error code.

See also [ReplaceFontEx](#) function in DynaPDF manual.

See also:

- 3.40.695 ReplaceFontEx(PDFFontRef as Integer, FontFilePath as string, Embed as boolean = true) as integer 463

### 3.40.695 ReplaceFontEx(PDFFontRef as Integer, FontFilePath as string, Embed as boolean = true) as integer

Plugin Version: 17.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Replaces a PDF font with another one.

**Notes:** The font file can be loaded directly. It is not required to install the font on the system. The function can be called in the OnFontNotFound event of the function CheckConformance(). The return value of the event should be the return value of this function. The parameter PDFFontRef is a parameter of the event. The font reference is required and must be passed unchanged to the function.

If the function succeeds the return value is zero. If the function fails the return value is a negative error code.

See also [ReplaceFontEx](#) function in DynaPDF manual.

See also:

- 3.40.694 ReplaceFontEx(PDFFontRef as Integer, FontFile as FolderItem, Embed as boolean = true) as integer 462

### 3.40.696 ReplaceFontExAnsi(PDFFontRef as Integer, FontFilePath as string, Embed as boolean = true) as integer

Plugin Version: 17.2, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** Replaces a PDF font with another one.

**Notes:** The font file can be loaded directly. It is not required to install the font on the system. The function can be called in the OnFontNotFound event of the function CheckConformance(). The return value of the event should be the return value of this function. The parameter PDFFontRef is a parameter of the event. The font reference is required and must be passed unchanged to the function.

If the function succeeds the return value is zero. If the function fails the return value is a negative error code.

### 3.40.697 ReplaceICCProfile(ColorSpace as Integer, ICCFile as folderitem) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function is used to dynamically create ICC based color spaces within OnReplaceICCProfile event of CheckConformance().

**Notes:** Use in OnReplaceICCProfile event.

See also [ReplaceICCProfile](#) function in DynaPDF manual.

### 3.40.698 ReplaceICCProfileEx(ColorSpace as integer, ICCFileData as MemoryBlock) as integer

Plugin Version: 17.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Replaces an ICC profile exactly in the same way as ReplaceICCProfile() but accepts a file buffer as input.

**Notes:** If the function succeeds the return value is zero. If the function fails the return value is a negative error code.

Use in OnReplaceICCProfile event.

See also [ReplaceICCProfileEx](#) function in DynaPDF manual.

See also:

- 3.40.699 ReplaceICCProfileEx(ColorSpace as integer, ICCFileData as String) as integer 464

### 3.40.699 ReplaceICCProfileEx(ColorSpace as integer, ICCFileData as String) as integer

Plugin Version: 17.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Replaces an ICC profile exactly in the same way as ReplaceICCProfile() but accepts a file buffer as input.

**Notes:** If the function succeeds the return value is zero. If the function fails the return value is a negative error code.

Use in OnReplaceICCProfile event.

See also [ReplaceICCProfileEx](#) function in DynaPDF manual.

See also:

- 3.40.698 ReplaceICCProfileEx(ColorSpace as integer, ICCFileData as MemoryBlock) as integer 464

### 3.40.700 ReplaceImage(ImageToReplace as DynaPDFImageMBS, ImageFile as FolderItem, Index as Integer = 1, ColorSpace as Integer = 0, CSHandle as Integer = -1, Flags as Integer = 0) as Boolean

Plugin Version: 17.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Replaces an image with another image.

**Notes:** The parameter ImageToReplace must be a valid pointer of an image object which is retrieved by functions like GetImageObj() or ParseContent().

The resolution, aspect ratio, color space and so on can be freely chosen. However, note that this function does not change the output position or size. If the aspect ratio of the new image is different, then it will be stretched or shrunk to fit into the output rectangle.

The parameter `ColorSpace` specifies the destination color space into which the image should be converted or saved, if the image is already defined in that color space. `CSHandle` must be the handle of that color space if a non-device space is used. The will be ignored for devices spaces.

The function works in the very same way as `InsertImageEx()` with the following differences:

• The color of an image mask cannot be set or changed because this would require changes on the content stream in which the image is used. An image mask will be created if the image color depth is 1 bit and if color key masking is enabled (see `SetUseTransparency()`). `SetUseTransparency()` should normally be set to false before calling this function.

• The image will never be downscaled, independent of the current resolution, because the size of the output rectangle is not known.

If the image that should be replaced is a soft mask of another base image, then make sure that the destination color space is set to `kesDeviceGray`, `kesCalGray`, or to a one channel ICC based color space because a soft mask must not contain more than one color channel.

The flags `kgfUseImageColorSpace`, `kgfIgnoreICCProfiles`, `kgfRealPassThrough`, and `kfNoBitmapAlpha` are all supported. See `SetGStateFlags()` for further information.

If the function succeeds the return value is true. If the function fails the return value is false. See also [ReplaceImage](#) function in DynaPDF manual.

### 3.40.701 `ReplaceImageEx(ImageToReplace as DynaPDFImageMBS, ImageData as MemoryBlock, Index as Integer = 1, ColorSpace as Integer = 0, CSHandle as Integer = -1, Flags as Integer = 0)` as Boolean

Plugin Version: 17.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Replaces an image with a new image exactly like `ReplaceImage()` but accepts a file buffer as input.

**Notes:** See `ReplaceImage()` for further information.

If the function succeeds the return value is 1. If the function fails the return value is 0.

See also [ReplaceImageEx](#) function in DynaPDF manual.

See also:

- 3.40.702 `ReplaceImageEx(ImageToReplace as DynaPDFImageMBS, ImageData as String, Index as Integer = 1, ColorSpace as Integer = 0, CSHandle as Integer = -1, Flags as Integer = 0)` as Boolean

### 3.40.702 **ReplaceImageEx(ImageToReplace as DynaPDFImageMBS, ImageData as String, Index as Integer = 1, ColorSpace as Integer = 0, CSHandle as Integer = -1, Flags as Integer = 0) as Boolean**

Plugin Version: 17.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Replaces an image with a new image exactly like `ReplaceImage()` but accepts a file buffer as input.

**Notes:** See `ReplaceImage()` for further information.

If the function succeeds the return value is 1. If the function fails the return value is 0.

See also [ReplaceImageEx](#) function in DynaPDF manual.

See also:

- 3.40.701 `ReplaceImageEx(ImageToReplace as DynaPDFImageMBS, ImageData as MemoryBlock, Index as Integer = 1, ColorSpace as Integer = 0, CSHandle as Integer = -1, Flags as Integer = 0) as Boolean` 465

**3.40.703 ReplacePageText(text as string, stack as DynaPDFStackMBS) as boolean**

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function deletes or replaces a text string of a content stream that was found by the function `GetPageText()` beforehand.

**Notes:**

Be aware that `ReplacePageText` can't always replace text as encoding must match and fonts may not have the characters for the new text. For that better use `ReplacePageTextEx`.

If you have problems with asian characters, please make sure you use `SetCMapDir` and load the CMAPs.

Requires DynaPDF Pro license.

See also [ReplacePageText](#) function in DynaPDF manual.

**3.40.704 ReplacePageTextEx(text as string, stack as DynaPDFStackMBS) as boolean**

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function deletes or replaces a text string of a content stream that was found by the function `GetPageText()` beforehand.

**Notes:** The text parameter is converted to unicode.

If you have problems with asian characters, please make sure you use `SetCMapDir` and load the CMAPs.

Requires DynaPDF Pro license.

See also [ReplacePageTextEx](#) function in DynaPDF manual.

**3.40.705 ReplacePageTextExAnsi(text as string, stack as DynaPDFStackMBS) as boolean**

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function deletes or replaces a text string of a content stream that was found by the function `GetPageText()` beforehand.

**Notes:** The text parameter is converted to ANSI.

Requires DynaPDF Pro license.

**3.40.706 ResetAnnotAP(Handle as integer = -1) as Boolean**

Plugin Version: 20.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Forces a rebuild of the appearance stream of the specified annotation.

**Notes:** If Handle is set to -1 all annotation appearances will be rebuild. This function be useful if an imported annotation has an invalid or empty appearance stream.

See also [ResetAnnotAP](#) function in DynaPDF manual.

### 3.40.707 ResetEncryptionSettings as Boolean

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Resets the encryption settings which were imported from an external PDF file so that the PDF file in memory can be saved unencrypted.

**Notes:** If the function succeeds the return value is true. If the function fails the return value is false.

See also [ResetEncryptionSettings](#) function in DynaPDF manual.

### 3.40.708 ResetLineDashPattern as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function resets a previously defined line dash pattern to its default value (straight line).

See also [ResetLineDashPattern](#) function in DynaPDF manual.

### 3.40.709 RestoreGraphicState as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function restores a previously saved graphics state.

See also [RestoreGraphicState](#) function in DynaPDF manual.

### 3.40.710 RGB(R as Integer, G as Integer, B as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Builds a RGB color value based on the given component values.

**Example:**

```
dim rgb as Integer = DynaPDFMBS.RGB(1,2,3)
MsgBox hex(rgb)
```

**3.40.711 RofRGB(RGB as Integer) as Integer**

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns R of a RGB color value.

**Example:**

```
dim rgb as Integer = DynaPDFMBS.RGB(1,2,3)
MsgBox str(DynaPDFMBS.RofRGB(rgb)) // shows 1
```

**3.40.712 RotateCoords(alpha as Double, OriginX as Double, OriginY as Double) as Boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function rotates the coordinate system at the point OriginX, OriginY by applying a transformation matrix.

**Notes:** Please do not try to scale/skew/translate back later. use SaveGraphicState and RestoreGraphicState.

See also [RotateCoords](#) function in DynaPDF manual.

**3.40.713 RotateTemplate(OldTemplate as Integer, Rotation as Integer, RotateCoords as boolean = true) as Integer**

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Rotates a template.

**Notes:** Returns a new template handle.

This is a convenience function which creates a new template and draws the existing template there with rotation.

Returns negative number for errors. The plugin uses -1 for plugin errors like wrong rotation angle.

RotateCoords: Whether to rotate coordinate system.

This is now done by DynaPDF automatically, so for current version of the library, this must be false. But older versions need the true.

**3.40.714 RoundRect(PosX as Double, PosY as Double, Width as Double, Height as Double, Radius as Double, FillMode as Integer) as Boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function draws a rectangle with rounded corners.

**Example:**

```
dim pdf as new DynaPDFMBS
dim f as FolderItem = SpecialFolder.Desktop.Child("Create PDF with Round Rectangles.pdf")

pdf.SetLicenseKey "Starter" // For this example you can use a Starter, Lite, Pro or Enterprise License

call pdf.CreateNewPDF f
call pdf.Append

dim PosX as Double = 100.0
dim PosY as Double = 100.0
dim Width as Double = 100.0
dim Height as Double = 100.0
dim Radius as Double = 20.0
dim FillMode as Integer = pdf.kfmFill

call pdf.RoundRect(PosX, PosY, Width, Height, Radius, FillMode)

PosX = 300.0
dim RadiusX as Double = 30.0
dim RadiusY as Double = 30.0

call pdf.RoundRectEx(PosX, PosY, Width, Height, RadiusX, RadiusY, FillMode)

call pdf.EndPage
call pdf.CloseFile

f.Launch
```

See also [RoundRect](#) function in DynaPDF manual.

### 3.40.715 RoundRectEx(PosX as Double, PosY as Double, Width as Double, Height as Double, rWidth as Double, rHeight as Double, FillMode as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function draws a rectangle with elliptical corners.

**Example:**

```
dim pdf as new DynaPDFMBS
dim f as FolderItem = SpecialFolder.Desktop.Child("Create PDF with Round Rectangles.pdf")
```

pdf.SetLicenseKey "Starter" // For this example you can use a Starter, Lite, Pro or Enterprise License

```
call pdf.CreateNewPDF f
call pdf.Append

dim PosX as Double = 100.0
dim PosY as Double = 100.0
dim Width as Double = 100.0
dim Height as Double = 100.0
dim Radius as Double = 20.0
dim FillMode as Integer = pdf.kfmFill

call pdf.RoundRect(PosX, PosY, Width, Height, Radius, FillMode)

PosX = 300.0
dim RadiusX as Double = 30.0
dim RadiusY as Double = 30.0

call pdf.RoundRectEx(PosX, PosY, Width, Height, RadiusX, RadiusY, FillMode)

call pdf.EndPage
call pdf.CloseFile

f.Launch
```

See also [RoundRectEx](#) function in DynaPDF manual.

### 3.40.716 SaveGraphicState as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function saves the current graphics state.

See also [SaveGraphicState](#) function in DynaPDF manual.

### 3.40.717 ScaleCoords(sx as Double, sy as Double) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function scales the coordinate system by applying a transformation matrix.

**Notes:** Please do not try to scale/skew/translate back later. use SaveGraphicState and RestoreGraphicState.

See also [ScaleCoords](#) function in DynaPDF manual.

### 3.40.718 SelfTest as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function checks the size of all required data types and checks whether the endian configuration of the library is correct.

See also [SelfTest](#) function in DynaPDF manual.

### 3.40.719 Set3DAnnotProps(Annot as Integer, ActType as Integer, DeActType as Integer, InstType as Integer, DeInstType as Integer, DisplayToolbar as boolean, DisplayModelTree as boolean) as boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the properties of a 3D Annotation.

See also [Set3DAnnotProps](#) function in DynaPDF manual.

### 3.40.720 Set3DAnnotScriptAnsi(Annot as Integer, Value as string) as boolean

Plugin Version: 9.8, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** Sets the 3D Annoation Script.

### 3.40.721 SetAllocBy(Value as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the size of the memory blocks in kilo bytes, which will be allocated if memory must be allocated for page content streams.

See also [SetAllocBy](#) function in DynaPDF manual.

### 3.40.722 SetAltFonts(FontListHandle as Integer, List() as String) as Boolean

Plugin Version: 22.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Fills an alternate font list created by `CreateAltFontList()` with data.

**Notes:** Alternate font list are tested if one more glyphs were not found in the current font. Since the fonts in the list are used as fallback they should be compatible to the active font in regard to properties like serif, sans serif, proportional or fixed pitch, and so on.

A list should be sorted by priority and not by name. That means index 0 should contain a font name that

is most probably the best match. If this one was not available or incompatible then the next font in the list will be tested until the end of the list was reached. If no suitable font was found then system fonts are tested.

The fonts in the list should support the language that must be output. Otherwise, the fonts can never be selected. An alternate font list can be arbitrary large but it is usually best to restrict the number fonts in a list to speed up processing.

A list can contain font names which are not available on the system. This causes no error. Non existing fonts are simply ignored. This makes it possible to define suitable alternate font lists statically. Such lists can then be loaded on demand.

After a list was filled with data it can be activated with `ActivateAltFontList()`. If a list is no longer needed delete it with `DeleteAltFontList()`.

Please note that alternate font lists are used only, if complex text layout was enabled. This can be done by setting the flag `kgfComplexText` with `SetGStateFlags()`.

Returns true on success.

See also [SetAltFonts](#) function in DynaPDF manual.

### 3.40.723 `SetAnnotBorderEffect(Handle as Integer, BorderEffect as Integer) as Boolean`

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the border effect for an annotation.

**Notes:** Returns true on success.

Handle is in range of 0 to number of annotations - 1.

See also [SetAnnotBorderEffect](#) function in DynaPDF manual.

### 3.40.724 `SetAnnotBorderStyle(Handle as Integer, BorderStyle as Integer) as boolean`

Plugin Version: 10.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the annotation border style.

See also [SetAnnotBorderStyle](#) function in DynaPDF manual.

### 3.40.725 `SetAnnotBorderWidth(Handle as Integer, LineWidth as Double) as boolean`

Plugin Version: 10.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the annotation border width.  
See also [SetAnnotBorderWidth](#) function in DynaPDF manual.

### 3.40.726 SetAnnotColor(Handle as Integer, ColorType as Integer, PDFColorSpace as Integer, ColorValue as Integer) as boolean

Plugin Version: 10.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the annotation color.  
See also [SetAnnotColor](#) function in DynaPDF manual.

### 3.40.727 SetAnnotFlags(Flags as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the default flags used for newly created annotations.  
See also [SetAnnotFlags](#) function in DynaPDF manual.

### 3.40.728 SetAnnotFlagsEx(Handle as Integer, Flags as Integer) as boolean

Plugin Version: 10.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the annotation flags.  
See also [SetAnnotFlagsEx](#) function in DynaPDF manual.

### 3.40.729 SetAnnotHighlightMode(Handle as Integer, HighlightMode as Integer) as boolean

Plugin Version: 10.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the annotation highlight mode.  
See also [SetAnnotHighlightMode](#) function in DynaPDF manual.

### 3.40.730 SetAnnotIcon(Handle as Integer, AnnotIcon as Integer) as boolean

Plugin Version: 10.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the annotation icon.  
See also [SetAnnotIcon](#) function in DynaPDF manual.

### 3.40.731 SetAnnotLineDashPattern(Handle as UInt32, dash as memoryblock, NumValues as integer) as Boolean

Plugin Version: 17.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets or deletes the line dash pattern of an annotation.

**Notes:** The following annotation types support line dash patterns:

- atCircle
- atInk
- atLine
- atPolygon
- atPolyLine
- atSquare

Memoryblock must contain floating point values (Single).

Returns true on success.

If array is nil, the pattern is removed.

See also [SetAnnotLineDashPattern](#) function in DynaPDF manual.

See also:

- 3.40.732 SetAnnotLineDashPattern(Handle as UInt32, dash() as single) as Boolean

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### 3.40.732 SetAnnotLineDashPattern(Handle as UInt32, dash() as single) as Boolean

Plugin Version: 17.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets or deletes the line dash pattern of an annotation.

**Notes:** The following annotation types support line dash patterns:

- atCircle
- atInk
- atLine
- atPolygon

- atPolyLine
- atSquare

Returns true on success.

If array is nil, the pattern is removed.

See also [SetAnnotLineDashPattern](#) function in DynaPDF manual.

See also:

- 3.40.731 [SetAnnotLineDashPattern\(Handle as UInt32, dash as memoryblock, NumValues as integer\) as Boolean](#) 475

### 3.40.733 [SetAnnotLineEndStyle\(Handle as UInt32, StartLineStyle as Integer, EndLineStyle as Integer\) as boolean](#)

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets or changes the line end styles of a Line or PolyLine Annotation.

**Notes:** If the function succeeds the return value is true. If the function fails the return value is false.

See also [SetAnnotLineEndStyle](#) function in DynaPDF manual.

### 3.40.734 [SetAnnotMigrationState\(Handle as Integer, State as Integer, Name as string\) as Integer](#)

Plugin Version: 15.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds a migration state to a markup annotation.

**Notes:** All annotation types with exception of 3D, Link, Movie, Screen, PrinterMark, TrapNet, and Watermark are markup annotations.

Migration states are stored in text annotations as reply to the base annotation. Further states are stored as reply to the last reply; the result is a single linked list. Because the base annotation contains no reference to the last reply or migration state the function must search for it. To speed up processing the function returns the handle of the text annotation so that the next state can directly be added to this annotation.

The migration state is defined since PDF 1.5. The function adjusts the PDF version automatically if it is lower than PDF 1.5.

If the function succeeds the return value is the handle of the text annotation, a value greater or equal zero. If the function fails the return value is a negative error code.

State can be kasNone, kasAccepted, kasRejected, kasCancelled, kasCompleted.

See also [SetAnnotMigrationState](#) function in DynaPDF manual.

### 3.40.735 SetAnnotMigrationStateAnsi(Handle as Integer, State as Integer, Name as string) as Integer

Plugin Version: 15.4, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** Adds a migration state to a markup annotation.

**Notes:** All annotation types with exception of 3D, Link, Movie, Screen, PrinterMark, TrapNet, and Watermark are markup annotations.

Migration states are stored in text annotations as reply to the base annotation. Further states are stored as reply to the last reply; the result is a single linked list. Because the base annotation contains no reference to the last reply or migration state the function must search for it. To speed up processing the function returns the handle of the text annotation so that the next state can directly be added to this annotation.

The migration state is defined since PDF 1.5. The function adjusts the PDF version automatically if it is lower than PDF 1.5.

If the function succeeds the return value is the handle of the text annotation, a value greater or equal zero. If the function fails the return value is a negative error code.

State can be kasNone, kasAccepted, kasRejected, kasCancelled, kasCompleted.

### 3.40.736 SetAnnotOpacity(Handle as Integer, opacity as Double) as Boolean

Plugin Version: 16.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function changes the opacity of a markup annotation.

**Notes:** The function GetAnnotEx() or GetPageAnnotEx() can be used to determine whether an annotation is a markup annotation.

Returns true on succes or false on failure.

See also [SetAnnotOpacity](#) function in DynaPDF manual.

### 3.40.737 SetAnnotOpenState(Handle as Integer, Open as Boolean) as boolean

Plugin Version: 10.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the annotation open state.

See also [SetAnnotOpenState](#) function in DynaPDF manual.

### 3.40.738 SetAnnotOrFieldDate(CSHandle as UInt32, IsField as Boolean, Type as Integer, DateTime as UInt32) as boolean

Plugin Version: 13.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets or changes the creation or modification date of an annotation or form field.

**Notes:** If the parameter IsField is set to true, a valid field handle must be passed to the parameter Handle. An annotation handle is expected otherwise.

Annotations and form fields support a modification date but a creation date is supported by markup annotations only.

The following annotation types are markup annotations:

- Care
- Circle
- FileAttach
- FreeText
- Highlight, Squiggly, Strikeout, Underline
- Ink
- Line
- Polygon
- Projection
- Redact
- Sound
- Square
- Stamp
- Text

The function GetAnnotEx() or GetPageAnnotEx() can also be used to determine whether an annotation is a markup annotation.

If the function succeeds the return value is 1. If the function fails the return value is 0. See also [SetAnnotOrFieldDate](#) function in DynaPDF manual.

### 3.40.739 SetAnnotQuadPoints(Handle as UInt32, points() as DynaPDFPointMBS) as boolean

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets or changes the quad points definition of a Highlight, Link, Redakt, Squiggly, atStrikeOut, or Underline annotation.

**Notes:** The function must be called within an open page.

Independent of the used coordinate system (bottom up or top down), the points must be defined in the following order:

x1,y1 x3,y3

x2,y2 x4,y4

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The coordinates of the vertices are interpreted in current user space. Any transformation that was applied on the coordinate system will be taken into account.

The number of points must be 4 or a multiple of 4.

Returns true on success.

See also [SetAnnotQuadPoints](#) function in DynaPDF manual.

### 3.40.740 SetAnnotString(Handle as Integer, StringType as Integer, Value as string) as boolean

Plugin Version: 9.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a stamp annotation.

See also [SetAnnotString](#) function in DynaPDF manual.

### 3.40.741 SetAnnotStringAnsi(Handle as Integer, StringType as Integer, Value as string) as boolean

Plugin Version: 9.7, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** Creates a stamp annotation.

### 3.40.742 SetAnnotSubject(Handle as Integer, Value as string) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets or changes the optional subject string of an annotation.

**Notes:** The value parameter is converted to unicode.

See also [SetAnnotSubject](#) function in DynaPDF manual.

### 3.40.743 SetAnnotSubjectAnsi(Handle as Integer, Value as string) as Boolean

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function sets or changes the optional subject string of an annotation.

**Notes:** The value parameter is converted to ANSI.

### 3.40.744 SetBBox(Boundary as Integer, LeftX as Double, LeftY as Double, RightX as Double, RightY as Double) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets a specific bounding box of the current open PDF page.

See also [SetBBox](#) function in DynaPDF manual.

### 3.40.745 SetBidiMode(BidiMode as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets or changes the bidirectional mode.

See also [SetBidiMode](#) function in DynaPDF manual.

### 3.40.746 SetBlack(FillColor as Boolean, StrokeColor as Boolean) as Boolean

Plugin Version: 19.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets black color.

**Notes:** This function is a bit optimized to check the current color space.

Depending on whether it's RGB, Gray, CMYK or Lab, it will set different color values.

And if other color space is active, it switches to Gray colorspace to set black.

### 3.40.747 SetBookmarkDest(ABmk as Integer, DestType as Integer, a as Double, b as Double, c as Double, d as Double) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets or changes the destination of a bookmark.  
See also [SetBookmarkDest](#) function in DynaPDF manual.

### 3.40.748 SetBookmarkStyle(ABmk as Integer, Style as Integer, RGBColor as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the bookmark style.  
See also [SetBookmarkStyle](#) function in DynaPDF manual.

### 3.40.749 SetBorderStyle(Style as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function set the global border style which is used for newly created form fields.  
See also [SetBorderStyle](#) function in DynaPDF manual.

### 3.40.750 SetCharacterSpacing(value as Double) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the current character spacing. The function requires an open page, template or pattern.  
See also [SetCharacterSpacing](#) function in DynaPDF manual.

### 3.40.751 SetCheckBoxChar(CheckBoxChar as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the character which should be used for newly created check boxes.  
See also [SetCheckBoxChar](#) function in DynaPDF manual.

### 3.40.752 SetCheckBoxDefState(Field as Integer, Checked as Boolean) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function changes the default state of a check box; it can differ from the current visible state of the check box.

See also [SetCheckBoxDefState](#) function in DynaPDF manual.

### 3.40.753 SetCheckBoxState(Field as Integer, Checked as Boolean) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function changes the state of a check box. The parameter Field must be a valid check box handle.

See also [SetCheckBoxState](#) function in DynaPDF manual.

### 3.40.754 SetCIDFont(CMapHandle as Integer, Name as string, Style as Integer, Size as Double, Embed as boolean) as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets a CID Font.

See also [SetCIDFont](#) function in DynaPDF manual.

### 3.40.755 SetCMapDir(path as folderitem, flags as Integer) as Integer

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the character map directory.

**Example:**

```
dim pdf as DynaPDFMBS // your dynapdf instance
call pdf.SetCMapDir SpecialFolder.Desktop.Child("CMAP"), 3
```

**Notes:** Takes an integer instead of a boolean starting with plugin version 11.2pr6.

See `klcmDefault`, `klcmDelayed` and `klcmRecursive` constants.

Requires DynaPDF Pro license.

See also [SetCMapDir](#) function in DynaPDF manual.

See also:

- 3.40.756 SetCMapDir(path as string, flags as Integer) as Integer

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### 3.40.756 SetCMapDir(path as string, flags as Integer) as Integer

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the character map directory.

**Example:**

```
dim pdf as DynaPDFMBS // your dynapdf instance
call pdf.SetCMapDir SpecialFolder.Desktop.Child("CMAP"), pdf.klcmRecursive
```

**Notes:** Takes an integer instead of a boolean starting with plugin version 11.2pr6.

See klcmDefault, klcmDelayed and klcmRecursive constants.

Requires DynaPDF Pro license.

See also [SetCMapDir](#) function in DynaPDF manual.

See also:

- 3.40.755 SetCMapDir(path as folderitem, flags as Integer) as Integer

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### 3.40.757 SetColDefFile(EmbFile as Integer) as boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the initial document of a portable collection that should be opened in the viewer application. See also CreateCollection().

See also [SetColDefFile](#) function in DynaPDF manual.

### 3.40.758 SetColorMask(ImageHandle as Integer, Mask as Ptr, Count as UInt32) as boolean

Plugin Version: 13.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The functions sets or overrides the color mask of an image.

**Notes:** See also SetColorMask function in dynapdf\_help.pdf manual.

See also [SetColorMask](#) function in DynaPDF manual.

See also:

- 3.40.759 SetColorMask(ImageHandle as Integer, Mask() as Integer) as boolean

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### 3.40.759 SetColorMask(ImageHandle as Integer, Mask() as Integer) as boolean

Plugin Version: 13.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The functions sets or overrides the color mask of an image.

**Notes:** Same as other SetColorMask function, but values are taken from array.

See also SetColorMask function in dynapdf\_help.pdf manual.

See also [SetColorMask](#) function in DynaPDF manual.

See also:

- 3.40.758 SetColorMask(ImageHandle as Integer, Mask as Ptr, Count as UInt32) as boolean 483

### 3.40.760 SetColors(ColorValue as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the fill and stroke color.

See also [SetColorMask](#) function in DynaPDF manual.

### 3.40.761 SetColorSpace(ColorSpace as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the color space.

**Example:**

```
dim pdf as DynaPDFMBS // your DynaPDF object
dim bBool as Boolean
```

```
// get the colorspace of the image file
```

```
const DP_csDeviceRGB=0
```

```
const DP_csDeviceCMYK=1
```

```
const DP_csDeviceGray=2
```

```
dim iColorSpace as Integer
```

```
iColorSpace=DP_csDeviceRGB
```

```
// define color space
```

```
bBool=pdf.SetColorSpace(iColorSpace)
```

See also [SetColorSpace](#) function in DynaPDF manual.

### 3.40.762 SetColSortField(ColField as Integer, AscendingOrder as boolean) as boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the collection field that should be used to sort the list of embedded files.

See also [SetColSortField](#) function in DynaPDF manual.

**3.40.763 SetCompressionFilter(Filter as Integer) as Boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the compression filter which is used to compress images.

**Example:**

```
dim pdf as DynaPDFMBS // your DynaPDF object
dim bBool as Boolean

// set compression filter
bBool = pdf.SetCompressionFilter(pdf.kcfJPEG)
```

**Notes:** Use kcfCCITT3, kcfCCITT4, kcfFlate, kcfFlateBW, kcfJP2K, kcfJPEG or kcfLZW constants. See also [SetCompressionFilter](#) function in DynaPDF manual.

**3.40.764 SetCompressionLevel(CompressLevel as Integer) as Boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the current compression level.

See also [SetCompressionLevel](#) function in DynaPDF manual.

**3.40.765 SetContent(buffer as memoryblock) as Boolean**

Plugin Version: 13.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function replaces the content stream of the currently open page or template with a new one.

See also [SetContent](#) function in DynaPDF manual.

See also:

- [3.40.766 SetContent\(buffer as string\) as Boolean](#)

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**3.40.766 SetContent(buffer as string) as Boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function replaces the content stream of the currently open page or template with a new one.

See also [SetContent](#) function in DynaPDF manual.

See also:

- 3.40.765 SetContent(buffer as memoryblock) as Boolean

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### 3.40.767 SetDateTimeFormat(TxtField as Integer, Fmt as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function restricts the allowed value of a text field to a date time format and applies this format if the value was valid.

See also [SetDateTimeFormat](#) function in DynaPDF manual.

### 3.40.768 SetDefBitsPerPixel(value as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the default color depth in bits per pixel, which determines whether images should be downsampled.

See also [SetDefBitsPerPixel](#) function in DynaPDF manual.

### 3.40.769 SetDocInfo(DInfo as Integer, Text as string) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function set or changes a document info entry.

**Example:**

```
dim pdf as DynaPDFMBS // your DynaPDF object
dim bBool as Boolean
dim source as FolderItem // source pdf file?

const diAuthor=0
const diCreator=1
const diKeywords=2
const diProducer=3
const diSubject=4
const diTitle=5

// Define some pdf properties:
bBool=pdf.SetDocInfo(diAuthor, SystemInformationMBS.Username)
bBool=pdf.SetDocInfo(diCreator, "SysProgName" + " - " + "MetSysProgVer")
bBool=pdf.SetDocInfo(diKeywords, "")
bBool=pdf.SetDocInfo(diProducer, "SysProgName" + " - " + "MetSysProgVer")
bBool=pdf.SetDocInfo(diSubject, "")
bBool=pdf.SetDocInfo(diTitle, source.name)
```

**Notes:** The text parameter is converted to unicode.  
See also [SetDocInfo](#) function in DynaPDF manual.

### 3.40.770 SetDocInfoAnsi(DInfo as Integer, Text as string) as Boolean

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function set or changes a document info entry.

**Example:**

```
dim pdf as DynaPDFMBS // your DynaPDF object
dim bBool as Boolean
dim source as FolderItem // source pdf file?

const diAuthor=0
const diCreator=1
const diKeywords=2
const diProducer=3
const diSubject=4
const diTitle=5

// Define some pdf properties:
bBool=pdf.SetDocInfoAnsi(diAuthor, SystemInformationMBS.Username)
bBool=pdf.SetDocInfoAnsi(diCreator, "SysProgName" + " - " + "MetSysProgVer")
bBool=pdf.SetDocInfoAnsi(diKeywords, "")
bBool=pdf.SetDocInfoAnsi(diProducer, "SysProgName" + " - " + "MetSysProgVer")
bBool=pdf.SetDocInfoAnsi(diSubject, "")
bBool=pdf.SetDocInfoAnsi(diTitle, source.name)
```

**Notes:** The text parameter is converted to ANSI.

### 3.40.771 SetDocInfoEx(DInfo as Integer, Key as string, Text as string) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function set or changes a document info entry.

**Notes:** The Text parameter is converted to unicode.

See also [SetDocInfoEx](#) function in DynaPDF manual.

### 3.40.772 SetDocInfoExAnsi(DInfo as Integer, Key as string, Text as string) as Boolean

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function set or changes a document info entry.

**Notes:** The Text parameter is converted to ANSI.

### 3.40.773 SetDrawDirection(Direction as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the draw direction of closed vector graphics such as rectangles, ellipses, triangles and so on.

See also [SetDrawDirection](#) function in DynaPDF manual.

### 3.40.774 SetEMFFrameDPI(DPIX as Integer, DPIY as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function can be used to adjust DPI value which is used to calculate the picture size of an EMF file.

See also [SetEMFFrameDPI](#) function in DynaPDF manual.

### 3.40.775 SetEMFPatternDistance(value as Double) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function changes the default distance between lines of standard patterns during EMF conversion.

See also [SetEMFPatternDistance](#) function in DynaPDF manual.

### 3.40.776 SetErrorMode(ErrMode as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The error mode specifies which error types should be treated as fatal error.  
See also [SetErrorMode](#) function in DynaPDF manual.

### 3.40.777 SetExtColorSpace(Handle as Integer) as Integer

Plugin Version: 8.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function activates an extended color space in the graphics state.

**Notes:** Requires DynaPDF Pro license.

See also [SetExtColorSpace](#) function in DynaPDF manual.

### 3.40.778 SetExtFillColorSpace(Handle as UInt32) as boolean

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set the colorspace for filling.

**Notes:** Pass Colorspace handle like for SetExtColorSpace.

Requires DynaPDF Pro license.

See also [SetExtFillColorSpace](#) function in DynaPDF manual.

### 3.40.779 SetExtGState(Handle as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function applies an extended graphics state.

See also [SetExtGState](#) function in DynaPDF manual.

### 3.40.780 SetExtStrokeColorSpace(Handle as UInt32) as boolean

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set the colorspace for filling.

**Notes:** Pass Colorspace handle like for SetExtColorSpace.

Requires DynaPDF Pro license.

See also [SetExtStrokeColorSpace](#) function in DynaPDF manual.

### 3.40.781 SetFieldBackColor(ColorValue as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the background color used for newly created interactive form fields and annotations.

See also [SetFieldBackColor](#) function in DynaPDF manual.

### 3.40.782 SetFieldBBox(Handle as Integer, rect as DynaPDFRectMBS) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function changes the bounding box of a field.

See also [SetFieldBBox](#) function in DynaPDF manual.

### 3.40.783 SetFieldBorderColor(ColorValue as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the border color used for newly created interactive form fields and annotations.

See also [SetFieldBorderColor](#) function in DynaPDF manual.

### 3.40.784 SetFieldBorderStyle(Field as Integer, Style as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function changes the border style of a specific Interactive Form field.

See also [SetFieldBorderStyle](#) function in DynaPDF manual.

### 3.40.785 SetFieldBorderWidth(Field as Integer, LineWidth as Double) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function can be used to change the border width of a field.

See also [SetFieldBorderWidth](#) function in DynaPDF manual.

### 3.40.786 SetFieldCalcOrder(CurrIndex as UInt32, NewIndex as UInt32) as Boolean

Plugin Version: 19.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Moves a field in the global calc order array.

**Notes:** This is the order in which field values will be recalculated when the value of any field changes.

The current calc order can be accessed with `GetFieldCalcOrder()`. The calc order array contains field handles. A field handle is a simple array index.

Returns true on success.

See also [SetFieldCalcOrder](#) function in DynaPDF manual.

### 3.40.787 SetFieldColor(Field as Integer, ColorType as Integer, ColorSpace as Integer, ColorValue as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets a specific color of an interactive form field.  
See also [SetFieldColor](#) function in DynaPDF manual.

### 3.40.788 SetFieldExpValue(Field as Integer, ValIndex as Integer, Value as string, ExpValue as string, Selected as boolean) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function can be used to change the choice values of a combo box, list box, or radio button.  
See also [SetFieldExpValue](#) function in DynaPDF manual.

### 3.40.789 SetFieldExpValueAnsi(Field as Integer, ValIndex as Integer, Value as string, ExpValue as string, Selected as boolean) as Boolean

Plugin Version: 16.1, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** This function can be used to change the choice values of a combo box, list box, or radio button.

### 3.40.790 SetFieldExpValueEx(Field as Integer, ValIndex as Integer, Selected as boolean, DefSelected as boolean) as Boolean

Plugin Version: 12.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function marks a choice value of a combo or list box as selected or unselected.

**Notes:** It can also be used to change the state of check boxes or the children of a radio button. The parameter `ValIndex` will be ignored if the field is a normal check box (no child of a radio button or field

group).

To enumerate the choice values of a combo box, list box or radio button use the function `GetFieldExpValueEx()`.

Return value:

If the function succeeds the return value is true. If the function fails the return value is false.

See also [SetFieldExpValueEx](#) function in DynaPDF manual.

### 3.40.791 SetFieldFlags(Field as Integer, Flags as Integer, Reset as boolean) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the flags of a specific interactive form field.

**Example:**

```
Dim pdf As DynapdfMBS // your PDF environment with open page

// create field on current page
Dim Field1 As Integer = pdf.CreateTextField("Field1", -1, True, 0, 50.0, 100, 200.0, 100.0)

// and fill value
Call pdf.SetTextFieldValue(Field1, "Hello", "", pdf.ktaLeft)

// make a field the user should not mess up with
Dim Flags As Integer
flags = Bitwise.BitOr(pdf.kffNoView, pdf.kffInvisible, pdf.kffHidden, pdf.kffReadOnly)
Call pdf.SetFieldFlags(field1, flags, False)
```

See also [SetFieldFlags](#) function in DynaPDF manual.

### 3.40.792 SetFieldFont(Field as Integer, Name as string, Style as Integer = 0, Size as double = 12, Embed as boolean = true, CodePage as integer = &h27) as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets or changes the font of a form field.

**Notes:** See documentation of `SetFieldFont` function in `dynapdf_help` manual file for details.

See also [SetFieldFont](#) function in DynaPDF manual.

**3.40.793 SetFieldFontAnsi(Field as Integer, Name as string, Style as Integer = 0, Size as Double = 12, Embed as boolean = true, CodePage as Integer = &h27) as Integer**

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function sets or changes the font of a form field.

**Notes:** See documentation of SetFieldFont function in dynapdf\_help manual file for details.

**3.40.794 SetFieldFontEx(Field as UInt32, Handle as UInt32, FontSize as Double) as Boolean**

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets or replaces the font of a field.

**Notes:** The function requires a font handle that was returned by SetFieldFont.

Returns true on success and false on failure.

See also [SetFieldFontEx](#) function in DynaPDF manual.

**3.40.795 SetFieldFontSize(aField as Integer, FontSize as Double) as Boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function changes the font size of a specific field.

See also [SetFieldFontSize](#) function in DynaPDF manual.

**3.40.796 SetFieldHighlightMode(Field as Integer, HighlightMode as Integer) as Boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function changes the highlight mode of a specific field.

See also [SetFieldHighlightMode](#) function in DynaPDF manual.

**3.40.797 SetFieldIndex(Field as Integer, Index as Integer) as Boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This function can be used to set the tab order of interactive form fields.  
See also [SetFieldIndex](#) function in DynaPDF manual.

### 3.40.798 SetFieldMapName(Field as Integer, Name as string) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets or changes the mapping name of a field.  
**Notes:** The parameter name is converted to unicode.  
See also [SetFieldMapName](#) function in DynaPDF manual.

### 3.40.799 SetFieldMapNameAnsi(Field as Integer, Name as string) as Boolean

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function sets or changes the mapping name of a field.  
**Notes:** The parameter name is converted to ANSI.

### 3.40.800 SetFieldName(Field as Integer, NewName as string) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function changes the name of an interactive form field.  
See also [SetFieldName](#) function in DynaPDF manual.

### 3.40.801 SetFieldNameAnsi(Field as Integer, NewName as string) as Boolean

Plugin Version: 16.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function changes the name of an interactive form field.  
**Notes:** The text parameter is converted to ANSI.

### 3.40.802 SetFieldOrientation(Field as Integer, Value as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets or changes the orientation of a field.  
See also [SetFieldOrientation](#) function in DynaPDF manual.



**3.40.803 SetFieldTextAlign(Field as Integer, Align as Integer) as Boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function set or changes the text alignment of a text or button field.

See also [SetFieldTextAlign](#) function in DynaPDF manual.

**3.40.804 SetFieldTextColor(ColorValue as Integer) as Boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the text color which is used for newly created interactive form fields.

See also [SetFieldTextColor](#) function in DynaPDF manual.

**3.40.805 SetFieldToolTip(Field as Integer, Value as string) as Boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function set or changes the tool tip or description string of an interactive form field.

**Notes:** The value parameter is converted to unicode.

See also [SetFieldToolTip](#) function in DynaPDF manual.

**3.40.806 SetFieldToolTipAnsi(Field as Integer, Value as string) as Boolean**

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function set or changes the tool tip or description string of an interactive form field.

**Notes:** The value parameter is converted to ANSI.

**3.40.807 SetFillColor(ColorValue as Color) as Boolean**

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the fill color.

**Notes:** Raises an exception if current color space is CMYK or Gray and not RGB.

The parameter Color must be defined in the current color space.

See also [SetFillColor](#) function in DynaPDF manual.

See also:

- 3.40.808 SetFillColor(ColorValue as Integer) as Boolean

- 3.40.809 SetFillColor(values() as Double) as boolean 498
- 3.40.810 SetFillColor(values() as single) as boolean 499

### 3.40.808 SetFillColor(ColorValue as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the fill color.

**Example:**

```
// new DynaPDF Object. Use your own subclass to catch errors in error event
dim pdf as new DynaPDFMBS
```

```
// For this example you can use a Starter, Lite, Pro or Enterprise License
pdf.SetLicenseKey "Starter"
```

```
// destination pdf file
dim f as FolderItem = SpecialFolder.Desktop.Child("test.pdf")
```

```
// create new pdf document
call pdf.CreateNewPDF f
```

```
// add new page
call pdf.append
```

```
// set red text color
call pdf.SetFillColor pdf.RGB(255,0,0)
```

```
// set font
call pdf.SetFont "Times", pdf.kfsItalic, 40.0, true, pdf.kcp1252
```

```
// write some text
call pdf.WriteFText pdf.ktaCenter, "My first PDF!"
```

```
// close page
call pdf.EndPage
```

```
// close file
call pdf.CloseFile
```

```
// open in users preferred PDF viewer application
f.Launch
```

**Notes:** The parameter Color must be defined in the current color space.

See also [SetFillColor](#) function in DynaPDF manual.

See also:

- 3.40.807 SetFillColor(ColorValue as Color) as Boolean 496
- 3.40.809 SetFillColor(values() as Double) as boolean 498
- 3.40.810 SetFillColor(values() as single) as boolean 499

### 3.40.809 SetFillColor(values() as Double) as boolean

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets fill color based on an array of floats.

**Example:**

```
// new DynaPDF Object. Use your own subclass to catch errors in error event
dim pdf as new DynaPDFMBS
```

```
// For this example you can use a Starter, Lite, Pro or Enterprise License
pdf.SetLicenseKey "Starter"
```

```
// destination pdf file
dim f as FolderItem = SpecialFolder.Desktop.Child("test.pdf")
```

```
// create new pdf document
call pdf.CreateNewPDF f
```

```
// add new page
call pdf.append
```

```
// set blue text color with values in memoryblock
dim colorvalues() as Double = array(0.0, 1.0, 0.0)
call pdf.SetFillColor colorvalues
```

```
// set font
call pdf.SetFont "Times", pdf.kfsItalic, 40.0, true, pdf.kcp1252
```

```
// write some text
call pdf.WriteFText pdf.ktaCenter, "My first PDF!"
```

```
// close page
call pdf.EndPage
```

```
// close file
call pdf.CloseFile
```

```
// open in users preferred PDF viewer application
f.Launch
```

3.40. CLASS DYNAPDFMBS 499

**Notes:** The number of components must match.  
See also [SetFillColor](#) function in DynaPDF manual.  
See also:

- 3.40.807 SetFillColor(ColorValue as Color) as Boolean 496
- 3.40.808 SetFillColor(ColorValue as Integer) as Boolean 497
- 3.40.810 SetFillColor(values() as single) as boolean 499

### 3.40.810 SetFillColor(values() as single) as boolean

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets fill color based on an array of floats.

**Notes:** The number of components must match.  
See also [SetFillColor](#) function in DynaPDF manual.  
See also:

- 3.40.807 SetFillColor(ColorValue as Color) as Boolean 496
- 3.40.808 SetFillColor(ColorValue as Integer) as Boolean 497
- 3.40.809 SetFillColor(values() as Double) as boolean 498

### 3.40.811 SetFillColorEx(colorvalues as memoryblock, count as Integer) as Boolean

Plugin Version: 9.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the fill color using the values in parameters.

**Example:**

```
// new DynaPDF Object. Use your own subclass to catch errors in error event  
dim pdf as new DynaPDFMBS
```

```
// For this example you can use a Starter, Lite, Pro or Enterprise License  
pdf.SetLicenseKey "Starter"
```

```
// destination pdf file  
dim f as FolderItem = SpecialFolder.Desktop.Child("test.pdf")
```

```
// create new pdf document  
call pdf.CreateNewPDF f
```

```
// add new page  
call pdf.append
```

```
// set blue text color with values in memoryblock
```

```

dim m as new MemoryBlock(3)
m.Byte(0) = 0
m.Byte(1) = 0
m.Byte(2) = 255
call pdf.SetFillColorEx m,3

// set font
call pdf.SetFont "Times", pdf.kfsItalic, 40.0, true, pdf.kcp1252

// write some text
call pdf.WriteFText pdf.ktaCenter, "My first PDF!"

// close page
call pdf.EndPage

// close file
call pdf.CloseFile

// open in users preferred PDF viewer application
f.Launch

```

**Notes:** Pass as many color values as needed for the current color space. 3 for RGB, 4 for CMYK. All values must be in the range of 0 to 255.

See also [SetFillColorEx](#) function in DynaPDF manual.

See also:

- 3.40.812 SetFillColorEx(ParamArray colorvalue as Integer) as Boolean

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### 3.40.812 SetFillColorEx(ParamArray colorvalue as Integer) as Boolean

Plugin Version: 9.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the fill color using the values in parameters.

**Example:**

```

// new DynaPDF Object. Use your own subclass to catch errors in error event
dim pdf as new DynaPDFMBS

// For this example you can use a Starter, Lite, Pro or Enterprise License
pdf.SetLicenseKey "Starter"

// destination pdf file
dim f as FolderItem = SpecialFolder.Desktop.Child("test.pdf")

// create new pdf document
call pdf.CreateNewPDF f

```

```

// add new page
call pdf.append

// set red text color
call pdf.SetFillColorEx 255,0,0

// set font
call pdf.SetFont "Times", pdf.kfsItalic, 40.0, true, pdf.kcp1252

// write some text
call pdf.WriteFText pdf.ktaCenter, "My first PDF!"

// close page
call pdf.EndPage

// close file
call pdf.CloseFile

// open in users preferred PDF viewer application
f.Launch

```

**Notes:** Pass as many color values as needed for the current color space. 3 for RGB, 4 for CMYK. All values must be in the range of 0 to 255.

See also [SetFillColorEx](#) function in DynaPDF manual.

See also:

- 3.40.811 [SetFillColorEx\(colorvalues as memoryblock, count as Integer\)](#) as Boolean 499

### 3.40.813 [SetFillColorSpace\(Colorspace as Integer\)](#) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function changes the fill color space.

See also [SetFillColorSpace](#) function in DynaPDF manual.

### 3.40.814 [SetFloatPrecision\(NumTextDecDigits as UInt32, NumVectDecDigits as UInt32\)](#) as boolean

Plugin Version: 16.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function changes the output precision of text and vector coordinates.

**Notes:** The default precision for text and vector graphics is two decimal digits. This corresponds to 7200

DPI. The output precision of bezier curves is one higher as for vector graphics. The maximum output precision is 5 decimal digits.

Note that higher values increase the resulting file size.

NumTextDecDigits: Number decimal digits for text object.

NumVectDecDigits: Number of decimal digits for vector objects.

Returns boolean, true for success.

See also [SetFloatPrecision](#) function in DynaPDF manual.

### 3.40.815 **SetFont**(Name as string, Style as Integer = 0, Size as Double = 12, Embed as boolean = true, CP as Integer = &h27) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function loads a font that can be used for text output and interactive form fields.

**Notes:** The name parameter is converted to unicode.

If font is not found by name, please check SetFontSelMode function.

See also [SetFont](#) function in DynaPDF manual.

### 3.40.816 **SetFontAnsi**(Name as string, Style as integer = 0, Size as double = 12, Embed as boolean = true, CodePage as integer = &h27) as integer

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function loads a font that can be used for text output and interactive form fields.

**Example:**

```
dim pdf as DynaPDFMBS // your PDF object
call pdf.SetFontAnsi("Helvetica", pdf.kfsNone, 10.0, true, pdf.kcp1252)
```

**Notes:** The name parameter is converted to ANSI.

If font is not found by name, please check SetFontSelMode function.

**3.40.817 SetFontEx(Name as string, Style as Integer = 0, Size as Double = 12, Embed as boolean = true, CodePage as Integer = &h27) as Integer**

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function loads a font that can be used for text output and interactive form fields.

**Notes:** The name parameter is converted to unicode.

If font is not found by name, please check SetFontSelMode function.

See also [SetFontEx](#) function in DynaPDF manual.

**3.40.818 SetFontExAnsi(Name as string, Style as Integer = 0, Size as Double = 12, Embed as boolean = true, CodePage as Integer = &h27) as Integer**

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function loads a font that can be used for text output and interactive form fields.

**Notes:** The name parameter is converted to ANSI.

If font is not found by name, please check SetFontSelMode function.

**3.40.819 SetFontOrigin(Origin as Integer) as Boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the current font origin that is used to position text strings.

See also [SetFontOrigin](#) function in DynaPDF manual.

**3.40.820 SetFontSearchOrder(Order() as Integer)**

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the font search order.

**Notes:** The values in the array use this constants:

The array has 4 values.

See also [SetFontSearchOrder](#) function in DynaPDF manual.

kfbtTrueType	TrueType, TrueType Collections, or OpenType fonts with TrueType outlines
kfbtType1	Type1 font
kfbtOpenType	OpenType font with Postscript outlines
kfbtStdFont	PDF Standard font
kfbtDisabled	This value can be used to disable a specific font format.

### 3.40.821 SetFontSearchOrderEx(Order1 as Integer, Order2 as Integer, Order3 as Integer, Order4 as Integer)

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function changes the font search order in the same way as SetFontSearchOrder() but it does not use an array to set the search order to improve compatibility to programming languages with limited array support.

**Notes:** use the font base constants.

See also [SetFontSearchOrderEx](#) function in DynaPDF manual.

### 3.40.822 SetFontSelMode(Mode as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function changes the font selection mode.

See also [SetFontSelMode](#) function in DynaPDF manual.

### 3.40.823 SetFontWeight(Weight as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The font weight specifies the thickness or boldness of a font.

See also [SetFontWeight](#) function in DynaPDF manual.

### 3.40.824 SetGStateFlags(Flags as Integer, Reset as boolean)

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets optional flags affecting the graphics state and coordinate handling.

**Example:**

```
// set the flag to use image colorspace:
Call pdf.SetGStateFlags(MyDynaPDFMBS.kgfUseImageColorSpace, False)
```

See also [SetGStateFlags](#) function in DynaPDF manual.

### 3.40.825 SetIconColor(ColorValue as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The icon color is used for the closed state of a text annotation.

See also [SetIconColor](#) function in DynaPDF manual.

### 3.40.826 SetImportFlags(Flags as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets optional flags to control the import of external PDF files.

**Example:**

```
// set flags to import all
Dim flags As Integer = Bitwise.BitOr(pdf.kifImportAsPage, pdf.kifImportAll)
Call pdf.SetImportFlags(flags)
```

See also [SetImportFlags](#) function in DynaPDF manual.

### 3.40.827 SetImportFlags2(Flags as Integer) as Boolean

Plugin Version: 8.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets optional flags to control the import of external PDF files.

See also [SetImportFlags2](#) function in DynaPDF manual.

### 3.40.828 SetItalicAngle(value as Double) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The property ItalicAngle is used to emulate an italic font if the font is not available in an italic style.

See also [SetItalicAngle](#) function in DynaPDF manual.

### 3.40.829 SetJPEGQuality(Value as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the quality of JPEG compressed images in percent if JPEG compression is used.

See also [SetJPEGQuality](#) function in DynaPDF manual.

### 3.40.830 SetLanguage(ISOTag as string) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The property specifies the language of the document.

See also [SetLanguage](#) function in DynaPDF manual.

### 3.40.831 SetLeading(value as Double) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the leading that will be used by the functions `AddContinueText()` and `WriteFText()` to calculate the distance between two text lines.

**Notes:** This is for setting the line height.

See also [SetLeading](#) function in DynaPDF manual.

### 3.40.832 SetLicenseKey(Value as string)

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use `SetLicenseKeyGlobal` instead. **Function:** Use this function to enter your license key.

**Example:**

```
dim pdf as DynaPDFMBS // your DynaPDF object
pdf.SetLicenseKey("1234567890") // enter your code here
```

**Notes:** If the value represents a correct license key the demo string does not longer appear on PDF pages. Once a correct key was set, it will be active until the library is unloaded or the current PDF object is released. Note that the key must be entered for each PDF object or process of a multi-threading application separately.

The license key must not be stored in the registry or other files in an unencrypted form.

You need to buy a license key from MBS.  
The key will unlock the library to not run in demo mode.

Pro license is required for the following functions:

- BeginTransparencyGroup
- ConvertColors
- Create3DAnnot
- CreateSoftMask
- FlattenForm
- GetPageText
- ImportPage and ImportPageEx
- ParseContent
- RenderAnnotOrField
- RenderPage
- SetCMapDir
- SetExtColorSpace, SetExtFillColorSpace and SetExtStrokeColorSpace.
- SetUseGlobalImpFiles

Lite is required for:

- AddRenderingIntent and AddRenderingIntentEx
- CreateFormFields
- CloseFileEx
- ConvertEMFSpool
- CreateCollection
- CreateExtGState
- InsertMetafile and InsertMetafileEx
- OpenImportBuffer, OpenImportFile and OpenImportStream
- SetPDFVersion for PDF/A and PDF/X

And all functions relying on those functions internally.  
See also [SetLicenseKey](#) function in DynaPDF manual.

**3.40.833 SetLicenseKeyGlobal(Value as string)**

Plugin Version: 11.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Use this function to enter your license key.

**Notes:** This method stores the key for later use. The constructor uses than this key to call SetLicenseKey for any new instance of the DynaPDFMBS class. This way you can register in the app.open event for your whole application.

See also:

- 3.40.834 SetLicenseKeyGlobal(Value as string) 508

**3.40.834 SetLicenseKeyGlobal(Value as string)**

Plugin Version: 18.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Private method to avoid you call this on an object.

**Notes:** Please call shared method in app.open.

Because if you make a new object and set key, it's too late.

See also:

- 3.40.833 SetLicenseKeyGlobal(Value as string) 508

**3.40.835 SetLineAnnotParms(Handle as UInt32, FontHandle as Integer, Font-Size as Double, Params as DynaPDFLineAnnotParameterMBS) as boolean**

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets or changes the properties of a line annotation relating to measure lines.

**Notes:** The parameter Params can be set to nil to delete all measure line specific values. The parameters FontHandle and FontSize will be ignored in this case.

The member Caption specifies whether the parameter Content of the function LineAnnot should be used as caption of the measure line. Although a measure line can display the string in a PopUp annotation like ordinary line annotations, this is not recommended and not fully supported in Adobe's Acrobat or Reader. If Caption is true (recommended), the caption is drawn horizontally centered either on top or inside the measure line. The text position can be changed from its normal position with the members CaptionOffsetX and CaptionOffsetY.

The parameter FontHandle can be used to specify an arbitrary font that should be used to draw the caption. Although it is possible to use any font or font size greater 0 with DynaPDF, a PDF viewer will change the font and font size to it's default values when the annotation will be edited since line annotations support no property to specify the font or font size.

ÖøÖøFunction Reference

The default font to draw the caption is Helvetica and the default font size is 9 units. In order to use the default font set the parameter FontHandle to -1. The default font size is used if the parameter FontSize is

set to to zero.

Returns true on success or false on failure.  
See also [SetLineAnnotParms](#) function in DynaPDF manual.

### 3.40.836 SetLineCapStyle(Style as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the line cap style that specifies how the endpoint of a line will be drawn.  
See also [SetLineCapStyle](#) function in DynaPDF manual.

### 3.40.837 SetLineDashPattern(Dash as string, Phase as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The line dash pattern controls the pattern of dashes and gaps used to stroke paths.  
See also [SetLineDashPattern](#) function in DynaPDF manual.

### 3.40.838 SetLineDashPattern2(dash() as double, Phase as double) as Boolean

Plugin Version: 20.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets a line dash pattern with a given array.  
**Notes:** Returns true on success.  
If array is nil, the pattern is removed.  
See also [SetLineDashPattern2](#) function in DynaPDF manual.

### 3.40.839 SetLineDashPatternEx(dash as memoryblock, NumValues as Integer, Phase as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use [SetLineDashPattern2](#) instead. **Function:** The function sets a line dash pattern in the same way as [SetLineDashPattern\(\)](#).  
**Notes:** dash is a memoryblock with doubles.  
So dash.size=NumValues\*8.  
See also [SetLineDashPatternEx](#) function in DynaPDF manual.  
See also:

- 3.40.840 [SetLineDashPatternEx\(dash\(\) as double, Phase as integer\) as Boolean](#)

**3.40.840 SetLineDashPatternEx(dash() as double, Phase as integer) as Boolean**

Plugin Version: 17.2, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use `SetLineDashPattern2` instead. **Function:** Sets a line dash pattern with a given array.

**Notes:** However, this version accepts an array of doubles instead of a string value.

Returns true on success.

See `SetLineDashPattern` for more details.

If array is nil, the pattern is removed.

See also `SetLineDashPatternEx` function in DynaPDF manual.

See also:

- 3.40.839 `SetLineDashPatternEx(dash as memoryblock, NumValues as Integer, Phase as Integer) as Boolean` 509

**3.40.841 SetLineJoinStyle(Style as Integer) as Boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the line join style which specifies how two line segments are connected.

See also `SetLineJoinStyle` function in DynaPDF manual.

**3.40.842 SetLineWidth(value as Double) as Boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the line width used to stroke paths.

See also `SetLineWidth` function in DynaPDF manual.

**3.40.843 SetLinkHighlightMode(Mode as Integer) as Boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the highlight mode that is used by link annotations.

See also `SetLinkHighlightMode` function in DynaPDF manual.

**3.40.844 SetListFont(Handle as Integer) as Boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function marks an arbitrary font as list font.  
See also [SetListFont](#) function in DynaPDF manual.

### 3.40.845 SetMatrix(Matrix as DynaPDFMatrixMBS) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function left multiplies the current transformation matrix with the new one.  
See also [SetMatrix](#) function in DynaPDF manual.

### 3.40.846 SetMaxErrLogMsgCount(value as Integer)

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the maximum number of error log messages kept in memory.  
See also [SetMaxErrLogMsgCount](#) function in DynaPDF manual.

### 3.40.847 SetMaxFieldLen(TxtField as Integer, MaxLen as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function changes the maximum count of characters which can be entered into a text field.  
**Notes:** A value of zero determines that the string length should not be restricted.

See also [SetMaxFieldLen](#) function in DynaPDF manual.

### 3.40.848 SetMetaConvFlags(Flags as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets specific flags to control the conversion of metafiles.  
See also [SetMetaConvFlags](#) function in DynaPDF manual.

### 3.40.849 SetMetadata(ObjType as Integer, Handle as Integer, Buffer as Memoryblock) as Boolean

Plugin Version: 15.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets or replaces the XMP metadata stream of a specific object.

**Notes:** The function deletes the XMP stream if empty buffer will be provided.

If the global XMP stream of the Catalog object should be replaced then proceed as follows:

- Set the wished output PDF version with SetPDFVersion.
- Get a preview of the XMP stream with GetMetadata.
- Modify the returned stream as needed and save it with SetMetadata, finished!

The above steps make sure that the XMP metadata and document info contain the same values. This is especially important for PDF standards like PDF/A or PDF/X. DynaPDF makes sure that the creation and modification date will not be changed when closing the file.

Returns true on success and false on failure.

See also [SetMetadata](#) function in DynaPDF manual.

See also:

- 3.40.850 SetMetadata(ObjType as Integer, Handle as Integer, Buffer as String) as Boolean 512

### 3.40.850 SetMetadata(ObjType as Integer, Handle as Integer, Buffer as String) as Boolean

Plugin Version: 15.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets or replaces the XMP metadata stream of a specific object.

**Notes:** The function deletes the XMP stream if empty buffer will be provided.

If the global XMP stream of the Catalog object should be replaced then proceed as follows:

- Set the wished output PDF version with SetPDFVersion.
- Get a preview of the XMP stream with GetMetadata.
- Modify the returned stream as needed and save it with SetMetadata, finished!

The above steps make sure that the XMP metadata and document info contain the same values. This is especially important for PDF standards like PDF/A or PDF/X. DynaPDF makes sure that the creation and modification date will not be changed when closing the file.

Returns true on success and false on failure.

See also [SetMetadata](#) function in DynaPDF manual.

See also:

- 3.40.849 SetMetadata(ObjType as Integer, Handle as Integer, Buffer as Memoryblock) as Boolean 511

### 3.40.851 SetMiterLimit(value as Double) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the miter limit.

See also [SetMiterLimit](#) function in DynaPDF manual.

### 3.40.852 SetNeedAppearance(value as boolean) as boolean

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the appearance flag.

See also [SetNeedAppearance](#) function in DynaPDF manual.

### 3.40.853 SetNumberFormat(TxtField as Integer, Sep as Integer, DecPlaces as Integer, NegStyle as Integer, CurrStr as string, Prepend as boolean) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function restricts the allowed input characters of a text field to numbers and formats the resulting string as specified.

See also [SetNumberFormat](#) function in DynaPDF manual.

### 3.40.854 SetOCGContUsage(Handle as UInt32, Value as DynaPDFOCGContUsageMBS) as Boolean

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates or changes the Content Usage dictionary of an OCG.

**Notes:** See `dynapdf_help.pdf` manual for details.

If the function succeeds the return value is true. If the function fails the return value is false.

See also [SetOCGContUsage](#) function in DynaPDF manual.

### 3.40.855 SetOCGState(Handle as UInt32, On as Boolean, SaveState as Boolean) as Boolean

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Changes the visibility state of an OCG or layer.

**Notes:** If the parameter `SaveState` is true, the new state is also saved in the PDF file. Otherwise, the state is only changed temporarily so that the wished state can be rendered with `RenderPage` or `RenderPageToImage` for example.

Note that only the new state of the current OCG will be saved. If the state of other OCGs were changed beforehand, while `SaveState` was set to false, then these changes will not be considered.

If the function succeeds the return value is true. If the function fails the return value is false.  
See also [SetOCGState](#) function in DynaPDF manual.

### 3.40.856 SetOpacity(value as Double) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the opacity value which is used to render the appearance of a text annotation.  
See also [SetOpacity](#) function in DynaPDF manual.

### 3.40.857 SetOrientation(Value as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the orientation of a page.  
See also [SetOrientation](#) function in DynaPDF manual.

### 3.40.858 SetOrientationEx(Value as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function changes the orientation of a page, incl. important page properties such as the width and height, and the coordinate system.  
See also [SetOrientationEx](#) function in DynaPDF manual.

### 3.40.859 SetPageCoords(PageCoords as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The native coordinate system of the Portable Document Format is bottom up.  
**Notes:** Value can be `kpcTopDown` or `kpcBottomUp`. Default is `kpcBottomUp`.  
See also [SetPageCoords](#) function in DynaPDF manual.

**3.40.860 SetPageFormat(Value as Integer) as Boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets a predefined page or paper format.

**Notes:**

Common paper formats and sizes in points:

Format	Size in units (Width x Height)
DIN A3	842.0 x 1191.0
DIN A4	595.0 x 842.0
DIN A5	419.0 x 595.0
DIN B4	709.0 x 1001.0
DIN B5	499.0 x 709.0
DIN B6	354.0 x 499.0
DIN C3	918.0 x 1298.0
DIN C4	649.0 x 918.0
DIN C5	459.0 x 649.0
DIN C6	323.0 x 459.0
DIN C65	323.0 x 649.0
DIN DL	312.0 x 624.0
DIN E4	623.0 x 879.0
DIN E5	439.0 x 624.0
DIN E6	312.0 x 439.0
DIN E65	312.0 x 624.0
DIN M5	439.0 x 632.0
DIN M65	317.0 x 632.0
US Legal	612.0 x 1008.0
US Letter	612.0 x 792.0

See also [SetPageFormat](#) function in DynaPDF manual.

**3.40.861 SetPageHeight(value as Double) as Boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function changes the height of the currently open page if any, or the default height for newly created pages.

**Example:**

```
dim pdf as DynaPDFMBS // your DynaPDF object
dim bBool as Boolean
```

```

dim dWidth as Double = 800 // new width
dim dHeight as Double = 600 // new height

// define page size
bBool=pdf.SetPageWidth(dWidth)
bBool=pdf.SetPageHeight(dHeight)

```

**Notes:**

Common paper formats and sizes in points:

Format	Size in units (Width x Height)
DIN A3	842.0 x 1191.0
DIN A4	595.0 x 842.0
DIN A5	419.0 x 595.0
DIN B4	709.0 x 1001.0
DIN B5	499.0 x 709.0
DIN B6	354.0 x 499.0
DIN C3	918.0 x 1298.0
DIN C4	649.0 x 918.0
DIN C5	459.0 x 649.0
DIN C6	323.0 x 459.0
DIN C65	323.0 x 649.0
DIN DL	312.0 x 624.0
DIN E4	623.0 x 879.0
DIN E5	439.0 x 624.0
DIN E6	312.0 x 439.0
DIN E65	312.0 x 624.0
DIN M5	439.0 x 632.0
DIN M65	317.0 x 632.0
US Legal	612.0 x 1008.0
US Letter	612.0 x 792.0

See also [SetPageHeight](#) function in DynaPDF manual.

**3.40.862 SetPageLayout(Layout as Integer) as Boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the page layout that is used when opening the document with Adobe's Acrobat.

**Example:**

```

dim pdf as DynaPDFMBS // your DynaPDF object
dim bBool as Boolean

// define page view
'plSinglePage = 0, // Show one page at time
'plOneColumn = 1, // Show the pages continuous
'plTwoColumnLeft = 2, // Two columns, start with left column
'plTwoColumnRight = 3 // Two columns, start with right column
bBool=pdf.SetPageLayout(0)

```

**Notes:** See kpl\* constants.  
 see also SetPageMode and SetViewerPreferences functions.  
 See also [SetPageLayout](#) function in DynaPDF manual.

**3.40.863 SetPageMode(Mode as Integer) as Boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the page mode that is used when opening the document with Adobe's Acrobat.

**Example:**

```

dim pdf as DynaPDFMBS // your DynaPDF object
dim bBool as Boolean

// define page mode
'pmUseNone = 0, // Default
'pmUseOutlines = 1, // Show the outline tree
'pmUseThumbs = 2, // Show the thumb nails
'pmFullScreen = 3 // Open the document in full-screen mode
bBool=pdf.SetPageMode(0)

```

**Notes:** see also SetPageLayout and SetViewerPreferences functions.  
 See also [SetPageMode](#) function in DynaPDF manual.

**3.40.864 SetPageWidth(value as Double) as Boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function changes the width of the currently open page if any, or the default width for newly

created pages.

**Example:**

```
dim pdf as DynaPDFMBS // your DynaPDF object
dim bBool as Boolean
dim dWidth as Double = 800 // new width
dim dHeight as Double = 600 // new height

// define page size
bBool=pdf.SetPageWidth(dWidth)
bBool=pdf.SetPageHeight(dHeight)
```

**Notes:**

Common paper formats and sizes in points:

Format	Size in units (Width x Height)
DIN A3	842.0 x 1191.0
DIN A4	595.0 x 842.0
DIN A5	419.0 x 595.0
DIN B4	709.0 x 1001.0
DIN B5	499.0 x 709.0
DIN B6	354.0 x 499.0
DIN C3	918.0 x 1298.0
DIN C4	649.0 x 918.0
DIN C5	459.0 x 649.0
DIN C6	323.0 x 459.0
DIN C65	323.0 x 649.0
DIN DL	312.0 x 624.0
DIN E4	623.0 x 879.0
DIN E5	439.0 x 624.0
DIN E6	312.0 x 439.0
DIN E65	312.0 x 624.0
DIN M5	439.0 x 632.0
DIN M65	317.0 x 632.0
US Legal	612.0 x 1008.0
US Letter	612.0 x 792.0

See also [SetPageWidth](#) function in DynaPDF manual.

**3.40.865 SetPDFVersion(Version as Integer) as Boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function changes the output PDF file version.

**Example:**

```
const pvPDF_1_3=3

dim pdf as DynaPDFMBS // your DynaPDF object
dim bBool as Boolean

// ask to create a pdf in version 1.3
bBool=pdf.SetPDFVersion(DynaPDFMBS.kpvPDF_A_2005)
```

**Notes:** Requires DynaPDF Lite license for PDF/A and PDF/X versions.  
See also [SetPDFVersion](#) function in DynaPDF manual.

**3.40.866 SetPrintSettings(Mode as Integer, PickTrayByPDFSize as Integer, NumCopies as Integer, PrintScaling as Integer, PrintRanges() as Integer) as boolean**

Plugin Version: 8.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the print settings.

**Notes:** This is a PDF 1.7 extension.

For the Mode use the kdpm\* constants.  
For the PrintScaling use the kps\* constants.  
See also [SetPrintSettings](#) function in DynaPDF manual.

**3.40.867 SetRenderingIntent(ImgHandle as Integer, RenderingIntent as Integer) as Boolean**

Plugin Version: 22.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Set function sets the rendering intent of an image.

**Notes:** The rendering intent describes how colors should be interpreted.

The parameter `ImgHandle` must be a valid image handle that was returned by `InsertImage` or `InsertImage-File`. Imported images returned in `ParseContent`, for example, can be changed too.

If the function succeeds the return value is true. If the function fails the return value is false.

See also [SetRenderingIntent](#) function in DynaPDF manual.

### 3.40.868 SetResolution(Value as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the resolution in DPI (Dots per Inch), in which images are stored by DynaPDF.

**Example:**

```
dim pdf as DynaPDFMBS // your DynaPDF object
dim bBool as Boolean

// set maximum resolution
bBool = pdf.SetResolution(150)
```

See also [SetResolution](#) function in DynaPDF manual.

### 3.40.869 SetSaveNewImageFormat(value as Boolean) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The property SaveNewImageFormat specifies whether images should be downscaled if the original resolution of the image is higher than the value of the property resolution (see also SetResolution()).

**Example:**

```
dim pdf as DynaPDFMBS // your DynaPDF object
dim bBool as Boolean

// whether you want image to be recompressed
bBool=pdf.SetSaveNewImageFormat(False)
```

See also [SetSaveNewImageFormat](#) function in DynaPDF manual.

### 3.40.870 SetSeparationInfo(Handle as Integer) as boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the separation info of the current open page.

See also [SetSeparationInfo](#) function in DynaPDF manual.

**3.40.871 SetStrokeColor(ColorValue as color) as Boolean**

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the color used for stroked graphics objects.

**Notes:** Raises an exception if current color space is CMYK or Gray and not RGB.

See also [SetStrokeColor](#) function in DynaPDF manual.

See also:

- 3.40.872 SetStrokeColor(ColorValue as Integer) as Boolean 521
- 3.40.873 SetStrokeColor(values() as Double) as boolean 521
- 3.40.874 SetStrokeColor(values() as single) as boolean 521

**3.40.872 SetStrokeColor(ColorValue as Integer) as Boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the color used for stroked graphics objects.

See also [SetStrokeColor](#) function in DynaPDF manual.

See also:

- 3.40.871 SetStrokeColor(ColorValue as color) as Boolean 521
- 3.40.873 SetStrokeColor(values() as Double) as boolean 521
- 3.40.874 SetStrokeColor(values() as single) as boolean 521

**3.40.873 SetStrokeColor(values() as Double) as boolean**

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets stroke color based on an array of floats.

**Notes:** The number of components must match.

See also [SetStrokeColor](#) function in DynaPDF manual.

See also:

- 3.40.871 SetStrokeColor(ColorValue as color) as Boolean 521
- 3.40.872 SetStrokeColor(ColorValue as Integer) as Boolean 521
- 3.40.874 SetStrokeColor(values() as single) as boolean 521

**3.40.874 SetStrokeColor(values() as single) as boolean**

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets stroke color based on an array of floats.

**Notes:** The number of components must match.

See also [SetStrokeColor](#) function in DynaPDF manual.

See also:

- 3.40.871 [SetStrokeColor\(ColorValue as color\)](#) as Boolean 521
- 3.40.872 [SetStrokeColor\(ColorValue as Integer\)](#) as Boolean 521
- 3.40.873 [SetStrokeColor\(values\(\) as Double\)](#) as boolean 521

### 3.40.875 [SetStrokeColorEx\(colorvalues as memoryblock, count as Integer\)](#) as Boolean

Plugin Version: 9.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the stroke color using the values in parameters.

**Example:**

```
dim p as DynaPDFMBS // get a pdf object
```

```
dim colorvalues as memoryblock
```

```
colorvalues=NewMemoryBlock(3)
```

```
colorvalues.Byte(0)=255
```

```
colorvalues.Byte(1)=128
```

```
colorvalues.Byte(2)=0
```

```
if p.SetStrokeColorEx(colorvalues, 3) then
```

```
' ok
```

```
else
```

```
' failed
```

```
end if
```

**Notes:** Pass as many color values as needed for the current color space. 3 for RGB, 4 for CMYK. All values must be in the range of 0 to 255.

See also [SetStrokeColorEx](#) function in DynaPDF manual.

See also:

- 3.40.876 [SetStrokeColorEx\(ParamArray colorvalue as Integer\)](#) as Boolean 522

### 3.40.876 [SetStrokeColorEx\(ParamArray colorvalue as Integer\)](#) as Boolean

Plugin Version: 9.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the stroke color using the values in parameters.

**Example:**

```
dim p as DynaPDFMBS // get a pdf object

if p.SetStrokeColorEx(255,128,0) then
' ok
else
' failed
end if
```

**Notes:** Pass as many color values as needed for the current color space. 3 for RGB, 4 for CMYK. All values must be in the range of 0 to 255.

See also [SetStrokeColorEx](#) function in DynaPDF manual.

See also:

- 3.40.875 [SetStrokeColorEx\(colorvalues as memoryblock, count as Integer\)](#) as Boolean 522

### 3.40.877 [SetStrokeColorSpace\(Colorspace as Integer\)](#) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function changes the stroke color space. In PDF, fill and stroke colors use both their own color spaces.

See also [SetStrokeColorSpace](#) function in DynaPDF manual.

### 3.40.878 [SetTabLen\(TabLen as Integer\)](#) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the tabulator length, specified in number of spaces, which will be used to emulate tabulators during text formatting (see [WriteFText\(\)](#) for further information).

See also [SetTabLen](#) function in DynaPDF manual.

### 3.40.879 [SetTemplBBox\(TemplateHandle as Integer, PageBoundary as Integer, BBoxRect as DynaPDFRectMBS\)](#) as Boolean

Plugin Version: 22.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets or changes a bounding box of a template.

**Notes:** Templates support the bounding boxes `kpbMediaBox` and `kpbCropBox` only. The latter one is considered by [PlaceTemplateEx\(\)](#) only.

A crop box can be set to clip the contents of a template without changing its bounding box. This can be useful when placing imported pages on another page.

If BBox is set to nil, the bounding box is deleted. Note that only the crop box can be deleted.

Returns true on success or false in case of an error.

See also [SetTemplBBox](#) function in DynaPDF manual.

See also:

- 3.40.880 `SetTemplBBox(TemplateHandle as Integer, PageBoundary as Integer, Left as Double, Top as Double, Right as Double, Bottom as Double) as Boolean` 524

### 3.40.880 `SetTemplBBox(TemplateHandle as Integer, PageBoundary as Integer, Left as Double, Top as Double, Right as Double, Bottom as Double) as Boolean`

Plugin Version: 22.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets or changes a bounding box of a template.

**Notes:** Templates support the bounding boxes `kpbMediaBox` and `kpbCropBox` only. The latter one is considered by `PlaceTemplateEx()` only.

A crop box can be set to clip the contents of a template without changing its bounding box. This can be useful when placing imported pages on another page.

If BBox is set to nil, the bounding box is deleted. Note that only the crop box can be deleted.

Returns true on success or false in case of an error.

See also [SetTemplBBox](#) function in DynaPDF manual.

See also:

- 3.40.879 `SetTemplBBox(TemplateHandle as Integer, PageBoundary as Integer, BBoxRect as DynaPDFRectMBS) as Boolean` 523

### 3.40.881 `SetTextDrawMode(Mode as Integer) as Boolean`

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The text draw mode specifies how text should be rendered.

See also [SetTextDrawMode](#) function in DynaPDF manual.

**3.40.882 SetTextFieldValue(Field as Integer, Value as string, DefValue as string, Align as Integer) as Boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets or changes the value and default value of a text field.

**Notes:** The Value and the DefValue strings are converted to unicode.

See also [SetTextFieldValue](#) function in DynaPDF manual.

**3.40.883 SetTextFieldValueAnsi(Field as Integer, Value as string, DefValue as string, Align as Integer) as Boolean**

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function sets or changes the value and default value of a text field.

**Notes:** The Value and the DefValue strings are converted to ANSI.

**3.40.884 SetTextFieldValueAnsiEx(Field as Integer, Value as string) as Boolean**

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** Sets the text field value.

**3.40.885 SetTextFieldValueEx(Field as Integer, Value as string) as Boolean**

Plugin Version: 9.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the text field value.

See also [SetTextFieldValueEx](#) function in DynaPDF manual.

**3.40.886 SetTextRect(PosX as Double, PosY as Double, Width as Double, Height as Double) as Boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function defines the output rectangle that is used to output formatted text by the function WriteFText().

See also [SetTextRect](#) function in DynaPDF manual.

### 3.40.887 SetTextRise(value as Double) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Text rise specifies the distance, to move the baseline up or down from its default location. See also [SetTextRise](#) function in DynaPDF manual.

### 3.40.888 SetTextScaling(value as Double) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The scaling value adjusts the width of glyphs by stretching or compressing them in the horizontal direction. See also [SetTextScaling](#) function in DynaPDF manual.

### 3.40.889 SetTransparentColor(ColorValue as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the transparent color which is used for newly inserted images.

**Example:**

`dim pdf as DynaPDFMBS`

`call pdf.SetTransparentColor pdf.kNO_COLOR`

See also [SetTransparentColor](#) function in DynaPDF manual.

### 3.40.890 SetTrapped(value as boolean)

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the trapped key of the document.

See also [SetTrapped](#) function in DynaPDF manual.

### 3.40.891 SetUseExactPwd(value as Boolean) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If the property UseExactPwd is false, an encrypted PDF file can always be decrypted, if either

the open or owner password in the file is an empty string.  
See also [SetUseExactPwd](#) function in DynaPDF manual.

### 3.40.892 SetUseGlobalImpFiles(value as Boolean) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The property can be used to load an external PDF file permanent into memory, e.g. to split a large PDF file into smaller pieces.

**Notes:** Requires DynaPDF Pro license.

See also [SetUseGlobalImpFiles](#) function in DynaPDF manual.

### 3.40.893 SetUseImageInterpolation(Index as Integer, Value as Boolean) as Boolean

Plugin Version: 17.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Enables or disables image interpolation explicitly for a given image.

**Notes:** If nothing was specified (this is the default), a viewer applications can only use a heuristic to determine whether image interpolation should be enabled or not. The result is then of course application specific. The parameter Handle must be a valid image handle that was returned by a DynaPDF function like `InsertImage()`, `InsertImageEx()`, or `InsertImageFromBuffer()`, for example.

If the function succeeds the return value is true. If the function fails the return value is false.

See also [SetUseImageInterpolation](#) function in DynaPDF manual.

### 3.40.894 SetUserUnit(value as single) as boolean

Plugin Version: 11.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the user unit of the current open page.

**Notes:** A user unit acts like a scaling factor. The page format and all page coordinates are multiplied with this factor in a viewer application. The default size of a PDF unit is 1/72 inch. User units can be useful if the page format would be too large to be expressed in standard PDF units. The largest page format in PDF is limited to 14400 units or 200 inches. This limit can be extended with the user unit.

The largest value that is supported is 75.0 which results in a maximum page format of 15,000 x 15,000 inches or 1,800,000 units. Note that all functions which return page coordinates or page properties do not consider the user unit.

The page format must still be in the range 3..14400 units. It is also strongly recommended to set the user unit only if necessary. This is only the case if the required page format is larger 14400 units.

Default value = 1.0

Return values:

If the function succeeds the return value is true. If the function fails the return value is false.  
See also [SetUserUnit](#) function in DynaPDF manual.

### 3.40.895 SetUseStdFonts(value as Boolean) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function can be used to disable the 14 standard fonts temporarily.  
See also [SetUseStdFonts](#) function in DynaPDF manual.

### 3.40.896 SetUseSwapFile(SwapContents as Boolean, SwapLimit as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. **Function:** When creating large PDF files with many or large images it is sometimes recommended to page out large objects to a temp file to restrict the memory usage.

**Example:**

```
dim pdf as DynaPDFMBS // your DynaPDF object

// define a swap file in case memory is low
dim b as Boolean=pdf.SetUseSwapFile(False, 256*1024*1024)
if b=False then
  MsgBox "Failed to create swap file."
Return
end if
```

**Notes:**

Do not use FlushPages and SetUseSwapFile together. Use one function.  
See also [SetUseSwapFile](#) function in DynaPDF manual.

### 3.40.897 SetUseSwapFileEx(SwapContents as Boolean, SwapLimit as Integer, SwapDir as FolderItem) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. **Function:** This function enables paging out of large objects to restrict the memory usage in the same way as SetUseSwapFile().

See also [SetUseSwapFileEx](#) function in DynaPDF manual.

### 3.40.898 SetUseSystemFonts(value as Boolean) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The property specifies whether the Windows/Fonts directory should be added automatically to the list of available font search paths.

See also [SetUseSystemFonts](#) function in DynaPDF manual.

### 3.40.899 SetUseTransparency(value as Boolean) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The property specifies whether images should get a transparent background.

**Example:**

```
dim pdf as DynaPDFMBS // your DynaPDF object
dim bBool as Boolean
```

```
// allow transparency for images
bBool=pdf.SetUseTransparency(False)
```

See also [SetUseTransparency](#) function in DynaPDF manual.

### 3.40.900 SetUseVisibleCoords(value as Boolean) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The property specifies whether DynaPDF should consider the crop box to calculate to position of an object.

See also [SetUseVisibleCoords](#) function in DynaPDF manual.

### 3.40.901 SetViewerPreferences(Value as Integer, AddVal as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the viewer preferences which can be used to control a few parameter of Adobe's Acrobat, such as hide the toolbar or menu bar.

**Example:**

call `pdf.SetViewerPreferences pdf.kvpDisplayDocTitle, pdf.kavNone`

**Notes:** See `kvp*` constants and `*kav` constants.  
See also `SetPageLayout` and `SetPageMode` functions.  
See also [SetViewerPreferences](#) function in DynaPDF manual.

### 3.40.902 `SetWhite(FillColor as Boolean, StrokeColor as Boolean)` as Boolean

Plugin Version: 19.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets white color.

**Notes:** This function is a bit optimized to check the current color space.  
Depending on whether it's RGB, Gray, CMYK or Lab, it will set different color values.  
And if other color space is active, it switches to Gray colorspace to set white.

### 3.40.903 SetWMFDefExtent(Width as Integer, Height as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the default size which is used to convert non-portable WMF files to EMF. See `InsertMetafile()` for further information.

See also [SetWMFDefExtent](#) function in DynaPDF manual.

### 3.40.904 SetWMFPixelPerInch(Value as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the default pixels per inch of the y-axis which are used to convert portable WMF files to EMF.

See also [SetWMFPixelPerInch](#) function in DynaPDF manual.

### 3.40.905 SetWordSpacing(value as Double) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the word spacing.

See also [SetWordSpacing](#) function in DynaPDF manual.

### 3.40.906 SetXFASStream(Index as UInt32, Buffer as String) as Boolean

Plugin Version: 19.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function replaces the contents of an XFA stream with new contents.

**Notes:** Index must be a valid XFA resource index. XFA streams can be enumerated with `GetXFASStream()` / `GetXFASStreamCount()`.

The function does not check whether the provided XFA buffer is valid. The buffer is written to the stream as is.

If the function succeeds the return value is true. If the function fails the return value is false.

See also [SetXFASStream](#) function in DynaPDF manual.

### 3.40.907 ShowDifferences(PageIndex1 as Integer, OtherPDF as DynaPDFMBS, PageIndex2 as Integer, CheckMoving as boolean, HighlightColor as UInt32 = &hFFFF, ScaleFactor as Integer = 1, ColorTolerance as Integer = 3, debug as boolean = false) as Integer

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Shows differences on two PDF pages by adding highlight annotations.

**Notes:** Please pass page indexes for both pages. OtherPDF can be same as the current instance you call this method on.

CheckMoving: Whether to check for moving parts, e.g. the big part of the page shifted up one line.

Returns number of annotations on success which means that highlight annotations have been added to both pages.

Or returns negative value in case of error.

You can then render a page to show differences to user.

Requires a DynaPDF Pro license. Without a license, the DynaPDF watermark will reduce the accuracy.

Scale: When comparison, scales up the pictures used for comparison. Default is 1 for 72dpi, but you can use 2 for double.

ColorTolerance: The tolerance for color comparison.

Colors where red, green or blue components are within given tolerance are considered equal. So FFFFFFF and FFFFFFFD are equal.

Default is 3.

Debug Parameter: Whether to write debug images to temp folder.

If true, we write png files to temp folder. One image is before the check, one with all similar lines removed and one with result of comparison. Red pixels show you the raster, green equal pixels.

### 3.40.908 SkewCoords(alpha as Double, beta as Double, OriginX as Double, OriginY as Double) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function skews the coordinate system and sets the coordinate origin to the point OriginX, OriginY.

**Notes:** Please do not try to scale/skew/translate back later. use SaveGraphicState and RestoreGraphicState.

See also [SkewCoords](#) function in DynaPDF manual.

### 3.40.909 SortFieldsByIndex as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sorts the interactive form fields of a page by comparing the internal indices which can be set for each field separately (see `SetFieldIndex()` for further information). See also [SortFieldsByIndex](#) function in DynaPDF manual.

### 3.40.910 SortFieldsByName as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sorts the interactive form fields of a page in ascending order by field name. See also [SortFieldsByName](#) function in DynaPDF manual.

### 3.40.911 SquareAnnot(PosX as Double, PosY as Double, Width as Double, Height as Double, LineWidth as Double, FillColor as UInt32, StrokeColor as UInt32, ColorSpace as Integer, Author as string, Subject as string, Comment as string) as Integer

Plugin Version: 13.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function draws a square annotation on the current open page.

**Notes:** If the parameters Width and Height are equal the function draws a square, a rectangle otherwise. If the annotation should be drawn without a border, set the parameter LineWidth to zero or StrokeColor to the special constant `kNO_COLOR`.

If the interior should be transparent set FillColor to the special constant `kNO_COLOR`.

Although the line width can be set to any positive floating point value, Adobe's Acrobat or Reader restrict the line width to 0 through 12 units. The line width should be restricted in the same way to avoid issues in Adobe viewer products.

If the function succeeds the return value is the annotation handle, a value greater or equal zero. If the function fails, the return value is a negative error code.

See also [SquareAnnot](#) function in DynaPDF manual.

### 3.40.912 SquareAnnotAnsi(PosX as Double, PosY as Double, Width as Double, Height as Double, LineWidth as Double, FillColor as UInt32, StrokeColor as UInt32, ColorSpace as Integer, Author as string, Subject as string, Comment as string) as Integer

Plugin Version: 13.5, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function draws a square annotation on the current open page.

**Notes:** If the parameters `Width` and `Height` are equal the function draws a square, a rectangle otherwise. If the annotation should be drawn without a border, set the parameter `LineWidth` to zero or `StrokeColor` to the special constant `kNO_COLOR`.

If the interior should be transparent set `FillColor` to the special constant `kNO_COLOR`.

Although the line width can be set to any positive floating point value, Adobe's Acrobat or Reader restrict the line width to 0 through 12 units. The line width should be restricted in the same way to avoid issues in Adobe viewer products.

If the function succeeds the return value is the annotation handle, a value greater or equal zero. If the function fails, the return value is a negative error code.

### 3.40.913 `StampAnnot`(SubType as Integer, PosX as Double, PosY as Double, Width as Double, Height as Double, Author as string, Subject as string, Comment as string) as Integer

Plugin Version: 8.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a stamp annotation.

See also [StampAnnot](#) function in DynaPDF manual.

### 3.40.914 `StampAnnotAnsi`(SubType as Integer, PosX as Double, PosY as Double, Width as Double, Height as Double, Author as string, Subject as string, Comment as string) as Integer

Plugin Version: 8.7, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** Creates a stamp annotation with ANSI encoded texts.

### 3.40.915 `StrokePath` as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function strokes the current path without closing it.

See also [StrokePath](#) function in DynaPDF manual.

**3.40.916 TestGlyphs(FontHandle as Integer, Text as string) as Integer**

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function checks whether all glyphs of the text are available in the specified font.

**Example:**

```
// create dummy PDF with one page
dim d as new myDynaPDFMBS

call d.CreateNewPDF
call d.Append

// check this text
dim x as string = "ÊÇ@Â•Ω" // Hello in Chinese

// load 2 fonts to check
dim FontHandle1 as Integer = d.SetFont("Times", 12)
dim FontHandle2 as Integer = d.SetFont("Arial Unicode MS", 12)

dim r1 as Integer = d.TestGlyphs(FontHandle1, x)

if r1 = -1 then
  MsgBox "Times supports chinese characters"
else
  MsgBox "Times does not support chinese characters"
end if

dim r2 as Integer = d.TestGlyphs(FontHandle2, x)

if r2 = -1 then
  MsgBox "Arial Unicode MS supports chinese characters"
else
  MsgBox "Arial Unicode MS does not support chinese characters"
end if
```

**Notes:** The return value is the position of the first missing glyph, or -1 if all glyphs are available.

If the font uses a mixed 8/16 bit CJK code page that requires a conversion to Unicode (a code page that ends with "\_Uni"), then the return value corresponds to the converted Unicode string and not to the CJK input string.

See also [TestGlyphs](#) function in DynaPDF manual.

**3.40.917 TestGlyphsAnsi(FontHandle as Integer, Text as string) as Integer**

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function checks whether all glyphs of the text are available in the specified font.

**Notes:** The return value is the position of the first missing glyph, or -1 if all glyphs are available.

If the font uses a mixed 8/16 bit CJK code page that requires a conversion to Unicode (a code page that ends with ”\_Uni”), then the return value corresponds to the converted Unicode string and not to the CJK input string.

The text parameter is converted to ANSI.

### 3.40.918 TextAnnot(PosX as Double, PosY as Double, Width as Double, Height as Double, Author as string, Text as string, Icon as Integer, Open as boolean) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function creates a text annotation.

**Notes:** The text and the author parameters are converted to unicode.

See also [TextAnnot](#) function in DynaPDF manual.

### 3.40.919 TextAnnotAnsi(PosX as Double, PosY as Double, Width as Double, Height as Double, Author as string, Text as string, Icon as Integer, Open as boolean) as Integer

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function creates a text annotation.

**Notes:** The text and the author parameters are converted to ANSI.

### 3.40.920 TranslateCoords(OriginX as Double, OriginY as Double) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function translates the coordinate system to the new origin OriginX, OriginY.

See also [TranslateCoords](#) function in DynaPDF manual.

### 3.40.921 TranslateRawCode(IFont as Integer, text as string, byref Width as Double, byref Decoded as boolean, CharSpacing as Double, WordSpacing as Double, TextScale as Double) as string

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Translates a raw code.

**Notes:** Deprecated. Please use other variant with more parameters.

See also [TranslateRawCode](#) function in DynaPDF manual.

See also:

- 3.40.922 `TranslateRawCode(IFont as integer, text as string, textOffset as Integer, byref Width as double, byref Decoded as boolean, CharSpacing as double, WordSpacing as double, TextScale as double, byref count as integer) as string` 537

### 3.40.922 `TranslateRawCode(IFont as integer, text as string, textOffset as Integer, byref Width as double, byref Decoded as boolean, CharSpacing as double, WordSpacing as double, TextScale as double, byref count as integer) as string`

Plugin Version: 18.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function converts a source character to Unicode.

**Notes:** The code length of a character depends on the font's encoding. PDF supports encodings with fixed and variable code lengths from one through four bytes per character. The Count parameter provides the number of bytes which were consumed to convert the character to Unicode; this value must be used to increment the textOffset parameter for further calls.

The resulting Unicode character or sequence is returned in function result. The width parameter is used to return the character width.

The parameter Decoded is set to true if the source character could be successfully converted to Unicode. If Decode is false the output string and character width contain no meaningful values.

The function can only fail when processing strings of CID fonts, e.g. if the font depends on an external CMap that could not be loaded, or if the font uses a damaged CMap. The search path(s) to external CMaps should always be set before extracting text from PDF files with SetCMapDir().

Passing an invalid or undefined code sequence to the function does not result in an error. In this case the notdef character is added to the output string (this is usually 0 or 0xFFFFD if the font contains a ToUnicode CMap).

Notice:

To improve processing speed the function does not check whether the parameters are valid.

Remarks:

This function was designed to convert raw strings on a per character basis to Unicode which were returned by ParseContent() or GetPageText(). The parameters CharSpacing, WordSpacing, and TextScale must be taken from the current graphics state or from the structure DynaPDFStackMBS.

Return values:

The count value of this function is always greater or equal to one. Check the parameter Decoded to determine whether the function succeed.

See also [TranslateRawCode](#) function in DynaPDF manual.

See also:

- 3.40.921 `TranslateRawCode(IFont as Integer, text as string, byref Width as Double, byref Decoded as boolean, CharSpacing as Double, WordSpacing as Double, TextScale as Double) as string` 536

### 3.40.923 TranslateString(IFont as Integer, text as string, flags as Integer) as string

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Translates a string.

See also [TranslateString](#) function in DynaPDF manual.

See also:

- 3.40.924 TranslateString(stack as DynaPDFStackMBS, flags as Integer) as string 538

### 3.40.924 TranslateString(stack as DynaPDFStackMBS, flags as Integer) as string

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function translates a binary string returned by GetPageText() to Unicode.

See also [TranslateString](#) function in DynaPDF manual.

See also:

- 3.40.923 TranslateString(IFont as Integer, text as string, flags as Integer) as string 538

### 3.40.925 Triangle(x1 as Double, y1 as Double, x2 as Double, y2 as Double, x3 as Double, y3 as Double, FillMode as Integer) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function draws a triangle.

See also [Triangle](#) function in DynaPDF manual.

### 3.40.926 UnlockLayer(layer as UInt32) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Locks a layer.

See also [UnlockLayer](#) function in DynaPDF manual.

### 3.40.927 WatermarkAnnot(PosX as Double, PosY as Double, Width as Double, Height as Double) as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a Watermark annotation.

**Example:**

```

// create watermark annotation
Dim AnnotHandle As Integer = pdf.WatermarkAnnot(100, 100, 300, 200)

// it's empty initially

// so we create an annotation appearance stream
Dim x As Integer = pdf.CreateAnnotAP(AnnotHandle)

// set a color and draw rectangle
Call pdf.SetFillColor(&cFF7777)
Call pdf.Rectangle 0, 0, 300, 200, pdf.kfmFill

Call pdf.SetStrokeColor(&c000000)
Call pdf.SetFillColor(&c000000)
Call pdf.SetFont("Helvetica", pdf.kfsBold, 30)
Call pdf.WriteText(20, 20, "Hello World")

// close template
Call pdf.EndTemplate

```

**Notes:** Watermark annotations have no interactive elements like other annotation types. This property is useful in many cases because it is usually not possible to select or change the contents of a watermark annotation in viewer applications.

The annotation has no appearance after it was created. Call `CreateAnnotAP` to create an appearance template for the annotation. After the appearance template was created you can draw text, images or vector graphics into it. The template must be closed with `EndTemplate` when finished. It is also possible to import an external page or EMF contents into the template.

Watermark annotations can be shared on multiple pages. To place the annotation on other pages call `AddAnnotToPage`.

If the function succeeds the return value is the annotation handle, a value greater or equal zero. If the function fails the return value is a negative error code.

See also [WatermarkAnnot](#) function in DynaPDF manual.

### 3.40.928 `WebLink(PosX as Double, PosY as Double, Width as Double, Height as Double, aText as string) as Integer`

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function inserts a web link onto the current open page.

**Notes:** The text parameter is converted to unicode.

See also [WebLink](#) function in DynaPDF manual.

### 3.40.929 **WebLinkAnsi(PosX as Double, PosY as Double, Width as Double, Height as Double, aText as string) as Integer**

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function inserts a web link onto the current open page.

**Notes:** The text parameter is converted to ANSI.

### 3.40.930 **WeightFromStyle(s as Integer) as Integer**

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Converts a style value to a weight value.

### 3.40.931 **WeightToStyle(s as Integer) as Integer**

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Converts a weight value to a style value.

### 3.40.932 **WidthFromStyle(s as Integer) as Integer**

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Converts a style constant to the width value.

### 3.40.933 **WidthToStyle(s as Integer) as Integer**

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Converts a width value to a style value.

### 3.40.934 **WriteAngleText(aText as string, Angle as Double, PosX as Double, PosY as Double, Radius as Double, YOrigin as Double) as Boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function prints a string in a user defined angle around a radius.

**Notes:** The text parameter is converted to unicode.

See also [WriteAngleText](#) function in DynaPDF manual.

See also:

- 3.40.935 WriteAngleText(glyphs() as Integer, Angle as Double, PosX as Double, PosY as Double, Radius as Double, YOrigin as Double) as Boolean 541

### 3.40.935 WriteAngleText(glyphs() as Integer, Angle as Double, PosX as Double, PosY as Double, Radius as Double, YOrigin as Double) as Boolean

Plugin Version: 10.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function prints a string in a user defined angle around a radius.

**Notes:** This version takes an array of integers. So if you are using the kcpUnicode on SetFont, please pass an array of unicode codepoints. If you use kcpGlyphIndexes, please pass an array of glyph values.

See also [WriteAngleText](#) function in DynaPDF manual.

See also:

- 3.40.934 WriteAngleText(aText as string, Angle as Double, PosX as Double, PosY as Double, Radius as Double, YOrigin as Double) as Boolean 540

### 3.40.936 WriteAngleTextAnsi(aText as string, Angle as Double, PosX as Double, PosY as Double, Radius as Double, YOrigin as Double) as Boolean

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function prints a string in a user defined angle around a radius.

**Notes:** The text parameter is converted to ANSI, so use only with SetFont with kcp1252.

### 3.40.937 WriteAngleTextDirect(aText as string, Angle as Double, PosX as Double, PosY as Double, Radius as Double, YOrigin as Double) as Boolean

Plugin Version: 10.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function prints a string in a user defined angle around a radius.

**Notes:** The text parameter is not converted, so pass a string in the right encoding.

See also:

- 3.40.938 WriteAngleTextDirect(glyphs() as Integer, Angle as Double, PosX as Double, PosY as Double, Radius as Double, YOrigin as Double) as Boolean 542

### 3.40.938 WriteAngleTextDirect(glyphs() as Integer, Angle as Double, PosX as Double, PosY as Double, Radius as Double, YOrigin as Double) as Boolean

Plugin Version: 10.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function prints a string in a user defined angle around a radius.

**Notes:** This version takes an array of integers. So pass in values in the encoding you are using. This can be glyph values or bytes in any encoding you selected in the SetFont method.

See also:

- 3.40.937 WriteAngleTextDirect(aText as string, Angle as Double, PosX as Double, PosY as Double, Radius as Double, YOrigin as Double) as Boolean 541

### 3.40.939 WriteFText(Align as Integer, aText as string) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Instead of printing text on a line by line basis it is also possible to output text into a rectangle by applying a formatting algorithm.

**Notes:** The text parameter is converted to unicode.

The PageBreak event is called when needed by the plugin.

See also [WriteFText](#) function in DynaPDF manual.

See also:

- 3.40.940 WriteFText(Align as Integer, glyphs() as Integer) as Boolean 542

### 3.40.940 WriteFText(Align as Integer, glyphs() as Integer) as Boolean

Plugin Version: 10.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Instead of printing text on a line by line basis it is also possible to output text into a rectangle by applying a formatting algorithm.

**Notes:** This version takes an array of integers. So if you are using the kcpUnicode on SetFont, please pass an array of unicode codepoints. If you use kcpGlyphIndexes, please pass an array of glyph values.

The PageBreak event is called when needed by the plugin.

See also [WriteFText](#) function in DynaPDF manual.

See also:

- 3.40.939 WriteFText(Align as Integer, aText as string) as Boolean 542

**3.40.941 WriteFTextAnsi(Align as Integer, aText as string) as Boolean**

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** Instead of printing text on a line by line basis it is also possible to output text into a rectangle by applying a formatting algorithm.

**Notes:** The text parameter is converted to ANSI, so use only with SetFont with kcp1252.

The PageBreak event is called when needed by the plugin.

**3.40.942 WriteFTextDirect(Align as Integer, aText as string) as Boolean**

Plugin Version: 10.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Instead of printing text on a line by line basis it is also possible to output text into a rectangle by applying a formatting algorithm.

**Notes:** The text parameter is not converted, so pass a string in the right encoding.

The PageBreak event is called when needed by the plugin.

See also:

- 3.40.943 WriteFTextDirect(Align as Integer, glyphs() as Integer) as Boolean 543

**3.40.943 WriteFTextDirect(Align as Integer, glyphs() as Integer) as Boolean**

Plugin Version: 10.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Instead of printing text on a line by line basis it is also possible to output text into a rectangle by applying a formatting algorithm.

**Notes:** This version takes an array of integers. So pass in values in the encoding you are using. This can be glyph values or bytes in any encoding you selected in the SetFont method.

The PageBreak event is called when needed by the plugin.

See also:

- 3.40.942 WriteFTextDirect(Align as Integer, aText as string) as Boolean 543

**3.40.944 WriteFTextEx(PosX as Double, PosY as Double, Width as Double, Height as Double, Align as Integer, aText as string) as Boolean**

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function prints a formatted text exactly in the same way as `WriteFText()`.

**Notes:** The text parameter is converted to unicode.

The `PageBreak` event is called when needed by the plugin.

See also `WriteFTextEx` function in DynaPDF manual.

See also:

- 3.40.945 `WriteFTextEx(PosX as Double, PosY as Double, Width as Double, Height as Double, Align as Integer, glyphs() as Integer)` as Boolean 544

### 3.40.945 `WriteFTextEx(PosX as Double, PosY as Double, Width as Double, Height as Double, Align as Integer, glyphs() as Integer)` as Boolean

Plugin Version: 10.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function prints a formatted text exactly in the same way as `WriteFText()`.

**Notes:** This version takes an array of integers. So if you are using the `kcpUnicode` on `SetFont`, please pass an array of unicode codepoints. If you use `kcpGlyphIndexes`, please pass an array of glyph values.

The `PageBreak` event is called when needed by the plugin.

See also `WriteFTextEx` function in DynaPDF manual.

See also:

- 3.40.944 `WriteFTextEx(PosX as Double, PosY as Double, Width as Double, Height as Double, Align as Integer, aText as string)` as Boolean 543

### 3.40.946 `WriteFTextExAnsi(PosX as Double, PosY as Double, Width as Double, Height as Double, Align as Integer, aText as string)` as Boolean

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function prints a formatted text exactly in the same way as `WriteFText()`.

**Notes:** The text parameter is converted to ANSI, so use only with `SetFont` with `kcp1252`.

The `PageBreak` event is called when needed by the plugin.

### 3.40.947 `WriteFTextExDirect(PosX as Double, PosY as Double, Width as Double, Height as Double, Align as Integer, aText as string)` as Boolean

Plugin Version: 10.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function prints a formatted text exactly in the same way as WriteFText().

**Notes:** The text parameter is not converted, so pass a string in the right encoding.

The PageBreak event is called when needed by the plugin.

See also:

- 3.40.948 WriteFTextExDirect(PosX as Double, PosY as Double, Width as Double, Height as Double, Align as Integer, glyphs() as Integer) as Boolean 545

### 3.40.948 WriteFTextExDirect(PosX as Double, PosY as Double, Width as Double, Height as Double, Align as Integer, glyphs() as Integer) as Boolean

Plugin Version: 10.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function prints a formatted text exactly in the same way as WriteFText().

**Notes:** This version takes an array of integers. So pass in values in the encoding you are using. This can be glyph values or bytes in any encoding you selected in the SetFont method.

The PageBreak event is called when needed by the plugin.

See also:

- 3.40.947 WriteFTextExDirect(PosX as Double, PosY as Double, Width as Double, Height as Double, Align as Integer, aText as string) as Boolean 544

### 3.40.949 WriteStyledText(Align as Integer, StyledText as StyledText, LeadingFactor as double = -1) as Boolean

Plugin Version: 16.5, Platforms: macOS, Linux, Windows, Targets: Desktop, Console & Web.

**Function:** Writes styled text.

**Notes:** Same as WriteFText, but calls ConvertStyledText for you to convert the styled text to formatting commands.

LeadingFactor: Added in v21.0. If you pass a value >0, the plugin will add \LD [ ] commands to styled text to set leading relative to font size. This way you define the spacing between lines. e.g. 1.2.

If you have a problem with the conversion, you can always use ConvertStyledText function directly and inspect what it generates. And you can of course modify it and e.g. convert "\*" on a beginning of a line to a list.

See also [WriteStyledText](#) function in DynaPDF manual.

See also:

- 3.40.950 WriteStyledText(Align as Integer, TextArea as TextArea, LeadingFactor as double = -1) as Boolean 546

### 3.40.950 WriteStyledText(Align as Integer, TextArea as TextArea, LeadingFactor as double = -1) as Boolean

Plugin Version: 16.5, Platforms: macOS, Linux, Windows, Targets: Desktop only.

**Function:** Writes styled text from TextArea.

**Notes:** Same as WriteFText, but calls ConvertStyledText for you to convert the styled text to formatting commands.

LeadingFactor: Added in v21.0. If you pass a value >0, the plugin will add \LD [ ] commands to styled text to set leading relative to font size. This way you define the spacing between lines. e.g. 1.2.

If you have a problem with the conversion, you can always use ConvertStyledText function directly and inspect what it generates. And you can of course modify it and e.g. convert "\*" on a beginning of a line to a list.

See also [WriteStyledText](#) function in DynaPDF manual.

See also:

- 3.40.949 WriteStyledText(Align as Integer, StyledText as StyledText, LeadingFactor as double = -1) as Boolean 545

### 3.40.951 WriteStyledTextEx(PosX as Double, PosY as Double, Width as Double, Height as Double, Align as Integer, StyledText as StyledText, LeadingFactor as double = -1) as Boolean

Plugin Version: 16.5, Platforms: macOS, Linux, Windows, Targets: Desktop, Console & Web.

**Function:** Writes styled text.

**Notes:** Same as WriteFTextEx, but calls ConvertStyledText for you to convert the styled text to formatting commands.

LeadingFactor: Added in v21.0. If you pass a value >0, the plugin will add \LD [ ] commands to styled text to set leading relative to font size. This way you define the spacing between lines. e.g. 1.2.

If you have a problem with the conversion, you can always use ConvertStyledText function directly and inspect what it generates. And you can of course modify it and e.g. convert "\*" on a beginning of a line to a list.

See also [WriteStyledTextEx](#) function in DynaPDF manual.

See also:

- 3.40.952 WriteStyledTextEx(PosX as Double, PosY as Double, Width as Double, Height as Double, Align as Integer, TextArea as TextArea, LeadingFactor as double = -1) as Boolean 547

### 3.40.952 WriteStyledTextEx(PosX as Double, PosY as Double, Width as Double, Height as Double, Align as Integer, TextArea as TextArea, LeadingFactor as double = -1) as Boolean

Plugin Version: 16.5, Platforms: macOS, Linux, Windows, Targets: Desktop only.

**Function:** Writes styled text from TextArea.

**Notes:** Same as WriteFTextEx, but calls ConvertStyledText for you to convert the styled text to formatting commands.

LeadingFactor: Added in v21.0. If you pass a value >0, the plugin will add \LD [ ] commands to styled text to set leading relative to font size. This way you define the spacing between lines. e.g. 1.2.

If you have a problem with the conversion, you can always use ConvertStyledText function directly and inspect what it generates. And you can of course modify it and e.g. convert "\*" on a beginning of a line to a list.

See also [WriteStyledTextEx](#) function in DynaPDF manual.

See also:

- 3.40.951 WriteStyledTextEx(PosX as Double, PosY as Double, Width as Double, Height as Double, Align as Integer, StyledText as StyledText, LeadingFactor as double = -1) as Boolean 546

### 3.40.953 WriteText(PosX as Double, PosY as Double, aText as string) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function prints a text onto the current open page, template, or pattern.

**Notes:** The text parameter is converted to unicode.

See also [WriteText](#) function in DynaPDF manual.

See also:

- 3.40.954 WriteText(PosX as Double, PosY as Double, glyphs() as Integer) as Boolean 547

### 3.40.954 WriteText(PosX as Double, PosY as Double, glyphs() as Integer) as Boolean

Plugin Version: 10.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function prints a text onto the current open page, template, or pattern.

**Notes:** This version takes an array of integers. So if you are using the kcpUnicode on SetFont, please pass an array of unicode codepoints. If you use kcpGlyphIndexes, please pass an array of glyph values.

See also [WriteText](#) function in DynaPDF manual.

See also:

- 3.40.953 WriteText(PosX as Double, PosY as Double, aText as string) as Boolean 547

### 3.40.955 WriteTextAnsi(PosX as Double, PosY as Double, aText as string) as Boolean

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function prints a text onto the current open page, template, or pattern.

**Notes:** The text parameter is converted to ANSI, so use only with SetFont with kcp1252.

### 3.40.956 WriteTextDirect(PosX as Double, PosY as Double, aText as string) as Boolean

Plugin Version: 10.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function prints a text onto the current open page, template, or pattern.

**Notes:** The text parameter is not converted, so pass a string in the right encoding.

See also:

- 3.40.957 WriteTextDirect(PosX as Double, PosY as Double, glyphs() as Integer) as Boolean 548

### 3.40.957 WriteTextDirect(PosX as Double, PosY as Double, glyphs() as Integer) as Boolean

Plugin Version: 10.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function prints a text onto the current open page, template, or pattern.

**Notes:** This version takes an array of integers. So pass in values in the encoding you are using. This can be glyph values or bytes in any encoding you selected in the SetFont method.

See also:

- 3.40.956 WriteTextDirect(PosX as Double, PosY as Double, aText as string) as Boolean 548

### 3.40.958 WriteTextMatrix(Matrix as DynaPDFMatrixMBS, glyphs() as Integer) as Boolean

Plugin Version: 10.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function prints a text onto the current open page, template, or pattern by using a transformation matrix to calculate the position of the string.

**Notes:** This version takes an array of integers. So if you are using the kcpUnicode on SetFont, please pass

an array of unicode codepoints. If you use `kcpGlyphIndexes`, please pass an array of glyph values.

See also [WriteTextMatrix](#) function in DynaPDF manual.

See also:

- 3.40.959 `WriteTextMatrix(Matrix as DynaPDFMatrixMBS, Text as string) as Boolean` 549

### 3.40.959 WriteTextMatrix(Matrix as DynaPDFMatrixMBS, Text as string) as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function prints a text onto the current open page, template, or pattern by using a transformation matrix to calculate the position of the string.

**Notes:** The text parameter is converted to unicode.

See also [WriteTextMatrix](#) function in DynaPDF manual.

See also:

- 3.40.958 `WriteTextMatrix(Matrix as DynaPDFMatrixMBS, glyphs() as Integer) as Boolean` 548

### 3.40.960 WriteTextMatrixAnsi(Matrix as DynaPDFMatrixMBS, Text as string) as Boolean

Plugin Version: 8.3, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. You can use the non ANSI function instead. **Function:** The function prints a text onto the current open page, template, or pattern by using a transformation matrix to calculate the position of the string.

**Notes:** The text parameter is converted to ANSI, so use only with `SetFont` with `kcp1252`.

### 3.40.961 WriteTextMatrixDirect(Matrix as DynaPDFMatrixMBS, glyphs() as Integer) as Boolean

Plugin Version: 10.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function prints a text onto the current open page, template, or pattern by using a transformation matrix to calculate the position of the string.

**Notes:** This version takes an array of integers. So pass in values in the encoding you are using. This can be glyph values or bytes in any encoding you selected in the `SetFont` method.

See also:

- 3.40.962 `WriteTextMatrixDirect(Matrix as DynaPDFMatrixMBS, Text as string) as Boolean` 550

### 3.40.962 WriteTextMatrixDirect(Matrix as DynaPDFMatrixMBS, Text as string) as Boolean

Plugin Version: 10.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function prints a text onto the current open page, template, or pattern by using a transformation matrix to calculate the position of the string.

**Notes:** The text parameter is not converted, so pass a string in the right encoding.

See also:

- 3.40.961 WriteTextMatrixDirect(Matrix as DynaPDFMatrixMBS, glyphs() as Integer) as Boolean 549

### 3.40.963 YofCMYK(CMYK as UInt32) as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns Y of a CMYK color value.

**Example:**

```
dim cmyk as Integer = DynaPDFMBS.CMYK(1,2,3,4)
MsgBox str(DynaPDFMBS.YofCMYK(cmyk)) // shows 3
```

**Notes:** Returns different values on BigEndian and LittleEndian systems.

### 3.40.964 Properties

#### 3.40.965 ActiveFontInfo as DynaPDFFontInfoMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries font info for active font.

**Notes:** Added, so you can see it in debugger.

(Read only property)

#### 3.40.966 ClearRectMode as Integer

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The ClearRect Mode for Graphics class.

**Example:**

```
dim pdf as new DynaPDFMBS
pdf.ClearRectMode = kClearRectModeIgnoreAll
```

**Notes:** When graphics class is called with ClearRect method, the area in the PDF page is filled with white color.

If you like to ignore such calls, please set value to ignore all or just big rectangles.  
(Read and Write property)

### 3.40.967 DynaPDFVersion as String

Plugin Version: 16.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The DynaPDF version text.

**Notes:** (Read only property)

### 3.40.968 ErrorCount as Integer

Plugin Version: 21.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of warnings reported by DynaPDF.

**Notes:** Use Error event to track them.

Or catch exceptions.

(Read only property)

### 3.40.969 FontSize as Double

Plugin Version: 22.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries the font size of the active font.

**Notes:** The function returns the font size, a value greater zero on success, or a negative error code on failure.

If you set this property, it calls ChangeFontSize internally.

(Read and Write property)

### 3.40.970 Handle as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The IPDF handle passed to each API function.

**Notes:** The constructor fills this handle and the destructor frees it.

(Read only property)

### 3.40.971 HasLite as Boolean

Plugin Version: 20.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether a lite or pro license is in use.

**Notes:** Relevant for some example projects and graphics class support to know whether CreateExtGState is available.

(Read only property)

### 3.40.972 HasPro as Boolean

Plugin Version: 20.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether a pro license is in use.

**Notes:** Relevant for some example projects and graphics class support to know whether Render Engine is available.

(Read only property)

### 3.40.973 ImportFlags as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get/Set import flags.

**Notes:** Same as using GetImportFlags and SetImportFlags.

(Read and Write property)

### 3.40.974 ImportFlags2 as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Get/Set import flags 2.

**Notes:** Same as using GetImportFlags2 and SetImportFlags2.

(Read and Write property)

### 3.40.975 JasperVersion as String

Plugin Version: 19.1, Platforms: macOS, Linux, Windows, Targets: All.

**Deprecated:** This item is deprecated and should no longer be used. **Function:** Returns version of Jasper library.

**Example:**

```
MsgBox DynaPDFMBS.JasperVersion
```

**Notes:** DynaPDF uses customized version of Jasper library, so this may not be the latest public version. But it's patched to fix a couple of issues seen in PDF context.  
(Read only property)

### 3.40.976 PageCoords as Integer

Plugin Version: 10.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The page coordinate system setting.

**Notes:** The native coordinate system of the Portable Document Format is bottom up. Also check the dynapdf manual on the pdfGetPageCoords and pdfSetPageCoords functions. Value can be kpcTopDown or kpcBottomUp. Default is kpcBottomUp.  
(Read and Write property)

### 3.40.977 PageGraphics as Graphics

Plugin Version: 19.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The page graphics object.

**Example:**

```
Dim pdf As New DynapdfMBS
// please subclass DynapdfMBS to implement error event

Dim f As FolderItem = SpecialFolder.Desktop.Child("DynaPDF Graphics.pdf")

pdf.SetLicenseKey "Starter"
// For this example you can use a Starter, Lite, Pro or Enterprise License

// Create new PDF. Use f = nil for in-memory PDF
Call pdf.CreateNewPDF(f)

// append a new page, so we have an open page
Call pdf.Append

// get graphics object to draw on the page
Dim g As Graphics = pdf.PageGraphics
```

```
// draw as usual
g.DrawString "Hello World", 105, 100
g.DrawRect 100, 80, 100, 100

// close page and file
Call pdf.EndPage
Call pdf.CloseFile

// for in-memory PDF, use GetBuffer here to grab it.
'Dim PDFData As String = pdf.GetBuffer
```

**Notes:** We create a temporary picture and subclass the graphics to reproduce all drawing commands called on this graphics object to the current PDF Page.

For every drawing command, we apply the following properties from graphics object to DynaPDF:

- ForeColor
- Bold
- Italic
- Underline
- TextUnit
- TextFont
- TextSize
- ScaleX
- ScaleY
- PenHeight
- PenWidth
- CharacterSpacing

Supports the following graphics commands:

- Draw/Fill Oval/Rect/RoundRect/Line/Polygon
- DrawString
- StringHeight and StringWidth

- DrawPicture
- NextPage
- Get/Set Pixel.
- Clip
- Supports vector graphics classes (Object2D)
- Supports report engine

Some notes:

- Handle() function returns handle for picture.
- Pixel reads from temporary picture
- ClearRect draws white rectangle
- DrawCautionIcon, DrawNoteIcon and DrawStopIcon are not supported.
- NextPage method calls NextPage event. If missing, we end page and create a new one. In the event, please call EndPage and maybe Append or import an existing PDF page from import PDF.
- If CMYK, Gray or Lab colorspace is set, the plugin will keep them for white/black colors, but switch to RGB for all other colors.

StyledTextPrinter is not supported, but you can do similar things via WriteStyledText or WriteStyledTextEx methods in DynaPDFMBS class.

If no page is open, call this may append a new page. If no document is open, we call CreateNewPDF for you with nil folderitem, so an in memory PDF get's created.

Seems like reports on Windows may not work for v19.2 of our plugins. This is fixed for 19.3.  
(Read only property)

### 3.40.978 PageGraphicsPicture as Picture

Plugin Version: 19.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The temporary picture for page graphics.

**Notes:** For debugging it may be useful to see the temporary picture with all the draws made on the PDF page.

This is not 1 to 1 what you will see in rendered PDF Page.

This can be viewed even when graphics object is cleared.  
(Read only property)

### 3.40.979 PrintCancelled as Boolean

Plugin Version: 20.5, Platform: Windows, Targets: All.

**Function:** Whether last print operation was cancelled.

**Notes:** Set by PrintPDFFileWithDialog and PrintPDFPageWithDialog methods if user presses cancel button.

Otherwise will be false.

(Read and Write property)

### 3.40.980 SpaceWidthFactor as Single

Plugin Version: 22.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The space width factor.

**Notes:** Sets the space width factor that is used by DynaPDF.ExtractText to determine whether the distance between two text records or glyphs should be interpreted as space character.

PDF files do often not contain space characters. Depending on the font type, i.e. fixed pitch or proportional fonts, different default widths are used during text extraction. However, the full space width is mostly too large to find spaces. Therefore, the text extraction algorithm multiplies the default space width with the space width factor to find suitable values.

The default value is 0.7. Increase the value if too many spaces occur in extracted text and decrease the value if too few spaces were found.

The value must be large zero. Although the upper bound is not restricted, values larger than 2 are mostly not meaningful.

(Read and Write property)

### 3.40.981 TIFFVersion as String

Plugin Version: 19.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns version of tiff library.

**Example:**

```
MsgBox DynaPDFMBS.TIFFVersion
```

**Notes:** DynaPDF uses customized version of tiff library, so this may not be the latest public version. But it's patched to fix a couple of issues seen in PDF context.

(Read only property)

**3.40.982 TraceFile as FolderItem**

Plugin Version: 10.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The trace file.

**Notes:** The plugin writes debug messages to this file so you can check what functions you called.

Improved with 16.2 plugin to really cover over 99% of all calls with parameters and result. Please report if you miss something.

See also AppendTraceFile method to append the log file.  
(Read and Write property)

**3.40.983 TraceHandle as Integer**

Plugin Version: 10.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The internal file handle for the trace file.

**Notes:** If this is not zero, the tracing option is turned on.

You can set this value indirectly by using the TraceFile property.

(Read only property)

**3.40.984 ValidateTextEncodings as Boolean**

Plugin Version: 13.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to validate text encodings.

**Example:**

```
dim pdf as new DynaPDFMBS

call pdf.CreateNewPDF nil
call pdf.Append

// enable validating
pdf.ValidateTextEncodings = true

// make text without text encoding
dim s as string = "Hello World"
s = DefineEncoding(s, nil) // remove encoding

call pdf.SetFont "Times", pdf.kfsItalic, 20.0, true, pdf.kcp1252
// now cause exception
call pdf.WriteText 50.0, 580.0, s
```

call pdf.EndPage  
call pdf.CloseFile

**Notes:** You should enable this for debugging to find bugs with text encodings.  
(Read and Write property)

### 3.40.985 WarningCount as Integer

Plugin Version: 21.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of errors reported by DynaPDF.

**Notes:** Use Error event to track them.

Or catch exceptions.

(Read only property)

### 3.40.986 zlibVersion as String

Plugin Version: 19.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns version of zLib library.

**Example:**

```
MsgBox DynaPDFMBS.zlibVersion
```

**Notes:** DynaPDF uses customized version of zlib library, so this may not be the latest public version.  
But it's patched to fix a couple of issues seen in PDF context.  
(Read only property)

### 3.40.987 Events

#### 3.40.988 EnumDocFont(Font as DynaPDFFontMBS, FontInfo as DynaPDF- FontInfoMBS, Type as Integer, BaseFont as string, Fontname as string, Embedded as boolean, IsFormFont as boolean, Flags as Integer, FontRef as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: .

**Function:** The event being called if you use the EnumDocFonts function.

**Notes:** Font is deprecated. FontRef is the internal reference to the font. FontInfo is the new property to use for font details.

### 3.40.989 EnumHostFont(FamilyName as string, PostScriptName as string, Style as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: .

**Function:** The event called by EnumHostFonts.

### 3.40.990 EnumHostFontEx(FamilyName as string, PostScriptName as string, Style as Integer, BaseType as Integer, Embeddable as boolean, Flags as Integer, FilePath as string) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: .

**Function:** The event called by EnumHostFontsEx.

### 3.40.991 Error(ErrorCode as Integer, ErrorMessage as string, ErrorType as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: .

**Function:** The error callback.

**Notes:** ErrCode is a positive error number starting at zero; it is an index into the array of error messages. ErrType is a bitmask to determine what kind of error occurred. The following constants are defined:

```
const E_WARNING = &h02000000
const E_SYNTAX_ERROR = &h04000000
const E_VALUE_ERROR = &h08000000
const E_FONT_ERROR = &h10000000
const E_FATAL_ERROR = &h20000000
const E_FILE_ERROR = &h40000000
```

At time of publication only one flag is set at any one time. Future versions may be set multiple flags, e.g. E\_SYNTAX\_ERROR and E\_WARNING. Because of this, it is recommended to mask out the error type with a bitwise and operator.

If the callback function returns a value other than zero (0), processing stops immediately.

You can return `kErrorEventRaise (-2)`, we raise an exception.  
We also raise the exception when no Error event is implemented.

### 3.40.992 `InitProgress(ProgType as Integer, MaxCount as Integer)`

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: .

**Function:** Called when a progress ist starting.

**Notes:** The return value of the progress callback function must be 0, any other return value breaks processing.

See `pt*` constants for `ProgType`.

### 3.40.993 `NextPage(g as graphics)`

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: .

**Function:** The event called for `graphics.nextpage` method.

**Notes:** If you don't implement this event, the plugin will end the page and append a new page.

You can implement this event to do your own code to import e.g. an existing page as background.

### 3.40.994 `OnFontNotFound(PDFFontRef as Integer, FontName as string, Style as Integer, StdFontIndex as Integer, IsSymbolFont as boolean) as Integer`

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: .

**Function:** The events called when a font is not found.

**Notes:** Please call one of the `ReplaceFont` functions here and return their return code from the callback.

Or return -1 if your code has an error.

See also [OnFontNotFound](#) function in DynaPDF manual.

### 3.40.995 `OnReplaceICCPProfile(Type as Integer, ColorSpace as Integer) as Integer`

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: .

**Function:** The event called when an ICC profile is replaced.

**Notes:** Please use various `ReplaceICCPProfile` functions to provide replacement profile.

See also [OnReplaceICCPProfile](#) function in DynaPDF manual.

### 3.40.996 PageBreak(**LastPosX** as Double, **LastPosY** as Double, **PageBreak** as boolean) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: .

**Function:** The event called on every pagebreak.

**Notes:** The parameter PageBreak of the event specifies why the event was called:

- If true, a page break tag in the string was found (see WriteFText for further information).
- If false, the output rectangle was filled with text entirely.

The usage of the event is described in detail under WriteFText(). However, the following return values of the event can be used to change the text alignment:

New Alignment Left	1
New Alignment Right	2
New Alignment Center	3
New Alignment Justify	4

A return value of zero indicates that the alignment must not be changed. Negative return values break processing immediately. WriteFText() returns then with a warning.

When the event is called, the coordinate system is always bottom-up, it can be changed to top-down coordinates inside the event if necessary. The current page is still open, the page must be closed with EndPage() before a new page can be added or opened with Append() or EditPage(). To determine the current page number, call GetPageNum().

For example SetFont may fail if you try normal font family names. That is because SetFontSelMode is used with postscript names and you may want to set it to ksmPostScriptName using SetFontSelMode for SetFont to accept family names.

### 3.40.997 Progress(**ActivePage** as Integer) as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: .

**Function:** The progress callback.

**Notes:** The return value of the progress callback function must be 0, any other return value breaks process-

ing.

### 3.40.998 `RasterShowText(MatrixBefore as DynaPDFMatrixMBS, MatrixAfter as DynapdfMatrixMBS, TextBuffers() as DynaPDFTextRecordAMBS, Texts() as String, Width as Double, Vertical as boolean, FontRef as Integer, textScaling as Double)`

Plugin Version: 16.2, Platforms: macOS, Linux, Windows, Targets: .

**Function:** Rastering draws text.

**Notes:** This is experimental and will be replaced later with a better API in a future DynaPDF release. Works only if you have a plugin where this is enabled by us.

If you implement this event, you get an event whenever one of the rasterizers draws some text on a page. `MatrixBefore` tells you start position, `MatrixAfter` end position. `TextBuffers` provide raw text data. `Texts` array the matching unicode text. `Width` is length of text in points. `Vertical` is true for vertical text. `FontRef` is the internal font reference. You can query fonts with `EnumDocFont` before to get a list of all fonts and find it in the array. Do not use font functions in the event as that can confuse the rasterizer.

Do not use with MT methods, please.

### 3.40.999 Constants

Constants

Constant	Value	Description
katGoToE	17	Like katGoToR but refers to an embedded PDF file. PDF 1.6 Like atGoToR but refers to an embedded PDF file.
kAV_DIRECTION_MASK	24	One of the DynaPDF constants.
kAV_NON_FULL_SRC_MASK	5	One of the DynaPDF constants.
kAV_VIEW_PRINT_MASK	&h000003E0	One of the DynaPDF constants.
kBMK_ADD_CHILDREN	&h40000000	Special flag for bookmark values.
kBMK_INSERT	&h20000000	Special flag for bookmark values.
kDEFAULT_LIST_CHAR	&h0000009F	Default character index of the font Wingdings-Regular to WriteFText()
kDRV_FLOAT_PRECISION	5	The precision used for float values.
kDYNAPDF_REVISION	"\$ Rev: 390 \$"	The version of the dynapdf library.
kDYNAPDF_VERSIONSTRING	"4.0.84.246"	The version of the dynapdf library.
kE_FATAL_ERROR	&h20000000	One of the DynaPDF constants for error types. Note that error codes are negative; to determine the error type value: // if bitwiseand(-errCode,E_FATAL_ERROR)=E_FATAL_ERROR msgbox "A fatal error occurred!"
kE_FILE_ERROR	&h40000000	One of the DynaPDF constants for error types. Note that error codes are negative; to determine the error type value: // if bitwiseand(-errCode,E_FILE_ERROR)=E_FILE_ERROR msgbox "A fatal error occurred!"
kE_FONT_ERROR	&h10000000	One of the DynaPDF constants for error types. Note that error codes are negative; to determine the error type value: // if bitwiseand(-errCode,E_FONT_ERROR)=E_FONT_ERROR msgbox "A fatal error occurred!"
kE_SYNTAX_ERROR	&h04000000	One of the DynaPDF constants for error types. Note that error codes are negative; to determine the error type value: // if bitwiseand(-errCode,E_SYNTAX_ERROR)=E_SYNTAX_ERROR then msgbox "A fatal error occurred!"
kE_VALUE_ERROR	&h08000000	One of the DynaPDF constants for error types. Note that error codes are negative; to determine the error type value: // if bitwiseand(-errCode,E_VALUE_ERROR)=E_VALUE_ERROR msgbox "A fatal error occurred!"
kE_WARNING	&h02000000	One of the DynaPDF constants for error types. Note that error codes are negative; to determine the error type value: // if bitwiseand(-errCode,E_WARNING)=E_WARNING then fatal error occurred!"
kffCommitOnSelCh	&h04000000	One of the field flags constants. (PDF 1.5) If set, the new value is committed as soon as a character is entered with the pointing device. This allows applications to perform actions when a selection is made, without requiring the user to exit the field. If not set, the new value is not committed until the user exits the field. Sup- ported for text boxes and list boxes only.
kffRadioIsUnion	&h02000000	One of the field flags constants. PDF-1.5 check boxes of a radio button field only
kicfDefault	0	One of the cache initialization flags.
kicfIgnoreOpenAction	1	One of the cache initialization flags.
kNEW_ALIGN_CENTER	3	One of the DynaPDF constants.
kNEW_ALIGN_JUSTIFY	4	One of the DynaPDF constants.
kNEW_ALIGN_LEFT	1	One of the DynaPDF constants.
kNEW_ALIGN_RIGHT	2	One of the DynaPDF constants.
kNO_COLOR	&hFFFFFFF1	One of the RGB color constants. This value can be used for form fields, annotations and stan-

## Destination object type

Constant	Value	Description
kadAnnotation	0	Destination is annotation handle.
kadCatalog	1	Destination is root object of document (no handle).
kadField	2	Destination is field handle.
kadImage	3	Destination is image handle.
kadPage	4	Destination is page handle.
kadTemplate	5	Destination is template handle.

## Application Event Constants

Constant	Value	Description
kaeExport	1	Export
kaePrint	2	Print
kaeView	4	View

## Constants for the annotation flatten flags.

Constant	Value	Description
kaffFormFields	16	If set, form fields will be flattened too.
kaffKeepEmptySigFields	&h00008000	If set, signature fields which are not already signed will be kept.
kaffKeepFileAttach	&h00002000	If set, file attachment annotations will be kept.
kaffKeepLinkAnnots	&h00001000	If set, link annotations will be kept.
kaffKeepTextAnnots	&h00004000	If set, text annotations will be kept.
kaffMarkupAnnots	2	If set, markup annotations are flattened only. Link, Sound, or FileAttach annotations are no markup annotations. These types will be left intact.
kaffNone	0	Printable annotations independent of the type. By default all annotations which have an appearance stream and which have the print flag set are flattened. All annotations are deleted when the function returns with the exception of file attachment annotations. If you want to flatten the view state then set the flag affUseViewState.
kaffNonPDF_A_1	4	Flatten all annotations which are unsupported in PDF/A 1.
kaffNonPDF_A_2	8	Flatten all annotations which are unsupported in PDF/A 2/3.
kaffNonPDF_A_4e	&h00000080	Flatten annotations which are unsupported in PDF/A 4e.
kaffPreserveZOrder	&h00400000	If set, preserve the z-order under any circumstances. That means visible overlapping annotations or form fields will be flattened, regardless the type.
kaffSigFields	64	Meaningful only if kaffFormFields is not set. If set, signature fields with an appearance stream will be flattened.
kaffUseFieldViewState	32	Meaningful only if kaffFormFields or kaffSigFields is set. If set, flatten the view state of form fields. Use the print state otherwise.
kaffUseViewState	1	If set, annotations which are visible in a viewer become flattened.

## Annotation flag constants for SetAnnotFlags

Constant	Value	Description
kafHidden	2	One of the three options to hide the annotation (see dynapdf manual)
kafInvisible	1	One of the three options to hide the annotation (see dynapdf manual)
kafLocked	&h00000080	(PDF 1.4) If set, do not allow the annotation to be deleted or its properties (including position and size) to be modified by the user. However, this flag does not restrict changes to the annotation's contents.
kafLockedContents	&h00000200	(PDF 1.7) If set, do not allow the contents of the annotation to be modified by the user. This flag does not restrict deletion of the annotation or changes to other annotation properties, such as position and size.
kafNone	0	No flags are set
kafNoRotate	16	Do not rotate the annotation
kafNoView	32	One of the three options to hide the annotation (see dynapdf manual)
kafNoZoom	8	Do not zoom the annotation
kafPrint	4	Annotation is printable
kafReadOnly	64	Changes are not allowed.
kafToggleNoView	&h00000100	(PDF 1.5) If set, invert the interpretation of the NoView flag for certain events.

## Constants for annotation icons

Constant	Value	Description
kaiComment	0	
kaiHelp	1	
kaiInsert	2	
kaiKey	3	
kaiNewParagraph	4	
kaiNote	5	
kaiParagraph	6	

## Relationships

Constant	Value	Description
karAlternative	4	This key must be used for ZUGFeRD compatible invoices
karAssociated	0	
karData	1	
karFormData	5	
karSource	2	
karSupplement	3	

## Annotation Migration State

Constant	Value	Description
kasAccepted	1	Accepted
kasCancelled	3	Cancelled
kasCompleted	4	Completed
kasCreateReply	5	Don't add a migration state, create a reply instead. Set the contents of the reply with SetAnnotString.
kasNone	0	Undefined
kasRejected	2	Rejected

Annotation string type constants for SetAnnotString.

Constant	Value	Description
kasAuthor	0	Author
kasContent	1	Content
kasName	2	Name
kasRichStyle	4	Default style string. ->FreeText annotations only.
kasRichText	5	Rich text string. ->Supported by markup annotations.
kasSubject	3	Subject

Constants for annotation types.

Constant	Value	Description
kat3D	19	PDF 1.6
katCaret	0	
katCircle	1	
katFileAttach	21	PDF 1.3
katFileLink	2	
katFreeText	3	
katHighlight	4	
katInk	5	
katLine	6	
katMovieAnnot	25	PDF 1.2
katPageLink	7	
katPolygon	8	
katPolyLine	9	
katPopUp	10	
katPrinterMark	26	PDF 1.4
katProjection	27	PDF 1.7 Extension Level 3
katRedact	22	PDF 1.7
katRichMedia	28	PDF 1.7 Extension Level 3
katScreen	29	PDF 1.5
katSoundAnnot	20	PDF 1.2
katSquare	11	
katSquiggly	12	Highlight annotation
katStamp	13	
katStrikeOut	14	Highlight annotation
katText	15	Also used as container to store the State Model
katTrapNet	30	PDF 1.3
katUnderline	16	Highlight annotation
katUnknown	24	Unknown annotation type
katWatermark	23	PDF 1.6
katWebLink	17	A Link annotation with an associated URI action
katWidget	18	Form Fields are handled separately

3D Activation Type constants.

Constant	Value	Description
kat3D_AppDefault	0	Default.
kat3D_Explicit	3	The annotation should remain inactive until explicitly activated by a script or action (default).
kat3D_PageOpen	1	The annotation should be activated when the page is opened.
kat3D_PageVisible	2	The annotation should be activated when the page becomes visible.

Constants for action types.

Constant	Value	Description
katGoTo	0	
katGoTo3DView	16	PDF 1.6
katGoToR	1	
katHide	2	
katImportData	3	
katJavaScript	4	
katLaunch	5	
katMovie	6	
katNamed	7	
katRendition	8	PDF 1.5
katReset	9	Reset Form
katRichMediaExec	18	PDF 1.7 Extension Level 3
katSetOCGState	10	PDF 1.5
katSound	11	
katSubmit	12	Submit Form
katThread	13	
katTransition	14	
katURI	15	

Constants for parameter of the viewer preference.

Constant	Value	Description
kavDirectionL2R	8	
kavDirectionR2L	16	
kavNone	0	
kavNonFullScrUseNone	1	
kavNonFullScrUseOC	&h00000400	
kavNonFullScrUseOutlines	2	
kavNonFullScrUseThumbs	4	
kavViewPrintArtBox	32	
kavViewPrintBleedBox	64	
kavViewPrintCropBox	&h00000080	
kavViewPrintMediaBox	&h00000100	
kavViewPrintTrimBox	&h00000200	

Button Caption Constants

Constant	Value	Description
kbcpcaptionAbove	3	Caption above the image
kbcpcaptionBelow	2	Caption below the image
kbcpcaptionLeft	5	Caption on the left of the image
kbcpcaptionOnly	0	Default
kbcpcaptionOver	6	Caption overlaid directly on the image
kbcpcaptionRight	4	Caption on the right of the image
kbcpcaptionImageOnly	1	No caption; image only

## Annotation Border Effects

Constant	Value	Description
kbeCloudy1	1	Circle diameter 9 units
kbeCloudy2	2	Circle diameter 17 units
kbeSolid	0	Default

## Font Base Encoding

Constant	Value	Description
kbeMacExpert	2	Mac Expert encoding.
kbeMacRoman	1	Mac Roman encoding.
kbeStandard	3	Standard encoding is a special encoding for Type1 fonts.
kbeWinAnsi	0	This represents the Windows code page 1252.

## Constants for blend modes.

Constant	Value	Description
kbmColor	2	Color
kbmColorBurn	3	Color Burn
kbmColorDodge	4	Color Dodge
kbmDarken	5	Darken
kbmDifference	6	Difference
kbmExclusion	7	Exclusion
kbmHardLight	8	Hard Light
kbmHue	9	Hue
kbmLighten	10	Lighten
kbmLuminosity	11	Luminosity
kbmMultiply	12	Multiply
kbmNormal	1	Normal
kbmNotSet	0	Non Set.
kbmOverlay	13	Overlay
kbmSaturation	14	Saturation
kbmScreen	15	Screen
kbmSoftLight	16	Soft Light.

## Constants for bidirectional mode.

Constant	Value	Description
kbmLeftToRight	0	Apply the bidi algorithm on Unicode strings in Left to Right layout.
kbmNone	2	Default ->do not apply the bidi algorithm..
kbmRightToLeft	1	Apply the bidi algorithm on Unicode strings in Right to Left layout.

## Bookmark Text Style Constants

Constant	Value	Description
kbmsBold	2	Bold
kbmsItalic	1	Italic
kbmsNormal	0	Normal

Constants for border styles.

Constant	Value	Description
kbsBevelled	1	
kbsDashed	4	
kbsInset	2	
kbsSolid	0	
kbsUnderline	3	

Constants for button states.

Constant	Value	Description
kbsDown	1	
kbsRollOver	2	
kbsUp	0	

PDF base Tag Constants

Constant	Value	Description
kbtAbbr	41	
kbtAnnot	2	An annotation must be inserted to finish the tag!
kbtArt	0	
kbtArtifact	1	
kbtBibEntry	3	BibEntry ->Bibliography entry
kbtBlockQuote	4	
kbtCallout	42	
kbtCaption	5	
kbtCL	37	
kbtCode	6	
kbtDek	43	
kbtDiv	7	
kbtDocument	8	
kbtEm	44	
kbtFigure	9	
kbtForm	10	A form field must be inserted to finish the tag!
kbtFormula	11	
kbtH	12	
kbtH1	13	
kbtH2	14	
kbtH3	15	
kbtH4	16	
kbtH5	17	
kbtH6	18	
kbtIndex	19	
kbtLabel	38	
kbtLineNum	45	
kbtLink	20	A link annotation must be inserted to finish the tag (FileLink(), PageLink(), or WebLink()!
kbtList	21	L
kbtListElem	22	LI, ->Correct nesting: btList/btListElem
kbtListText	23	LBody ->Correct nesting: btList/btListElem/btListText
kbtNote	24	
kbtP	25	
kbtPart	26	
kbtQuote	27	
kbtReason	46	
kbtRedaction	47	
kbtReference	28	
kbtRuby	39	
kbtSection	29	Sect
kbtSidebar	48	
kbtSpan	30	
kbtStrong	49	
kbtSub	50	
kbtSup	51	
kbtTable	31	
kbtTableDataCell	32	TD
kbtTableHeader	33	TH
kbtTableRow	34	TR
kbtTOC	35	
kbtTOCEntry	36	TOCI
kbtWarichu	40	

Checkbox state constants.

Constant	Value	Description
kcbChecked	1	
kcbUnChecked	2	
kcbUnknown	0	

Flag constants for ComputeBBox

Constant	Value	Description
kcbfIgnoreWhiteAreas	1	Ignore white vector graphics or text.
kcbfNone	0	
kcbfParse1BitImages	2	Find the visible area in 1 bit images. This is the most important case since scanned faxes are usually 1 bit images.
kcbfParseAllImages	14	Find the visible area in all images.
kcbfParseColorImages	8	Find the visible area in color images. This is usually not required and slows processing a lot.
kcbfParseGrayImages	4	Find the visible area in gray images.

Checkbox character constants.

Constant	Value	Description
kccCheck	0	
kccCircle	1	
kccCross1	2	
kccCross2	3	
kccCross3	4	
kccCross4	5	
kccDiamond	6	
kccSquare	7	
kccStar	8	

Flag constants for color conversion.

Constant	Value	Description
kccfBW_To_Gray	0	Default, RGB Black and White set with rg or RG inline operators are converted to gray
kccfRGB_To_Gray	1	If set, inline color operators rg and RG are converted to gray
kccfToGrayAdjust	2	Converts RGB and gray inline operators to gray and allows to darken or lighten the colors.

Compression filter constants

Constant	Value	Description
kcfCCITT3	2	PDF or TIFF output ->B&W CCITT Fax G3 compression ->fast but less compression ratio
kcfCCITT4	3	PDF or TIFF output ->B&W CCITT Fax G4 compression ->slower but higher compression ratio
kcfConvGrayToOtsu	&h00002000	The Otsu filter is a special filter to produce black & white images. It is very useful if an OCR scan should be applied on the resulting 1 bit image. The flag is considered in AddRasImage(), RenderPDFFile(), and RenderPageToImage() if the pixel format was set to pxfGray.
kcfDitherFloydSteinberg	&h00001000	Floyd Steinberg dithering. Special flags for AddRasImage(). These flags can be combined with the filters cfFlate, cfCCITT3, cfCCITT4, and LZW.
kcfFlate	0	PDF or TIFF output
kcfFlateBW	6	TIFF, PNG, or BMP output ->Dithered black & white output. The resulting image will be compressed with Flate or left uncompressed if the output image format is a bitmap. If you want to use CCITT Fax 4 compression (TIFF only) set the flag icUseCCITT4 in the AddImage() function call. Note that this filter is not supported for PDF creation!
kcfIgnoreICCProfile	&h00008000	Meaningful only if color management is enabled. If set, the device ICC profile is not embedded in the image.
kcfJBIG2	8	JBIG2 for PDF output only.
kcfJP2K	7	PDF or JPEG2000 output
kcfJPEG	1	PDF, JPEG, or TIFF output
kcfLZW	4	TIFF or GIF output ->Very fast but less compression ratios than flate
kcfLZWBW	5	TIFF output ->Very fast but less compression ratios than flate. For black and white.
kcfNone	&h000000FF	No compression, only for TIFF format.
kcfOrderedDithering	&h00004000	Ordered dithering. The difference in comparison to the pixel format pxf1Bit is that we render into a GrayA buffer instead of a native 1 bit buffer since this one produces incorrect results in certain transparency calculations.
kcfPresLosslessFilter	&h00010000	Preserve loss-less compression filters. Use the specified filter otherwise.
kcfPresLossyFilter	&h00020000	Preserve lossy compression filters. Use the specified filter otherwise.

Constants for collection columns.

Constant	Value	Description
kcisCompressedSize	8	The compressed file size. Data value comes from the embedded file.
kcisCreationDate	0	The creation date of this file. Data value comes from the embedded file.
kcisCustomDate	5	User defined date.
kcisCustomNumber	6	User defined number.
kcisCustomString	7	User defined string.
kcisDescription	1	The description of the file. Data value comes from the embedded file.
kcisFileName	2	The file name. Data value comes from the embedded file.
kcisModDate	3	The modification date. Data value comes from the embedded file.
kcisSize	4	The file size. Data value comes from the embedded file.

## Collection View Constants

Constant	Value	Description
kcivCustom	4	Custom: PDF 1.7 Extension Level 3, the collection view is presented by a SWF file.
kcivDetails	1	Details.
kcivHidden	3	Hidden.
kcivNotSet	0	Not set.
kcivTitle	2	Title.

## Compression level constants.

Constant	Value	Description
kclDefault	1	
kclFastest	2	
kclMax	3	
kclNone	0	

## Clear Rect Modes

Constant	Value	Description
kClearRectModeDefault	0	Let all ClearRect calls pass through.
kClearRectModeIgnoreAll	2	Ignore all clearRect calls.
kClearRectModeIgnoreBig	1	Ignore clear rect calls bigger than half of page size.

## Constants for clipping mode.

Constant	Value	Description
kcmEvenOdd	0	
kcmWinding	1	

Constants for color modes.

Constant	Value	Description
kcmFill	0	
kcmFillStroke	2	
kcmStroke	1	

Check flag constants for CheckConformance.

Constant	Value	Description
kcoAllowDeviceSpaces	&h40000000	If set, device color spaces will not be replaced with ICC based color spaces. This flag is meaningful for normalization only.
kcoApplyExportState	&h00020000	Meaningful only if coDeleteAppEvents is set. Apply the export state.
kcoApplyPrintState	&h00040000	Meaningful only if coDeleteAppEvents is set. Apply the print state.
kcoCheckImages	&h00800000	Images will be decompressed to identify damages.
kcoDefault	&h0010FFFF	Default flags
kcoDefault_Normalize	&h50000000	kcoAllowDeviceSpaces + kcoNoFontEmbedding: Common default flags for different PDF/A versions:
kcoDefault_PDFA_1	&h0030FFFF	The ability to flatten layers was added after coDefault was defined. Includes kcoFlattenLayers
kcoDefault_PDFA_2	&h0050FFFF	Presentations are prohibited in PDF/A 2 and PDF/A 3. Includes kcoDeletePresentation
kcoDefault_PDFA_3	&h0050FF7F	Embedded files are allowed in PDF/A 3. kcoDefault_PDFA_2, but with kcoDeleteEmbeddedFiles.
kcoDefault_PDFA_4	&h0050FF7F	Embedded files are allowed in PDF/A 4.
kcoDeleteActionsAndScripts	8	Delete actions and scripts. Imported files only.
kcoDeleteAlternateImages	&h00000800	Delete alternate images.
kcoDeleteAppEvents	&h00008000	Alternate images are seldom used and prohibited in PDF/A. PDF/A 2 and 3. Application events are prohibited in PDF/A. The view will be applied.
kcoDeleteDamagedImages	&h01000000	Meaningful only if coCheckImages is set.
kcoDeleteEmbeddedFiles	&h00000080	Delete embedded files. Imported files only
kcoDeleteHalftones	&h00100000	Delete halftone screens.
kcoDeleteInvRenderingIntent	16	Delete rendering intent. Imported files only
kcoDeleteMultiMediaContents	4	Delete multimedia content. Imported files only.
kcoDeleteOPIComments	&h00000100	Delete OPI comments. Imported files only
kcoDeletePostscript	&h00000400	Delete Postscript XObjects.
kcoDeletePresentation	&h00400000	Presentations are prohibited in PDF/A 2 and 3.
kcoDeleteReplies	&h00080000	Delete annotation replies. If absent, replies will be converted to regular annotations.
kcoDeleteSignatures	&h00000200	Delete signatures. Imported files only
kcoDeleteTransferFuncs	2	Delete transfer functions. Imported files only
kcoEmbedSubsets	1	Already done.
kcoFlattenFormFields	32	Flatten form fields.
kcoFlattenLayers	&h00200000	PDF/A 1b only. Flatten layers if any.
kcoFlushPages	&h20000000	Write converted pages directly into the output file to reduce the memory usage.
kcoMakeLayerVisible	&h00004000	PDF/A 2 and 3 prohibit invisible layers. Layers can also be flattened if no option.
kcoNoFontEmbedding	&h10000000	Normalization only.
kcoReCompr.JPEG2000Images	&h00001000	If this flag is set not PDF/A file will be produced! Recompresses JPEG 2000 as flate images. Recompression results in lower quality and usually in larger images. It is better to keep such files as is.
kcoRepairDamagedImages	&h02000000	Meaningful only if coCheckImages is set. If set, try to recompress a damaged image. The new image is maybe incomplete but error free. This flag combined with coDeleteDamagedImages to delete the image if recompression fails.
kcoReplaceV4ICCPProfiles	64	Replace V4 ICC Profiles. Imported files only
kcoReplCCITTFaxWithFlate	&h00010000	Replace CCITT Fax compression with Flate.
kcoResetAnnotAppearance	&h80000000	If set, appearance streams of annotations are rebuild before executing Conformance.
kcoResolveOverprint	&h00002000	PDF/A 2 and 3. Set the overprint mode to 0 if the overprint mode = 1 if overprinting for fill or stroke is true and if a ICCBased CMYK color space is used. Note that DeviceCMYK is treated as ICCBased color space and implicit color conversion rules.

## Cell Orientation

Constant	Value	Description
kcoBottom	1	Bottom
kcoCenter	2	Center
kcoLeft	0	Left
kcoRight	1	Right
kcoTop	0	Top

## Code Page Constants

Constant	Value	Description
kcp1250	0	
kcp1251	1	
kcp1252	2	
kcp1253	3	
kcp1254	4	
kcp1255	5	
kcp1256	6	
kcp1257	7	
kcp1258	8	
kcp437	23	
kcp737	24	
kcp775	25	
kcp850	26	
kcp852	27	
kcp855	28	
kcp857	29	
kcp860	30	
kcp861	31	
kcp862	32	
kcp863	33	
kcp864	34	
kcp865	35	
kcp866	36	
kcp869	37	
kcp874	38	
kcp8859_10	17	
kcp8859_13	18	
kcp8859_14	19	
kcp8859_15	20	
kcp8859_16	21	
kcp8859_2	9	
kcp8859_3	10	
kcp8859_4	11	
kcp8859_5	12	
kcp8859_6	13	
kcp8859_7	14	
kcp8859_8	15	
kcp8859_9	16	
kcpAdobeStd	63	Internal ->not usable
kcpBig5	58	Big5 plus HKSCS extension.
kcpCJK_2022_CN_Uni	47	ISO-2022-CN-EXT (GB-2312 plus ISO-11643 Planes 1-7).
kcpCJK_2022_JP_Uni	48	ISO-2022-JP.
kcpCJK_2022_KR_Uni	49	ISO-2022-KR.
kcpCJK_646_CN_Uni	50	ISO-646-CN (GB-1988-80).
kcpCJK_646_JP_Uni	51	ISO-646-JP (JIS_C6220-1969-RO).
kcpCJK_932_Uni	53	Microsoft extended version of SHIFT_JIS.
kcpCJK_949_Uni	54	EUC-KR extended with UHC (Unified Hangul Codes).
kcpCJK_950_Uni	55	Microsoft extended version of Big5.
kcpCJK_Big5_Uni	40	Big5 plus HKSCS extension.
kcpCJK_EUC_JP_Uni	41	EUC-JP.
kcpCJK_EUC_KR_Uni	42	EUC-KR.
kcpCJK_EUC_TW_Uni	43	CNS-11643-1992 (Planes 1-15).
kcpCJK_GB12345_Uni	45	GB-12345-1990 (Traditional Chinese form of GB-2312).
kcpCJK_GBK_Uni	44	GBK is the Microsoft code page 936 (GB2312, EUC-CN plus GBK extension).
kcpCJK_HZ_Uni	46	Mixed ASCII / GB-2312 encoding
kcpCJK_IR_165_Uni	52	ISO-IR-165 (extended version of GB-2312).
kcpCJK_JOHAB_Uni	56	JOHAB.
kcpDingbats	68	Internal ->Special encoding for ZapfDingbats

## Flags for Line Caption Position

Constant	Value	Description
kcpInline	0	The caption is centered inside the line.
kcpTop	1	The caption is drawn on top of the line.

## Line cap style constants

Constant	Value	Description
kcsButtCap	0	Butt cap.
kcsRoundCap	1	Round cap.
kcsSquareCap	2	Square cap.

## Colorspace constants.

Constant	Value	Description
kcsDeviceCMYK	1	
kcsDeviceGray	2	
kcsDeviceRGB	0	

## Conformance type constants.

Constant	Value	Description
kctFacturX_Basic	13	Set the FacturX conformance level to Basic.
kctFacturX_Basic_WL	14	Set the FacturX conformance level to Basic WL.
kctFacturX_Comfort	15	Set the FacturX conformance level to Comfort.
kctFacturX_Extended	16	Set the FacturX conformance level to Extended.
kctFacturX_Minimum	12	Set the FacturX conformance level to Minimum.
kctFacturX_XRechnung	17	German XRechnung profile
kctNormalize	1	Check the file for errors, rebuild all embedded fonts plus options.
kctPDFa_1b_2005	0	Convert the file to PDF/A if possible.
kctPDFa_2b	2	Convert the file to PDF/A 2b if possible
kctPDFa_2u	18	Convert the file to PDF/A 2u if possible
kctPDFa_3b	3	Convert the file to PDF/A 3b if possible
kctPDFa_3u	19	Convert the file to PDF/A 3u if possible
kctPDFa_4	20	Convert the file to PDF/A 4 if possible. Embedded files are supported but no file attach annotations.
kctPDFa_4e	21	Convert the file to PDF/A 4e if possible. This version allows 3D contents in rich media annotations.
kctPDFa_4f	22	Convert the file to PDF/A 4f if possible. This version allows file attach annotations.
kctZUGFeRD2_Basic	8	Set the ZUGFeRD 2.0 conformance level to Basic.
kctZUGFeRD2_Basic_WL	9	Set the ZUGFeRD 2.0 conformance level to Basic WL.
kctZUGFeRD2_Comfort	10	Set the ZUGFeRD 2.0 conformance level to Comfort (EN 169319).
kctZUGFeRD2_Extended	11	Set the ZUGFeRD 2.0 conformance level to Extended.
kctZUGFeRD2_Minimum	7	Set the ZUGFeRD 2.0 conformance level to Minimum.
kctZUGFeRD_Basic	4	Set the ZUGFeRD conformance level to Basic This constant convert the file to PDF/A 3b and set the wished ZUGFeRD conformance level in the XMP metadata. CheckConformance() does not validate the XML invoice but it checks whether it is present. Setting the correct ZUGFeRD conformance level is very important since this value defines which fields must be present in the XML invoice.
kctZUGFeRD_Comfort	5	Set the ZUGFeRD conformance level to Comfort This constant convert the file to PDF/A 3b and set the wished ZUGFeRD conformance level in the XMP metadata. CheckConformance() does not validate the XML invoice but it checks whether it is present. Setting the correct ZUGFeRD conformance level is very important since this value defines which fields must be present in the XML invoice.
kctZUGFeRD_Extended	6	Set the ZUGFeRD conformance level to Extended This constant convert the file to PDF/A 3b and set the wished ZUGFeRD conformance level in the XMP metadata. CheckConformance() does not validate the XML invoice but it checks whether it is present. Setting the correct ZUGFeRD conformance level is very important since this value defines which fields must be present in the XML invoice.

Constants for draw direction.

Constant	Value	Description
kddClockwise	1	Clockwise.
kddCounterClockwise	0	Counter Clockwise.

PDF Date and Time format constants.

Constant	Value	Description
kdf12HR_MM	15	e.g. 2pm:59
kdf12HR_MM_SS	17	e.g. 2pm:59:59
kdf24HR_MM	14	e.g. 14:59
kdf24HR_MM_SS	16	e.g. 14:59:59
kdfDD_MMM_YY	6	e.g. 24 Dec 99
kdfD_MMM	4	e.g. 24 Dec
kdfD_MMM_YY	5	e.g. 24 Dec 99
kdfMMMM_D_YYYY	11	e.g. December 24 1999
kdfMMMM_YY	9	e.g. December 99
kdfMMM_D_YYYY	10	e.g. Dec 24 1999
kdfMMM_YY	8	e.g. Dec 99
kdfMM_D	0	e.g. 12/24
kdfMM_DD_YY	2	e.g. 12/24/99
kdfMM_YY	3	e.g. 12 99
kdfM_D_YY	1	e.g. 12 24 99
kdfM_D_YY_HH_MM	13	e.g. 12/24/99 14:59
kdfM_D_YY_H_MM_TT	12	e.g. 12/24/99 14:59:59
kdfYY_MM_DD	7	e.g. 99.12.24

Decode Filter constants

Constant	Value	Description
kdfASCII85Decode	1	
kdfASCIIHexDecode	2	
kdfCCITTFaxDecode	3	
kdfDCTDecode	4	
kdfFlateDecode	5	
kdfJBIG2Decode	6	
kdfJPXDecode	7	
kdfLZWDecode	8	
kdfNone	0	
kdfRunLengthDecode	9	

De-instantiation type constants for Set3DAnnotProps.

Constant	Value	Description
kdi3D_AppDefault	0	
kdi3D_Instantiated	2	The annotation will be instantiated but animations are disabled.
kdi3D_Live	3	The annotation will be instantiated and animations are enabled (default).
kdi3D_UnInstantiated	1	The annotation will be uninstantiated (default)

Document Information Constants

Constant	Value	Description
kdiAuthor	0	Author Name
kdiCompany	6	Company Name
kdiCreationDate	10	Creation Date
kdiCreator	1	Creator Name
kdiCustom	8	User defined key
kdiKeywords	2	Keywords
kdiModDate	11	Modification date.
kdiPDFX_Conf	9	
kdiPDFX_Ver	7	GetInDocInfo() only ->The PDF/X version is set by SetPDFVersion()!
kdiProducer	3	Producer Name
kdiSubject	4	Subject line
kdiTitle	5	Title tag.

#### Draw Mode Constants

Constant	Value	Description
kdmClipping	7	
kdmFillClip	4	
kdmFillStroke	2	
kdmFillStrokeClip	6	
kdmInvisible	3	
kdmNormal	0	
kdmStroke	1	
kdmStrokeClip	5	

#### Constants for Duplex Mode

Constant	Value	Description
kdpmFlipLongEdge	3	flip long edge
kdpmFlipShortEdge	2	flip short edge
kdpmNone	0	Use the default value of the viewer
kdpmSimplex	1	Simplex

#### Constants for thousand and decimal separators.

Constant	Value	Description
kdsCommaDot	0	1,234.56
kdsDotComma	2	1.234,56
kdsNoneComma	3	1234,56
kdsNoneDot	1	1234.56
kdsQuoteDot	4	Quote with dot.

#### 3D DeActivateType constants.

Constant	Value	Description
kdt3D_AppDefault	0	
kdt3D_Explicit	3	The annotation should remain active until explicitly deactivated by a script or action.
kdt3D_PageClosed	1	The annotaiton should be deactivated as soon as the page is closed.
kdt3D_PageInvisible	2	The annotaiton should be deactivated as soon as the page becomes invisible (default).

## Date Types

Constant	Value	Description
kdtCreationDate	0	Creation Date, Markup annotations only.
kdtModDate	1	Modification Date, Annotations or form fields.

## Destination type constants for a link

Constant	Value	Description
kdtFit	1	no parameters
kdtFitB	5	no parameters
kdtFitBH_Top	6	one parameter (a)
kdtFitBV_Left	7	one parameter (a)
kdtFitH_Top	2	one parameter
kdtFitV_Left	3	one parameter (a)
kdtFit_Rect	4	four parameters (a, b, c, d) ->(left, bottom, right, top)
kdtXY_Zoom	0	Three parameters (a, b, c) ->(X, Y, Zoom)

## Embedded File Location Values

Constant	Value	Description
kefChild	0	The file is an embedded file in the current document.
kefChildAnnot	1	The file is located in a file attachment annotation in the current document.
kefExternal	2	The file is an embedded file in an external document.
kefExternalAnnot	3	The file is located in a file attachment annotation in an external document.
kefParent	4	The file is located in the parent document.
kefParentAnnot	5	The file is located in a file attachment annotation in the parent document.

## Flags for EnumHostFontEx event

Constant	Value	Description
kefpAnsiPath	0	Code page 1252 on Windows, UTF-8 otherwise. The font has embedding rights.
kefpEditable	4	If set, the font has editing rights (important for form fields).
kefpEmbeddable	2	The font has embedding rights.
kefpUnicodePath	1	FilePath is in Unicode format. Make a typecast to (UI16*) in this case. The plugin handles that for you.
kleButt	1	Butt
kleCircle	2	Circle
kleClosedArrow	3	Left Close Arrow
kleDiamond	4	Diamond
kleNone	0	No end
kleOpenArrow	5	Left Open Arrow
kleRClosedArrow	6	Right Close Arrow
kleROpenArrow	7	Right Open Arrow
kleSlash	8	Slash
kleSquare	9	Square

## Error mode constants.

Constant	Value	Description
kemAllErrors	&h0000FFFF	All errors
kemFileError	8	File Error
kemFontError	16	Font Error
kemIgnoreAll	0	Ignore All
kemLogFonts	&h00010000	If set, CheckConformance() logs which fonts were replaced with system fonts or converted to Type3.
kemLogFontsVerbose	&h00020000	If set, the path to the font file is added to the message too. Use with kemLogFonts.
kemNoFuncNames	&h10000000	Do not print function names in error messages
kemSyntaxError	1	Syntax Error
kemUseErrLog	&h20000000	Redirect all error messages to the error log.
kemValueError	2	Value Error
kemWarning	4	Warning

## Error Event Results

Constant	Value	Description
kErrorEventContinue	0	Please return zero to ignore the error and continue with your code.
kErrorEventRaise	-2	Please return -2 to raise an exception.
kErrorEventStop	-1	Please return -1 to stop processing.

## Extended color space constants.

Constant	Value	Description
kesCalGray	3	CIE-based color space
kesCalRGB	4	CIE-based color space
kesDeviceCMYK	1	Device color space
kesDeviceGray	2	Device color space
kesDeviceN	10	Special color space
kesDeviceRGB	0	Device color space
kesICCBased	6	CIE-based color space ->contains an ICC profile
kesIndexed	8	Special color space
kesLab	5	CIE-based color space
kesNChannel	11	Special color space
kesPattern	7	Special color space
kesSeparation	9	Special color space

File attach icon constants.

Constant	Value	Description
kfaiGraph	0	Graph.
kfaiPaperClip	1	Paper Clip
kfaiPushPin	2	Push Pin
kfaiTag	3	Tag

Font Base Type constants

Constant	Value	Description
kfbtDisabled	4	This value can be used to disable a specific font format. See SetFontSearchOrder() for further information.
kfbtOpenType	2	OpenType font with Postscript outlines
kfbtStdFont	3	PDF Standard font
kfbtTrueType	0	TrueType, TrueType Collections, or OpenType fonts with TrueType outlines
kfbtType1	1	Type1 font

Field or annotation colors Constants.

Constant	Value	Description
kfcBackColor	0	
kfcBorderColor	1	
kfcTextColor	2	

Field Flags Constants.

Constant	Value	Description
kffComb	&h01000000	PDF 1.5 Text fields only
kffDoNotScroll	&h00800000	PDF 1.4 Text fields only
kffDoNotSpellCheck	&h00400000	PDF 1.4 Text fields, combo boxes. If the field is a combo box, this flag is meaningful only if fffEdit is also set.
kffEdit	&h00040000	Combo boxes only
kffFileSelect	&h00100000	PDF 1.4 Text fields only
kffHidden	16	
kffInvisible	8	
kffMultiline	&h00001000	Text fields only
kffMultiSelect	&h00200000	PDF 1.4 List boxes only
kffNoExport	4	
kffNoRotate	&h00000080	
kffNoToggleToOff	&h00004000	Radio buttons
kffNoView	&h00000100	
kffNoZoom	64	
kffPassword	&h00002000	Text fields only
kffPrint	32	
kffReadOnly	1	
kffRequired	2	
kffSorted	&h00080000	Use this flag to change the sort flag of combo boxes or list boxes

#### Font File Subtype constants

Constant	Value	Description
kffsCIDFontType0C	1	CFF based Type1 CID font
kffsCIDFontType2	4	TrueType based CID Font
kffsNoSubtype	9	The font file is in the format of FontType
kffsOpenType	2	TrueType based OpenType font
kffsOpenTypeC	3	CFF based OpenType font
kffsType1C	0	CFF based Type1 font.

## Fillmode constants

Constant	Value	Description
kfmClose	11	Close the path, but do not fill or stroke it. More vertices are required or stroke the path in a separate step.
kfmFill	3	Fill path.
kfmFillEvOdd	6	Fill even odd.
kfmFillEvOddNoClose	8	Fill even odd and no close.
kfmFillNoClose	0	Fill, but don't close.
kfmFillStroke	5	Fill and stroke.
kfmFillStrokeEvOdd	7	Fill and stroke even odd.
kfmFillStrokeEvOddNoClose	9	Fill and stroke even odd, no close.
kfmFillStrokeNoClose	2	Fill, Stroke, but don't close.
kfmNoFill	10	Don't fill.
kfmStroke	4	Stroke path.
kfmStrokeNoClose	1	Stroke, but do not close.

## File operation constants for CreateLaunchAction.

Constant	Value	Description
kfoOpen	0	Open file.
kfoPrint	1	Print file.

## Flush constants

Constant	Value	Description
kfpfDefault	0	Write anything to the file that is possible.
kfpfExclLastPage	2	If set, the last page is not flushed.
kfpfImagesOnly	1	If set, only images are written to the file. The pages are still in memory and can be modified with EditPage(). Flushed images can still be referenced in other pages. The image handles remain valid.

## Constants for font style.

Constant	Value	Description
kfsBlack	&h38400000	
kfsBold	&h2BC00000	The old constant 2 is still supported to preserve backward compatibility
kfsCondensed	&h00000300	
kfsDbfUnderline	32	Double underlined text.
kfsDemiBold	&h25800000	
kfsExpanded	&h00000700	
kfsExtraBold	&h32000000	
kfsExtraCondensed	&h00000200	
kfsExtraExpanded	&h00000800	
kfsExtraLight	&h0C800000	
kfsItalic	1	
kfsLight	&h12C00000	
kfsMedium	&h1F400000	
kfsNone	0	
kfsNormal	&h00000500	
kfsRegular	&h19000000	Same as fsNone
kfsSemiCondensed	&h00000400	
kfsSemiExpanded	&h00000600	
kfsStriked	8	
kfsThin	&h06400000	
kfsUltraBlack	&h3E800000	
kfsUltraCondensed	&h00000100	
kfsUltraExpanded	&h00000900	
kfsUnderlined	4	Underlined text.
kfsVerticalMode	16	Not considered at this time (v2.5)

#### Field Type Constants

Constant	Value	Description
kftButton	0	Button
kftCheckBox	1	Checkbox
kftComboBox	3	Combobox
kftGroup	7	This is not a real field type, it is just an array of fields.
kftListBox	4	Listbox
kftRadioBtn	2	Radio Button
kftSignature	6	Signature
kftText	5	Text.

#### Font Type Constants

Constant	Value	Description
kftMMType1	0	Multiple Master
kftTrueType	1	TrueType font
kftType0	2	CID font ->the descendant font can be a TrueType, Type1 (CFF), or Open- Type font
kftType1	3	Type1 font
kftType3	4	Type3 font

Graphics state flag constants

Constant	Value	Description
kgfAnsiStringIsUTF8	32	If set, single byte strings in Ansi functions are treated as UTF-8 encoded Unicode strings. Currently not useable with plugins.
kgfCompatible	0	Compatible graphics state to earlier DynaPDF versions ->default
kgfComplexText	&h00000400	If set, text is processed with Uniscribe on Windows.
kgfDisableBidiCtrls	&h00001000	Meaningful only if gfComplexText is set too. If set, bidi control characters are ignored. This flag can be useful if the result of web browsers should be emulated since web browsers do not support bidi control characters. This flag is also used internally to create the appearance stream of form fields since form fields do not support bidi control characters.
kgfDisableJavascript	&h00000800	If set, Javascript actions associated with the OnFormat event of text fields are not executed to format the field value.
kgfDoNotComprMetadata	&h00002000	If set, arbitrary metadata stream associated with PDF objects other than the global metadata stream will not be compressed. This can be useful since certain standards prohibit compression of metadata streams. The flag is automatically set for PDF/X files.
kgfIgnoreICCProfiles	16	Meaningful only if the flag kgfUseImageColorSpace is set. If set, an embedded profile is not used to create an ICCBased color space for the image. The image is inserted in the corresponding device color space instead.
kgfNativeBlackWhite	4	Do not convert RGB black or white to DeviceGray
kgfNoBitmapAlpha	&h00000080	If set, the alpha channel in 32 bit bitmaps will be ignored. Useful for bitmaps with an invalid alpha channel.
kgfNoImageDuplCheck	&h00000100	Disables duplicate check for images.
kgfNoObjCompression	&h00000200	If set, object compression will be disabled.
kgfRealPassThrough	64	If set, JPEG images are inserted as is. JPEG images are normally rebuilt, always in pass-through mode, to avoid issues with certain malformed JPEG images which cannot be displayed in Adobes Acrobat or Reader. If you know that your JPEG images work then set this flag to avoid unnecessary processing time.
kgfRealTopDownCoords	2	If set, the page coordinate system is not reset to bottom-up when transforming the coordinate system. However, real top-down coordinates require a large internal overhead and were never fully implemented. The usage of this flag should be avoided if possible.
kgfRestorePageCoords	1	Restore the coordinate system with the graphics state (the value of PageCoords) see SetPageCoords()
kgfSkaleAnnotIcons	&h00008000	If set, icons of text and file attach annotation are scaled with the page like every other annotation. These annotations have normally a fixed size that is independent of the zoom or scaling factor.
kgfUpdatePDFVTModDate	&h00004000	If set, the key GTS_PDFVTModDate will be set to the file's modification date.
kgfUseImageColorSpace	8	If set, the active color space is ignored when inserting an image. The color space is taken from the image file instead.

### Highlight Mode Constants

Constant	Value	Description
khmInvert	1	
khmNone	0	
khmOutline	2	
khmPush	3	
khmPushUpd	4	Update appearance stream on changes

Constants for CloseAndSignFileExt.

Constant	Value	Description
khtDetached	0	Returns the byte ranges of the finish PDF buffer to create a detached signature.
khtSHA1	1	Returns the SHA1 hash of the PDF file so that it can be signed.

Init Cache Flags

Constant	Value	Description
kicfIgnorePageLayout	2	

Flags for InitColorManagement

Constant	Value	Description
kicmBPCompensation	1	Black point compensation preserves the black point when converting CMYK colors to different color spaces.
kicmCheckBlackPoint	2	If set, soft proofing will be disabled if the black point of the output intent is probably invalid.
kicmDefault	0	Default rules.

Image conversion flag constants.

Constant	Value	Description
kicNone	0	Default value.
kicUseCCITT4	1	Use CCITT Fax 4 compression instead of Flate for dithered images.

Constants for ICC profile types.

Constant	Value	Description
kictCMYK	2	
kictGray	0	
kictLab	3	
kictRGB	1	

Constants for ImportFlags2.

Constant	Value	Description
kif2CopyEncryptDict	64	If set, the encryption settings of an encrypted PDF file are copied to the new PDF file. The flag does nothing if the file is not encrypted.
kif2DuplicateCheck	16	Perform a duplicate check on color spaces, fonts, images, patterns, and templates when merging PDF files.
kif2MergeLayers	1	If set, layers with identical name are merged. If this flag is absent DynaPDF imports such layers separately so that each layer refers still to the pages where it was originally used.
kif2NoMetadata	8	Ignore metadata streams which are attached to fonts, pages, images, and so on.
kif2NoResNameCheck	32	Useful in viewer applications
kif2Normalize	2	Replace LZW compression with Flate, apply limit checks, repair errors if possible.
kif2SkipDPartData	&h00000080	If set, DPart dictionaries are not imported.
kif2UseProxy	4	Not meaningful for PDF files which are loaded from a memory buffer. If set, all streams are loaded from the file on demand but they are never hold in memory. This reduces drastically the memory usage and enables the processing of almost arbitrary large PDF files with minimal memory usage. The corresponding PDF file must not be deleted before CloseFile() or CloseFileEx() was called.

Constants for import flags.

Constant	Value	Description
kif3DAnnot	&h00100000	
kifAllAnnots	&h009F0000	
kifAllPageObjects	&h40000000	
kifArticles	16	
kifBookmarks	8	
kifBoxColorInfo	&h00000200	
kifCatalogAction	2	
kifContentOnly	0	
kifDocInfo	&h00008000	
kifEmbeddedFiles	&h00200000	
kifEnumFonts	&h20000000	
kifFileCollections	&h00400000	
kifFormFields	&h01000000	
kifFreeText	&h00010000	
kifImportAll	&h0FFFFFFE	
kifImportAsPage	&h80000000	
kifJavaScript	&h00002000	
kifJSActions	&h00004000	
kifLink	&h00040000	
kifNoContent	1	
kifOtherAnnots	&h00800000	
kifPageActions	4	
kifPageLabels	32	
kifPieceInfo	&h02000000	The PieceInfo dictionary contains arbitrary application defined data. The data in this dictionary is meaningful only for the application that created the data.
kifPrepareForPDF	&h10000000	
kifSearchIndex	&h00001000	
kifSeparationInfo	&h00000100	Separation info
kifStamp	&h00080000	
kifStructureTree	&h00000400	
kifTextAnnot	&h00020000	
kifThumbs	64	
kifTransition	&h00000800	
kifTranspGroups	&h00000080	

## Image Format Constants

Constant	Value	Description
kifmBMP	4	BMP: DeviceGray, DeviceRGB, Black & White ->Uncompressed.
kifmJPC	5	JPEG 2000: DeviceRGB, DeviceCMYK, DeviceGray ->JPEG2000 compression.
kifmJPEG	1	JPEG: DeviceRGB, DeviceCMYK, DeviceGray ->JPEG compression.
kifmPNG	2	PNG: DeviceGray, DeviceRGB, Black & White ->Flate compression.
kifmTIFF	0	TIFF: DeviceRGB, DeviceCMYK, DeviceGray, Black & White ->CCITT Fax Group 3/4, JPEG, Flate, LZW.

Instantiation type constants for Set3DAnnotProps

Constant	Value	Description
kit3D_AppDefault	0	Default
kit3D_Instantiated	1	The annotation will be instantiated but animations are disabled.
kit3D_Live	2	The annotation will be instantiated and animations are enabled (default).

Line Join styles.

Constant	Value	Description
kjsBevelJoin	2	Bevel Join
kjsMiterJoin	0	Miter Join
kjsRoundJoin	1	Round Join

Key length Constant

Constant	Value	Description
kk1128bit	1	RC4 Encryption ->Acrobat 5 or higher
kk1128bitEx	2	RC4 Encryption ->Acrobat 6 or higher
kk140bit	0	RC4 Encryption ->Acrobat 3 or higher
kk1AES128	3	AES Encryption ->Acrobat 7 or higher
kk1AES256	4	AES Encryption ->Acrobat 9 or higher
kk1AESRev6	5	AES Encryption ->PDF 2.0, Acrobat X or higher

Constants for flags to SetCMapDir function.

Constant	Value	Description
klcmDefault	0	Load the cmaps in the directory now.
klcmDelayed	2	Load the cmap files only when a font requires an external cmap.
klcmRecursive	1	Load sub directories recursively.

Constants for a 3D Rendering mode for Create3DView.

Constant	Value	Description
klsArtwork	0	Lights from file lsBlue,
klsBlue	1	
klsCAD	2	
klsCube	3	
klsDay	4	
klsHard	5	
klsHeadlamp	6	
klsNight	7	
klsNoLights	8	
klsNotSet	12	
klsPrimary	9	
klsRed	10	
klsWhite	11	

Metadata Object Constants

Constant	Value	Description
kmdoCatalog	0	The global XMP stream of the document (no handle needed)
kmdoFont	1	Parameter Handle must be a font handle.
kmdoImage	2	Parameter Handle must be an image handle.
kmdoPage	3	Parameter Handle must be a page number.
kmdoTemplate	4	Parameter Handle must be a template handle.

Meta Flags

Constant	Value	Description
kmfApplyBidiAlgo	&h00080000	Apply the bidirectional algorithm on Unicode strings
kmfClipRclBounds	&h01000000	If set, the graphic is drawn into a clipping path with the size of rclBounds. This flag is useful if the graphic contains content outside of its bounding box.
kmfClipView	8	Draw the file into a clipping rectangle
kmfCurrComprFilter	&h20000000	If set, the currently active compression filter is used to compress the image (see SetCompressionFilter()). This flag is used only if the file is rastered to an image.
kmfDebug	1	Write debug information into the content stream.
kmfDefault	0	Default conversion
kmfDefBkModeTransp	&h00040000	Initialize the background mode to transparent (SetBkMode() overrides this state).
kmfDisableRasterEMF	&h02000000	If set, EMF files which use unsupported ROP codes are not rastered.
kmfDontSkipROP_DPa	&h10000000	If set, the ROP code 0x00A000C9 (DPa) is considered in BitBlt, StretchBlt, TransparentBlt, and AlphaBlend records. This kind of ROP code combines a pattern brush with the backdrop. If the flag mfDisableRasterEMF is absent, the usage of such a ROP code causes that the file is rendered to an image.
kmfFullScale	&h00010000	Recommended if 32 bit coordinates are used
kmfGDIFontSelection	&h00100000	Use the GDI to select fonts
kmfIgnoreEmbFonts	&h08000000	If set, embedded fonts in GDIComment records will be ignored. This flag must be set if the fonts of an EMF spool file were pre-loaded with ConvertEMF-Spool(). Spool fonts must always be loaded in a pre-processing step since required fonts are not necessarily embedded in the EMF files.
kmfIntersectClipRect	&h00002000	enabled by default ->can be disabled with mfNoClippingRgn
kmfNoBBoxCheck	&h04000000	Disable the bbox check.
kmfNoBmpPatterns	&h00000400	Ignore bitmap patterns
kmfNoClippingRgn	64	Disables SelectClippingRegion, IntersectClipRect, and SelectClipPath
kmfNoFontEmbedding	&h00000080	Do not embed fonts ->Fonts should be embedded!!!
kmfNoImages	&h00000100	Ignore image records
kmfNoStdPatterns	&h00000200	Ignore standard patterns
kmfNoText	&h00000800	Ignore text records
kmfNoTextClipping	&h00400000	If set, the ETO_CLIPPED flag in text records is ignored.
kmfNoTextScaling	4	Do not scale text
kmfNoUnicode	&h00008000	Avoid usage of Unicode fonts ->recommended to enable PDF 1.2 compability
kmfRclFrameEx	&h00200000	
kmfShowBounds	2	Show the bounding boxes of text strings
kmfSrcCopy_Only	&h00800000	If set, images which use a ROP code other than SRCCOPY are ignored. This is useful when processing Excel 2007 spool files.
kmfUseRclBounds	16	Use rclBounds instead of rclFrame
kmfUseRclFrame	&h00020000	This flag should be set if the rclFrame rectangle is properly set
kmfUseSpacingArray	32	enabled by default ->can be disabled with mfUseTextScaling
kmfUseTextScaling	&h00004000	Scale text instead of using the intercharacter spacing array
kmfUseUnicode	&h00001000	Ignore ANSI_CHARSET

Constant	Value	Description
kmiNotTagged	0	This is no Tagged PDF file.
kmiSuspects	2	The file contains suspect contents that whose ordering does not ordered meet the requirements of the Tagged PDF specifications.
kmiTagged	1	This is a Tagged PDF file.
kmiUserProperties	4	A flag indicating that at least one structure element contains user properties. User properties are stored in User Property dictionaries.

3D named action constants.

Constant	Value	Description
knaDefault	0	
knaFirst	1	
knaLast	2	
knaNext	3	
knaPrevious	4	

Named Action Constants.

Constant	Value	Description
knaDeletePages	13	
knaFirstPage	0	
knaFitPage	11	
knaFontsInfo	8	
knaFullScreen	12	
knaGeneralInfo	7	
knaGoBack	4	
knaLastPage	1	
knaNextPage	2	
knaOpenDlg	5	
knaPrevPage	3	
knaPrintDlg	6	
knaQuit	14	
knaSaveAs	9	
knaSecurityInfo	10	

Negative number format constants for SetNumberFormat.

Constant	Value	Description
knsMinusBlack	0	The number is colored black with a minus sign.
knsParensBlack	2	The number is colored black with parenthesis.
knsParensRed	3	The number is colored red with parenthesis.
knsRed	1	The number is colored red.

Optimization Flags

Constant	Value	Description
kof2Default	0	Nothing to do
kof2DeleteWatermarkAnnots	2	If set, watermark annotations will be deleted.
kof2DeleteWatermarks	1	Delete watermark templates.
kof3Default	0	Nothing to do
kof4Default	0	Nothing to do
kofAdjZeroLineWidthOnly	&h00002000	Meaningful only if the parameter MinLineWidth of the optimize parameters is greater zero. If set, change the line width of real hairlines only (a hairline is a one pixel width line ->LineWidth = 0).
kofCompressWithJBIG2	&h00004000	If set, 1 bit images are compressed with JBIG2 if not already compressed with this filter.
kofConvertAllColors	2	If set, Separation, DeviceN, and NChannel color spaces will be converted to the device space.
kofConvertGrayTo1Bit	&h00010000	Useful for scanned faxes since many scanners create gray images for black and white input.
kofConvertToCMYK	&h00080000	If set, images, text, and vector graphics are converted to DeviceCMYK.
kofConvertToGray	&h00020000	If set, images, text, and vector graphics are converted to DeviceGray.
kofConvertToRGB	&h00040000	If set, images, text, and vector graphics are converted to DeviceRGB.
kofConvNonEmbFontsOnly	&h00800000	Meaningful only, if the flag kofConvTextToOutlines is set. If set, text of non-embedded fonts are converted to outlines only. Embedded fonts remain embedded.
kofConvTextToOutlines	&h00400000	If set, texts of non-Type3 fonts are converted to outlines or vector graphics. The resulting file contains no fonts with exception of Type3 fonts, if any. Such files are large but avoid printing issues due to missing or damaged fonts.
kofDefault	0	Just rebuild the content streams.
kofDeleteAlternateImages	&h00000400	If set, alternate images will be deleted.
kofDeleteInvPaths	64	Delete invisible paths. An invisible path is a path that was finished with the no-op operator "n".
kofDeletePrivateData	&h00000100	Delete private data objects from pages, templates, and images. For example Indesign may store the original Photoshop image within the PDF file.
kofDeleteThumbnails	&h00000200	Thumbnails can be deleted since PDF viewers can create thumbnails easily on demand.
kofFailOnOverprinting	&h08000000	Meaningful only if a color conversion flag is set. If set, the function returns with a fatal error if an object with enabled overprinting was found on the page. The appearance of overprinted objects would change and make the page may be unusable. Overprinted objects can be left unchanged (set the flag kofSkipOverprintedObj in this case) or Optimize() can return with a fatal error to avoid the creation of an invalid document.
kofFlattenLayers	&h00000080	Flatten layers if any.
kofIgnoreDeviceN	&h01000000	If set, DeviceN color spaces are left unchanged.
kofIgnoreICCBased	4	If set, ICCBased color spaces will be left unchanged.
kofIgnoreNChannel	&h02000000	If set, NChannel color spaces are left unchanged.
kofIgnoreSeparation	&h04000000	If set, Separation color spaces are left unchanged.
kofIgnoreSeparationAll	&h80000000	Meaningful only if a color conversion flag is set. If set, Separation color spaces with the special colorant "All" will be ignored.
kofIgnoreZeroLineWidth	&h00001000	Meaningful only if the parameter MinLineWidth of the DynaPDFOptimizeParamsMBS class is greater zero. If set, ignore line width operators with a value of zero (zero means one device unit).
kofInMemory	1	Optimize the file fully in memory. Only useful for small PDF files.
kofNewLinkNames	32	If set, rename all object links to short names like F1, F2 etc.
kofNoFilterCheck	&h00008000	Meaningful only, if the flag ofCompressWithJBIG2 is set. If set, re-compress all 1 bit images, also if already compressed with JBIG2.
kofNoImageSizeCheck	&h00000800	Meaningful only if ofScaleImages is set. If set, do not check whether the scaled image is smaller as the original image.
kofRemoveBatesNumbers	&h20000000	Remove bates numbers if any. The type BatesN can also contain headers and footers.
kofRemoveHeaderFooter	&h40000000	Remove headers / footers if any. This type is set if no bates numbering was added.

Object intent constants for CreateOCG.

Constant	Value	Description
koiAll	8	
koiDesign	2	
koiEmpty	16	Internal (refers to koiView if used)
koiView	4	Default.
koiVisible	32	Visible

Object type constants for AddObjectToLayer.

Constant	Value	Description
kooAnnotation	0	Handle is an annotation handle.
kooField	1	Handle is a field handle.
kooImage	2	Handle is a image handle.
kooTemplate	3	Handle is a template handle.

Origin constants.

Constant	Value	Description
korDownLeft	0	
korTopLeft	1	

Object type constants.

Constant	Value	Description
kotAction	0	Action
kotAnnotation	1	Annotation
kotBookmark	2	Bookmark
kotCatalog	3	Catalog. PDF 1.4
kotField	4	Field
kotPage	5	Page
kotPageLink	6	Page Link.

Usage Categories

Constant	Value	Description
koucExport	1	Export
koucLanguage	2	Language
koucNone	0	
koucPrint	4	Print
koucUser	8	User
koucView	16	View
koucZoom	32	Zoom

Visibility constants for CreateOCMD.

Constant	Value	Description
kovAllOff	0	All Off
kovAllOn	1	All On
kovAnyOff	2	Any Off
kovAnyOn	3	Any On
kovNotSet	4	Not Set

## PDF Box Constants

Constant	Value	Description
kpbArtBox	0	Art box.
kpbBleedBox	1	Bleed box.
kpbCropBox	2	Crop Box.
kpbMediaBox	4	Media Box.
kpbTrimBox	3	Trim Box.

## Page coordinate constants

Constant	Value	Description
kpcBottomUp	0	
kpcTopDown	1	

## Cursor Constants.

Constant	Value	Description
kpcrHandClosed	1	
kpcrHandNormal	0	
kpcrHandPoint	2	
kpcrIBeam	3	

Constants for basic RGB colors.

Constant	Value	Description
kPDF_AQUA	&h00FFFF00	aqua
kPDF_BLACK	0	black
kPDF_BLUE	&h00FF0000	blue
kPDF_CREAM	&h00F0FBFF	cream
kPDF_DKGRAY	&h00808080	dark gray
kPDF_FUCHSIA	&h00FF00FF	fuchsia
kPDF_GRAY	&h00808080	gray
kPDF_GREEN	&h00008000	green
kPDF_LIME	&h0000FF00	lime
kPDF_LTGRAY	&h00C0C0C0	light gray
kPDF_MAROON	&h00000080	maroon
kPDF_MEDGRAY	&h00A4A0A0	medium gray
kPDF_MOGREEN	&h00C0DCC0	mogreen
kPDF_NAVY	&h00800000	navy
kPDF_OLIVE	&h00008080	olive
kPDF_PURPLE	&h00800080	purple
kPDF_RED	&h000000FF	red
kPDF_SILVER	&h00C0C0C0	silver
kPDF_SKYBLUE	&h00F0CAA6	skyblue
kPDF_TEAL	&h00808000	teal
kPDF_WHITE	&h00FFFFFF	white
kPDF_YELLOW	&h0000FFFF	yellow

## OCG Pagination Artefacts

Constant	Value	Description
kpeBackgroundImage	0	Background image.
kpeForegroundImage	1	Foreground Image.
kpeHeaderFooter	2	Header or Footer
kpeLogo	3	Logo
kpeNone	4	

## PDF parser constants.

Constant	Value	Description
kpfConvImagesToCMYK	64	Convert images to CMYK.
kpfConvImagesToGray	16	Convert images to grayscale.
kpfConvImagesToRGB	32	Convert images to RGB.
kpfDitherImagesToBW	8	Floyd-Steinberg dithering.
kpfNoJPXDecode	4	Meaningful only if the flag pfDecomprAllImages is set. If set, JPEG2000 images are returned as is so that you can use your own library to decompress such images since the the entire JPEG2000 codec is still marked as experimental. If we find an alternative to the currently used Jasper library then we will replace it immediatly with another one...
kpfNone	0	

## Page format constants for SetPageFormat

Constant	Value	Description
kpfDIN_A0	20	DIN A0
kpfDIN_A1	21	DIN A1
kpfDIN_A10	27	DIN A10
kpfDIN_A2	22	DIN A2
kpfDIN_A3	0	DIN A3
kpfDIN_A4	1	DIN A4
kpfDIN_A5	2	DIN A5
kpfDIN_A6	23	DIN A6
kpfDIN_A7	24	DIN A7
kpfDIN_A8	25	DIN A8
kpfDIN_A9	26	DIN A9
kpfDIN_B4	3	DIN B4
kpfDIN_B5	4	DIN B5
kpfDIN_B6	5	DIN B6
kpfDIN_C3	6	DIN C3
kpfDIN_C4	7	DIN C4
kpfDIN_C5	8	DIN C5
kpfDIN_C6	9	DIN C6
kpfDIN_C65	10	DIN C65
kpfDIN_DL	11	DIN DL
kpfDIN_E4	12	DIN E4
kpfDIN_E5	13	DIN E5
kpfDIN_E6	14	DIN E6
kpfDIN_E65	15	DIN E65
kpfDIN_M5	16	DIN M5
kpfDIN_M65	17	DIN M65
kpfUS_Legal	18	US Legal
kpfUS_Letter	19	US Letter

## Printing Flags

Constant	Value	Description
kpff1Bit	1	Print with 1 bit in black and white.
kpffAutoCenter	&h00000400	Automatically scale the page to match printer context.
kpffAutoRotate	&h00000200	Automatically rotate the page to match printer context.
kpffAutoRotateAndCenter	4	Automatically rotate and scale the page to match printer context. With newer versions you can use kpffAutoRotate and kpffAutoCenter separately.
kpffColor	2	Print in color.
kpffDefault	0	Default print settings.
kpffNoEndDoc	&h00000080	Do not call EndDoc on Windows
kpffNoStartDoc	32	Do not call StartDoc on Windows
kpffNoStartPage	64	Do not call StartPage on Windows
kpffPrintAsImage	8	Print by rendering each page as image and drawing it in the graphics context.
kpffPrintPageAsIs	&h00000100	If set, do not scale or rotate a page to fit into the printable area.
kpffShrinkToPrintArea	16	Shrink PDF to print area.

## PDF Font Flags

Constant	Value	Description
kpffAllCap	&h00010000	All capitals font
kpffFixedPitch	1	Fixed pitch
kpffForceBold	&h00040000	Bold required
kpffItalic	64	Italic font
kpffNonSymbolic	32	Non symbolic font.
kpffScriptStyle	8	Font in script style.
kpffSerifs	2	Serif font
kpffSmallCap	&h00020000	Small Caps font
kpffSymbolic	4	Symbolic font.

## Page layout constants.

Constant	Value	Description
kplDefault	6	Use viewer's default settings
kplOneColumn	1	
kplSinglePage	0	
kplTwoColumnLeft	2	
kplTwoColumnRight	3	
kplTwoPageLeft	4	PDF 1.5
kplTwoPageRight	5	PDF 1.5

## Page Label Format constants.

Constant	Value	Description
kplfDecimalArabic	0	1,2,3,4...
kplfLowercaseLetters	4	a,b,c,d...
kplfLowercaseRoman	2	i,ii,iii,iv...
kplfNone	5	
kplfUppercaseLetters	3	A,B,C,D...
kplfUppercaseRoman	1	I,II,III,IV...

## Page Mode Constants.

Constant	Value	Description
kpmFullScreen	3	
kpmUseAttachments	5	PDF 1.6
kpmUseNone	0	
kpmUseOC	4	PDF 1.5
kpmUseOutlines	1	
kpmUseThumbs	2	

## Print scaling flag constants.

Constant	Value	Description
kpsAppDefault	0	
kpsNone	1	

## Constants to specify how the page should be scaled into the image buffer.

Constant	Value	Description
kpsFitBest	2	Scale the page so that it fits fully into the image buffer.
kpsFitHeight	1	Scale the page to the height of the image buffer.
kpsFitWidth	0	Scale the page to the width of the image buffer.
kpsFitZoom	3	This mode must be used if the scaling factors of the transformation matrix are $<>1.0$

## Constants for 3D projection types.

Constant	Value	Description
kpt3DOrthographic	0	Orthographic
kpt3DPerspective	1	Perspective

## Pattern type constants.

Constant	Value	Description
kptColored	0	
kptShadingPattern	2	
kptUnColored	1	

## Progress Types

Constant	Value	Description
kptConvertPage	3	Start converting the PDF file (Optimize(), CheckConformance())
kptImportPage	0	This value is for: Start page import
kptPrintPage	2	Progress for printing a page.
kptWritePage	1	This value is for: Start writing a page to file or buffer

Constants for password type to pass when opening files.

Constant	Value	Description
kptDontCopyBuf	4	If set, OpenImportBuffer() does not copy the PDF buffer to an internal buffer. This increases the processing speed and reduces the memory usage. The PDF buffer must not be released until CloseImportFile() or CloseFile() was called.
kptForceRepair	2	Meaningful only when opening a PDF file with OpenImportFile() or OpenImportBuffer(). If set, the PDF parser rebuilds the cross-reference table by scanning all the objects in the file. This can be useful if the cross-reference table contains damages while the top level objects are intact. Setting this flag makes only sense if the file was already previously opened in normal mode and if errors occurred when importing pages of it.
kptOpen	0	No password.
kptOwner	1	Owner password provided.

PDF Version constants.

Constant	Value	Description
kpvFactorX_Basic	&h00100000	Basic profile for FactorX.
kpvFactorX_Basic_WL	&h00200000	Basic WL profile for FactorX.
kpvFactorX_Comfort	&h00400000	Comfort profile for FactorX.
kpvFactorX_Extended	&h00800000	Extended profile for FactorX.
kpvFactorX_Mask	&h02F80000	Mask for all FactorX variants. Contains kpvFactorX_Minimum, kpvFactorX_Basic, kpvFactorX_Basic_WL, kpvFactorX_Comfort, kpvFactorX_Extended and kpvFactorX_XRechnung,
kpvFactorX_Minimum	&h00080000	Minimum profile for FactorX.
kpvPDFA_1a	16	PDF/A 1a
kpvPDFA_2005	14	PDF/A-1b 2005
kpvPDFA_2a	17	PDF/A 2a
kpvPDFA_2b	18	PDF/A 2b
kpvPDFA_2u	19	PDF/A 2u
kpvPDFA_3a	20	PDF/A 3a
kpvPDFA_3b	21	PDF/A 3b
kpvPDFA_3u	22	PDF/A 3u
kpvPDFA_4	31	PDF/A 4
kpvPDFA_4e	32	PDF/A 4e allows 3D contents in rich media annotations.
kpvPDFA_4f	33	PDF/A 4f allows file attach annotations.
kpvPDFUA1	29	PDF/UA-1
kpvPDFUAFlag	&h20000000	PDF/UA flag. Can be used in addition with other standards. File metadata will contain PDF/A and PDF/UA entries.
kpvPDFVT1	&h10000000	PDF/VT 1 flag. This is just a flag because PDF/VT requires always a PDF/X base version.
kpvPDFVT2	&h04000000	PDF/VT 2 flag. This is just a flag because PDF/VT requires always a PDF/X base version.
kpvPDFVT3	&h08000000	PDF/VT 3 flag. This is just a flag because PDF/VT requires always a PDF/X base version.
kpvPDFVTMask	&h1C000000	Mask for PDF/VT flags
kpvPDFX1a_2001	10	PDF/X-1a:2001
kpvPDFX1a_2003	11	PDF/X-1a:2003
kpvPDFX3_2002	12	PDF/X-3:2002
kpvPDFX3_2003	13	PDF/X-3:2003
kpvPDFX4p	30	PDF/X-4p
kpvPDFX5g	23	PDF/X 5g
kpvPDFX5n	24	PDF/X 5n
kpvPDFX5pg	25	PDF/X 5pg
kpvPDFX6	26	PDF/X 6
kpvPDFX6n	27	PDF/X 6n
kpvPDFX6p	28	PDF/X 6p
kpvPDFX_4	15	PDF/X-4
kpvPDF_1_0	0	PDF 1.0
kpvPDF_1_1	1	PDF 1.1
kpvPDF_1_2	2	PDF 1.2
kpvPDF_1_3	3	PDF 1.3
kpvPDF_1_4	4	PDF 1.4
kpvPDF_1_5	5	PDF 1.5
kpvPDF_1_6	6	PDF 1.6
kpvPDF_1_7	7	PDF 1.7
kpvPDF_2_0	8	PDF 2.0
kpvZUGFeRD2_Flag	&h01000000	The flag to indicate it is a ZUGFeRD PDF and not FactorX.
kpvZUGFeRD_Basic	&h00010000	ZUGFeRD Basic level. This constant are flags which can be combined with kpvPDFA_3a, kpvPDFA_3b, and kpvPDFA_3u. If used stand alone PDF/A 3b with the correspondig ZUGFeRD metadata will be created.
kpvZUGFeRD_Comfort	&h00020000	ZUGFeRD Comfort level. This constant are flags which can be combined with kpvPDFA_3a,

Pixel formats for raster functions.

Constant	Value	Description
kpxf1Bit	0	1 bit per pixel black and white.
kpxfABGR	7	ABGR.
kpxfARGB	6	ARGB
kpxfBGR	3	BGR
kpxfBGRA	5	BGRA
kpxfCMYK	9	CMYK without alpha
kpxfCMYKA	10	CMYK with alpha
kpxfGray	1	8 bit grayscale.
kpxfGrayA	8	8 bit grayscale with alpha.
kpxfRGB	2	RGB
kpxfRGBA	4	RGBA

Raster Flag Constants

Constant	Value	Description
krfClipBoxMask	28	The mask for Clip flags.
krfClipToArtBox	4	Clip the page to the art box if any. Only one of these clip flags must be set at time!
krfClipToBleedBox	8	Clip the page to the bleed box if any. Only one of these clip flags must be set at time!
krfClipToTrimBox	16	Clip the page to the bleed box if any. Only one of these clip flags must be set at time!
krfCompositeWhite	&h00001000	Composite pixel formats with an alpha channel finally with a white background. The alpha channel is 255 everywhere after composition. This flag is mainly provided for debug purposes but it can also be useful if the image must be copied on screen with a function that doesn't support alpha blending.
krfDefault	0	Render the page as usual
krfDisableAAClipping	&h00200000	Disable Anti-Aliasing for clipping paths. This flag is the most important one since clipping paths cause often visible artefacts in PDF files with flattened transparency.
krfDisableAAText	&h00400000	Disable Anti-Aliasing for text.
krfDisableAAVector	&h00800000	Disable Anti-Aliasing for vector graphics.
krfDisableAntiAliasing	&h00E00000	Combination of krfDisableAAVector, krfDisableAAText and krfDisableAAClipping.
krfDisableBiLinearFilter	&h01000000	Disable the BiLevel filter for images. Sometetimes useful if sharp images are needed, e.g. for barcodes.
krfEnableBlendCS	&h10000000	If set, the page is rendered in the color space of the page group, soft proof color space, or output intent (if set), and finally converted to the destination colorspace.
krfExclAnnotations	32	Don't render annotations.
krfExclButtons	&h00004000	If you want to render specific field types with RenderAnnotOrField() then use this flag to exclude buttons. If all fields should be skipped then set the flag rfExclFormFields instead.
krfExclCheckBoxes	&h00008000	If you want to render specific field types with RenderAnnotOrField() then use this flag to exclude checkboxes. If all fields should be skipped then set the flag rfExclFormFields instead.
krfExclComboBoxes	&h00010000	If you want to render specific field types with RenderAnnotOrField() then use this flag to exclude combobox. If all fields should be skipped then set the flag rfExclFormFields instead.
krfExclFormFields	64	Don't render form fields.
krfExclListBoxes	&h00020000	If you want to render specific field types with RenderAnnotOrField() then use this flag to exclude listbox. If all fields should be skipped then set the flag rfExclFormFields instead.
krfExclPageContent	&h00002000	If set, only annotations and form fields will be rendered (if any).
krfExclSigFields	&h00080000	If you want to render specific field types with RenderAnnotOrField() then use this flag to exclude signature fields. If all fields should be skipped then set the flag rfExclFormFields instead.
krfExclTextFields	&h00040000	If you want to render specific field types with RenderAnnotOrField() then use this flag to exclude text fields. If all fields should be skipped then set the flag rfExclFormFields instead.
krfIgnoreCropBox	2	Ignore the crop box and render anything inside the media box without clipping.
krfInitBlack	&h00000800	Initialize the image buffer to black before rendering (RGBA or GrayA must be initialized to black)
krfRenderInvisibleText	&h02000000	If set, treat text rendering mode Invisible as Normal.
krfRenderPrintState	&h20000000	If set, the print state of layers, annotations, and form fields will be rendered.
krfRotate180	&h00000200	Rotate the page 180 degrees.
krfRotate270	&h00000400	Rotate the page 270 degrees.
krfRotate90	&h00000100	Rotate the page 90 degrees.
krfScaleToBBox	&h00100000	Meaningful only, if rfClipToArtBox, rfClipToBleedBox, or rfClipToTrimBox is set. If set, the picture size is set to the size of the wished bounding box.
krfScaleToMediaBox	1	Render the real paper format. Contents outside the crop box is clipped.
krfSkipUpdateBG	&h00000080	Don't generate an update event after initializing the background to white.

## Rendering intent constants

Constant	Value	Description
kriAbsoluteColorimetric	0	
kriPerceptual	1	
kriRelativeColorimetric	2	
kriSaturation	3	

## Raw Image Flags Constants.

Constant	Value	Description
krifByteAligned	&h00001000	
krifCMYKData	&h00004000	
krifRGBData	&h00002000	

## 3D rendering mode constants

Constant	Value	Description
krmBoundingBox	0	
krmHiddenWireframe	1	
krmIllustration	2	
krmNotSet	15	
krmShadedIllustration	3	
krmShadedVertices	4	
krmShadedWireframe	5	
krmSolid	6	
krmSolidOutline	7	
krmSolidWireframe	8	
krmTransparent	9	
krmTranspBBox	10	
krmTranspBBoxOutline	11	
krmTranspWireframe	12	
krmVertices	13	
krmWireframe	14	

## Restriction constants.

Constant	Value	Description
krsAddObj	32	
krsAssemble	&h00000400	This flag is only used for 128 bit encryption. So this flag is ignored if 40 bit encryption is used.
krsCopyObj	16	
krsDenyAll	&h00000F3C	
krsDenyNothing	0	
krsEmbFilesOnly	&h00002000	This flag is only used for 128 bit encryption. So this flag is ignored if 40 bit encryption is used. PDF 1.6 Encrypt embedded files only ->Requires AES encryption.
krsExlMetadata	&h00001000	This flag is only used for 128 bit encryption. So this flag is ignored if 40 bit encryption is used. PDF 1.5 Exclude metadata streams ->128/256 bit encryption bit only.
krsExtractObj	&h00000200	This flag is only used for 128 bit encryption. So this flag is ignored if 40 bit encryption is used.
krsFillInFormFields	&h00000100	This flag is only used for 128 bit encryption. So this flag is ignored if 40 bit encryption is used.
krsModify	8	
krsPrint	4	
krsPrintHighRes	&h00000800	This flag is only used for 128 bit encryption. So this flag is ignored if 40 bit encryption is used.

Rubber stamp constants for StampAnnotation.

Constant	Value	Description
krsApproved	0	
krsAsIs	1	
krsConfidential	2	
krsDepartmental	3	
krsDraft	4	
krsExperimental	5	
krsExpired	6	
krsFinal	7	
krsForComment	8	
krsForPublicRelease	9	
krsNotApproved	10	
krsNotForPublicRelease	11	
krsSold	12	
krsTopSecret	13	
krsUserDefined	14	

Submit flag constants for CreateSubmitAction.

Constant	Value	Description
ksfCanonicalFormat	&h00000200	
ksfEmbedForm	&h00002000	PDF 1.5 embed the entire form into a file stream inside the FDF file ->requires the full version of Adobe's Acrobat.
ksfExlFKey	&h00000800	
ksfExlNonUserAnnots	&h00000400	
ksfExclude	1	If set, the fields in a submit form action are excluded if any.
ksfGetMethod	8	
ksfHTML	4	
ksfInclAnnots	&h00000080	
ksfInclAppSaves	64	Requires the full version of Adobe's Acrobat
ksfInclNoValFields	2	
ksfNone	0	The default export format is FDF
ksfPDF	&h00000100	Submit the entire PDF file ->requires the full version of Adobe's Acrobat.
ksfSubmCoords	16	
ksfXML	36	

Constants for font selection modes.

Constant	Value	Description
ksmFamilyName	0	
ksmFullName	2	Full name.
ksmPostScriptName	1	If font selection mode is set to smPostScriptName the font styles fsItalic or fsBold are ignored. The PostScriptName is already a unique font name incl. style information.

Soft Mask Constants.

Constant	Value	Description
ksmtAlpha	0	Alpha mode.
ksmtLuminosity	1	Luminosity mode.

Constants for ConvertEMFSpool.

Constant	Value	Description
kspcDefault	0	Default flags.
kspcDontAddMargins	2	If set, the page format is calculated from the EMF files as is. The current page format is not used to calculate margins which are maybe required. Note that the parameters LeftMargin and TopMargin will still be considered.
kspcFlushPages	8	If set, the function writes every finish page directly to the output file to reduce the memory usage. This flag is meaningful only if the PDF file is not created in memory. Note also that it is not possible to access already flushed pages again with EditPage().
kspcIgnorePaperFormat	1	If set, the current page format is used as is for the entire spool file.
kspcLoadSpoolFontsOnly	4	If set, only embedded fonts will be loaded. The EMF files must be converted with the flag mIgnoreEmbFonts in this case. This flag can be useful if you want to use your own code to convert the EMF files of the spool file.

#### Standard Pattern Constants

Constant	Value	Description
kspCross	4	
kspDiaCross	5	
kspHorizontal	0	
kspLDiagonal	3	
kspRDiagonal	2	
kspVertical	1	

#### Constants for 3D scale type.

Constant	Value	Description
kst3DHeight	2	
kst3DMax	4	
kst3DMin	3	
kst3DValue	0	
kst3DWidth	1	

#### Shading type constants.

Constant	Value	Description
kstAxial	2	
kstCoonsPatch	6	
kstFreeFormGouraud	4	
kstFunctionBased	1	
kstLatticeFormGouraud	5	
kstRadial	3	
kstTensorProduct	7	

#### Text Alignment Constants

Constant	Value	Description
ktaCenter	1	Center
ktaJustify	3	Justify
ktaLeft	0	Left
ktaPlainText	&h10000000	Added to alignment flag to tell WriteFText to not interpret escape commands.
ktaRight	2	Right

## Text Extraction Flags

Constant	Value	Description
ktefDefault	0	Create text lines in the original order.
ktefDeleteOverlappingText	4	Delete duplicate text records on same position.
ktefNoHeuristic	8	If set, text is sorted on the x-axis as specified. If absent, a heuristic is used to determine whether it is might be better to leave a line unsorted.
ktefSortTextX	1	Sort text records in x-direction.
ktefSortTextXY	3	Sort text records in x and y-direction.
ktefSortTextY	2	Sort text records in y-direction.

## Tab Order constants.

Constant	Value	Description
ktoAnnots	4	Annotation order ->PDF 1.7 Extension Level 3
ktoColumn	1	Column.
ktoFields	5	Widget order (Form Fields) ->PDF 1.7 Extension Level 3.
ktoNone	3	
ktoRow	0	Row.
ktoStructure	2	Structure

## Tiling Type Constants

Constant	Value	Description
kttConstSpacing	0	
kttFastConstSpacing	2	
kttNoDistortion	1	

## Scrollbar Update Constants.

Constant	Value	Description
kusbCursorHandClosed	32	Occurs when the cursor leaves an action field and if the left mouse button is pressed. The cursor constants are set by MouseMove. Since we have only one cursor there is never more than one constant set.
kusbCursorHandNormal	16	This is the default if the left mouse button is not pressed and if we are not over an action field. The cursor constants are set by MouseMove. Since we have only one cursor there is never more than one constant set.
kusbCursorHandPoint	64	Occurs when we enter link or button field. The cursor constants are set by MouseMove. Since we have only one cursor there is never more than one constant set.
kusbCursorIBeam	&h00000080	Occurs when we enter an action field that accepts text input. The cursor constants are set by MouseMove. Since we have only one cursor there is never more than one constant set.
kusbCursorMask	&hb00003FF0	Bitmask to mask out the cursor constants.
kusbHorzRange	4	Update the horizontal scroll range.
kusbHorzScrollPos	8	Update the horizontal scroll position.
kusbNoUpdate	0	Nothing to do.
kusbUpdateAll	15	Update both scroll ranges and the scroll positions.
kusbVertRange	1	Update the vertical scroll range.
kusbVertScrollPos	2	Update the vertical scroll position.

#### Viewer Preference Constants

Constant	Value	Description
kvpCenterWindow	16	
kvpDirection	&h00000080	
kvpDisplayDocTitle	32	
kvpFitWindow	8	
kvpHideMenuBar	2	
kvpHideToolBar	1	
kvpHideWindowUI	4	
kvpNonFullScrPageMode	64	
kvpPrintArea	&h00000400	
kvpPrintClip	&h00000800	
kvpUseNone	0	
kvpViewArea	&h00000100	
kvpViewClip	&h00000200	

## 3.41 class DynaPDFMeasureMBS

### 3.41.1 class DynaPDFMeasureMBS

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a measure dictionary.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

**Blog Entries**

- [MBS Xojo Plugins, version 24.1pr2](#)
- [MBS Xojo / Real Studio Plugins, version 15.0pr8](#)

### 3.41.2 Methods

#### 3.41.3 Angles as DynaPDFNumberFormatMBS()

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number format array to measure angles.

#### 3.41.4 Area as DynaPDFNumberFormatMBS()

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number format array to measure areas.

#### 3.41.5 Bounds as Double()

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Array of numbers taken pairwise to describe the bounds for which geospatial transforms are valid.

**Notes:** Changed to double in v24.1.

### 3.41.6 Constructor

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.41.7 Distance as DynaPDFNumberFormatMBS()

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number format array to measure distances.

### 3.41.8 GPTS as Double()

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Required, an array of numbers that shall be taken pairwise, defining points in geographic space as degrees of latitude and longitude, respectively.

**Notes:** Changed to double in v24.1.

### 3.41.9 LPTS as Double()

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional, an array of numbers that shall be taken pairwise to define points in a 2D unit square.

**Notes:** Changed to double in v24.1.

### 3.41.10 Slope as DynaPDFNumberFormatMBS()

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number format array for measurement of the slope of a line.

### 3.41.11 X as DynaPDFNumberFormatMBS()

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number format array for measurement of change along the x-axis and, if Y is not present, along the y-axis as well.

### 3.41.12 Y as DynaPDFNumberFormatMBS()

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number format array for measurement of change along the y-axis.

### 3.41.13 Properties

### 3.41.14 AnglesCount as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of objects in the array.

**Notes:** (Read and Write property)

### 3.41.15 AreaCount as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of objects in the array.

**Notes:** (Read and Write property)

### 3.41.16 BoundCount as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of values in the array.

**Notes:** Should be a multiple of two.

(Read and Write property)

### 3.41.17 CXY as Single

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional, meaningful only when Y is present.

**Notes:** (Read and Write property)

### 3.41.18 DCS\_EPSG as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional, either EPSG or WKT is set.

**Notes:** (Read and Write property)

### 3.41.19 DCS\_IsSet as Boolean

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If true, the DCS members are set.

**Notes:** (Read and Write property)

### 3.41.20 DCS\_Projected as Boolean

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If true, the DCS values contains a projected coordinate system.

**Notes:** (Read and Write property)

### 3.41.21 DCS\_WKT as String

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional ASCII string.

**Notes:** (Read and Write property)

### 3.41.22 DistanceCount as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of objects in the array.

**Notes:** (Read and Write property)

### 3.41.23 GCS\_EPSG as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional, either EPSG or WKT is set.

**Notes:** (Read and Write property)

### 3.41.24 GCS\_Projected as Boolean

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If true, the GCS values contains a pojected coordinate system.

**Notes:** (Read and Write property)

### 3.41.25 GCS\_WKT as String

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional ASCII string.

**Notes:** (Read and Write property)

### 3.41.26 GPTSCount as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of values in the array.

**Notes:** (Read and Write property)

### 3.41.27 IsRectilinear as Boolean

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If true, the members of the rectilinear measure dictionary are set.

**Notes:** The geospatial members otherwise.

(Read and Write property)

### 3.41.28 LPTSCount as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of values in the array.

**Notes:** (Read and Write property)

### 3.41.29 OriginX as Single

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Origin of the measurement coordinate system.

**Notes:** (Read and Write property)

### 3.41.30 OriginY as Single

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Origin of the measurement coordinate system.

**Notes:** (Read and Write property)

### 3.41.31 PDU1 as String

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional preferred linear display units.

**Notes:** (Read and Write property)

### 3.41.32 PDU2 as String

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional preferred area display units.

**Notes:** (Read and Write property)

### 3.41.33 PDU3 as String

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional preferred angular display units.

**Notes:** (Read and Write property)

### 3.41.34 R as String

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A text string expressing the scale ratio of the drawing.

**Notes:** (Read and Write property)

### 3.41.35 SlopeCount as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of objects in the array.

**Notes:** (Read and Write property)

### 3.41.36 XCount as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of objects in the array.

**Notes:** (Read and Write property)

### 3.41.37 YCount as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of objects in the array.

**Notes:** (Read and Write property)

## 3.42 class DynaPDFMissingFunctionExceptionMBS

### 3.42.1 class DynaPDFMissingFunctionExceptionMBS

Plugin Version: 20.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The exception for a missing function.

**Notes:** Only used when DynaPDF library is loaded manually and is an older version and missing a function. Subclass of the RuntimeException class.

#### Blog Entries

- [News from the MBS Xojo Plugins Version 20.4](#)
- [MonkeyBread Software Releases the MBS Xojo Plugins in version 20.4](#)
- [MBS Xojo Plugins, version 20.4pr1](#)
- [MBS REALbasic Plugins, version 11.1pr4](#)

## 3.43 class DynaPDFMovieActionMBS

### 3.43.1 class DynaPDFMovieActionMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a movie action.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

### 3.43.2 Methods

### 3.43.3 Constructor

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.43.4 FWPosition(index as Integer) as Single

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The position.

**Notes:** Index from 0 to 1.

### 3.43.5 FWScale(index as Integer) as Single

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The scaling.

**Notes:** Index from 0 to 1.

### 3.43.6 Properties

### 3.43.7 Annot as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional. The movie annotation handle identifying the movie that shall be played.

**Notes:** Either Annot or Title should be set, but not both.

(Read only property)

### 3.43.8 Mode as String

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The mode.

**Notes:** (Read only property)

### 3.43.9 NextAction as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The handle to the next action.

**Notes:** -1 or next action handle to be executed if any

(Read only property)

### 3.43.10 NextActionType as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The type of the next action.

**Notes:** Only set if NextAction is  $\geq 0$ .

(Read only property)

### 3.43.11 Operation as String

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Operation.

**Notes:** (Read only property)

### 3.43.12 Rate as Single

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The playback rate.

**Notes:** (Read only property)

### 3.43.13 ShowControls as Boolean

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to show controls.

**Notes:** (Read only property)

### 3.43.14 Synchronous as Boolean

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Synchronous flag.

**Notes:** (Read only property)

### 3.43.15 Title as String

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The title of a movie annotation that shall be played.

**Notes:** Either Annot or Title should be set, but not both.  
(Read only property)

### 3.43.16 Volume as Single

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The volume.

**Notes:** (Read only property)

## 3.44 class DynaPDFNamedActionMBS

### 3.44.1 class DynaPDFNamedActionMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a named action.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

### 3.44.2 Methods

### 3.44.3 Constructor

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.44.4 Properties

### 3.44.5 Name as String

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The name of the action.

**Notes:** Only set if Type = `knaUserDefined`.  
(Read only property)

### 3.44.6 NewWindow as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to show in a new window or not.

**Notes:** -1 = viewer default, 0 = false, 1 = true.  
(Read only property)

### 3.44.7 NextAction as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The handle to the next action.

**Notes:** -1 or next action handle to be executed if any  
(Read only property)

### 3.44.8 NextActionType as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The type of the next action.

**Notes:** Only set if NextAction is  $\geq 0$ .  
(Read only property)

### 3.44.9 Type as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Known pre-defined actions.

**Notes:** See  $kna^*$  constants.  
(Read only property)

## 3.45 class DynaPDFNamedDestMBS

### 3.45.1 class DynaPDFNamedDestMBS

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A class for the Named Destination.

**Blog Entries**

- [MBS REALbasic Plugins, version 11.1pr4](#)

### 3.45.2 Properties

#### 3.45.3 DestFile as String

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The destination file.

**Notes:** (Read only property)

#### 3.45.4 DestPage as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The destination page.

**Notes:** (Read only property)

#### 3.45.5 DestPos as DynaPDFRectMBS

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The destination position.

**Notes:** (Read only property)

#### 3.45.6 DestType as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The destination type.

**Notes:** Values can be a kdt\* constant.

(Read only property)

### 3.45.7 Name as String

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The name of that destination.

**Notes:** This string is either Unicode or ANSI encoded.  
(Read only property)

## 3.46 class DynaPDFNotInitializedExceptionMBS

### 3.46.1 class DynaPDFNotInitializedExceptionMBS

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** An exception for the case a function is called and the library is not initialized.

**Notes:** Should only happen on the unsupported platforms.

Subclass of the RuntimeException class.

## 3.47 class DynaPDFNumberFormatMBS

### 3.47.1 class DynaPDFNumberFormatMBS

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a number format.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

**Blog Entries**

- [MBS Xojo / Real Studio Plugins, version 15.0pr8](#)

### 3.47.2 Methods

### 3.47.3 Constructor

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.47.4 Properties

### 3.47.5 C as Single

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The conversion factor used to multiply a value in partial units.

**Notes:** (Read and Write property)

### 3.47.6 D as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A positive integer that shall specify the precision or denominator of a fractional amount.

**Notes:** (Read and Write property)

### 3.47.7 F as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number format.

**Notes:** can be `kmnfDecimal`, `kmnfFractional`, `kmnfRound` or `kmnfTruncate`.  
(Read and Write property)

### 3.47.8 FD as Boolean

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If true, a fractional value formatted according to the D entry may not have its denominator reduced or low-order zeros truncated.

**Notes:** (Read and Write property)

### 3.47.9 O as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The label position.

**Notes:** Can be `kmlpSuffix` or `kmlpPrefix`.  
(Read and Write property)

### 3.47.10 PS as String

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Text to be concatenated to the left of the label specified by U.

**Notes:** (Read and Write property)

### 3.47.11 RD as String

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Text for the decimal position in displaying numerical values.

**Notes:** (Read and Write property)

### 3.47.12 RT as String

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Text to be used between orders of thousands in display of numerical values.

**Notes:** (Read and Write property)

### 3.47.13 SS as String

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Text that shall be concatenated after the label specified by U.

**Notes:** (Read and Write property)

### 3.47.14 U as String

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Label, should be a universally recognized abbreviation.

**Notes:** (Read and Write property)

### 3.47.15 Constants

Label Position Constants

Constant	Value	Description
kmlpPrefix	1	Prefix
kmlpSuffix	0	Suffix

Number format

Constant	Value	Description
kmnfDecimal	0	Decimal
kmnfFractional	1	Fractional
kmnfRound	2	Round
kmnfTruncate	3	Truncate

## 3.48 class DynaPDFObjActionsMBS

### 3.48.1 class DynaPDFObjActionsMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for an object action.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

**Blog Entries**

- [MBS Xojo Plugins, version 18.0pr9](#)

### 3.48.2 Methods

### 3.48.3 Constructor

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.48.4 Properties

### 3.48.5 Action as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The handle to the action.

**Notes:** -1 or action handle to be executed if any  
(Read only property)

### 3.48.6 ActionType as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The type of the action.

**Notes:** Only set if Action is  $\geq 0$ .  
(Read only property)

### 3.48.7 Events as DynaPDFObjEventMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Additional events if any.

**Notes:** (Read only property)

## 3.49 class DynaPDFObjEventMBS

### 3.49.1 class DynaPDFObjEventMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class with information about an object event.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

### 3.49.2 Methods

### 3.49.3 Constructor

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.49.4 Properties

### 3.49.5 Action as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Action to be executed.

**Notes:** (Read only property)

### 3.49.6 ActionType as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The type of the action.

**Notes:** See kat\* constants.

(Read only property)

### 3.49.7 NextObject as DynaPDFObjEventMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Pointer to the next event if any.

**Notes:** (Read only property)

### 3.49.8 ObjEvent as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The event when the action should be executed.

**Notes:** See koe\* constants.

(Read only property)

## 3.50 class DynaPDFOCGContUsageMBS

### 3.50.1 class DynaPDFOCGContUsageMBS

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for content usage properties of an optional layer.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

**Blog Entries**

- [MBS Xojo / Real Studio Plugins, version 15.2pr6](#)

### 3.50.2 Methods

### 3.50.3 Constructor

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.50.4 Properties

### 3.50.5 ExportState as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The export state.

**Notes:** 0 = Off, 1 = On, PDF\_MAX\_INT = not set (2147483647)  
(Read and Write property)

### 3.50.6 InfoCreator as String

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The application that created the group.

**Notes:** (Read and Write property)

### 3.50.7 InfoSubtype as String

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A name defining the type of content, e.g. Artwork, Technical etc.

**Notes:** (Read and Write property)

### 3.50.8 LangPreferred as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The preferred state if there is a partial but no exact match of the lang id.

**Notes:** 0 = Off, 1 = On, PDF\_MAX\_INT (2147483647) = not set.

(Read and Write property)

### 3.50.9 Language as String

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A language code as described at DynaPDFMBS.SetLanguage.

**Notes:** (Read and Write property)

### 3.50.10 PageElement as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If the group contains a pagination artefact.

**Notes:** (Read and Write property)

### 3.50.11 PrintState as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The print state.

**Notes:** 0 = Off, 1 = On, PDF\_MAX\_INT = not set (2147483647).

(Read and Write property)

### 3.50.12 PrintSubtype as String

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The type of content that is controlled by the OCG, e.g. Trapping, PrintersMarks or Watermark.

**Notes:** (Read and Write property)

### 3.50.13 UserNamesCount as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The user names can be accessed with GetOCGUsageUserName.

**Notes:** (Read and Write property)

### 3.50.14 UserType as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The user for whom the OCG is primarily intended.

**Notes:** Can be kutIndividual, kutOrganization, kutTitle or kutNotSet. (constants defined in DynaPDFMBS)  
(Read and Write property)

### 3.50.15 ViewState as Integer

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The view state.

**Notes:** 0 = Off, 1 = On, PDF\_MAX\_INT (2147483647) = not set  
(Read and Write property)

### 3.50.16 ZoomMax as Single

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Maximum zoom factor at which the OCG should be On.

**Notes:** -1 = not set  
(Read and Write property)

### 3.50.17 ZoomMin as Single

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Minimum zoom factor at which the OCG should be On.

**Notes:** -1 = not set  
(Read and Write property)

## 3.51 class DynaPDFOCGMBS

### 3.51.1 class DynaPDFOCGMBS

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for details ob OCG layers.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

### 3.51.2 Methods

### 3.51.3 Constructor

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.51.4 Properties

### 3.51.5 AppEvents as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If non-zero, the layer is included in one or more app events which control the layer state.

**Notes:** Only valid if HaveContUsage is true.

see TOCAppEvent constants: kaeExport, kaePrint and kaeView. (constants defined in DynaPDFMBS)  
(Read and Write property)

### 3.51.6 Categories as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Usage Categories which control the layer state.

**Notes:** Only valid if HaveContUsage is true.

See UsageCategory constants: kocNone, kocExport, kocLanguage, kocPrint, kocUser, kocView or kocZoom. (constants defined in DynaPDFMBS)  
(Read and Write property)

### 3.51.7 Handle as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The internal object reference.

**Notes:** (Read and Write property)

### 3.51.8 HaveContUsage as Boolean

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether the layer contains a Content Usage dictionary.

**Notes:** see GetOCGContUsage function.

(Read and Write property)

### 3.51.9 Intent as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The intent.

**Notes:** See intent enumeration. Can be koiDesign, koiView, koiAll or koiEmpty. (constants defined in DynaPDFMBS)

(Read and Write property)

### 3.51.10 IsAll as Boolean

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** An accessor for intent state koiAll.

**Notes:** (Read only property)

### 3.51.11 IsDesign as Boolean

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** An accessor for intent state koiDesign.

**Notes:** (Read only property)

### 3.51.12 IsEmpty as Boolean

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** An accessor for intent state koiEmpty.

**Notes:** (Read only property)

### 3.51.13 IsView as Boolean

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** An accessor for intent state koiView.

**Notes:** (Read only property)

### 3.51.14 IsVisible as Boolean

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** An accessor for intent state koiVisible.

**Notes:** (Read only property)

### 3.51.15 Name as String

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The layer name.

**Notes:** (Read and Write property)

## 3.52 class DynaPDFOCLayerConfigMBS

### 3.52.1 class DynaPDFOCLayerConfigMBS

Plugin Version: 17.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for an optional content layer configuration.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

**Blog Entries**

- [MBS Xojo Plugins, version 17.5pr3](#)

### 3.52.2 Methods

### 3.52.3 Constructor

Plugin Version: 17.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.52.4 Properties

### 3.52.5 Intent as Integer

Plugin Version: 17.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The object intent.

**Notes:** Possible values koiDesign, koiView, or koiAll.

(Read only property)

### 3.52.6 IsDefault as Boolean

Plugin Version: 17.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If true, this is the default configuration.

**Notes:** (Read only property)

### 3.52.7 Name as String

Plugin Version: 17.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional configuration name.

**Notes:** (Read only property)

### 3.52.8 NameLen as Integer

Plugin Version: 17.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Length in characters.

**Notes:** (Read only property)

## 3.53 class DynaPDFOCUINodeMBS

### 3.53.1 class DynaPDFOCUINodeMBS

Plugin Version: 17.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for an optional content user interface node.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

**Blog Entries**

- [MBS Xojo Plugins, version 17.5pr3](#)

### 3.53.2 Methods

### 3.53.3 Constructor

Plugin Version: 17.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.53.4 Properties

### 3.53.5 Label as String

Plugin Version: 17.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional label.

**Notes:** (Read only property)

### 3.53.6 LabelLength as Integer

Plugin Version: 17.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Label Length in characters.

**Notes:** (Read only property)

### 3.53.7 NewNode as Boolean

Plugin Version: 17.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If true, a new child node must be created.

**Notes:** (Read only property)

### 3.53.8 NextChild as Integer

Plugin Version: 17.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If set, the next child node that must be loaded.

**Notes:** (Read only property)

### 3.53.9 NextItem as Integer

Plugin Version: 17.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The next item handle in the list.

**Notes:** (Read only property)

### 3.53.10 OCG as Integer

Plugin Version: 17.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional OCG handle.

**Notes:** -1 if not set. See GetOCG method.

(Read only property)

## 3.54 class DynaPDFOptimizeParamsMBS

### 3.54.1 class DynaPDFOptimizeParamsMBS

Plugin Version: 16.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for optimize parameters.

**Example:**

```
dim o as new DynaPDFOptimizeParamsMBS
```

```
o.MinColorRes = 100 // scale colored images with more than 100 dpi
```

```
o.ResColorImages = 150 // down to 150 dpi
```

#### Blog Entries

- [MBS Xojo Plugins, version 22.0pr7](#)
- [MBS Xojo Plugins, version 21.3pr1](#)
- [MBS Xojo / Real Studio Plugins, version 16.4pr1](#)
- [MBS Xojo / Real Studio plug-ins in version 16.3](#)
- [MBS Xojo / Real Studio Plugins, version 16.3pr1](#)

#### Xojo Developer Magazine

- [19.6, page 19: Things you can do with DynaPDF, The MBS DynaPDF Plugin is more powerful than you think by Stefanie Juchmes](#)

### 3.54.2 Methods

### 3.54.3 Constructor

Plugin Version: 16.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The constructor.

### 3.54.4 ExcludeCS as UInt32()

Plugin Version: 21.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Array of color space handles which should be excluded from color conversion.

**Notes:** Queries array, which you can change.

If you set IncludeCS, this array controls which color spaces will be converted.

### 3.54.5 setExcludeCS(values() as UInt32)

Plugin Version: 21.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the array of color space handles which should be excluded from color conversion.

**Notes:** Replaces the current array with a new one.

### 3.54.6 Properties

#### 3.54.7 ExcludeCSCount as Integer

Plugin Version: 21.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of color space handles in the array.

**Notes:** This is ExcludeCS.ubound + 1.

(Read only property)

#### 3.54.8 Filter1Bit as Integer

Plugin Version: 16.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Filter for black & white images.

**Notes:** See kcf\* constants. Default is kcfJPEG.

(Read and Write property)

#### 3.54.9 FilterColor as Integer

Plugin Version: 16.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Filter for multi-channel images.

**Notes:** See kcf\* constants. Default is kcfJPEG.

(Read and Write property)

#### 3.54.10 FilterGray as Integer

Plugin Version: 16.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The filter for gray image compression.

**Notes:** See kcf\* constants. Default is kcfJPEG.

(Read and Write property)

### 3.54.11 Flags2 as Integer

Plugin Version: 23.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Additional flags.

**Notes:** See kof2\* constants.

(Read and Write property)

### 3.54.12 Flags3 as Integer

Plugin Version: 23.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Additional flags.

**Notes:** (Read and Write property)

### 3.54.13 Flags4 as Integer

Plugin Version: 23.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Additional flags.

**Notes:** (Read and Write property)

### 3.54.14 IncludeCS as Boolean

Plugin Version: 22.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If set, only these color spaces in ExcludeCS will be converted.

**Notes:** If false, the conversion excludes the color spaces in ExcludeCS array.

If true, the conversion only includes the color spaces in ExcludeCS array.

(Read and Write property)

### 3.54.15 JP2KQuality as Integer

Plugin Version: 16.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The JPEG 2000 quality.

**Notes:** Default is 80.

(Read and Write property)

### 3.54.16 JPEGQuality as Integer

Plugin Version: 16.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The JPEG quality.

**Notes:** Default is 80.

(Read and Write property)

### 3.54.17 Min1BitRes as Integer

Plugin Version: 16.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Minimum resolution before scaling for one bit images.

**Notes:** Default is 100.

Can be zero to disable.

(Read and Write property)

### 3.54.18 MinColorRes as Integer

Plugin Version: 16.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Minimum resolution before scaling for color images.

**Notes:** Default is 100.

Can be zero to disable.

(Read and Write property)

### 3.54.19 MinGrayRes as Integer

Plugin Version: 16.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Minimum resolution before scaling for gray images.

**Notes:** Default is 100 dpi.

Can be zero to disable.

(Read and Write property)

### 3.54.20 MinLineWidth as Single

Plugin Version: 16.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Minimum line width for lines.

**Notes:** Zero means no hair line removal.

(Read and Write property)

### 3.54.21 Res1BitImages as Integer

Plugin Version: 16.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Resolution for 1 bit black & white images.

**Notes:** Default is 150.

Can be zero to disable.

(Read and Write property)

### 3.54.22 ResColorImages as Integer

Plugin Version: 16.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Resolution for images with more than one color channel.

**Notes:** Default is 150.

Can be zero to disable.

(Read and Write property)

### 3.54.23 ResGrayImages as Integer

Plugin Version: 16.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Resolution for Gray images.

**Notes:** Default is 150.

Can be zero to disable.

(Read and Write property)

## 3.55 class DynaPDFOutputIntentMBS

### 3.55.1 class DynaPDFOutputIntentMBS

Plugin Version: 14.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for details on an output intent.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

### 3.55.2 Methods

### 3.55.3 Constructor

Plugin Version: 14.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Private constructor.

### 3.55.4 Properties

### 3.55.5 Buffer as String

Plugin Version: 14.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** ICC profile buffer (optional)

**Notes:** (Read and Write property)

### 3.55.6 BufferSize as Integer

Plugin Version: 14.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Buffer size in bytes.

**Notes:** (Read and Write property)

### 3.55.7 Info as String

Plugin Version: 14.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Info string or name of the ICC profile.

**Notes:** (Read and Write property)

### 3.55.8 NumComponents as Integer

Plugin Version: 14.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of components.

**Notes:** (Read and Write property)

### 3.55.9 OutputCondition as String

Plugin Version: 14.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Description of the output device.

**Notes:** (Read and Write property)

### 3.55.10 OutputConditionID as String

Plugin Version: 14.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Description of the output device.

**Notes:** (Read and Write property)

### 3.55.11 RegistryName as String

Plugin Version: 14.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The registry in which OutputConditionID is defined.

**Notes:** (Read and Write property)

### 3.55.12 SubType as String

Plugin Version: 14.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The sub type.

**Notes:** GTS\_PDFX, GTS\_PDFA1, or ISO\_PDFE1  
(Read and Write property)

## 3.56 class DynaPDFPageLabelMBS

### 3.56.1 class DynaPDFPageLabelMBS

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a Page label.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

**Blog Entries**

- [MBS Xojo / Real Studio Plugins, version 16.3pr2](#)

### 3.56.2 Methods

### 3.56.3 Constructor

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.56.4 Properties

### 3.56.5 FirstPageNum as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** First page number to be displayed in the page label.

**Notes:** Subsequent pages are numbered sequentially from this value.  
(Read only property)

### 3.56.6 Format as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The format of the page label.

**Notes:** (Read only property)

### 3.56.7 Prefix as String

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The prefix.

**Notes:** This string is either an unicode encoded string or an ASCII encoded string.  
(Read only property)

### 3.56.8 PrefixLen as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The length of the prefix in characters.

**Notes:** (Read only property)

### 3.56.9 PrefixUni as Boolean

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether the prefix is in unicode.

**Notes:** (Read only property)

### 3.56.10 StartRange as Integer

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The start range.

**Notes:** (Read only property)

## 3.57 class DynaPDFPageMBS

### 3.57.1 class DynaPDFPageMBS

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a DynaPDF page.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

**Blog Entries**

- [MonkeyBread Software Releases the MBS Xojo Plugins in version 23.5](#)
- [MBS Xojo Plugins, version 23.5pr5](#)
- [Improvements for MBS Xojo DynaPDF Plugin](#)
- [MBS Xojo Plugins, version 20.2pr2](#)
- [MBS Xojo Plugins, version 18.2pr6](#)

**Xojo Developer Magazine**

- [22.1, page 9: News](#)

### 3.57.2 Methods

### 3.57.3 BBox(type as Integer) as DynaPDFRectMBS

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns the requested bounding box.

**Notes:** use the constants kpbArtBox, kpbBleedBox, kpbCropBox, kpbMediaBox or kpbTrimBox.

If orientation gives you 90, 270, -90 or -270, you may want to swap width and height of the rectangle.

### 3.57.4 CalcPagePixelSize(DefScale as UInt32, Scale as single, FrameWidth as UInt32, FrameHeight as UInt32, Flags as UInt32, byref Width as UInt32, byref Height as UInt32)

Plugin Version: 12.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function calculates the image size of a page exactly in the way as RenderPage() does, if called with the same parameters.

**Example:**

```

// your PDF environment
dim pdf as new DynaPDFMBS

// some PDF
dim file as FolderItem = SpecialFolder.Desktop.Child("test.pdf")

call pdf.CreateNewPDF(nil)

// We import all pages
call pdf.SetImportFlags(pdf.kifImportAsPage)
call pdf.OpenImportFile(file, 0, "")
call pdf.ImportPDFFile(1,1.0,1.0)

// get first page
dim p as DynaPDFPageMBS = pdf.GetPage(1)

// and calculate how big it would be:
dim PageWidth, PageHeight as UInt32

dim DefScale as UInt32 = DynaPDFMBS.kpsFitBest
dim Scale as Single = 1.0
dim Flags as UInt32 = DynaPDFRasterImageMBS.krfDefault

p.CalcPagePixelSize(DefScale, Scale, window1.Width, window1.Height, Flags, PageWidth, PageHeight)

MsgBox "PageWidth: "+str(PageWidth)+EndOfLine+"PageHeight: "+str(PageHeight)

```

**Notes:** This makes it possible to create the image in the required size so that it can be rendered without a border.

### 3.57.5 Constructor

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.57.6 GetWidthHeight(Flags as UInt32, byref Width as Single, byref Height as Single, Rotate as Integer = 0) as DynaPDFRectMBS

Plugin Version: 16.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Calculates page width and height.

### 3.57.7 SetBBox(*type* as integer, *BBox* as DynaPDFRectMBS) as Boolean

Plugin Version: 18.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets or changes the bounding box of a page.

**Notes:** This function is intended to be fast as possible. It requires no open page like DynaPDFMBS.SetBBox(), it does not change the default media or crop box, and it does not adjust the current coordinate system if the media box will be changed.

The function is useful if only one or more bounding boxes must be changed, without editing a page, or when a specific area of a page should be rendered. In the latter case change the crop box and restore it to the previous value when finish.

To delete a bounding box set the bounding box to 0, 0, 0, 0. The parameter *BBox* is required to be present, it cannot be nil.

If the function succeeds the return value is true. If the function fails the return value is false.

### 3.57.8 Properties

#### 3.57.9 ArtBox as DynaPDFRectMBS

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries art box for this page.

**Notes:** May be nil if not defined.

(Read only property)

#### 3.57.10 BleedBox as DynaPDFRectMBS

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries bleed box for this page.

**Notes:** May be nil if not defined.

(Read only property)

#### 3.57.11 CropBox as DynaPDFRectMBS

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries crop box for this page.

**Notes:** May be nil if not defined.

(Read only property)

### 3.57.12 Handle as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The internal object reference.

**Notes:** (Read only property)

### 3.57.13 MediaBox as DynaPDFRectMBS

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries media box for this page.

**Notes:** (Read only property)

### 3.57.14 Orientation as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Returns the page orientation.

**Notes:** (Read and Write property)

### 3.57.15 Page as Integer

Plugin Version: 14.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The original page number used to query this page.

**Notes:** (Read only property)

### 3.57.16 PDF as DynaPDFMBS

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The reference back to parent dynaPDF object.

**Notes:** (Read only property)

### 3.57.17 TrimBox as DynaPDFRectMBS

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries trim box for this page.

**Notes:** May be nil if not defined.

(Read only property)

### 3.57.18 Constants

PDF Box Constants

Constant	Value	Description
kpbArtBox	0	Art box.
kpbBleedBox	1	Bleed box.
kpbCropBox	2	Crop Box.
kpbMediaBox	4	Media Box.
kpbTrimBox	3	Trim Box.

## 3.58 class DynaPDFPageStatisticMBS

### 3.58.1 class DynaPDFPageStatisticMBS

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A class for page statistics.

**Notes:** You could count yourself with DynaPDFParseInterfaceMBS class and using the events.

This is just a convenience way to learn about whether for example there is an image on the page.

This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

**Blog Entries**

- [MonkeyBread Software Releases the MBS Real Studio plug-ins in version 12.5](#)
- [MBS Real Studio Plugins, version 12.5pr13](#)

**Xojo Developer Magazine**

- [11.1, page 9: News](#)

### 3.58.2 Methods

### 3.58.3 Constructor

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.58.4 Properties

### 3.58.5 BezierCount as Integer

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of bezier curves.

**Notes:** (Read and Write property)

### 3.58.6 ClipPathCount as Integer

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of path clippings.

**Notes:** (Read and Write property)

### 3.58.7 ClosePathCount as Integer

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of paths closed.

**Notes:** (Read and Write property)

### 3.58.8 DrawShadingCount as Integer

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of shading drawings.

**Notes:** (Read and Write property)

### 3.58.9 FontCount as Integer

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of fonts used.

**Notes:** (Read and Write property)

### 3.58.10 ImageCount as Integer

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of images used.

**Notes:** (Read and Write property)

### 3.58.11 LayerCount as Integer

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of layers used.

**Notes:** (Read and Write property)

### 3.58.12 LineCount as Integer

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of lines.

**Notes:** (Read and Write property)

### 3.58.13 PatternCount as Integer

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of patterns used.

**Notes:** (Read and Write property)

### 3.58.14 RectangleCount as Integer

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of rectangles.

**Notes:** (Read and Write property)

### 3.58.15 TemplateCount as Integer

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of templates.

**Notes:** (Read and Write property)

### 3.58.16 TextCount as Integer

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of text fragments.

**Notes:** (Read and Write property)

### 3.58.17 TextLength as Integer

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The length in characters of the text on the page.

**Notes:** (Read and Write property)

## 3.59 class DynaPDFParseInterfaceMBS

### 3.59.1 class DynaPDFParseInterfaceMBS

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A class for parsing pdf content.

**Notes:** You need to implement the BeginTemplate event in order to get events for images, vector graphics and text on the templates used on the page.

**Blog Entries**

- [MBS Xojo Plugins, version 19.6pr1](#)
- [DynaPDF Text Position Examples updated](#)
- [DynaPDF Text Position Examples](#)
- [MBS Xojo / Real Studio Plugins, version 15.4pr5](#)
- [MBS Xojo / Real Studio Plugins, version 14.2pr7](#)
- [MBS Real Studio Plugins, version 13.0fc2](#)
- [MBS Real Studio Plugins, version 12.5pr2](#)
- [MBS Real Studio Plugins, version 12.4pr9](#)
- [MBS REALbasic Plugins, version 11.1pr4](#)

### 3.59.2 Events

### 3.59.3 ApplyPattern(ObjectPtr as Integer, Type as Integer, PatternPtr as Integer) as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

**Notes:** Type is one of the following constants:

kptColored	= 0
kptUnColored	= 1
kptShadingPattern	= 2

### 3.59.4 BeginLayer(OCHandle as Integer, Invisible as boolean) as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: .

**Function:** Called when the PDF parser found a begin layer command.

**Notes:** The plugin will process the OCG object for you. So if handle is -1, there is no layer handle. If it is  $\geq 0$ , you have a handle. If it is  $< 0$ , something failed.

### 3.59.5 BeginPattern(ObjectPtr as Integer, Fill as Boolean, PatternType as Integer, BBox as DynaPDFRectMBS, Matrix as DynaPDFMatrixMBS, XStep as Double, YStep as Double) as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

**Notes:** PatternType is one of the following constants:

kptColored	= 0
kptUnColored	= 1
kptShadingPattern	= 2

### 3.59.6 BeginTemplate(ObjectPtr as Integer, Handle as Integer, BBox as DynaPDFRectMBS, Matrix as DynaPDFMatrixMBS) as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

**Notes:** You need to implement this event in order to get text, images and vector graphics from inside templates.

### 3.59.7 BezierTo1(ObjectPtr as Integer, x1 as Double, y1 as Double, x3 as Double, y3 as Double) as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

**3.59.8 BezierTo2(ObjectPtr as Integer, x2 as Double, y2 as Double, x3 as Double, y3 as Double) as Integer**

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

**3.59.9 BezierTo3(ObjectPtr as Integer, x1 as Double, y1 as Double, x2 as Double, y2 as Double, x3 as Double, y3 as Double) as Integer**

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

**3.59.10 ClipPath(ObjectPtr as Integer, EvenOdd as boolean, Mode as Integer) as Integer**

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

**Notes:** For the Mode parameter, the kfm\* constants are used.

**3.59.11 ClosePath(ObjectPtr as Integer, Mode as Integer) as Integer**

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

**Notes:** For the Mode parameter, the kfm\* constants are used.

**3.59.12 DrawShading(ObjectPtr as Integer, Type as Integer, Shading as Integer) as Integer**

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

**Notes:** For the type parameter you use the kst\* constants.

**3.59.13 EndLayer(OCHandle as Integer, InVisible as boolean)**

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: .

**Function:** Called when the PDF parser found an end layer command.

**3.59.14 EndPattern**

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

**3.59.15 EndTemplate**

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

**3.59.16 InsertImage(image as DynaPDFImageMBS) as Integer**

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

**Notes:** You can return zero on success or 1 to stop processing.

**3.59.17 LineTo(ObjectPtr as Integer, x as Double, y as Double) as Integer**

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

**3.59.18 MoveTo(ObjectPtr as Integer, x as Double, y as Double) as Integer**

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

### 3.59.19 MulMatrix(ObjectPtr as Integer, matrix as DynaPDFMatrixMBS)

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** A matrix multiplication was found.

### 3.59.20 Rectangle(ObjectPtr as Integer, x as Double, y as Double, w as Double, h as Double) as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** The parser found a rectangle.

### 3.59.21 RestoreGraphicState as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

### 3.59.22 SaveGraphicState as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

### 3.59.23 SetCharSpacing(ObjectPtr as Integer, Value as Double)

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

### 3.59.24 SetExtGState(ObjectPtr as Integer, GS as DynaPDFExtGState2MBS)

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

**3.59.25 SetFillColor(ObjectPtr as Integer, NumComps as Integer, Color1 as Double, Color2 as Double, Color3 as Double, Color4 as Double, Colors() as Double, ColorspaceType as Integer, ColorSpace as DynaPDF-ColorSpaceMBS)**

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

**Notes:** Colors array contains NumComps color values. First four values are provided directly with Color1, Color2, Color3 and Color4 parameters.

ColorSpaceType uses the kes\* constants.

You can use ConvColor to convert colors to RGB or CMYK if needed.

**3.59.26 SetFont(ObjectPtr as Integer, fontType as Integer, Embedded as boolean, FontName as string, Style as Integer, FontSize as Double, FontHandle as Integer, FontInfo as DynaPDFFontInfoMBS)**

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

**3.59.27 SetLeading(ObjectPtr as Integer, Value as Double)**

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

**3.59.28 SetLineCapStyle(ObjectPtr as Integer, Style as Integer)**

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

**3.59.29 SetLineDashPattern(ObjectPtr as integer, dash() as Double, NumValues as integer, Phase as Double)**

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

**3.59.30 SetLineJoinStyle(ObjectPtr as Integer, Style as Integer)**

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

**3.59.31 SetLineWidth(ObjectPtr as Integer, Value as Double)**

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

**3.59.32 SetMiterLimit(ObjectPtr as Integer, Value as Double)**

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

**3.59.33 SetStrokeColor(ObjectPtr as Integer, NumComps as Integer, Color1 as Double, Color2 as Double, Color3 as Double, Color4 as Double, Colors() as Double, ColorspaceType as Integer, ColorSpace as DynaPDF-ColorSpaceMBS)**

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

**Notes:** Colors array contains NumComps color values. First four values are provided directly with Color1, Color2, Color3 and Color4 parameters.

ColorSpaceType uses the kes\* constants.

You can use ConvColor to convert colors to RGB or CMYK if needed.

**3.59.34 SetTextDrawMode(ObjectPtr as Integer, Mode as Integer)**

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

**3.59.35 SetTextScale(ObjectPtr as Integer, Value as Double)**

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

**3.59.36 SetWordSpacing(ObjectPtr as Integer, Value as Double)**

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

**3.59.37 ShowTextArrayA(ObjectPtr as Integer, Matrix as DynaPDFMatrixMBS, Kerning() as DynapdfTextRecordAMBS, Count as Integer, Width as Double) as Integer**

Plugin Version: 8.7, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

**3.59.38 ShowTextArrayW(Source() as DynaPDFTextRecordAMBS, Matrix as DynapdfMatrixMBS, Kerning() as DynapdfTextRecordWMBS, Count as Integer, Width as Double, Decoded as boolean) as Integer**

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: .

**Function:** One of the parser events.

## 3.60 class DynaPDFParserMBS

### 3.60.1 class DynaPDFParserMBS

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The class for the DynaPDF Parser.

**Example:**

```
Dim pdf As New MyDynapdfMBS
... load some PDF

Dim FindText As String = "PDF"
Dim ReplaceText As String = "Test"

Dim count As Integer = pdf.GetPageCount
Dim Parser As New DynaPDFParserMBS(pdf)
Dim area As DynaPDFRectMBS = Nil // whole page
Dim SearchType As Integer = DynaPDFParserMBS.kstCaseInSensitive
Dim ContentParsingFlags As Integer = DynaPDFParserMBS.kcpfEnableTextSelection

For i As Integer = 1 To count

Dim needWrite As Boolean

If parser.ParsePage(i, ContentParsingFlags) Then

Dim found As Boolean = Parser.FindText(area, SearchType, FindText)
While found
If Parser.ReplaceSelText(ReplaceText) Then
needWrite = True
End If

found = Parser.FindText(area, SearchType, FindText, True)
Wend

If needWrite Then
Call Parser.WriteToPage
End If
End If
next
```

**Notes:** Allows you to do Find and Replace, text extraction and deletion of text.

**Blog Entries**

- [MBS Xojo Plugins, version 24.1pr5](#)
- [News from the MBS Xojo Plugins Version 24.0](#)

- [MonkeyBread Software Releases the MBS Xojo Plugins in version 24.0](#)
- [DynaPDF Parser for Xojo](#)
- [MBS Xojo Plugins, version 23.6pr1](#)

### 3.60.2 Methods

### 3.60.3 Abort

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Cancels parsing.

**Notes:** The function can be used to abort parsing whenever needed. However, parsing can be aborted only if `ParsePage()` was called in a separate thread. Note that it is not allowed to execute different functions of the same PDF instance in different threads. Every thread requires either its own PDF instance or function calls must be synchronized.

### 3.60.4 `ChangeAltFont(FontHandle as integer) as Boolean`

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Changes alternative font to use.

**Notes:** Changes the active alternate font that is used by `ReplaceSelText()` when the original font is not available. The font handle must be a handle that was returned by `SetFont()`, `SetFontEx()`, `SetCIDFont()`, or `SetAltFont()`.

### 3.60.5 `Constructor(PDF as DynaPDFMBS, OptimizeFlags as Integer = 0, OptimizeParams as DynaPDFOptimizeParamsMBS = nil)`

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The constructor.

**Notes:** The function creates a parser context that can be used to edit and extract text, or do delete arbitrary operators of a page.

The content parser is used by `Optimize()` too. Therefore, the same flags and optimization parameters are supported. Please have a look at `Optimize()` for a description of the available flags and parameters. The parameter `OptimizeParams` can be set to `nil` and `OptimizeFlags` to `kofDefault` if nothing special should be achieved.

The flags and parameters for optimize are kept in properties for later review in debugger.

Raises exception in case creating the context fails.

### 3.60.6 DeleteText(area as DynaPDFRectMBS) as Boolean

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Deletes text in the area.

**Example:**

```
Dim pdf As New MyDynapdfMBS
... load some PDF

Dim count As Integer = pdf.GetPageCount
Dim Parser As New DynaPDFParserMBS(pdf)
Dim ContentParsingFlags As Integer = DynaPDFParserMBS.kcpfEnableTextSelection

For i As Integer = 1 To count

If parser.ParsePage(i, ContentParsingFlags) Then

// rectangle at 200x200 with 200x200 size
Dim area As New DynaPDFRectMBS(200, 200+200, 200+200, 200)
Dim needWrite As Boolean = parser.DeleteText(area)

If needWrite Then
Call Parser.WriteToPage
End If
End If

next
```

**Notes:** The function deletes every glyph or character that touches or lies inside the rectangle Area.

Area must be defined as if the page would be viewed in a PDF viewer. That means in bottom up coordinates and the orientation must be considered (see Orientation in DynaPDFPageMBS class). The width and height of a page must be calculated from the crop box if set, or from the media box otherwise (see BBox() in DynaPDFPageMBS class). Note also that the width and height must be exchanged if the orientation is 90, -90, 270, or -270 degrees.

Note that this function deletes text only. Text can also occur in form of images or vector graphics. There are no functions yet to identify and delete text in such objects.

If the function succeeds the return value is true. If the function fails the return value is false.

### 3.60.7 ExtractText(TextExtractionFlags as Integer, byref Text as String, area as DynaPDFRectMBS = nil) as Boolean

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Extracts text from parser.

**Notes:** The function extracts the text of a page with the same algorithm that FindText() uses to find text on a page. In order to get exactly the same result the flag kTefSortTextX must be set.

The function ExtractText() of the PDF instance calls in fact this function internally.

The optional parameter Area can be set to restrict text extraction to that rectangle. The rectangle must be defined as if the page would be viewed in a PDF viewer. That means in bottom up coordinates and the orientation must be considered. The page coordinate system is de-rotated before text extraction starts since this produces better results. The width and height must be calculated from the crop box if set, or from the media box otherwise. Note also that the width and height must be exchanged if the orientation is 90, -90, 270, or -270 degrees.

Returns true on success or false for failure.

### 3.60.8 FindText(area as DynaPDFRectMBS, SearchType as Integer, findText as String, continueSearch as boolean = false) as Boolean

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Searches for text and stores the result so that further editing actions can be applied.

**Notes:** Area must be defined as if the page would be viewed in a PDF viewer. That means in bottom up coordinates and the orientation must be considered (see GetPageOrientation()). The width and height of a page must be calculated from the crop box if set, or from the media box otherwise (see GetPageBBox()). Note also that the width and height must be exchanged if the orientation is 90, -90, 270, or -270 degrees.

The page coordinate system is de-rotated since this produces better results and it is much easier to find the location of text in rotated pages.

FindText() is usually called inside a loop until no more occurrences of the search string can be found. In the first call, continueSearch must be false. That means start at the beginning. The continue searches with continueSearch = true.

### 3.60.9 ParsePage(PageNum as Integer, ContentParseFlags as Integer = 0) as Boolean

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Parses a page.

**Notes:** The function parses a page and stores the page contents in a objects internally. Once a page was parsed various functions can be called, e.g. to extract the text of a page, to find and replace text, or to delete arbitrary operators.

The page that should be parsed should be closed, that means it should not be opened for editing beforehand with EditPage() or Append(). The function can parse an open page too but this can lead to errors and is not recommended.

If the function succeeds the return value is true. If the function fails the return value is false.

### 3.60.10 ReplaceSelText(NewText as String) as Boolean

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Replaces text on the page.

**Notes:** The function replaces or deletes the text that was found by FindText(). Coordinates of surrounding text are not changed, this means that the new text can overlap surrounding text if the width of the new text is larger than the original text.

So, text replacement has its limitations since at some point text must might be new formatted or re-aligned. However, replacing placeholders with text is usually no problem as long as there is enough room for the new text.

Note that placeholders should not contain space characters since spaces are often not stored in PDF files and this can lead to issues finding the text.

Font substitution

Text replacement depends on the availability of the fonts which are used in a PDF file. If the original font is not available the function loads an alternate font that matches the characteristics of the original font as close as possible. However, font substitution is not perfect and a substituted font looks sometimes more different as expected.

To improve text replacement it is possible to set one or more alternate fonts which should be used if the original font cannot be found on the system. Alternate fonts can be loaded with SetAltFont(). However, a font loaded by SetFont(), SetFontEx() or SetCIDFont() works too. In order to activate a font loaded by a regular font loading function call ChangeAltFont().

It is possible to load more than one alternate font but only the active font will be used when replacing text. If more than one font must be loaded, store the handle returned by `SetAltFont()` and change the font with `ChangeAltFont()` whenever needed.

Returns true on success and false on failure.

### 3.60.11 Reset

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Resets the parser.

### 3.60.12 SelBBox2 as DynaPDFPointMBS()

Plugin Version: 24.1, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Returns the bounding box as quad points of a single node or glyph of the current selection. This function is useful for rotated text.

### 3.60.13 SetAltFont(Name as string, Style as integer = 0, Size as double = 12, Embed as boolean = true, CP as integer = &h27) as integer

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Sets the font as alternate font that is used by `ReplaceText()` if the original font is not available.

**Notes:** Although the parameter `Size` must be greater zero, the value is in fact not used when replacing text. The parameter is reserved for future use.

Please note that the replacement text must be defined in the code page with which the font was loaded.

To efficiently change the font whenever needed, call `ChangeAltFont()`. It is also possible to call `SetAltFont()` but this would require more processing time.

If the function succeeds the return value is the font handle, a value greater of equal zero. If the function fails the return value is 0.

### 3.60.14 WriteToPage(OptimizeFlags as Integer = 0, OptimizeParams as DynaPDFOptimizeParamsMBS = nil) as Boolean

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Writes changes back to the page.

**Notes:** Writes the objects, that was created by ParsePage(), back to the page. The flags and optional parameters were taken from Optimize() because Optimize() uses the very same parser to optimize pages. Please have a look at this function to determine which flags and parameters are available.

Unchanged pages can be left unchanged or written back to the page. This is up to you. If WriteToPage() is called then the content stream will be optimized. If nothing special should be achieved set Flags to kofDefault and Params to nil.

The constructor accepts already its own flags and DynaPDFOptimizeParamsMBS object. The parameters that was passed to this function is used for all pages unless WritePage() contains its own version.

If the OptimizeParams parameters is passes then this parameters becomes the new default until it is overridden again by a WriteToPage() call. The flags are always overridden. The function makes a copy of the parameters if set.

### 3.60.15 Properties

### 3.60.16 InitMatrix as DynaPDFMatrixMBS

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The initial matrix to use.

**Notes:** Must be set if kcpfInitMatrix flag is used for ParsePage() function.  
(Read and Write property)

### 3.60.17 OperatorCount as Integer

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The number of operators in current page.

**Notes:** If zero, the page would be empty.  
(Read only property)

### 3.60.18 OptimizeFlags as Integer

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The optimize flags used.

**Notes:** Set by Constructor or WritePage if you pass them.

(Read only property)

### 3.60.19 OptimizeParams as DynaPDFOptimizeParamsMBS

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The optimize parameters used.

**Notes:** Set by Constructor or WritePage if you pass them.

(Read only property)

### 3.60.20 PageNumber as Integer

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The current page number.

**Notes:** Set by ParsePage function to the number you pass.

(Read only property)

### 3.60.21 PDF as DynaPDFMBS

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The DynaPDFMBS object reference.

**Notes:** (Read only property)

### 3.60.22 SelBBox as DynaPDFRectMBS

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Computes the bounding box of the current selection created by FindText().

**Notes:** The bounding box is calculated in top down coordinates! This differs in comparison to almost all other functions which return PDF coordinates.

In order to place objects on this position it is usually best to enable visible coordinates with SetUseVisibleCoords() and to rotate the coordinate system with SetOrientationEx() according to the page orientation after the page was opened for editing.

(Read only property)

### 3.60.23 SelText as String

Plugin Version: 24.1, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Retrieves the text and text length of the current selection or found text.

**Notes:** The function is useful if FindText() was called with the search type kstMatchAlways. In this case, and only in this case, it is not known which text FindText() has found.

(Read only property)

### 3.60.24 TextLine as Integer

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Index of the text line.

**Notes:** Can be called after FindText function found something.

(Read only property)

### 3.60.25 TextMatrix as DynaPDFMatrixMBS

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** Text matrix pre-calculated in user space.

**Notes:** Can be called after FindText function found something.

This defines where the current text is on the page.

(Read only property)

### 3.60.26 TextSelectionLength as Integer

Plugin Version: 24.0, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** How many characters of this record are selected?

**Notes:** Can be called after FindText function found something.

(Read only property)

### 3.60.27 Constants

Content Parser Flags

Constant	Value	Description
kcpfCalcDeviceColors	32	Compute device colors of all colors which are set in the content streams.
kcpfComputeBBox	1	Compute bounding boxes of all objects.
kcpfDefault	0	Nothing special to do.
kcpfEnableTextSelection	&h00000100	This flag is required to enable text selection and text extraction.
kcpfFlattenLayers	2	Flatten layers.
kcpfFullRecursive	8	Parse all objects recursively.
kcpfInitMatrix	&h00000200	Use an initial matrix, which must be set with InitMatrix property.
kcpfNoInlineTemplate	16	Do not resolve templates with a reference count of 1.
kcpfSkipClipPaths	&h00000400	Useful for debugging purposes.
kcpfSkipImages	&h00000800	Ignore all images. This flag is useful for text extraction.
kcpfSkipInvisibleObjects	4	Ignore invisible objects.
kcpfSkipShadings	&h00001000	Useful for debugging purposes.
kcpfSkipText	&h00002000	Useful for debugging purposes.
kcpfSkipVector	&h00004000	Useful for debugging purposes. Exclude vector graphics with exception of clipping paths.

#### Search Types

Constant	Value	Description
kstCaseInsensitive	2	Case insensitive search
kstDefault	0	Case sensitive search
kstMatchAlways	4	Return on every single character. Text is ignored when this flag is set.
kstWholeWord	1	Only whole words

#### Text Extraction Flags

Constant	Value	Description
ktefDefault	0	Create text lines in the original order.
ktefDeleteOverlappingText	4	Delete duplicate text records on same position.
ktefNoHeuristic	8	If set, text is sorted on the x-axis as specified. If absent, a heuristic is used to determine whether it is might be better to leave a line unsorted.
ktefSortTextX	1	Sort text records in x-direction.
ktefSortTextXY	3	Sort text records in x and y-direction.
ktefSortTextY	2	Sort text records in y-direction.

## 3.61 class DynaPDFPointDataDictionaryMBS

### 3.61.1 class DynaPDFPointDataDictionaryMBS

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a dictionary with point data.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

**Blog Entries**

- [MBS Xojo / Real Studio Plugins, version 15.0pr8](#)

### 3.61.2 Methods

### 3.61.3 Arrays as DynaPDFPointDataMBS()

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The array of entries in the point data dictionary.

### 3.61.4 Constructor

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.61.5 Properties

### 3.61.6 Count as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of point data arrays

**Notes:** (Read and Write property)

### 3.61.7 Subtype as String

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The sub type for the point data.

**Notes:** Should be Cloud.

(Read and Write property)

## 3.62 class DynaPDFPointDataMBS

### 3.62.1 class DynaPDFPointDataMBS

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The data class for point data dictionary entries.

**Notes:** A point data dictionary specifies points in 2D space for geospatial measures. The parameter `DataType` specifies the type of points, such as LAT for latitude in degrees, LON for longitude in degrees, or ALT for altitude in metres.

This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

**Blog Entries**

- [MBS Xojo / Real Studio Plugins, version 15.0pr8](#)

### 3.62.2 Methods

### 3.62.3 Constructor

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.62.4 values as Single()

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Array with values.

### 3.62.5 Properties

### 3.62.6 DataType as String

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Data type as string.

**Notes:** Specifies the type of points, such as LAT for latitude in degrees, LON for longitude in degrees, or ALT for altitude in metres.

(Read and Write property)

### 3.62.7 Index as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The index in the dictionary.

**Notes:** (Read and Write property)

### 3.62.8 ValCount as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of values in the array.

**Notes:** (Read and Write property)

## 3.63 class DynaPDFPointMBS

### 3.63.1 class DynaPDFPointMBS

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a point.

### 3.63.2 Methods

### 3.63.3 Constructor(x as Double = 0.0, y as Double = 0.0)

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The constructor.

### 3.63.4 Properties

### 3.63.5 X as Double

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The X value.

**Notes:** (Read and Write property)

### 3.63.6 Y as Double

Plugin Version: 14.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Y value.

**Notes:** (Read and Write property)

## 3.64 class DynaPDFPrintParamsMBS

### 3.64.1 class DynaPDFPrintParamsMBS

Plugin Version: 17.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for additional print parameters.

**Blog Entries**

- [MBS Xojo Plugins, version 19.5pr6](#)
- [MBS Xojo Plugins, version 17.2pr4](#)

### 3.64.2 Properties

#### 3.64.3 Compress as Boolean

Plugin Version: 17.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to compress images sent to printer.

**Notes:** Meaningful only for image output. If true, compressed images are send to the printer.  
(Read and Write property)

#### 3.64.4 FilterColor as Integer

Plugin Version: 17.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Compression filter to use for color images.

**Notes:** Meaningful only for image output. Supported filters on Windows: kcfFlate and kcfJPEG.  
(Read and Write property)

#### 3.64.5 FilterGray as Integer

Plugin Version: 17.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Compression filter to use for grayscale images.

**Notes:** Meaningful only for image output. Supported filters on Windows: kcfFlate and kcfJPEG.  
(Read and Write property)

#### 3.64.6 IgnoreDCSize as Boolean

Plugin Version: 17.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If true, PageSize is used to calculate the output format.

**Notes:** (Read and Write property)

### 3.64.7 JPEGQuality as Integer

Plugin Version: 17.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** JPEG Quality in percent (1..100).

**Notes:** Zero means Default, which is 60%.

(Read and Write property)

### 3.64.8 MaxRes as Integer

Plugin Version: 17.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Maximum print resolution.

**Notes:** Zero means Default, which is 600 DPI.

(Read and Write property)

### 3.64.9 PageSize as DynaPDFRectMBS

Plugin Version: 17.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The page size to use.

**Notes:** Considered only, if IgnoreDCSize is set to true.

(Read and Write property)

## 3.65 class DynaPDFPrintSettingsMBS

### 3.65.1 class DynaPDFPrintSettingsMBS

Plugin Version: 8.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for the print settings in a PDF document.

**Notes:** This requires PDF 1.7.

### 3.65.2 Methods

#### 3.65.3 PrintRanges(index as Integer) as Integer

Plugin Version: 8.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The array of print ranges.

**Notes:** If set, the array contains PrintRangesCount \* 2 values. Each pair consists of the first and last pages in the sub-range. The first page in the PDF file is denoted by 0.

### 3.65.4 Properties

#### 3.65.5 DuplexMode as Integer

Plugin Version: 8.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The duplex mode.

**Notes:** Use the kdpm\* constants.

(Read only property)

#### 3.65.6 NumCopies as Integer

Plugin Version: 8.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of copies.

**Notes:** -1 means not set. Values larger than 5 are ignored in viewer applications.

(Read only property)

#### 3.65.7 PickTrayByPDFSize as Integer

Plugin Version: 8.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The setting for picking the tray by the PDF size.

**Notes:** -1 means not set. 0 = false, 1 = true.

(Read only property)

### 3.65.8 PrintRangesCount as Integer

Plugin Version: 8.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of ranges available in PrintRanges.

**Notes:** (Read only property)

### 3.65.9 PrintScaling as Integer

Plugin Version: 8.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The print scaling setting.

**Notes:** kdpmNone means not set.

(Read only property)

## 3.66 class DynaPDFRasterImageMBS

### 3.66.1 class DynaPDFRasterImageMBS

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for advanced rendering options.

**Example:**

```

dim pdf as new DynaPDFMBS // make subclass to catch error event

dim f as FolderItem = SpecialFolder.Desktop.Child("dynapdf_help.pdf")

// create PDF
call pdf.CreateNewPDF(nil)
// set import flags
call pdf.SetImportFlags(pdf.kifImportAll + pdf.kifImportAsPage)

// open import file
call pdf.OpenImportFile(f, 0, "")

// import all pdf pages
call pdf.ImportPDFFile(1, 1.0, 1.0)

dim PageCount as Integer = pdf.GetPageCount

// create rasterizer.
dim r as new DynaPDFRasterizerMBS(pdf, 1000,1000)

// create options
dim o as new DynaPDFRasterImageMBS

// fill white
o.InitWhite = true

// scale to fit
o.DefScale = o.kpsFitBest

// rotate
o.Flags = o.krfRotate90

// render all pages
for i as Integer = 1 to PageCount

dim p as DynaPDFPageMBS = pdf.GetPage(i)
if r.RenderPage(p, o) then
// save to disc
dim outfile as FolderItem = SpecialFolder.Desktop.Child("page "+Format(i,"0")+".jpg")

```

```
call outfile.SaveAsJPEGMBS(r.Pic, 75)
end
next
```

**Notes:** This class is named RasterImage due to the name in the underlying DynaPDF library. A better name would be RasterizerOptions as it includes options for the rasterizer engine.

#### **Blog Entries**

- [MBS Xojo Plugins, version 23.4pr3](#)
- [MBS Xojo Plugins, version 23.1pr1](#)
- [RenderPageToImage](#)
- [MBS Real Studio Plugins, version 11.3pr9](#)
- [MBS Real Studio Plugins, version 11.2pr5](#)

### **3.66.2 Properties**

#### **3.66.3 ClipRect as DynaPDFRectMBS**

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional clipping rectangle defined in device coordinates (Pixels)

**Notes:** (Read and Write property)

#### **3.66.4 DefScale as Integer**

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Specifies how the page should be scaled into the image buffer.

**Notes:** can be kpsFitBest, kpsFitHeight or kpsFitWidth.

(Read and Write property)

#### **3.66.5 DrawFrameRect as Boolean**

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If true, the area outside the page's bounding box is filled with the frame color.

**Notes:** InitWhite can still be used, with or without a clipping rectangle.

(Read and Write property)

### 3.66.6 Flags as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Flags for the raster operation.

**Notes:** This is a bit mask. Flags can be combined with a binary or operator.

Use a combination of krf\* constants.

(Read and Write property)

### 3.66.7 FrameColor as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The color for drawing the frame.

**Notes:** Must be defined in the color space of the pixel format but in the natural component order, e.g. RGB.

(Read and Write property)

### 3.66.8 InitWhite as Boolean

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to clear the buffer first.

**Notes:** If true, the buffer is initialized with white color (default).

Must be set to false if you want to raster the page over an existing image.

When a clipping rectangle is set, only the area inside the clipping rectangle is initialized to white.

(Read and Write property)

### 3.66.9 Matrix as DynaPDFMatrixMBS

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional transformation matrix.

**Notes:** The matrix can be used to zoom into the page or to move the picture to a specific area in the image buffer.

(Read and Write property)

### 3.66.10 NumAnnots as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of rendered form annotations (excluding invisible annotation but annotations with no appearance are included)

**Notes:** (Read and Write property)

### 3.66.11 NumBezierCurves as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of bezier curves which were rendered. Glyph outlines are not taken into account.

**Notes:** (Read and Write property)

### 3.66.12 NumClipPaths as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of clipping paths used in the page. Should be small as possible!

**Notes:** (Read and Write property)

### 3.66.13 NumFormFields as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of rendered form fields (excluding invisible fields but fields with no appearance are included)

**Notes:** (Read and Write property)

### 3.66.14 NumGlyphs as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** When the number of glyphs equals NumTextRecords then there is probably some room for optimization...

**Notes:** (Read and Write property)

### 3.66.15 NumImages as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of images that were rendered.

**Notes:** (Read and Write property)

### 3.66.16 NumLineTo as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of LineTo operators.

**Notes:** (Read and Write property)

### 3.66.17 NumPaths as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of paths which were processed.

**Notes:** (Read and Write property)

### 3.66.18 NumPatterns as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of pattern which were processed.

**Notes:** (Read and Write property)

### 3.66.19 NumRectangles as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of rectangle operators.

**Notes:** (Read and Write property)

### 3.66.20 NumRestoreGState as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Should be equal to NumSaveGraphicStates.

**Notes:** (Read and Write property)

### 3.66.21 NumSaveGState as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of save graphics state operators.

**Notes:** (Read and Write property)

### 3.66.22 NumShadings as Integer

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of shadings.

**Notes:** (Read and Write property)

### 3.66.23 NumSoftMasks as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of soft masks that were processed.

**Notes:** Alpha channels of images are not taken into account.  
(Read and Write property)

### 3.66.24 NumTextRecords as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of independent text records which were rendered.

**Notes:** (Read and Write property)

### 3.66.25 PageSpace as DynaPDFMatrixMBS

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The matrix represents the mapping from page space to device space.

**Notes:** Output parameter.

This matrix is required when further objects should be drawn on the page, e.g. the bounding boxes.  
(Read and Write property)

### 3.66.26 UpdateOnImageCoverage as Single

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** DynaPDF multiplies the output image area with this factor to determine when the window should be updated.

**Notes:** The factor should be around 0.5 through 5.0. Larger values cause less frequently update events. (Read and Write property)

### 3.66.27 UpdateOnPathCount as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Call OnUpdateWindow event when the UpdateOnPathCount limit was reached.

**Notes:** Clipping paths increment the number too.

Only full paths are considered, independent of the number of vertices they contain. The value should be larger than 50 and smaller than 10000.

(Read and Write property)

### 3.66.28 Yield as Boolean

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to yield time to other threads.

**Notes:** Set to true if you render page in a thread, so time is given to other threads.

(Read and Write property)

### 3.66.29 Events

### 3.66.30 UpdateWindow(r as DynaPDFRectMBS, pic as Variant) as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: .

**Function:** This event is called regularly so you can update your GUI.

**Notes:** Please set UpdateOnPathCount and UpdateOnImageCoverage to use this event.

If you draw to a picture, the picture is passed as parameter for your convenience.

Pic is a variant so the plugin compiles in older Xojo versions for console targets.

Returns -1 to stop the processing.

**3.66.31 Constants**

## Picture Scaling Constants

Constant	Value	Description
kpsFitBest	2	Scale the page so that it fits fully into the image buffer.
kpsFitHeight	1	Scale the page to the height of the image buffer.
kpsFitWidth	0	Scale the page to the width of the image buffer.

## Raster Flag Constants

Constant	Value	Description
krfClipToArtBox	4	Clip the page to the art box if any. Only one of these clip flags must be set at time!
krfClipToBleedBox	8	Clip the page to the bleed box if any. Only one of these clip flags must be set at time!
krfClipToTrimBox	16	Clip the page to the bleed box if any. Only one of these clip flags must be set at time!
krfCompositeWhite	&h00001000	Composite pixel formats with an alpha channel finally with a white background. The alpha channel is 255 everywhere after composition. This flag is mainly provided for debug purposes but it can also be useful if the image must be copied on screen with a function that doesn't support alpha blending.
krfDefault	0	Render the page as usual
krfDisableAAClipping	&h00200000	Disable Anti-Aliasing for clipping paths. This flag is the most important one since clipping paths cause often visible artefacts in PDF files with flattened transparency.
krfDisableAAText	&h00400000	Disable Anti-Aliasing for text.
krfDisableAAVector	&h00800000	Disable Anti-Aliasing for vector graphics.
krfDisableAntiAliasing	&h00E00000	Fully disable Anti-Aliasing.
krfDisableBiLinearFilter	&h01000000	Disable the BiLevel filter for images. Sometetimes useful if sharp images are needed, e.g. for barcodes.
krfEnableBlendCS	&h10000000	If set, the page is rendered in the color space of the page group, soft proof color space, or output intent (if set), and finally converted to the destination colorspace.
krfExclAnnotations	32	Don't render annotations.
krfExclButtons	&h00004000	If you want to render specific field types with RenderAnnotOrField() then use this flag to exclude buttons. If all fields should be skipped then set the flag rfExclFormFields instead.
krfExclCheckBoxes	&h00008000	Exclude check boxes. If you want to render specific field types with RenderAnnotOrField() then use this flag to exclude checkboxes. If all fields should be skipped then set the flag rfExclFormFields instead.
krfExclComboBoxes	&h00010000	Exclude combo boxes. If you want to render specific field types with RenderAnnotOrField() then use this flag to exclude combobox. If all fields should be skipped then set the flag rfExclFormFields instead.
krfExclFormFields	64	Don't render form fields.
krfExclListBoxes	&h00020000	Exclude listbox fields. If you want to render specific field types with RenderAnnotOrField() then use this flag to exclude listbox. If all fields should be skipped then set the flag rfExclFormFields instead.
krfExclPageContent	&h00002000	If set, only annotations and form fields will be rendered (if any).
krfExclSigFields	&h00080000	Exclude signature fields. If you want to render specific field types with RenderAnnotOrField() then use this flag to exclude signature fields. If all fields should be skipped then set the flag rfExclFormFields instead.
krfExclTextFields	&h00040000	Exclude text fields. If you want to render specific field types with RenderAnnotOrField() then use this flag to exclude text fields. If all fields should be skipped then set the flag rfExclFormFields instead.
krfForceInterpolation	&h40000000	If set, image interpolation will be applied.
krfIgnoreCropBox	2	Ignore the crop box and render anything inside the media box without clipping.
krfInitBlack	&h00000800	Initialize the image buffer to black before rendering (RGBA or GrayA must be initialized to black)
krfRenderInvisibleText	&h02000000	If set, treat text rendering mode Invisible as Normal.
krfRenderPrintState	&h20000000	If set, the print state of layers, annotations, and form fields will be rendered.
krfRotate180	&h00000200	Rotate the page 180 degrees.
krfRotate270	&h00000400	Rotate the page 270 degrees.
krfRotate90	&h00000100	Rotate the page 90 degrees.
krfScaleToBBox	&h00100000	Considered only, if the flag rfClipToArtBox, rfClipToBleedBox, or rfClip-

## 3.67 class DynaPDFRasterizerMBS

### 3.67.1 class DynaPDFRasterizerMBS

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for the rasterizer interface.

#### Blog Entries

- [MBS Xojo Plugins, version 22.5pr3](#)
- [News from the MBS Xojo Plugins in version 21.5](#)
- [MBS Xojo Plugins, version 21.5pr1](#)
- [MBS Xojo Plugins, version 21.4pr3](#)
- [Multithreaded plugin functions can increase speed of Xojo application](#)
- [MBS Xojo Plugins in version 19.0](#)
- [MBS Xojo Plugins, version 18.6pr2](#)
- [Problems with killing Xojo threads with plugin calls.](#)
- [Multithreaded plugin functions can increase speed of Real Studio application](#)
- [RenderPageToImage](#)

#### Videos

- [Presentation from Xojo Developer Conference 2019 in Miami.](#)

#### Xojo Developer Magazine

- [17.5, page 39: What's New in the MBS Plugins, With the Plugins growing every year, here are new capabilities you may have missed by Stefanie Juchmes](#)
- [17.2, page 10: News](#)

### 3.67.2 Methods

### 3.67.3 Abort

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Aborts raster process.

**Notes:** Stops the function RenderPage as soon as possible when RenderPage() is running in a separate thread.

### 3.67.4 AddRasImage(Filter as Integer) as boolean

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function adds an image from the rasterizer to the current open image file.

**Notes:** The output image must be opened with CreateImage() beforehand.

### 3.67.5 AttachImageBuffer(Pic as Picture, RenderWithAlpha as boolean = false) as boolean

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Attaches a new image buffer of the same pixelformat.

**Notes:** Returns true on success.

Added RenderWithAlpha parameter in plugin version 19.0.

If RenderWithAlpha is true, we render with alpha channel. If the destination is a picture has alpha channel, you should get the alpha there. Otherwise for picture without alpha channel, we only copy RGB channels.

See also:

- 3.67.6 AttachImageBuffer(Rows as Memoryblock, Buffer as Memoryblock, Width as UInt32, Height as UInt32, ScanlineLen as Int32, PixelFormat as UInt32) as boolean 704

### 3.67.6 AttachImageBuffer(Rows as Memoryblock, Buffer as Memoryblock, Width as UInt32, Height as UInt32, ScanlineLen as Int32, PixelFormat as UInt32) as boolean

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Attaches a new image buffer of the same pixelformat.

**Notes:** For Pixelformat pass one of the kpx\* constants.

You can pass Rows or Buffer, but the other memoryblock should be nil.

Returns true on success.

See also:

- 3.67.5 AttachImageBuffer(Pic as Picture, RenderWithAlpha as boolean = false) as boolean 704

### 3.67.7 Constructor(PDF as DynaPDFMBS, DeviceContextHandle as Integer, Width as UInt32, Height as UInt32, PixFmt as UInt32)

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Initializes rasterizer targeting a device context.

**Notes:** Special version to simplify rendering into a device context. It creates a DIB Section into which pages can be rendered.

See also:

- 3.67.8 Constructor(PDF as DynaPDFMBS, Pic as Picture, RenderWithAlpha as boolean = false) 705
- 3.67.9 Constructor(PDF as DynaPDFMBS, Rows as Memoryblock, Buffer as Memoryblock, Width as UInt32, Height as UInt32, ScanlineLen as Int32, PixelFormat as UInt32) 705
- 3.67.10 Constructor(PDF as DynaPDFMBS, Width as Integer, Height as Integer) 706

### 3.67.8 Constructor(PDF as DynaPDFMBS, Pic as Picture, RenderWithAlpha as boolean = false)

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a new rasterizer object targeting the given picture.

**Notes:** Added RenderWithAlpha parameter in plugin version 19.0.

If RenderWithAlpha is true, we render with alpha channel. If the destination is a picture has alpha channel, you should get the alpha there. Otherwise for picture without alpha channel, we only copy RGB channels.

See also:

- 3.67.7 Constructor(PDF as DynaPDFMBS, DeviceContextHandle as Integer, Width as UInt32, Height as UInt32, PixFmt as UInt32) 704
- 3.67.9 Constructor(PDF as DynaPDFMBS, Rows as Memoryblock, Buffer as Memoryblock, Width as UInt32, Height as UInt32, ScanlineLen as Int32, PixelFormat as UInt32) 705
- 3.67.10 Constructor(PDF as DynaPDFMBS, Width as Integer, Height as Integer) 706

### 3.67.9 Constructor(PDF as DynaPDFMBS, Rows as Memoryblock, Buffer as Memoryblock, Width as UInt32, Height as UInt32, ScanlineLen as Int32, PixelFormat as UInt32)

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a new rasterizer object targeting the given memory area.

**Notes:** For Pixelformat pass one of the kpx\* constants.

You can pass Rows or Buffer, but the other memoryblock should be nil.

See also:

- 3.67.7 Constructor(PDF as DynaPDFMBS, DeviceContextHandle as Integer, Width as UInt32, Height as UInt32, PixFmt as UInt32) 704
- 3.67.8 Constructor(PDF as DynaPDFMBS, Pic as Picture, RenderWithAlpha as boolean = false) 705
- 3.67.10 Constructor(PDF as DynaPDFMBS, Width as Integer, Height as Integer) 706

### 3.67.10 Constructor(PDF as DynaPDFMBS, Width as Integer, Height as Integer)

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The constructor.

**Notes:** Creates a new picture as buffer for you with the given size.

PDF must not be nil and point to a valid DynaPDF context.

See also:

- 3.67.7 Constructor(PDF as DynaPDFMBS, DeviceContextHandle as Integer, Width as UInt32, Height as UInt32, PixFmt as UInt32) 704
- 3.67.8 Constructor(PDF as DynaPDFMBS, Pic as Picture, RenderWithAlpha as boolean = false) 705
- 3.67.9 Constructor(PDF as DynaPDFMBS, Rows as Memoryblock, Buffer as Memoryblock, Width as UInt32, Height as UInt32, ScanlineLen as Int32, PixelFormat as UInt32) 705

### 3.67.11 Redraw(DeviceContextHandle as Integer, DestX as Integer, DestY as Integer)

Plugin Version: 13.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Because there is no direct access to the internal DIB Section when rendering into a device context, this function can be used to redraw the bitmap on the device context.

**Notes:** If RenderPageEx() was called in a separate thread then this function can be called after the thread returned. While the thread is running you can change the position by directly manipulating the coordinate variables which were passed to RenderPageEx().

The function calls the system function SetDIBitsToDevice() to copy the image into the device context.

### 3.67.12 RenderPage(page as DynaPDFPageMBS, options as DynaPDFRasterImageMBS) as boolean

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Renders a page of a PDF Document with the given options.

**Notes:** Returns true on success and false on failure.

### 3.67.13 RenderPageEx(DeviceContextHandle as Integer, byref DestX as Integer, byref DestY as Integer, page as DynaPDFPageMBS, options as DynaPDFRasterImageMBS) as boolean

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Renders a page into a device context.

**Notes:** Only valid if you called Constructor with DeviceContextHandle.  
Returns true on success.

### 3.67.14 RenderPageMT(page as DynaPDFPageMBS, options as DynaPDFRasterImageMBS) as boolean

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Renders a page of a PDF Document with the given options.

**Notes:** Returns true on success and false on failure.

Same as RenderPage, but with additional multithreading.

As the actual transfer runs on a preemptive thread, the event UpdateWindow is called asynchronously and run a few milliseconds later.

Do not call other functions on this DynaPDFRasterizerMBS instance while RenderPageMT is running!

The work is performed on a preemptive thread, so this function does not block the application and can yield time to other Xojo threads. Must be called in a Xojo thread to enjoy benefits. If called in main thread will block, but keep other background threads running.

If you run several threads calling MT methods, you can get all CPU cores busy while main thread shows GUI with progress window.

### 3.67.15 ResizeBitmap(DeviceContextHandle as Integer, Width as Integer, Height as Integer) as boolean

Plugin Version: 11.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Changes the size of the DIB Section.

**Notes:** Only valid if you called Constructor with DeviceContextHandle.  
Returns true on success.

### 3.67.16 Properties

### 3.67.17 Handle as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The internal object reference to the rasterizer object.

**Notes:** If the constructor is successful, this value is not zero.

(Read only property)

### 3.67.18 Height as Integer

Plugin Version: 19.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The height of the picture or buffer.

**Notes:** (Read only property)

### 3.67.19 MinLineWidth as Double

Plugin Version: 19.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The minimum line width in which thin lines are rendered.

**Notes:** The value should be in the range 0.1 through 1.0.

Default value: 0.5

(Read and Write property)

### 3.67.20 PDF as DynaPDFMBS

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The reference back to parent dynaPDF object.

**Notes:** (Read only property)

### 3.67.21 Pic as Picture

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The target picture.

**Notes:** (Read only property)

### 3.67.22 PixelFormat as Integer

Plugin Version: 19.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The pixel format of picture.

**Notes:** (Read only property)

### 3.67.23 Premultiply as Boolean

Plugin Version: 22.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether to premultiply pixels.

**Notes:** This is used when we render ARGB or ABGR and copy it to the Xojo picture.

Some picture formats in Xojo need pre-multiplied pixel values, so this is turned on automatically when needed.

(Read and Write property)

### 3.67.24 ScanlineLen as Integer

Plugin Version: 19.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The scan line length in bytes of the picture.

**Notes:** (Read only property)

### 3.67.25 ScreenResolution as Integer

Plugin Version: 21.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the screen resolution in DPI.

**Notes:** The screen resolution is sometimes required, e.g. to render Text annotations correctly. This type of annotation has a fixed size that is independent of the current scaling factor. However, the correct size depends on the screen resolution on which the image is rendered.

Default is zero.

(Read and Write property)

### 3.67.26 TempBuffer as Ptr

Plugin Version: 19.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The temporary buffer data pointer.

**Notes:** If the picture pixel format is not directly supported with DynaPDF, we render in a temporary buffer and copy it to the picture.

(Read only property)

### 3.67.27 TempPixelFormat as Integer

Plugin Version: 19.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The temporary buffer pixel format.

**Notes:** (Read only property)

### 3.67.28 TempScanlineLen as Integer

Plugin Version: 19.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The temporary buffer scan line length in bytes.

**Notes:** (Read only property)

### 3.67.29 Width as Integer

Plugin Version: 19.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The width of the picture or buffer.

**Notes:** (Read only property)

### 3.67.30 Constants

Pixel formats for raster functions.

Constant	Value	Description
kpxf1Bit	0	1 bit per pixel black and white.
kpxfABGR	7	ABGR.
kpxfARGB	6	ARGB
kpxfBGR	3	BGR
kpxfBGRA	5	BGRA
kpxfCMYK	9	CMYK without alpha
kpxfCMYKA	10	CMYK with alpha
kpxfGray	1	8 bit grayscale.
kpxfGrayA	8	8 bit grayscale with alpha.
kpxfRGB	2	RGB
kpxfRGBA	4	RGBA

## 3.68 class DynaPDFRawImageMBS

### 3.68.1 class DynaPDFRawImageMBS

Plugin Version: 13.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class to hold information about a raw image.

**Notes:** Used with InsertRawImageEx.

**Blog Entries**

- [MBS Xojo / Real Studio Plugins, version 14.4pr4](#)

### 3.68.2 Methods

#### 3.68.3 setBuffer(data as MemoryBlock)

Plugin Version: 13.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the buffer to point to the bytes in the memoryblock.

**Notes:** Size is optional. Some memoryblocks have no known size and there you need to specify one.

See also:

- 3.68.4 setBuffer(data as MemoryBlock, size as Int64) 711
- 3.68.5 setBuffer(data as Ptr) 712
- 3.68.6 setBuffer(data as Ptr, size as Int64) 712
- 3.68.7 setBuffer(data as string) 712
- 3.68.8 setBuffer(data as string, size as Int64) 713

#### 3.68.4 setBuffer(data as MemoryBlock, size as Int64)

Plugin Version: 14.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the buffer to point to the bytes in the memoryblock.

**Notes:** Size is optional. Some memoryblocks have no known size and there you need to specify one.

See also:

- 3.68.3 setBuffer(data as MemoryBlock) 711
- 3.68.5 setBuffer(data as Ptr) 712
- 3.68.6 setBuffer(data as Ptr, size as Int64) 712
- 3.68.7 setBuffer(data as string) 712
- 3.68.8 setBuffer(data as string, size as Int64) 713

### 3.68.5 `setBuffer(data as Ptr)`

Plugin Version: 14.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Private method to set the buffer using a pointer to some memory.

**Notes:** This is a private method to make sure nobody passes a ptr instead of memoryblock or ptr+size.

See also:

- 3.68.3 `setBuffer(data as MemoryBlock)` 711
- 3.68.4 `setBuffer(data as MemoryBlock, size as Int64)` 711
- 3.68.6 `setBuffer(data as Ptr, size as Int64)` 712
- 3.68.7 `setBuffer(data as string)` 712
- 3.68.8 `setBuffer(data as string, size as Int64)` 713

### 3.68.6 `setBuffer(data as Ptr, size as Int64)`

Plugin Version: 13.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the buffer using a pointer to some memory.

**Notes:** Please provide the right size.

See also:

- 3.68.3 `setBuffer(data as MemoryBlock)` 711
- 3.68.4 `setBuffer(data as MemoryBlock, size as Int64)` 711
- 3.68.5 `setBuffer(data as Ptr)` 712
- 3.68.7 `setBuffer(data as string)` 712
- 3.68.8 `setBuffer(data as string, size as Int64)` 713

### 3.68.7 `setBuffer(data as string)`

Plugin Version: 13.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets buffer to point to contents of this string.

**Notes:** If you specify a size, the size can be smaller than thing length to use only first part.

See also:

- 3.68.3 `setBuffer(data as MemoryBlock)` 711
- 3.68.4 `setBuffer(data as MemoryBlock, size as Int64)` 711
- 3.68.5 `setBuffer(data as Ptr)` 712
- 3.68.6 `setBuffer(data as Ptr, size as Int64)` 712
- 3.68.8 `setBuffer(data as string, size as Int64)` 713

**3.68.8 setBuffer(data as string, size as Int64)**

Plugin Version: 14.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets buffer to point to contents of this string.

**Notes:** If you specify a size, the size can be smaller than thing length to use only first part.

See also:

- 3.68.3 setBuffer(data as MemoryBlock) 711
- 3.68.4 setBuffer(data as MemoryBlock, size as Int64) 711
- 3.68.5 setBuffer(data as Ptr) 712
- 3.68.6 setBuffer(data as Ptr, size as Int64) 712
- 3.68.7 setBuffer(data as string) 712

**3.68.9 Properties****3.68.10 BitsPerComponent as Integer**

Plugin Version: 13.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Bits per component.

**Notes:** For example 8 for the usual RGB images.

(Read and Write property)

**3.68.11 Buffer as Ptr**

Plugin Version: 13.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The buffer as pointer.

**Notes:** Please use setBuffer methods to set this.

(Read only property)

**3.68.12 BufSize as Int64**

Plugin Version: 13.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The buffer size.

**Notes:** (Read only property)

### 3.68.13 CS as Integer

Plugin Version: 13.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Image color space.

**Notes:** (Read and Write property)

### 3.68.14 CSHandle as Integer

Plugin Version: 13.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Color space handle or -1.

**Notes:** (Read and Write property)

### 3.68.15 HasAlpha as Boolean

Plugin Version: 13.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The image has an alpha channel?

**Notes:** (Read and Write property)

### 3.68.16 Height as Integer

Plugin Version: 13.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Height in pixels.

**Notes:** (Read and Write property)

### 3.68.17 IsBGR as Boolean

Plugin Version: 13.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Windows bitmap format?

**Notes:** (Read and Write property)

### 3.68.18 Memory as MemoryBlock

Plugin Version: 13.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The memoryblock used with setBuffer.

**Notes:** (Read only property)

### 3.68.19 MinIsWhite as Boolean

Plugin Version: 13.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether image has value zero for white instead of black.

**Notes:** One bit images only.

(Read and Write property)

### 3.68.20 NumComponents as Integer

Plugin Version: 13.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of components.

**Notes:** Maximum is 32 for DynaPDF.

(Read and Write property)

### 3.68.21 Stride as Integer

Plugin Version: 13.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of bytes per row.

**Notes:** A negative value mirrors the image.

(Read and Write property)

### 3.68.22 String as String

Plugin Version: 13.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The String used with setBuffer.

**Notes:** (Read only property)

### 3.68.23 Width as Integer

Plugin Version: 13.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Width in pixels.

**Notes:** (Read and Write property)



## 3.69 class DynaPDFRectMBS

### 3.69.1 class DynaPDFRectMBS

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A rectangle for DynaPDF.

#### Blog Entries

- [News from the MBS Xojo Plugins Version 24.0](#)
- [DynaPDF Parser for Xojo](#)
- [News from the MBS Xojo Plugins Version 22.3](#)
- [News from the MBS Xojo Plugins Version 21.3](#)
- [MBS Xojo / Real Studio Plugins, version 13.2pr1](#)
- [MBS REALbasic Plugins, version 11.1pr4](#)

#### Xojo Developer Magazine

- [19.6, page 14: Things you can do with DynaPDF, The MBS DynaPDF Plugin is more powerful than you think by Stefanie Juchmes](#)

### 3.69.2 Methods

#### 3.69.3 Constructor(left as Double = 0.0, top as Double = 0.0, right as Double = 0.0, bottom as Double = 0.0)

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates a new rectangle with the given values.

### 3.69.4 Properties

#### 3.69.5 Bottom as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The bottom coordinate.

**Notes:** (Read and Write property)

### 3.69.6 Left as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The left coordinate.

**Notes:** (Read and Write property)

### 3.69.7 Right as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The right coordinate.

**Notes:** (Read and Write property)

### 3.69.8 Top as Double

Plugin Version: 8.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The top coordinate.

**Notes:** (Read and Write property)

### 3.69.9 Width as Double

Plugin Version: 13.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The width of the rectangle.

**Notes:** This is the difference between right and left.

Height property is missing as it depends on the coordinate origin. For top-down coordinates you would calculate bottom - top while for bottom-up coordinates you calculate top - bottom.

(Read and Write property)

## 3.70 class DynaPDFRelFileNodeMBS

### 3.70.1 class DynaPDFRelFileNodeMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The information on a related file node.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

### 3.70.2 Methods

### 3.70.3 Constructor

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.70.4 Properties

### 3.70.5 EF as DynaPDFFileSpecMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Embedded file.

**Notes:** (Read only property)

### 3.70.6 Name as String

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Name of this file specification.

**Notes:** (Read only property)

### 3.70.7 NextNode as DynaPDFRelFileNodeMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Next node if any.

**Notes:** (Read only property)



## 3.71 class DynaPDFResetFormActionMBS

### 3.71.1 class DynaPDFResetFormActionMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for reset form action.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

### 3.71.2 Methods

### 3.71.3 Constructor

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.71.4 Fields(index as Integer) as DynaPDFFieldExMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries array of fields.

**Notes:** Index is from 0 to FieldsCount-1.

### 3.71.5 Properties

### 3.71.6 FieldsCount as Integer

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of fields in the array.

**Notes:** (Read only property)

### 3.71.7 Include as Boolean

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Include or exclude given fields?

**Notes:** If true, the fields in the array must be reset. If false, these fields must be excluded.

(Read only property)

### 3.71.8 NextAction as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The next action.

**Notes:** -1 or next action handle to be executed if any.

(Read only property)

### 3.71.9 NextActionType as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The type of the next action.

**Notes:** See kat\* constants.

(Read only property)

## 3.72 class DynaPDFSigDictMBS

### 3.72.1 class DynaPDFSigDictMBS

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for details on signature fields.

**Blog Entries**

- [MBS REALbasic Plugins, version 11.1pr4](#)

### 3.72.2 Properties

#### 3.72.3 Cert as String

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** X.509 Certificate when SubFilter is adbe.x509.rsa\_sha1.

**Notes:** (Read and Write property)

#### 3.72.4 ContactInfo as String

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional contact info string, e.g. an email address

**Notes:** (Read and Write property)

#### 3.72.5 Contents as String

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The signature.

**Notes:** This is either a DER encoded PKCS#1 binary data object or a DER-encoded PKCS#7 binary data object depending on the used SubFilter.

(Read and Write property)

#### 3.72.6 Filter as String

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The name of the security handler, usually Adobe.PPKLite.

**Notes:** (Read and Write property)

### 3.72.7 Location as String

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional location of the signer.

**Notes:** (Read and Write property)

### 3.72.8 Name as String

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional signers name.

**Notes:** (Read and Write property)

### 3.72.9 PropAuthTime as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional. The number of seconds since the signer was last authenticated.

**Notes:** (Read and Write property)

### 3.72.10 PropAuthType as String

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional. The method that shall be used to authenticate the signer.

**Notes:** Valid values are PIN, Password, and Fingerprint.

(Read and Write property)

### 3.72.11 Reason as String

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional reason.

**Notes:** (Read and Write property)

### 3.72.12 Revision as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional, The version of the signature handler that was used to create the signature.

**Notes:** (Read and Write property)

### 3.72.13 SignTime as String

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Date/Time string.

**Notes:** (Read and Write property)

### 3.72.14 SubFilter as String

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A name that describes the encoding of the signature value.

**Notes:** Should be adbe.x509.rsa\_sha1, adbe.pkcs7.detached, or adbe.pkcs7.sha1.  
(Read and Write property)

### 3.72.15 Version as Integer

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The version of the signature dictionary format.

**Notes:** (Read and Write property)

## 3.73 class DynaPDFSigParmsMBS

### 3.73.1 class DynaPDFSigParmsMBS

Plugin Version: 10.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for PDF signature parameters.

**Blog Entries**

- [Sign PDF with DynaPDF and your custom signature](#)
- [MBS REALbasic Plugins, version 11.1pr4](#)

### 3.73.2 Properties

#### 3.73.3 ContactInfo as String

Plugin Version: 10.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional, e.g. an email address.

**Notes:** Internally this string is converted to ANSI or Unicode encoding.  
(Read and Write property)

#### 3.73.4 Encrypt as Boolean

Plugin Version: 10.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If true, the file will be encrypted.

**Notes:** (Read and Write property)

#### 3.73.5 HashType as Integer

Plugin Version: 10.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The hash type: khtDetached or khtSHA1.

**Notes:** (Read and Write property)

#### 3.73.6 KeyLen as Integer

Plugin Version: 10.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Key length to encrypt the file.

**Notes:** This value is ignored if Encrypt is set to false.

On of the kkl\* constants like kkl128bit.

(Read and Write property)

### 3.73.7 Location as String

Plugin Version: 10.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional location of the signer.

**Notes:** Internally this string is converted to ANSI or Unicode encoding.

(Read and Write property)

### 3.73.8 OpenPwd as String

Plugin Version: 10.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional open password.

**Notes:** This value is ignored if Encrypt is set to false.

(Read and Write property)

### 3.73.9 OwnerPwd as String

Plugin Version: 10.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional owner password.

**Notes:** This value is ignored if Encrypt is set to false.

(Read and Write property)

### 3.73.10 PKCS7ObjLen as Integer

Plugin Version: 10.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Max length of the signed PKCS#7 object.

**Notes:** (Read and Write property)

### 3.73.11 Range1 as String

Plugin Version: 10.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Hash or byte range.

**Notes:** (Read and Write property)

### 3.73.12 Range1Length as Integer

Plugin Version: 10.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Length of the buffer Range1.

**Notes:** (Read and Write property)

### 3.73.13 Range2 as String

Plugin Version: 10.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Second range value.

**Notes:** Set only if HashType = htDetached.

(Read and Write property)

### 3.73.14 Range2Length as Integer

Plugin Version: 10.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Length of buffer Range2.

**Notes:** (Read and Write property)

### 3.73.15 Reason as String

Plugin Version: 10.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional reason why the file was signed.

**Notes:** Internally this string is converted to ANSI or Unicode encoding.

(Read and Write property)

### 3.73.16 Restrict as Integer

Plugin Version: 10.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** What should be restricted?

**Notes:** This value is ignored if Encrypt is set to false.

A combination of krs\* constants.

(Read and Write property)

### 3.73.17 Signer as String

Plugin Version: 10.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional, see manual.

**Notes:** Internally this string is converted to ANSI or Unicode encoding.  
(Read and Write property)

## 3.74 class DynaPDFStackMBS

### 3.74.1 class DynaPDFStackMBS

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A class for the current text found by GetPageText.

**Notes:** Before you can use it, call InitStack.

**Blog Entries**

- [MBS Xojo Plugins, version 17.1pr5](#)
- [MBS Xojo / Real Studio Plugins, version 16.2pr1](#)
- [MBS REALbasic Plugins, version 11.1pr4](#)

### 3.74.2 Methods

#### 3.74.3 KerningAdvance(index as UInt32) as Double

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Negative values move the cursor to the right.

#### 3.74.4 KerningLength(index as UInt32) as Integer

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Length in characters.

#### 3.74.5 KerningText(index as UInt32) as string

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Translated Unicode string.

**Notes:** May contain chr(0) characters.

Encoding is UTF8.

#### 3.74.6 KerningWidth(index as UInt32) as Double

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** String width measured in text space.

### 3.74.7 RawKernAdvance(index as UInt32) as Double

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Negative values move the cursor to the right.

### 3.74.8 RawKernLength(index as UInt32) as Integer

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Raw text length in bytes.

### 3.74.9 RawKernText(index as UInt32) as string

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Raw text.

### 3.74.10 Properties

#### 3.74.11 CharSP as Double

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Current character spacing, info only.

**Notes:** (Read only property)

#### 3.74.12 CIDFont as Boolean

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If true, a CID font is used to render the text.

**Notes:** It is not possible to replace a text with `ReplacePageText()` in this case. However, it is still possible to delete the text. If the text should be replaced use either `ReplacePageTextEx()` or `WriteTextMatrixEx()`.  
(Read only property)

### 3.74.13 ConvColors as Boolean

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:**

If true (default), all colors are converted to the destination color space DestSpace.

**Notes:**

The default color space is DeviceRGB. This variable can be changed after the structure has been initialized with InitStack(). If set to false, colors of complex color spaces are still converted into the alternate color space but the color space can then be changed arbitrary often. See also the description of FillCS. (Read and Write property)

### 3.74.14 ctm as DynaPDFMatrixMBS

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The transformation matrix.

**Notes:** Pre-multiplied global transformation matrix. (Read only property)

### 3.74.15 DeleteKerningAt as Integer

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** This member can be used in combination with ReplacePageText().

**Notes:** ReplacePageText() deletes or replaces normally always a complete text record but this is often not required especially if a text must be deleted or replaced in the middle or end of a kerning array. To make text replacement easier it is possible to preserve an arbitrary number of kerning records from deletion. The value of DeleteKerningAt represents the first array index which should be deleted. All kerning records above this index will be deleted too. Take a look into the demo examples/edit\_text which is delivered with DynaPDF to determine how this member can be used. (Read and Write property)

### 3.74.16 DestSpace as Integer

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The destination color space in which all colors should be converted.

**Notes:** If

ConvColor is set to false, the value of this member is ignored. If the destination color space should be DeviceCMYK initialize the members FillColor and StrokeColor with PDF\_CMYK(0,0,0,255); which represents

black.

(Read and Write property)

### 3.74.17 DrawMode as Integer

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The draw mode used to render the text.

**Notes:** See SetTextDrawMode() for further information.

(Read only property)

### 3.74.18 Embedded as Boolean

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If true, the font is embedded.

**Notes:** This information is very important if the text should be replaced. The function ReplacePageText() can be used if the font is not embedded and if the member CIDFont is false. Otherwise, the function ReplacePageTextEx() or WriteTextMatrixEx() must be used to replace the text, see the examples on the following pages for further information.

(Read only property)

### 3.74.19 FillColor as Integer

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The fill color represents the text color if the text draw mode is dmNormal.

**Notes:** Depending on the draw mode the fill and stroke color can be invoked to render the text.

(Read only property)

### 3.74.20 FillCS as Integer

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:**

This is the current color space in which the color value of FillColor is defined.

**Notes:**

If ConvColor is set to true (default) the value is always equal to

DestSpace. If ConvColor is set to false the fill color is still returned in a device color space but the color space can be changed arbitrary often. Colors of complex color spaces, such as Separation or DeviceN, are always converted into the alternate color space. If the original or alternate color space is an ICC based color space the color value is returned as is and the color space is set depending on the number of components. The ICC profile is not invoked to calculate the color value in the device color space. Future versions of DynaPDF maybe use the ICC profile to convert the color into device color space.

(Read only property)

### 3.74.21 Font as DynaPDFFontMBS

Plugin Version: 11.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Font object used to print the string.

**Notes:** Deprecated. Better use FontInfo property.

Reading this property creates a new object each time.

Please put object in local variable and avoid querying the property value several times.

(Read only property)

### 3.74.22 FontFlags as Integer

Plugin Version: 10.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The PDF font flags.

**Notes:** (Read and Write property)

### 3.74.23 FontHandle as Integer

Plugin Version: 17.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The internal font object handle.

**Notes:** In DynaPDF documentation named IFont, a pointer to the C object for the font.

(Read only property)

### 3.74.24 FontInfo as DynaPDFFontInfoMBS

Plugin Version: 16.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Font object used to print the string.

**Notes:** Reading this property creates a new object each time.

Please put object in local variable and avoid querying the property value several times.

(Read only property)

### 3.74.25 FontSize as Double

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The font size used to display the text.

**Notes:** (Read only property)

### 3.74.26 HScale as Double

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Current horizontal scaling, info only.

**Notes:** (Read only property)

### 3.74.27 KerningCount as Integer

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The number of kerning records.

**Notes:** RawKern and Kerning contain always the same number of records.

(Read only property)

### 3.74.28 Leading as Double

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The leading is already included in the text transformation matrix tm.

**Notes:** The value of leading must not be considered to calculate the text position.

(Read only property)

### 3.74.29 LineWidth as Double

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The current line width; it can be ignored if the text is not stroked.

**Notes:** (Read only property)

### 3.74.30 SpaceWidth as Double

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The space width.

**Notes:** The space width can be used to determine whether a space character is emulated at a given position. A default space width is set if the font does not contain a space character. Note that many documents emulate spaces with kerning space. Such documents contain usually no space character. It is usually best to use the half space width to determine whether a space character is emulated. This is especially important if a document uses condensed fonts which contain no space character.

(Read only property)

### 3.74.31 StrokeColor as Integer

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The stroke color.

**Notes:** The stroke color can be ignored if the text draw mode is not `dmStroke`, `dmFillStroke`, `dmStrokeClip` or `dmFillStrokeClip` since it is then not used to render the text.

(Read only property)

### 3.74.32 StrokeCS as Integer

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:**

This is the current color space in which the color value of `StrokeColor` is defined.

**Notes:**

The color space is set in an identical manner like `FillCS`.

(Read only property)

### 3.74.33 Text as String

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The raw text line that was found in the content stream.

**Notes:** This string can contain single or multi-byte characters. This member should no longer be used to extract or replace text. Use the Kerning array instead.

(Read only property)

### 3.74.34 TextLen as Integer

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The string length in bytes, not characters!

**Notes:** If TextLen is zero no text was found or an error occurred.

(Read only property)

### 3.74.35 TextRise as Double

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The text rise is already included in the text transformation matrix tm.

**Notes:** The value is always 0.0.

(Read only property)

### 3.74.36 TextWidth as Double

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The text width measured in text space.

**Notes:** This is the width of the entire kerning array incl. kerning space.

(Read only property)

### 3.74.37 tm as DynaPDFMatrixMBS

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The transformation matrix.

**Notes:** Pre-multiplied text transformation matrix.

(Read only property)

### 3.74.38 WordSP as Double

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Current word spacing, info only.

**Notes:** (Read only property)

### 3.74.39 x as Double

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The position.

**Notes:** These members are no longer used. All positioning operators are already included in the text transformation matrix tm.

(Read only property)

### 3.74.40 y as Double

Plugin Version: 7.7, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The position.

**Notes:** These members are no longer used. All positioning operators are already included in the text transformation matrix tm.

(Read only property)

## 3.75 class DynaPDFSubmitFormActionMBS

### 3.75.1 class DynaPDFSubmitFormActionMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for submit form action details.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

### 3.75.2 Methods

### 3.75.3 Constructor

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.75.4 Fields(index as Integer) as DynaPDFFieldExMBS

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries array of field.

**Notes:** Index is from 0 to FieldCount-1.

### 3.75.5 Properties

### 3.75.6 CharSet as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional charset in which the form should be submitted.

**Notes:** (Read only property)

### 3.75.7 FieldsCount as Integer

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Number of fields in the array.

**Notes:** (Read only property)

### 3.75.8 Flags as Integer

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Various flags.

**Notes:** See `CreateSubmitAction()` for further information.

(Read only property)

### 3.75.9 NextAction as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The next action.

**Notes:** -1 or next action handle to be executed if any.

(Read only property)

### 3.75.10 NextActionType as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The type of the next action.

**Notes:** See `kat*` constants.

(Read only property)

### 3.75.11 URL as String

Plugin Version: 15.3, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The URL of the script at the Web server that will process the submission.

**Notes:** (Read only property)

## 3.76 class DynaPDFSysFontMBS

### 3.76.1 class DynaPDFSysFontMBS

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for system font info.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

**Blog Entries**

- [MBS Xojo Plugins, version 18.4pr1](#)
- [MBS Xojo / Real Studio Plugins, version 15.0pr8](#)

### 3.76.2 Methods

### 3.76.3 Constructor

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.76.4 NextFont as DynaPDFSysFontMBS

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries next font in the chain of fonts.

**Notes:** Returns nil on the end of list.

### 3.76.5 Properties

### 3.76.6 BaseType as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Font type.

**Notes:** Can be kfbtTrueType, kfbtType1, kfbtOpenType or kfbtStdFont.  
(Read and Write property)

### 3.76.7 CIDOrdering as String

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** CID Ordering.

**Notes:** OpenType CID fonts only.  
(Read and Write property)

### 3.76.8 CIDRegistry as String

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The CID Registry.

**Notes:** OpenType CID fonts only  
(Read and Write property)

### 3.76.9 CIDSupplement as UInt32

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The CID Supplement.

**Notes:** OpenType CID fonts only  
(Read and Write property)

### 3.76.10 DataOffset as UInt32

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Data offset.

**Notes:** (Read and Write property)

### 3.76.11 FamilyName as String

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Family name.

**Notes:** (Read and Write property)

### 3.76.12 FilePath as String

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Font file path.

**Notes:** (Read and Write property)

### 3.76.13 FileSize as UInt32

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** File size in bytes.

**Notes:** (Read and Write property)

### 3.76.14 Flags as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The flags.

**Notes:** Can be combination of kefpAnsiPath, kefpUnicodePath, kefpEmbeddable and kefpEditable.  
(Read and Write property)

### 3.76.15 FullName as String

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Full name.

**Notes:** (Read and Write property)

### 3.76.16 Index as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Zero based font index if stored in a TrueType collection.

**Notes:** (Read and Write property)

### 3.76.17 IsFixedPitch as Boolean

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** If true, the font is a fixed pitch font.

**Notes:** (Read and Write property)

### 3.76.18 Length1 as UInt32

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Length of the clear text portion of a Type1 font.

**Notes:** (Read and Write property)

### 3.76.19 Length2 as UInt32

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Length of the eexec encrypted binary portion of a Type1 font.

**Notes:** (Read and Write property)

### 3.76.20 PostScriptName as String

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Postscript name.

**Notes:** (Read and Write property)

### 3.76.21 Style as Integer

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Font style.

**Notes:** See kfs\* constants.

(Read and Write property)

### 3.76.22 UnicodeRange1 as UInt32

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Supported unicode ranges, part 1.

**Notes:** (Read and Write property)

### 3.76.23 UnicodeRange2 as UInt32

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Supported unicode ranges, part 2.

**Notes:** (Read and Write property)

### 3.76.24 UnicodeRange3 as UInt32

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Supported unicode ranges, part 3.

**Notes:** (Read and Write property)

### 3.76.25 UnicodeRange4 as UInt32

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Supported unicode ranges, part 4.

**Notes:** (Read and Write property)

### 3.76.26 Constants

Unicode Ranges

Constant	Value	Description
kurAlphabeticPresentationForms	&h40000000	
kurAncientGreekNumbers	64	
kurAncientSymbols	&h00800000	
kurArabic	&h00002000	
kurArabicPresentationFormsA	&h80000000	
kurArabicPresentationFormsB	8	
kurArmenian	&h00000400	
kurArrows	32	
kurBalinese	&h08000000	
kurBasicLatin	1	
kurBengali	&h00010000	
kurBlockElements	&h00001000	
kurBopomofo	&h00080000	
kurBoxDrawing	&h00000800	
kurBraillePatterns	&h00040000	
kurBuginese	1	
kurCarian	&h02000000	
kurCham	&h00400000	
kurCherokee	&h00001000	
kurCJKCompatibility	&h00800000	
kurCJKStrokes	&h20000000	
kurCJKSymbolsAndPunctuation	&h00010000	
kurCJKUnifiedIdeographs	&h08000000	
kurCombDiacritMarksForSymbols	4	
kurCombiningDiacriticalMarks	64	
kurCombiningHalfMarks	1	
kurControlPictures	&h00000100	
kurCoptic	&h00000100	
kurCountingRodNumerals	&h00008000	
kurCuneiform	&h00004000	
kurCurrencySymbols	2	
kurCypriotSyllabary	&h00000800	
kurCyrillic	&h00000200	
kurDeseret	&h00800000	
kurDevanagari	&h00008000	
kurDingbats	&h00008000	
kurDominoTiles	&h04000000	
kurEnclosedAlphanumerics	&h00000400	
kurEnclosedCJKLettersAndMonths	&h00400000	
kurEthiopic	&h00000800	
kurGeneralPunctuation	&h80000000	
kurGeometricShapes	&h00002000	
kurGeorgian	&h04000000	
kurGlagolitic	2	
kurGothic	&h00400000	
kurGreekandCoptic	&h00000080	
kurGreekExtended	&h40000000	
kurGujarati	&h00040000	
kurGurmukhi	&h00020000	
kurHalfwidthAndFullwidthForms	16	
kurHangulCompatibilityJamo	&h00100000	
kurHangulJamo	&h10000000	
kurHangulSyllables	&h01000000	
kurHebrew	&h00000800	
kurHiragana	&h00020000	
kurIPAExtensions	16	
kurKannada	&h00400000	
kurKatakana	&h00040000	

## 3.77 class DynaPDFTableMBS

### 3.77.1 class DynaPDFTableMBS

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a table in DynaPDF.

**Notes:** These tables are more for doing a layout, but can also be used to show a list or a worksheet like in Excel.

This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

#### Blog Entries

- [MBS Xojo Plugins, version 22.3pr1](#)
- [MBS Xojo Plugins, version 21.5pr3](#)
- [Improvements for MBS Xojo DynaPDF Plugin](#)
- [Xojo reports with backgrounds on PDF](#)
- [New in the MBS Xojo Plugins Version 20.2](#)
- [MonkeyBread Software Releases the MBS Xojo Plugins in version 20.2](#)
- [MBS Xojo Plugins, version 20.2pr3](#)
- [MBS Xojo Plugins, version 19.3pr3](#)
- [MBS Xojo Plugins, version 19.1pr4](#)
- [MonkeyBread Software Releases the MBS Real Studio plug-ins in version 13.1](#)

#### Xojo Developer Magazine

- [20.1, page 49: Cool Charts and Heatmaps, Using Monkeybread Software's ChartDirector Plugin by Stefanie Juchmes](#)

### 3.77.2 Methods

#### 3.77.3 AddColumn(left as boolean, width as Double) as Integer

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds a column to the table.

See also [AddColumn](#) function in DynaPDF manual.

### 3.77.4 AddRow(height as Double = 0.0) as Integer

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds a row with given height.  
See also [AddRow](#) function in DynaPDF manual.

### 3.77.5 AddRows(count as UInt32, height as Double) as Integer

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Adds a couple of rows with given height.  
See also [AddRows](#) function in DynaPDF manual.

### 3.77.6 ClearColumn(Col as Integer, Types as Integer)

Plugin Version: 13.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function deletes the content in the specified column in all rows.  
**Notes:** The paramter Types is described in ClearContent() below.  
See also [ClearColumn](#) function in DynaPDF manual.

### 3.77.7 ClearContent(Types as Integer)

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Clears content of table.  
**Notes:** See kdc constants for possible flags.  
See also [ClearContent](#) function in DynaPDF manual.

### 3.77.8 ClearRow(Row as Integer, Types as Integer)

Plugin Version: 13.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function deletes the content in the specified row.  
**Notes:** The paramter Types is described in ClearContent().  
See also [ClearRow](#) function in DynaPDF manual.

### 3.77.9 Constructor

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.77.10 DeleteColumn(column as UInt32)

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Deletes the column.

### 3.77.11 DeleteRow(row as UInt32)

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Deletes the row with the given index.  
See also [DeleteRow](#) function in DynaPDF manual.

### 3.77.12 DeleteRows

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Deletes all rows.  
See also [DeleteRows](#) function in DynaPDF manual.

### 3.77.13 DrawTable(x as Double, y as Double, MaxHeight as Double = 0.0) as Double

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Draws the table at the given position into the PDF:

**Notes:** The function draws the table on the specified position. The x/y-coordinates specify the top left corner of the table. The table flows always from top to bottom.

The function must be executed in a while statement if the parameter MaxHeight is set to a value greater than zero.

The function draws the header rows if any and at least one row to avoid an endless loop if the maximum height would be smaller as the first row height.

If the function succeeds the return value is the height of the table that was drawn so that additional contents can be drawn below the table if necessary. If the function fails the return value is -1.

See also [DrawTable](#) function in DynaPDF manual.

### 3.77.14 GetFirstRow as Integer

Plugin Version: 13.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries first row from last draw operation.

See also [GetFirstRow](#) function in DynaPDF manual.

### 3.77.15 GetFlags(Row as Integer, Column as Integer) as Integer

Plugin Version: 15.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries flag for a cell, a column or a row.

**Notes:** If Row is -1, only column flags are returned. If Column is -1, the row flags are returned for given row.

See also [GetFlags](#) function in DynaPDF manual.

### 3.77.16 GetNextHeight(MaxHeight as Double, byref NextRow as Integer) as Double

Plugin Version: 13.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries the next row.

**Example:**

```
dim pdf as new DynaPDFMBS
call pdf.CreateNewPDF(nil)
call pdf.Append
```

```
// create dummy table with 20 rows, 1 column and 500 points width. 20 points per row by default.
```

```
dim table as DynaPDFTableMBS = pdf.CreateTable(20, 1, 500.0, 20.0)
```

```
// fill in dummy data
```

```
for i as Integer = 1 to 20
```

```
dim rowNum as Integer = table.AddRow
```

```
call table.SetCellText(rowNum, 0, pdf.ktaLeft, table.kcoCenter, str(i))
```

```
next
```

```
// and do some calculations
```

```
dim nextrow as Integer
dim h as Double = table.GetNextHeight(0, nextrow)

MsgBox str(h)+" with no limit."

dim h2 as Double = table.GetNextHeight(200, nextrow)

MsgBox str(h2)+" with limit of 200 and rows till "+str(nextrow-1)

break
```

**Notes:** If MaxHeight is zero, returns the height of table.

If MaxHeight is the height of space available, plugin calculates the effective height of table and which row would be the next one.

Returns negative number on error.

See also [GetNextHeight](#) function in DynaPDF manual.

### 3.77.17 GetNextRow as Integer

Plugin Version: 13.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries next row of last draw operation.

See also [GetNextRow](#) function in DynaPDF manual.

### 3.77.18 GetNumCols as Integer

Plugin Version: 13.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries number of columns of last draw operation.

See also [GetNumCols](#) function in DynaPDF manual.

### 3.77.19 GetNumRows as Integer

Plugin Version: 13.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries number of rows of last draw operation.

See also [GetNumRows](#) function in DynaPDF manual.

### 3.77.20 GetTableHeight as Double

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Queries the table height.

See also [GetTableHeight](#) function in DynaPDF manual.

### 3.77.21 GetTableWidth as Double

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Calculates table width.

See also [GetTableWidth](#) function in DynaPDF manual.

### 3.77.22 HaveMore as boolean

Plugin Version: 13.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Whether there are more rows to draw.

**Notes:** If you draw a table, you can loop and fill pages until the whole table is drawn.

See also [HaveMore](#) function in DynaPDF manual.

### 3.77.23 SetBackColor(Row as Integer, Column as Integer, channels() as Integer, ExtColorSpace as Integer = 0, ColorSpaceHandle as Integer = 0) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the back color of the table, a row or cells.

**Example:**

```
dim pdf as DynaPDFMBS // your PDF environment
dim tbl as DynaPDFTableMBS = pdf.CreateTable(3, 3, 500.0, 20.0) // make some table

const allRows = -1
const allColumns = -1

// add a few rows
rowNum = tbl.AddRow(-1.0)
rowNum = tbl.AddRow(-1.0)
rowNum = tbl.AddRow(-1.0)
rowNum = tbl.AddRow(-1.0)
```

```
// row 0 in 100% Cyan
call tbl.SetBackColor(0, allColumns, array(255,0,0,0), pdf.kcsDeviceCMYK)
// row 1 in 100% Cyan
call tbl.SetBackColor(1, allColumns, array(0, 255, 0, 0), pdf.kcsDeviceCMYK)
// row 2 in 100% Cyan
call tbl.SetBackColor(2, allColumns, array(0, 0, 255, 0), pdf.kcsDeviceCMYK)
// row 3 in RGB red with 50% transparency
call tbl.SetBackColor(3, allColumns, array(255, 0, 0))
```

**Notes:** Default is none (transparent)

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass an integer for each channel with 0 to 255.

See also:

- 3.77.24 SetBackColor(Row as Integer, Column as Integer, paramarray channels as Integer) as boolean  
753

### 3.77.24 SetBackColor(Row as Integer, Column as Integer, paramarray channels as Integer) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the back color of the table, a row or cells.

**Example:**

```
dim pdf as DynaPDFMBS // your PDF environment
dim tbl as DynaPDFTableMBS = pdf.CreateTable(3, 3, 500.0, 20.0) // make some table

// now fill all rows and columns with RGB red specified by integer values
const allRows = -1
const allColumns = -1
call tbl.SetBackColor(allRows, allColumns, 255, 0, 0)
```

**Notes:** Default is none (transparent)

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass an integer for each channel with 0 to 255.

See also:

- 3.77.23 SetBackColor(Row as Integer, Column as Integer, channels() as Integer, ExtColorSpace as Integer = 0, ColorSpaceHandle as Integer = 0) as boolean  
752

### 3.77.25 SetBackColorFloat(Row as Integer, Column as Integer, channels() as Double, ExtColorSpace as Integer = 0, ColorSpaceHandle as Integer = 0) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the back color of the table, a row or cells.

**Example:**

```
dim pdf as DynaPDFMBS // your PDF environment
dim tbl as DynaPDFTableMBS = pdf.CreateTable(3, 3, 500.0, 100.0) // make some table

const allRows = -1
const allColumns = -1

// add a few rows
rowNum = tbl.AddRow(-1.0)
rowNum = tbl.AddRow(-1.0)
rowNum = tbl.AddRow(-1.0)
rowNum = tbl.AddRow(-1.0)

// row 0 in 100% Cyan
call tbl.SetBackColorFloat(0, allColumns, array(1.0, 0.0, 0.0, 0.0), pdf.kcsDeviceCMYK)
// row 1 in 100% Cyan
call tbl.SetBackColorFloat(1, allColumns, array(0.0, 1.0, 0.0, 0.0), pdf.kcsDeviceCMYK)
// row 2 in 100% Cyan
call tbl.SetBackColorFloat(2, allColumns, array(0.0, 0.0, 1.0, 0.0), pdf.kcsDeviceCMYK)
// row 3 in RGB red
call tbl.SetBackColorFloat(3, allColumns, array(1.0, 0.0, 0.0))
```

**Notes:** Default is none (transparent)

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass a double value for each channel with range 0.0 to 1.0.

See also:

- 3.77.26 SetBackColorFloat(Row as Integer, Column as Integer, paramarray channels as Double) as boolean 754

### 3.77.26 SetBackColorFloat(Row as Integer, Column as Integer, paramarray channels as Double) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the back color of the table, a row or cells.

**Example:**

```

dim pdf as DynaPDFMBS // your PDF environment
dim tbl as DynaPDFTableMBS = pdf.CreateTable(3, 3, 500.0, 20.0) // make some table

// now fill all rows and columns with RGB red specified by double values
const allRows = -1
const allColumns = -1
call tbl.SetBackColorFloat(allRows, allColumns, 1.0, 0.0, 0.0)

```

**Notes:** Default is none (transparent)

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass a double value for each channel with range 0.0 to 1.0.

See also:

- 3.77.25 SetBackColorFloat(Row as Integer, Column as Integer, channels() as Double, ExtColorSpace as Integer = 0, ColorSpaceHandle as Integer = 0) as boolean 754

### 3.77.27 SetBackColorValue(Row as Integer, Column as Integer, TPDFColorSpace as Integer, ColorValue as UInt32) as boolean

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the back color of the table, a row or cells.

**Example:**

```

dim pdf as DynaPDFMBS // your PDF environment
dim tbl as DynaPDFTableMBS = pdf.CreateTable(3, 3, 500.0, 20.0) // make some table

// now fill all rows and columns with RGB red specified by RGB() call
const allRows = -1
const allColumns = -1

dim c as Integer = DynaPDFMBS.RGB(255, 0, 0)
call tbl.SetBackColorValue(allRows, allColumns, DynaPDFMBS.kcsDeviceRGB, c)

```

**Notes:** Default is none (transparent)

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass a color space and a matching color value.

For example kcsDeviceRGB and RGB(r,g,b), kcsDeviceCMYK and CMYK(c,m,y,k) or kcsDeviceGray with gray color.

### 3.77.28 SetBorderColor(Row as Integer, Column as Integer, channels() as Integer, ExtColorSpace as Integer = 0, ColorSpaceHandle as Integer = 0) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the border color of the table, a row or cells.

**Example:**

```
// set color in CMYK with cyan (255 = 100%)
Call tbl.SetBorderColor(-1, -1, Array(255, 0, 0, 0), pdf.kesDeviceCMYK)
Call tbl.SetBorderWidth(-1, -1, 2.0, 2.0, 2.0, 2.0)
```

**Notes:** Default is black.

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass an integer for each channel with 0 to 255.

See also:

- 3.77.29 SetBorderColor(Row as Integer, Column as Integer, paramarray channels as Integer) as boolean

### 3.77.29 SetBorderColor(Row as Integer, Column as Integer, paramarray channels as Integer) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the border color of the table, a row or cells.

**Example:**

```
const AllRows = -1
const AllColumns = -1

// set gray color for all borders to RGB(100,100,100)
call tbl.SetBorderColor(AllRows, AllColumns, 100, 100, 100)

// set border for all cells with fine line
call table.SetBorderWidth(AllRows, AllColumns, 0.5, 0.5, 0.5, 0.5)
```

**Notes:** Default is black.

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass an integer for each channel with 0 to 255.

See also:

- 3.77.28 `SetBorderColor`(Row as Integer, Column as Integer, channels() as Integer, ExtColorSpace as Integer = 0, ColorSpaceHandle as Integer = 0) as boolean 756

### 3.77.30 `SetBorderColorFloat`(Row as Integer, Column as Integer, channels() as Double, ExtColorSpace as Integer = 0, ColorSpaceHandle as Integer = 0) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the border color of the table, a row or cells.

**Example:**

```
// set color in CMYK with magenta (1.0 = 100%)
Call tbl.SetBorderColorFloat(-1, -1, Array(0.0, 1.0, 0.0, 0.0), pdf.kesDeviceCMYK)
Call tbl.SetBorderWidth(-1, -1, 2.0, 2.0, 2.0, 2.0)
```

**Notes:** Default is black.

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass a double value for each channel with range 0.0 to 1.0.

See also:

- 3.77.31 `SetBorderColorFloat`(Row as Integer, Column as Integer, paramarray channels as Double) as boolean 757

### 3.77.31 `SetBorderColorFloat`(Row as Integer, Column as Integer, paramarray channels as Double) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the border color of the table, a row or cells.

**Example:**

```
// set color in RGB with blue (1.0 = 100%)
Call tbl.SetBorderColorFloat(-1, -1, 0.0, 0.0, 1.0)
Call tbl.SetBorderWidth(-1, -1, 2.0, 2.0, 2.0, 2.0)
```

**Notes:** Default is black.

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass a double value for each channel with range 0.0 to 1.0.

See also:

- 3.77.30 `SetBorderColorFloat`(Row as Integer, Column as Integer, channels() as Double, ExtColorSpace as Integer = 0, ColorSpaceHandle as Integer = 0) as boolean 757

### 3.77.32 `SetBorderColorValue`(Row as Integer, Column as Integer, TPDFColorSpace as Integer, ColorValue as UInt32) as boolean

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the border color of the table, a row or cells.

**Example:**

```
// set color in CMYK with magenta (255 = 100%)
Call tbl.SetBorderColorValue(-1, -1, pdf.kesDeviceCMYK, pdf.CMYK(0, 255, 0, 0))
Call tbl.SetBorderWidth(-1, -1, 2.0, 2.0, 2.0, 2.0)

// set color in RGB with green (255 = 100%)
Call tbl.SetBorderColorValue(row, -1, pdf.kesDeviceRGB, pdf.RGB(0, 255, 0))
Call tbl.SetBorderWidth(row, -1, 2.0, 2.0, 2.0, 2.0)
```

**Notes:** Default is black.

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass a color space and a matching color value.

For example `kcsDeviceRGB` and `RGB(r,g,b)`, `kcsDeviceCMYK` and `CMYK(c,m,y,k)` or `kcsDeviceGray` with gray color.

### 3.77.33 `SetBorderWidth`(Row as Integer, Column as Integer, left as Double, top as Double, right as Double, bottom as Double) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the border width of the table, a row or cells.

**Example:**

```
// set border for a row to right/bottom with fine line
call table.SetBorderWidth(rowNum, -1, 0.0, 0.0, 0.5, 0.5)
```

**Notes:** Default value is 0.

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

### 3.77.34 SetCellAction(Row as Integer, Column as Integer, ActionHandle as UInt32, Mode as Integer) as boolean

Plugin Version: 19.1, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Creates an invisible link annotation for the specified cell or table and associates the provided action with that annotation.

**Notes:** The result is an interactive area that executes the action if the user clicks on cell or table.

A cell action is always a background object that is created in the size of the background area when the table is drawn.

Unlike other cell objects like images, text, and so on, a cell link is no persistent object because the action will be deleted when the PDF file in memory will be closed or when destructor will be called.

If the table should be drawn into more than one PDF file then re-create the actions and cell action before drawing the table into the next PDF file.

Actions can be created with functions like `CreateGoToAction()`, `CreateGoToRAction()`, and so on.

If the function succeeds the return value is true. If the function fails the return value is false.

See also [SetCellAction](#) function in DynaPDF manual.

### 3.77.35 SetCellDashPattern(Row as Integer, Column as Integer, CellSide as Integer, LineCapStyle as Integer, values() as Double, Phase as Double) as boolean

Plugin Version: 20.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Apply a line dash pattern to cell, row, and table borders.

**Notes:** Pass `kcsTop`, `kcsBottom`, `kcsLeft` or `kcsRight` for `CellSide` parameter.

See also [SetCellDashPattern](#) function in DynaPDF manual.

### 3.77.36 SetCellImage(Row as Integer, Column as Integer, ForeGround as boolean, HAlign as Integer, VAlign as Integer, Width as Double, Height as Double, path as FolderItem, index as Integer = 0) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the cell image.

See also [SetCellImage](#) function in DynaPDF manual.

See also:

- 3.77.37 `SetCellImage`(Row as Integer, Column as Integer, ForeGround as boolean, HAlign as Integer, VAlign as Integer, Width as Double, Height as Double, path as string, index as Integer = 0) as boolean  
760

### 3.77.37 `SetCellImage`(Row as Integer, Column as Integer, ForeGround as boolean, HAlign as Integer, VAlign as Integer, Width as Double, Height as Double, path as string, index as Integer = 0) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the cell image.

See also [SetCellImage](#) function in DynaPDF manual.

See also:

- 3.77.36 `SetCellImage`(Row as Integer, Column as Integer, ForeGround as boolean, HAlign as Integer, VAlign as Integer, Width as Double, Height as Double, path as FolderItem, index as Integer = 0) as boolean  
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### 3.77.38 `SetCellImageAnsi`(Row as Integer, Column as Integer, ForeGround as boolean, HAlign as Integer, VAlign as Integer, Width as Double, Height as Double, path as string, index as Integer = 0) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets cell image.

### 3.77.39 `SetCellImageData`(Row as Integer, Column as Integer, ForeGround as boolean, HAlign as Integer, VAlign as Integer, Width as Double, Height as Double, ImageData as MemoryBlock, index as Integer = 0) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets cell image.

**Example:**

```
dim PictureData as memoryblock // from database maybe?
dim w as Double = 300 // destination size
dim h as Double = 200
dim row as Integer
dim column as Integer
```

```
dim table as DynaPDFTableMBS // your table
```

```
call table.SetCellImageData(row, column, true, table.kcoCenter, table.kcoCenter, w, h, PictureData, 0)
```

**Notes:** Returns true on success.

See also:

- 3.77.40 SetCellImageData(Row as Integer, Column as Integer, ForeGround as boolean, HAlign as Integer, VAlign as Integer, Width as Double, Height as Double, ImageData as string, index as Integer = 0) as boolean 761

### 3.77.40 SetCellImageData(Row as Integer, Column as Integer, ForeGround as boolean, HAlign as Integer, VAlign as Integer, Width as Double, Height as Double, ImageData as string, index as Integer = 0) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets cell image.

**Example:**

```
dim PictureData as string // from database maybe?
dim w as Double = 300 // destination size
dim h as Double = 200
dim row as Integer
dim column as Integer
```

```
dim table as DynaPDFTableMBS // your table
```

```
call table.SetCellImageData(row, column, true, table.kcoCenter, table.kcoCenter, w, h, PictureData, 0)
```

See also:

- 3.77.39 SetCellImageData(Row as Integer, Column as Integer, ForeGround as boolean, HAlign as Integer, VAlign as Integer, Width as Double, Height as Double, ImageData as MemoryBlock, index as Integer = 0) as boolean 760

### 3.77.41 SetCellOrientation(Row as Integer, Column as Integer, Orientation as Integer) as boolean

Plugin Version: 13.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function sets the cell orientation.

**Notes:** See `dynapdf_help.pdf` for details.

See also [SetCellOrientation](#) function in DynaPDF manual.

### 3.77.42 SetCellPadding(Row as Integer, Column as Integer, left as Double, top as Double, right as Double, bottom as Double) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the cell padding of the table, a row or cells.

**Notes:** Default is zero.

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

### 3.77.43 SetCellPicture(Row as Integer, Column as Integer, ForeGround as boolean, HAlign as Integer, VAlign as Integer, Width as double, Height as Double, Pic as Picture) as boolean

Plugin Version: 20.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets cell image with given picture.

**Example:**

```
dim Pic as picture // your picture from database maybe?
dim w as Double = 300 // destination size
dim h as Double = 200
dim row as Integer
dim column as Integer

dim table as DynaPDFTableMBS // your table

call table.SetCellPicture(row, column, true, table.kcoCenter, table.kcoCenter, w, h, Pic)
```

**Notes:** Returns true on success.

### 3.77.44 SetCellSpacing(Row as Integer, Column as Integer, left as Double, top as Double, right as Double, bottom as Double) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the cell spacing of the table, a row or cells.

**Notes:** Default is zero.

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

**3.77.45 SetCellTable(Row as Integer, Column as Integer, HAlign as Integer, VAlign as Integer, SubTable as DynaPDFTableMBS) as boolean**

Plugin Version: 13.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function inserts a sub table into the specified cell.

**Notes:** A sub table is always a foreground object that has a strong width and height. That means, if the cell is not large enough then it will be expanded.

Note that the function creates no copy of the table. Do not delete the sub table when it is used by another table.

In programming languages which use reference counting like Xojo, it is important to delete the tables in right order. Delete first the tables which contain references to sub tables. Finally, delete the sub tables.

If the function succeeds the return value is true. If the function fails the return value is false.

See [dynapdf\\_help.pdf](#) for details.

See also [SetCellTable](#) function in DynaPDF manual.

**3.77.46 SetCellTemplate(Row as Integer, Column as Integer, ForeGround as boolean, HAlign as Integer, VAlign as Integer, TmplHandle as Integer, Width as Double = 0, Height as Double = 0) as boolean**

Plugin Version: 13.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function inserts a template into the specified cell.

**Notes:** See [dynapdf\\_help.pdf](#) for details.

See also [SetCellTemplate](#) function in DynaPDF manual.

**3.77.47 SetCellText(Row as Integer, Column as Integer, HTextAlign as Integer, VAlign as Integer, text as string) as boolean**

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the text of a cell.

**Notes:** Use DynaPDFMBS.ktaLeft and similar text align constants for HAlign.

But use DynaPDFTableMBS.kcoCenter and similar cell orientation constants for VAlign.

See also [SetCellText](#) function in DynaPDF manual.

**3.77.48 SetCellTextAnsi(Row as Integer, Column as Integer, HTextAlign as Integer, VAlign as Integer, text as string) as boolean**

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the text of a cell with ANSI text.

**Notes:** Use DynaPDFMBS.ktaLeft and similar text align constants for HAlign.

But use DynaPDFTableMBS.kcoCenter and similar cell orientation constants for Valign.

### 3.77.49 SetColWidth(column as UInt32, Width as Double, ExtTable as Boolean) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the column width for a column.

See also [SetColWidth](#) function in DynaPDF manual.

### 3.77.50 SetFlags(Row as Integer, Column as Integer, Flags as Integer) as boolean

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the flags for a cell.

**Example:**

```
dim table as DynaPDFTableMBS // your table
```

```
// mark this row as being a header row, so it's repeated on all pages
call table.SetFlags(rowNum, 0, table.ktfHeaderRow)
```

**Notes:** If Row is -1, all rows are modified. If Column is -1, all columns are modified.

See also [SetFlags](#) function in DynaPDF manual.

### 3.77.51 SetFont(Row as Integer, Column as Integer, name as string, Style as Integer = 0, Embed as Boolean = true, CodePage as Integer = &h27) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the font of the table, a row or cells.

**Example:**

```
dim tbl as DynaPDFTableMBS // your table
```

```
// set font for all cells
call tbl.SetFont -1, -1, "Helvetica", pdf.kfsNone, true, pdf.kcpUnicode
// set bold font for a special cell
call tbl.SetFont rowNum, 2, "Helvetica", pdf.kfsBold, true, pdf.kcpUnicode
```

**Notes:** Default is Helvetica, Code page 1252, Embed false.  
If Row is -1, all rows are modified. If Column is -1, all columns are modified.  
See also [SetFont](#) function in DynaPDF manual.

### 3.77.52 SetFontAnsi(Row as Integer, Column as Integer, name as string, Style as Integer = 0, Embed as Boolean = true, CodePage as Integer = &h27) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the font of the table, a row or cells.  
**Notes:** Default is Helvetica, Code page 1252, Embed false.  
If Row is -1, all rows are modified. If Column is -1, all columns are modified.

### 3.77.53 SetFontSelMode(Row as Integer, Column as Integer, value as Int32) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the font selection mode of the table, a row or cells.  
**Notes:** Default is ksmFamilyName.  
If Row is -1, all rows are modified. If Column is -1, all columns are modified.  
See also [SetFontSelMode](#) function in DynaPDF manual.

### 3.77.54 SetFontSize(Row as Integer, Column as Integer, size as Double) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the font size of the table, a row or cells.  
**Notes:** Default is 10.  
If Row is -1, all rows are modified. If Column is -1, all columns are modified.  
See also [SetFontSize](#) function in DynaPDF manual.

### 3.77.55 SetGridHorizontalColor(channels() as Integer, ExtColorSpace as Integer = 0, ColorSpaceHandle as Integer = 0) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the horizontal grid color.

**Notes:** Default is black.

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass an integer for each channel with 0 to 255.

See also:

- 3.77.56 SetGridHorizontalColor(paramarray channels as Integer) as boolean 766

### 3.77.56 SetGridHorizontalColor(paramarray channels as Integer) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the horizontal grid color.

**Notes:** Default is black.

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass an integer for each channel with 0 to 255.

See also:

- 3.77.55 SetGridHorizontalColor(channels() as Integer, ExtColorSpace as Integer = 0, ColorSpaceHandle as Integer = 0) as boolean 765

### 3.77.57 SetGridHorizontalColorFloat(channels() as Double, ExtColorSpace as Integer = 0, ColorSpaceHandle as Integer = 0) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the horizontal grid color.

**Notes:** Default is black.

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass a double value for each channel with range 0.0 to 1.0.

See also:

- 3.77.58 SetGridHorizontalColorFloat(paramarray channels as Double) as boolean 766

### 3.77.58 SetGridHorizontalColorFloat(paramarray channels as Double) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the horizontal grid color.

**Notes:** Default is black.

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass a double value for each channel with range 0.0 to 1.0.

See also:

- 3.77.57 SetGridHorizontalColorFloat(channels() as Double, ExtColorSpace as Integer = 0, ColorSpaceHandle as Integer = 0) as boolean 766

### 3.77.59 SetGridHorizontalColorValue(TPDFColorSpace as Integer, ColorValue as UInt32) as boolean

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the horizontal grid color.

**Notes:** Default is black.

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass a color space and a matching color value.

For example kcsDeviceRGB and RGB(r,g,b), kcsDeviceCMYK and CMYK(c,m,y,k) or kcsDeviceGray with gray color.

### 3.77.60 SetGridVerticalColor(channels() as Integer, ExtColorSpace as Integer = 0, ColorSpaceHandle as Integer = 0) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the vertical grid color.

**Notes:** Default is black.

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass an integer for each channel with 0 to 255.

See also:

- 3.77.61 SetGridVerticalColor(paramarray channels as Integer) as boolean 767

### 3.77.61 SetGridVerticalColor(paramarray channels as Integer) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the vertical grid color.

**Notes:** Default is black.

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass an integer for each channel with 0 to 255.

See also:

- 3.77.60 `SetGridVerticalColor(channels() as Integer, ExtColorSpace as Integer = 0, ColorSpaceHandle as Integer = 0) as boolean` 767

### 3.77.62 `SetGridVerticalColorFloat(channels() as Double, ExtColorSpace as Integer = 0, ColorSpaceHandle as Integer = 0) as boolean`

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the vertical grid color.

**Notes:** Default is black.

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass a double value for each channel with range 0.0 to 1.0.

See also:

- 3.77.63 `SetGridVerticalColorFloat(paramarray channels as Double) as boolean` 768

### 3.77.63 `SetGridVerticalColorFloat(paramarray channels as Double) as boolean`

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the vertical grid color.

**Notes:** Default is black.

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass a double value for each channel with range 0.0 to 1.0.

See also:

- 3.77.62 `SetGridVerticalColorFloat(channels() as Double, ExtColorSpace as Integer = 0, ColorSpaceHandle as Integer = 0) as boolean` 768

### 3.77.64 `SetGridVerticalColorValue(TPDFColorSpace as Integer, ColorValue as UInt32) as boolean`

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the vertical grid color.

**Notes:** Default is black.

Pass a color space and a matching color value.

For example `kcsDeviceRGB` and `RGB(r,g,b)`, `kcsDeviceCMYK` and `CMYK(c,m,y,k)` or `kcsDeviceGray` with

gray color.

### 3.77.65 SetGridWidth(h as Double, v as Double) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the grid width.

**Notes:** Default is 0.

See also [SetGridWidth](#) function in DynaPDF manual.

### 3.77.66 SetImageColor(Row as Integer, Column as Integer, channels() as Integer, ExtColorSpace as Integer = 0, ColorSpaceHandle as Integer = 0) as boolean

Plugin Version: 13.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the image color of the table, a row or cells.

**Notes:** Default is black.

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass an integer for each channel with 0 to 255.

See also:

- 3.77.67 SetImageColor(Row as Integer, Column as Integer, paramarray channels as Integer) as boolean  
769

### 3.77.67 SetImageColor(Row as Integer, Column as Integer, paramarray channels as Integer) as boolean

Plugin Version: 13.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the image color of the table, a row or cells.

**Notes:** Default is black.

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass an integer for each channel with 0 to 255.

See also:

- 3.77.66 SetImageColor(Row as Integer, Column as Integer, channels() as Integer, ExtColorSpace as Integer = 0, ColorSpaceHandle as Integer = 0) as boolean  
769

### 3.77.68 `SetImageColorFloat`(Row as Integer, Column as Integer, channels() as Double, ExtColorSpace as Integer = 0, ColorSpaceHandle as Integer = 0) as boolean

Plugin Version: 13.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the image color of the table, a row or cells.

**Notes:** Default is black.

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass a double value for each channel with range 0.0 to 1.0.

See also:

- 3.77.69 `SetImageColorFloat`(Row as Integer, Column as Integer, paramarray channels as Double) as boolean 770

### 3.77.69 `SetImageColorFloat`(Row as Integer, Column as Integer, paramarray channels as Double) as boolean

Plugin Version: 13.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the image color of the table, a row or cells.

**Notes:** Default is black.

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass a double value for each channel with range 0.0 to 1.0.

See also:

- 3.77.68 `SetImageColorFloat`(Row as Integer, Column as Integer, channels() as Double, ExtColorSpace as Integer = 0, ColorSpaceHandle as Integer = 0) as boolean 770

### 3.77.70 `SetImageColorValue`(Row as Integer, Column as Integer, TPDFColorSpace as Integer, ColorValue as UInt32) as boolean

Plugin Version: 13.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the image color.

**Notes:** Default is black.

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass a color space and a matching color value.

For example `kcsDeviceRGB` and `RGB(r,g,b)`, `kcsDeviceCMYK` and `CMYK(c,m,y,k)` or `kcsDeviceGray` with gray color.

**3.77.71 SetPDF(pdf as DynaPDFMBS)**

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the target PDF for this table.

**3.77.72 SetRowHeight(Row as Integer, value as Double) as boolean**

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the row height of a row.

See also [SetRowHeight](#) function in DynaPDF manual.

**3.77.73 SetTableWidth(Value as single, AdjustType as Integer, MinColWidth as single)**

Plugin Version: 13.2, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The function changes the width of the table.

**Notes:** At least one column must be modified when the width will be changed. The parameter `AdjustType` specifies how the column width should be modified. If the new width is larger, then the difference can be added to the left or right column, or all columns can get a unique width ( $\text{TableWidth} / \text{NumColumns}$ ). The parameter `MinColWidth` is ignored in this case.

If the new width is smaller then the difference must be subtracted from the columns. The parameter `MinColWidth` specifies in this case the minimum width of columns that must be adjusted. It is only used if `AdjustType` is not set to `kcoaUniqueWidth`. The column widths are adjusted starting from the left or right side as specified. If the width of the first column is not large enough to subtract the difference, then the minimum column width is set to the column. This adjustment continues until the gap is zero. If the new table width is smaller as  $\text{MinColWidth} * \text{NumColumns}$  then the widths of the remaining columns will be set to zero. Such cases should be avoided since the column widths must be adjusted again when the table is drawn.

<code>kcoaUniqueWidth</code>	Set the column widths to $\text{TableWidth} / \text{NumColumns}$
<code>kcoaAdjLeft</code>	Adjust the widths starting from the left side
<code>kcoaAdjRight</code>	Adjust the widths starting from the right side

See `dynapdf_help` manual for details.

Returns true on success or false on failure.

See also [SetTableWidth](#) function in DynaPDF manual.

### 3.77.74 **SetTextColor(Row as Integer, Column as Integer, channels() as Integer, ExtColorSpace as Integer = 0, ColorSpaceHandle as Integer = 0) as boolean**

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the text color of the table, a row or cells.

**Notes:** Default is black.

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass an integer for each channel with 0 to 255.

See also:

- 3.77.75 SetTextColor(Row as Integer, Column as Integer, paramarray channels as Integer) as boolean  
772

### 3.77.75 **SetTextColor(Row as Integer, Column as Integer, paramarray channels as Integer) as boolean**

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the text color of the table, a row or cells.

**Notes:** Default is black.

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass an integer for each channel with 0 to 255.

See also:

- 3.77.74 SetTextColor(Row as Integer, Column as Integer, channels() as Integer, ExtColorSpace as Integer = 0, ColorSpaceHandle as Integer = 0) as boolean  
772

### 3.77.76 **SetTextColorFloat(Row as Integer, Column as Integer, channels() as Double, ExtColorSpace as Integer = 0, ColorSpaceHandle as Integer = 0) as boolean**

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the text color of the table, a row or cells.

**Notes:** Default is black.

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass a double value for each channel with range 0.0 to 1.0.

See also:

- 3.77.77 `SetTextColorFloat`(Row as Integer, Column as Integer, paramarray channels as Double) as boolean 773

### 3.77.77 `SetTextColorFloat`(Row as Integer, Column as Integer, paramarray channels as Double) as boolean

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the text color of the table, a row or cells.

**Notes:** Default is black.

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass a double value for each channel with range 0.0 to 1.0.

See also:

- 3.77.76 `SetTextColorFloat`(Row as Integer, Column as Integer, channels() as Double, ExtColorSpace as Integer = 0, ColorSpaceHandle as Integer = 0) as boolean 772

### 3.77.78 `SetTextColorValue`(Row as Integer, Column as Integer, TPDFColorSpace as Integer, ColorValue as UInt32) as boolean

Plugin Version: 12.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Sets the horizontal grid color.

**Notes:** Default is black.

If Row is -1, all rows are modified. If Column is -1, all columns are modified.

Pass a color space and a matching color value.

For example `kcsDeviceRGB` and `RGB(r,g,b)`, `kcsDeviceCMYK` and `CMYK(c,m,y,k)` or `kcsDeviceGray` with gray color.

### 3.77.79 Properties

#### 3.77.80 Parent as Variant

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Reference to parent object.

**Notes:** (Read only property)

### 3.77.81 PDF as DynaPDFMBS

Plugin Version: 12.4, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Reference to parent PDF object.

**Notes:** (Read only property)

### 3.77.82 Constants

#### Cell Content Type Constants

Constant	Value	Description
kcctAction	4	Action
kcctImage	1	Image.
kcctTable	2	Table.
kcctTemplate	3	Template.
kcctText	0	Text

#### Column Adjustment Constants

Constant	Value	Description
kcoaAdjLeft	1	Adjust the widths starting from the left side.
kcoaAdjRight	2	Adjust the widths starting from the right side.
kcoaUniqueWidth	0	Set the column widths to $\text{TableWidth} / \text{NumColumns}$ .

#### Cell Orientation

Constant	Value	Description
kcoBottom	1	Bottom
kcoCenter	2	Center
kcoLeft	0	Left
kcoRight	1	Right
kcoTop	0	Top

#### Cell Sides

Constant	Value	Description
kcsBottom	1	Bottom side
kcsLeft	0	Left side
kcsRight	2	Right side
kcsTop	3	Top side

#### Delete Content Options

Constant	Value	Description
kdcAction	16	Delete action.
kdcAllCont	31	Delete all content types
kdcBackGround	&h20000000	Delete background objects
kdcBoth	&h30000000	Delete both foreground and background objects
kdcForeGround	&h10000000	Delete foreground objects
kdcImage	2	Delete image.
kdcTable	8	Delete table.
kdcTemplate	4	Template table.
kdcText	1	Delete text. Text is always a foreground object

## Cell flags Constants

Constant	Value	Description
ktfAddFlags	32	If used when setting flags, the flags are not replacing existing values, but added. This way a call can set one flag and later another call can add a second flag without clearing first one.
ktfDefault	0	Default flag.
ktfFixedTextHeight	64	If set, text does not increase the row height if necessary. The row height must be non-zero in this case. The flag is ignored otherwise.
ktfHeaderRow	2	Header rows are drawn first after a page break occurred
ktfNoLineBreak	4	Prohibit line breaks in cells whith text ->Can be set to the entire table, columns, rows, and cells.
ktfScaleToRect	8	If set, the specified output width and height represents the maximum size of the image or template. The image or template is scaled into this rectangle without changing the aspect ratio.
ktfStatic	1	This flag marks a row, column, or cell as static to avoid the deletion of the content with ClearContent().
ktfUseImageCS	16	If set, images are inserted in the native image color space.

## 3.78 class DynaPDFTextRecordAMBS

### 3.78.1 class DynaPDFTextRecordAMBS

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for an ANSI text.

**Blog Entries**

- [DynaPDF Text Position Examples updated](#)
- [DynaPDF Text Position Examples](#)

### 3.78.2 Properties

#### 3.78.3 Advance as Single

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The advance value for this text.

**Notes:** Negative values move the cursor the right, positive to the left

(Read only property)

#### 3.78.4 Length as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Raw text length in bytes.

**Notes:** (Read and Write property)

#### 3.78.5 Text as String

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Raw text.

**Notes:** (Read and Write property)

## 3.79 class DynaPDFTextRecordWMBS

### 3.79.1 class DynaPDFTextRecordWMBS

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for an unicode text.

**Blog Entries**

- [DynaPDF Text Position Examples updated](#)
- [DynaPDF Text Position Examples](#)

### 3.79.2 Properties

#### 3.79.3 Advance as Single

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The advance value for this text.

**Notes:** Negative values move the cursor the right, positive to the left

(Read only property)

#### 3.79.4 Length as Integer

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Length in characters.

**Notes:** (Read and Write property)

#### 3.79.5 Text as String

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Already translated Unicode string.

**Notes:** (Read and Write property)

#### 3.79.6 Width as Single

Plugin Version: 8.6, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** String width measured in text space.

**Notes:** (Read only property)

## 3.80 class DynaPDFURIActionMBS

### 3.80.1 class DynaPDFURIActionMBS

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for an URL action.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

### 3.80.2 Methods

### 3.80.3 Constructor

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.80.4 Properties

### 3.80.5 BaseURL as String

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional, if defined in the Catalog object.

**Notes:** (Read only property)

### 3.80.6 IsMap as Boolean

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** A flag specifying whether to track the mouse position when the URI is resolved.

**Notes:** e.g. `http://test.org?50,70`.

(Read only property)

### 3.80.7 NextAction as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The handle to the next action.

**Notes:** -1 or next action handle to be executed if any  
(Read only property)

### 3.80.8 NextActionType as Integer

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The type of the next action.

**Notes:** Only set if NextAction is  $\geq 0$ .  
(Read only property)

### 3.80.9 URI as String

Plugin Version: 17.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Uniform Resource Identifier.

**Notes:** (Read only property)

## 3.81 class DynaPDFVersionInfoMBS

### 3.81.1 class DynaPDFVersionInfoMBS

Plugin Version: 21.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The class for version information.

**Example:**

```
Dim d As New DynaPDFMBS
Dim v As DynaPDFVersionInfoMBS = d.GetPDFVersionEx
```

Break // check in debugger

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

**Blog Entries**

- [News from the MBS Xojo Plugins in version 21.5](#)
- [MonkeyBread Software Releases the MBS Xojo Plugins in version 21.5](#)
- [MBS Xojo Plugins, version 21.5pr1](#)

**Xojo Developer Magazine**

- [21.1, page 20: News from MBS Xojo Plugins, What's up with MonkeyBread Software by Stefanie Juchmes](#)

### 3.81.2 Methods

### 3.81.3 Constructor

Plugin Version: 21.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The private constructor.

### 3.81.4 Properties

### 3.81.5 FXConfLevel as String

Plugin Version: 21.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The conformance level for ZUGFeRD, Factur-X or XRechnung.

**Notes:** (Read only property)

### 3.81.6 FXDocName as String

Plugin Version: 21.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The document file name for ZUGFeRD, Factur-X or XRechnung.

**Notes:** (Read only property)

### 3.81.7 FXDocType as String

Plugin Version: 21.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The document type for ZUGFeRD, Factur-X or XRechnung.

**Notes:** (Read only property)

### 3.81.8 FXVersion as String

Plugin Version: 21.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The version for ZUGFeRD, Factur-X or XRechnung.

**Notes:** (Read only property)

### 3.81.9 MainVer as String

Plugin Version: 21.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The main version.

**Notes:** Set only if the file conforms to a specific PDF standard, e.g. "PDF/X // 1a:2003", "PDF/A 3b", and so on.

(Read only property)

### 3.81.10 Major as Integer

Plugin Version: 21.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** PDF major version.

**Notes:** e.g. 1

(Read only property)

### 3.81.11 Minor as Integer

Plugin Version: 21.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** PDF minor version.

**Notes:** e.g. 7

(Read only property)

### 3.81.12 PDFAConformance as String

Plugin Version: 21.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The PDF/A conformance.

**Notes:** e.g. A, B, E, F, U, or UA.

(Read only property)

### 3.81.13 PDFAVersion as Integer

Plugin Version: 21.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The PDF/A version.

**Notes:** If greater zero, this is a PDF/A file.

(Read only property)

### 3.81.14 PDFEVersion as String

Plugin Version: 21.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The PDF/E version.

**Notes:** e.g. PDF/E-1

(Read only property)

### 3.81.15 PDFVTModDate as String

Plugin Version: 21.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The PDF/VT Modification date.

**Notes:** e.g. 2016-05-07T15:42:23+01:00

(Read only property)

### 3.81.16 PDFVTVersion as String

Plugin Version: 21.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The PDF/VT version.

**Notes:** e.g. PDF/VT-2

(Read only property)

### 3.81.17 PDFXConformance as String

Plugin Version: 21.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The PDF/X conformance.

**Notes:** e.g. PDF/X-1a:2001 or PDF/X-1a:2003. PDF/X 3 and above do not set this key anymore.

(Read only property)

### 3.81.18 PDFXVersion as String

Plugin Version: 21.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The PDF/X Version string.

**Notes:** e.g. PDF/X-1:2001, PDF/X-1:2003, and so on.

(Read only property)

### 3.81.19 SubVer as String

Plugin Version: 21.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The sub version string.

**Notes:** e.g. "ZUGFeRD 2.0", "Factur-X", and so on

(Read only property)

### 3.81.20 VersionConst as Integer

Plugin Version: 21.5, Platforms: macOS, Linux, Windows, iOS, Targets: All.

**Function:** The version number constant for DynaPDF.

**Notes:** If  $\geq 0$  this is the TPDFVersion constant as integer.

3.81. *CLASS DYNAPDFVERSIONINFOMBS*

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If the version is not supported by DynaPDF, this member is set to -1.  
(Read only property)

## 3.82 class DynaPDFViewportMBS

### 3.82.1 class DynaPDFViewportMBS

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The viewport details class.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

**Blog Entries**

- [MBS Xojo / Real Studio Plugins, version 15.0pr8](#)

### 3.82.2 Methods

### 3.82.3 Constructor

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.82.4 Properties

### 3.82.5 BBox as DynaPDFRectMBS

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Bounding box.

**Notes:** (Read and Write property)

### 3.82.6 Measure as DynaPDFMeasureMBS

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional measure dictionary.

**Notes:** (Read and Write property)

### 3.82.7 Name as String

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Optional name.

**Notes:** (Read and Write property)

### 3.82.8 PtData as DynaPDFPointDataDictionaryMBS

Plugin Version: 15.0, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The Point Data dictionary.

**Notes:** (Read and Write property)

## 3.83 class DynaPDFXFASStreamMBS

### 3.83.1 class DynaPDFXFASStreamMBS

Plugin Version: 16.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The class for a XFA stream.

**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

**Blog Entries**

- [MBS Xojo / Real Studio Plugins, version 16.5pr7](#)

### 3.83.2 Methods

### 3.83.3 Constructor

Plugin Version: 16.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The private constructor.

### 3.83.4 Properties

### 3.83.5 Buffer as String

Plugin Version: 16.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** XML Stream.

**Notes:** (Read and Write property)

### 3.83.6 Index as Integer

Plugin Version: 16.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** The stream index.

**Notes:** (Read and Write property)

### 3.83.7 Name as String

Plugin Version: 16.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Stream name.

**Notes:** (Read and Write property)

### 3.83.8 Size as Integer

Plugin Version: 16.5, Platforms: macOS, Linux, Windows, Targets: All.

**Function:** Buffer size in bytes.

**Notes:** (Read and Write property)



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# Chapter 5

## The FAQ

### 5.0.1 Can anyone help me convert seconds to time in this format hh:mm:ss?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Sure, here's a routine I use (which has an advantage over the previously-posted Date-based solution in that you don't have to rely on the creation of an object – all that happens is some division and string concatenation):

**Example:**

```
Function SecsToTimeString(timeInSecs as Integer, padHours as boolean, padMinutes as boolean) as string
// Given an amount time (in seconds), generates a string representing that amount
// of time. The padHours and padMinutes parameters determine whether to display
// hours and minutes if their values are zero.
```

```
// Examples:
// timeInSecs = 90, padHours = true; returns "00:01:30"
// timeInSecs = 1, padHours = false, padMinutes = true; returns "00:01"
// timeInSecs = 3601, padMinutes = false; returns "01:00:01"
```

```
dim hours, minutes, seconds as Integer
dim hoursString, minutesString as string
```

```
hours = timeInSecs / 3600
minutes = (timeInSecs mod 3600) / 60
seconds = timeInSecs mod 60
```

```
if hours = 0 then
if padHours then
hoursString = "00:"
else
hoursString = ""
end if
```

```

else
hoursString = Format(hours, "##\:")
end if
if minutes = 0 then
if hours <>0 or padMinutes then
minutesString = "00:"
else
minutesString = ""
end if
else
minutesString = Format(minutes, "00\:")
end if

return hoursString + minutesString + Format(seconds, "00")
End Function

```

**Notes:** (from the rb mailinglist)

### 5.0.2 Do you have plugins for Android?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Since there is no plugin SDK for Android, we have no way to make a plugin for Android.

**Notes:** We support macOS, Windows, Linux and iOS.

### 5.0.3 How do I get the proper highlight color on Mac OS X for active/inactive selection?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You can use functions from NSColor to get proper highlight color in RGB:

**Example:**

```

Function ProperHighlightColor(active as Boolean) As Color
#if TargetCocoa
Dim theColor As NSColorMBS
If active Then
theColor = NSColorMBS.alternateSelectedControlColor
Else
theColor = NSColorMBS.secondarySelectedControlColor
End If

```

```

Dim rgbColor As NSColorMBS = theColor.colorUsingColorSpaceName(NSColorSpaceMBS.NSCalibrate-

```

```

dRGBColorSpace)
If rgbColor <>Nil Then
Dim red as Integer = rgbColor.redComponent * 255.0
Dim green as Integer = rgbColor.greenComponent * 255.0
Dim blue as Integer = rgbColor.blueComponent * 255.0
Return RGB(red, green, blue)
Else
Return HighlightColor
End If
#else
return HighlightColor
#endif
End Function

```

**Notes:** As you see we convert color to Calibrated RGB for best results.  
See also:

- 5.0.4 How to catch delete key? 803
- 5.0.5 How to convert cmyk to rgb? 804
- 5.0.6 How to delete a folder? 805
- 5.0.7 How to detect if CPU is 64bit processor? 806
- 5.0.8 How to query variant type string for a variant? 807
- 5.0.9 How to refresh a htmlviewer on Windows? 808

## 5.0.4 How to catch delete key?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** The following is the code in keydown event catches delete or backspace keys.

**Example:**

```

Function KeyDown(Key As String) As Boolean
if asc(key) = 8 or asc(key) = 127 then
MsgBox "Delete"
Return true
end if
End Function

```

See also:

- 5.0.3 How do I get the proper highlight color on Mac OS X for active/inactive selection? 802

- 5.0.5 How to convert cmyk to rgb? 804
- 5.0.6 How to delete a folder? 805
- 5.0.7 How to detect if CPU is 64bit processor? 806
- 5.0.8 How to query variant type string for a variant? 807
- 5.0.9 How to refresh a htmlviewer on Windows? 808

### 5.0.5 How to convert cmyk to rgb?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:**

The following is the code to convert cmyk values to an RGB color datatype.

It's just a basic estimate of the color values. If you are looking for completely color accurate solution, this is not it. It should work for most people. :)

**Example:**

**Function** CMYKToRGB(c as Integer, m as Integer, y as Integer, k as Integer) As color

// converts c,m,y,k values (0-100) to color data type RGB

// place this in a method. Supply C,M,Y,K values-

// it returns color datatype

```
dim color_RGB as color
```

```
dim r, g, b as Integer
```

```
r=255-round(2.55*(c+k))
```

```
if r<0 then
```

```
r=0
```

```
end if
```

```
g=255-round(2.55*(m+k))
```

```
if g<0 then
```

```
g=0
```

```
end if
```

```
b=255-round(2.55*(y+k))
```

```
if b<0 then
```

```
b=0
```

```
end if
```

```
color_RGB=RGB(r,g,b)
```

```
return color_RGB
```

```
End Function
```

**Notes:**

(from the rb mailinglist)  
See also:

- 5.0.3 How do I get the proper highlight color on Mac OS X for active/inactive selection? 802
- 5.0.4 How to catch delete key? 803
- 5.0.6 How to delete a folder? 805
- 5.0.7 How to detect if CPU is 64bit processor? 806
- 5.0.8 How to query variant type string for a variant? 807
- 5.0.9 How to refresh a htmlviewer on Windows? 808

**5.0.6 How to delete a folder?**

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** The following is the code that deletes a folder recursively.

**Example:**

```
Sub deletefolder(f as folderitem)
dim files(-1) as FolderItem

if f=nil then Return

// delete single file
if f.Directory=false then
f.Delete
Return
end if

// get a list of all items in that folder
dim i,c as Integer
c=F.Count
for i=1 to c
files.Append f.TrueItem(i)
next

// delete each item
for each fo as FolderItem in files
if fo=nil then
' ignore
elseif fo.Directory then
deletefolder fo
fo.delete
else ' file
```

```
fo.Delete
end if
next
```

```
f.Delete
End Sub
```

See also:

- 5.0.3 How do I get the proper highlight color on Mac OS X for active/inactive selection? 802
- 5.0.4 How to catch delete key? 803
- 5.0.5 How to convert cmyk to rgb? 804
- 5.0.7 How to detect if CPU is 64bit processor? 806
- 5.0.8 How to query variant type string for a variant? 807
- 5.0.9 How to refresh a htmlviewer on Windows? 808

### 5.0.7 How to detect if CPU is 64bit processor?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Via CPUID you can ask CPU:

**Example:**

```
dim c as new CPUIDMBS

if c.Flags(CPUIDMBS.kFeatureLM) then
MsgBox "64-bit CPU"
else
MsgBox "32-bit CPU"
end if
```

**Notes:** Should work on all intel compatible CPUs.

See also:

- 5.0.3 How do I get the proper highlight color on Mac OS X for active/inactive selection? 802
- 5.0.4 How to catch delete key? 803
- 5.0.5 How to convert cmyk to rgb? 804
- 5.0.6 How to delete a folder? 805
- 5.0.8 How to query variant type string for a variant? 807
- 5.0.9 How to refresh a htmlviewer on Windows? 808

## 5.0.8 How to query variant type string for a variant?

Plugin Version: 20.5, Platforms: macOS, Linux, Windows.

**Answer:** The following example function returns type string for variant.

**Example:**

```
Public Function VariantTypeString(v as Variant) as string
// Xojo's VarType doesn't know Unsigned integers
'Dim type As Integer = VarType(v)

// MBS VarType can detect unsigned integer
Dim type As Integer = GetVariantTypeMBS(v)

Dim IsArray As Boolean = BitwiseAnd(type, Variant.TypeArray) = Variant.TypeArray

// type without array
type = BitwiseAnd(type, Bitwise.OnesComplement(Variant.TypeArray))

// build a dictionary to map types on first call
Static TypeMap As Dictionary
If TypeMap = Nil Then
TypeMap = New Dictionary
TypeMap.Value(Variant.TypeBoolean) = "Boolean"
TypeMap.Value(Variant.TypeCFStringRef) = "CFStringRef"
TypeMap.Value(Variant.TypeColor) = "Color"
TypeMap.Value(Variant.TypeCString) = "CString"
TypeMap.Value(Variant.TypeCurrency) = "Currency"
TypeMap.Value(Variant.TypeDate) = "Date"
TypeMap.Value(Variant.TypeDateTime) = "DateTime"
TypeMap.Value(Variant.TypeDouble) = "Double"
TypeMap.Value(Variant.TypeInt32) = "Int32"
TypeMap.Value(Variant.TypeInt64) = "Int64"
TypeMap.Value(Variant.TypeInteger) = "Integer"
TypeMap.Value(Variant.TypeNil) = "Nil"
TypeMap.Value(Variant.TypeObject) = "Object"
TypeMap.Value(Variant.TypeOSType) = "OSType"
TypeMap.Value(Variant.TypePString) = "PString"
TypeMap.Value(Variant.TypePtr) = "Ptr"
TypeMap.Value(Variant.TypeSingle) = "Single"
TypeMap.Value(Variant.TypeString) = "String"
TypeMap.Value(Variant.TypeStructure) = "Structure"
TypeMap.Value(Variant.TypeText) = "Text"
TypeMap.Value(Variant.TypeWindowPtr) = "WindowPtr"
TypeMap.Value(Variant.TypeWString) = "WString"

// MBS extra types
TypeMap.Value(Variant.TypeInt32+100) = "UInt32"
TypeMap.Value(Variant.TypeInt64+100) = "UInt64"
```

End If

```
// lookup type

#if DebugBuild then
If Not TypeMap.HasKey(type) Then
Break // missing type
End If
#endif

If IsArray Then
Return "Array of " + TypeMap.Lookup(type,"?")
Else
Return TypeMap.Lookup(type,"?")
End If
End Function
```

See also:

- 5.0.3 How do I get the proper highlight color on Mac OS X for active/inactive selection? 802
- 5.0.4 How to catch delete key? 803
- 5.0.5 How to convert cmyk to rgb? 804
- 5.0.6 How to delete a folder? 805
- 5.0.7 How to detect if CPU is 64bit processor? 806
- 5.0.9 How to refresh a htmlviewer on Windows? 808

### 5.0.9 How to refresh a htmlviewer on Windows?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You can ask the browser to reload the website with this code line:

**Example:**

```
call htmlViewer1.IERunJavaScriptMBS("javascript:document.location.reload()")
```

See also:

- 5.0.3 How do I get the proper highlight color on Mac OS X for active/inactive selection? 802
- 5.0.4 How to catch delete key? 803
- 5.0.5 How to convert cmyk to rgb? 804

- 5.0.6 How to delete a folder? 809
  - 5.0.7 How to detect if CPU is 64bit processor? 805
  - 5.0.8 How to query variant type string for a variant? 806
- 807

## 5.0.10 Is there an example for vector graphics in Xojo?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Try this example inside the paint event of a window:

**Example:**

```
dim v as Group2D
dim r as RectShape
dim s as StringShape
```

```
const pi=3.14
```

```
s=new StringShape
s.Text="Hello World!"
s.TextFont="Geneva"
s.TextSize=24
s.FillColor=rgb(0,0,255)
s.Italic=true
s.y=5
s.x=0
```

```
r=new RectShape
```

```
r.X=0
r.y=0
r.Height=100
r.Width=180
r.BorderColor=rgb(255,0,0)
r.FillColor=rgb(0,255,0)
r.BorderWidth=5
r.Border=50
```

```
v=new Group2d
v.Append r
v.Append s
v.Rotation=pi*-20.0/180.0
v.x=150
v.y=150
```

```
g.DrawObject v
```

### 5.0.11 Picture functions do not preserve resolution values?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Yes, the picture functions return pictures with no/default resolution values.

**Example:**

```
dim l as Picture = LogoMBS(500)
```

```
l.HorizontalResolution = 300
```

```
l.VerticalResolution = 300
```

```
dim r as Picture = l.Rotate90MBS
```

```
MsgBox str(r.HorizontalResolution)+" x "+str(r.VerticalResolution)
```

```
r.HorizontalResolution = l.HorizontalResolution
```

```
r.VerticalResolution = l.VerticalResolution
```

```
MsgBox str(r.HorizontalResolution)+" x "+str(r.VerticalResolution)
```

**Notes:** So please fix them yourself after calling a function.

Maybe in the future this changes, but currently you can't really set this easily from plugin code.

### 5.0.12 A toolbox call needs a rect - how do I give it one?

Plugin Version: all, Platforms: macOS, Windows.

**Answer:** Fill a memoryblock like this:

**Example:**

```
Dim MB As Memoryblock
```

```
MB = NewMemoryBlock(8)
```

```
MB.Short(0) = window1.Top
```

```
MB.Short(2) = window1.Left
```

```
MB.Short(4) = window1.Height+window1.Top // bottom
```

```
MB.Short(6) = window1.Width+window1.Left // right
```

### 5.0.13 API client not supported?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** If you get this exception message on `SQLConnectionMBS.Connect`, we may have a problem.

**Notes:** First case is that the given thing is not supported (e.g. MS SQL directly on Mac).

Second case is that the plugin compilation went wrong and the support for the database was not linked into the plugin. Like MySQL missing or MS SQL on Windows missing. In that case please contact us to fix the plugin.

### 5.0.14 Can I access Access Database with Java classes?

Plugin Version: all, Platform: Windows.

**Answer:** You can use `ucanaccess` to access databases created with Microsoft

**Example:**

```

dim options(-1) as string

// load all the jar files we have in a folder called java:

dim appFolder as FolderItem = GetFolderItem("")

Dim count as Integer = appFolder.Parent.Child("java").Count
dim libjs() as string
For i as Integer = 1 to count
Dim f As FolderItem = appFolder.Parent.Child("java").item(i)
If f <> Nil and f.Exists Then
libjs.append f.NativePath+";"
End If
Next

// now init virtual machine
dim library as string = Join(libjs, "")
dim vm as new JavaVMMBS(library)

if vm.Handle = 0 then
MsgBox "Failed to initialize virtual machine"
else
// now make a new database connection with ucanaccess
dim d as new JavaDatabaseMBS(vm,"net.ucanaccess.jdbc.UcanaccessDriver")
Dim DbFile as FolderItem = appFolder.Parent.Child("Database11.accdb")
dim j as JavaConnectionMBS = d.getConnection("jdbc:ucanaccess://" + DbFile.NativePath)

// select and show values
dim r as JavaResultSetMBS = j.MySelectSQL("Select * From test")
while r.NextRecord
MsgBox r.getString("FirstName") + " " + r.getString("LastName")
wend

end if

```

**Exception** e as JavaExceptionMBS  
MsgBox e.message+" **errorcode:** "+str(e.ErrorNumber)

**Notes:** see website:  
<http://ucanaccess.sourceforge.net/site.html>

### 5.0.15 Can I create PDF from Xojo Report using DynaPDF?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Yes, we have a graphics class integration for DynaPDF.

**Notes:** Since MBS Plugin in version 19.2, we can integrate reports with Xojo.

### 5.0.16 Can I use AppleScripts in a web application?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Yes, but they run on the server, not on the client.

**Example:**

```
dim a as new AppleScriptMBS

// query my application name
a.Compile "tell application ""System Events"" to return name of current application"

// run
a.Execute

// show result
label1.text = a.Result

// shows something like "My Application.fcgi.debug"
```

**Notes:** This can be useful to control the server from remote, if and only if the your sever is running Mac OS X.

### 5.0.17 Can I use graphics class with DynaPDF?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Sorry, no. We can't provide a graphics subclass from plugin.

**Notes:** This is a feature request to allow graphics subclasses:  
Feedback case 11391: [feedback://showreport?report\\_id=11391](https://feedback.apple.com/feedback/showreport?report_id=11391)

### 5.0.18 Can I use sockets on a web application?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Yes, but they run on the server, not on the client.

**Notes:** You can use `HTTPSocket`, `SMTPSocket`, `POP3Socket`, `SMTPSecureSocket`, `SecurePOP3Socket`, `EasyTCPSocket`, `EasyUDPSocket`, `AutoDiscovery`, our Bonjour classes or our `CURL*` classes. But all of them work on the server, not on the client.

This means if you search for a printer with Bonjour, you can find the printers in the local network on your server hosting site. Using `SMTPSocket` may be a good idea for sending emails from the server like notifications.

### 5.0.19 Can I use your ChartDirector plugin on a web application?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Yes, our ChartDirector plugin works just fine on the Xojo Web Edition.

**Example:**

```
// The data for the pie chart
dim data(-1) as Double=array(55.0, 18.0, 25.0, 22.0, 18.0, 30.0, 35.0)

// The labels for the pie chart, Words are choosen random to check font!
dim labels(-1) as string=array("Germany", "Italy", "France", "Spain", "UK", "Poland", "Russia")

// The colors to use for the sectors
dim colors(-1) as Integer

colors.Append &h66aaee
colors.Append &heebb22
colors.Append &hbbsbbb
colors.Append &h8844ff

if TargetLinux then
  CDBaseChartMBS.SetFontSearchPath "/usr/share/fonts/truetype/msttcorefonts"
end if

// Create a PieChart object of size 360 x 300 pixels
dim c as new CDPieChartMBS(700, 600)
```

```

c.setBackground(c.linearGradientColor(0, 0, 0, c.getHeight(), &h0000cc, &h000044))
c.setRoundedFrame(&hffffff, 16)
dim tt as CDTextBoxMBS = c.addTitle("ChartDirector Demonstration", "timesbi.ttf", 18)
tt.setMargin(0, 0, 16, 0)
tt.setFontColor(&hFFFFFF)

// Set the center of the pie at (180, 140) and the radius to 100 pixels
c.setPieSize 350,300,150
// Set the sector colors
c.setColors(c.kDataColor, colors)

// Draw the pie in 3D with a pie thickness of 20 pixels
c.set3D(20)

dim t as CDTextBoxMBS = c.setLabelStyle("arialbd.ttf", 10, &h000000)
t.setBackground(CDPieChartMBS.kSameAsMainColor, CDPieChartMBS.kTransparent, CDPieChartMBS.soft-
Lighting(CDPieChartMBS.kRight, 0))
t.setRoundedCorners(8)

// Use local gradient shading for the sectors, with 5 pixels wide
// semi-transparent white (bbffffff) borders
c.setSectorStyle(CDPieChartMBS.kLocalGradientShading, &hbbffffff, 0)

// Set the pie data and the pie labels
c.setData data,labels
call c.setLabelStyle "arialbd.ttf",18

dim pic as picture = c.makeChartPicture
dim wp as new WebPicture(pic, Picture.FormatJPEG) // JPEG makes it smaller and faster

ImageView1.Picture=wp

```

**Notes:** Be aware that our plugin produces pictures for you, which you assign to ImageViews. Transferring those pictures takes time, so you can optimize that with using WebPicture class. There you can decide between different compressions to improve speed (use JPEG instead of PNG).

e.g. if you use ubuntu, you can install the ttf-mscorefonts-installer package and call this method with "/usr/share/fonts/truetype/msttcorefonts" as the path. No backslash on the end of a path, please.

## 5.0.20 Can I use your DynaPDF plugin on a web application?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Yes, our DynaPDF plugin works just fine on the Xojo Web Edition.

**Notes:** PDF files are created on the server. You may want to offer a preview to the user which uses reduced resolution images to reduce the time to download the PDF.

See our Create PDF example for the Xojo Web Edition.

### 5.0.21 Can I use your plugin controls on a web application?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** No.

### 5.0.22 Can you get an unique machine ID?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** There is nothing like an unique machine ID.

**Notes:** 1:

You can use the MAC IDs of the network interfaces.

This can be changed by the user with software tools.

And the list of network interfaces changes if user reorder the interfaces.

2:

You can use the system folder creation date/time.

This may stay equal after cloning machines or after migration to new PC.

3:

You can use the Mac Serialnumber.

Mac only and it can happen that a Mac does not have a serial number.

4:

You can use the x86 CPU ID.

This is x86 CPU only and does not avoid running on the same CPU in different PCs.

### 5.0.23 ChartDirector: Alignment Specification

Plugin Version: 8.2, Platforms: macOS, Linux, Windows.

**Answer:** ChartDirector: Alignment Specification

**Notes:** In many ChartDirector objects, you may specify the alignment of the object's content relative to its boundary. For example, for a TextBox object, you may specify the text's alignment relative to the box boundary by using `TextBox.setAlignment`.

The ChartDirector API defines several constants for the alignment options.

ConstantValueDescription

BottomLeft	1	The leftmost point on the bottom line.
BottomCenter	2	The center point on the bottom line.
BottomRight	3	The rightmost point on the bottom line.
Left	4	The leftmost point on the middle horizontal line.
Center	5	The center point on the middle horizontal line.
Right	6	The rightmost point on the middle horizontal line.
TopLeft	7	The leftmost point on the top line.
TopCenter	8	The center point on the top line.
TopRight	9	The rightmost point on the top line.
Bottom	2	The center point on the bottom line. Same as BottomCenter.
Top	8	The center point on the top line. Same as TopCenter.
TopLeft2	10	An alternative top-left position used in <code>Axis.setTitlePos</code> for axis title positioning only. For a vertical axis, TopLeft2 refers to refers to the left of the top side, while TopLeft refers to the top of the left side. The reverse applies for a horizontal axis.
TopRight2	11	An alternative top-right position used in <code>Axis.setTitlePos</code> for axis title positioning only. For a vertical axis, TopRight2 refers to refers to the right of the top side, while TopRight refers to the top of the right side. The reverse applies for a horizontal axis.
BottomLeft2	12	An alternative bottom-left position used in <code>Axis.setTitlePos</code> for axis title positioning only. For a vertical axis, BottomLeft2 refers to refers to the left of the bottom side, while BottomLeft refers to the bottom of the left side. The reverse applies for a horizontal axis.
BottomRight2	13	An alternative bottom-right position used in <code>Axis.setTitlePos</code> for axis title positioning only. For a vertical axis, BottomRight2 refers to refers to the right of the bottom side, while BottomRight refers to the bottom of the right side. The reverse applies for a horizontal axis.

### 5.0.24 ChartDirector: Color Specification

Plugin Version: 8.2, Platforms: macOS, Linux, Windows.

**Answer:** ChartDirector: Color Specification

**Notes:** Many functions in the ChartDirector API accept colors as parameters. ChartDirector supports col-

ors specified in web and HTML compatible ARGB format, in which ARGB refers to the Alpha transparency, Red, Green and Blue components of the color.

In addition to ARGB colors, ChartDirector supports "dynamic" colors. A dynamic color is a color that changes depending on the position of the pixels. The "dynamic" colors that ChartDirector supports include "pattern colors", "metal colors", "gradient colors", "zone colors" and "dash line colors".

ChartDirector supports specifying colors indirectly using "palette colors". When a "palette color" is used, the color is specified as an index to a palette. The actual color is looked up from the palette. ARGB Color ARGB color consists of 4 components - alpha transparency, red, green and blue. The four components are encoded as a 32-bit number, with each component occupying 8 bits. In hexadecimal notation, it is AAR-RGGBB, where AA, RR, GG and BB are the alpha transparency, red, green and blue components.

Each component ranges from 00 - FF (0 - 255), representing its intensity. For example, pure red color is 00FF0000, pure green color is 0000FF00, and pure blue color is 000000FF. White color is 00FFFFFF, and black color is 00000000.

Most programming language requires you to put special prefix in front of hexadecimal characters. For C++, the prefix is "0x". For example, the syntax for the hexadecimal number 00FFFFFF is 0x00FFFFFF, or simply 0xFFFFFF.

For the alpha transparency component, a zero value means the color is not transparent at all. This is equivalent to traditional RGB colors. A non-zero alpha transparency means the color is partially transparent. The larger the alpha transparency, the more transparent the color will be. If a partially transparent color is used to draw something, the underlying background can still be seen.

For example, 80FF0000 is a partially transparent red color, while 00FF0000 is a non-transparent red color.

Note that ChartDirector's ARGB color is web and HTML compatible. For example, red is FF0000, the same as in HTML. There are many resources on the web that provide tables in which you can click a color and it will show its HTML color code. These color codes can be used in ChartDirector.

If alpha transparency is FF (255), the color is totally transparent. That means the color is invisible. It does not matter what the RGB components are. So in ChartDirector, only one totally transparent color is used - FF000000. All other colors of the form FFnnnnnn are reserved to represent palette colors and dynamic colors, and should not be interpreted as the normal ARGB colors.

The totally transparent color FF000000 is often used in ChartDirector to disable drawing something. For example, if you want to disable drawing the border of a rectangle, you can set the border color to totally transparent.

For convenience, ChartDirector defines a constant called Transparent, which is equivalent to FF000000. Pattern Color

A pattern color is a dynamic color that changes according to a 2D periodic pattern. When it is used to fill an area, the area will look like being tiled with a wallpaper pattern.

Pattern colors are created using `BaseChart.patternColor`, `BaseChart.patternColor2`, `DrawArea.patternColor` and `DrawArea.patternColor2`. The `patternColor` method creates pattern colors using an array of colors as a bitmap. The `patternColor2` method creates pattern colors by loading the patterns from image files.

These methods return a 32-bit integer acting as a handle to the pattern color. The handle can be used in any `ChartDirector` API that expects a color as its input.

**Metal Color**  
A metal color is a color of which the brightness varies smoothly across the chart surface as to make the surface look shiny and metallic. `ChartDirector` supports using any color as the base color of the metal color. In particular, using yellow and grey as the base colors will result in metal colors that look gold and silver.

Metal colors are most often used as background colors of charts. They are created using `CDBaseChartMBS.metalColor`, `CDBaseChartMBS.goldColor` and `CDBaseChartMBS.silverColor`. The first method allows you to specify an arbitrary base color. The second and third methods use yellow and grey as the base colors, resulting in gold and silver metal colors.

These methods return a 32-bit integer acting as a handle to the gradient color. The handle can be used in any `ChartDirector` API that expects a color as its input.

**Gradient Color**  
A gradient color is a color that changes progressively across a direction.

Gradient colors are created using `BaseChart.gradientColor`, `BaseChart.gradientColor2`, `DrawArea.gradientColor` and `DrawArea.gradientColor2`. The `gradientColor` method creates a 2-point gradient color that changes from color A to color B. The `gradientColor2` method creates a multi-point gradient colors that changes from color A to B to C ....

These methods return a 32-bit integer acting as a handle to the gradient color. The handle can be used in any `ChartDirector` API that expects a color as its input.

One common use of multi-point gradient colors is to define colors that have metallic look and feel. Please refer to `DrawArea.gradientColor2` for details.

**Dash Line Colors**  
A dash line color is a color that switches on and off periodically. When used to draw a line, the line will appear as a dash line.

Dash line colors are created using `BaseChart.dashLineColor` and `DrawArea.dashLineColor`. They accept a line color and a dash pattern code as arguments, and return a 32-bit integer acting as a handle to the dash line color. The handle can be used in any `ChartDirector` API that expects a color as its input.

**Zone Colors**  
A zone color is for XY charts only. It is a color that automatically changes upon reaching a data threshold value along the x-axis or y-axis. Zone colors are created using `Layer.xZoneColor`, `Layer.yZoneColor`, `XYChart.xZoneColor` or `XYChart.yZoneColor`.

**Palette Colors**  
Palette colors are colors of the format `FFFFnnnn`, where the least significant 16 bits (`nnnn`) are the index to the palette. A palette is simply an array of colors. For a palette color, the actual color is obtained by

looking up the palette using the index. For example, the color FFFF0001 is the second color in the palette (first color is index 0).

The colors in the palette can be ARGB colors or "dynamic" colors (pattern, gradient and dash line colors).

The first eight palette colors have special significance. The first three palette colors are the background color, default line color, and default text color of the chart. The 4th to 7th palette colors are reserved for future use. The 8th color is a special dynamic color that is equal to the data color of the "current data set".

The 9th color (index = 8) onwards are used for automatic data colors. For example, in a pie chart, if the sector colors are not specified, ChartDirector will automatically use the 9th color for the first sector, the 10th color for the second sector, and so on. Similarly, for a multi-line chart, if the line colors are not specified, ChartDirector will use the 9th color for the first line, the 10th color for the second line, and so on.

The ChartDirector API defines several constants to facilitate using palette colors.

#### ConstantValueDescription

Palette	FFFF0000	The starting point of the palette. The first palette color is (Palette + 0). The nth palette color is (Palette + n - 1).
BackgroundColor	FFFF0000	The background color.
LineColor	FFFF0001	The default line color.
TextColor	FFFF0002	The default text color.
[ Reserved ]	FFFF0003 - FFFF0006	These palette positions are reserved. Future versions of ChartDirector may use these palette positions for colors that have special significance.
SameAsMainColor	FFFF0007	A dynamic color that is equal to the data color of the current data set. This color is useful for objects that are associated with data sets. For example, in a pie chart, if the sector label background color is SameAsMainColor, its color will be the same as the corresponding sector color.
DataColor	FFFF0008	The starting point for the automatic data color allocation.

When a chart is created, it has a default palette. You may modify the palette using BaseChart.setColor, BaseChart.setColors, or BaseChart.setColors2.

The advantages of using palette colors are that you can change the color schemes of the chart in one place. ChartDirector comes with several built-in palettes represented by the following predefined constants.

#### ConstantDescription

### 5.0.25 ChartDirector: Font Specification

Plugin Version: 8.2, Platforms: macOS, Linux, Windows.

defaultPalette	An array of colors representing the default palette. This palette is designed for drawing charts on white backgrounds (or lightly colored backgrounds).
whiteOnBlackPalette	An array of colors useful for drawing charts on black backgrounds (or darkly colored backgrounds).
transparentPalette	An array of colors useful drawing charts on white backgrounds (or lightly colored backgrounds). The data colors in this palette are all semi-transparent.

**Answer:** ChartDirector: Font Specification

**Notes:** Font Name

In ChartDirector, the font name is simply the file name that contains the font. For example, under the Windows platform, the "Arial" font is "arial.ttf", while the "Arial Bold" font is "arialbd.ttf".

NOTE: Mac OS X Specific Information

In Mac OS X, in addition to ".ttf", ChartDirector also supports Mac OS X font file formats, such as Font Suitcase files and Datafork files (.dfont). These files often contain multiple fonts. For example, the "GillSans.dfont" file contains 6 fonts.

So in addition to the file name, an index is needed to determine the font. The index is specified by appending a " | " character to the font name, followed by the index number. For example, the third font in "GillSans.dfont" is denoted as "GillSans.dfont | 2". (Note: The first font starts at 0.) If no index number is provided, the first font is assumed.

ChartDirector also supports using Mac OS X Font Manager names. For example, one may use "Gill Sans Light Italic" instead of using "GillSans.dfont | 1" as the font name. However, the Mac OS X Font Manager is active only if someone has logged into the Mac GUI console, so this method is only recommended for developing applications that run on the GUI console.

The sample programs that come with ChartDirector are designed to run on all operating systems, so they use generic font file names (eg. "arial.ttf") instead of Mac OS X specific names. To allow them to run on Mac OS X, ChartDirector on Mac OS X has a built-in table to map common font file names to Mac OS X font names:

"arial.ttf", "arialbd.ttf", "ariali.ttf" and "arialbi.ttf" are mapped to "Arial | 0" (Arial), "Arial | 1" (Arial Bold), "Arial | 2" (Arial Italic) and "Arial | 3" (Arial Bold Italic)

"times.ttf", "timesbd.ttf", "timesi.ttf" and "timesbi.ttf" are mapped to "Times New Roman | 0" (Times New Roman), "Times New Roman | 1" (Times New Roman Bold), "Times New Roman | 2" (Times New Roman Italic) and "Times New Roman | 3" (Times New Roman Bold Italic)

"cour.ttf", "courbd.ttf", "couri.ttf" and "courbi.ttf" are mapped to "Courier New | 0" (Courier New), "Courier New | 1" (Courier New Bold), "Courier New | 2" (Courier New Italic) and "Courier New | 3" (Courier New Bold Italic)

### Font Location

ChartDirector on Windows does not come with any font files. It relies on the operating system's font files in the " [ windows ] \Fonts" directory. To see what fonts are installed in your operating system and their file names, use the File Explorer to view that directory.

ChartDirector on Windows will also search for the font files in the "fonts" subdirectory (if it exists) under the directory where the ChartDirector DLL "chartdir.dll" is installed. This is useful for private fonts. Also, for some especially secure web servers, the web anonymous user may not have access to the " [ windows ] \Fonts" directory. In this case, you may copy the font files to the above subdirectory.

ChartDirector on Mac OS X relies on operating system font files in "/Library/Fonts" and "/System/Library/Fonts".

ChartDirector on Linux, FreeBSD and Solaris assume the fonts files are in the "fonts" subdirectory under the directory where the ChartDirector shared object "libchartdir.so" is installed. ChartDirector on Linux, FreeBSD and Solaris come with a number of font files in the "fonts" subdirectory.

To keep the download size small, ChartDirector on Linux, FreeBSD and Solaris only come with some commonly used fonts. You may download additional fonts from the Internet. In particular, the Microsoft fonts at

[http://sourceforge.net/project/showfiles.php?group\\_id=34153&release\\_id=105355](http://sourceforge.net/project/showfiles.php?group_id=34153&release_id=105355)

is highly recommended. Please refer to

<http://www.microsoft.com/typography/faq/faq8.htm>

on how you could use the fonts legally in your system.

ChartDirector supports True Type fonts (.ttf), Type 1 fonts (.pfa and .pfb) and Windows bitmap fonts (.fon). On Mac OS X, ChartDirector also supports Font Suitcase and Datafork (.dfont) files. On Linux, FreeBSD and Solaris, ChartDirector also supports Portable Compiled Fonts (.pcf fonts).

If you want ChartDirector to search other directories for the font files, you may list the directories in an environment variable called "FONTSPATH".

If you specify an absolute path name for the font file, ChartDirector will use the absolute path name and will not search other directories.

**Artificial Boldening and Italicizing**  
Whereas most popular font comes with different styles for "normal", "bold", "italic" and "bold italic", some fonts only come with one style (the normal style). For example, the Monotype Corsiva font that comes with MS Office only has the normal style (mtcorsva.ttf). For these cases, you may append the "Bold" and/or "Italic" words after the font file name (separated with a space) to ask ChartDirector to artificially bolden and/or italicize the font. For example, you may specify the font name as "mtcorsva.ttf Bold".

**Font List**  
Instead of specifying a single font file as the font name, you may specify a list of font files as the font name, separated by semi-colons. This is useful when using international characters that are only available in some fonts.

For example, if you would like to use the Arial font ("arial.ttf") for western characters, and the MingLiu font "mingliu.ttc" for Chinese characters (since the Arial font does not have Chinese characters), you may specify the font name as "arial.ttf;mingliu.ttc". In this case, ChartDirector will try the Arial font first. If it cannot find a certain character there, it will try the MingLiu font.

ChartDirector supports several special keywords for specifying the font name indirectly. When these keywords are used as font names, ChartDirector will look up the actual font names from a font table. The keywords are as follows:

KeywordsDescription

"normal"	This default normal font, which is the first font in the font table. This is initially mapped to "arial.ttf" (Arial).
"bold"	The default bold font, which is the second font in the font table. This is initially mapped to "arialbd.ttf" (Arial Bold).
"italic"	The default italic font, which is the third font in the font table. This is initially mapped to "ariali.ttf" (Arial Italic).
"boldItalic"	The default bold-italic font, which is the fourth font in the font table. This is initially mapped to "arialbi.ttf" (Arial Bold Italic).
"fontN"	The (N + 1)th font in the font table (the first font is "font0").

The font table can be modified using `BaseChart.setFontTable` or `DrawArea.setFontTable`.

The advantage of using indirect font names is that you can change the fonts in your charts in one place.

Most font files contain one font. However, it is possible a font file contains multiple fonts (that is, a font collection). For example, in True Type fonts, font files with extension ".ttc" may represent a font collection.

If a font file contains multiple font, the font index can be used to specify which font to use. By default, the font index is 0, which means the first font in the font file will be used.

The font size decides how big a font will appear in the image. The font size is expressed in a font unit called points. This is the same unit used in common word processors.

Instead of specifying font size, some ChartDirector API (eg. `TextBox.setFontSize`) allow you to specify font height and font width separately. You may use different point sizes for font height and font width to create special effects.

This is the color to draw the font. (See Color Specification on how colors are represented in ChartDirector.)

This is the angle in degrees by which the font should be rotated anti-clockwise.

By default, text are laid out horizontally, with characters being drawn from left to right.

ChartDirector also supports vertical layout, with characters being drawn from top to bottom. For example, you may use `BaseChart.addText` to add text that are laid out vertically. Vertical layout is common for

oriental languages such as Chinese, Japanese and Korean.

## 5.0.26 ChartDirector: Mark Up Language

Plugin Version: 8.2, Platforms: macOS, Linux, Windows.

**Answer:** ChartDirector: Mark Up Language

**Notes:** ChartDirector Mark Up Language (CDML) is a language for including formatting information in text strings by marking up the text with tags.

CDML allows a single text string to be rendered using multiple fonts, with different colors, and even embed images in the text. **Font Styles**

You can change the style of the text by using CDML tags. For example, the line:

```
<*font=timesi.ttf,size=16,color=FF0000>Hello <*font=arial.ttf,size=12,color=8000*>world!
```

will result in the following text rendered:

In general, all tags in CDML are enclosed by <\*> and \*>. Attributes within the tags determine the styles of the text following the tags within the same block.

If you want to include <\*> in text without being interpreted as CDML tags, use «\* as the escape sequence.

The following table describes the supported font style attributes in CDML. See **Font Specification** for details on various font attributes.

Attribute	Description
super	Set the following text to be in superscript style. This attribute does not need to have a value. (You may use "super" as the attribute instead of "super=1".)

Note that unlike HTML tags, no double or single quotes are used in the tags. It is because CDML tags are often embedded as string literals in source code. The double or single quotes, if used, will conflict with the string literal quotes in the source code. Therefore in CDML, no quotes are necessary and they must not be used.

Also, unlike HTML tags, CDML uses the comma character as the delimiter between attributes. It is because certain attributes may contain embed spaces (such as the font file name). So space is not used as the delimiter and the comma character is used instead.

Note the font attribute above starts a new style section, while other attributes just modify the current style

font	Starts a new style section, and sets the font name. You may use this attribute without a value (that is, use "font" instead of "font=arial.ttf") to create a new style section without modifying the font name.
size	The font size.
width	The font width. This attribute is used to set the font width and height to different values. If the width and height are the same, use the size attribute.
height	The font height. This attribute is used to set the font width and height to different values. If the width and height are the same, use the size attribute.
color	The text color in hex format.
bgColor	The background color of the text in hex format.
underline	The line width of the line used to underline the following characters. Set to 0 to disable underline.
sub	Set the following text to be in subscript style. This attribute does not need to have a value. (You may use "sub" as the attribute instead of "sub=1".)
super	Set the following text to be in superscript style.
xoffset	Draw the following the text by shifting the text horizontally from the original position by the specified offset in pixels.
yoffset	Draw the following the text by shifting the text vertically from the original position by the specified offset in pixels.
advance	Move the cursor forward (to the right) by the number of pixels as specified by the value this attribute.
advanceTo	Move the cursor forward (to the right) to the position as specified by the value this attribute. The position is specified as the number of pixels to the right of the left border of the block. If the cursor has already passed through the specified position, the cursor is not moved.

section. You may use `</font*>` to terminate a style section, which will restore the font styles to the state before the style section.

#### Blocks and Lines

In CDML, a text string may contain multiple blocks. A block may contain multiple lines of text by separating them with new line characters ("`\n`") or with `<br*>`. The latter is useful for programming languages that cannot represent new line characters easily.

For example, the line:

```
<*size=15*><*block*><*color=FF*>BLOCK<*br*>ONE<*/*>and <*block*><*color=FF00*>BLOCK<*br*>TWO
```

will result in the following text rendered:

The above example contains a line of text. The line contains two blocks with the characters " and " in between. Each block in turn contains two lines. The blocks are defined using `<*block*>` as the start tag and

`<*/*>` as the end tag.

When a block ends, font styles will be restored to the state before entering the block. Embedding Images  
CDML supports embedding images in text using the following syntax:

```
<*img=my_image_file.png*>
where my_image_file.png is the path name of the image file.
```

For example, the line:

```
<*size=20*>A <*img=sun.png*>day
will result in the following text rendered:
```

ChartDirector will automatically detect the image file format using the file extension, which must either png, jpg, jpeg, gif, wbmp or wmp (case insensitive).

Please refer to `BaseChart.setSearchPath` or `DrawArea.setSearchPath` on the directory that ChartDirector will search for the file.

The `<*img*>` tag may optionally contain width and height attributes to specify its pixel width and height. In this case, ChartDirector will stretch or compress the image if necessary to the required width and height. Blocks Attributes

CDML supports nesting blocks, that is, a block can contain other sub-blocks. Attributes are supported in the `<*block*>` tag to control the alignment and orientation of the sub-blocks. The `<*img=my_image_file.png*>` is treated as a block for layout purposes.

For example, the line:

```
<*block,valign=absmiddle*><*img=molecule.png*><*block*>Hydrazino\nMolecule<*/*><*/*>
will result in the following text rendered:
```

The the above starts `<*block,valign=absmiddle*>` which specifies its content should align with each others in the vertical direction using the absolute middle alignment. The block contains an image, followed by a space characters, and then another block which has two lines of text.

The following table describes the supported attributes inside `<*block*>` tag:

Attribute	Description
-----------	-------------

The value `baseline` means the baseline of sub-blocks should align with the baseline of the block. The `baseline`

width	The width of the block in pixels. By default, the width is automatically determined to be the width necessary for the contents of the block. If the width attribute is specified, it will be used as the width of the block. If the width is insufficient for the contents, the contents will be wrapped into multiple lines.
height	The height of the block in pixels. By default, the height is automatically determined to be the height necessary for the contents of the block. If the height attribute is specified, it will be used as the height of the block.
maxwidth	The maximum width of the block in pixels. If the content is wider than maximum width, it will be wrapped into multiple lines.
truncate	The maximum number of lines of the block. If the content requires more than the maximum number of lines, it will be truncated. In particular, if truncate is 1, the content will be truncated if it exceeds the maximum width (as specified by maxwidth or width) without wrapping. The last few characters at the truncation point will be replaced with "...".
linespacing	The spacing between lines as a ratio to the default line spacing. For example, a line spacing of 2 means the line spacing is two times the default line spacing. The default line spacing is the line spacing as specified in the font used.
bgColor	The background color of the block in hex format.
valign	The vertical alignment of sub-blocks. This is for blocks that contain sub-blocks. Supported values are baseline, top, bottom, middle and absmiddle.

is the underline position of text. This is normal method of aligning text, and is the default in CDML. For images or blocks that are rotated, the baseline is the same as the bottom.

The value top means the top line of sub-blocks should align with the top line of the block.

The value bottom means the bottom line of sub-blocks should align with the bottom line of the block.

The value middle means the middle line of sub-blocks should align with the the middle line of the block. The middle line is the middle position between the top line and the baseline.

The value absmiddle means the absolute middle line of sub-blocks should align with the absolute middle line of the block. The absolute middle line is the middle position between the top line and the bottom line.

**halign** The horizontal alignment of lines. This is for blocks that contain multiple lines. Supported values are left, center and right.

The value left means the left border of each line should align with the left border of the block. This is the default.

The value center means the horizontal center of each line should align with the horizontal center of the block.

The value right means the right border of each line should align with the right border of the block.

**angle** Rotate the content of the block by an angle. The angle is specified in degrees in counter-clockwise direction.

### 5.0.27 ChartDirector: Parameter Substitution and Formatting

Plugin Version: 8.2, Platforms: macOS, Linux, Windows.

**Answer:** ChartDirector: Parameter Substitution and Formatting

**Notes:** ChartDirector charts often contain a lot of text strings. For example, sector labels in pie charts, axis labels for x and y axes, data labels for the data points, HTML image maps, etc, are all text strings.

ChartDirector uses parameter substitution to allow you to configure precisely the information contained in the text and their format.

Format Strings

In parameter substitution, format strings are used to specify the entities to be include into labels and how to format numbers and dates.

For example, when drawing a pie chart with side label layout, the default sector label format string is:

```
" { label } ( { percent } %)"
```

When the sector label is actually drawn, ChartDirector will replace " { label } " with the sector name, and " { percent } " with the sector percentage. So the above label format will result is a sector label similar to "ABC (34.56%)".

You may change the sector label format by changing the format string. For example, you may change it to:

```
" { label } : US$ { value | 2 } K ( { percent } %)"
```

The sector label will then become something like "ABC: US\$ 123.00 (34.56%)".

In general, in ChartDirector parameter substitution, parameters enclosed by curly brackets will be substituted with their actual values when creating the texts.

For parameters that are numbers or dates/times, ChartDirector supports a special syntax in parameter substitution to allow formatting for these values. Please refer to the Number Formatting and Date/Time Formatting sections below for details.

#### Parameter Expressions

ChartDirector supports numeric expressions in format strings. They are denoted by enclosing the expression with curly brackets and using "=" as the first character. For example:

```
"USD { value } (Euro { = { value } *0.9 } )"
```

In the above, "{ value }" will be substituted with the actual value of the sector. The expression "{ = { value } \*0.9 }" will be substituted with the actual value of the sector multiplied by 0.9.

ChartDirector parameter expressions support operators "+", "-", "\*", "/", "%" (modulo) and "^" (exponentiation). Operators "\*", "/", "%", "^" is computed first, followed by "+" and "-". Operators of the same precedence are computed from left to right). Parenthesis "(" and ")" can be used to change the computation order.

#### Parameters for Pie Charts

The following table describes the parameters available for pie charts.

Parameter	Description
sector	The sector number. The first sector is 0, while the nth sector is (n-1).
dataSet	Same as { sector } . See above.
label	The text label of the sector.
dataSetName	Same as { label } . See above.
value	The data value of the sector.
percent	The percentage value of the sector.
fieldN	The (N + 1)th extra field. For example, { field0 } means the first extra field. An extra field is an array of custom elements added using BaseChart.addExtraField or BaseChart.addExtraField2.

#### Parameters for All XY Chart Layers

The followings are parameters that are apply to all XY Chart layers in general. Some layer types may have additional parameters (see below).

Note that certain parameters are inapplicable in some context. For example, when specifying the aggregate label of a stacked bar chart, the { dataSetName } parameter is inapplicable. It is because a stacked bar is composed of multiple data sets. It does not belong to any particular data set and hence does not have a data set name.

{ fieldN } means the extra field is indexed by the data point number. The Pth data point corresponds to the Pth element of the extra field.

#### Additional Parameters for Line Layers

The followings are parameters that are in additional to the parameters for all XY Chart layers.

#### Additional Parameters for Trend Layers

The followings are parameters that are in additional to the parameters for all XY Chart layers.

#### Additional Parameters for Box-Whisker Layers

The followings are parameters that are in additional to the parameters for all XY Chart layers.

#### Additional Parameters for HLOC and CandleStick Layers

The followings are parameters that are in additional to the parameters for all XY Chart layers.

#### Additional Parameters for Vector Layers

The followings are parameters that are in additional to the parameters for all XY Chart layers.

#### Parameters for All Polar Layers

The followings are parameters that are apply to all Polar Chart layers in general. Some layer types may have additional parameters (see below).

{ fieldN } means the extra field is indexed by the data point number. The Pth data point corresponds to the Pth element of the extra field.

#### Additional Parameters for PolarVector Layers

The followings are parameters that are in additional to the parameters for all Polar Chart layers.

#### Parameters for Axis

The following table describes the parameters available for pie charts.

#### Number Formatting

For parameters that are numbers, ChartDirector supports a number of formatting options in parameter substitution.

For example, if you want a numeric field { value } to have a precision of two digits to the right of the decimal point, use ',' (comma) as the thousand separator, and use '.' (dot) as the decimal point, and you may use { value | 2, . } . The number 123456.789 will then be displayed as 123,456.79.

For numbers, the formatting options are specified using the following syntax:

```
{ [ param ] | [ a ] [ b ] [ c ] [ d ] }
```

where:

If this field starts with "E" or "e", followed by a number, it means formatting the value using scientific notation with the specified number of decimal places. If the "E" or "e" is not followed by a number, 3 is assumed.

For example, { value | E4 } will format the value 10.3 to 1.0300E+1, and { value | e4 } will format the same value to 1.0300e+1.

If this field starts with "G" or "g", followed by a number, it means formatting the value using the scientific notation only if the value is large and requires more than the specified number of digits, or the value is less than 0.001. If scientific notation is used, the number following "G" or "g" also specifies the number of significant digits to use. If the "G" or "g" is not followed by a number, 4 is assumed.

For example, consider the format string { value | G4 } . The value 10 will be formatted to 10. The value 100000 will be formatted to 1.000E+5. Similarly, for { value | g4 } , the value 10 will be formatted to 10, while the value 100000 will be formatted to 1.000e+5.

If you skip this argument, ChartDirector will display the exact value using at most 6 decimal places.

You may skip [ b ] [ c ] [ d ] . In this case, the default will be used.

#### Date/Time Formatting

For parameters that are dates/times, the formatting options can be specified using the following syntax:

```
{ [ param ] | [ datetime_format_string ] }
```

where [ datetime\_format\_string ] must start with an english character (A-Z or a-z) that is not "G", "g", "E" or "e", and may contain any characters except ' } ' . (If it starts with "G", "g", "E" or "e", it will be considered as a number format string.)

Certain characters are substituted according to the following table. Characters that are not substituted will be copied to the output.

For example, a parameter substitution format of { value | mm-dd-yyyy } will display a date as something similar to 09-15-2002. A format of { value | dd/mm/yy hh:nn:ss a } will display a date as something similar to 15/09/02 03:04:05 pm.

If you want to include characters in the format string without substitution, you may enclose the characters in single or double quotes.

For example, the format `{ value | mmm '<*color=dd0000*>'yyyy }` will display a date as something like `Jan <*color=dd0000*>2005` (the `<*color=dd0000*>` is a CDML tag to specify red text color). Note that the `<*color=dd0000*>` tag is copied directly without substitution, even it contains "dd" which normally will be substituted with the day of month.

Escaping URL/HTML/CDML characters

Parameter substitution is often used to create HTML image maps. In HTML, some characters has special meanings and cannot be used reliably. For example, the `'>'` is used to represent the end of an HTML tag.

Furthermore, if the field happens to be used as an URL, characters such as `'?'`, `'&'` and `'+'` also have special meanings.

By default, ChartDirector will escape template fields used in URL and query parameters when generating image maps. It will modify URL special characters to the URL escape format `"%XX"` (eg. `"?"` will become `"%3F"`). After that, it will modify HTML special characters to the HTML escape format `"&#nn;"` (eg. `">"` will become `"&#62;"`). Similarly, it will escape other attributes in the image map using HTML escape format (but not URL escape format).

In addition to escaping HTML and URL special characters, ChartDirector will also remove CDML fields in creating image maps. It is because CDML is only interpreted in ChartDirector, should not be useful outside of ChartDirector (such as in browser tool tips).

In some cases, you may not want ChartDirector to escape the special characters. For example, if the parameters have already been escaped before passing to ChartDirector, you may want to disable ChartDirector from escaping them again.

ChartDirector supports the following special fields to control the escape methods - `" { escape_url } "`, `" { noescape_url } "`, `" { escape_html } "`, `" { noescape_html } "`, `" { escape_cdml } "` and `" { noescape_cdml } "`. These fields enable/disable the escape methods used in the template fields that follow them.

## 5.0.28 ChartDirector: Shape Specification

Plugin Version: 8.2, Platforms: macOS, Linux, Windows.

**Answer:** ChartDirector: Shape Specification

**Notes:** Several ChartDirector API accept shape specification as arguments. For example, `BarLayer.setBarShape` and `BarLayer.setBarShape2` can be used to specify shapes of bars in bar charts, while `DataSet.setDataSymbol`, `DataSet.setDataSymbol4`, `PolarLayer.setDataSymbol` and `PolarLayer.setDataSymbol4` can be used to specify shapes for data symbols.

Note that in addition to shapes, in many cases ChartDirector also accepts images or custom draw objects for data representation. For example, see `DataSet.setDataSymbol2`, `DataSet.setDataSymbol3`, `PolarLayer.setDataSymbol2` and `PolarLayer.setDataSymbol3`.

## Built-In Shapes

Built-in shapes are specified as integers. The integers can be explicit constants, or can be generated by a `ChartDirector` method for parameterized shapes. For example, a circle is represented by an explicit constant `CircleShape (=7)`. On the other hand, the number representing a polygon depends on the number of sides the polygon has, so it is generated by using the `PolygonShape` method, passing in the number of sides as argument.

The following table illustrates the various `ChartDirector` shapes:

## Custom Shapes

In `ChartDirector`, custom shapes are specified as an array of integers `x0, y0, x1, y1, x2, y2 ...` representing the coordinates of the vertices of the custom polygonal shape.

The polygon should be defined with a bounding square of 1000 x 1000 units, in which the x-axis is from -500 to 500 going from left to right, and the y-axis is from 0 to 1000 going from bottom to top.

`ChartDirector` will automatically scale the polygon so that 1000 units will become to the pixel size as requested by the various `ChartDirector` API.

As an example, the shape of the standard diamond shape in `ChartDirector` is represented as an array with 8 numbers:

```
0, 0, 500, 500, 0, 1000, -500, 500
```

### 5.0.29 Copy styled text?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** How to quickly copy styled text from one textarea to another?

**Example:**

```
#if TargetWin32 then
TextArea1.WinRTFDataMBS = TextArea2.WinRTFDataMBS
#elseif TargetMacOS then
TextArea1.NSTextViewMBS.textStorage.setAttributedString TextArea2.NSTextViewMBS.textStorage
#else
TextArea1.StyledText = TextArea2.StyledText
#endif
```

**Notes:** The code above uses special plugin functions on Mac and Windows and falls back to framework for Linux.

### 5.0.30 Do you have code to validate a credit card number?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You can check the checksum to tell if a credit card number is not valid.

**Example:**

```

Dim strNumber As String
Dim nLength as Integer
Dim nValue as Integer
Dim nChecksum as Integer
Dim nIndex as Integer

strNumber = EditField1.Text
nLength = Len(strNumber)
nChecksum = 0

For nIndex = 0 To nLength - 2
nValue = Val(Mid(strNumber, nLength - (nIndex + 1), 1)) * (2 - (nIndex Mod 2))
If nValue <10 Then
nChecksum = nChecksum + nValue
Else
nChecksum = nChecksum + (nValue - 9)
End If
Next

If Val(Mid(strNumber, Len(strNumber), 1)) = (10 - (nChecksum Mod 10)) Mod 10 Then
MsgBox("The credit card number looks valid")
Else
MsgBox("The credit card number is invalid")
End IF

```

**Notes:** Here's some code that will validate the checksum for a credit card. It works for Visa, MasterCard, American Express and Discover. Not sure about others, but I imagine they use the same basic algorithm. Of course, this doesn't actually mean that the credit card is valid, it's only useful for helping the user catch typos.

The above code doesn't have any error checking and it expects that the credit card number will be entered without spaces, dashes or any other non-numeric characters. Addressing those issues will be an exercise left to the reader. :)

(From Mike Stefanik)

### 5.0.31 Do you have plugins for X-Rite EyeOne, eXact or i1Pro?

Plugin Version: all.

**Answer:** Our EyeOne plugin is available on request for licensees of the X-Rite SDKs.

**Notes:** Please first go to X-Rite and get a SDK license.

Then we can talk about the plugin.

### 5.0.32 Does SQL Plugin handle stored procedures with multiple result sets?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Yes, the plugin can work with multiple recordsets.

**Notes:** You need to use SQLCommandMBS class. When you get back results, you use FetchNext to walk over all records in the first result set. Then you simply start again with FetchNext to get the second record set.

Even the RecordSet functions should work, just use them twice to get all records from both record sets.

### 5.0.33 Does the plugin home home?

Plugin Version: all, Platform: macOS.

**Answer:** Yes, we like to know who is using the plugin, so the plugin may contact our server.

**Example:**

none.

**Notes:** Please note that this does not affect your users as the plugin will only do this in the IDE and the relevant plugin part is never included in your applications.

The plugin if used for some hours, does contact our server to provide statistical data about Xojo version and OS versions. This way we know what versions are used. We can return the version number of the current plugin which may be visible in future versions somehow. And we transmit partial licenses data so we can track use of illegal license keys.

If you do not like to have this, you can block Xojo IDE from contacting our website via your Firewall.

Blocking the transfer will not disable the plugin or change the features.

Or contact us for a plugin version which explicitly does not contain this feature.

### 5.0.34 folderitem.absolutePath is limited to 255 chars. How can I get longer ones?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Paths on a Mac are not unique, so use them only to display them to the user.

**Example:**

```
Function AbsolutePath(f as FolderItem) As String
Dim s as string
Dim nf as FolderItem
nf = f
s = ""
while nf<>nil
s = nf.name + "." + s
nf = nf.parent
wend
Return s
End Function
```

### 5.0.35 Has anyone played round with using CoreImage to do things like add dissolve transitions say when changing from one tab to another within a window?

Platform: macOS.

**Answer:** This code implements animations for a tabpanel change:

**Example:**

// in a tabpanel.change event:

```
dim r as CGSTransitionRequestMBS
dim co as new CGSConnectionMBS
dim cw as CGSWindowMBS
dim ct as CGSTransitionMBS
static OldTab as Integer

cw=co.CGSWindow(window1)
If cw = Nil Then
return // 10.3...
End If
r=new CGSTransitionRequestMBS
r.TransitionType=r.CGSFlip
r.HasBackGround=false
r.HasBackColor=false
r.Win=cw
```

```

// watch the value of the clicked tab versus the last tab
if tabpanel1.Value=0 or tabpanel1.Value <OldTab then
r.TransitionOption=r.CGSLeft
ct=co.NewTransition(r)
if ct<>Nil then
Refresh
ct.Invoke(1)
ct.Wait(1)
ct.Release
else
MsgBox "Error creating the transition."
end if
else
r.TransitionOption=r.CGSRight
ct=co.NewTransition(r)
if ct<>Nil then
Refresh
ct.Invoke(1)
ct.Wait(1)
ct.Release
else
MsgBox "Error creating the transition."
end if
end if
// Keep track of the last tab clicked
OldTab = tabpanel1.Value

```

**Notes:** See CGS\* classes for more details.

### 5.0.36 How about Plugin support for older OS X?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** We support in general Mac OS X 10.5 and newer.

**Notes:** All the 64-bit plugins on Mac require OS X 10.7.

Intel 32-bit plugins on Mac require OS X 10.5 or newer.

Currently the ChartDirector 6, GraphicsMagick and GameKit plugins requires Mac OS X 10.6. Also for SQL Plugin the built in SQLite library requires 10.6.

### 5.0.37 How can I detect whether an Intel CPU is a 64bit CPU?

Plugin Version: all.

**Answer:** Look on the CPU family returned by sysctl:

**Example:**

Function is64bit() As Boolean

```
#if TargetLittleEndian
```

```
dim m as MemoryBlock = NewMemoryBlock(8)
```

```
dim family as Integer
```

```
dim s as string
```

```
m=SystemControlNameToMIBMBS("hw.cpufamily")
```

```
m=SystemControlMBS(m)
```

```
if m<>nil then
```

```
m.LittleEndian=True
```

```
family=m.Long(0)
```

```
const CPUFAMILY_INTEL_6_14 = &h73d67300 /* "Intel Core Solo" and "Intel Core Duo" (32-bit Pentium-M with SSE3) */
```

```
const CPUFAMILY_INTEL_6_15 = &h426f69ef /* "Intel Core 2 Duo" */
```

```
const CPUFAMILY_INTEL_6_23 = &h78ea4fbc /* Penryn */
```

```
const CPUFAMILY_INTEL_6_26 = &h6b5a4cd2 /* Nehalem */
```

```
Select case family
```

```
case CPUFAMILY_INTEL_6_14
```

```
Return false
```

```
case CPUFAMILY_INTEL_6_15
```

```
Return true
```

```
case CPUFAMILY_INTEL_6_23
```

```
Return true
```

```
case CPUFAMILY_INTEL_6_26
```

```
Return true
```

```
// newer CPUs may be missing here
```

```
end Select
```

```
end if
```

```
#endif
```

```
Return false
```

```
Exception
```

```
Return false
```

```
End Function
```

**Notes:** This code is written for Mac OS X where you only have a limited number of possible CPUs.

### 5.0.38 How can I disable the close box of a window on Windows?

Plugin Version: all, Platform: Windows.

**Answer:** The following code will remove the close item from the system menu of the window.

**Example:**

```
#if TargetWin32 then
Declare Function GetSystemMenu Lib "user32" (hwnd as Integer, bRevert as Integer) as Integer
Declare Function RemoveMenu Lib "user32" (hMenu as Integer, nPosition as Integer, wFlags as Integer) as Integer
Dim hSysMenu as Integer
hSysMenu = GetSystemMenu(me.WinHWND, 0)
RemoveMenu hSysMenu, &HF060, &H0
#endif
```

**Notes:** The window may not be updated directly.

### 5.0.39 How can I get all the environment variables from Windows?

Plugin Version: all, Platform: Windows.

**Answer:** Try this code:

**Example:**

```
#if targetWin32
declare function GetEnvironmentStrings Lib "kernel32" () as ptr
dim m as memoryBlock
dim n as Integer

m=GetEnvironmentStrings()

n=0
do
msgBox m.cstring(n)
while m.byte(n)<>0
n=n+1
wend
n=n+1
```

```
loop until m.byte(n)=0
#endif
```

**Notes:** The MBS Plugin has an EnvironmentMBS class for this.

#### 5.0.40 How can i get similar behavior to Roxio Toast or iTunes where clicking a 'burn' button allows the next inserted blank CD-R to bypass the Finder and be accepted by my application?

Plugin Version: all, Platform: macOS.

**Answer:** You need to get a media reservation.

**Example:**

```
dim d as DRDeviceMBS // get a device
d.AcquireMediaReservation
```

**Notes:** Use the plugin function AcquireMediaReservation and later release it using ReleaseMediaReservation.

See plugin examples on how to use it and check Apples DiscRecording framework documentation for more details.

#### 5.0.41 How can I get text from a PDF?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Crossplatform you can use DynaPDF Pro.

**Notes:** On Mac OS X you can also use PDFKit for the same job.

While DynaPDF Pro gives you each bit of text with rotation, font information and encoding details, PDFKit gives you only the text string for a PDF page.

#### 5.0.42 How can I get text from a Word Document?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** to get the text string from a doc file, use the NSAttributedStringMBS class.

**Notes:** The NSAttributedStringMBS class is Mac OS X only and we have currently no solution for Windows or Linux.

Use the `NSAttributedStringMBS.initWithDocFormat(data as string)` as boolean method.

### 5.0.43 How can I get the item string for a given file creator?

Plugin Version: all.

**Answer:** Try this function:

**Example:**

```
Sub pullNativeDocs(aCREA As string)
Dim result as Integer
Dim m, k as memoryBlock
Dim f as folderItem
Dim newType as string
Dim anIcon As picture
Dim ofs as Integer
```

```
Declare Function GetFileTypesThatAppCanNativelyOpen Lib "Carbon" (appVRefNumHint as Short, appSignature as OSType, nativeTypes as Ptr) as Short Inline68K("701CABFC")
Declare Function GetDocumentKindString Lib "Carbon" (docVRefNum as Short, docType as OSType, docCreator as OSType, kindString as ptr) as Short Inline68K("7016ABFC")
```

```
listBox1.deleteAllRows
```

```
m = newMemoryBlock(1024)
result = GetFileTypesThatAppCanNativelyOpen(Volume(0).MacVRefNum, aCREA, m)
if result <> 0 then
listBox1.addRow "<Not found.>"
return
end if
```

```
do
if m.byte(ofs*4) = 0 then
exit
else
newType = m.OSTypeMBS(ofs*4)
listBox1.addRow newType
k = newMemoryBlock(64)
result = GetDocumentKindString(Volume(0).MacVRefNum, newType, aCREA, k)
if result = 0 then
listBox1.cell(ofs,1) = k.pString(0)
ofs = ofs + 1
else
listBox1.cell(ofs,1) = "(unknown)"
end if
end if
```

loop

End Sub

**Notes:** Change "Translation" to "CarbonLib" for Mac OS X.

#### 5.0.44 How can I launch an app using it's creator code?

Plugin Version: all, Platform: macOS.

**Answer:** Send an AppleEvent "odoc" with the creator code to the Finder ("MACS"):

**Example:**

```
Function LaunchByCreator(C As String) As Boolean
Dim A As AppleEvent
A = NewAppleEvent("aevt","odoc","MACS")
A.ObjectSpecifierParam("—") = GetUniqueIDObjectDescriptor("appf",nil,C)
return A.Send
End Function
```

#### 5.0.45 How can I learn what shared libraries are required by a plugin on Linux?

Plugin Version: all, Platform: macOS.

**Answer:** Please use the ldd command in the terminal.

**Notes:** You build an app on any platform, but for Linux.

For the resulting .so files in the libs folder, you can run the ldd command with the library path as parameter. It shows you references lib files and you can make sure you have those installed.

This is a sample run of our graphicsmagick plugin:

```
cs@Ubuntu32:
textasciitilde /MeinProgramm/MeinProgramm Libs$ ldd libMBSGraphicsMagickPlugin17744.so
linux-gate.so.1 =>(0xb76ee000)
libdl.so.2 =>/lib/i386-linux-gnu/libdl.so.2 (0xb6f0e000)
libgtk-x11-2.0.so.0 =>/usr/lib/i386-linux-gnu/libgtk-x11-2.0.so.0 (0xb6aa6000)
libpthread.so.0 =>/lib/i386-linux-gnu/libpthread.so.0 (0xb6a8a000)
libstdc++.so.6 =>/usr/lib/i386-linux-gnu/libstdc++.so.6 (0xb69a5000)
libm.so.6 =>/lib/i386-linux-gnu/libm.so.6 (0xb6979000)
libgcc_s.so.1 =>/lib/i386-linux-gnu/libgcc_s.so.1 (0xb695b000)
libc.so.6 =>/lib/i386-linux-gnu/libc.so.6 (0xb67b1000)
```

```

/lib/ld-linux.so.2 (0xb76ef000)
libgdk-x11-2.0.so.0 =>/usr/lib/i386-linux-gnu/libgdk-x11-2.0.so.0 (0xb6701000)
libpangocairo-1.0.so.0 =>/usr/lib/i386-linux-gnu/libpangocairo-1.0.so.0 (0xb66f4000)
libX11.so.6 =>/usr/lib/i386-linux-gnu/libX11.so.6 (0xb65c0000)
libXfixes.so.3 =>/usr/lib/i386-linux-gnu/libXfixes.so.3 (0xb65ba000)
libatk-1.0.so.0 =>/usr/lib/i386-linux-gnu/libatk-1.0.so.0 (0xb659a000)
libcairo.so.2 =>/usr/lib/i386-linux-gnu/libcairo.so.2 (0xb64ce000)
libgdk_pixbuf-2.0.so.0 =>/usr/lib/i386-linux-gnu/libgdk_pixbuf-2.0.so.0 (0xb64ad000)
libgio-2.0.so.0 =>/usr/lib/i386-linux-gnu/libgio-2.0.so.0 (0xb6356000)
libpangoft2-1.0.so.0 =>/usr/lib/i386-linux-gnu/libpangoft2-1.0.so.0 (0xb632a000)
libpango-1.0.so.0 =>/usr/lib/i386-linux-gnu/libpango-1.0.so.0 (0xb62e0000)
libfontconfig.so.1 =>/usr/lib/i386-linux-gnu/libfontconfig.so.1 (0xb62ab000)
libgobject-2.0.so.0 =>/usr/lib/i386-linux-gnu/libgobject-2.0.so.0 (0xb625c000)
libglib-2.0.so.0 =>/lib/i386-linux-gnu/libglib-2.0.so.0 (0xb6163000)
libXext.so.6 =>/usr/lib/i386-linux-gnu/libXext.so.6 (0xb6151000)
libXrender.so.1 =>/usr/lib/i386-linux-gnu/libXrender.so.1 (0xb6147000)
libXinerama.so.1 =>/usr/lib/i386-linux-gnu/libXinerama.so.1 (0xb6142000)
libXi.so.6 =>/usr/lib/i386-linux-gnu/libXi.so.6 (0xb6132000)
libXrandr.so.2 =>/usr/lib/i386-linux-gnu/libXrandr.so.2 (0xb6129000)
libXcursor.so.1 =>/usr/lib/i386-linux-gnu/libXcursor.so.1 (0xb611e000)
libXcomposite.so.1 =>/usr/lib/i386-linux-gnu/libXcomposite.so.1 (0xb611a000)
libXdamage.so.1 =>/usr/lib/i386-linux-gnu/libXdamage.so.1 (0xb6115000)
libfreetype.so.6 =>/usr/lib/i386-linux-gnu/libfreetype.so.6 (0xb607b000)
libxcb.so.1 =>/usr/lib/i386-linux-gnu/libxcb.so.1 (0xb605a000)
libpixman-1.so.0 =>/usr/lib/i386-linux-gnu/libpixman-1.so.0 (0xb5fc2000)
libpng12.so.0 =>/lib/i386-linux-gnu/libpng12.so.0 (0xb5f98000)
libxcb-shm.so.0 =>/usr/lib/i386-linux-gnu/libxcb-shm.so.0 (0xb5f93000)
libxcb-render.so.0 =>/usr/lib/i386-linux-gnu/libxcb-render.so.0 (0xb5f89000)
libz.so.1 =>/lib/i386-linux-gnu/libz.so.1 (0xb5f73000)
libgmodule-2.0.so.0 =>/usr/lib/i386-linux-gnu/libgmodule-2.0.so.0 (0xb5f6e000)
libselinux.so.1 =>/lib/i386-linux-gnu/libselinux.so.1 (0xb5f4f000)
libresolv.so.2 =>/lib/i386-linux-gnu/libresolv.so.2 (0xb5f36000)
libexpat.so.1 =>/lib/i386-linux-gnu/libexpat.so.1 (0xb5f0c000)
libffi.so.6 =>/usr/lib/i386-linux-gnu/libffi.so.6 (0xb5f05000)
libpcre.so.3 =>/lib/i386-linux-gnu/libpcre.so.3 (0xb5ec9000)
librt.so.1 =>/lib/i386-linux-gnu/librt.so.1 (0xb5ec0000)
libXau.so.6 =>/usr/lib/i386-linux-gnu/libXau.so.6 (0xb5ebb000)
libXdmcp.so.6 =>/usr/lib/i386-linux-gnu/libXdmcp.so.6 (0xb5eb4000)
cs@Ubuntu32:
textasciitilde /MeinProgramm/MeinProgramm Libs$

```

As you see all library have been found and their load address is printed behind the na,e. If a library is missing, you usually see the address missing there or being zero.



```

while theRegexMatch <>nil
theStart = theRegexMatch.subExpressionStartB(0) + len(theRegexMatch.subExpressionString(0))

result = result + theRegexMatch.subExpressionString(1)
infoCharset = theRegexMatch.subExpressionString(2)
encodedPart = theRegexMatch.subExpressionString(4)
if theRegexMatch.subExpressionString(3) = "B" then
encodedPart = DecodeBase64(encodedPart)
elseif theRegexMatch.subExpressionString(3) = "Q" then
encodedPart = DecodeQuotedPrintable(encodedPart)
end if
if right(result, 1) = " " then
result = mid(result, 1, len(result)-1)
end if
encodedPart = encodedPart.DefineEncoding(GetInternetTextEncoding(infoCharset))
result = result + encodedPart

theRegex.SearchStartPosition = theStart
theRegexMatch = theRegex.search()
wend

result = result + mid(src, theStart+1)

else
result = src
end if
// theRegexMatch = theRegex.search

msgbox result

```

**Notes:** May not look nice depending on the controls used.  
This is no longer needed when using MimeEmailMBS class which decodes for you.

### 5.0.48 How do I enable/disable a single tab in a tabpanel?

Plugin Version: all, Platform: macOS.

**Answer:** Use the TabpanelEnabledMBS method.

**Example:**

```
TabpanelEnabledMBS(tabpanel1, 1, false)
```

**Notes:** Use Carbon for MachO and CarbonLib for Mac Carbon and AppearanceLib for Mac OS Classic as

library.

For Cocoa, please use enabled property of NSTabViewItemMBS class.

### 5.0.49 How do I find the root volume for a file?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Try this function:

**Example:**

```
Function GetRootVolume(f as FolderItem) as FolderItem
dim root, dum as folderItem
if f <> nil then
root = f // f might be the volume
do
dum = root.parent
if dum <> nil then
root = dum
end if
loop until dum = nil
return root
end if
End Function
```

### 5.0.50 How do I get the current languages list?

Plugin Version: all, Platform: macOS.

**Answer:** Try this code:

**Example:**

```
dim p as new CFPReferencesMBS
dim a as CFArrayMBS
dim s as CFStringMBS
dim o as CFOBJECTMBS
dim sa(-1) as string

o=p.CopyAppValue("AppleLanguages", ".GlobalPreferences")

if o<>Nil then
a=CFArrayMBS(o)

dim i,c as Integer
```

```
c=a.Count-1
for i=0 to c
o=a.Item(i)

if o isa CFStringMBS then
s=CFStringMBS(o)
sa.Append s.str
end if
next
end if

MsgBox Join(sa,EndOfLine)
```

**Notes:** On Mac OS X you can get the list of current languages like this list:

```
de
en
ja
fr
es
it
pt
pt-PT
nl
sv
nb
da
fi
ru
pl
zh-Hans
zh-Hant
ko
```

Which has German (de) on the top for a German user.  
This code has been tested on Mac OS X 10.5 only.

### 5.0.51 How do I get the Mac OS Version?

Plugin Version: all, Platform: macOS.

**Answer:** Try this code:

**Example:**

```

dim i as Integer
if system.gestalt("sysv", i) then
//do this in an 'If' in case you don't get any value back at all and system.gestalt returns boolean
if i = &h750 then //If OS is 7.5
//do stuff
elseif i = &h761 then //If OS is 7.6.1
//do stuff
end if
end if

```

**Notes:** The MBS Plugin has a function SystemInformationMBS.OSVersionString for this.

### 5.0.52 How do I get the printer name?

Plugin Version: all.

**Answer:** For Mac OS Classic see the code below and for Mac OS X use the Carbon Print Manager Classes from the MBS Plugin.

**Example:**

```

dim s as String
dim i as Integer

s=app.ResourceFork.GetResource("STR ",-8192)
if s<>"" then
i=ascb(leftb(s,1))
s=mid(s,2,i)

MsgBox s
end if

```

**Notes:** A note from Craig Hoyt:

After looking at your example I had a little deja-vu experience. Several years ago I played around with this same code if FutureBasic. I discovered that it did not and still doesn't provide the 'Printer Name', it does return the print driver name. If it returns 'LaserWriter 8' as the print driver you can look into this file and get the 'PAPA' resource #-8192 to get the actual Printer Name. Unfortunately this does not hold true for other printers. My Epson and HP Printers (the Epson has an Ethernet Card and the HP is USB) do not provide this info in their drivers. As far as I can tell it only returns the name by polling the printer itself.

### 5.0.53 How do I make a metal window if RB does not allow me this?

Plugin Version: all, Platform: macOS.

**Answer:** The following declare turns any window on Mac OS X 10.2 or newer into a metal one.

**Example:**

```
declare sub ChangeWindowAttributes lib "Carbon" (win as windowptr, a as Integer, b as Integer)
```

```
ChangeWindowAttributes window1,256,0
```

**Notes:** May not look nice depending on the controls used.

### 5.0.54 How do I make a smooth color transition?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:**

I'd like to show in a report some bars, which start with color A and end with color B.

The color change should be very smooth.

My problem: If I would start from 255,0,0 and end by 0,0,0, I would have 255 different colors. If the bars are longer than 255 pixels, would this look nice?

**Example:**

```
// Window.Paint:
Sub Paint(g As Graphics)
dim w,w1,x,p as Integer
dim c1,c2,c as color
dim p1,p2 as Double

c1=rgb(255,0,0) // start color
c2=rgb(0,255,0) // end color

w=g.Width
w1=w-1

for x=0 to w1
p1=x/w1
p2=1.0-p1
```

```

c=rgb(c1.red*p1+c2.red*p2, c1.green*p1+c2.green*p2, c1.blue*p1+c2.blue*p2)

g.ForeColor=c
g.DrawLine x,0,x,g.Height

next
End Sub

```

**Notes:**

Try the code above in a window paint event handler.

**5.0.55 How do I read the applications in the dock app?**

Plugin Version: all, Platform: macOS.

**Answer:** Use CFPreferencesMBS class like in this example:

**Example:**

```

// Reads file names from persistent dock applications and puts them into the list

dim pref as new CFPreferencesMBS

dim persistentapps as CFStringMBS = NewCFStringMBS("persistent-apps")
dim ApplicationID as CFStringMBS = NewCFStringMBS("com.apple.dock")
dim tiledata as CFStringMBS = NewCFStringMBS("tile-data")
dim filelabel as CFStringMBS = NewCFStringMBS("file-label")

// get the array of persistent applications from dock preferences
dim o as CObjectMBS = pref.CopyValue(persistentapps, ApplicationID, pref.kCFPreferencesCurrentUser,
pref.kCFPreferencesAnyHost)

if o isa CFArrayMBS then
dim a as CFArrayMBS = CFArrayMBS(o)

// walk over all items in array
dim c as Integer = a.Count-1
for i as Integer = 0 to c

// get dictionary describing item
o = a.Item(i)

if o isa CFDictionaryMBS then
dim d as CFDictionaryMBS = CFDictionaryMBS(o)

```

```

// and pick tile data dictionary
o = d.Value(tiledata)
if o isa CFDictionaryMBS then
d = CFDictionaryMBS(o)

// and pick there the file label
o = d.Value(filelabel)
if o isa CFStringMBS then
// and display it
dim name as string = CFStringMBS(o).str
List.AddRow name
end if
end if
end if

next

else
MsgBox "Failed to read dock preferences."
end if

```

**Notes:** You can use the `CFPreferencesMBS.SetValue` to change a value and `CFPreferencesMBS.Synchronize` to write the values to disc. You may need to restart the `Dock.app` if you modified things.

### 5.0.56 How do I truncate a file?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** In a `binarystream` you can set the `length` property to truncate.

### 5.0.57 How do update a Finder's windows after changing some files?

Plugin Version: all, Platform: macOS.

**Answer:** Try this code:

**Example:**

```

dim f as folderitem // some file
dim ae as appleevent
ae=newappleevent("fndr","fupd","MACS")
ae.folderitemparam("—")=f
if not ae.send then
//something went wrong

```

end if

**Notes:** The `folderitem.finderupdate` from the MBS Plugin does something like this.

### 5.0.58 How to access a USB device directly?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** First, it depends on the device.

**Notes:** Some devices can be talked directly from user mode code, but some require a kernel driver.

For some devices you can use plugins to access them like:

- Audio and Video sources using the `QTGrabberClassMBS`
- Mass storage devices using the `folderitem` class.
- Serial devices using the `System.SerialPort` function.
- HID USB devices can be used with `MacHIDMBS`, `WinHIDMBS` or `LinuxHIDInterface` class.
- Any USB device may be used with `MacUSBMBS` or `WinUSBMBS` classes.

In general it is always the best to take the most high level access to have others do the work for the details.

### 5.0.59 How to add icon to file on Mac?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You can use `FolderItem.AddCustomIcon` or `NSWorkspaceMBS.setIcon` functions.

**Notes:** Please close any open stream for the file you want to add an icon.

### 5.0.60 How to ask the Mac for the Name of the Machine?

Plugin Version: all, Platform: macOS.

**Answer:** Using Apple Events you can use this code:

**Example:**

**Function** `Computername()` *As string*

```

dim theEvent as AppleEvent
dim err as boolean

theEvent = newAppleEvent("mchn","getd","MACS")

err = theEvent.send

return theevent.ReplyString

End Function

```

**Notes:** Code above is for Mac OS 9!

Also the MBS Plugin has a function for this which may be faster and work also on Macs without Filesharing (which handles this event).

### 5.0.61 How to automatically enable retina in my apps?

Plugin Version: all, Platform: macOS.

**Answer:** You can run a build script on each build with this code:

**Example:**

```

Dim App As String = CurrentBuildLocation + "/" + CurrentBuildAppName + ".app"
Call DoShellCommand("/usr/bin/defaults write " + App + "/Contents/Info ""NSHighResolutionCapable""
YES")

```

**Notes:** This will set the NSHighResolutionCapable flag to YES.

### 5.0.62 How to avoid leaks with Cocoa functions?

Plugin Version: all, Platform: macOS.

**Answer:** You can try this code on Mac OS X:

**Example:**

```

// in a Timer Action event:
Sub Action()
static LastPool as NSAutoreleasePoolMBS = nil
static CurrentPool as NSAutoreleasePoolMBS = nil

```

```

LastPool = CurrentPool
CurrentPool = new NSAutoreleasePoolMBS

```

End Sub

**Notes:** With Xojo 2009r4 the code above should not be needed as Xojo runtime does automatically handle the `NSAutoreleasePools` for you. For older Xojo versions you need to use code with a timer with the action event above to avoid memory leaks.

Please do not use Xojo 2009r4 and newer with plugins before version 9.5. You can get crashes there which typically show a line with a `objc_msgSend` call.

### 5.0.63 How to avoid trouble connecting to oracle database with SQL Plugin?

Plugin Version: all, Platform: macOS.

**Answer:** For oracle the most important thing is to point the plugin to the libraries from oracle.

**Notes:** In environment variables, the paths like `ORACLE_HOME` must be defined.

On Mac OS X you also need to define `DYLD_LIBRARY_PATH` to point to the dylib files from oracle.

For that you need to modify `/etc/launchd.conf` for Mac OS X 10.8 and newer.

In older versions those variables in `.MacOSX/environment.plist` file in user's home.

Another way for the case you bundle things inside your app is to use the `LSEnvironment` key in `info.plist`. In `info.plist` it looks like this:

```
<key>LSEnvironment</key>
<dict>
<key>test</key>
<string>Hello World</string>
</dict>
```

### 5.0.64 How to avoid `___NSAutoreleaseNoPool` console messages in threads?

Plugin Version: all, Platform: macOS.

**Answer:** You need to use your own `NSAutoreleasePool` on a thread like this:

**Example:**

```
sub MyThread.run
dim pool as new NSAutoreleasePoolMBS
// do work here

pool=nil
```

end sub

**Notes:** For more details read here:

[http://developer.apple.com/mac/library/documentation/Cocoa/Reference/Foundation/Classes/NSAutoreleasePool\\_Class/Reference/Reference.html](http://developer.apple.com/mac/library/documentation/Cocoa/Reference/Foundation/Classes/NSAutoreleasePool_Class/Reference/Reference.html)

### 5.0.65 How to bring app to front?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** On Mac you can use this code:

**Example:**

```
// First way:
```

```
app.FrontMostMBS = true
```

```
// second way:
```

```
dim p as new ProcessMBS
```

```
p.GetCurrentProcess
```

```
p.FrontProcess = true
```

```
// third way:
```

```
NSApplicationMBS.sharedApplication.activateIgnoringOtherApps(true)
```

```
// for Windows:
```

```
RemoteControlMBS.WinBringWindowToTop
```

**Notes:** This will bring a Mac app to the front layer.

### 5.0.66 How to bring my application to front?

Plugin Version: all, Platform: macOS.

**Answer:** This makes SimpleText (Code txt) to the frontmost application:

**Example:**

```
Dim A As AppleEvent
```

```
A = NewAppleEvent("misc", "actv", "")
```

```
If Not A.Send then
```

```
Beep
```

```
end if
```

**Notes:** (Code is Mac only)

### 5.0.67 How to catch Control-C on Mac or Linux in a console app?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You can use SignalHandlerMBS class for this.

**Example:**

```
// watch for Control-C on Mac
call SignalHandlerMBS.SetFlagHandler(2)

dim ende as boolean = false
do
if SignalHandlerMBS.IsFlagSet(2) then
Print "Flag 2 set. Existing..."
ende = true
end if

DoEvents 1
loop until ende
```

**Notes:** The signal is caught, a flag is set and you can ask later in your normal application flow for the result.

### 5.0.68 How to change name of application menu?

Plugin Version: all, Platforms: macOS, Windows.

**Answer:** Use this code to change the application menu name on Mac OS X:

**Example:**

```
dim mb as new MenubarMBS
dim m as MenuMBS = mb.item(1) // 1 is in my tests the app menu
if m<>Nil then
m.MenuTitle = "Hello World"
end if
```

**Notes:** This code is for Carbon only.

### 5.0.69 How to change the name in the menubar of my app on Mac OS X?

Plugin Version: all, Platform: macOS.

**Answer:**

You mean it screws up if the file name of the bundle itself is different than the name of the executable file in the MacOS folder within the bundle? If so, you should find something like this within your Info.plist file (or the 'plst' resource that the RB IDE builds for you):

```
<key>CFBundleExecutable</key>
<string>Executable file name here</string>
```

Just make sure that file name matches.

However, if your question involves how you can change the name of the app that appears in the menu and the dock, that's different. You can make this name different from the file name by changing the CFBundleName key:

```
<key>CFBundleName</key>
<string>Name for menu here</string>
```

Note that if you use my free AppBundler program, this second part is taken care of for you – just fill in a custom name in the right field. You can find AppBundler (from Thomas Reed) at <http://www.bitjuggler.com/products/appbundler/>.

### 5.0.70 How to check if a folder/directory has subfolders?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You can use code like this to check all items in a folder:

**Example:**

```
Function HasSubFolder(folder as FolderItem) As Boolean
dim c as Integer = folder.Count
```

```
for i as Integer = 1 to c
dim item as FolderItem = folder.TrueItem(i)
```

```
if item<>Nil and item.Directory then
Return true
end if
```

next

End Function

**Notes:** We use trueitem() here to avoid resolving alias/link files.  
Also we check for nil as we may not have permission to see all items.  
And if one is a directory, we return without checking the rest.

### 5.0.71 How to check if Macbook runs on battery or AC power?

Plugin Version: all, Platform: macOS.

**Answer:** Please use our IOPowerSourcesMBS class like this:

**Example:**

```
Function PowerSourceState() as Integer
dim p as new IOPowerSourcesMBS

// check all power sources
dim u as Integer = p.Count-1
for i as Integer = 0 to u
dim d as CFDictionaryMBS = p.Item(i)
if d<>nil then
// check if they have a power source state key:
dim o as CFObjectMBS = d.Value(NewCFStringMBS("Power Source State"))
if o isa CFStringMBS then
dim s as string = CFStringMBS(o).str

'MsgBox s

if s = "AC Power" then
Return 1
elseif s = "Battery Power" then
Return 2
end if
end if
end if
next
Return 0 // unknown
End Function
```

**Notes:** If you want to check the CFDictionaryMBS content, simply use a line like "dim x as dictionary = d.dictionary" and check the contents in the debugger.

### 5.0.72 How to check if Microsoft Outlook is installed?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** If you need Outlook for Scripting, you should simply check registry for the required Outlook.Application class:

**Example:**

```
Function OutlookInstalled() As Boolean
    #if TargetWin32 then

    try
    dim r as new RegistryItem("HKEY_CLASSES_ROOT\Outlook.Application\CLSID", false)

    Return true

    catch r as RegistryAccessErrorException
    // not installed
    Return false

    end try

    #else

    // Windows only, so false on other platforms
    Return false

    #endif

End Function
```

### 5.0.73 How to check on Mac OS which country or language is currently selected?

Plugin Version: all, Platform: macOS.

**Answer:** The code below returns a country value.

**Example:**

```
dim result as Integer

IF TargetMacOS THEN

CONST smScriptLang = 28
```

```

CONST smSystemScript = -1

DECLARE FUNCTION GetScriptManagerVariable LIB "Carbon" ( selector as Integer) as Integer
DECLARE FUNCTION GetScriptVariable LIB "Carbon" ( script as Integer, selector as Integer) as Integer

result=GetScriptVariable(smSystemScript, smScriptLang)

END IF

```

**Notes:** Returns values like:

For more values, check "Script.h" in the frameworks.

### 5.0.74 How to code sign my app with plugins?

Plugin Version: all, Platform: macOS.

**Answer:** When you try to code sign the application with plugin dylibs on Mac OS X, you may see error message that there is actually a signature included.

**Notes:** Please use the -f command line parameter with codesign utility to overwrite our MBS signature. We sign our plugins for MacOS, iOS and Windows to make sure they have not been modified.

In terminal, you do like this:

```
cd <Path to folder of app>
```

```

xattr -cr <Appname>.app
codesign -f -s "Developer ID Application: <Your Name>" <Appname>.app/Contents/Frameworks/*.dylib
codesign -f -s "Developer ID Application: <Your Name>" <Appname>.app/Contents/Frameworks/*.framework
codesign -f -s "Developer ID Application: <Your Name>" <Appname>.app

```

Please use the name of your certificate (See keychain), the name of your app and the path to the app folder. If you have helper apps you need to sign them first.

You can use a build step to automatically sign your app on build.

### 5.0.75 How to collapse a window?

Plugin Version: all, Platform: macOS.

**Answer:** Use this function (Mac only):

**Example:**

```
Sub CollapseRBwindow(w as window, CollapseStatus as boolean)
dim state, err as Integer
dim wh as MemoryBlock
```

```
Declare Function CollapseWindow Lib "Carbon" (window as Integer, collapse as Integer) as Integer
```

```
IF CollapseStatus THEN
state = 1
ELSE
state = 0
END IF
```

```
err = CollapseWindow(w.MacWindowPtr, state)
```

```
End Sub
```

**Notes:** Also the MBS Plugin has a window.collapsedmbs property you can set. For Windows the MBS Plugin has a window.isiconicmbs property.

### 5.0.76 How to compare two pictures?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You can try this code:

**Example:**

```
Function ComparePictures(p as picture,q as picture) as Integer
dim r,u as RGBSurface
dim x,y,n,m,h,w as Integer
dim w1,w2,h1,h2,d1,d2 as Integer
dim c1,c2 as color
```

```
h1=p.Height
h2=q.Height
w1=p.Width
w2=q.Width
d1=p.Depth
d2=q.Depth
```

```
if d1<>d2 then
Return 1
elseif w1<>w2 then
```

```

return 2
elseif h1<>h2 then
Return 3
else
r=p.RGBSurface
u=q.RGBSurface

if r=nil or u=nil then
Return -1
else
h=h1-1
w=w1-1
m=min(w,h)

for n=0 to m
c1=r.Pixel(n,n)
c2=u.Pixel(n,n)
if c1<>c2 then
Return 4
end if
next

for y=0 to h
for x=0 to w
c1=r.Pixel(x,y)
c2=u.Pixel(x,y)
if c1<>c2 then
Return 5
end if
next
next

// 0 for equal
// -1 for error (no RGBsurface)
// 1 for different depth
// 2 for different width
// 3 for different height
// 4 for different pixels (fast test)
// 5 for different pixels (slow test)
end if
end if

Exception
Return -1
End Function

```

**Notes:** Remember that this only works on bitmap pictures, so the `picture.BitmapMBS` function may be useful.

### 5.0.77 How to compile PHP library?

Plugin Version: all, Platform: macOS.

**Answer:** You have to download the source code and compile a static version of the library.

**Notes:** This instructions were written based on PHP 5.2.6 on Mac OS X:

- Best take a new Mac with current Xcode version installed.
- Download the source code archive. e.g. "php-5.2.6.tar.bz2"
- Expand that archive on your harddisc.
- Open terminal window
- change directory to the php directory. e.g. "cd /php-5.2.6"
- execute this two lines to define the supported CPU types and the minimum Mac OS X version:
- export CFLAGS="-arch ppc -arch i386 -mmacosx-version-min=10.3"
- export CXXFLAGS="-arch ppc -arch i386 -mmacosx-version-min=10.3"
- the command "./configure help" does show the configure options.
- use configure with a line like this:
- ./configure --enable-embed --with-curl --enable-ftp --enable-zip --enable-sockets --enable-static --enable-soap --with-zlib --with-bz2 --enable-exif --enable-bcmath --enable-calendar
- start the compilation with "make all"
- other option is to use "make install" which first does the same as "make all" and than does some installation scripts.
- you may get an error about a duplicate symbole \_\_yytext. Search the file "zend\_ini\_scanner.c", search a line with "char \*yytext;" and change it to "extern char \*yytext;".
- On the end you get a lot of error messages, but you have a working library (named libphp5.so) file in the invisible ".libs" folder inside your php source folder.

Possible problems and solutions:

- If the path to your files has spaces, you can get into trouble. e.g. "/RB Plugins/PHP" is bad as files will be searched sometimes in "/RB".

- If you have in /usr/local/lib libraries which conflict with the default libraries, you can get into trouble.
- If you installed some open source tools which compiled their own libraries, you can get into conflicts.
- if you have to reconfigure or after a problem, you may need to use "make clean" before you start "make all" again.

Feel free to install additional libraries and add more packages to the configure line.

### 5.0.78 How to convert a BrowserType to a String with WebSession.Browser?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Use code like this:

**Example:**

```
Function GetBrowserName(s as WebSession.BrowserType) As string
Select case s
case WebSession.BrowserType.Android
Return "Andriod"
case WebSession.BrowserType.Blackberry
Return "Blackberry"
case WebSession.BrowserType.Chrome
Return "Chrome"
case WebSession.BrowserType.ChromeOS
Return "ChromeOS"
case WebSession.BrowserType.Firefox
Return "Firefox"
case WebSession.BrowserType.InternetExplorer
Return "InternetExplorer"
case WebSession.BrowserType.Opera
Return "Opera"
case WebSession.BrowserType.Safari
Return "Safari"
case WebSession.BrowserType.SafariMobile
Return "SafariMobile"
case WebSession.BrowserType.Unknown
Return "Unknown"
else
Return "Unkown: "+str(integer(s))
end Select

End Function
```

### 5.0.79 How to convert a EngineType to a String with WebSession.Engine?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Use code like this:

**Example:**

```
Function GetRenderingEngineName(s as WebSession.EngineType) As string
Select case s
case WebSession.EngineType.Gecko
Return "Gecko"
case WebSession.EngineType.Presto
Return "Presto"
case WebSession.EngineType.Trident
Return "Trident"
case WebSession.EngineType.Unknown
Return "Unknown"
case WebSession.EngineType.WebKit
Return "WebKit"
else
Return "Unkown: "+str(integer(s))
end Select

End Function
```

### 5.0.80 How to convert a PlatformType to a String with WebSession.Platform?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Use code like this:

**Example:**

```
Function GetPlatformName(s as WebSession.PlatformType) As string
Select case s
case WebSession.PlatformType.Blackberry
Return "Blackberry"
case WebSession.PlatformType.iPad
Return "iPad"
case WebSession.PlatformType.iPhone
Return "iPhone"
case WebSession.PlatformType.iPodTouch
Return "iPodTouch"
case WebSession.PlatformType.Linux
Return "Linux"
case WebSession.PlatformType.Macintosh
Return "Macintosh"
```

```

case WebSession.PlatformType.PS3
Return "PS3"
case WebSession.PlatformType.Unknown
Return "Unknown"
case WebSession.PlatformType.WebOS
Return "WebOS"
case WebSession.PlatformType.Wii
Return "Wii"
case WebSession.PlatformType.Windows
Return "Windows"
else
Return "Unkown: "+str(integer(s))
end Select

```

End Function

### 5.0.81 How to convert a text to iso-8859-1 using the TextEncoder?

Plugin Version: all, Platforms: macOS, Linux, Windows.

#### Answer:

This code can help you although it's not perfect.  
You need to set lc to the current color you use.

#### Example:

```

dim outstring as string
dim theMac, thePC as textencoding
dim Mac2PC as textconverter

theMac = getTextEncoding(0) // MacRoman
thePC = getTextEncoding(&h0201) // ISOLatin1

Mac2PC = getTextConverter(theMac, thePC)
// if you wanted to do the opposite just create a converter
// PC2Mac = getTextConverter(thePC, theMac)

outstring = Mac2PC.convert("Bj√rn, this text should be converted")
Mac2PC.clear

```

#### Notes:

You have to call Mac2PC.clear after every conversion to reset the encoding engine.  
See also newer TextConverterMBS class.

### 5.0.82 How to convert ChartTime back to Xojo date?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** We have this example code:

**Example:**

```
Function ChartTimeToDate(ChartTime as Double) As date
static diff as Double = 0.0
```

```
if diff = 0.0 then
dim d2 as Double = CDBaseChartMBS.chartTime(2015, 1, 1)
dim da as new date(2015, 1, 1)
dim ts as Double = da.TotalSeconds
```

```
diff = ts - d2
end if
```

```
dim d as new date
d.TotalSeconds = diff + ChartTime
```

```
Return d
End Function
```

**Notes:** As you see we calculate the difference in base date from Date and ChartTime and later use difference to convert.

### 5.0.83 How to convert line endings in text files?

Plugin Version: all, Platform: macOS.

**Answer:** You can simply read file with TextInputStream and write with new line endings using TextOutputStream class.

**Example:**

```
dim inputfile as FolderItem = SpecialFolder.Desktop.Child("test.txt")
dim outputfile as FolderItem = SpecialFolder.Desktop.Child("output.txt")
dim it as TextInputStream = TextInputStream.Open(inputfile)
dim ot as TextOutputStream = TextOutputStream.Create(outputfile)
```

```
ot.Delimiter = EndOfLine.Windows // new line ending
while not it.EOF
ot.WriteLine it.ReadLine
wend
```

**Notes:** `TextInputStream` will read any input line endings and with `delimiter` property in `TextOutputStream` you can easily define your new delimiter.

### 5.0.84 How to convert picture to string and back?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Use this plugin functions:

**Notes:** JPEG:

`JPEGStringToPictureMBS(buf as string)` as picture  
`JPEGStringToPictureMBS(buf as string,allowdamaged as Boolean)` as picture  
`PictureToJPEGStringMBS(pic as picture,quality as Integer)` as string

PNG:

`PictureToPNGStringMBS(pic as picture, gamma as single)` as string  
`PictureToPNGStringMBS(pic as picture, mask as picture, gamma as single)` as string  
`PictureToPNGStringMBS(pic as picture, gamma as single, Interlace as Boolean, FilterType as Integer)` as string  
`PictureToPNGStringMBS(pic as picture, mask as picture, gamma as single, Interlace as Boolean, FilterType as Integer)` as string  
`PNGStringToPictureMBS(data as string, gamma as single)` as picture  
`PNGStringToPNGPictureMBS(data as string, gamma as single)` as PNGpictureMBS

Tiff:

`TIFFStringToPictureMBS(data as string)` as picture  
`TIFFStringToTiffPictureMBS(data as string)` as TiffPictureMBS

BMP:

`BMPStringtoPictureMBS(data as string)` as picture  
`Picture.BMPDataMBS(ResolutionValueDPI as Integer=72)` as string

GIF:

`GifStringToGifMBS(data as string)` as GIFMBS  
`GifStringToPictureMBS(data as string)` as Picture

### 5.0.85 How to copy an array?

Plugin Version: all, Platform: macOS.

**Answer:** You can use a function like this to copy an array:

**Example:**

```
Function CopyArray(a() as Double) as Double()
dim r() as Double
for each v as Double in a
r.Append v
next
Return r
End Function
```

**Notes:** If needed make several copies of this method with different data types, not just double. For a deep copy of an array of objects, you need to change code to also make a copy of those objects.

### 5.0.86 How to copy a dictionary?

Plugin Version: all, Platform: macOS.

**Answer:** You can use a function like this to copy a dictionary:

**Example:**

```
Function CopyDictionary(d as Dictionary) As Dictionary
dim r as new Dictionary
for each key as Variant in d.keys
r.Value(key) = d.Value(key)
next
Return r
End Function
```

**Notes:** If needed make several copies of this method with different data types, not just double. For a deep copy of a dictionary of objects, you need to change code to also make a copy of those objects.

### 5.0.87 How to copy parts of a movie to another one?

Plugin Version: all, Platforms: macOS, Windows.

**Answer:** The code below copies ten seconds of the snowman movie to the dummy movie starting at the 5th second.

**Example:**

```

dim f as FolderItem
dim md as EditableMovie
dim ms as EditableMovie

f=SpecialFolder.Desktop.Child("Our First Snowman.mov")
ms=f.OpenEditableMovie

ms.SelectionStartMBS=5
ms.SelectionLengthMBS=10

f=SpecialFolder.Desktop.Child("dummy.mov")
md=f.CreateMovie

msgbox str(md.AddMovieSelectionMBS(ms))

```

**Notes:** If result is not 0, the method fails.

**5.0.88 How to create a birthday like calendar event?**

Plugin Version: all, Platform: macOS.

**Answer:** Try this code:

**Example:**

```

// start a connection to the calendar database
dim s as new CalCalendarStoreMBS

// needed for the error details
dim e as NSErrorMBS

dim r as CalRecurrenceRuleMBS = CalRecurrenceRuleMBS.initYearlyRecurrence(1, nil) // repeat every
year without end

dim a as new CalAlarmMBS // add alarm
a.action = a.CalAlarmActionDisplay
a.relativeTrigger = -3600*24 // 24 Hours before

// create a new calendar
dim c as new CalEventMBS

dim d as new date(2011, 04, 20) // the date

dim calendars() as CalCalendarMBS = s.calendars

```

```

// set properties
c.Title="Test Birthday"
c.startDate=d
c.recurrenceRule = r
c.calendar=calendars(0) // add to first calendar
c.addAlarm(a)
c.endDate = d
c.isAllDay = true

// save event
call s.saveEvent(c,s.CalSpanAllEvents, e)
if e<>nil then
MsgBox e.localizedDescription
else
MsgBox "New event was created."
end if

```

**Notes:** This adds an event to iCal for the given date with alarm to remember you and repeats it every year.

### 5.0.89 How to create a GUID?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Use the UUIDMBS class for this.

### 5.0.90 How to create a Mac picture clip file?

Plugin Version: all, Platform: Windows.

**Answer:** You can use code like this one.

**Example:**

```

dim f As FolderItem
dim p As Picture

f=SpecialFolder.Desktop.Child("Test.pictClipping")
if f=nil then Return

p=new Picture(300,200,32) 'Make a sample picture
p.Graphics.ForeColor=RGB(0,255,255)
p.Graphics.FillOval 0,0,99,99

```

```
p.Graphics.ForeColor=RGB(255,0,0)
p.Graphics.DrawOval 0,0,99,99
```

```
dim r As ResourceFork 'ResourceFork is needed for a clip file
```

```
// Please define a file type Any
r=f.CreateResourceFork("Any")
```

```
// get PICT data using plugin function
dim pictdata as string = p.PicHandleDataMBS
r.AddResource(pictdata,"PICT",256,"Picture")
```

```
dim m as new MemoryBlock(8)
```

```
m.LittleEndian = false
m.Int16Value(0) = 0
m.Int16Value(2) = 0
m.Int16Value(4) = p.Width
m.Int16Value(6) = p.Height
```

```
r.AddResource(m,"RECT",256,"")
```

```
'Values taken from a sample file and irrelevant to the problem
```

```
dim data as string = DecodeBase64("AQAAAAAAAAAAAAAAAAACAFRDRVIAAABAAAAAAAAAAAAAAAAABUQ0IQAAAAA")
r.AddResource(data,"drag",128,"") 'ditto
r.Close
```

**Notes:** In general Apple has deprecated this, but a few application still support clippings.

### 5.0.91 How to create a PDF file in Xojo?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Check our DynaPDF plugin and the examples.

**Notes:** An alternative can be to use the CoreGraphics and Cocoa functions on Mac OS X. For Windows, we can only suggest our DynaPDF plugin.

### 5.0.92 How to create EmailAttachment for PDF Data in memory?

Plugin Version: all, Platform: macOS.

**Answer:** You can use code like the one below:

**Example:**

**Function** EmailAttachmentFromPDFData(PDFData as string, filename as string) As EmailAttachment  
 dim a as new EmailAttachment

```
a.data = EncodeBase64(PDFData, 76)
a.ContentEncoding = "base64"
a.MIMEType = "application/pdf"
a.MacType = "PDF "
a.MacCreator = "prvw"
a.Name = filename
```

Return a

End Function

**Notes:** Compared to sample code from Xojo documentation, we set the mime type correct for PDF. The MacType/MacCreator codes are deprecated, but you can still include them for older Mac email clients. "prvw" is the creator code for Apple's preview app.

### 5.0.93 How to create PDF for image files?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You can use DynaPDF like this:

**Example:**

```
Function CreatePrintPDF(jpgFiles() as folderitem, pdfFile as FolderItem, PageWidth as Integer, PageHeight as Integer) As Boolean
  // have files?
  If pdfFile = Nil Then Return False
  If jpgFiles = Nil Then Return False

  If jpgFiles.Ubound < 0 Then Return False

  // new DynaPDF
  Dim pdf As New MyDynapdfMBS

  // page width/height in MilliMeter
  Dim pdfWidth as Integer = PageWidth * 72 / 25.4
  Dim pdfHeight as Integer = PageHeight * 72 / 25.4

  // put your license here
  Call pdf.SetLicenseKey "Starter"

  // create pdf
  Call pdf.CreateNewPDF pdfFile
```

```

// set a couple of options
Call pdf.SetPageCoords(MyDynaPDFMBS.kpcTopDown)
Call pdf.SetResolution(300)
Call pdf.SetUseTransparency(False)
Call pdf.SetSaveNewImageFormat(False)
Call pdf.SetGStateFlags(MyDynaPDFMBS.kgfUseImageColorSpace, False)
Call pdf.SetJPEGQuality(100)

// set page size
Call pdf.SetBBox(MyDynaPDFMBS.kpbMediaBox, 0, 0, pdfWidth, pdfHeight)
Call pdf.SetPageWidth(pdfWidth)
Call pdf.SetPageHeight(pdfHeight)

// append pages with one image per page
For i as Integer = 0 To jpgFiles.Ubound
Call pdf.Append
Call pdf.InsertImageEx(0, 0, pdfWidth, pdfHeight, jpgFiles(i), 1)
Call pdf.EndPage
Next

// close
Call pdf.CloseFile

Return True
End Function

```

**Notes:** This is to join image files in paper size to a new PDF.  
e.g. scans in A4 into an A4 PDF.

### 5.0.94 How to CURL Options translate to Plugin Calls?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Below a few tips on how to translate command line CURL calls to plugin calls.

**Notes:** `curl -vX PUT http://localhost:5984/appserials/78569238475/DocumentRegister.docx?rev=3-25634563456 -data-binary @DocumentRegister.docx -H "Content-Type: application/msword"`

- The option `-v` means verbose. You can use `OptionVerbose` and listen for messages in the `DebugMessage` event.
- The option `-X PUT` means we want to do a HTTP PUT Request. So set `OptionPut` to true. Also you will want to set `OptionUpload` to true as you upload data.
- We have the URL which you put into `OptionURL` property.

- The `-data-binary` option tells CURL to pass the given data. With the `@` before the data, it is interpreted as a file name, so the data is read from the given file. You'll need to open this file and pass data with the Read event as needed. (See CURLS ftp file upload example project)
- The last option `-H` specifies an additional header for the upload. Pass this additional header with the `SetOptionHTTPHeader` method.

```
curl -X PUT http://127.0.0.1:5984/appserials/f2f4e540bf8bb60f61cfc4328001c59 -d '{ "type": "Product", "description": "Application Serial", "acronym": "AppSerial", "dateAdded": "2011-03-21 14:57:36" } '
```

- Option `-X PUT` like above.
- Pass the URL again in `OptionURL`
- This time data is passed in command line for CURL. You'd put this data in the quotes into a string and make it available in the Read event. (See CURLS ftp upload example project)

### 5.0.95 How to delete file with ftp and curl plugin?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You can set post/pre quotes to have ftp commands executed before or after the download/upload.

**Example:**

```
dim d as CURLMBS // your curl object
```

```
// delete file
```

```
dim ws() As String
```

```
ws.Append "DELE Temp.txt"
```

```
d.SetOptionPostQuote(ws)
```

**Notes:** Use `SetOptionPostQuote`, `SetOptionPreQuote` or `SetOptionQuote`.

The ftp commands you pass here are native ftp commands and not the commands you use with ftp applications. To delete use `DELE` and the file path.

### 5.0.96 How to detect display resolution changed?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** On Mac OS X simply listen for display changed notifications.

**Notes:** Use the "Distribution Notification Center.rbp" example project as a base and use it to listen to notifications with the name "O3DeviceChanged".

### 5.0.97 How to detect retina?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Please use `Window.BackingScaleFactorMBS` to query the factor.

**Example:**

```
msgbox str(window1.BackingScaleFactorMBS)
```

### 5.0.98 How to disable force quit?

Plugin Version: all, Platform: macOS.

**Answer:**

Please visit this website and get the control panel for Mac OS 9 there:

<http://www3.sk.sympatico.ca/tinyjohn/DFQ.html>

For Mac OS X use the MBS Plugin with the `SetSystemUIModeMBS` method.

**Notes:**

Please use `presentationOptions` in `NSApplicationMBS` for Cocoa applications.

### 5.0.99 How to disable the error dialogs from Internet Explorer on javascript errors?

Plugin Version: all, Platform: Windows.

**Answer:** You can use this code in the `htmlviewer` open event:

**Example:**

```
if targetwin32 then
htmlviewer1._ole.Content.value("Silent") = True
end if
```

**Notes:** This disables the error dialogs from Internet Explorer.

### 5.0.100 How to display a PDF file in Xojo?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** On Mac OS X you can use CoreGraphics or PDFKit to display a PDF.

**Notes:** An alternative can be to load the PDF into a htmlviewer so the PDF plugin can display it.

On Windows you may need to use the Acrobat ActiveX control from Adobe or launch Acrobat Reader.

### 5.0.101 How to do a lottery in RB?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Try this function:

**Example:**

```

Sub Lotto(max as Integer,count as Integer,z() as Integer)
// Lotto count numbers of max put into the array z beginning at index 0
dim n(0) as Integer ' all the numbers
dim m as Integer ' the highest field in the current array
dim i,a,b,d as Integer ' working variables

'fill the array with the numbers
m=max-1
redim n(m)

for i=0 to m
n(i)=i+1
next

' unsort them by exchanging random ones
m=max*10
for i=1 to m
a=rnd*max
b=rnd*max

d=n(a)
n(a)=n(b)
n(b)=d
next

' get the first count to the dest array
m=count-1
redim z(m)
for i=0 to m
z(i)=n(i)
next

'sort the result
z.sort
End Sub

```



```

b=true
x=x1
while (x<x2) and (y<y2)
  ox=x
  oy=y

  x=x+dx
  y=y+dy

  if b then
    g.DrawLine ox,oy,x,y
  end if

  b=not b
wend

```

End Sub

**Notes:** It would be possible to add this to the plugin, but I think it's better if you do it in plain Xojo code, so it even works on Windows.

### 5.0.104 How to draw a nice antialiased line?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:**

This code can help you although it's not perfect.  
You need to set lc to the current color you use.

**Example:**

```

Sub drawLine(xs as Integer, ys as Integer, xe as Integer, ye as Integer, face as RGBSurface, lineColor as
color)
  dim intX, intY, count, n, xDiff, yDiff as Integer
  dim v, v1, floatX, floatY, xx, yy, xStep, yStep as Double
  dim c as color

  const st=1.0

  xDiff=xe-xs
  yDiff=ye-ys
  count=max(abs(xDiff), abs(yDiff))
  xStep=xDiff/count
  yStep=yDiff/count

```

```

xx=xs
yy=ys
for n=1 to count
intX=xx
intY=yy
floatX=xx-intX
floatY=yy-intY

v=(1-floatX)*(1-floatY)*st
v1=1-v
c=face.pixel(intX, intY)
face.pixel(intX, intY)=rgb(v*lineColor.red+v1*c.red, v*lineColor.green+v1*c.green, v*lineColor.blue+v1*c.blue)
v=floatX*(1-floatY)*st
v1=1-v
c=face.pixel(intX+1, intY)
face.pixel(intX+1, intY)=rgb(v*lineColor.red+v1*c.red, v*lineColor.green+v1*c.green, v*lineColor.blue+v1*c.blue)
v=(1-floatX)*floatY*st
v1=1-v
c=face.pixel(intX, intY+1)
face.pixel(intX, intY+1)=rgb(v*lineColor.red+v1*c.red, v*lineColor.green+v1*c.green, v*lineColor.blue+v1*c.blue)
v=floatX*floatY*st
v1=1-v
c=face.pixel(intX+1, intY+1)
face.pixel(intX+1, intY+1)=rgb(v*lineColor.red+v1*c.red, v*lineColor.green+v1*c.green, v*lineColor.blue+v1*c.blue)

xx=xx+xStep
yy=yy+yStep
next

End Sub

```

**Notes:**

PS: st should be 1 and face should be a RGBSurface or a Graphics object.

**5.0.105 How to dump java class interface?**

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** In terminal you can use "javap -s <classname>" to display the class with the method names and parameters.

**Notes:** For example show ResultSet class: javap -s java.sql.ResultSet

**5.0.106 How to duplicate a picture with mask or alpha channel?**

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You can use code like this function:

**Example:**

```
Function Duplicate(extends p as Picture) As Picture
#if RBVersion >= 2011.04 then
if p.HasAlphaChannel then

// create nw picture and copy content:
dim q as new Picture(p.Width, p.Height)
q.Graphics.DrawPicture p,0,0

Return q

end if
#endif

// create new picture
dim q as new Picture(p.Width, p.Height, 32)

// get mask
dim oldMask as Picture = p.mask(false)
if oldMask = nil then
// no mask, so simple copy
q.Graphics.DrawPicture p,0,0
Return q
end if

// remove mask
p.mask = nil

// copy picture and mask
q.Graphics.DrawPicture p, 0, 0
q.mask.Graphics.DrawPicture oldMask,0,0

// restore mask
p.mask = oldmask

Return q
End Function
```

**Notes:** Simply copy it to a module and call it like this: `q = p.duplicate`.

The code above works with old Xojo versions because of the `#if` even if your RS version does not support alpha channel pictures. This way it's future proof.

### 5.0.107 How to enable assistive devices?

Plugin Version: all, Platform: macOS.

**Answer:** You can use AppleScript code like below:

**Notes:** tell application "System Events"  
activate

```
set UI elements enabled to true
```

```
return UI elements enabled
end tell
```

You can run this with AppleScriptMBS class.

### 5.0.108 How to encrypt a file with Blowfish?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You can use code like this:

**Example:**

```
dim fi as FolderItem = SpecialFolder.Desktop.Child("test.xojo_binary_project")
dim fo as FolderItem = SpecialFolder.Desktop.Child("test.encrypted")
```

```
// read input
```

```
dim bi as BinaryStream = BinaryStream.Open(fi)
```

```
dim si as string = bi.Read(bi.Length)
```

```
bi.Close
```

```
// encrypt
```

```
dim so as string = BlowfishMBS.Encrypt("MyKey",si)
```

```
// write output
```

```
dim bo as BinaryStream = BinaryStream.Create(fo)
```

```
bo.Write so
```

```
bo.Close
```

**Notes:** Of course you can decrypt same way, just use Decrypt function and of course swap files.

**5.0.109 How to extract text from HTML?**

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Use both RemoveHTMLTagsMBS and DecodingFromHTMLMBS like this:

**Example:**

```
dim html as string = "<p><B>Gr&uuml;&szlig;e</B></P>"
dim htmltext as string = RemoveHTMLTagsMBS(html)
dim text as string = DecodingFromHTMLMBS(htmltext)
```

MsgBox text // shows: Gr√üë

**Notes:** You can use it together with RemoveHTMLTagsMBS to remove html tags. What you get will be the text without tags.

DecodingFromHTMLMBS turns HTML escapes back to unicode characters. Like &auml; to √§.

**5.0.110 How to find empty folders in a folder?**

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Try this code:

**Example:**

```
dim folder as folderitem // your folder

dim c as Integer = folder.count
for i as Integer = 1 to c
dim item as folderitem = folder.trueitem(i)
if item = nil then
// ignore
elseif item.directory then
// folder
if item.count = 0 then
// found empty folder
end if
end if
next
```

**5.0.111 How to find iTunes on a Mac OS X machine fast?**

Plugin Version: all, Platform: macOS.

**Answer:** You can try Launch Services.

**Example:**

```
dim f as FolderItem

f=LaunchServicesFindApplicationForInfoMBS("hook","com.apple.iTunes","iTunes.app")

MsgBox f.NativePath
```

### 5.0.112 How to find network interface for a socket by it's name?

Plugin Version: all, Platform: macOS.

**Answer:** You can use our plugin to build a lookup table.

**Example:**

```
Function FindNetworkInterface(name as string) As NetworkInterface
name = name.trim

if name.len = 0 then Return nil

// search by IP/MAC
dim u as Integer = System.NetworkInterfaceCount-1
for i as Integer = 0 to u
dim n as NetworkInterface = System.GetNetworkInterface(i)
if n.IPAddress = name or n.MACAddress = name then
Return n
end if
next

// use MBS Plugin to build a mapping
dim interfaces() as NetworkInterfaceMBS = NetworkInterfaceMBS.AllInterfaces
dim map as new Dictionary

for each n as NetworkInterfaceMBS in interfaces
dim IPv4s() as string = n.IPv4s
dim IPv6s() as string = n.IPv6s

for each IPv4 as string in IPv4s
map.Value(IPv4) = n.Name
next
for each IPv6 as string in IPv6s
map.Value(IPv6) = n.Name
next
if n.MAC<>>" then
map.Value(n.MAC) = n.Name
```

```

end if
next

// now search interfaces by name, IPv4 or IPv6
for i as Integer = 0 to u
dim n as NetworkInterface = System.GetNetworkInterface(i)
if map.Lookup(n.IPAddress, "") = name then
Return n
end if

if map.Lookup(n.MACAddress, "") = name then
Return n
end if
next

End Function

```

**Notes:** The code above uses a lookup table build using NetworkInterfaceMBS class to find the network interface by name.

### 5.0.113 How to find version of Microsoft Word?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You can use code like this:

**Example:**

```

// find Word
dim f as FolderItem = LaunchServicesFindApplicationForInfoMBS("", "com.microsoft.Word", "")

// open bundle
dim c as new NSBundleMBS(f)

// read info
dim d as Dictionary = c.infoDictionary

// show version
MsgBox d.Lookup("CFBundleVersion", "")

```

**Notes:** Older versions of Word can be found with creator code "MSWD".

### 5.0.114 How to fix CURL error 60/53 on connecting to server?

Plugin Version: all, Platform: macOS.

**Answer:** You probably connect with SSL and you have no valid certificate.

**Example:**

```
dim d as new CURLSMBS

// Disable SSL verification
d.OptionSSLVerifyHost = 0 // don't verify server
d.OptionSSLVerifyPeer = 0 // don't proofs certificate is authentic

// With SSL Verification:
dim cacert as FolderItem = Getfolderitem("cacert.pem")
d.OptionCAInfo = cacert.NativePath
d.OptionSSLVerifyHost = 2 // verify server
d.OptionSSLVerifyPeer = 1 // proofs certificate is authentic
```

**Notes:** You can either use the code above to disable the SSL verification and have no security. Or you use the cacert file and enable the verification. Than you only get a connection if the server has a valid certificate.

see also:

<http://curl.haxx.se/ca/>

### 5.0.115 How to format double with n digits?

Plugin Version: all, Platform: macOS.

**Answer:** You can use the FormatMBS function for this.

**Example:**

```
dim d as Double = 123.4567890
listbox1.AddRow FormatMBS("%f", d)
listbox1.AddRow FormatMBS("%e", d)
listbox1.AddRow FormatMBS("%g", d)

listbox1.AddRow FormatMBS("%5.5f", d)
listbox1.AddRow FormatMBS("%5.5e", d)
listbox1.AddRow FormatMBS("%5.5g", d)

d = 0.000000123456
listbox1.AddRow FormatMBS("%f", d)
listbox1.AddRow FormatMBS("%e", d)
```

```
listbox1.AddRow FormatMBS("%g", d)

listbox1.AddRow FormatMBS("%5.5f", d)
listbox1.AddRow FormatMBS("%5.5e", d)
listbox1.AddRow FormatMBS("%5.5g", d)
```

**Notes:** see FormatMBS for details.

In general %f is normal style, %e is scientific and %g is whichever gives best result for given space.

### 5.0.116 How to get a time converted to user time zone in a web app?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Use the WebSession.GMTOffset property.

**Example:**

```
Sub Open()
// current date on server
dim d as new date
dim s as string = d.LongTime

// adjust to client GMT offset
d.GMTOffset = d.GMTOffset + Session.GMTOffset

dim t as string = D.LongTime

MsgBox s+EndOfLine+t
End Sub
```

### 5.0.117 How to get an handle to the frontmost window on Windows?

Plugin Version: all, Platform: Windows.

**Answer:** This function returns a handle for the frontmost window:

**Example:**

```
Function GetForegroundWindowHandle() as Integer
#if targetwin32 then
declare function GetForegroundWindow Lib "user32.dll" as Integer
Return GetForegroundWindow()
#endif
End Function
```

### 5.0.118 How to get CFAbsoluteTime from date?

Plugin Version: all, Platforms: macOS, Windows.

**Answer:** Use code like this:

**Example:**

```
dim d as new date
dim t as CFTimeZoneMBS = SystemCFTimeZoneMBS
dim g as new CFGregorianCalendarMBS
g.Day = d.Day
g.Month = d.Month
g.Year = d.Year
g.Minute = d.Minute
g.Hour = d.Hour
g.Second = d.Second

dim at as CFAbsoluteTimeMBS = g.AbsoluteTime(t)
dim x as Double = at.Value
```

```
MsgBox str(x)
```

**Notes:** As you see we need a timezone and put the date values in a gregorian date record. Now we can query absolute time for the given timezone.

### 5.0.119 How to get client IP address on web app?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Use the WebSession.RemoteAddress property.

**Example:**

```
Sub Open()
Title = Session.RemoteAddress
End Sub
```

### 5.0.120 How to get fonts to load in charts on Linux?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Please use the SetFontSearchPath method in the CDBaseChartMBS class to specify where your fonts are.

**Example:**

```

if TargetLinux then
CDBaseChartMBS.SetFontSearchPath "/usr/share/fonts/truetype;/usr/share/fonts/truetype/msttcorefonts"
else
// on Mac and Windows we use system fonts.
end if

// also you can later switch default fonts:

dim Chart as CDBaseChartMBS // your chart

#If TargetARM And TargetLinux Then
// use specific fonts on Linux on Raspberry Pi
Call Chart.setDefaultFonts("/usr/share/fonts/truetype/piboto/PibotoLt-Regular.ttf", "/usr/share/fonts/truetype/piboto/Pi
#EndIf

```

**Notes:** On macOS, iOS and Windows, the fonts are loaded from the system's font folder.

e.g. if you use ubuntu, you can install the ttf-mscorefonts-installer package and call this method with "/usr/share/fonts/truetype/msttcorefonts" as the path. No backslash on the end of a path, please.

### 5.0.121 How to get fonts to load in DynaPDF on Linux?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Please use the AddFontSearchPath method in the DynaPDFMBS class to specify where your fonts are.

**Example:**

```

dim d as new DynaPDFMBS
if TargetLinux then
call d.AddFontSearchPath "/usr/share/fonts/truetype", true
else
// on Mac and Windows we use system fonts.
end if

```

**Notes:** On Mac OS X and Windows, the fonts are loaded from the system's font folder.

e.g. if you use ubuntu, you can install the ttf-mscorefonts-installer package and call this method with "/usr/share/fonts/truetype/msttcorefonts" as the path. No backslash on the end of a path, please.

### 5.0.122 How to get GMT time and back?

Plugin Version: all, Platform: macOS.

**Answer:** You can use the date class and the GMTOffset property.

**Example:**

```
// now
dim d as new date

// now in GMT
dim e as new date
e.GMTOffset = 0

// show
MsgBox str(d.TotalSeconds,"0.0")+ " " +str(e.TotalSeconds, "0.0")

dim GMTTimeStamp as Double = e.TotalSeconds

// restore
dim f as new date

// add GMT offset here
f.TotalSeconds = GMTTimeStamp + f.GMTOffset*3600
// because here it's removed
f.GMTOffset = f.GMTOffset

MsgBox d.ShortTime+" (" +str(d.GMTOffset)+") " +str(d.TotalSeconds,"0.0")+EndOfLine+_
e.ShortTime+" (" +str(e.GMTOffset)+") " +str(e.TotalSeconds,"0.0")+EndOfLine+_
f.ShortTime+" (" +str(f.GMTOffset)+") " +str(f.TotalSeconds,"0.0")
```

**Notes:** It's sometimes a bit tricky with the date class as setting one property often changes the others.

### 5.0.123 How to get good crash reports?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Check this website from the webkit website:

**Notes:** <http://webkit.org/quality/crashlogs.html>

**5.0.124 How to get list of all threads?**

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You can use the runtime module like in this function:

**Example:**

```
Function Threads() As Thread()
#pragma DisableBackgroundTasks
dim t() as Thread

Dim o as Runtime.ObjectIterator=Runtime.IterateObjects
While o.MoveNext
if o.Current isa Thread then
t.Append thread(o.current)
end if
Wend

Return t
End Function
```

**Notes:** This returns an array of all thread objects currently in memory.

The pragma is important here as it avoids thread switches which may cause a thread to be created or deleted.

**5.0.125 How to get parameters from webpage URL in Xojo Web Edition?**

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Use the Webpage.ParametersReceived event.

**Example:**

```
Sub ParametersReceived(Variables As Dictionary)
for each key as Variant in Variables.keys
MsgBox key+" ->" +Variables.Value(key)
next
End Sub
```

**Notes:** The text encodings of this strings is not defined in Xojo 2010r5. Please use DefineEncoding.

**5.0.126 How to get the color for disabled textcolor?**

Plugin Version: all, Platform: macOS.

**Answer:** Ask the appearance manager:

**Example:**

```
Function GetThemeTextColor(inColor as Integer, inDepth as Integer, inColorDev as Boolean) As Color
declare function GetThemeTextColor lib "Carbon" (inColor as Integer, inDepth as Integer, inColorDev as
Boolean, outColor as Ptr) as Integer
```

```
dim i as Integer
```

```
dim col as MemoryBlock
```

```
col = newMemoryBlock(6)
```

```
i = GetThemeTextColor(inColor, inDepth, inColorDev, col)
```

```
return RGB(col.UShort(0)\256, col.UShort(2)\256, col.UShort(4)\256)
```

```
End Function
```

**Notes:** The color for this is:

```
const kThemeTextColorDialogInactive = 2.
```

```
c = GetThemeTextColor(kThemeTextColorDialogInactive, Screen(0).Depth, true)
```

For Mac OS X you should use "CarbonLib" instead of "AppearanceLib" ...

### 5.0.127 How to get the current free stack space?

Plugin Version: all, Platform: macOS.

**Answer:** You can something like the code below:

**Example:**

```
Sub ShowStackSize()
```

```
dim threadid as Integer
```

```
dim size as Integer
```

```
declare function GetCurrentThread lib "Carbon" (byref threadid as Integer) as short
```

```
declare function ThreadCurrentStackSize lib "Carbon" (threadid as Integer, byref size as Integer) as short
```

```
if GetCurrentThread(threadid)=0 then
```

```
if 0=ThreadCurrentStackSize(threadid,size) then
```

```
MsgBox str(size)
```

```
end if
```

```
end if
```

End Sub

**Notes:** For Mac OS 9, use "ThreadLib" instead of "CarbonLib". You can use #if if you like for that.

### 5.0.128 How to get the current timezone?

Plugin Version: all, Platforms: macOS, Windows.

**Answer:**

You can use the TimeZoneMBS class or the CFTimeZoneMBS class.  
Or code like below:

**Example:**

```
Function GMTOffsetInMinutes() as Integer
// Returns the offset of the current time to GMT in minutes.
// supports Mac OS and Windows, but not Linux yet (let me know if
// you have code for that, please)
//
// Note that the offset is not always an even multiple of 60, but
// there are also half hour offsets, even one 5:45h offset

// This version by Thomas Tempelmann (rb@tempel.org) on 25 Nov 2005
// with a fix that should also make it work with future Intel Mac targets.
//
// Using code from various authors found on the RB NUG mailing list

dim result, bias, dayLightbias as Integer
dim info as memoryBlock
dim offset as Integer

#if targetMacOS then

Declare Sub ReadLocation lib "Carbon" (location As ptr)

info = NewMemoryBlock(12)
ReadLocation info
if false then
// bad, because it does not work on Intel Macs:
'offset = info.short(9) * 256 + info.byte(11)
else
offset = BitwiseAnd (info.long(8), &hFFFFFF)
end

offset = info.short(9) * 256 + info.byte(11)
```

```

offset = offset \60
return offset

#endif

#if targetWin32 then

Declare Function GetTimeZoneInformation Lib "Kernel32" ( tzInfoPointer as Ptr ) as Integer
// returns one of
// TIME_ZONE_ID_UNKNOWN 0
// - Note: e.g. New Delhi (GMT+5:30) and Newfoundland (-3:30) return this value 0
// TIME_ZONE_ID_STANDARD 1
// TIME_ZONE_ID_DAYLIGHT 2

info = new MemoryBlock(172)
result = GetTimeZoneInformation(info)

bias = info.Long(0)
// note: the original code I found in the NUG archives used Long(84) and switched to Long(0)
// only for result=1 and result=2, but my tests found that Long(0) is also the right value for result=0

if result = 2 then
daylightBias = info.long(168)
end if
offset = - (bias + dayLightbias)
return offset

#endif

End Function

```

### 5.0.129 How to get the current window title?

Plugin Version: all, Platform: macOS.

**Answer:** The code below returns the current window title for the frontmost window on Mac OS X if Accessibility services are

**Example:**

```

Function CurrentWindowTitle() As string
// your application needs permissions for accessibility to make this work!

dim SystemWideElement,FocusedApplicationElement,FocusedWindowElement as AXUIElementMBS
dim FocusedApplication,FocusedWindow,Title as AXValueMBS
dim s as String
dim cs as CFStringMBS

```

```

SystemWideElement=AccessibilityMBS.SystemWideAXUIElement
if SystemWideElement<>nil then
FocusedApplication=SystemWideElement.AttributeValue(AccessibilityMBS.kAXFocusedApplicationAttribute)
if FocusedApplication.Type=AccessibilityMBS.kAXUIElementMBSTypeID then
FocusedApplicationElement=new AXUIElementMBS
FocusedApplicationElement.Handle=FocusedApplication.Handle
FocusedApplicationElement.RetainObject

FocusedWindow=FocusedApplicationElement.AttributeValue(AccessibilityMBS.kAXFocusedWindowAttribute)

if FocusedWindow<>nil and AccessibilityMBS.kAXUIElementMBSTypeID=FocusedWindow.Type then

FocusedWindowElement=new AXUIElementMBS
FocusedWindowElement.Handle=FocusedWindow.Handle
FocusedWindowElement.RetainObject

Title=FocusedWindowElement.AttributeValue(AccessibilityMBS.kAXTitleAttribute)
if Title<>nil and Title.Type=kCFStringMBSTypeID then
cs=new CFStringMBS
cs.handle=Title.Handle
cs.RetainObject
Return cs.str
end if
end if
end if
end if
End Function

```

### 5.0.130 How to get the cursor blink interval time?

Plugin Version: all, Platform: macOS.

**Answer:** On Mac OS you can use GetCaretTime from the toolbox.

**Example:**

```
declare function GetCaretTime lib "Carbon" () as Integer
```

```
MsgBox str(GetCaretTime())+" ticks"
```

**Notes:** 60 ticks make one second.

### 5.0.131 How to get the list of the current selected files in the Finder?

Plugin Version: all, Platform: macOS.

**Answer:**

Use the AppleScript like this one:

```
tell application "finder"
return selection
end tell
```

Which translates into this AppleEvent:

```
Process("Finder").SendAE "core,getd,'—':obj { form:prop, want:type(prop), seld:type(sele), from:'null'() }
"
```

and as Xojo code it looks like this:

**Example:**

```
dim ae as appleEvent
dim o1 as appleEventObjectSpecifier
dim f as folderItem
dim alist as appleEventDescList
dim i as Integer
dim dateiname as string

// setup the AppleEvent
o1=getpropertyObjectDescriptor( nil, "sele")
ae= newappleEvent("core", "getd", "MACS")
ae.objectSpecifierParam("—")=o1

// send it
if ae.send then
// got the list
alist=ae.replyDescList

// now show the list of filename into an editfield:

for i=1 to alist.count
f=alist.folderItem(i)

dateiname=f.name
// editfield1 with property "multiline=true"!
editfield1.text=editfield1.text + dateiname + chr(13)
next
```

end if

### 5.0.132 How to get the Mac OS system version?

Plugin Version: all, Platform: macOS.

**Answer:** The following code queries the value and displays the version number:

**Example:**

```

dim first as Integer
dim second as Integer
dim third as Integer
dim l as Integer

if System.Gestalt("sysv",l) then

Third=Bitwiseand(l,15)
second=Bitwiseand(l\16,15)
first=Bitwiseand(l\256,15)+10*Bitwiseand(l\256\16,15)
end if

if First>=10 then
msgbox "Mac OS X "+str(First)+" "+str(Second)+" "+str(third)
else
msgbox "Mac OS "+str(First)+" "+str(Second)+" "+str(third)
end if

```

### 5.0.133 How to get the Mac OS Version using System.Gestalt?

Plugin Version: all, Platform: macOS.

**Answer:** Try this code:

**Example:**

```

Dim s As String
Dim b As Boolean
Dim i, resp as Integer

// Systemversion
b = System.Gestalt("sysv", resp)
If b then
s = Hex(resp)

```

```

For i =Len(s)-1 DownTo 1
s=Left(s,i)+””+Mid(s,i+1)
Next
MsgBox ”Systemversion: Mac OS ” + s
end if

```

**Notes:** The MBS Plugin has a SystemInformationMBS.OSVersionString function for this.

### 5.0.134 How to get the screensize excluding the task bar?

Plugin Version: all, Platform: Windows.

**Answer:** Try this code:

**Notes:** Use the Screen class with the available\* properties.

### 5.0.135 How to get the size of the frontmost window on Windows?

Plugin Version: all, Platform: Windows.

**Answer:** Try this code:

**Notes:** Make yourself a class for the WindowRect with four properties:

```

Bottom as Integer
Left as Integer
Right as Integer
Top as Integer

```

Add the following method to your class:

```

Sub GetWindowRect(windowhandle as Integer)
dim err as Integer
dim mem as memoryBlock
#if targetwin32 then
Declare Function GetWindowRect Lib ”user32.dll” (hwnd as Integer, ipRect As Ptr) as Integer

mem = newmemoryBlock(16)
err = GetWindowRect(windowhandle, mem)
Left = mem.long(0)
Top = mem.Long(4)
Right = mem.Long(8)
Bottom = mem.Long(12)

```

```
#endif  
End Sub
```

Good to use for the MDI Master Window!

### 5.0.136 How to get the source code of a HTMLViewer?

Plugin Version: all, Platform: macOS.

**Answer:** Try this code:

**Example:**

```
// for Windows:
```

```
msgbox HTMLViewer1.IEHTMLTextMBS
```

```
// for MacOS with WebKit 2.x:
```

```
msgbox HTMLViewer1.WKWebViewMBS.HTMLText
```

### 5.0.137 How to get Xojo apps running Linux?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You need to install some require packages.

**Notes:** You need CUPS as well as GTK packages. On 64 bit systems also the ia32-libs package.

Please note that you need a x86 compatible Linux. So no PPC, Power, ARM or other CPUs.

### 5.0.138 How to handle really huge images with GraphicsMagick or ImageMagick?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Sometimes it may be better to use an extra application to process images.

**Notes:** A typical 32 bit app made with Xojo can use around 1.8 GB on Windows and 3 GB on Mac OS X. Some images may be huge, so that processing them causes several copies of the image to be in memory. With a 500 MB image in memory, doing a scale or rotation may require a temp image. So with source, temp and dest images with each 500 MB plus your normal app memory usage, you may hit the limit of Windows with 1.8 GB.

In that case it may be worth running a tool like gm in the shell class. gm is the command line version of GraphicsMagick. There you can run the 64 bit version which is not limited in memory like your own application. Also you can monitor progress and keep your app responsive.

### 5.0.139 How to handle tab key for editable cells in listbox?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Use code like this function:

**Example:**

```
Function HandleTabInList(list as listbox, row as Integer, column as Integer, key as String) As Boolean
// Handle tab character in Listbox.CellKeyDown event
```

```
Select case asc(key)
case 9
if Keyboard.AsyncShiftKey then
// back

// look for column left
for i as Integer = column-1 downto 0
if list.ColumnType(i) >= list.TypeEditable then
list.EditCell(row, i)
Return true
end if
next

// not found, so look in row before
row = row - 1
if row >= 0 then
for i as Integer = list.ColumnCount-1 downto 0
if list.ColumnType(i) >= list.TypeEditable then
list.EditCell(row, i)
Return true
end if
next
end if
else
// forward

// look for column right
for i as Integer = column+1 to list.ColumnCount-1
if list.ColumnType(i) >= list.TypeEditable then
list.EditCell(row, i)
Return true
end if
next
```

```

// not found, so look in row below
row = row + 1
if row <list.ListCount then
for i as Integer = 0 to list.ColumnCount-1
if list.ColumnType(i) >= list.TypeEditable then
list.EditCell(row, i)
Return true
end if
next
end if
end if
end Select
End Function

```

**Notes:** You call it from CellKeyDown event like this:

```

EventHandler Function CellKeyDown(row as Integer, column as Integer, key as String) As Boolean
if HandleTabInList(me, row, column, key) then Return true
End EventHandler

```

As you see in the code, we handle tab and shift + tab for moving back and forward. Also we wrap to previous/next row if needed. Feel free to extend this to wrap from last to first row or create a new row for editing.

### 5.0.140 How to hard link MapKit framework?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Our MapKit classes weak link the framework. If you need hard linking it for the App Store, you can add this method to a class:

**Example:**

```

Sub ReferenceMapKit()
// just put this in window or app class

#if TargetMachO and Target64Bit then
Declare sub testing Lib "MapKit" Selector "test" (id as ptr)
testing(nil)
#endif

End Sub

```

**Notes:** No need to call the method.

Just having it in a window or app, will cause the compiler to hard link the framework.

### 5.0.141 How to have a PDF downloaded to the user in a web application?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You can use a WebHTMLViewer control and load the PDF file with the PDF plugin from the browser.

**Example:**

```
dim CurrentFile as WebFile // a property of the WebPage

// define the PDF file
CurrentFile = new WebFile
CurrentFile.Filename = "test.pdf"
CurrentFile.MIMEType = "application/pdf"
CurrentFile.Data = "some pdf data" // MyDynaPDF.GetBuffer
CurrentFile.ForceDownload = true

// start the download
showurl(CurrentFile.url)
```

**Notes:** See our Create PDF example for the Xojo Web Edition.

### 5.0.142 How to hide all applications except mine?

Platform: macOS.

**Answer:** The code below will on Mac OS hide all applications except your one:

**Example:**

```
dim p as new ProcessMBS

p.GetFirstProcess
do
if not p.FrontProcess then
p.Visible=false
end if
loop until not p.GetNextProcess
```

**5.0.143 How to hide script errors in HTMLViewer on Windows?**

Plugin Version: all, Platform: Windows.

**Answer:** Set Internet Explorer to silent mode with code like this:

**Example:**

```
htmlviewer1._ole.Content.value("Silent") = True
```

**Notes:** Simply put this code in the open event of your htmlviewer control (using me instead of htmlviewer1).

**5.0.144 How to hide the grid/background/border in ChartDirector?**

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** If you want to hide something in a chart, simply assign the kTransparent constant as color.

**5.0.145 How to hide the mouse cursor on Mac?**

Plugin Version: all, Platform: macOS.

**Answer:** Try this declare:

**Example:**

```
Declare Sub HideCursor Lib "Carbon" () Inline68K("A852")
```

```
HideCursor
```

**Notes:** The MBS Plugin has this function and supports it on Windows, too.

**5.0.146 How to insert image to NSTextView or TextArea?**

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** With NSTextViewMBS you can use this code to insert file:

**Example:**

```
// insert a file to textview
```

```
Public Sub InsertFile(textview as NSTextViewMBS, f as FolderItem)
```

```
// read to file
```

```

dim b as BinaryStream = BinaryStream.Open(f)
dim s as string = b.Read(b.Length)

// build wrapper
dim fileWrapper as NSFileWrapperMBS = NSFileWrapperMBS.initRegularFileWithContents(s)
fileWrapper.preferredFilename = f.name

// make attachment
dim fileAttachment as new NSTextAttachmentMBS(fileWrapper)
dim attributedString as NSAttributedStringMBS = NSAttributedStringMBS.attributedStringWithAttachment(fileAttachment)

// add to a NSTextViewMBS
textview.insertText attributedString

End Sub

```

**Notes:** For TextArea you can query the underlying NSTextViewMBS object via TextArea.NSTextViewMBS method.

### 5.0.147 How to jump to an anchor in a htmlviewer?

Plugin Version: all, Platforms: macOS, Windows.

**Answer:** You can use javascript to change the current window's location.

**Example:**

```

// load website
htmlviewer1.LoadURL "http://www.monkeybreadsoftware.net/addressbook-abpersonmbs.shtml"

// later jump to anchor named "16":

if TargetWin32 then
call HTMLViewer1.IERunJavaScriptMBS "window.location = ""#16""
end if

```

### 5.0.148 How to keep a movieplayer unclickable?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** To keep the user away from clicking on a playing Movie you can just drop a Canvas in front of the Movieplayer and take the clicks there.

**Example:**

```
Function Canvas1.MouseDown(X as Integer, Y as Integer) as boolean
return true // take it and do nothing
End Function
```

### 5.0.149 How to keep my web app from using 100% CPU time?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** On Linux and MacOS you can use renice command in the terminal. On Windows use the task manager to reduce priority.

**Notes:** If you launch your app with nohup on Linux or Mac OS X like this from the terminal or a script:

```
nohup /webapps/MyApp/MyApp &
```

you can simply have a second line saying this:

```
renice 20 $ !
```

which tells the system to lower priority to lowest value for the latest background process.

### 5.0.150 How to kill a process by name?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You can kill a process (or application) by name if you loop over all the processes and kill the one you need.

**Example:**

```
dim p as new ProcessMBS
p.GetfirstProcess ' get first
do
if p.name = "TextEdit" then
call p.KillProcess
Return
end if
loop until not p.GetNextProcess
```

**Notes:** You may want to check the result of killProcess function. Not every user is allowed to kill every application.

### 5.0.151 How to know how many CPUs are present?

Plugin Version: all, Platform: macOS.

**Answer:** Try this function:

**Example:**

```
Function GetCPUCount() as Integer
Declare Function MPPProcessors Lib "Carbon" () as Integer
```

```
Return MPPProcessors()
End Function
```

**Notes:** Your app will than need that library to launch on Classic. To avoid this the MBS plugin checks if this library is available and return 1 if it's not available.

### 5.0.152 How to know the calling function?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** On Mac you can use a helper function like this this code:

**Example:**

```
Public Function CallingFunction() as string
// Query name of calling function of a function
```

```
#Pragma BreakOnExceptions false
```

```
try
```

```
// raise a dummy exception
dim r as new NilObjectException
raise r
```

```
catch x as NilObjectException
```

```
// get stack
dim stack() as string = x.Stack
```

```
// pick function name and return
dim name as string = stack(2)
Return name
```

```
end try
End Function
```

**Notes:** You need to include function names in your application.

### 5.0.153 How to launch an app using it's creator code?

Plugin Version: all, Platform: macOS.

**Answer:** Send an AppleEvent "oapp" with the creator code to the Finder ("MACS"):

**Example:**

```
Dim a as AppleEvent
dim creator as string

creator = "MSIE" ' here the Internet Explorer

a = NewAppleEvent("aevt", "odoc", "MACS")
a.Timeout = -1

a.ObjectSpecifierParam("—") = GetUniqueIDObjectDescriptor("appf", nil, creator)

if not a.send then
msgBox "An error has occured"
else

end if
```

### 5.0.154 How to launch disc utility?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You can use this code:

**Example:**

```
dim f as FolderItem = LaunchServicesFindApplicationForInfoMBS("", "com.apple.DiskUtility", "")

if f<>Nil then
f.Launch
end if
```

**Notes:** This works even if people renamed the disc utility or moved it to another folder.

### 5.0.155 How to make a lot of changes to a REAL SQL Database faster?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You may try to embed your changes to the database between two transaction calls.

**Example:**

```
dim db as Database // some database

db.SQLiteExecute "BEGIN TRANSACTION"
// Do some Stuff
db.SQLiteExecute "END TRANSACTION"
```

**Notes:** This can increase speed by some factors.

### 5.0.156 How to make a NSImage object for my retina enabled app?

Plugin Version: all, Platform: macOS.

**Answer:** You can use code like this:

**Example:**

```
Function NewRetinaImage(pic as Picture, mask as Picture = nil) As NSImageMBS
// first make a NSImageMBS from it
dim n as new NSImageMBS(pic, mask)

// now set to half the size, so we have 2x pixels for the image
n.size = new NSSizeMBS(n.width/2, n.height/2)

// and return
Return n
End Function
```

**Notes:** The thing to do is to have 2x the pixels, but assign a size to the image which gives it the right size in points.

You can pass the NSImageMBS from here to NSMenuItemMBS. For Retina displays, the full resolution is used. For others it will be reduced.

### 5.0.157 How to make a window borderless on Windows?

Plugin Version: all, Platform: Windows.

**Answer:** Try this declares:

**Example:**

```
// Sets window to borderless popup type, and sets its initial dimensions.
// Call this method, then Win32SetBorderlessPos, and then RB's Show
// method. Use RB Frame type 7 (Global Floating Window).
```

```
Const SWP_NOMOVE = &H2
Const SWP_FRAMECHANGED = &H20
Const HWND_TOPMOST = -1
Const GWL_STYLE = -16
Const WS_POPUPWINDOW = &H80880000
```

```
Dim styleFlags as Integer
```

```
#If TargetWin32 Then
```

```
Declare Function SetWindowLong Lib "user32" Alias "SetWindowLongA" (hwnd as Integer, nIndex as Integer, dwNewLong as Integer) as Integer
```

```
Declare Function SetWindowPos Lib "user32" (hwnd as Integer, hWndInstertAfter as Integer, x as Integer, y as Integer, cx as Integer, cy as Integer, flags as Integer) as Integer
```

```
styleFlags = SetWindowLong( w.WinHWND, GWL_STYLE, WS_POPUPWINDOW )
styleFlags = BitwiseOr( SWP_FRAMECHANGED, SWP_NOMOVE )
styleFlags = SetWindowPos( w.WinHWND, HWND_TOPMOST, 0, 0, wd, ht, styleFlags )
```

```
#EndIf
```

### 5.0.158 How to make an alias using AppleEvents?

Plugin Version: all, Platform: macOS.

**Answer:** Try this code:

**Example:**

```
Sub MakeAlias(folder as folderitem, target as folderitem, aliasname as string)
```

```
dim ev as AppleEvent
```

```
dim myResult as boolean
```

```
dim properties as AppleEventRecord
```

```
ev = NewAppleEvent("core", "crel", "MACS")
```

```
ev.MacTypeParam("kocl") = "alis"
```

```
ev.FolderItemParam("to ") = target
```

```
ev.FolderItemParam("insh") = folder
```

```
properties=new AppleEventRecord
```

```

properties.StringParam("pnam")=aliasname

ev.RecordParam("prdt")=properties

myResult = ev.send
// true on success, false on error
End Sub

```

**Notes:** Call it like this:

```
MakeAlias SpecialFolder.Desktop, SpecialFolder.Desktop.Child("Gif Copy.rb"), "test.rb alias"
```

Seems to not work on Mac OS X 10.6

### 5.0.159 How to make AppleScripts much faster?

Plugin Version: all, Platform: macOS.

**Answer:** use "ignoring application responses" like in this example:

```

Notes: on run { fn,fpx,fpy }
ignoring application responses
tell app "Finder" to set the position of folder fn to fpx,fpy
end ignoring
end run

```

### 5.0.160 How to make double clicks on a canvas?

Plugin Version: all, Platform: macOS.

**Answer:**

Update: Newer Xojo versions support DoubleClick event, so you don't need this code.

Here's my tip from the tips list on how to add a double-click event to the Canvas control. The technique could easily be used for a window or any Rectcontrol:

Because of its built-in drawing methods, the Canvas control is often used to create custom interface controls. But while the Canvas control has event handlers for most mouse events, it doesn't have an event handler for DoubleClick events. Fortunately, you can add a double-click event handler to a Canvas control easily. Basically, you're going to create a new class based on Canvas and add a double-click event to that. You can then use the new class anytime you need a Canvas with a double-click event.

To create a new Canvas class with a DoubleClick event handler, do this:

1. Add a new class to your project.
2. Set the Super property of the new class to "Canvas".
3. Change the name of this new class to "DoubleClickCanvas".

A double-click occurs when two clicks occur within the users double-click time (set in the Mouse control panel on both Macintosh and Windows) and within five pixels of each other. So, you'll need a few properties to store when and where the last click occurred.

4. Add a new property with the following declaration and mark it as private: lastClickTicks as Integer
5. Add a new property with the following declaration and mark it as private: lastClickX as Integer
6. Add a new property with the following declaration and mark it as private: lastClickY as Integer

Since the Canvas control doesn't have a DoubleClick event, you will need to add one.

7. Add a new event to your class by choosing New Event from the Edit menu and enter "DoubleClick" as the event name.

Double-clicks occur on MouseUp. In order for the mouseUp event to fire, you must return True in the MouseDown event.

8. In the MouseDown event, add the following code:  
Return True

In the MouseUp event, you will need to determine what the users double-click time is. This value is represented on both the Mac and Windows in ticks. A tick is 1/60th of a second. Since there isn't a built-in function for this, you'll need to make a toolbox call. The mouseUp event code below makes the appropriate toolbox call for both Macintosh and Windows. It then compares the time of the users last click to the time of the current click and compares the location of the users last click to the location of the current click.

9. Add the following code to the MouseUp event:

```
dim doubleClickTime, currentClickTicks as Integer

#if targetMacOS then
Declare Function GetDbtTime Lib "Carbon" () as Integer
doubleClickTime = GetDbtTime()
#endif

#if targetWin32 then
Declare Function GetDoubleClickTime Lib "User32.DLL" () as Integer
```

```

doubleClickTime = GetDoubleClickTime()/60 // convert to ticks from milliseconds
#endif

currentClickTicks = ticks
//if the two clicks happened close enough together in time
if (currentClickTicks - lastClickTicks) <= doubleClickTime then
//if the two clicks occurred close enough together in space
if abs(X - lastClickX) <= 5 and abs(Y - LastClickY) <= 5 then
DoubleClick //a double click has occurred so call the event
end if
end if
lastClickTicks = currentClickTicks
lastClickX = X
lastClickY = Y

```

10. Now to test out your new DoubleClickCanvas, drag the class from the Project window to a window in your project to create an instance of it.

11. Double-click on the canvas you just added to your window to open the Code Editor. Notice that the canvas has a DoubleClick event handler. In this event handler, add the following code:  
BEEP

### 5.0.161 How to make my Mac not sleeping?

Plugin Version: all, Platform: macOS.

**Answer:** Just inform the Mac OS about some system activity with code like this:

**Example:**

```

Sub UpdateSystemActivity()

#if TargetCarbon
declare function myUpdateSystemActivity lib "Carbon" alias "UpdateSystemActivity" (activity as Integer)
as short

const OverallAct = 0 // Delays idle sleep by small amount */
const UsrActivity = 1 // Delays idle sleep and dimming by timeout time */
const NetActivity = 2 // Delays idle sleep and power cycling by small amount */
const HDAActivity = 3 // Delays hard drive spindown and idle sleep by small amount */
const IdleActivity = 4 // Delays idle sleep by timeout time */

dim e as Integer

e=myUpdateSystemActivity(UsrActivity)

```

```
// you may react on an error if e is not 0 after the call.
```

```
#endif
End Sub
```

**Notes:** You may use another constant if you prefer some different behavior. Call it maybe every second.

### 5.0.162 How to make my own registration code scheme?

Plugin Version: all, Platform: Windows.

**Answer:** There are excellent articles about how to make a registration code scheme, but you can also simply use our RegistrationEngineMBS class.

**Notes:** If you need a license text, why not use the one from Xojo as a starting point?

### 5.0.163 How to make small controls on Mac OS X?

Plugin Version: all, Platform: macOS.

**Answer:** You can try this code on Mac OS X:

**Example:**

```

'/*
** Use the control's default drawing variant. This does not apply to
** Scroll Bars, for which Normal is Large.
**/
const kControlSizeNormal = 0

'/*
** Use the control's small drawing variant. Currently supported by
** the Check Box, Combo Box, Radio Button, Scroll Bar, Slider and Tab
** controls.
**/
const kControlSizeSmall = 1

'/*
** Use the control's small drawing variant. Currently supported by
** the Indeterminate Progress Bar, Progress Bar and Round Button
** controls.
**/
const kControlSizeLarge = 2

```

```

'/*
' * Control drawing variant determined by the control's bounds. This
' * ControlSize is only available with Scroll Bars to support their
' * legacy behavior of drawing differently within different bounds.
' */
const kControlSizeAuto = &hFFFF

const kControlSizeTag = "size"

declare function SetControlData lib "Carbon" (controlhandle as Integer, part as short, tagname as OS-
Type, size as Integer, data as ptr) as short

dim m as MemoryBlock

m=NewMemoryBlock(2)
m.UShort(0)=kControlSizeSmall

Title=str(SetControlData(CheckBox1.Handle, 0, kControlSizeTag, 2, m))

```

### 5.0.164 How to mark my Mac app as background only?

Plugin Version: all, Platform: macOS.

**Answer:** You can run a build script on each build with this code:

**Example:**

```

Dim App As String = CurrentBuildLocation + "/" + CurrentBuildAppName + ".app"
Call DoShellCommand("/usr/bin/defaults write " + App + "/Contents/Info ""NSUIElement"" YES")

```

**Notes:** This will set the NSUIElement flag to YES.

### 5.0.165 How to move a file or folder to trash?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Use code like below:

**Example:**

```

Function MoveToTrash(f as FolderItem) As Boolean
#if TargetMacOS then
dim r as FolderItem
dim e as Integer = MacFileOperationMBS.MoveObjectToTrashSync(f, r, MacFileOperationMBS.kFSFile-
OperationDefaultOptions)

```

```

if e = 0 then
Return true // Ok
end if

#elseif TargetWin32 then
dim w as new WindowsFileCopyMBS

dim flags as Integer = w.FileOperationAllowUndo + w.FileOperationNoErrorUI + w.FileOperationSilent
+ w.FileOperationNoConfirmation
if w.FileOperationDelete(f, flags) then
Return true // OK
end if

flags = w.FileOperationNoErrorUI + w.FileOperationSilent + w.FileOperationNoConfirmation
if w.FileOperationDelete(f, flags) then
Return true // OK
end if
#else
// Target not supported
break
Return false
#endif
End Function

```

**Notes:** If you want to move a file to trash, you could use `f.movefileto f.trashfolder`, but that will overwrite existing files in the trash. You can use our `MacFileOperationMBS` class to move a file on Mac to the trash. And it uses the same code as the Finder, so files are renamed when the same name is already in use in the trash:

On Windows we use `WindowsFileCopyMBS` class.  
Requires Mac OS X 10.5.

### 5.0.166 How to move an application to the front using the creator code?

Plugin Version: all, Platform: macOS.

**Answer:** This makes SimpleText (Code ttxt) to the frontmost application:

**Example:**

```

dim a as appleevent

a=newappleEvent("misc","actv","ttxt")

```

```
if a.send then
end if
```

**Notes:** (Code is Mac only)

### 5.0.167 How to move file with ftp and curl plugin?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You can set post/pre quotes to have ftp commands executed before or after the download/upload.

**Example:**

```
dim d as CURLMBS // your curl object

// rename/move file
dim ws() As String
ws.Append "RNFR Temp.txt"
ws.append "RNTO MyFile.txt"

d.SetOptionPostQuote(ws)
```

**Notes:** Use SetOptionPostQuote, SetOptionPreQuote or SetOptionQuote.

The ftp commands you pass here are native ftp commands and not the commands you use with ftp applications. So rename is two commands. First RNFR to tell where to rename from and second RNTD with the new file name. To delete use DELE and the file path.

### 5.0.168 How to normalize string on Mac?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Use code like below:

**Example:**

```
Function Normalize(t as string) As string
const kCFStringNormalizationFormD = 0 // Canonical Decomposition
const kCFStringNormalizationFormKD = 1 // Compatibility Decomposition
const kCFStringNormalizationFormC = 2 // Canonical Decomposition followed by Canonical Composition
const kCFStringNormalizationFormKC = 3 // Compatibility Decomposition followed by Canonical Composition

dim s as CFStringMBS = NewCFStringMBS(t)
dim m as CFMutableStringMBS = s.Normalize(kCFStringNormalizationFormD)
```

[Return m.str](#)  
[End Function](#)

**Notes:** This uses Apple's CFString functions to normalize unicode variants.

### 5.0.169 How to obscure the mouse cursor on Mac?

Plugin Version: all, Platform: macOS.

**Answer:** Try this declare:

**Example:**

```
Declare Sub ObscureCursor Lib "Carbon" ()
```

```
ObscureCursor
```

**Notes:** The MBS Plugin has this function, but it's not supported for Windows.

### 5.0.170 How to open icon file on Mac?

Plugin Version: all, Platform: macOS.

**Answer:** Use the NSImageMBS class like this:

**Example:**

```
dim f as FolderItem = SpecialFolder.Desktop.Child("test.ico")  
dim n as new NSImageMBS(f)
```

```
window1.Backdrop = n.CopyPictureWithMask
```

### 5.0.171 How to open PDF in acrobat reader?

Plugin Version: all, Platform: macOS.

**Answer:** Try this code:

**Example:**

```
dim pdf as FolderItem = SpecialFolder.Desktop.Child("test.pdf")
```

```

// open PDF in Acrobat Reader on Mac:

// find app
dim bundleID as string = "com.adobe.Reader"
dim app as FolderItem = LaunchServicesFindApplicationForInfoMBS("", bundleID, "")

if app<>nil then

// launch app with parameters

dim docs() as FolderItem
docs.Append pdf

dim param as new LaunchServicesLaunchParameterMBS
param.Defaults = true
param.Application = app

dim x as FolderItem = LaunchServicesOpenXMBS(docs, param)

// on failure, simply launch it
if x = nil then
pdf.Launch(true)
end if

else
pdf.Launch(true)
end if

```

**Notes:** On Windows, simply use pdf.launch or WindowsShellExecuteMBS.

### 5.0.172 How to open printer preferences on Mac?

Plugin Version: all, Platform: macOS.

**Answer:** You can use our OpenMacOSXPreferencesPaneMBS function like this:

**Example:**

```

dim e as Integer = OpenMacOSXPreferencesPaneMBS("PrintAndFax")
if 0 = e then
MsgBox "OK"
elseif e = -43 then
MsgBox "File not found."
else
MsgBox "Error: "+str(e)
end if

```

### 5.0.173 How to open special characters panel on Mac?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** We have functions for that in Cocoa and Carbon.

**Example:**

```
dim a as new NSApplicationMBS
a.orderFrontCharacterPalette
```

**Notes:** For Cocoa, you can use `orderFrontCharacterPalette` method in `NSApplicationMBS` class.

Or simply for Carbon and Cocoa the `ShowCharacterPaletteMBS` method.

### 5.0.174 How to optimize picture loading in Web Edition?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Use the `WebPicture` class.

**Notes:** Take your picture and create a `WebPicture` object. Store this `WebPicture` in a property of the `WebPage`, `Session` or `app` (as global as possible). On the first time you use this picture on an user session, the browser will load it. Second time you use it, the browser will most likely pick it from the cache.

Having pictures in `App` or some module reuses the same picture for all sessions which reduces memory footprint.

This does not work well with pictures you change very often or use only for one webpage on one user.

If you like to see an example, check our `Map` example.

### 5.0.175 How to parse XML?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You can use code like this:

**Example:**

```
dim s as string = "<test><test /></test>"
```

```
try
```

```

dim x as new XmlDocument(s)
MsgBox "OK"
catch xe as XmlException
MsgBox "invalid XML"
end try

```

**Notes:** If you got an exception, you have a parse error.

### 5.0.176 How to play audio in a web app?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You can use the HTML5 audio tag and control it with javascript.

**Notes:** This is just another example app I made today. It plays a christmas song. The audio file is provided by the application to the server, so no external web server is needed and this application can run stand alone. To compile and run you need Xojo 2010r5.

In the open event we search the audio files and open them as binarystreams. We create the two webfile objects. Those webfiles are part of the app class, so we have them globally. There we set the data with the content of our streams. We also define file names and mime types. They are needed so browser know what we have here:

```

audioFileM4V = new WebFile
audioFileM4V.Data = bM.Read(BM.Length)
audioFileM4V.Filename = "music.m4a"
audioFileM4V.MIMEType = "audio/m4a"

```

```

audioFileOGG = new WebFile
audioFileOGG.Data = bO.Read(BO.Length)
audioFileOGG.Filename = "music.ogg"
audioFileOGG.MIMEType = "audio/ogg"

```

Next in the open event of the webpage we have a PageSource control. The location is set to be before content. In the open event we define the html code for this. First we pick the URLs for the audio files. Than we build the html to use the audio tag. As you see, we give it an ID for later use and have it preload automatically. If you add an autoplay tag, you can have the audio play right away. Inside the audio tag we have two sources so we provide audio for both Firefox (OGG) and Safari (MPEG4). Finally we have a text to display if HTML5 audio tag is not supported.

You can set the source in the EditSource event:

```
dim urlO as string = app.audioFileOGG.URL
dim urlM as string = app.audioFileM4V.URL
me.Source = "<audio id=""mymusic"" preload=""auto""><source src="""+urlO+""" type=""audio/ogg""
/><source src="""+urlM+""" type=""audio/mpeg"" />Your browser does not support the audio ele-
ment.</audio>"
```

Next in the Play button we execute code to play the audio. This is a short javascript code which searches in the html document for the element with the ID "mymusic" which is the ID of our audio tag above. Once we got the object, we call it's play method to start playback.

```
me.ExecuteJavaScript("document.getElementById('mymusic').play();")
```

same for pause:

```
me.ExecuteJavaScript("document.getElementById('mymusic').pause();")
```

and finally for changing volume:

```
me.ExecuteJavaScript("document.getElementById('mymusic').volume="+str(me.Value/100.0)+";")
```

### 5.0.177 How to pretty print xml?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Use the XML Transform method with the right XLS.

**Notes:** Learn more here:

<http://docs.xojo.com/index.php/XMLDocument.Transform>

### 5.0.178 How to print to PDF?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** This code below shows how to redirect printing to a PDF file on Mac OS X.

**Example:**

```
// get Xojo printer setup
dim p as new PrinterSetup

// now put it into NSPrintInfo to manipulate
dim n as new NSPrintInfoMBS
n.SetupString = p.SetupString
```

```

// change destination to file
dim f as FolderItem = SpecialFolder.Desktop.Child("test.pdf")
n.SetSaveDestination(f)

// move back
p.SetupString = n.SetupString

// and print as usual
dim g as Graphics = OpenPrinter(p)
g.DrawString "Hello World", 20, 20

```

**Notes:** And you can use normal graphics class for that.

### 5.0.179 How to query Spotlight's Last Open Date for a file?

Plugin Version: all, Platform: macOS.

**Answer:** You can use a MDItemMBS objec to query this value:

**Example:**

```

Function LastOpenedDate(Extends F As FolderItem, DefaultOtherDates As Boolean = True) As Date
#If TargetMacOS Then
Dim xMDItem as New MDItemMBS(F)
Dim xDate as Variant

If xMDItem <>Nil Then
xDate = xMDItem.GetAttribute(xMDItem.kMDItemLastUsedDate).DateValue
If xDate IsA Date Then Return xDate
Else
If xDate <>Nil Then Break
End If
#EndIf

If DefaultOtherDates Then
If F.ModificationDate <>Nil Then Return F.ModificationDate
If F.CreationDate <>Nil Then Return F.CreationDate
End If
End Function

```

**Notes:** Thanks for Josh Hoggan for this example code.

### 5.0.180 How to quit windows?

Plugin Version: all, Platform: Windows.

**Answer:** Try this code:

**Example:**

```
#if targetwin32 then
dim i1,i2,r as Integer
declare function ExitWindowsEx lib "user32" (uFlags as Integer, dwReserved as Integer) as Integer
i1 = 2
i2 = 0
r = ExitWindowsEx(i1,i2)
if r<>0 then
' Error()
end if

#endif
```

**Notes:** uFlags parameters:

```
'4 = EWX_Force
'0 = EWX_Logoff
'2 = EWX_Reboot
'1 = EWX_shutdown, should shut down computer
```

Also check the ExitWindowsMBS method.

### 5.0.181 How to read a CSV file correctly?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** With all the rules for quotes and delimiters, you can simply use the SplitCommaSeparatedValuesMBS method in our plugins like this:

**Example:**

```
dim f as FolderItem = SpecialFolder.Desktop.Child("test.csv")
dim t as TextInputStream = f.OpenAsTextFile

while not t.EOF
dim s as string = t.ReadLine(encodings.ASCII)

dim items() as string = SplitCommaSeparatedValuesMBS(s, ";", """")
```

```
List.AddRow """
dim u as Integer = UBound(items)
for i as Integer = 0 to u
List.Cell(List.LastIndex,i) = items(i)
next

wend
```

**Notes:** Please make sure you choose the right text encoding.

### 5.0.182 How to read the command line on windows?

Plugin Version: all, Platform: Windows.

**Answer:** Try this code:

**Example:**

```
#if targetwin32 then
dim line as string
Dim mem as MemoryBlock

Declare Function GetCommandLineA Lib "kernel32" () As Ptr

mem=GetCommandLineA()
s=mem.cstring(0)

#endif
```

**Notes:** Newer Xojo versions have a system.commandline property.

### 5.0.183 How to render PDF pages with PDF Kit?

Plugin Version: all, Platform: Windows.

**Answer:** Try this code:

**Example:**

```
// choose a file
dim f as FolderItem = SpecialFolder.Desktop.Child("test.pdf")

// open it as PDF Document
dim sourceFile as New PDFDocumentMBS(f)
```

```

if sourceFile.handle <>0 then // it is a PDF file

// get upper bound of pages
dim c as Integer = sourceFile.pageCount-1

// from first to last page
for n as Integer = 0 to c

// pick that page
dim page as PDFPageMBS = sourceFile.pageAtIndex(n)

// render to image
dim p as NSImageMBS = page.Render

// and convert to RB picture and display
Backdrop = p.CopyPictureWithMask

next

end if

```

**Notes:** PDFKit works only on Mac OS X.

### 5.0.184 How to restart a Mac?

Plugin Version: all, Platform: macOS.

**Answer:** Ask the Finder via Apple Events:

**Example:**

```

dim ae as appleevent
ae=newappleEvent("FNDR","rest","MACS")
if not ae.send then
msgBox "The computer couldn't be restarted."
end if

```

### 5.0.185 How to resume ftp upload with curl plugin?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** CURL supports that and you simply need to set the right options.

**Notes:** First of course OptionUpload must be true. Second OptionFTPAppend must be true so the OptionResumeFrom is used. Store there (or in OptionResumeFromLarge) your start value. Don't forget to implement the read event and return data there as requested.

### 5.0.186 How to rotate a PDF page with CoreGraphics?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** This code opens a PDF and draws the first page into a new PDF with 90° rotation.

**Example:**

```
// Rotate a PDF page

// our files
dim sourcefile as FolderItem = SpecialFolder.Desktop.Child("test.pdf")
dim destfile as FolderItem = SpecialFolder.Desktop.Child("rotated.pdf")

// open PDF
dim pdf as CGPDFDocumentMBS = sourcefile.OpenAsCGPDFDocumentMBS

// query media size of first page
dim r as CGRectMBS = pdf.MediaBox(1)

// create new PDF
dim c as CGContextMBS = destfile.NewCGPDFDocumentMBS(r,"title","Author","Creator")

// create rotated rectangle
dim nr as new CGRectMBS(0,0,r.Height,r.Width)

// create new page
c.BeginPage nr
c.SaveGState

const pi = 3.14159265

// rotate by 90°
c.RotateCTM pi*1.5

// fix origin
c.TranslateCTM -r.width,0

// draw PDF
c.DrawCGPDFDocument pdf,r,1

// cleanup
c.RestoreGState
c.EndPage
```

```
c = nil

// show in PDF viewer
destfile.Launch
```

**Notes:** This code is Mac only as it needs CoreGraphics.

### 5.0.187 How to rotate image with CoreImage?

Plugin Version: all, Platform: macOS.

**Answer:** Use the code like the one below:

**Example:**

```
// Rotate image with CoreImage

// load image
dim f as FolderItem = SpecialFolder.Desktop.Child("test.png")
dim image as new CIImageMBS(f)

// rotate 45 degree
dim n as new NSAffineTransformMBS
n.rotateByDegrees(45)

dim TransformFilter as new CIFilterAffineTransformMBS
TransformFilter.inputImage = image
TransformFilter.inputTransform = n

// get result
dim resultImage as CIImageMBS = TransformFilter.outputImage

// for saving to file
dim outputImage as NSImageMBS = resultImage.RenderNSImage(false)

f = SpecialFolder.Desktop.Child("output.png")
dim b as BinaryStream = BinaryStream.Create(f, true)
b.Write outputImage.PNGRepresentation

// as Xojo picture object for display
dim pic as Picture = outputImage.CopyPictureWithMask

Backdrop = pic
```

### 5.0.188 How to run a 32 bit application on a 64 bit Linux?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Install 32 bit compatibility libraries.

**Notes:** The package is called ia32-libs for ubuntu (and others).

Some applications need to be run on a 32 bit system as they need some hardware related libraries. Like libUSB or libHID for USB devices.

### 5.0.189 How to save HTMLViewer to PDF with landscape orientation?

Plugin Version: all, Platform: macOS.

**Answer:** You can use NSPrintInfoMBS to change the options for PrintToPDFFile function.

**Example:**

```
// make it landscape
dim n as NSPrintInfoMBS = NSPrintInfoMBS.sharedPrintInfo
n.orientation = n.NSLandscapeOrientation

// save html to file
dim f as FolderItem = SpecialFolder.Desktop.Child("test.pdf")
call HTMLViewer1.PrintToPDFFileMBS(f,10,30,10,30)
```

**Notes:** You may want to reset options later.  
This code is only for Mac OS X.

### 5.0.190 How to save RTFD?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** With NSTextViewMBS you can use this code to save to RTFD:

**Example:**

```
// save text as RTFD including image attachments
dim f as FolderItem = GetSaveFolderItem(FileTypes1.ApplicationRtfd, "test.rtf")

if f = nil then Return

dim a as NSAttributedStringMBS = textView.textStorage
dim w as NSFileWrapperMBS = a.RTFDFileWrapperFromRange(0, a.length, DocumentAttributes)

dim e as NSErrorMBS
if w.writeToFile(f, e) then
```

```

else
MsgBox e.LocalizedDescription
end if

```

**Notes:** For TextArea you can query the underlying NSTextViewMBS object via TextArea.NSTextViewMBS method.

### 5.0.191 How to save RTFD?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** How to load PDF to htmlviewer on desktop?

**Example:**

```

Public Sub LoadPDFData(viewer as HTMLViewer, PDFData as string)
Dim base64string As String = EncodeBase64(PDFData)

// remove line endings to make it a big line
base64string = ReplaceLineEndings(base64string, "")

// build data URL
// https://en.wikipedia.org/wiki/Data_URI_scheme
Dim dataURL As String = "data:application/pdf;base64," + base64string

// show in webviewer
HTMLViewer1.LoadURL(dataURL)

// may not work everywhere due to URL length limit
// for Web projects, use WebFile instead!
End Sub

```

**Notes:** This avoids a temporary file, which may also work.  
For Web Apps, please use WebFile.

### 5.0.192 How to scale a picture proportionally with mask?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** For a proportional scaling, we calculate the new picture size relative to the target maximum size.

**Example:**

```

Function ProportionalScaledWithMask(extends pic as Picture, Width as Integer, Height as Integer) As Pic-
ture
// Calculate scale factor

dim faktor as Double = min( Height / Pic.Height, Width / Pic.Width)

// Calculate new size
dim w as Integer = Pic.Width * faktor
dim h as Integer = Pic.Height * faktor

// create new picture
dim NewPic as new Picture(w,h,32)

// check if we have a mask and clear it
dim m as picture = pic.mask(False)
pic.mask = nil

// draw picture in the new size
NewPic.Graphics.DrawPicture Pic, 0, 0, w, h, 0, 0, Pic.Width, Pic.Height

if m <>nil then
// restore mask and scale it
pic.mask = m
NewPic.mask.Graphics.DrawPicture m, 0, 0, w, h, 0, 0, Pic.Width, Pic.Height
end if

// return result
Return NewPic
End Function

```

**Notes:** This version handles mask. As you see we actually have to remove mask in order to copy the picture part correctly.

### 5.0.193 How to scale a picture proportionally?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** For a proportional scaling, we calculate the new picture size relative to the target maximum size.

**Example:**

```

Function ProportionalScaled(extends pic as Picture, Width as Integer, Height as Integer) As Picture
// Calculate scale factor

dim faktor as Double = min( Height / Pic.Height, Width / Pic.Width)

```

```

// Calculate new size
dim w as Integer = Pic.Width * faktor
dim h as Integer = Pic.Height * faktor

// create new picture
dim NewPic as new Picture(w,h,32)

// draw picture in the new size
NewPic.Graphics.DrawPicture Pic, 0, 0, w, h, 0, 0, Pic.Width, Pic.Height

// return result
Return NewPic
End Function

```

**Notes:** This does not handle mask, but you can scale the mask the same way and assign it to the new picture.  
(see other FAQ entry with mask)

### 5.0.194 How to scale/resize a CIIImageMBS?

Plugin Version: all, Platform: Windows.

**Answer:** Use the CIFilterLanczosScaleTransform filter to scale down a picture to a specific size.

**Example:**

```

Dim pic As Picture = LogoMBS(500)
Dim image As CIIImageMBS = CIIImageMBS.imageWithPicture(pic)

Dim filter As New CIFilterLanczosScaleTransformMBS

Const targetWidth = 600.0
Const targetHeight = 400.0

Dim scale As Double = targetHeight / image.Extent.Height
Dim aspect As Double = targetWidth / (image.Extent.Width * scale)

filter.inputImage = image
filter.inputScale = scale
filter.inputAspectRatio = aspect

Dim result As Picture = filter.outputImage.RenderPicture

Backdrop = result

```

**Notes:** This is same code as our scaleTo convenience method.

### 5.0.195 How to scale/resize a picture?

Plugin Version: all, Platform: Windows.

**Answer:** There are several ways to scale or resize a picture. The easiest way may be the ScaleMBS function in the Picture class.

**Example:**

```
dim Original,Scaled as Picture
```

```
Original=LogoMBS(500)
Scaled=Original.ScaleMBS(100,100,true)
```

**Notes:** The plugin ways:

- GraphicsMagick can scale/resize.
- CoreImage scale filter may result in the fastest and best images on Mac OS X 10.4.
- NSImageMBS can scale, but is Mac OS X only.
- CGImageMBS can scale, but is Mac OS X only.
- CIImageMBS can scale, but is Mac OS X only.
- QuickTime Graphics exporter and importer can be connected to scale. (this was used more often a few years ago)
- ImageMagick can scale very nice and crossplatform. But the ImageMagick libraries are big.
- The picture.ScaleMBS function is self written and results in equal output on Mac, Windows and Linux without any additional libraries installed.
- Picture.ScalingMBS does crossplatform scaling with several modes.

with pure Xojo:

- make a new picture and draw the old one with new size inside.

### 5.0.196 How to search with regex and use unicode codepoints?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You can specify unicode characters in search string with backslash x and digits.

**Example:**

```
dim r as RegExMbs
dim s as string
dim c as Integer
```

```

s="123 √$√√° ABC 456"

r=new RegExMBS
if r.Compile("√") then
c=r.Execute(s,0)
MsgBox str(c)+" "+str(r.Offset(0))+" "+str(r.Offset(1))
// shows: 1 4 10
// 1 for ubound of the offset array
// 4 for 4 bytes before the matched pattern
// 10 for the 10 bytes before the end of the matched pattern
end if

r=new RegExMBS
if r.Compile("\xF6") then // finds √ using Unicode codepoint
c=r.Execute(s,0)
MsgBox str(c)+" "+str(r.Offset(0))+" "+str(r.Offset(1))
// shows: 1 4 10
// 1 for ubound of the offset array
// 4 for 4 bytes before the matched pattern
// 10 for the 10 bytes before the end of the matched pattern
end if

```

### 5.0.197 How to see if a file is invisible for Mac OS X?

Plugin Version: all, Platform: macOS.

**Answer:** Try this function:

**Example:**

```

Function Invisible(F As FolderItem) As Boolean
Dim TIS As TextInputStream
Dim S,All As String
Dim I as Integer
dim g as folderitem

If Left(F.Name,1)="." or not f.visible Then
Return True
End If

g=F.Parent.Child(".hidden")
If g.Exists Then
TIS=g.OpenAsTextFile
if tis<>Nil then
All=TIS.ReadAll
For I=1 to CountFields(All,Chr(11))
S=NthField(All, Chr(11), I)

```

```

If S=F.name Then
Return True
End If
Next
end if
End if
End Function

```

### 5.0.198 How to set cache size for SQLite or REALSQLDatabase?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You use the pragma cache\_size command on the database.

**Example:**

```

// set cache size to 20000 pages which is about 20 MB for default page size
dim db as REALSQLDatabase
db.SQLExecute "PRAGMA cache_size = 20000"

```

**Notes:** Default cache size is 2000 pages which is not much.

You get best performance if whole database fits in memory.

At least you should try to have a cache big enough so you can do queries in memory.

You only need to call this pragma command once after you opened the database.

### 5.0.199 How to set the modified dot in the window?

Plugin Version: all, Platform: macOS.

**Answer:** Try this declares:

**Example:**

```

window1.ModifiedMBS=true

```

### 5.0.200 How to show a PDF file to the user in a Web Application?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You can use a WebHTMLViewer control and load the

**Example:**

```

dim CurrentFile as WebFile // a property of the WebPage

// define the PDF file
CurrentFile = new WebFile
CurrentFile.Filename = "test.pdf"
CurrentFile.MIMEType = "application/pdf"
CurrentFile.Data = "some pdf data" // MyDynaPDF.GetBuffer

// load into html viewer
HTMLViewer1.URL = CurrentFile.URL

```

**Notes:** See our Create PDF example for the Xojo Web Edition.

### 5.0.201 How to show Keyboard Viewer programmatically?

Platform: macOS.

**Answer:** Use Xojo or AppleScript to launch the KeyboardViewerServer.app.

**Example:**

```

dim a as new AppleScriptMBS
dim text as string
dim lines(-1) as string

lines.append "set theApplication to ""KeyboardViewerServer""
lines.append "set thePath to ""/System/Library/Components/KeyboardViewer.component/Contents/Shared-
Support/KeyboardViewerServer.app""
lines.append ""
lines.append "set POSIXPath to ((POSIX file thePath) as string)"
lines.append "tell application ""System Events"" to set isRunning to 0 <(count (application processes whose
name is theApplication))"
lines.append "if isRunning then tell application POSIXPath to quit"
lines.append "delay 0.15"
lines.append ""
lines.append "ignoring application responses"
lines.append " tell application POSIXPath to run"
lines.append "end ignoring"

text=join(lines,EndOfLine.macintosh)

a.Compile text
a.Execute

```

**Notes:** AppleScript code:

```
set theApplication to "KeyboardViewerServer"
set thePath to "/System/Library/Components/KeyboardViewer.component/Contents/SharedSupport/KeyboardViewerServer.app"
```

```
set POSIXPath to ((POSIX file thePath) as string)
tell application "System Events" to set isRunning to 0 <(count (application processes whose name is theApplication))
if isRunning then tell application POSIXPath to quit
delay 0.15
```

```
ignoring application responses
tell application POSIXPath to run
end ignoring
```

### 5.0.202 How to show the mouse cursor on Mac?

Plugin Version: all, Platform: macOS.

**Answer:** Try this declare:

**Example:**

```
Declare Sub ShowCursor Lib "Carbon" ()
```

```
ShowCursor
```

**Notes:** The MBS Plugin has this function and supports it on Windows, too.

### 5.0.203 How to shutdown a Mac?

Plugin Version: all, Platform: macOS.

**Answer:** Ask the Finder via Apple Events:

**Example:**

```
dim ae as appleevent
ae=newappleEvent("FNDR","shut","MACS")
if not ae.send then
msgBox "The computer couldn't be shutdown."
end if
```

**Notes:** Or toolbox call (Attention: This method will stop the computer immediatly: No document asked to be saved, all applications quitting without knowing).

```
Declare Sub ShutDwnPower Lib "Carbon" ()
ShutDwnPower
```

### 5.0.204 How to sleep a Mac?

Plugin Version: all, Platform: macOS.

**Answer:** Ask the Finder via Apple Events:

**Example:**

```
dim ae as appleevent
ae=newappleEvent("FNDR","sleep","MACS")
if not ae.send then
msgBox "The computer doesn't want to sleep."
end if
```

### 5.0.205 How to speed up rasterizer for displaying PDFs with DynaPDF?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Here a few speed tips:

**Notes:**

- Use the DynaPDFRasterizerMBS function instead of our render functions.
- Reuse DynaPDFRasterizerMBS as long as the target picture size doesn't change.
- Import only the PDF pages you want to display.
- Let DynaPDF do zooming, rotating or other effects instead of you change it.

### 5.0.206 How to use PDFLib in my RB application?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** The PDFlib plugin was discontinued in favor of our DynaPDF plugin.

**Notes:** If you need help to move, please contact us.

### 5.0.207 How to use quotes in a string?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Just double them.

**Example:**

```
msgbox "This String contains ""quotes"""
```

### 5.0.208 How to use Sybase in Web App?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Please use our MBS Xojo SQL Plugin to connect to a Sybase Database in your web application.

**Notes:** If you see db.Connect giving the error message "cs\_ctx\_alloc ->CS\_MEM\_ERROR", than some things are not setup right for Sybase.

The Apache process may not have all the SYBASE environment variables being set when the CGI was launched.

Adding these lines to /etc/httpd/conf/httpd.conf stopped the faux memory errors for us:

```
SetEnv LD_LIBRARY_PATH /opt/sybase/OCS-15_0/lib:/opt/sybase/OCS-15_0/lib3p64:/opt/sybase/OCS-15_0/lib3p:
SetEnv SYBROOT /opt/sybase
SetEnv SYBASE_OCS /opt/sybase
SetEnv SYBASE /opt/sybase
```

### 5.0.209 How to use the Application Support folder?

Plugin Version: all, Platform: macOS.

**Answer:**

I was saving a registration code for an app to the Preference folder. People on the list have suggested that it would be better in the ApplicationSupportFolder. How do I save the file called CWWPrefs into that folder using MBS?

I have checked for examples and the docs but can't see how to apply it

```
//f = SpecialFolder.Preferences.child("CWWPrefs")
f = ApplicationSupportFolderMBS(-32768)
```

**Example:**

```

dim folder,file as FolderItem

folder = createApplicationSupportFolderMBS(-32763)

if folder=nil then
// Some very old Mac OS Versions may not support it
// or the plugin may fail for any reason
folder=SpecialFolder.Preferences
end if

file=folder.Child("CWWPrefs")

MsgBox file.NativePath

```

**Notes:**

You may not be able to write there with a normal user account!

**5.0.210 How to use the IOPMCopyScheduledPowerEvents function in Xojo?**

Plugin Version: all, Platform: macOS.

**Answer:** You can use the following code which does this using the SoftDeclareMBS class.

**Example:**

```

Sub Open()
dim c as CFDateMBS
dim t as CFAbsoluteTimeMBS

// get current date
c=NewCFDateMBS

// in absolute time (seconds since x)
t=c.AbsoluteTime

// add 600 seconds (= 10 Minutes)
t.Value=t.Value+600

// Make a Date from it
c=t.Date

// Schedule the event
// 0 on success
// E00002C1 for missing root rights

```

```

Title=hex(schedulePowerEvent(c, "wake"))

// Just for information, display the scheduled stuff
CFShowMBS CopyScheduledPowerEvents
End Sub

Function CopyScheduledPowerEvents() As carrayMBS
dim s as SoftDeclareMBS
dim m as MemoryBlock

s=new SoftDeclareMBS

if s.LoadLibrary("IOKit.framework") then
if s.LoadFunction("IOPMCopyScheduledPowerEvents") then
if s.CallFunction(0,nil) then
Return NewCFArrayMBSHandle(s.Result,true)
else
MsgBox "Failed to Call IOPMCopyScheduledPowerEvents."
end if
else
MsgBox "Failed to load IOPMCopyScheduledPowerEvents."
end if
else
MsgBox "Failed to load IOKit."
end if

Return nil
End Function

Function SchedulePowerEvent(time_to_wake as CFDateMBS, Type as CFStringMBS) as Integer
dim s as SoftDeclareMBS
dim m as MemoryBlock

'/*
'* Types of power event
'* These are potential arguments to IOPMSchedulePowerEvent().
'* These are all potential values of the kIOPMPowerEventTypeKey in the CFDictionaryes
'* returned by IOPMCopyScheduledPowerEvents().
'*/
'/*!
'@define kIOPMAutoWake
'@abstract Value for scheduled wake from sleep.
'*/
'#define kIOPMAutoWake "wake"
,
'/*!
'@define kIOPMAutoPowerOn
'@abstract Value for scheduled power on from off state.

```

```

*/
#define kIOPMAutoPowerOn "poweron"
,
/*!
#define kIOPMAutoWakeOrPowerOn
@abstract Value for scheduled wake from sleep, or power on. The system will either wake OR
power on, whichever is necessary.
*/
,
#define kIOPMAutoWakeOrPowerOn "wakepoweron"
/*!
#define kIOPMAutoSleep
@abstract Value for scheduled sleep.
*/
,
#define kIOPMAutoSleep "sleep"
/*!
#define kIOPMAutoShutdown
@abstract Value for scheduled shutdown.
*/
,
#define kIOPMAutoShutdown "shutdown"

s=new SoftDeclareMBS

if s.LoadLibrary("IOKit.framework") then
if s.LoadFunction("IOPMSchedulePowerEvent") then

m=NewMemoryBlock(12)
m.Long(0)=time_to_wake.handle
m.Long(4)=0 // nil
m.Long(8)=type.Handle

if s.CallFunction(3,m) then
Return s.Result
end if
end if
end if

End Function

```

**Notes:** Requires Mac OS X and to execute root rights.

### 5.0.211 How to validate a GUID?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You can use this function below which uses a regular expression to verify that the string is a valid UUID/GUID:

**Example:**

Function IsGUID(guid as string) As Boolean

dim r as new RegEx

```
r.SearchPattern = "^(\{ { 0,1 } ( [ 0-9a-fA-F ] ) { 8 } -( [ 0-9a-fA-F ] ) { 4 } -( [ 0-9a-fA-F ] ) { 4 } -( [ 0-9a-fA-F ] ) { 4 } -( [ 0-9a-fA-F ] ) { 12 } \} { 0,1 } )$ "
```

Return r.Search(guid)<>nil

End Function

**Notes:** Simply parsing the GUID with CFUUIDMBS does not give the same result as CFUUIDMBS will also take a string like "DDDD".

### 5.0.212 How to walk a folder hierarchie non recursively?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Use code like this one:

**Example:**

Sub Walk(folder as FolderItem)

dim folders() as FolderItem

folders.Append folder

while UBound(folders)>=0

dim currentFolder as FolderItem = folders.pop

dim c as Integer = currentFolder.Count

for i as Integer = 1 to c

dim item as FolderItem = currentFolder.TrueItem(i)

if item = Nil then

// no permission

elseif item.Visible then // only visible

if item.Directory then

folders.Append item

```
else
// work with file here
end if

end if

next

wend
End Sub
```

**Notes:** As you see we go with a long loop which runs until we don't have more folders to process. We ignore items we can't access due to permission limits. And we only work visible items. If you like, check `folderitem.isBundleMBS` on item to handle packages and applications better on Mac OS X.

#### 5.0.213 I got this error: PropVal, QDPictMBS.Name (property value), Type mismatch error. Expected CGDataProviderMBS, but got Variant, Name:QDPictMBS

Plugin Version: all, Platform: macOS.

**Answer:** The plugins MacOSX and MacOSXCF belong together. If you use one part, please also install the other part.

**Notes:** We splitted the plugin because the Xojo IDE on Windows crashed on compilation.

#### 5.0.214 I registered the MBS Plugins in my application, but later the registration dialog is shown.

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** There are two main reasons.

**Notes:** 1. you may use the plugin before registering them. This is often the case if you register in a window open event and use the plugin in a control open event.

On the console on Mac OS X or Windows, you may see a message like this "MBS Plugins were used by the application before the RegisterMBSPlugin function was called. Please fix this in your code!".

2. you may have mixed different plugin versions which are not compatible.

In this case you can see a message "Internal plugin registration error." on the console on Mac OS X. Newer plugins may show a message dialog reporting this. Older version simply think they are not registered.

If the installer just merges old and new applications, users may have libraries of older and newer plugin versions in the libs folder. If your application loads the wrong version, the registration fails.

If you use remote debugging, make sure you clear the temporary files there, too. Otherwise you may have old DLLs on your hard disc which may disturb your application.

You can run into issues if you use your registration code on different places of your app. Please register only once in app.open (or app Constructor). If you have several codes, simply call them one after the other.

Also check that you only call RegisterMBSPlugin with valid serial number. If you later call RegisterMBSPlugin with Demo like in example code above, you remove the license.

Next check if you can clear the Xojo caches and that helps. This includes the Xojo Scratch folder and the Plugins & Project caches. Simply locate those folders and delete them. For Windows look in hidden AppData folder in your user folder. For Mac, please check textasciitilde /Library/Caches and your temp folders.

Finally make sure you use the right serial number. Not an older one or a misspelled one.

### 5.0.215 I want to accept Drag & Drop from iTunes

Plugin Version: all, Platform: macOS.

**Answer:** You need to accept AcceptMacDataDrop "itun" and Handle the DropObject.

**Example:**

```
Sub Open()
window1.AcceptMacDataDrop "itun"
End Sub
```

```
Sub DropObject(obj As DragItem)
dim s as string
dim f as folderItem
dim d as CFDictionaryMBS
dim o as CFObjectMBS
dim key as CFStringMBS
dim dl as CFDictionaryListMBS
dim i,c as Integer
dim u as CFURLMBS
dim file as FolderItem
```

```
if obj.MacDataAvailable("itun") then
s = obj.MacData("itun")
```

```

// Parse XML
o=NewCFOBJECTMBSFromXML(NewCFBinaryDataMBS(s))

// Make dictionary
if o isa CFDictionaryMBS then
d=CFDictionaryMBS(o)

// get Tracks Dictionary
key=NewCFStringMBS("Tracks")
o=d.Value(key)

if o isa CFDictionaryMBS then
d=CFDictionaryMBS(o)
dl=d.List

// Walk over all entries in the Tracks dictionary
c=dl.Count-1
for i=0 to c
o=dl.Value(i)

if o isa CFDictionaryMBS then
d=CFDictionaryMBS(o)

key=NewCFStringMBS("Location")
o=d.Value(key)
if o isa CFStringMBS then
u=NewCFURLMBS(CFStringMBS(o),nil)

file=u.file
if file<>nil then
MsgBox file.NativePath
end if
end if
end if
next
end if
end if
end if
End Sub

```

**Notes:** The code above inside a window on Xojo 5.5 with MBS Plugin 5.3 will do it nice and show the paths.

### 5.0.216 I'm drawing into a listbox but don't see something.

Plugin Version: all.

**Answer:** If you draw this in a listbox cellbackground, you need to draw on the correct position

**Example:**

```
Function CellBackgroundPaint(g As Graphics, row as Integer, column as Integer) As Boolean
dim f as FolderItem
f=SpecialFolder.Desktop
f.DrawWideIconMBS(g,listbox1.left,listbox1.top+row*20,16)
Return true
End Function
```

**Notes:** Try this in a listbox. The Graphics object there has a clipping and an offset which the plugin doesn't know about.

### 5.0.217 I'm searching for a method or so to move a window from position x.y to somewhere else on the screen.

Platform: macOS.

**Answer:**

The code I produced in RB isn't smooth enough. Is there a call in MBS, if not, can it be done? The speed of it has to be like the show of a DrawerWindow.

Try the declare below for Carbon. With WindowLib it will work on Mac OS 8.5 and newer.

**Notes:**

See Window.Transition functions.

### 5.0.218 If I use one of your plug-ins under windows, would this then impose the use of dll after compilation or my would my compiled soft still be a stand-alone single file software?

Platforms: macOS, Linux, Windows.

**Answer:** Stand alone.

**Notes:** Xojo compiles all used plugins into the application binary.

Some plugin parts need external dlls but you will find that in the documentation. (e.g. pdfib for some classes)

**5.0.219 Is the fn key on a powerbook keyboard down?**

Plugin Version: all, Platform: macOS.

**Answer:** I am unable to figure out how or if it is possible to detect if the fn key is down on a powerbook keyboard. Is it possible?

**Example:**

' Window.Open Event of a blank project:

```
dim i as Integer

for i=0 to 127
if keyboard.asynckeydown(i) then
title=str(i) // found
return
end if
next
title="" // not found
```

**Notes:** This test application shows the keycode (decimal) 63 for the fn key.

**5.0.220 Is there a case sensitive Dictionary?**

Plugin Version: all.

**Answer:** The MBS Plugin has several classes which can work as a replacement.

**Notes:** First you could use VariantToVariantHashMapMBS or VariantToVariantOrderedMapMBS.

If you know that all keys are Strings or Integers only, you can use the specialized classes which are a little bit faster due to avoiding variants:

```
IntegerToIntegerHashMapMBS class
IntegerToIntegerOrderedMapMBS class
IntegerToStringHashMapMBS class
IntegerToStringOrderedMapMBS class
IntegerToVariantHashMapMBS class
IntegerToVariantOrderedMapMBS class
StringToStringHashMapMBS class
StringToStringOrderedMapMBS class
StringToVariantHashMapMBS class
StringToVariantOrderedMapMBS class
```

### 5.0.221 Is there a way to use the MBS plugin to get only the visible item and folder count on a volume?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You can use the DirectorySizeMBS class for this as in the example below:

**Example:**

```
dim d as DirectorySizeMBS

d=new DirectorySizeMBS

// volume(1) as my boot volume is very full
if d.update(volume(1),true,0) then
MsgBox str(d.VisibleItemCount)+" visible items, "+str(d.HiddenItemCount)+" invisible items."
end if
```

**Notes:** Complete Question: Is there a way to use the MBS plugin to get only the visible item and folder count on a volume? The FileCount and FolderCount properties of VolumeInformationMBS seem to provide the total # of items including invisible items such as .DS\_Store and more importantly .Trashes which is causing me a great amount of difficulty during a recursive scan of a volume. I've got a progress bar which uses the total of the filecount and foldercount properties as the maximum value, but my routine needs to filter out all invisible items, as it is creating a catalog of a volume for archiving purposes. Any thoughts how I could get accurate number.

### 5.0.222 Is there an easy way I can launch the Displays preferences panel?

Plugin Version: all, Platform: macOS.

**Answer:** Use the code below:

**Example:**

```
dim error as Integer

error=OpenMacOSXPreferencesPaneMBS("Displays")
if error<>0 then
MsgBox "Failed to launch QuickTime System Preferences panel."
end if
```

### 5.0.223 List of Windows Error codes?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** We have a list of windows error codes on our website.

**Notes:** <http://www.monkeybreadsoftware.de/xojo/winerror.shtml>

### 5.0.224 Midi latency on Windows problem?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** The issue is system related, not a problem with RB or the plugin.

**Notes:** Two things will adversely affect the timing:

(1) latency of the software synthesizer output driver. The default Windows wavetable synthesizer has considerable latency. I don't know how many milliseconds, but it is noticeable.

(2) latency of the digital audio output driver. Different systems have different drivers for different audio hardware. My Dell laptop has a minimum 15ms latency in the audio driver.

These two things put together were causing a very sluggish MIDI response. I was able to verify these as the culprits by routing MIDI directly out of RB into a sample player, which only introduces the latency of (2) and does not include latency of (1).

I don't know how widely known are these facts, if not then you may want to add this information to the documentation, since Windows programmers using the MIDI plugin may not know those problems, and might mistakenly blame your plugin, as I did :) Sorry about that!

(From Aaron Andrew Hunt)

### 5.0.225 My Xojo Web App does not launch. Why?

Plugin Version: all, Platform: macOS.

**Answer:** Here is a list of checks to do for linux apache installations with Xojo or Xojo Web applications:

**Notes:** Just a list of checks to do for linux apache installations:

- You have 64bit linux? Than you need 32 bit compatibility libraries.
- The folder of your app is writable? Set permissions to 777.
- The cgi script is executable? Set permissions to 755.

- The app file itself is executable? Set permissions to 755.
- You uploaded cgi file as text, so it has unix line endings? (this often gives error "Premature end of script headers" in apache log)
- You uploaded config.cfg file and made it writable? Set permissions to 666.
- Your apache allows execution of cgi scripts? You enabled cgi for apache and uncommented addhandler command for CGI on a new apache installation?
- You uploaded the app file and libraries as binary files? Upload as text breaks them.
- You did upload the libs folder?
- You don't have code in app.open, session.open and other events which crashes app right at launch?
- You don't have a print command in your app.open event? (see feedback case 23817)
- You allowed htaccess file to overwrite permissions?

### 5.0.226 SQLiteDatabase not initialized error?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Before you can use SQLiteDatabaseMBS, it must be initialized.

**Example:**

```
dim d as new SQLiteDatabaseMBS
```

**Notes:** This happens normally when you use "new SQLiteDatabaseMBS".

But if you just have a SQLConnectionMBS and get a recordset there, the initialization may not have happened, yet.

So please simply add a line "dim d as new SQLiteDatabaseMBS" to your app.open code after registration, so the plugin part can initialize and late provide recordsets.

### 5.0.227 Textconverter returns only the first x characters. Why?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:**

Some older Xojo versions limit the Textconverter to around 1024 characters in input and output. This should be fixed with RB5.

**Notes:**

Xojo seems not to support Textconverters at all on Windows.

### 5.0.228 The type translation between CoreFoundation/Foundation and Xojo data types.

Plugin Version: all, Platform: macOS.

**Answer:** The plugin does conversion between Cocoa/Carbon data types and native Xojo data types. The following list help you knowing what the current plugins support:

**Notes:** Cocoa NSObject to Variant:

```

nil ->nil
NSDictionary ->Dictionary
NSData ->MemoryBlock
NSString ->String
NSAttributedString ->NSAttributedStringMBS
NSDate ->Date
NSNumber ->double/integer/Int64/UInt64/UInt32/Boolean
NSURL ->String
NSValue with NSRect ->NSRectMBS
NSValue with NSPoint ->NSPointMBS
NSValue with NSSize ->NSSizeMBS
NSValue with NSRange ->NSRangeMBS
NSValue with QTTime ->QTTimeMBS
NSValue with QTTimeRange ->QTTimeRangeMBS
NSArray ->Array of Variant
QuartzFilter ->QuartzFilterMBS

```

- ->\*MBS

Variant to Cocoa NSObject:

```

nil ->nil
Dictionary ->NSDictionary
Boolean ->NSNumber
Integer ->NSNumber
Color ->NSColor
Int64 ->NSNumber
Single ->NSNumber
Double ->NSNumber
Date ->NSDate
MemoryBlock ->NSData
String ->NSString
NSImageMBS ->NSImage
NSAttributedStringMBS ->NSAttributedString
NSColorMBS ->NSColor
NSRectMBS ->NSValue with NSRect
NSSizeMBS ->NSValue with NSSize

```

NSPointMBS ->NSValue with NSPoint  
 NSRangeMBS ->NSValue with NSRange  
 NSBurnMBS ->NSBurn  
 NSViewMBS ->NSView  
 NSFontMBS ->NSFont  
 NSParagraphStyleMBS ->NSParagraphStyle  
 NSAttributedStringMBS ->NSAttributedString  
 WebPolicyDelegateMBS ->WebPolicyDelegate  
 WebUIDelegateMBS ->WebUIDelegate  
 WebFrameLoadDelegateMBS ->WebFrameLoadDelegate  
 WebResourceLoadDelegateMBS ->WebResourceLoadDelegate  
 NSIndexSetMBS ->NSIndexSet  
 QTTimeMBS ->QTTime  
 QTTimeRangeMBS ->QTTimeRange  
 Array of Variant ->NSArray  
 Array of String ->NSArray  
 CFStringMBS ->NSString  
 CFNumberMBS ->NSNumber  
 CFDataMBS ->NSData  
 CFURLMBS ->NSURL  
 CFArrayMBS ->NSArray  
 CFDictionaryMBS ->NSDictionary  
 CFBinaryDataMBS ->NSData

Carbon CTypeRef to Variant:

CFDictionaryRef ->Dictionary  
 CFStringRef ->String  
 CFDataRef ->String  
 CFURL ->String  
 CFNumber ->Integer/Double/Int64  
 CFArray ->Array  
 CFDate ->date  
 nil ->nil  
 CGColorSpace ->CGColorSpaceMBS  
 CGColor ->CGColorMBS  
 CGImage ->CGImageMBS  
 CF\* ->CF\*MBS

Variant to Carbon CTypeRef:

Dictionary ->CFDictionaryRef  
 Boolean ->CFBooleanRef  
 Color ->CFNumberRef  
 Integer ->CFNumberRef

Int64 ->CFNumberRef  
 Single ->CFNumberRef  
 Double ->CFNumberRef  
 String ->CFStringRef  
 Color ->CGColorRef  
 Date ->CFDateRef  
 nil ->nil  
 Memoryblock ->CFDataRef  
 FolderItem ->CFURLRef  
 Dictionary ->CFDictionaryRef  
 Array of Variant/String/Date/Double/Single/Int64/Integer ->CFArray  
 CGRectMBS ->CGRect as CFDataRef  
 CGSizeMBS ->CGSize as CFDataRef  
 CGPointMBS ->CGPoint as CFDataRef  
 CGColorMBS ->CGColor  
 CGColorSpaceMBS ->CGColorSpace  
 CGImageMBS ->CGImage  
 CGDataConsumerMBS ->CGDataConsumer  
 CGDataProviderMBS ->CGDataProvider  
 CF\*MBS ->CF\*

Strings without encodings should be put into dictionaries as memoryblocks.

### 5.0.229 Uploaded my web app with FTP, but it does not run on the server!

Plugin Version: all, Platform: Windows.

**Answer:** If you see errors like a simple "Segmentation Fault" on Linux or some other wired errors, you may want to check your FTP upload mode. It must be binary for web apps. ASCII mode corrupts the application.

### 5.0.230 What classes to use for hotkeys?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Please use CarbonHotKeyMBS class on Mac and WindowsKeyFilterMBS on Windows.

**Notes:** CarbonHotKeyMBS will also work fine in Cocoa apps.

### 5.0.231 What do I need for Linux to get picture functions working?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** In order to get our plugins working on Linux systems without GUI, the plugin loads graphics

libraries dynamically.

**Notes:** To get it working, the plugin tries to load gtk with this paths:

- libgtk-x11-2.0.so”
- libgtk-x11-2.0.so.0”
- /usr/lib/libgtk-x11-2.0.so”
- /usr/lib32/libgtk-x11-2.0.so”
- /usr/lib/libgtk-x11-2.0.so.0”
- /usr/lib32/libgtk-x11-2.0.so.0”

gdk is loaded with this paths:

- libgdk-x11-2.0.so”
- libgdk-x11-2.0.so.0”
- /usr/lib/libgdk-x11-2.0.so”
- /usr/lib32/libgdk-x11-2.0.so”
- /usr/lib/libgdk-x11-2.0.so.0”
- /usr/lib32/libgdk-x11-2.0.so.0”

For the paths without explicit path, the system will search in /lib, /usr/lib and all directories in the LD\_LIBRARY\_PATH environment variable.

### 5.0.232 What does the NAN code mean?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:**

### 5.0.233 What font is used as a 'small font' in typical Mac OS X apps?

Plugin Version: all, Platform: macOS.

**Answer:**

Xojo 4.5 has a constant "SmallSystem" to use for a font name.

For older versions try this code:

**Example:**

```

Sub GetThemeFont(fontType as Integer, ByRef fontName as String, ByRef fontSize as Integer, ByRef
fontName as Integer)
dim err as Integer
dim theFont, theFontSize, theFontStyle as MemoryBlock

const smSystemScript = -1

Declare Function GetThemeFont Lib "Carbon" (inFontID as Integer, inScript as Integer, outFontName
as Ptr, outFontSize as Ptr, outStyle as Ptr) as Integer

theFont = NewMemoryBlock(256) //Str255
theFontSize = NewMemoryBlock(2) //SInt16
theFontStyle = NewMemoryBlock(1) //Style

err = GetThemeFont(fontType, smSystemScript, theFont, theFontSize, theFontStyle)

if err = 0 then
fontName = theFont.PString(0)
fontSize = theFontSize.UShort(0)
fontStyle = theFontStyle.Byte(0)
else
fontName = ""
fontSize = 0
fontStyle = 0
end if
End Sub

```

### 5.0.234 What is last plugin version to run on Mac OS X 10.4?

Plugin Version: all, Platform: Windows.

**Answer:** Last Version with 10.4 support is version 15.4.

**Notes:** With version 15.4 you can build applications for OS X 10.4 and newer.

For Version 16.0 we disabled 10.4 and moved minimum to 10.5. We may be able to enable it again to build a version of 16.x, but may need to charge for this by hour.

### 5.0.235 What is last plugin version to run on PPC?

Plugin Version: all, Platform: Windows.

**Answer:** Last Version with PPC is 15.4.

**Notes:** With version 15.4 you can build PPC applications for OS X 10.4 and newer.

For Version 16.0 we disabled PPC. We may be able to enable it again to build a PPC version of 16.x, but may need to charge for this by hour.

### 5.0.236 What is last version of the plugins for macOS 32-bit?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Please use version 23.0 or older.

**Notes:** We stopped including 32-bit code for macOS in version 23.1.

Please use older versions if you use an old Xojo.

Xojo 2017r3 and newer load our 64-bit plugins.

### 5.0.237 What is the difference between Timer and WebTimer?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Timer is server side and WebTimer client side.

**Notes:** Timer is the normal timer class in Xojo. It runs on the server. On the client side the WebTimer runs on the client. It triggers a request to the server to perform the action. So a WebTimer is good to keep the connection running and the website updated regularly. A timer on the server is good to make regular jobs like starting a database backup every 24 hours.

### 5.0.238 What is the list of Excel functions?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Below is a list of function names known by LibXL.

**Notes:** LibXL parses the functions and writes tokens to the excel file. So even if Excel can do more functions, we can only accept the ones known by LibXL.

ABS, ABSREF, ACOS, ACOSH, ACTIVE.CELL, ADD.BAR, ADD.COMMAND, ADD.MENU, ADD.TOOLBAR, ADDRESS, AND, APP.TITLE, AREAS, ARGUMENT, ASC, ASIN, ASINH, ATAN, ATAN2, ATANH, AVEDEV, AVERAGE, AVERAGEA, BAHTTEXT, BETADIST, BETAINV, BINOMDIST, BREAK, CALL, CALLER, CANCEL.KEY, CEILING, CELL, CHAR, CHECK.COMMAND, CHIDIST, CHIINV, CHITEST, CHOOSE, CLEAN, CODE, COLUMN, COLUMNS, COMBIN, CONCATENATE, CONFIDENCE, CORREL, COS, COSH, COUNT, COUNTA, COUNTBLANK, COUNTIF, COVAR, CREATE.OBJECT, CRITBINOM, CUSTOM.REPEAT, CUSTOM.UNDO, DATE, DATEDIF, DATESTRING, DATEVALUE, DAVERAGE, DAY, DAYS360, DB, DBCS, DCOUNT, DCOUNTA, DDB, DEGREES, DELETE.BAR, DELETE.COMMAND, DELETE.MENU, DELETE.TOOLBAR, DEREf, DEVSQ, DGET, DIALOG.BOX, DIRECTORY, DMAX, DMIN, DOCUMENTS, DOLLAR, DPRODUCT, DSTDEV, DSTDEVP, DSUM, DVAR, DVARP, ECHO, ELSE, ELSE.IF, ENABLE.COMMAND, ENABLE.TOOL, END.IF, ERROR, ERROR.TYPE, EVALUATE, EVEN, EXACT, EXEC, EXECUTE, EXP, EXPONDIST, FACT, FALSE, FCLOSE, FDIST, FILES, FIND, FINDB, FINV, FISHER, FISHERINV, FIXED, FLOOR, FOPEN, FOR, FOR.CELL, FORECAST,

FORMULA.CONVERT, FPOS, FREAD, FREADLN, FREQUENCY, FSIZE, FTEST, FV, FWRITE, FWRITELN, GAMMADIST, GAMMAINV, GAMMALN, GEOMEAN, GET.BAR, GET.CELL, GET.CHART.ITEM, GET.DEF, GET.DOCUMENT, GET.FORMULA, GET.LINK.INFO, GET.MOVIE, GET.NAME, GET.NOTE, GET.OBJECT, GET.PIVOT.FIELD, GET.PIVOT.ITEM, GET.PIVOT.TABLE, GET.TOOL, GET.TOOLBAR, GET.WINDOW, GET.WORKBOOK, GET.WORKSPACE, GETPIVOTDATA, GOTO, GROUP, GROWTH, HALT, HARMEAN, HELP, HLOOKUP, HOUR, HYPERLINK, HYPGEOMDIST, IF, INDEX, INDIRECT, INFO, INITIATE, INPUT, INT, INTERCEPT, IPMT, IRR, ISBLANK, ISERR, ISERROR, ISLOGICAL, ISNA, ISNONTEXT, ISNUMBER, ISPMT, ISREF, ISTEXT, ISTHAIDIGIT, KURT, LARGE, LAST.ERROR, LEFT, LEFTB, LEN, LENB, LINEST, LINKS, LN, LOG, LOG10, LOGEST, LOGINV, LOGNORMDIST, LOOKUP, LOWER, MATCH, MAX, MAXA, MDETERM, MEDIAN, MID, MIDB, MIN, MINA, MINUTE, MINVERSE, MIRR, MMULT, MOD, MODE, MONTH, MOVIE.COMMAND, N, NA, NAMES, NEGBINOMDIST, NEXT, NORMDIST, NORMINV, NORMSDIST, NORMSINV, NOT, NOTE, NOW, NPER, NPV, NUMBERSTRING, ODD, OFFSET, OPEN.DIALOG, OPTIONS.LISTS.GET, OR, PAUSE, PEARSON, PERCENTILE, PERCENTRANK, PERMUT, PHONETIC, PI, PIVOT.ADD.DATA, PMT, POISSON, POKE, POWER, PPMT, PRESS.TOOL, PROB, PRODUCT, PROPER, PV, QUARTILE, RADIANS, RAND, RANK, RATE, REFTTEXT, REGISTER, REGISTER.ID, RELREF, RENAME.COMMAND, REPLACE, REPLACEB, REPT, REQUEST, RESET.TOOLBAR, RESTART, RESULT, RESUME, RETURN, RIGHT, RIGHTB, ROMAN, ROUND, ROUNDBAHTDOWN, ROUNDBAHTUP, ROUNDDOWN, ROUNDUP, ROW, ROWS, RSQ, RTD, SAVE.DIALOG, SAVE.TOOLBAR, SCENARIO.GET, SEARCH, SEARCHB, SECOND, SELECTION, SERIES, SET.NAME, SET.VALUE, SHOW.BAR, SIGN, SIN, SINH, SKEW, SLN, SLOPE, SMALL, SPELLING.CHECK, SQRT, STANDARDIZE, STDEV, STDEVA, STDEVP, STDEVPA, STEP, STEYX, SUBSTITUTE, SUBTOTAL, SUM, SUMIF, SUMPRODUCT, SUMSQ, SUMX2MY2, SUMX2PY2, SUMXMY2, SYD, T, TAN, TANH, TDIST, TERMINATE, TEXT, TEXT.BOX, TEXTREF, THAIDAYOFWEEK, THAIDIGIT, THAIMONTHOFYEAR, THAINUMSOUND, THAINUMSTRING, THAISTRINGLENGTH, THAIYEAR, TIME, TIMEVALUE, TINV, TODAY, TRANSPOSE, TREND, TRIM, TRIMMEAN, TRUE, TRUNC, TTEST, TYPE, UNREGISTER, UPPER, USDOLLAR, USERDEFINED, VALUE, VAR, VARA, VARP, VARPA, VDB, VIEW.GET, VLOOKUP, VOLATILE, WEEKDAY, WEIBULL, WHILE, WINDOW.TITLE, WINDOWS, YEAR and ZTEST.

### 5.0.239 What is the replacement for PluginMBS?

Plugin Version: all, Platform: macOS.

**Answer:** Use the SoftDeclareMBS class to load libraries dynamically.

### 5.0.240 What to do on Xojo reporting a conflict?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:**

I get an error like "This item conflicts with another item of the same name" when using one of the plugin functions.

Xojo just wants to tell you that you dropped something in the plugins folder what is not a plugin.

**Notes:**

Some users dropped the examples, the documentation or other files into the plugins folder. Don't do it.

### 5.0.241 What to do with a NSImageCacheException?

Plugin Version: all, Platforms: macOS, Windows.

**Answer:** You need to add exception handlers for NSExcptionMBS in order to catch this exception.

**Notes:** You may also add code to write the stack of the exception into a log file for later locating the error source.

A NSImage has several image representations in memory. So basicly you pass in the base image and for whatever size an image is needed, the NSImage class will create a cache image representation of the requested size so on the next query it can use that cache for the same requested size.

### 5.0.242 What to do with MySQL Error 2014?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** You can get this error on MySQL if you have a recordset open while you create another one.

### 5.0.243 What to do with SQL Plugin reporting Malformed string as error?

Plugin Version: all, Platform: macOS.

**Answer:** Please make sure the table and/or database fields have a text encoding set.

**Notes:** For Firebird our plugin tries to use UTF-8 encoding if possible and to correctly convert between various tables, the tables and their fields need to have a text encoding defined.

e.g. if the text field in the table is windows-1252 and the other ISO 8859-5, then the Firebird database can convert them to UTF-8 and deliver texts to the plugin.

If encoding is set to none, it may get confused for non-ascii text.

### 5.0.244 Where is CGGetActiveDisplayListMBS?

Plugin Version: all, Platform: Windows.

**Answer:** This is now CGDisplayMBS.GetActiveDisplayList.

**5.0.245 Where is CGGetDisplaysWithPointMBS?**

Plugin Version: all, Platform: Windows.

**Answer:** This is now CGDisplayMBS.GetDisplaysWithPoint.

**5.0.246 Where is CGGetDisplaysWithRectMBS?**

Plugin Version: all, Platform: Windows.

**Answer:** This is now CGDisplayMBS.GetDisplaysWithRect.

**5.0.247 Where is CGGetOnlineDisplayListMBS?**

Plugin Version: all, Platform: Windows.

**Answer:** This is now CGDisplayMBS.GetOnlineDisplayList.

**5.0.248 Where is GetObjectClassNameMBS?**

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Please use this replacement method:

**Example:**

```
Function GetObjectClassNameMBS(o as Object) As string
dim t as Introspection.TypeInfo = Introspection.GetType(o)
Return t.FullName
End Function
```

**Notes:** GetObjectClassNameMBS was removed from the plugins.

**5.0.249 Where is NetworkAvailableMBS?**

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** We removed NetworkAvailableMBS some versions ago. It was not working right and basically it's not useful. If you want to check whether you have a network, than do a DNS resolve:

**Example:**

```

// two independent domain names
const domain1 = "www.google.com"
const domain2 = "www.macs.w.de"

// resolve IPs
dim ip1 as string = DNSNameToAddressMBS(Domain1)
dim ip2 as string = DNSNameToAddressMBS(Domain2)

// if we got IPs and not the same IPs (error/login pages)
if len(ip1)=0 or len(ip2)=0 or ip1=ip2 then
MsgBox "no connection"
else
MsgBox "have connection"
end if

```

**Notes:** This way you can detect whether you got something from DNS. And you can make sure that a DNS redirection to a login page won't catch you.

### 5.0.250 Where is StringHeight function in DynaPDF?

Plugin Version: all, Platform: Windows.

**Answer:** Use the function GetFTextHeight or GetFTextHeightEx.

**Notes:** Be aware that GetFTextHeight works with format commands and you may want to escape your text if you don't use them.

### 5.0.251 Where is XLSDocumentMBS class?

Plugin Version: all, Platform: macOS.

**Answer:** This class has been removed in favor of XLBookMBS class.

**Notes:** These classes have been removed: XLSCellMBS, XLSDocumentMBS, XLSFormatRecordMBS, XLSMergedCellsMBS, XLSRowMBS and XLSSheetMBS.

### 5.0.252 Where to get information about file formats?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:**

Please visit this web page:

<http://www.wotsit.org>

### 5.0.253 Where to register creator code for my application?

Plugin Version: all, Platform: macOS.

**Answer:**

Register at Apple:

<http://developer.apple.com/dev/cftype/information.html>

### 5.0.254 Which Mac OS X frameworks are 64bit only?

Plugin Version: all, Platform: macOS.

**Answer:** Some frameworks from Mac OS X do not support 32 bit applications, so we can't provide plugins for Xojo until 64bit target is available.

**Notes:** For Mac OS X 10.8:

- Accounts
- EventKit
- GLKit
- Social

and in 10.9:

- Accounts
- AVKit
- EventKit
- GameController
- GLKit
- MapKit
- MediaLibrary
- Social
- SpriteKit

In general Apple makes all new frameworks being 64 bit only.

### 5.0.255 Which plugins are 64bit only?

Plugin Version: all, Platform: macOS.

**Answer:** Some of our plugins work only in 64 bit modes as operation systems do not provide 32 bit code.

**Notes:** This effects currently: EventKit, Accounts, Social frameworks from Apple and our matching plugins.

### 5.0.256 Why application doesn't launch because of a missing ddraw.dll!?

Plugin Version: all, Platform: Windows.

**Answer:** Some RB versions require that you install DirectX from Microsoft on your Windows.

### 5.0.257 Why application doesn't launch because of a missing shlwapi.dll!?

Plugin Version: all, Platform: Windows.

**Answer:** Some RB versions require that you install the Internet Explorer from Microsoft on your Windows.

**Notes:** This bug is for several older Windows 95 editions.

### 5.0.258 Why do I hear a beep on keydown?

Plugin Version: all, Platform: Windows.

**Answer:** When the user presses a key, RB goes through all keydown event handlers till on returns true.

**Notes:** If no keydown event handler returns true for the key, a beep is performed.

### 5.0.259 Why does folderitem.item return nil?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:** Because Xojo fails to make a folderitem for you. Reason may be an alias file which can't be resolved or simply that you don't have enough access rights to read the folder content.

**Notes:** A more rarely reason is that the directory changed and the file with the given index or name does no longer exist.

### 5.0.260 Why doesn't showurl work?

Plugin Version: all, Platforms: macOS, Linux, Windows.

**Answer:**

There are three main reasons:

1. showurl is not supported by Xojo in 68k applications.
2. there is now application defined for the protocol (e.g. http) in the Internet Control panel.
3. You don't have Internet Config installed.

You can use the InternetConfigMBS class to check for this stuff.

**5.0.261 Why don't the picture functions not work on Linux?**

Plugin Version: all, Platform: macOS.

**Answer:** Please make sure libcairo is installed.

**Notes:** For accessing pictures on Linux, the MBS Plugin relays on the cairo library.

Please install the package if you don't have it already.

Our plugin looks for library called libcairo.so or libcairo.so.2.

**5.0.262 Why have I no values in my chart?**

Plugin Version: all, Platforms: macOS, Windows.

**Answer:** You have no data points visible, there may be several reasons:

**Notes:** For example one of the data values may be infinite or invalid.

Or the scaling may be out of range, so you simply see nothing.

**5.0.263 Will application size increase with using plugins?**

Plugin Version: all, Platform: Windows.

**Answer:** All plugins used by your application will be included in the application.

**Notes:** If you use no plugins, your application will not change size.

And if you use one class from the plugins, your application size will increase by a few kilobytes.

The documentation of the plugins include a list of all plugin parts and their sizes for the different platforms.

**5.0.264 XLS: Custom format string guidelines**

Plugin Version: all, Platform: macOS.

**Answer:** You have to download the source code and compile a static version of the library.

**Notes:** Up to four sections of format codes can be specified. The format codes, separated by semicolons, define the formats for positive numbers, negative numbers, zero values, and text, in that order. If only two sections are specified, the first is used for positive numbers and zeros, and the second is used for negative numbers. If only one section is specified, it is used for all numbers. Four sections example:

```
#,###.00_); [ Red ] (#,###.00);0.00;"sales "@
```

The following table describes the different symbols that are available for use in custom number formats.

#### Specify colors

To set the text color for a section of the format, type the name of one of the following eight colors in square brackets in the section. The color code must be the first item in the section.

Instead of using the name of the color, the color index can be used, like this [ Color3 ] for Red. Valid numeric indexes for color range from 1 to 56, which reference by index to the legacy color palette.

#### Specify conditions

To set number formats that will be applied only if a number meets a specified condition, enclose the condition in square brackets. The condition consists of a comparison operator and a value. Comparison operators include: = Equal to; >Greater than; <Less than; >= Greater than or equal to, <= Less than or equal to, and <>Not equal to. For example, the following format displays numbers that are less than or equal to 100 in a red font and numbers that are greater than 100 in a blue font.

```
[ Red ] [ <=100 ] ; [ Blue ] [ >100 ]
```

If the cell value does not meet any of the criteria, then pound signs ("##") are displayed across the width of the cell.

#### Dates and times

#### Examples

### 5.0.265 Xojo doesn't work with your plugins on Windows 98.

Plugin Version: all, Platform: Windows.

**Answer:** Please upgrade your Windows version.

**5.0.266 Xojo or my RB application itself crashes on launch on Mac OS Classic.  
Why?**

Plugin Version: all.

**Answer:**

You may check if the application has enough memory to be loaded.

RB should have on Mac OS Classic more than 20 MB of RAM.

I preferred to use 50 MB and for an application a 10 MB partition is a good way to start.

Parameter	Description
x	The x value of the data point. For an enumerated x-axis (see <code>Axis.setLabels</code> on what is an enumerated axis), the first data point is 0, and the nth data point is (n-1).
xLabel	The bottom x-axis label of the data point.
x2Label	The top x-axis label of the data point.
value	The value of the data point.
accValue	The sum of values of all data points that are in the same x position and same data group as the current data point, and with data set number less than or equal to the current data point. This is useful for stacked charts, such as stacked bar chart and stacked area chart.
totalValue	The sum of values of all data points that are in the same x position and same data group as the current data point. This is useful for stacked charts, such as stacked bar chart and stacked area chart.
percent	The percentage of the data point based on the total value of all data points that are in the same x position and same data group as the current data point. This is useful for stacked charts, such as stacked bar chart and stacked area chart.
accPercent	The accumulated percentage of the data point based on the total value of all data points that are in the same x position and same data group as the current data point. This is useful for stacked charts, such as stacked bar chart and stacked area chart.
gpercent	The percentage of the data point based on the total value of all data points in a layer.
dataSet	The data set number to which the data point belongs. The first data set is 0. The nth data set is (n-1).
dataSetName	The name of the data set to which the data point belongs.
dataItem	The data point number within the data set. The first data point is 0. The nth data point is (n-1).
dataGroup	The data group number to which the data point belongs. The first data group is 0. The nth data group is (n-1).
dataGroupName	The name of the data group to which the data point belongs.
layerId	The layer number to which the data point belongs. The first layer is 0. The nth layer is (n-1).
fieldN	The (N + 1)th extra field. For example, { field0 } means the first extra field. An extra field is an array of custom elements added using <code>Layer.addExtraField</code> , <code>Layer.addExtraField2</code> , <code>BaseChart.addExtraField</code> or <code>BaseChart.addExtraField2</code> .

diFieldN	Same as fieldN. See above.
dsFieldN	Similar to fieldN, except that dsFieldN means the extra field is indexed by data set number. The Pth data set corresponds to the Pth element of the extra field.
dsdiFieldN	Similar to fieldN, except that dsdiFieldN means the extra fields are indexed by both the data set number and data point number. The Pth data item of the Qth data set corresponds to the Pth element of the (N + Q)th extra field.

Parameter	Description
zx	The symbol scale in the x dimension. Applicable for layers with symbol scales set by <code>LineStyle.setSymbolScale</code> .
zy	The symbol scale in the y dimension. Applicable for layers with symbol scales set by <code>LineStyle.setSymbolScale</code> .
z	The symbol scale without distinguishing the dimension to use. Applicable for layers with symbol scales set by <code>LineStyle.setSymbolScale</code> .

Parameter	Description
slope	The slope of the trend line.
intercept	The y-intercept of the trend line.
corr	The correlation coefficient in linear regression analysis.
stderr	The standard error in linear regression analysis.

Parameter	Description
top	The value of the top edge of the box-whisker symbol.
bottom	The value of the bottom edge of the box-whisker symbol.
max	The value of the maximum mark of the box-whisker symbol.
min	The value of the minimum mark of the box-whisker symbol.
med	The value of the median mark of the box-whisker symbol.

Parameter	Description
high	The high value.
low	The low value.
open	The open value.
close	The close value.

Parameter	Description
dir	The direction of the vector.
len	The length of the vector.

Parameter	Description
radius	The radial value of the data point.
value	Same as { radius } . See above.
angle	The angular value of the data point.
x	Same as { angle } . See above.
label	The angular label of the data point.
xLabel	Same as { label } . See above.
name	The name of the layer to which the data point belongs.
dataSetName	Same as { name } . See above.
i	The data point number. The first data point is 0. The nth data point is (n-1).
dataItem	Same as { i } . See above.
z	The symbol scale. Applicable for layers with symbol scales set by Polar-Layer.setSymbolScale.
fieldN	The (N + 1)th extra field. For example, { field0 } means the first extra field. An extra field is an array of custom elements added using Layer.addExtraField, Layer.addExtraField2, BaseChart.addExtraField or BaseChart.addExtraField2.
diFieldN	Same as fieldN. See above.
dsFieldN	Similar to fieldN, except that dsFieldN means the extra field is indexed by layer index. The Pth layer corresponds to the Pth element of the extra field.
dsdiFieldN	Similar to fieldN, except that dsdiFieldN means the extra fields are indexed by both the data set number and data point number. The Pth data item of the Qth layer corresponds to the Pth element of the (N + Q)th extra field.
Parameter	Description
dir	The direction of the vector.
len	The length of the vector.
Parameter	Description
value	The axis value at the tick position.
label	The axis label at the tick position.
Parameter	Description
[ param ]	The name of the parameter
[ a ]	If this field a number, it specifies the number of decimal places (digits to the right of the decimal point).

[ b ]	The thousand separator. Should be a non-alphanumeric character (not 0-9, A-Z, a-z). Use '.
textasciitilde ' for no thousand separator. The default is 'textasciitilde ', which can be modified using BaseChart.setNumberFormat.	
[ c ]	The decimal point character. The default is '.', which can be modified using BaseChart.setNumberFormat.
[ d ]	The negative sign character. Use '-'
textasciitilde ' for no negative sign character. The default is '-', which can be modified using BaseChart.setNumberFormat.	

Parameter	Description
yyyy	The year in 4 digits (e.g. 2002)
yyy	The year showing only the least significant 3 digits (e.g. 002 for the year 2002)
yy	The year showing only the least significant 2 digits (e.g. 02 for the year 2002)
y	The year showing only the least significant 1 digits (e.g. 2 for the year 2002)
mmm	The month formatted as its name. The default is to use the first 3 characters of the english month name (Jan, Feb, Mar ...). The names can be configured using BaseChart.setMonthNames.
mm	The month formatted as 2 digits from 01 - 12, adding leading zero if necessary.
m	The month formatted using the minimum number of digits from 1 - 12.
MMM	The first 3 characters of the month name converted to upper case. The names can be configured using BaseChart.setMonthNames.
MM	The first 2 characters of the month name converted to upper case. The names can be configured using BaseChart.setMonthNames.
M	The first character of the month name converted to upper case. The names can be configured using BaseChart.setMonthNames.
dd	The day of month formatted as 2 digits from 01 - 31, adding leading zero if necessary.
d	The day of month formatted using the minimum number of digits from 1 - 31.
w	The name of the day of week. The default is to use the first 3 characters of the english day of week name (Sun, Mon, Tue ...). The names can be configured using BaseChart.setWeekDayNames.
hh	The hour of day formatted as 2 digits, adding leading zero if necessary. The 2 digits will be 00 - 23 if the 'a' option (see below) is not specified, otherwise it will be 01 - 12.
h	The hour of day formatted using the minimum number of digits. The digits will be 0 - 23 if the 'a' option (see below) is not specified, otherwise it will be 01 - 12.
nn	The minute formatted as 2 digits from 00 - 59, adding leading zero if necessary.
n	The minute formatted using the minimum number of digits from 00 - 59.
ss	The second formatted as 2 digits from 00 - 59, adding leading zero if necessary.
s	The second formatted using the minimum number of digits from 00 - 59.
a	Display either 'am' or 'pm', depending on whether the time is in the morning or afternoon. The text 'am' and 'pm' can be modified using BaseChart.setAMPM.

Shape Id	Value	Description
SquareShape	1	Square shape. See (1, 1) above.
DiamondShape	2	Diamond shape. See (2, 1) above.
TriangleShape	3	Triangle shape pointing upwards. See (3, 1) above.
RightTriangleShape	4	Triangle shape pointing rightwards. See (4, 1) above.
LeftTriangleShape	5	Triangle shape pointing leftwards. See (5, 1) above.
InvertedTriangleShape	6	Triangle shape pointing downwards. See (1, 2) above.
CircleShape	7	Circle shape. See (2, 2) above.
StarShape	[ Method ]	Star shapes of various points. See (2, 3), (2, 4), (2, 5), (3, 1), (3, 2), (3, 3), (3, 4), (3, 5) above for stars with 3 to 10 points.
PolygonShape	[ Method ]	Polygon shapes symmetrical about a vertical axis with a vertex at the top center position. See (4, 1), (4, 3), (4, 5), (5, 1) for polygons of 5 to 8 sides.
Polygon2Shape	[ Method ]	Polygon shapes symmetrical about a vertical axis but without any vertex at the top center position. See (4, 2), (4, 4) for polygons of 5 and 6 sides.
CrossShape	[ Method ]	'+' shapes. See (5, 2), (5, 3), (5, 4), (5, 5), (6, 1), (6, 2), (6, 3) for '+' shape with arm width of 0.1 - 0.7.
Cross2Shape	[ Method ]	'X' shapes. See (6, 4), (6, 5), (7, 1), (7, 2), (7, 3), (7, 4), (7, 5) for 'X' shapes with arm width of 0.1 - 0.7.

langEnglish	0	Roman script
langFrench	1	Roman script
langGerman	2	Roman script
langItalian	3	Roman script
langDutch	4	Roman script
langSwedish	5	Roman script
langSpanish	6	Roman script
langDanish	7	Roman script
langPortuguese	8	Roman script
langNorwegian	9	Roman script
langHebrew	10	Hebrew script
langJapanese	11	Japanese script
langArabic	12	Arabic script
langFinnish	13	Roman script
langGreek	14	Greek script using smRoman script code
langIcelandic	15	modified smRoman/Icelandic script
langMaltese	16	Roman script
langTurkish	17	modified smRoman/Turkish script
langCroatian	18	modified smRoman/Croatian script
langTradChinese	19	Chinese (Mandarin) in traditional characters
langUrdu	20	Arabic script
langHindi	21	Devanagari script
langThai	22	Thai script
langKorean	23	Korean script

Nan	Meaning
1	Invalid square root (negative number, usually)
2	Invalid addition (indeterminate such as infinity + (-infinity))
4	Invalid division (indeterminate such as 0/0)
8	Invalid multiplication (indeterminate such as 0*infinity)
9	Invalid modulo such as (a mod 0)
17	Try to convert invalid string to a number like val("x7")
33	Invalid argument in a trig function
34	Invalid argument in an inverse trig function
36	Invalid argument in a log function
37	Invalid argument in Pow function
38	Invalid argument in toolbox financial function
40	Invalid argument in hyperbolic function
42	Invalid argument in a gamma function

Symbol	Description and result
0	Digit placeholder. For example, if the value 8.9 is to be displayed as 8.90, use the format #.00
#	Digit placeholder. This symbol follows the same rules as the 0 symbol. However, the application shall not display extra zeros when the number typed has fewer digits on either side of the decimal than there are # symbols in the format. For example, if the custom format is #.##, and 8.9 is in the cell, the number 8.9 is displayed.
?	Digit placeholder. This symbol follows the same rules as the 0 symbol. However, the application shall put a space for insignificant zeros on either side of the decimal point so that decimal points are aligned in the column. For example, the custom format 0.0? aligns the decimal points for the numbers 8.9 and 88.99 in a column.
. (period)	Decimal point.
%	Percentage. If the cell contains a number between 0 and 1, and the custom format 0% is used, the application shall multiply the number by 100 and add the percentage symbol in the cell.
, (comma)	Thousands separator. The application shall separate thousands by commas if the format contains a comma that is enclosed by number signs (#) or by zeros. A comma that follows a placeholder scales the number by one thousand. For example, if the format is #.0,, and the cell value is 12,200,000 then the number 12.2 is displayed.
E- E+ e- e+	Scientific format. The application shall display a number to the right of the "E" symbol that corresponds to the number of places that the decimal point was moved. For example, if the format is 0.00E+00, and the value 12,200,000 is in the cell, the number 1.22E+07 is displayed. If the number format is #0.0E+0, then the number 12.2E+6 is displayed.
\$ -+/( ):space	Displays the symbol. If it is desired to display a character that differs from one of these symbols, precede the character with a backslash (\). Alternatively, enclose the character in quotation marks. For example, if the number format is (000), and the value 12 is in the cell, the number (012) is displayed.
\	Display the next character in the format. The application shall not display the backslash. For example, if the number format is 0\!, and the value 3 is in the cell, the value 3! is displayed.
*	Repeat the next character in the format enough times to fill the column to its current width. There shall not be more than one asterisk in one section of the format. If more than one asterisk appears in one section of the format, all but the last asterisk shall be ignored. For example, if the number format is 0*x, and the value 3 is in the cell, the value 3xxxxxx is displayed. The number of x characters that are displayed in the cell varies based on the width of the column.
_ (underline)	Skip the width of the next character. This is useful for lining up negative and positive values in different cells of the same column. For example, the number format _(0.0_);(0.0) aligns the numbers 2.3 and -4.5 in the column even though the negative number is enclosed by parentheses.
"text"	Display whatever text is inside the quotation marks. For example, the format 0.00 "dollars" displays 1.23 dollars when the value 1.23 is in the cell.
@	Text placeholder. If text is typed in the cell, the text from the cell is placed in the format where the at symbol (@) appears. For example, if the number format is "Bob "@ Smith" (including quotation marks), and the value "John" is in the cell, the value Bob John Smith is displayed.

[ Black ] [ Green ] [ White ] [ Blue ] [ Magenta ] [ Yellow ] [ Cyan ] [ Red ]

To display	As	Use this code
Months	1-12	m
Months	01-12	mm
Months	Jan-Dec	mmm
Months	January-December	mmmm
Months	J-D	mmmmm
Days	1-31	d
Days	01-31	dd
Days	Sun-Sat	ddd
Days	Sunday-Saturday	dddd
Years	00-99	yy
Years	1900-9999	yyyy
Hours	0-23	h
Hours	00-23	hh
Minutes	0-59	m
Minutes	00-59	mm
Seconds	0-59	s
Seconds	00-59	ss
Time	4 AM	h AM/PM
Time	4:36 PM	h:mm AM/PM
Time	4:36:03 P	h:mm:ss A/P
Time	4:36:03.75	h:mm:ss.00
Elapsed time	1:02	[ h ] :mm
Elapsed time	62:16	[ mm ] :ss
Elapsed time	3735.80	[ ss ] .00

To display	As	Use this code
1234.59	1234.6	#####.#
8.9	8.900	#.000
.631	0.6	0.#
12	12.0	#.0#
1234.568	1234.57	#.0#
44.398	44.398	???.???
102.65	102.65	???.???
2.8	2.8	???.???
5.25	5 1/4	# ??/??
5.3	5 3/10	# ??/??
12000	12,000	#,###
12000	12	#,
12400000	12.4	0.0,,