# MBS QuickTime Plugin Documentation

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## 0.1  Introduction

This is the PDF version of the documentation for the Xojo (Real Studio) Plug-in from Monkeybread Software Germany. Plugin part: MBS QuickTime Plugin

## 0.2  Content

# Chapter 1

# List of Topics

# Chapter 2

# List of all classes

# Chapter 3

# List of all global methods

# Chapter 4

# Files

## 4.1 class Folderitem

### 4.1.1 class Folderitem

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: Yes. **Function:** One of Realbasic's base classes.
**Notes:** Handles access to files.

### 4.1.2 Methods

### 4.1.3 IsMovieFileMBS as boolean

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Checks whether quicktime can open this file as a movie.
**Example:**

```
dim f as folderitem = specialfolder.desktop.child("test.mov")
if f.ismoviefileMBS then
'use as movie
else
msgbox f.name+" is not a movie file."
end if
```

**Deprecated:** This item is deprecated and should no longer be used. **Notes:**

Take care that Text files will be valid for movies because quicktime allows use of textfiles for undertitles in movies.
So on Mac you should check for filetype "TEXT", too.

This function requires QuickTime. Without QuickTime it will always return false.

### 4.1.4   IsPictureFileMBS as boolean

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Checks whether quicktime can open this file as a picture.
**Example:**

```
dim f as folderitem = specialfolder.desktop.child("test.pic")
if f.ispicturefileMBS then
'use as picture file
else
msgbox f.name+" is not a picture file."
end if
```

**Deprecated:** This item is deprecated and should no longer be used. **Notes:**

Some user reported that PDF files are seen as valid pictures, too.
This function requires QuickTime. Without QuickTime it will always return false.

### 4.1.5   MakeThumbnailPictureMBS as picture

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Function:** Creates a small Thumbnail picture from the given picture file.
**Deprecated:** This item is deprecated and should no longer be used. **Notes:**

Works only with PICT files. (no JPEG!)
Requires QuickTime!

### 4.1.6   OpenAsEditableMovieMBS as movie

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Opens a movie file editable.
**Deprecated:** This item is deprecated and should no longer be used. **Notes:**

Instead of Realbasic this function uses the movie flag newMovieDontAskUnresolvedDataRefs so QuickTime will not ask the user for missing data files.
Returns nil on any error.
This function does not work in Cocoa due to a bug in Real Studio. This bug has been fixed in Xojo 2013r1.

### 4.1.7 OpenAsEditableMovieWithFlagsMBS(flags as Integer) as movie

Plugin Version: 5.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Opens a movie from file with flags.
**Deprecated:** This item is deprecated and should no longer be used. **Notes:**

File is opened for read and write so you can change it.

Possible flags value:

| | |
|---|---|
| newMovieActive | = 1 |
| newMovieDontResolveDataRefs | = 2 |
| newMovieDontAskUnresolvedDataRefs | = 4 |
| newMovieDontAutoAlternates | = 8 |
| newMovieDontUpdateForeBackPointers | = 16 |
| newMovieDontAutoUpdateClock | = 32 |
| newMovieAsyncOK | = 256 |
| newMovieIdleImportOK | = 1024 |
| newMovieDontInteractWithUser | = 2048 |

Default is to use newMovieActive and newMovieDontResolveDataRefs.

Please check LoadStateMBS for the status of the movie if you used newMovieAsyncOK.

Returns nil on any error or on Linux.
This function does not work in Cocoa due to a bug in Real Studio. This bug has been fixed in Xojo 2013r1.

### 4.1.8 OpenAsMovieMBS as movie

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Opens a movie file.
**Deprecated:** This item is deprecated and should no longer be used. **Notes:**

Instead of Realbasic this function uses the movie flag newMovieDontAskUnresolvedDataRefs so QuickTime will not ask the user for missing data files.
Returns nil on any error.

This function does not work in Cocoa due to a bug in Real Studio. This bug has been fixed in Xojo 2013r1.

### 4.1.9 OpenAsMovieWithFlagsMBS(flags as Integer) as movie

Plugin Version: 5.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Opens a movie from file with flags.

**Deprecated:** This item is deprecated and should no longer be used. **Notes:**

File is opened read only so you can't change it.

Possible flags value:

| newMovieActive | = 1 |
| newMovieDontResolveDataRefs | = 2 |
| newMovieDontAskUnresolvedDataRefs | = 4 |
| newMovieDontAutoAlternates | = 8 |
| newMovieDontUpdateForeBackPointers | = 16 |
| newMovieDontAutoUpdateClock | = 32 |
| newMovieAsyncOK | = 256 |
| newMovieIdleImportOK | = 1024 |
| newMovieDontInteractWithUser | = 2048 |

Default is to use newMovieActive and newMovieDontResolveDataRefs.

Please check LoadStateMBS for the status of the movie if you used newMovieAsyncOK.

Returns nil on any error or on Linux.
This function does not work in Cocoa due to a bug in Real Studio. This bug has been fixed in Xojo 2013r1.

### 4.1.10   OpenAsMovieWithPropertiesMBS(RateChangesPreservePitch as boolean=false, Async_ as boolean=false, quality as Integer=-1) as movie

Plugin Version: 5.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** LIke OpenAsMovieWithPropertiesMBS, but with option to do asyncron movie loading.
**Example:**

dim f as FolderItem
dim m as movie

f=SpecialFolder.Desktop.Child("test.mov")
// load with low audio quality, preserving pitch and synchron.
m=f.OpenAsMovieWithPropertiesMBS(true,false,& h20)

// Load into movieplayer
window1.MoviePlayer1.Movie=m

**Deprecated:** This item is deprecated and should no longer be used. **Notes:**

Please check LoadStateMBS for the status of the movie.

Quality is the new AudioQuality from QuickTime 7.1 which ranges from 0 to & h7F.

constants for the quality:

```
const kRenderQuality_Max      = & h7F,
const kRenderQuality_High     = & h60,
const kRenderQuality_Medium   = & h40,
const kRenderQuality_Low      = & h20,
const kRenderQuality_Min      = 0
```

This function does not work in Cocoa due to a bug in Real Studio. This bug has been fixed in Xojo 2013r1.

# Chapter 5

# Graphics & Pictures

## 5.1 class Graphics

### 5.1.1 class Graphics

Console & Web: Yes, Mac: Yes, Win: No, Linux: No. **Function:** Extends Realbasic's Graphics Class.

### 5.1.2 Methods

### 5.1.3 DrawGWorldHandleMBS(handle as Integer, SourceLeft as Integer, SourceTop as Integer, SourceWidth as Integer, SourceHeight as Integer, DestinationLeft as Integer, DestinationTop as Integer, DestinationWidth as Integer, DestinationHeight as Integer)

Plugin Version: 4.0, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Function:** Draws a Gworld into a graphics objct.
**Notes:** You can pass a handle of a GWorldMBS object.

## 5.2    class GWorldMBS

### 5.2.1    class GWorldMBS

Plugin Version: 3.3, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** A class for a GWorld picture object.
**Example:**

```
// This example is for Mac OS and Windows:

dim g as GWorldMBS
dim p as Picture
dim d as GWorldMBS

// get a picture and make sure it's a bitmap
p=LogoMBS(500)

// Make the destination GWorld
d=new GWorldMBS
if d.NewGWorld(p.Width*4,p.Height*4,32) then

// Make a reference GWorld to target the picture for the source (Mac only!)
g=new GWorldMBS
if g.NewGWorldFromPicture(p) then

// Scale bicubic in QuickTime 6
g.Scale d, 1024

// not 0 on any error
Title=str(g.Lasterror)

// show it in a window
Backdrop=d.CopyPicture
end if
end if
```

**Notes:**

Several classes can draw directly into a GWorld picture of take a GWorld Picture as a source. On Mac OS most Realbasic picture objects have a GWorld handle inside, so the plugin functions can accept a Realbasic picture object.
This class is deprecated as Apple deprecated the QuickDraw framework. This class may not work on 64 bit targets.

### 5.2.2 Methods

### 5.2.3 clone as GWorldMBS

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Clones the GWorld and it's content data.

### 5.2.4 cloneHandle as Integer

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Clones the GWorld and it's content data.
**Notes:**

You need to dispose the GWorldHandle later.
This function can be used for Toolbox functions who need to get a GWorld Handle.

### 5.2.5 Close

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The destructor.
**Notes:**

There is no need to call this method except you want to free all resources of this object now without waiting for Realbasic to do it for you.
(e.g. some Realbasic versions crash on Windows if there are plugin objects not closed.)

### 5.2.6 CopyPicture as Picture

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns a copy of the GWorld content as a REALbasic picture.
**Example:**

dim g as GWorldMBS // your gworld
Backdrop=g.CopyPicture

**Notes:** Returns nil on any error.

### 5.2.7   CopyToMemory(dest as Ptr, offset as Integer, RowBytes as Integer, Swap as boolean = false) as boolean

Plugin Version: 13.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Copies current pixels into a given memory block.
**Notes:**

Offset: Position of first byte in memoryblock.
RowBytes: The row size in bytes of your memoryblock.

This way you can have your gworld go into a buffer of bigger width/height representing an OpenGL texture for example.

Swap: Set to true to swap alpha channel position for using a GWorld created with NewGWorld(w,h,32) for use with OpenGL GL_RGBA mode.

### 5.2.8   Data as memoryblock

Plugin Version: 13.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns a copy of the data in a memoryblock.
**Example:**

```
dim g as new GWorldMBS
if not g.NewGWorld(200, 200, 32) then
MsgBox "Failed to create GWorld"
Return
end if

dim w as Integer = g.Width
dim h as Integer = g.Height
dim p as MemoryBlock = g.Data
dim r as Integer = g.RowBytes
dim d as Integer = min(w-1,h-1)

// draw blue line
for i as Integer = 0 to d
p.UInt32Value( r * i + i*4) = & hFF000000
next

// no change as we modified a copy!
Backdrop = g.CopyPicture
```

### 5.2.9 DataPtr as Ptr

Plugin Version: 13.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns data pointer to data in the gworld.
**Example:**

```
dim g as new GWorldMBS
if not g.NewGWorld(200, 200, 32) then
MsgBox "Failed to create GWorld"
Return
end if

dim w as Integer = g.Width
dim h as Integer = g.Height
dim p as ptr = g.DataPtr
dim r as Integer = g.RowBytes
dim d as Integer = min(w-1,h-1)

// draw blue line
for i as Integer = 0 to d
p.UInt32( r * i + i*4) = & hFF000000
next

Backdrop = g.CopyPicture
```

**Notes:** Do not use this pointer after the gworld has been destroyed.

### 5.2.10 DrawGWorld(SourceGWorld as GWorldMBS, SourceLeft as Integer, Source-Top as Integer, SourceWidth as Integer, SourceHeight as Integer, DestinationLeft as Integer, DestinationTop as Integer, DestinationWidth as Integer, DestinationHeight as Integer)

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Draws the content of a gworld into the current gworld.
**Example:**

```
dim p as Picture
dim g,g2 as GWorldMBS

// Source picture
p=LogoMBS(500)

// Create GWorld
g=new GWorldMBS
```

if g.NewGWorld(200,200,32) then

// Draw picture into GWorld
g.DrawPicture p,0,0,p.Width,p.Height, false

end if

// Create another GWorld
g2=new GWorldMBS
if g2.NewGWorld(200,200,32) then

// Draw GWorld into GWorld
g2.DrawGWorld g,0,0,200,200,0,0,200,200

// Get the picture back (a copy)
Backdrop=g2.CopyPicture

end if

### 5.2.11   DrawIntoGraphics(destination as graphics)

Plugin Version: 7.7, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Function:** Draws the GWorld
into the Graphics object.
**Notes:**

Works only if there is a GrafPort inside that Graphics object, so it won't work on Windows or Linux. And
on Mac OS X it will break as soon as Realbasic upgrades to use CoreGraphics only.

This function is not supported for Realbasic Cocoa targets.
See also:

- 5.2.12 DrawIntoGraphics(destination as graphics, SourceLeft as Integer, SourceTop as Integer, SourceWidth
  as Integer, SourceHeight as Integer, DestinationLeft as Integer, DestinationTop as Integer, Destina-
  tionWidth as Integer, DestinationHeight as Integer)                                              54

### 5.2.12   DrawIntoGraphics(destination as graphics, SourceLeft as Integer, Source-Top as Integer, SourceWidth as Integer, SourceHeight as Integer, DestinationLeft as Integer, DestinationTop as Integer, DestinationWidth as Integer, DestinationHeight as Integer)

Plugin Version: 7.7, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Function:** Draws the GWorld
into the Graphics object.
**Notes:**

Works only if there is a GrafPort inside that Graphics object, so it won't work on Windows or Linux. And on Mac OS X it will break as soon as Realbasic upgrades to use CoreGraphics only.

This function is not supported for Realbasic Cocoa targets.
See also:

### 5.2.13 DrawPicture(SourcePicture as picture, DestinationLeft as Integer, DestinationTop as Integer, DestinationWidth as Integer, DestinationHeight as Integer, UseTransparent as boolean)

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Draws the content of a picture inside the current gworld.
**Example:**

dim p as Picture
dim g as GWorldMBS

// Source picture
p=LogoMBS(500)

// Create GWorld
g=new GWorldMBS
if g.NewGWorld(200,200,32) then

// Draw picture into GWorld
g.DrawPicture p,0,0,g.Width,g.Height,true

// Get the picture back (a copy)
Backdrop=g.CopyPicture

end if

**Notes:** UseTransparent=true let white being transparent.

### 5.2.14 GetGWorld(byref port as Integer, byref device as Integer)

Plugin Version: 7.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Gets the current QuickDraw drawing destination.
**Notes:** On success port is not 0.

## 5.2.15   NewGWorld(width as Integer, height as Integer, Depth as Integer, Clear-White as boolean = true) as boolean

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Creates a new color GWorld.
**Example:**

dim g as GWorldMBS

g=new GWorldMBS

if g.NewGWorld(100,100,32) then
Backdrop=g.CopyPicture
end if

**Notes:**

Returns true if successfull.
Depth can be 1, 2, 4, 8, 16 or 32.
If ClearWhite is true, we clear the image by filling it with white color.
See also:

## 5.2.16   NewGWorld(width as Integer, height as Integer, PixelFormat as string, ClearWhite as boolean = true) as boolean

Plugin Version: 13.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Creates a new color GWorld.
**Example:**

dim g as new GWorldMBS

if g.NewGWorld(200, 200, g.k32BGRAPixelFormat) then

// works, so shows values
MsgBox str(g.Width)+" "+str(g.Height)+" "+str(g.RowBytes)
end if

**Notes:**

Returns true if successfull.
For PixelFormat, please check the constants defined in this class.
If ClearWhite is true, we clear the image by filling it with white color.

If you use non RGB formats, some of the drawing functions may not work.
See also:

### 5.2.17   NewGWorldFromPicture(SourcePic as picture) as boolean

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Creates a new 32bit gworld with the content from this picture.
**Notes:**

Lasterror is set.
This method fails on Windows 98 (does create only a white picture)

### 5.2.18   NewGWorldGray(width as Integer, height as Integer, Depth as Integer, ClearWhite as boolean = true) as boolean

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Creates a new Grayscale GWorld.
**Example:**

dim g as GWorldMBS

g=new GWorldMBS

if g.NewGWorldGray(100,100,8) then
Backdrop=g.CopyPicture
end if

**Notes:**

Returns true if successfull.
Depth can be 1, 2, 4, 8, 16 or 32.
If ClearWhite is true, we clear the image by filling it with white color.

### 5.2.19   NewGWorldPictureReference(pic as picture) as boolean

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Function:** Fills the GWorld object with the handle of the Realbasic picture object.
**Notes:**

You can use on Mac OS all pictures created using NewPicture.
A reference to the picture is stored, so all changes on this GWorld affect the original!
Returns true if successfull.

### 5.2.20  NewGWorldWithBuffer(width as Integer, height as Integer, PixelFormat as string, Buffer as Ptr, RowBytes as Integer, ClearWhite as boolean = true) as boolean

Plugin Version: 13.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Creates a new color GWorld.
**Notes:**

Returns true if successfull.
For PixelFormat, please check the constants defined in this class.
If ClearWhite is true, we clear the image by filling it with white color.

If you use non RGB formats, some of the drawing functions may not work.

### 5.2.21  Scale(destgworld as GWorldMBS, quality as Integer)

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Scales one bitmap into another.
**Example:**

// This example is for Mac OS only!

dim g as GWorldMBS
dim p as Picture
dim d as GWorldMBS

// get a picture and make sure it's a bitmap
p=LogoMBS(500)

// Make the destination GWorld
d=new GWorldMBS
if d.NewGWorld(p.Width*4,p.Height*4,32) then

// Make a reference GWorld to target the picture for the source (Mac only!)
g=new GWorldMBS
if g.NewGWorldPictureReference(p) then

// Scale bicubic in QuickTime 6
g.Scale d, 1024

// not 0 on any error
Title=str(g.Lasterror)

// show it in a window
Backdrop=d.CopyPicture
end if
end if

**Notes:**

Lasterror is set.
Quality is 1024 for best results. Quicktime 6 will use Bicubic scaling in this case.

Some of the possible values:

| | | |
|---|---|---|
| codecMinQuality | & h000 | The minimum valid value for a CodecQ field. |
| codecLowQuality | & h100 | Low-quality image reproduction. This value should correspond to the lowest image quality that still results in acceptable display characteristics. |
| codecNormalQuality | & h200 | Image reproduction of normal quality. |
| codecHighQuality | & h300 | High-quality image reproduction. This value should correspond to the highest image quality that can be achieved with reasonable performance. |
| codecMaxQuality | & h3FF | The maximum standard value for a CodecQ field. |
| codecLosslessQuality | & h400 | Lossless compression or decompression. This special value is valid only for components that can support lossless compression or decompression. |

### 5.2.22 SetGWorld

Plugin Version: 7.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Sets the current drawing destination in QuickDraw to this GWorld.
**Notes:** Same as Calling SetGWorld(me.handle,0)
See also:

- 5.2.23 SetGWorld(port as Integer, device as Integer) 59

### 5.2.23 SetGWorld(port as Integer, device as Integer)

Plugin Version: 7.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Sets the current QuickDraw drawing destination.
**Notes:** Device can be 0.
See also:

- 5.2.22 SetGWorld 59

## 5.2.24   Properties

## 5.2.25   Bottom as Integer

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The bottom position of the picture.
**Notes:**

A GWorld can have the top left pixel at position x=0 y=0.
But some special picture have a different start position.
Left, Top, Right and Bottom define the image rectangle.
Returns 0 on any error.
(Read only property)

## 5.2.26   Handle as Integer

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The handle for the GWorld.
**Notes:**

(a GWorldPtr)
(Read and Write property)

## 5.2.27   Height as Integer

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The height of the image.
**Notes:**

Width = Right-Left
(Read only property)

## 5.2.28   Lasterror as Integer

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The last error code reported.
**Notes:**

0 for no error.
-1 if the function is not available or a parameter was wrong.
else a Mac OS error code.
(Read and Write property)

### 5.2.29 Left as Integer

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The left position of the picture.
**Notes:**

A GWorld can have the top left pixel at position x=0 y=0.
But some special picture have a different start position.
Left, Top, Right and Bottom define the image rectangle.
Returns 0 on any error.
(Read only property)

### 5.2.30 PixelDepth as Integer

Plugin Version: 13.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the pixel depth of this GWorld.
**Example:**

```
dim g as new GWorldMBS
if not g.NewGWorld(200, 200, 32) then
MsgBox "Failed to create GWorld"
Return
end if

MsgBox str(G.PixelDepth)
```

**Notes:**

Value is -1 if the plugin can't query it.
(Read only property)

### 5.2.31 Quality as Integer

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The quality to use for compressing and decompressing pictures.
**Notes:**

Some of the possible values:

(Read and Write property)

| codecMinQuality | & h000 | The minimum valid value for a CodecQ field. |
| codecLowQuality | & h100 | Low-quality image reproduction. This value should correspond to the lowest image quality that still results in acceptable display characteristics. |
| codecNormalQuality | & h200 | Image reproduction of normal quality. |
| codecHighQuality | & h300 | High-quality image reproduction. This value should correspond to the highest image quality that can be achieved with reasonable performance. |
| codecMaxQuality | & h3FF | The maximum standard value for a CodecQ field. |
| codecLosslessQuality | & h400 | Lossless compression or decompression. This special value is valid only for components that can support lossless compression or decompression. |

### 5.2.32   Release as Boolean

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether the destructor should destroy the GWorld Handle.
**Notes:** (Read and Write property)

### 5.2.33   Right as Integer

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The right position of the picture.
**Notes:**

A GWorld can have the top left pixel at position x=0 y=0.
But some special picture have a different start position.
Left, Top, Right and Bottom define the image rectangle.
Returns 0 on any error.
(Read only property)

### 5.2.34   RowBytes as Integer

Plugin Version: 13.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns number of bytes per row.
**Example:**

```
dim g as new GWorldMBS
if not g.NewGWorld(200, 200, 32) then
MsgBox "Failed to create GWorld"
Return
end if

MsgBox str(G.RowBytes)
```

**Notes:** (Read only property)

### 5.2.35   Top as Integer

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The top position of the image.
**Notes:**

A GWorld can have the top left pixel at position x=0 y=0.
But some special picture have a different start position.
Left, Top, Right and Bottom define the image rectangle.
Returns 0 on any error.
(Read only property)

### 5.2.36   Width as Integer

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The width of the picture.
**Example:**

dim g1,g2 as GWorldMBS
dim f as FolderItem
dim b as BinaryStream
dim s as string

// read jpeg data
f=GetFolderItem("Jaguar1600.jpg")
b=f.OpenAsBinaryFile(false)
s=b.Read(b.Length)
b.Close

// make a gworld
g1=new GWorldMBS
g1.JPEGdata=s

// make new gworld
g2=new GWorldMBS
if g2.NewGWorld(g1.Width/2,g1.Height/2,32) then
end if

// scale
g1.Scale(g2,1024)

// save jpeg data
f=GetFolderItem("Jaguar1600small.jpg")

b=f.CreateBinaryFile("image/jpeg")
b.Write g1.JPEGdata
b.Close

**Notes:**

Width = Bottom-Top
(Read only property)

### 5.2.37   BMPdata as string

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The GWorld picture
compressed as a BMP file.
**Example:**

dim f as FolderItem
dim s as string
dim b as BinaryStream
dim g as GWorldMBS

g=new GWorldMBS

f=SpecialFolder.Desktop.Child("met-art01500.bmp")
b=f.OpenAsBinaryFile(false)
s=b.Read(b.Length)
b.Close

g.BMPdata=s

Backdrop=g.CopyPicture

**Notes:**

Set the quality property before reading this value.
Lasterror is set.
(Read and Write computed property)

### 5.2.38   BMPdataMemory as Memoryblock

Plugin Version: 13.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The GWorld picture
compressed as a BMP file.
**Notes:**

Set the quality property before reading this value.
Lasterror is set.
(Read and Write computed property)

### 5.2.39   JPEGdata as string

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The GWorld picture compressed as a JPEG file.
**Example:**

dim f as FolderItem
dim s as string
dim b as BinaryStream
dim g as GWorldMBS

g=new GWorldMBS

f=SpecialFolder.Desktop.Child("met-art01500.jpg")
b=f.OpenAsBinaryFile(false)
s=b.Read(b.Length)
b.Close

g.JPEGdata=s

Backdrop=g.CopyPicture

**Notes:**

Set the quality property before reading this value.
Lasterror is set.
(Read and Write computed property)

### 5.2.40   JPEGdataMemory as Memoryblock

Plugin Version: 13.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The GWorld picture compressed as a JPEG file.
**Notes:**

Set the quality property before reading this value.
Lasterror is set.
(Read and Write computed property)

## 5.2.41   PNGdata as string

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The GWorld picture compressed as a PNG file.
**Example:**

dim f as FolderItem
dim s as string
dim b as BinaryStream
dim g as GWorldMBS

g=new GWorldMBS

f=SpecialFolder.Desktop.Child("met-art01500.png")
b=f.OpenAsBinaryFile(false)
s=b.Read(b.Length)
b.Close

g.PNGdata=s

Backdrop=g.CopyPicture

**Notes:**

Set the quality property before reading this value.
Lasterror is set.
(Read and Write computed property)

## 5.2.42   PNGdataMemory as Memoryblock

Plugin Version: 13.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The GWorld picture compressed as a PNG file.
**Notes:**

Set the quality property before reading this value.
Lasterror is set.
(Read and Write computed property)

## 5.2.43   TIFFdata as string

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The GWorld picture compressed as a TIFF file.
**Example:**

dim f as FolderItem
dim s as string
dim b as BinaryStream
dim g as GWorldMBS

g=new GWorldMBS

f=SpecialFolder.Desktop.Child("met-art01500.tiff")
b=f.OpenAsBinaryFile(false)
s=b.Read(b.Length)
b.Close

g.TIFFdata=s

Backdrop=g.CopyPicture

**Notes:**

Set the quality property before reading this value.
Lasterror is set.
(Read and Write computed property)

### 5.2.44   TIFFdataMemory as Memoryblock

Plugin Version: 13.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The GWorld picture compressed as a TIFF file.
**Notes:**

Set the quality property before reading this value.
Lasterror is set.
(Read and Write computed property)

### 5.2.45   Constants

### 5.2.46   k16BE565PixelFormat = "B565"

Plugin Version: 13.4. **Function:** One of the pixel format constants.
**Example:**

dim g as new GWorldMBS

if g.NewGWorld(200, 200, g.k16BE565PixelFormat) then

// works and shows values
MsgBox str(g.Width)+" "+str(g.Height)+" "+str(G.RowBytes)

end if


**Notes:** 16 bit BE rgb 565


### 5.2.47   k16GrayPixelFormat = "b16g"

Plugin Version: 13.4. **Function:** One of the pixel format constants.
**Notes:**

Grayscale, 16-bit big-endian samples
Supported by QTNewGWorld in QuickTime 4.0 and later.


### 5.2.48   k16LE5551PixelFormat = "5551"

Plugin Version: 13.4. **Function:** One of the pixel format constants.
**Notes:** 16 bit LE rgb 5551


### 5.2.49   k16LE555PixelFormat = "L555"

Plugin Version: 13.4. **Function:** One of the pixel format constants.
**Notes:** 16 bit LE rgb 555 (PC)


### 5.2.50   k16LE565PixelFormat = "L565"

Plugin Version: 13.4. **Function:** One of the pixel format constants.
**Notes:** 16 bit LE rgb 565


### 5.2.51   k24BGRPixelFormat = "24BG"

Plugin Version: 13.4. **Function:** One of the pixel format constants.
**Notes:** 24 bit bgr

### 5.2.52 k2vuyPixelFormat = "2vuy"

Plugin Version: 13.4. **Function:** One of the pixel format constants.
**Notes:** UYVY 4:2:2 byte ordering

### 5.2.53 k32ABGRPixelFormat = "ABGR"

Plugin Version: 13.4. **Function:** One of the pixel format constants.
**Example:**

dim g as new GWorldMBS

if g.NewGWorld(200, 200, g.k32ABGRPixelFormat) then

// works and shows values
MsgBox str(g.Width)+" "+str(g.Height)+" "+str(G.RowBytes)

end if

**Notes:** 32 bit abgr

### 5.2.54 k32AlphaGrayPixelFormat = "b32a"

Plugin Version: 13.4. **Function:** One of the pixel format constants.
**Notes:**

AlphaGray, 16-bit big-endian samples
Supported by QTNewGWorld in QuickTime 4.0 and later.

### 5.2.55 k32BGRAPixelFormat = "BGRA"

Plugin Version: 13.4. **Function:** One of the pixel format constants.
**Example:**

dim g as new GWorldMBS

if g.NewGWorld(200, 200, g.k32BGRAPixelFormat) then

// works and shows values
MsgBox str(g.Width)+" "+str(g.Height)+" "+str(G.RowBytes)

end if


**Notes:** 32 bit bgra (Matrox)


### 5.2.56   k32RGBAPixelFormat = "RGBA"

Plugin Version: 13.4. **Function:** One of the pixel format constants.
**Example:**

dim g as new GWorldMBS

if g.NewGWorld(200, 200, g.k32RGBAPixelFormat) then

// works and shows values
MsgBox str(g.Width)+" "+str(g.Height)+" "+str(G.RowBytes)

end if


**Notes:** 32 bit rgba


### 5.2.57   k422YpCbCr8PixelFormat = "2vuy"

Plugin Version: 13.4. **Function:** One of the pixel format constants.
**Notes:**

Component Y'CbCr 8-bit 4:2:2, ordered Cb Y'0 Cr Y'1.
Supported by QTNewGWorld in QuickTime 4.0 and later.


### 5.2.58   k4444YpCbCrA8PixelFormat = "v408"

Plugin Version: 13.4. **Function:** One of the pixel format constants.
**Notes:**

Component Y'CbCrA 8-bit 4:4:4:4, ordered Cb Y' Cr A.
Supported by QTNewGWorld in QuickTime 4.1.2 and later.

### 5.2.59   k4444YpCbCrA8RPixelFormat = "r408"

Plugin Version: 13.4. **Function:** One of the pixel format constants.
**Notes:**

Component Y'CbCrA 8-bit 4:4:4:4, rendering format. full range alpha, zero biased yuv, ordered A Y' Cb Cr.
Supported by QTNewGWorld in QuickTime 4.1.2 and later.

### 5.2.60   k48RGBPixelFormat = "b48r"

Plugin Version: 13.4. **Function:** One of the pixel format constants.
**Notes:**

RGB, 16-bit big-endian samples
Supported by QTNewGWorld in QuickTime 4.0 and later.

### 5.2.61   k64ARGBPixelFormat = "b64a"

Plugin Version: 13.4. **Function:** One of the pixel format constants.
**Notes:**

ARGB, 16-bit big-endian samples
Supported by QTNewGWorld in QuickTime 4.0 and later.

### 5.2.62   kCMYKPixelFormat = "cmyk"

Plugin Version: 13.4. **Function:** One of the pixel format constants.
**Notes:**

CMYK, 8-bit
Supported by QTNewGWorld in QuickTime 4.0 and later.

### 5.2.63   kUYVY422PixelFormat = "UYVY"

Plugin Version: 13.4. **Function:** One of the pixel format constants.
**Notes:** UYVY 4:2:2 byte ordering

## 5.2.64   kYUV211PixelFormat = "Y211"

Plugin Version: 13.4. **Function:** One of the pixel format constants.
**Notes:** YUV 2:1:1 Packed

## 5.2.65   kYUV411PixelFormat = "Y411"

Plugin Version: 13.4. **Function:** One of the pixel format constants.
**Notes:** YUV 4:1:1 Interleaved

## 5.2.66   kYUV420PixelFormat = "y420"

Plugin Version: 13.4. **Function:** One of the pixel format constants.
**Notes:**

Planar Component Y'CbCr 8-bit 4:2:0. PixMap baseAddr points to a big-endian PlanarPixmapInfoYUV420
struct; see ImageCodec.i.
Supported by QTNewGWorld in QuickTime 6.0 and later.

## 5.2.67   kYUVSPixelFormat = "yuvs"

Plugin Version: 13.4. **Function:** One of the pixel format constants.
**Notes:** YUV 4:2:2 byte ordering 16-unsigned = 'YUY2'

## 5.2.68   kYUVUPixelFormat = "yuvu"

Plugin Version: 13.4. **Function:** One of the pixel format constants.
**Notes:** YUV 4:2:2 byte ordering 16-signed

## 5.2.69   kYVU9PixelFormat = "YVU9"

Plugin Version: 13.4. **Function:** One of the pixel format constants.
**Notes:** YVU9 Planar

## 5.2.70 kYVYU422PixelFormat = "YVYU"

Plugin Version: 13.4. **Function:** One of the pixel format constants.
**Notes:** YVYU 4:2:2 byte ordering

## 5.3   Globals

### 5.3.1   BuildPictureWithGWorldHandleMBS(handle as Integer, ByPassOwner-erShip as boolean) as picture

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Creates a new Realbasic picture using a GWorld Handle.
**Notes:**

If ByPassOwernerShip is true, RB will destroy the GWorld Handle later if the picture is destroyed. If By-PassOwernerShip is false, the Picture will become unuseable (maybe crashes when used) as soon as the given handle is destroyed.


Returns nil on any error.
Requires QuickTime on Windows.


### 5.3.2   BuildPictureWithPicHandleDataMBS(data as string) as picture

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Creates a Realbasic picture from data from a PicHandle.
**Example:**

// Use an AppleScript to get a picture, decode the picture, and make a RB picture

dim s as String
dim a as AppleScriptMBS
dim i as Integer

s="set p to the clipboard as ""PICT"""+chr(13)
s=s+"return p"

a=new AppleScriptMBS
a.Compile s

a.Execute

S=A.Result

i=instr(s,"PICT")
s=mid(s,i+4)

s=DecodingFromHexMBS(s)

Backdrop=BuildPictureWithPicHandleDataMBS(s)

**Notes:**

Returns nil on any error.
Requires QuickTime on Windows.
The data is copied into the new picture object.
You may want to call CloneMBS on the new picture as a lot of Real Studio functions (including debugger) can't work on non bitmap pictures.

### 5.3.3 BuildPictureWithPicHandleDataMBS(data as Memoryblock) as picture

Plugin Version: 13.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Creates a Realbasic picture from data from a PicHandle.
**Notes:**

Returns nil on any error.
Requires QuickTime on Windows.
The data is copied into the new picture object.
You may want to call CloneMBS on the new picture as a lot of Real Studio functions (including debugger) can't work on non bitmap pictures.

## 5.4 class Picture

### 5.4.1 class Picture

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: Yes. **Function:** Extends Realbasic's Picture Class.

### 5.4.2 Methods

### 5.4.3 MakeThumbnailPictureMBS as picture

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Function:** Creates a small Thumbnail picture from the given picture object.
**Deprecated:** This item is deprecated and should no longer be used. **Notes:** Requires QuickTime!

# Chapter 6

# MemoryBlock

## 6.1 class Memoryblock

### 6.1.1 class Memoryblock

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: Yes. **Function:** Extends Realbasic's Memoryblock class.

### 6.1.2 Methods

### 6.1.3 GetPictureMBS(Name as string, MimeType as string) as Picture

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Interprets a memoryblock as a picture data.
**Notes:**

This uses QuickTime like the StringToPicture function.
Name and MimeType are to help QuickTime to choose faster which importer to use.
See also FileExtensionToMimeTypeMBS function.

# Chapter 7

# Pictures Import and Export

## 7.1    class QTGraphicsExporterMBS

### 7.1.1    class QTGraphicsExporterMBS

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** A class to export pictures using QuickTime.
**Example:**

```
dim p as Picture
dim q as QTGraphicsExporterMBS
dim f as FolderItem
dim b as BinaryStream
dim s as string

// Make a red picture
p=NewPicture(100,100,32)
p.Graphics.ForeColor=rgb(255,0,0)
p.Graphics.FillRect 0,0,100,100

// Export to string
q=new QTGraphicsExporterMBS
q.OpenExporter "PICT"
q.InputPicture=p
s=q.ExportToString

// save to file to check in GraphicsConverter
// All QuickTime enabled application should be able to read this file.
f=SpecialFolder.Desktop.Child("test.pict")
b=f.CreateBinaryFile("special/any")
b.Write s
```

b.Close

**Notes:** Requires QuickTime 2.5 or newer.

### 7.1.2   Methods

### 7.1.3   CanExif as boolean

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns true if the Exif feature is available on this exporter.

### 7.1.4   CanRequestSettings as boolean

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns true if the Settings Dialog feature is available on this exporter.

### 7.1.5   CanThumbnail as boolean

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns true if the Thumbnail feature is available on this exporter.

### 7.1.6   ClearPicture

Plugin Version: 10.3, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Clears the picture buffers.
**Notes:**

You can call this method to reduce the memory usage. So after you called Export, you can call this method to clear memory before you do the next export.
The buffers are cleared automatically when the graphics exporter is closed.

### 7.1.7   close

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The destructor.
**Notes:**

Handle is set to 0.

There is no need to call this method except you want to free all resources of this object now without waiting for Realbasic to do it for you.

(e.g. some Realbasic versions crash on Windows if there are plugin objects not closed.)

### 7.1.8   CodecList as string

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns a list of all codecs supported.
**Notes:**

A string of 4 letter codes of all available codecs.
Returns ".SGI8BPSBMPfJPEGPICTPNGfPNTGTIFFTPICbasejp2 qtif" on Mac OS X with QuickTime 6.

### 7.1.9   Export as Integer

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Does the export.
**Notes:**

Lasterror is set.
Returns the number of bytes written.

### 7.1.10   ExportToString as string

Plugin Version: 3.3, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Exports the picture and stores the data into a string.
**Example:**

dim s as string
dim q,p as Picture
dim qe as QTGraphicsExporterMBS

qe=new QTGraphicsExporterMBS
qe.OpenExporter "BMPf"

p=NewPicture(100,100,32)

qe.InputPicture=p
s=qe.ExportToString

Title=str(lenb(s))
q=StringtoPictureMBS(s,"test.bmp","")

Backdrop=q

**Notes:**

Returns "" on any error.
Lasterror is set.

### 7.1.11    GetDefaultFileNameExtension as string

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the default
file name extension for this exporter.
**Notes:**

Lasterror is set.
The extension does not contain a dot.

### 7.1.12    GetDefaultMacCreator as string

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the default
Mac Creator code for this exporter.
**Example:**

dim q as QTGraphicsExporterMBS

q=new QTGraphicsExporterMBS

q.OpenExporter("TIFF")

MsgBox q.GetDefaultMacCreator

**Notes:** Lasterror is set.

### 7.1.13    GetDefaultMacType as string

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the default
Mac Type code for this exporter.
**Example:**

dim q as QTGraphicsExporterMBS

q=new QTGraphicsExporterMBS

q.OpenExporter("TIFF")

MsgBox q.GetDefaultMacType

**Notes:** Lasterror is set.

### 7.1.14 GetOutputMacCreator as string

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the currently used mac creator code.
**Example:**

dim q as QTGraphicsExporterMBS

q=new QTGraphicsExporterMBS

q.OpenExporter("TIFF")

MsgBox q.GetOutputMacCreator

### 7.1.15 GetOutputMacType as string

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the currently used Mac Type code.
**Example:**

dim q as QTGraphicsExporterMBS

q=new QTGraphicsExporterMBS

q.OpenExporter("TIFF")

MsgBox q.GetOutputMacType

## 7.1.16   OpenExporter(type as string)

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Opens a new exporter with the given type.
**Example:**

dim q as QTGraphicsExporterMBS

q=new QTGraphicsExporterMBS

q.OpenExporter("TIFF")

MsgBox q.GetDefaultFileNameExtension

**Notes:** Lasterror and Handle are set.

## 7.1.17   RequestSettings as boolean

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Shows the dialog for the codec specific settings.
**Example:**

Sub Open()
dim q as QTGraphicsExporterMBS
dim s as String
dim b as Integer

q=new QTGraphicsExporterMBS

q.OpenExporter("TIFF")

q.InputPicture=NewPicture(100,100,32)

q.OutputFile=SpecialFolder.Desktop.Child("test graphics exporter."+q.GetDefaultFileNameExtension)

if q.RequestSettings then
MsgBox q.SettingsAsText
end if

b=q.Export

MsgBox str(b)+" bytes written."
End Sub

**Notes:**

Returns true if user presses the ok button.
Lasterror is set.
Not every codec supports a dialog, so this may return an error code in this case.

### 7.1.18   SetInputGraphicsImporter(input as QTGraphicsImporterMBS)

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Uses a QTGraphicsImporterMBS object for the source of the image data.
**Notes:** Lasterror is set.

### 7.1.19   SetOutputFileTypeAndCreator(type as string, creator as string)

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Sets the output file type and creator code.
**Notes:** Lasterror is set.

### 7.1.20   SetResolution(h as Double, v as Double)

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Sets the resolution to use.

### 7.1.21   SetThumbnail(enabled as boolean, maxwidth as Integer, maxheight as Integer)

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Determines whether or not the graphics exporter component should create an embedded thumbnail inside an exported Exif file.
**Notes:**

This function is currently supported only by the TIFF and JPEG graphics exporters.

maxwidth: The maximum width for created thumbnails.
maxheight: The maximum height for created thumbnails.

If one maximum dimension is 0, only the other will be used. If both maximum dimensions are 0, the graphics exporter will decide for itself. The graphics exporter will not change the aspect ratio of the Exif image when creating the thumbnail, nor will it create a thumbnail larger than the image.

The JPEG graphics exporter can create thumbnails only when writing Exif files.
Introduced in QuickTime 6.

### 7.1.22    SettingsAsText as string

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the settings
in a user readable format.
**Notes:**

Just for displaying it in a dialog box.
Lasterror is set.
Returns ”” on any error.

### 7.1.23    Properties

### 7.1.24    CompressionMethod as Integer

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The compression
method to use.
**Notes:**

In QuickTime 4, the TIFF graphics exporter supports the compressionMethod settings kQTTIFFCom-
pression_None and kQTTIFFCompression_PackBits. Some image formats, such as TIFF, support several
compression methods.

Values:

| | | |
|---|---|---|
| kQTTIFFCompression_None | No compression. | This value is 1. |
| kQTTIFFCompression_PackBits | PackBits compression. | This value is 32773L |

(Read and Write property)

### 7.1.25    CompressionQuality as Integer

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The compression
quality to use.
**Notes:**

The quality parameter controls how precisely the compressor compresses the image data. Some compressors
may choose to ignore some image data to improve compression speed.

Some of the possible values:

| | | |
|---|---|---|
| codecMinQuality | & h000 | The minimum valid value for a CodecQ field. |
| codecLowQuality | & h100 | Low-quality image reproduction. This value should correspond to the lowest image quality that still results in acceptable display characteristics. |
| codecNormalQuality | & h200 | Image reproduction of normal quality. |
| codecHighQuality | & h300 | High-quality image reproduction. This value should correspond to the highest image quality that can be achieved with reasonable performance. |
| codecMaxQuality | & h3FF | The maximum standard value for a CodecQ field. |
| codecLosslessQuality | & h400 | Lossless compression or decompression. This special value is valid only for components that can support lossless compression or decompression. |

Not all compressor allow a quality value (e.g. BMP).
Lasterror is set.
(Read and Write property)

### 7.1.26   Depth as Integer

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The depth to use.
**Notes:**

Pixel formats:

| | | |
|---|---|---|
| k1MonochromePixelFormat | & h01 | 1 bit indexed |
| k2IndexedPixelFormat | & h02 | 2 bit indexed |
| k4IndexedPixelFormat | & h04 | 4 bit indexed |
| k8IndexedPixelFormat | & h08 | 8 bit indexed |
| k16BE555PixelFormat | & h10 | 16 bit BE rgb 555 (Mac) |
| k24RGBPixelFormat | & h18 | 24 bit rgb |
| k32ARGBPixelFormat | & h20 | 32 bit argb (Mac) |
| k1IndexedGrayPixelFormat | & h21 | 1 bit indexed gray |
| k2IndexedGrayPixelFormat | & h22 | 2 bit indexed gray |
| k4IndexedGrayPixelFormat | & h24 | 4 bit indexed gray |
| k8IndexedGrayPixelFormat | & h28 | 8 bit indexed gray |

Not all exporters do support all formats!
(Read and Write property)

### 7.1.27   DontRecompress as Boolean

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** whether compressed
data should not be recompressed.

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

### 7.1.28    ExifEnabled as Boolean

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Determines whether or not the graphics exporter component should create Exif files.
**Example:**

```
// scale down a JPEG and keep EXIF data:

dim qi as QTGraphicsImporterMBS
dim qe as QTGraphicsExporterMBS
dim r as IntegerRectMBS

qi=new QTGraphicsImporterMBS
qe=new QTGraphicsExporterMBS

qi.OpenFile SpecialFolder.Desktop.Child("IMAG0001.JPG")
r=IntegerRectMBS(qi.CurrentBounds)
r.width=r.width/2
r.height=r.height/2
qi.CurrentBounds=r

qe.OpenExporter "JPEG"
qe.OutputFile=SpecialFolder.Desktop.Child("test.jpg")
qe.SetThumbnail true,200,200
// MsgBox str(qe.Lasterror)
qe.ExifEnabled=true
// MsgBox str(qe.Lasterror)
qe.SetOutputFileTypeAndCreator "JPEG","GKON"
qe.SetInputGraphicsImporter qi
title=str(qe.Export)
```

**Notes:**

Turning on Exif export disables incompatible settings, such as grayscale JPEG and compressed TIFF, and enables export of Exif metadata.
Introduced in QuickTime 6.
(Read and Write property)

### 7.1.29 Handle as Integer

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The handle to the exporter component.
**Notes:** (Read and Write property)

### 7.1.30 HorizontalResolution as Double

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The horizontal resolution value to use.
**Notes:** (Read only property)

### 7.1.31 InputGWorldHandle as Integer

Plugin Version: 3.3, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The handle to a gworld used for the source image.
**Notes:**

Lasterror is set.
(Read and Write property)

### 7.1.32 InputPicture as Picture

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The picture to export.
**Example:**

```
// save an icon as a PNG file with mask
dim f1 as folderItem
dim f2 as folderitem
dim p as picture
dim i as picture
dim m as picture
dim qe as QTGraphicsExporterMBS
dim tNum as Integer

f1=SpecialFolder.Desktop
if f1<>Nil then

if TargetCocoa then
i=f1.IconMBS(512)
elseif TargetCarbon or TargetWin32 then
```

i = f1.IconImageMBS(512)
m = f1.IconMaskMBS(512)

i.EmbeddedMaskMBS(true)=m
else
break // not supported
end if

f2 = SpecialFolder.Desktop.Child(”test.png”)
qe=new QTGraphicsExporterMBS
qe.OpenExporter ”PNGf”
qe.InputPicture=i
qe.OutputFile = f2
tNum=qe.Export
end if

**Notes:**

This must be a Bitmap picture (GWorld).
If the picture comes from a QTGraphicsImporter, please use SetInputGraphicsImporter.

On Windows it seems like the exporter caches the image content so setting a second time the input picture can fail. Not sure if that is a bug of a specific QuickTime version. Seems to be only if you reuse the same picture object with different content. If you use new to create a new picture, it seems to work just fine.

For Cocoa, the image can have a normal Real Studio mask and the plugin will use it.
(Read and Write property)

### 7.1.33   InterlaceStyle as Integer

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The Interlace Style to use.
**Notes:**

The new interlace style to use. Valid values and interpretations are defined by individual exporters. In QuickTime 4, the PNG graphics exporter supports the interlaceStyle settings shown below.

Constants to use:

| | | |
|---|---|---|
| kQTPNGInterlaceNone | No interlace. | Value is 0. |
| kQTPNGInterlaceAdam7 | Uses the 2D Adam7 algorithm. | Value is 1. |

A common use for this function is in the PNG and GIF formats, which rearrange data so that low-resolution images can be displayed from incomplete data streams.
(Read and Write property)

### 7.1.34 Lasterror as Integer

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The last error code reported.
**Notes:** (Read and Write property)

### 7.1.35 OutputFile as Folderitem

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The file specification to use for creating the output file.
**Example:**

dim qe as QTGraphicsExporterMBS
dim NumberOfBytesWritten as Integer

dim pix as Picture = NewPicture(100,100,32)

pix.Graphics.FillOval 0,0,100,100

qe=new QTGraphicsExporterMBS
qe.OpenExporter "JPEG"
qe.InputPicture = pix
qe.CompressionQuality = & h300
qe.OutputFile = SpecialFolder.Desktop.Child("This is a very long filename for the outputfile test project.jpg")
NumberOfBytesWritten=qe.Export

MsgBox str(NumberOfBytesWritten)

**Notes:**

Does not support file names over 31 characters.
So write to a temporary file and if you are successfull, rename the file to the final name. This will also avoid that your application overwrites a good file with a new damaged file. A file may be damaged if your application crashes on writing the file or if the disk is full.
(Read and Write property)

### 7.1.36   Progress as Integer

Plugin Version: 3.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Which progress indicator to use.
**Notes:**

This property replaces the UseDefaultProgressDialog property used before.


Values:


0 - no progress dialog
1 - default progress dialog
2 - call Realbasic events.
3 - call Realbasic events and give RB CPU time to process events. (like redrawing windows)


Default value is 0.
This property must be set after you called OpenExporter.
(Read and Write property)


### 7.1.37   TargetDataSize as Integer

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The current desired maximum data size for a graphics export operation.
**Notes:**

Lasterror is set.
(Read and Write property)


### 7.1.38   ThumbnailEnabled as Boolean

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** True if the exporter should create a thumbnail.
**Notes:** (Read only property)


### 7.1.39   ThumbnailMaxHeight as Integer

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the max height of the thumbnail.
**Notes:**

Lasterror is set.

(Read only property)

### 7.1.40   ThumbnailMaxWidth as Integer

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the max width of the thumbnail.
**Notes:** (Read only property)

### 7.1.41   VerticalResolution as Double

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The vertical resolution value to use.
**Notes:** (Read only property)

### 7.1.42   ColorSyncProfileData as string

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The current value of the ColorSync profile for a graphics export operation.
**Notes:**

Lasterror is set.
(Read and Write computed property)

### 7.1.43   ColorSyncProfileDataMemory as Memoryblock

Plugin Version: 13.0, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The current value of the ColorSync profile for a graphics export operation.
**Notes:**

Lasterror is set.
(Read and Write computed property)

### 7.1.44   MetaData as object

Plugin Version: 3.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The meta data of this file as a QTUserDataMBS object.
**Notes:**

Not all compressors support meta data.
(Read and Write computed property)

### 7.1.45   MetaDataString as string

Plugin Version: 3.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The meta data of
this file as a binary string.
**Notes:**

Not all compressors support meta data.
(Read and Write computed property)

### 7.1.46   Settings as String

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The settings for this
exporter in a binary string.
**Notes:** (Read and Write computed property)

### 7.1.47   Events

### 7.1.48   ProgressClose

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Export finished.
**Notes:** You can hide a progressbar here.

### 7.1.49   ProgressOpen

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Exporting starts.
**Notes:** You can show a progressbar here.

### 7.1.50   ProgressUpdatePercent(percent as Double) as boolean

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Some more data was
exported.
**Notes:** You may update a progressbar here.

## 7.2 class QTGraphicsImporterImageDescriptionMBS

### 7.2.1 class QTGraphicsImporterImageDescriptionMBS

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** A class for a description of an image.

### 7.2.2 Properties

### 7.2.3 CodecName as string

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The name of the codec used.
**Example:**

```
dim f as FolderItem
dim q as new QTGraphicsImporterMBS
dim d as QTGraphicsImporterImageDescriptionMBS

f=GetFolderItem("cmyk.jpg")
q.OpenFile(f)

d=q.ImageDescription
if d<>nil then
MsgBox d.CodecName // "Foto - JPEG" on a german system
end if

f=GetFolderItem("image.png")
q.OpenFile(f)

d=q.ImageDescription
if d<>nil then
MsgBox d.CodecName // "PNG"
end if
```

**Notes:**

Max 31 characters long.
(Read and Write property)

### 7.2.4 CodecType as string

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** What kind of codec compressed this data.

**Example:**

```
dim f as FolderItem
dim q as new QTGraphicsImporterMBS
dim d as QTGraphicsImporterImageDescriptionMBS

f=GetFolderItem("cmyk.jpg")
q.OpenFile(f)

d=q.ImageDescription
if d<>nil then
MsgBox d.CodecType // "jpeg"
end if

f=GetFolderItem("image.png")
q.OpenFile(f)

d=q.ImageDescription
if d<>nil then
MsgBox d.CodecType // "png "
end if
```

**Notes:**

A four letter code, for example "jpeg"
(Read and Write property)

## 7.2.5   ColorSpace as String

Plugin Version: 3.1, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the color space of the image.
**Example:**

```
dim f as FolderItem
dim q as new QTGraphicsImporterMBS
dim d as QTGraphicsImporterImageDescriptionMBS

f=GetFolderItem("cmyk.jpg")
q.OpenFile(f)

d=q.ImageDescription
if d<>nil then
MsgBox d.ColorSpace // cmyk
end if
```

f=GetFolderItem("rgb.jpg")
q.OpenFile(f)

d=q.ImageDescription
if d<>nil then
MsgBox d.ColorSpace // shows nothing
end if

**Notes:**

Should be "cmyk" for CMYK images.
Returns "" on any error or if the color space is RGB.
(Read and Write property)

### 7.2.6 Depth as Integer

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The depth of the image.
**Example:**

dim f as FolderItem
dim q as new QTGraphicsImporterMBS
dim d as QTGraphicsImporterImageDescriptionMBS

f=GetFolderItem("cmyk.jpg")
q.OpenFile(f)

d=q.ImageDescription
if d<>nil then
MsgBox str(d.Depth) // 24
end if

f=GetFolderItem("image.png")
q.OpenFile(f)

d=q.ImageDescription
if d<>nil then
MsgBox str(d.Depth) // 24
end if

**Notes:**

Depth in color is 1 to 32 and for grayscale 33 to 40.
(Read and Write property)

### 7.2.7   FrameCount as Integer

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The frame count of the image.
**Notes:** (Read and Write property)

### 7.2.8   Height as Integer

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The height of the image.
**Notes:** (Read and Write property)

### 7.2.9   HorizontalResolution as Double

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The horizontal resolution of the image.
**Notes:** (Read and Write property)

### 7.2.10   RevisionLevel as Integer

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The RevisionLevel of the Codec used.
**Notes:** (Read and Write property)

### 7.2.11   SpatialQuality as Integer

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** What was the spatial quality factor.
**Notes:**

Some of the possible values:

| | | |
|---|---|---|
| codecMinQuality | & h000 | The minimum valid value for a CodecQ field. |
| codecLowQuality | & h100 | Low-quality image reproduction. This value should correspond to the lowest image quality that still results in acceptable display characteristics. |
| codecNormalQuality | & h200 | Image reproduction of normal quality. |
| codecHighQuality | & h300 | High-quality image reproduction. This value should correspond to the highest image quality that can be achieved with reasonable performance. |
| codecMaxQuality | & h3FF | The maximum standard value for a CodecQ field. |
| codecLosslessQuality | & h400 | Lossless compression or decompression. This special value is valid only for components that can support lossless compression or decompression. |

(Read and Write property)

### 7.2.12 TemporalQuality as Integer

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** What was the temporal quality factor.
**Notes:**

Some of the possible values:

| | | |
|---|---|---|
| codecMinQuality | & h000 | The minimum valid value for a CodecQ field. |
| codecLowQuality | & h100 | Low-quality image reproduction. This value should correspond to the lowest image quality that still results in acceptable display characteristics. |
| codecNormalQuality | & h200 | Image reproduction of normal quality. |
| codecHighQuality | & h300 | High-quality image reproduction. This value should correspond to the highest image quality that can be achieved with reasonable performance. |
| codecMaxQuality | & h3FF | The maximum standard value for a CodecQ field. |
| codecLosslessQuality | & h400 | Lossless compression or decompression. This special value is valid only for components that can support lossless compression or decompression. |

(Read and Write property)

### 7.2.13 Vendor as string

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** A four letter code for the vendor.
**Example:**

dim f as FolderItem
dim q as new QTGraphicsImporterMBS
dim d as QTGraphicsImporterImageDescriptionMBS

f=GetFolderItem("cmyk.jpg")
q.OpenFile(f)

d=q.ImageDescription
if d<>nil then
MsgBox d.vendor // "appl"
end if

**Notes:**

for example "appl" for Apple.

(Read and Write property)

### 7.2.14   Version as Integer

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The version of the Codec used.
**Notes:** (Read and Write property)

### 7.2.15   VerticalResolution as Double

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The vertical resolution of the image.
**Notes:** (Read and Write property)

### 7.2.16   Width as Integer

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The width of the image.
**Notes:** (Read and Write property)

## 7.3 class QTGraphicsImporterMatrixMBS

### 7.3.1 class QTGraphicsImporterMatrixMBS

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** A class for a QuickTime matrix.

### 7.3.2 Methods

### 7.3.3 CopyMatrix as QTGraphicsImporterMatrixMBS

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Creates a copy of the matrix object.

### 7.3.4 EqualMatrix(secondmatrix as QTGraphicsImporterMatrixMBS) as boolean

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns true if two matrix objects have the same content.

### 7.3.5 QuadToQuadMatrix(frompoints() as object, topoints() as object)

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Creates a matrix to make a kind of perspectively look on an image.
**Notes:** Each array should have 4 points.

### 7.3.6 RotateMatrix(degrees as Double, anchorx as Double, anchory as Double)

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Rotates the matrix.

### 7.3.7 ScaleMatrix(ScaleX as Double, ScaleY as Double, AboutX as Double, AboutY as Double)

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Scales the matrix.

### 7.3.8   SetIdentityMatrix

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Set's the matrix to the identity matrix.

### 7.3.9   SkewMatrix(SkewX as Double, SkewY as Double, AboutX as Double, AboutY as Double)

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Skews the matrix.

### 7.3.10   TranslateMatrix(DeltaH as Double, DeltaW as Double)

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Translates the matrix.

# 7.4 class QTGraphicsImporterMBS

## 7.4.1 class QTGraphicsImporterMBS

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** A class to import pictures using QuickTime.
**Example:**

// Tests the class. The title of the window will have the size in bytes of the
// TIFF data and the backdrop will white if the decompression worked.

dim p as Picture
dim q as QTGraphicsImporterMBS
dim s as String

p=NewPicture(100,100,32)

q=new QTGraphicsImporterMBS

s=PicturetoStringMBS(p,"tiff",1024,32)
Title=str(lenb(s))
q.OpenData s,"TIFF"

Backdrop=q.MakePicture(100,100)

// if you see the white backdrop the class is working.

**Notes:**

Requires QuickTime 2.5 or newer.

On Tiff not all modes are supported. Apple has a technote on this:
http://developer.apple.com/qa/qtmcc/qtmcc18.html

## 7.4.2 Methods

## 7.4.3 close

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The destructor.
**Notes:**

There is no need to call this method except you want to free all resources of this object now without waiting for Realbasic to do it for you.
(e.g. some Realbasic versions crash on Windows if there are plugin objects not closed.)

### 7.4.4   ColorSyncProfileData as string

Plugin Version: 3.1, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The ColorSync profile for this image.
**Example:**

const kGraphicsImporterDontUseColorMatching=8

dim q as QTGraphicsImporterMBS

q=new QTGraphicsImporterMBS
q.OpenFile(file)
q.flags=bitwiseor(q.flags, kGraphicsImporterDontUseColorMatching)

dim profileData as string=q.ColorSyncProfileData

**Notes:**

Lasterror is set.

from Apple.com:
"The QuickTime Graphics Importers that ship with Panther now draw (via
GraphicsImportDraw) using ColorSync color-matching by default. On
pre-Panther systems, you had to write your own custom ColorSync code to
perform color-matching.

Developers wishing to opt-out of this default color-matching must call
GraphicsImportSetFlags as follows:

GraphicsImportSetFlags( gi, kGraphicsImporterDontUseColorMatching );"

The constant has the value 8.

const kGraphicsImporterDontUseColorMatching=8

so in RB you just set the flags:

dim q as QTGraphicsImporterMBS
...
q.flags=8

### 7.4.5 DefaultMatrix as QTGraphicsImporterMatrixMBS

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The default matrix of the imported picture.
**Notes:** Lasterror is set.

### 7.4.6 DefaultSourceBounds as Variant

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The default source bounds of the imported picture.
**Notes:**

Lasterror is set.
The returned variant is a IntegerRectMBS object.

### 7.4.7 Draw(g as graphics)

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Draws an imported image.
**Notes:**

Not available in Cocoa target.
On Windows, draws on the whole screen.
Lasterror is set.

### 7.4.8 DrawGWorld(GWorldHandle as Integer)

Plugin Version: 3.3, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Draws an imported image into the given gworld.
**Notes:** Lasterror is set.

### 7.4.9 DrawWindow(win as window)

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Draws an imported image into the given window.
**Notes:**

Not available in Cocoa target.
Lasterror is set.

### 7.4.10    FileExtensions as string

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns a list of valid file extensions.
**Notes:**

4 bytes in this string make one filetype.
e.g. you may get something like "BMP DIB FPX GIF JP2 JPEGJPG MAC PCT PDF PIC PICTPNG
PNTGPSD QIF QTI QTIFSGI TGA TIF TIFF".

### 7.4.11    FileTypes as string

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns a list of valid file types.
**Notes:**

4 bytes in this string make one filetype.
e.g. you may get something like ".SGI8BPSBMP BMPfBMPpFPixGIF GIFfJPEGPDF PICTPNG PNGf-
PNTGSGI TIFFTPICgripjp2 qtif".

### 7.4.12    ImageCount as Integer

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The number of
layers useable.
**Example:**

```
Function MakeThumbnail(f as folderItem) As picture
dim p as Picture
dim q as QTGraphicsImporterMBS
dim c,i,j as Integer
dim r1,r2 as IntegerRectMBS

const width=48
const height=48

// Doesn't scale with correct width and height

q=new QTGraphicsImporterMBS

q.OpenFile f

if q.Handle<>0 then
p=NewPicture(width,height,32)
```

```
if p<>nil then
i=0
c=q.ImageCount

if c>1 then
i=1
q.ImageIndex=1
r1=q.CurrentBounds

for j=2 to c
q.ImageIndex=j
r2=q.CurrentBounds
if r1.Width>r2.Width and r1.Height>r2.Height then
r1=r2
i=j
end if
next
end if

q.ImageIndex=i

q.CurrentBounds=MakeIntegerRectMBS(0,0,width,height)
q.Draw p.Graphics
Return p
end if
end if
End Function
```

**Notes:**

Most image file formats don't support multiple images. Of the image formats supported by QuickTime 4, however, TIFF files can support multiple images, Photoshop files can contain multiple layers and FlashPix files can contain multiple resolutions. The base graphics importer returns a count of 1.

Requires QuickTime 4.0 or newer.

### 7.4.13   ImageDescription as QTGraphicsImporterImageDescriptionMBS

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The image description of the imported picture.
**Notes:** Lasterror is set.

## 7.4.14   MakeGWorld(width as Integer, height as Integer) as Integer

Plugin Version: 3.3, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns a GWorld Handle with a picture of the give size.
**Notes:** Lasterror is set.

## 7.4.15   MakePicHandle as picture

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Creates a picture from the imported picture.
**Notes:**

This picture is a pichandle inside, you need the picture.bitmap function to make it an editable picture.
Lasterror is set.

## 7.4.16   MakePicture(width as Integer, height as Integer) as picture

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Creates a picture from the imported picture.
**Notes:**

Returns a bitmap picture.
Lasterror is set.

## 7.4.17   MetaData as object

Plugin Version: 3.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The meta data of this file as a QTUserDataMBS object.
**Notes:** Not all decompressors support meta data.

## 7.4.18   MetaDataString as String

Plugin Version: 3.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The meta data of this file as a binary string.
**Notes:** Not all decompressors support meta data.

### 7.4.19 NaturalBounds as Variant

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The natural bounds of the imported picture.
**Notes:**

Lasterror is set.
The returned variant is a IntegerRectMBS object.

### 7.4.20 OpenData(data as string, datatype as string)

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Creates a new importer component for the given file data.
**Notes:**

Lasterror is set.
e.g. pass "JPEG" for a JPEG file content data.

### 7.4.21 OpenFile(file as folderitem)

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Creates a new importer component for this file.
**Notes:** Lasterror is set.

### 7.4.22 OpenFileWithFlags(file as folderitem, flags as Integer)

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Creates a new importer component for this file.
**Notes:**

Possible flag values:
kDontUseValidateToFindGraphicsImporter = 1

Lasterror is set.

### 7.4.23 OpenURL(url as string)

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Creates a new importer component for this url.
**Notes:**

The download may take some seconds.
Lasterror is set.

## 7.4.24   SaveAsImage(f as folderitem)

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Saves the imported image as an image
file.
**Notes:**

Lasterror is set.
On Mac OS X the image file will be a QuickTime TIFF file.

## 7.4.25   SaveAsPicture(f as folderitem)

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Saves the imported image as a picture
file.
**Notes:**

Lasterror is set.
On Mac OS X the file will be a PICT file.

## 7.4.26   Validate as boolean

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Validates image data for a data reference
to an imported image.
**Notes:**

This function allows a graphics importer component to determine if its current data reference contains valid
image data. For example, a JFIF graphics importer component might check for the presence of a JFIF
marker at the start of the data stream. This function is provided for applications to use to determine what
type of image data a particular file may contain. Sometimes a file may not have the correct file type or
file extension. In this case, the application will not know which graphics importer component to use. By
iterating through all graphics importer components and calling GraphicsImportValidate for each one, it may
be possible to locate a graphics importer component that can draw the specified file.
Lasterror is set.

### 7.4.27   Properties

### 7.4.28   CurrentBoundsHeight as Integer

Plugin Version: 3.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The current bounds of the imported picture.
**Notes:**

Lasterror is set.
(Read and Write property)

### 7.4.29   CurrentBoundsLeft as Integer

Plugin Version: 3.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The current bounds of the imported picture.
**Notes:**

Lasterror is set.
(Read and Write property)

### 7.4.30   CurrentBoundsTop as Integer

Plugin Version: 3.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The current bounds of the imported picture.
**Notes:**

Lasterror is set.
(Read and Write property)

### 7.4.31   CurrentBoundsWidth as Integer

Plugin Version: 3.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The current bounds of the imported picture.
**Notes:**

Lasterror is set.
(Read and Write property)

## 7.4.32   DefaultSourceRectHeight as Integer

Plugin Version: 3.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The default source bounds of the imported picture.
**Notes:**

Lasterror is set.
(Read only property)

## 7.4.33   DefaultSourceRectLeft as Integer

Plugin Version: 3.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The default source bounds of the imported picture.
**Notes:**

Lasterror is set.
(Read only property)

## 7.4.34   DefaultSourceRectTop as Integer

Plugin Version: 3.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The default source bounds of the imported picture.
**Notes:**

Lasterror is set.
(Read only property)

## 7.4.35   DefaultSourceRectWidth as Integer

Plugin Version: 3.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The default source bounds of the imported picture.
**Notes:**

Lasterror is set.
(Read only property)

## 7.4.36   DestRectHeight as Integer

Plugin Version: 3.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The destination bounds of the imported picture.
**Notes:**

Lasterror is set.
(Read and Write property)

### 7.4.37   DestRectLeft as Integer

Plugin Version: 3.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The destination bounds of the imported picture.
**Notes:**

Lasterror is set.
(Read and Write property)

### 7.4.38   DestRectTop as Integer

Plugin Version: 3.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The destination bounds of the imported picture.
**Notes:**

Lasterror is set.
(Read and Write property)

### 7.4.39   DestRectWidth as Integer

Plugin Version: 3.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The destination bounds of the imported picture.
**Notes:**

Lasterror is set.
(Read and Write property)

### 7.4.40   Handle as Integer

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The handle to the QuickTime Importer component.
**Notes:** (Read and Write property)

## 7.4.41   Lasterror as Integer

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The last error code reported from a function.
**Notes:**

For debugging the MacErrorString function can give you an idea what the meaning of the error code is. 0 means no error and -1 means that the function is not available (e.g. QuickTime not installed on Mac OS Classic).
(Read and Write property)

## 7.4.42   NaturalBoundsHeight as Integer

Plugin Version: 3.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The natural bounds of the imported picture.
**Notes:**

Lasterror is set.
(Read only property)

## 7.4.43   NaturalBoundsLeft as Integer

Plugin Version: 3.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The natural bounds of the imported picture.
**Notes:**

Lasterror is set.
(Read only property)

## 7.4.44   NaturalBoundsTop as Integer

Plugin Version: 3.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The natural bounds of the imported picture.
**Notes:**

Lasterror is set.
(Read only property)

### 7.4.45   NaturalBoundsWidth as Integer

Plugin Version: 3.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The natural bounds of the imported picture.
**Notes:**

Lasterror is set.
(Read only property)

### 7.4.46   Progress as Integer

Plugin Version: 3.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Which progress indicator to use.
**Notes:**

This property replaces the UseDefaultProgressDialog property used before.

Values:

0 - no progress dialog
1 - default progress dialog
2 - call Realbasic events.
3 - call Realbasic events and give RB CPU time to process events. (like redrawing windows)

Default value is 0.
This property must be set after you called OpenImporter.
(Read and Write property)

### 7.4.47   SourceRectHeight as Integer

Plugin Version: 3.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The source bounds of the imported picture.
**Notes:**

Lasterror is set.
(Read and Write property)

### 7.4.48   SourceRectLeft as Integer

Plugin Version: 3.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The source bounds of the imported picture.

**Notes:**

Lasterror is set.
(Read and Write property)

### 7.4.49    SourceRectTop as Integer

Plugin Version: 3.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The source bounds
of the imported picture.
**Notes:**

Lasterror is set.
(Read and Write property)

### 7.4.50    SourceRectWidth as Integer

Plugin Version: 3.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The source bounds
of the imported picture.
**Notes:**

Lasterror is set.
(Read and Write property)

### 7.4.51    CurrentBounds as Variant

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The current bounds of the imported
picture.
**Notes:**

Lasterror is set.
The returned variant is a IntegerRectMBS object.
(Read and Write computed property)

### 7.4.52    DestBounds as Variant

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The destination bounds of the imported
picture.
**Notes:**

Lasterror is set.
The returned variant is a IntegerRectMBS object.

(Read and Write computed property)

### 7.4.53  File as folderitem

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The current file of the imported picture.
**Notes:**

Lasterror is set.
(Read and Write computed property)

### 7.4.54  Flags as Integer

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The flags for the QuickTime Importer component.
**Notes:**

Possible flag values:

| | | |
|---|---|---|
| kGraphicsImporterDontDoGammaCorrection | 1 | The graphics importer will not perform gamma correction. |
| kGraphicsImporterTrustResolutionFromFile | 2 | |
| kGraphicsImporterEnableSubPixelPositioning | 4 | |
| kGraphicsImporterDontUseColorMatching | 8 | set this flag (*before* calling GraphicsImportGetColorSyncProfile) if you do matching yourself |

Property can only be set whe handle is not 0 (e.g. after Openfile was used).
(Read and Write computed property)

### 7.4.55  GraphicsMode as Integer

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The current graphics mode.
**Notes:**

Use this property to find out or to set the current graphics transfer mode and color to use for blending and transparent operations. The default graphics mode is ditherCopy and the default opColor is 50% gray.

Working with Alpha Channels:

QuickTime has always supported compressing and storing images with an alpha channel. In QuickTime 2.5, the Image Compression Manager was updated to support using the alpha channel when displaying images. Alpha channels are supported only for 32-bit images. The high byte of each pixel contains the alpha channel.

The alpha channel can be interpreted in one of three ways:

 straight alpha
 pre-multiplied with white
 pre-multiplied with black

QuickTime uses the alpha channel to define how an image is to be combined with the image that is already present at the location to which it will be drawn. This is similar to how QuickDraw's blend mode works. To combine an image containing an alpha channel with another image, you specify how the alpha channel should be interpreted by specifying one of the new alpha channel graphics modes defined by QuickTime.

Straight alpha means that the color components of each pixel should be combined with the corresponding background pixel based on the value contained in the alpha channel. For example, if the alpha value is 0, only the background pixel will appear. If the alpha value is 255, only the foreground pixel will appear. If the alpha value is 127, then (127/255) of the foreground pixel will be blended with (128/255) of the background pixel to create the resulting pixel, and so on.

Pre-multiplied with white means that the color components of each pixel have already been blended with a white pixel, based on their alpha channel value. Effectively, this means that the image has already been combined with a white background. To combine the image with a different background color, QuickTime must first remove the white from each pixel and then blend the image with the actual background pixels. Images are often pre-multipled with white as this reduces the appearance of jagged edges around objects.

Pre-multipled with black is the same as pre-multiplied with white, except the background color that the image has been blended with is black instead of white.

Note
Although you pass these new alpha channel graphics modes to QuickTime in the same way as you would traditional QuickDraw transfer modes, these modes are not supported by QuickDraw and will cause unpredictable results if passed to QuickDraw routines.

The Image Compression Manager defines the following constants for specifying alpha channel graphics modes:

The graphicsModeStraightAlpha , graphicsModePreWhiteAlpha , and graphicsModePreBlackAlpha graphics modes cause QuickTime to draw the image interpreting the alpha channel as specified. The graphics mode graphicsModeStraightAlphaBlend causes QuickTime to interpret the alpha channel as a straight alpha channel, but when it draws, combines the pixels together and applies the opColor supplied with the graphics mode to the alpha channel. This provides an easy way to combine images using both an alpha channel and a blend level. This can be useful when compositing 3D rendered images over video.

To draw a compressed image containing an alpha channel, that image must be compressed using an image-compression format that is capable of storing the alpha channel information. The Animation, Planar RGB

and None compressors store alpha channel data in the "Millions of Colors +" (32-bit) mode.

You use the MediaSetGraphicsMode function to set a movie track to use an alpha channel graphics mode. You use the SetDSequenceTransferMode function to set an image sequence to use an alpha channel graphics mode.

Lasterror is set.
(Read and Write computed property)

### 7.4.56   GraphicsModeColor as color

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The current color for the color mode.
**Notes:**

Lasterror is set.
(Read and Write computed property)

### 7.4.57   ImageIndex as Integer

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The current index for the layer to use.
**Example:**

dim q as QTGraphicsImportermbs

q=new QTGraphicsImporterMBS
q.OpenFile SpecialFolder.Desktop.child("Untitled-1.psd")
q.ImageIndex=1 // one for all, two for first, three for second, ...
q.Draw G

Title=str(q.ImageCount)

**Notes:**

Index 1 is the composited image from the other layers.
The first layer has index 1.
Requires QuickTime 4.0 or newer.
(Read and Write computed property)

## 7.4.58   Matrix as QTGraphicsImporterMatrixMBS

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The current matrix of the imported picture.
**Notes:**

Lasterror is set.
(Read and Write computed property)

## 7.4.59   Quality as Integer

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The quality of the imported picture.
**Notes:**

The quality parameter controls how precisely the decompressor decompresses the image data. Some decompressors may choose to ignore some image data to improve decompression speed.

Some of the possible values:

Lasterror is set.
Property can only be set whe handle is not 0 (e.g. after Openfile was used).
(Read and Write computed property)

## 7.4.60   SourceBounds as Variant

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The source bounds of the imported picture.
**Notes:**

Lasterror is set.
The returned variant is a IntegerRectMBS object.
(Read and Write computed property)

## 7.4.61   Events

## 7.4.62   ProgressClose

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Import finished.
**Notes:** You can hide a progressbar here.

### 7.4.63 ProgressOpen

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Importing starts.
**Notes:** You can show a progressbar here.

### 7.4.64 ProgressUpdatePercent(percent as Double) as boolean

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Some more data was imported.
**Notes:** You may update a progressbar here.

src modes are used with bitmaps and text pat modes are used with lines and shapes:

| | | |
|---|---|---|
| srcCopy | 0 | If the source is black, apply the foreground color to the destination; if the source is white, apply the background color; otherwise apply weighted portions of the foreground and background colors. |
| srcOr | 1 | If the source is black, apply the foreground color to the destination; if the source is white, do nothing; otherwise apply weighted portions of the foreground color. |
| srcXor | 2 | If the source is black, invert the destination (this operation is undefined for a colored destination). Otherwise, do nothing. |
| srcBic | 3 | If the source is black, apply the background color to the destination. If the source is white, do nothing. Otherwise, apply weighted portions of the background color. |
| notSrcCopy | 4 | If the source is white, apply the foreground color to the destination; if the source is black, apply the background color; otherwise apply weighted portions of the foreground and background colors. |
| notSrcOr | 5 | If the source is white, apply the foreground color to the destination; if the source is black, do nothing; otherwise apply weighted portions of the foreground color. |
| notSrcXor | 6 | If the source is white, invert the destination (this operation is undefined for a colored destination pixel). Otherwise, do nothing. |
| notSrcBic | 7 | If the source is white, apply the background color to the destination. If the source is black, do nothing. Otherwise, apply weighted portions of the background color. |

Text dimming:

| | | |
|---|---|---|
| grayishTextOr | 49 | Dim the destination. If in color, replace it with a blend of the foreground and background; if black-and-white, replace it with dithered black and white. This mode is used primarily for text. |

Highlighting:

| | | |
|---|---|---|
| hilite | 50 | Replace the background color with the highlight color. |

Arithmetic modes:

| | | |
|---|---|---|
| blend | 32 | Replace the destination with a blend of the source and destination colors. If the destination is a bitmap, this is the same as srcCopy. |
| addPin | 33 | Replace the destination with the sum of the source and destination, up to a maximum value. If the destination is a bitmap, this is the same as srcBic. |
| addOver | 34 | Replace the destination with the sum of the source and destination, but if the resulting red, green, or blue value exceeds 65536, then subtract 65536 from it. If the destination is a bitmap, this is the same as srcXor. |
| subPin | 35 | Replace the destination with the difference between the source and destination, but not less than a minimum value. If the destination is a bitmap, this is the same as srcOr. |
| addMax | 37 | Compare the source and destination, and replace the destination with the greater value of each of the red, green, and blue components. If the destination is a bitmap, this is the same as srcBic. |
| subOver | 38 | Replace the destination with the difference between the source and destination, but if the resulting red, green, or blue value is negative, then add 65536 to it. If the destination is a bitmap, this is the same as srcXor. |
| addMin | 39 | Compare the source and destination, and replace the destination with the lesser value of each of the red, green, and blue components. If the destination is a bitmap, this is the same as srcOr. |
| ditherCopy | 64 | Replace the destination with a dither mix of the source and destination. |

Transparent mode:

| | | |
|---|---|---|
| transparent | 36 | Replace the destination with the source if the source is not equal to the background. |

| | |
|---|---|
| graphicsModeStraightAlpha | 256 |
| graphicsModePreWhiteAlpha | 257 |
| graphicsModePreBlackAlpha | 258 |
| graphicsModeStraightAlphaBlend | 260 |

| | | |
|---|---|---|
| codecMinQuality | & h000 | The minimum valid value for a CodecQ field. |
| codecLowQuality | & h100 | Low-quality image reproduction. This value should correspond to the lowest image quality that still results in acceptable display characteristics. |
| codecNormalQuality | & h200 | Image reproduction of normal quality. |
| codecHighQuality | & h300 | High-quality image reproduction. This value should correspond to the highest image quality that can be achieved with reasonable performance. |
| codecMaxQuality | & h3FF | The maximum standard value for a CodecQ field. |
| codecLosslessQuality | & h400 | Lossless compression or decompression. This special value is valid only for components that can support lossless compression or decompression. |

## 7.5   Globals

### 7.5.1   PictureToFileStringMBS(p as picture, compressor as string, quality as Integer) as string

Plugin Version: 3.3, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** QuickTime will make a string from the picture using the specified compressor.
**Example:**

dim s as string
dim q,p as Picture

p=NewPicture(100,100,32)

s=PictureToFileStringMBS(p,"BMPf",1024)

Title=str(lenb(s))
q=StringtoPictureMBS(s,"test.bmp","")

Backdrop=q

**Notes:**

p as picture:
Your picture must be a pixel bitmap or in other words a picture made using newpicture. You can check it using the graphics property or just use a function like that to verify that your picture is well:

Function MakeGoodPicture(old as picture) As picture
dim p as picture

p=old
if p<>nil and old.graphics=nil then
p=newpicture(old.width,old.height,32)
p.graphics.drawpicture old,0,0
end if

return p
End Function

compressor as string:
The codec is a 4 letter code to determinate the codec to use. Possible values for QuickTime 5.0, which I've tested:

(if codec is "", jpeg is used as default)

| ".SGI" | SGI |
|---|---|
| "8BPS" | Photoshop |
| "BMPf" | Windows BMP |
| "JPEG" | JPEG |
| "PICT" | Mac Picture |
| "PNGf" | PNG |
| "PNTG" | MacPaint |
| "TIFF" | Tiff |
| "TPIC" | TGA |
| "qtif" | QuickTime Image file |

quality as Integer
Any value between 0 and & h400 to indicate the quality:

| & h000 | Min Quality |
|---|---|
| & h100 | Low Quality |
| & h200 | Normal Quality |
| & h300 | High Quality |
| & h3FF | Max Quality |
| & h400 | Lossless Quality |

You may use the function picture.bitmap to make sure that the picture is a bitmap, because this function works only for bitmap pictures.

This function requires QuickTime 3.0 or newer!

The returned string has the encoding set to Binary. If you want to concat the string with another you should change the encoding, so both strings have the same encoding. If you don't handle that RB may convert the JPEG data to UTF8 (Unicode) which will destroy it.

### 7.5.2 PicturetoStringMBS(p as picture,codec as string,quality as Integer,depth as Integer) as string

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** QuickTime will make a string from the picture using the specified codec.
**Example:**

dim s as string
dim pic as Picture = LogoMBS(500)
s=PicturetoStringMBS(pic,"jpeg",512,0)

**Notes:**

p as picture:
Your picture must be a pixel bitmap or in other words a picture made using newpicture. You can check it using the graphics property or just use a function like that to verify that your picture is well:

Function MakeGoodPicture(old as picture) As picture
dim p as picture

p=old
if p<>nil and old.graphics=nil then
p=newpicture(old.width,old.height,32)
p.graphics.drawpicture old,0,0
end if

return p
End Function

codec as string:
The codec is a 4 letter code to determinate the codec to use. Possible values for QuickTime 5.0, which I've tested:

"jpeg",
"gif ",
"png ",
"tiff",
"tga ".
(if codec is "", jpeg is used as default)

quality as Integer
Any value between 0 and & h400 to indicate the quality:

depth as Integer

The depth at which the image is likely to be viewed. Compressors may use this as an indication of the color or grayscale resolution of the compressed image. If you set this parameter to 0, the Image Compression Manager determines the appropriate value for the source image. Values of 1, 2, 4, 8, 16, 24, and 32 indicate the number of bits per pixel for color images. Values of 34, 36, and 40 indicate 2-bit, 4-bit, and 8-bit grayscale, respectively, for grayscale images.

| & h000 | Min Quality |
| & h100 | Low Quality |
| & h200 | Normal Quality |
| & h300 | High Quality |
| & h3FF | Max Quality |
| & h400 | Lossless Quality |

Improved for RB 4.5 on Windows to work better by not flipping the image randomly.

You may use the function picture.bitmap to make sure that the picture is a bitmap, because this function works only for bitmap pictures.

This function requires QuickTime 3.0 or newer!

The returned string has the encoding set to MacRoman. If you want to concat the string with another you should change the encoding, so both strings have the same encoding.  If you don't handle that RB may convert the JPEG data to UTF8 (Unicode) which will destroy it.

### 7.5.3   StringtoPictureByOSTypeMBS(data as String, OSType as String) as Picture

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** QuickTime will make a picture object from the provided data string (e.g. a downloaded jpeg file from the Internet) and make a picture object from it. To make it faster provide a filename or MimeType so QuickTime will work faster.
**Example:**

dim data as string // some jpeg data
dim p as Picture
p=StringtoPictureByOSTypeMBS(data,"JPEG")

**Notes:**

This function is based on the source code from Stephan Huber:
http://www.digitalmind.de/realbasic
I added it to extend it for Windows and add the inverse function.

You may use the function picture.bitmap to make sure that the picture is a bitmap, because this function works only for bitmap pictures.

The OSType is the same type like in mactype of a folderitem.

### 7.5.4  StringtoPictureMBS(data as String, FileName as String, MimeType as String) as Picture

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** QuickTime will make a picture object from the provided data string (e.g. a downloaded jpeg file from the Internet) and make a picture object from it. To make it faster provide a filename or MimeType so QuickTime will work faster.
**Example:**

dim data as string // picture data
dim p as picture = StringtoPictureMBS(data,"mypicture.jpg","Image/jpeg")

**Notes:**

This function is based on the source code from Stephan Huber
http://www.digitalmind.de/realbasic
I added it to extend it for Windows and add the inverse function.

You may use the function picture.bitmap to make sure that the picture is a bitmap, because this function works only for bitmap pictures.

This function requires QuickTime 3.0 or newer!
See also FileExtensionToMimeTypeMBS function.

# Chapter 8

# QuickTime

## 8.1 class Movie

### 8.1.1 class Movie

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Extends the Movie class inside Realbasic.
**Notes:**

Some calls need QuickTime 2.5 and some 3.0. Ask if you need details and I can add the version requirement to each call.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

### 8.1.2 Methods

### 8.1.3 AddMovieSelectionMBS(sourcemovie as movie) as Integer

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Adds one or more tracks to a movie.
**Example:**

dim fSrc, fDst as FolderItem
dim mSrc, mDst as Movie
dim rc as Integer

'if not registerMBSPlugin(..., "MBS QuickTime", ..., ...) then
'MsgBox "MBS Plugin serial not valid?"
'end if

```
// Create a movie using EditableMovie class
fDst =SpecialFolder.Desktop.Child("output.mov")
mDst = fdst.CreateMovie


// Load a movie and add it
fSrc = SpecialFolder.Desktop.Child("movie1.mov")
mSrc = fSrc.OpenAsMovieMBS
mDst.GoToEndMBS
rc = mDst.AddMovieSelectionMBS( mSrc )

// Load a movie and add it
fSrc = SpecialFolder.Desktop.Child("movie2.mov")
mSrc = fSrc.OpenAsMovieMBS
mDst.GoToEndMBS
rc = mDst.AddMovieSelectionMBS( mSrc )

// Load a movie and add it
fSrc = SpecialFolder.Desktop.Child("movie3.mov")
mSrc = fSrc.OpenAsMovieMBS
mDst.GoToEndMBS
rc = mDst.AddMovieSelectionMBS( mSrc )

// Now save a copy with referencing
fDst =SpecialFolder.Desktop.Child("output Reference.mov")
rc = mDst.SaveMBS( fDst, false, false )

// Now save a copy with self containing
fDst =SpecialFolder.Desktop.Child("output SelfContaining.mov")
rc = mDst.SaveMBS( fDst, true, false )
```

**Notes:**

AddMovieSelection adds the tracks from the source movie to the destination movie. The function adds these tracks at the time specified by the current selection in the destination movie.

Introduced in QuickTime 3 or earlier.

Returns -1 if the movies are nil or the function is not available.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

### 8.1.4 AddSoundFadeMBS(StartVolume as Integer, EndVolume as Integer, Start-Time as Integer, DurationTime as Integer) as Boolean

Plugin Version: 8.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Function:** Adds a sound fade to a sound track.
**Example:**

```
dim m as movie
dim f as FolderItem

f=SpecialFolder.Desktop.Child("test.mov")
m=f.OpenAsMovie

// fade last ten seconds
if m.AddSoundFadeMBS(256, 0, m.DurationFramesMBS-m.TimeScaleMBS*10, m.TimeScaleMBS*10) then
MsgBox "ok"
else
MsgBox "Fail"
end if

'// fade first ten seconds
'if m.AddSoundFadeMBS(0, 256, 0, m.TimeScaleMBS*10) then
'MsgBox "ok"
'else
'MsgBox "Fail"
'end if

MoviePlayer1.Movie=m
```

**Notes:** Calls AddSoundFadeToTrack for the first soundtrack in the movie.

### 8.1.5 AddSoundFadeToTrackMBS(TrackHandle as Integer, StartVolume as Integer, EndVolume as Integer, StartTime as Integer, DurationTime as Integer) as Boolean

Plugin Version: 8.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Function:** Adds a sound fade to a sound track.
**Notes:**

StartVolume and EndVolume are numbers from 0 to 256.

StartTime and DurationTime are in time scale units, so call movie.TimeScaleMBS to get the number of units per second.

Returns true for success.

Currently you can only use one sound fade per sound track.

### 8.1.6   AddTextTrackMBS(chapters() as QTChapterDataMBS, type as string, isChapterTrack as boolean) as QTChapterTrackMBS

Plugin Version: 8.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Adds a text track to
**Example:**

```
// add chapters to a movie
dim e as EditableMovie
dim f as FolderItem
dim q as QTChapterTrackMBS
dim data(9) as QTChapterDataMBS
dim i,c,d as Integer
dim texts(-1) as string

f=SpecialFolder.Desktop.Child("test.mov")
e=f.OpenEditableMovie

d=e.DurationFramesMBS
MsgBox str(d)
for i=0 to 9
data(i)=new QTChapterDataMBS
data(i).FrameDuration=d/11
data(i).Text="Chapter "+str(i+1)
data(i).HasBackColor=true
data(i).BackColor=rgb(127+rnd*128,127+rnd*128,127+rnd*128)
data(i).HasTextColor=true
data(i).TextColor=rgb(rnd*128,rnd*128,rnd*128)
next

q=e.AddTextTrackMBS(data, "vide", true)

if q<>Nil then
c=q.ChapterCount
MsgBox "Success!"+EndOfLine+"Added "+str(c)+" chapters. "+str(q.TrackHandle)
for i=0 to c-1
texts.Append q.ChapterText(q.GetChapterTime(i))
next

MsgBox Join(texts,EndOfLine)
else
```

MsgBox "Failed"
end if

call e.CommitChanges

**Notes:**

On success returns the new track reference.

If the isChapterTrack parameter is true, the text track is set to be a chapter track, attached to the (first) track of the given type.

### 8.1.7 AddTimeCodeToMovieMBS(parameters as QTTimeCodeCreationParametersMBS) as Integer

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Creates a new time code track for this movie.
**Example:**

dim e as movie
dim f as FolderItem
dim p as QTTimeCodeCreationParametersMBS

f=SpecialFolder.Desktop.Child("Abba.mov")
e=f.OpenEditableMovie

e.DeleteTimeCodeTracksMBS

p=new QTTimeCodeCreationParametersMBS
p.UseTimeCode=false
p.FrameDuration=1

if e.AddTimeCodeToMovieMBS(p)=0 then
e.TimeCodeDisplayedMBS=true

MoviePlayer1.Movie=e
MoviePlayer1.play
end if

**Notes:**

Returns an error code (0 for success, -1 for bad parameters.)
Else a Mac OS error code.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

### 8.1.8   AudioSummaryChannelLayoutMBS as QTAudioChannelLayoutMBS

Plugin Version: 11.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Queries the summary of all audio channel layouts.
**Notes:** Value is QTAudioChannelLayoutMBS. Get-only The summary AudioChannelLayout of a movie, or other grouping of audio streams. All like-labelled channels are combined, so there are no duplicates. For example, if there is a stereo (L/R) track, 5 single-channel tracks marked Left, Right, Left Surround, Right Surround and Center, and a 4 channel track marked L/R/Ls/Rs, then the summary AudioChannelLayout will be L/R/Ls/Rs/C. It will _not_ be L/R/L/R/Ls/Rs/C/L/R/Ls/Rs.

### 8.1.9   BeginFullScreenMBS(Flags as Integer = 2, Play as boolean = true, ScreenIndex as Integer = -1) as Integer

Plugin Version: 11.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Starts fullscreen playback.
**Notes:**

The plugin has global properties for restoring, so please call EndFullscreen once for cleanup after you called BeginFullScreen.

The flags parameter for the BeginFullScreen function specifies a set of bit flags that control certain aspects of full-screen mode. QuickTime defines these constants that you can use in the flags parameter:

| | | |
|---|---|---|
| fullScreenHideCursor | 1 | If this flag is set, BeginFullScreen hides the cursor. This is useful if you are going to play a QuickTime movie and do not want the cursor to be visible over the movie. |
| fullScreenAllowEvents | 2 | If this flag is set, your application intends to allow other applications to run (by calling WaitNextEvent to grant them processing time). In this case, BeginFullScreen does not change the monitor resolution, because other applications might depend on the current resolution. |
| fullScreenDontChangeMenuBar | 4 | If this flag is set, BeginFullScreen does not hide the menu bar. This is useful if you want to change the resolution of the monitor but still need to allow the user to access the menu bar. |
| fullScreenPreflightSize | 8 | If this flag is set, BeginFullScreen doesn't change any monitor settings, but returns the actual height and width that it would use if this bit were not set. This allows applications to test for the availability of a monitor setting without having to switch to it. |

Returns error code. (0 for success)

Screenindex can be -1 (default screen) or index of screen where 0 is main screen and 1 is second screen and so on.

## 8.1.10   ChapterTrackMBS as QTChapterTrackMBS

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Searches the chapter track inside the track list.
**Notes:**

Returns nil on any error.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

## 8.1.11   clearMovieChangedMBS

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Sets the movie changed flag to indicate that the movie has not been changed.
**Notes:**

Introduced in QuickTime 3 or earlier.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

## 8.1.12   CurrentTimeCodeStringMBS as string

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The current time code as a string.
**Notes:**

The string may have the wrong encoding. (US ASCII, MacRoman or WinANSI?)

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

## 8.1.13   DeleteMovieSegmentMBS(time as Integer, Duration as Integer) as Integer

Plugin Version: 8.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Removes a specified segment from a movie.
**Notes:**

self:
The movie for this operation. Your application obtains this movie identifier from such functions as New-Movie, NewMovieFromFile, and NewMovieFromHandle.


time:
A time value specifying the starting point of the segment to be deleted.


Duration:
A time value that specifies the duration of the segment to be deleted.


Return Value
You can access Movie Toolbox error returns through GetMoviesError and GetMoviesStickyError, as well as in the function result. See Error Codes.


Discussion
You identify the segment to remove by specifying its starting time and duration. The following code snippet shows DeleteMovieSegment being used while adding a modifier track to a movie.


## 8.1.14   DeleteMovieSelectionMBS as Integer

Plugin Version: 4.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Clears the selection in movie by removing this part of the movie.
**Notes:**

Returns -1 if the function is not available, 0 on success and else a Mac OS error code.


Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.


## 8.1.15   DeleteTimeCodeTracksMBS

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Deletes all time code tracks from the current movie.

## 8.1.16 DrawMovieGWorldIntoRectMBS(GWorldHandle as Integer, left as Integer, top as Integer, width as Integer, height as Integer) as Integer

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Draws the current frame of the movie into the given gworld object.
**Notes:**

The movie is scaled to the given rectangle.
Note that following frames on playing the movie may also be drawed into this graphics port.
Returns -1 if the function is not available, else a Mac OS error code like 0 for no error.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

## 8.1.17 DrawMovieGWorldMBS(GWorldHandle as Integer) as Integer

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Draws the current frame of the movie into the given gworld object.
**Notes:**

Note that following frames on playing the movie may also be drawed into this graphics port.
Returns -1 if the function is not available, else a Mac OS error code like 0 for no error.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

## 8.1.18 DrawMovieIntoRectMBS(g as graphics, left as Integer, top as Integer, width as Integer, height as Integer) as Integer

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Function:** Draws the current frame of the movie into the given graphics object.
**Notes:**

The movie is scaled to the given rectangle.
Note that following frames on playing the movie may also be drawed into this graphics port.
Returns -1 if the function is not available, else a Mac OS error code like 0 for no error.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

## 8.1.19   DrawMovieMBS(g as graphics) as Integer

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Function:** Draws the current frame of the movie into the given graphics object.
**Notes:**

Note that following frames on playing the movie may also be drawed into this graphics port.
Returns -1 if the function is not available, else a Mac OS error code like 0 for no error.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

## 8.1.20   DurationFramesMBS as Double

Plugin Version: 2.9, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Reads the length of the movie in time units.
**Example:**

msgbox format(myMovie.DurationFramesMBS,"0")+" seconds."

**Notes:**

Remember: Duration=DurationFrames/TimeScale

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

## 8.1.21   DurationMBS as Double

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Reads the length of the movie in seconds.
**Example:**

msgbox format(myMovie.DurationMBS,"0")+" seconds."

**Notes:**

Realbasic gives you for the editablemovie class a duration property, but not for the movie, so here it is :-)

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

## 8.1.22 EndFullScreenMBS(Flags as Integer = 0) as Integer

Plugin Version: 11.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Ends fullscreen.
**Notes:** Returns error code. (0 for success)

## 8.1.23 FlattenMovieMBS(file as folderitem, creatorcode as string, ReplaceFile as boolean, ResourceName as string) as Integer

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Flattens a movie to a movie file.
**Example:**

dim f as FolderItem
dim result as Integer
dim m as movie
dim e as Integer

f= getfolderitem("Ein Loch ist im Eimer.mov")
movieplayer1.movie=f.openasmovie
f= getfolderitem("10 Ich Bin Aus Jenem Holze Gesc")
movieplayer2.movie=f.openasmovie

movieplayer1.EditableMBS=True
movieplayer2.EditableMBS=True
movieplayer2.movie.SelectionStartMBS=0
movieplayer2.movie.SelectionLengthMBS=30
m=movieplayer2.CopyMBS

//Pasting a part of another in movieplayer1
'e=movieplayer1.Movie.AddMovieSelectionMBS(m)
e=MoviePlayer1.PasteMBS(m)
f= getfolderitem("test.mov")
Result=movieplayer1.movie.FlattenMovieMBS(f,"",true,"")
MsgBox str(result)

**Notes:**

Returns -1 on parameter error and 0 if the function started successfull. The result must be checked using the LastQuickTimeErrorMBS function.

Parameters:

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

| file | The destination file. On Mac OS X only the first 31 characters of the file name are used, so you better save to a temp file and rename the file later. |
| creatorcode | The Mac OS creator code to use. If you pass ""  the default creator code ("TVOD") is used. |
| ReplaceFile | whether the file should be replaced or the movie should be added to an existing file. |
| ResourceName | The name of the movie resource. You can pass "" to use no resource name. |

### 8.1.24   GenerateMovieApertureModeDimensionsMBS as Integer

Plugin Version: 8.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Examines a movie and sets up track aperture mode dimensions.
**Notes:** This function can be used to add information needed to support aperture modes to movies created with applications and/or versions of QuickTime that did not support aperture mode dimensions. If the image descriptions in video tracks lack tags describing clean aperture and pixel aspect ratio information, the media data may be scanned to see if the correct values can be divined and attached. Then the aperture mode dimensions are calculated and set for each track. Afterwards, the kQTVisualPropertyID_HasApertureModeDimensions property will be set to true for these tracks. Tracks which do not support aperture modes are not changed.

### 8.1.25   GetActiveSegmentFramesMBS(byref StartFrame as Integer, byref DurationFrame as Integer)

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Queries the current active segment position and length.

### 8.1.26   GetActiveSegmentMBS(byref StartFrame as Double, byref DurationFrame as Double)

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Queries the current active segment position and length.
**Example:**

```
// creates selection and plays it.
dim s,d as Double
dim m as movie // your movie

const StartTime = 50
```

const EndTime = 100

m.SetActiveSegmentMBS StartTime,(EndTime-StartTime)

m.GetActiveSegmentMBS s,d

MsgBox "playing "+str(d)+" seconds from position "+str(s)

m.GoToBeginningMBS
m.PlayMBS

### 8.1.27 GetMovieApertureModeMBS as string

Plugin Version: 11.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Queries the aperture mode.
**Example:**

dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
dim m as movie = f.OpenAsMovieMBS

dim oldMode as string = m.GetMovieApertureModeMBS

dim e as Integer = m.SetMovieApertureModeMBS("prod")

dim newMode as string = m.GetMovieApertureModeMBS

MsgBox "old mode: "+oldMode+EndOfLine+"error: "+str(e)+EndOfLine+"new mode: "+newMode

### 8.1.28 GetSoundTrackMBS(index as Integer, EnabledTracksOnly as boolean = false) as QTTrackMBS

Plugin Version: 9.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the sound track with the given index.
**Example:**

dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
dim m as movie = f.OpenAsMovie

dim q as QTTrackMBS

q=m.GetSoundTrackMBS(1)
MsgBox q.MediaType

**Notes:** Index starts with 1. Returns nil if no track was found.

### 8.1.29   GetTextTrackMBS(index as Integer, EnabledTracksOnly as boolean = false) as QTChapterTrackMBS

Plugin Version: 9.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the text track with the given index.
**Example:**

dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
dim m as movie = f.OpenAsMovie

dim q as QTChapterTrackMBS

q=m.GetTextTrackMBS(1)
MsgBox q.MediaType

**Notes:** Index starts with 1. Returns nil if no track was found.

### 8.1.30   GetTrackIDMBS(id as Integer) as QTTrackMBS

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the QuickTime Track with the given ID.
**Notes:**

On any error the function returns nil.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

### 8.1.31   GetTrackIndexMBS(index as Integer) as QTTrackMBS

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the QuickTime Track with the given index.
**Example:**

Title=str(MoviePlayer1.Position)+" "+str(MoviePlayer1.movie.GetTrackIndexMBS(1).TrackVolume)

**Notes:**

Index starts at 1.
On any error the function returns nil.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

### 8.1.32  GetVideoTrackMBS(index as Integer, EnabledTracksOnly as boolean = false) as QTTrackMBS

Plugin Version: 9.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the video track with the given index.
**Example:**

dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
dim m as movie = f.OpenAsMovie

dim q as QTTrackMBS

q=m.GetVideoTrackMBS(1)
MsgBox q.MediaType

**Notes:** Index starts with 1. Returns nil if no track was found.

### 8.1.33  GoToBeginningMBS

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Moves the current position of this movie to the beginning.

### 8.1.34  GoToEndMBS

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Moves the current position of this movie to the end.
**Example:**

dim fSrc, fDst as FolderItem
dim mSrc, mDst as Movie
dim rc as Integer

'if not registerMBSPlugin(..., "MBS QuickTime", ..., ...) then
'MsgBox "MBS Plugin serial not valid?"
'end if

// Create a movie using EditableMovie class
fDst =SpecialFolder.Desktop.Child("output.mov")
mDst = fdst.CreateMovie


// Load a movie and add it
fSrc = SpecialFolder.Desktop.Child("movie1.mov")
mSrc = fSrc.OpenAsMovieMBS
mDst.GoToEndMBS
rc = mDst.AddMovieSelectionMBS( mSrc )

// Load a movie and add it
fSrc = SpecialFolder.Desktop.Child("movie2.mov")
mSrc = fSrc.OpenAsMovieMBS
mDst.GoToEndMBS
rc = mDst.AddMovieSelectionMBS( mSrc )

// Load a movie and add it
fSrc = SpecialFolder.Desktop.Child("movie3.mov")
mSrc = fSrc.OpenAsMovieMBS
mDst.GoToEndMBS
rc = mDst.AddMovieSelectionMBS( mSrc )

// Now save a copy with referencing
fDst =SpecialFolder.Desktop.Child("output Reference.mov")
rc = mDst.SaveMBS( fDst, false, false )

// Now save a copy with self containing
fDst =SpecialFolder.Desktop.Child("output SelfContaining.mov")
rc = mDst.SaveMBS( fDst, true, false )


### 8.1.35    HasMovieChangedMBS as boolean

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Determines whether
a movie has changed and needs to be saved.
**Notes:**

Your application can clear the movie changed flag, indicating that the movie has not changed, by calling
ClearMovieChangedMBS.
Introduced in QuickTime 3 or earlier.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

### 8.1.36 HasQTChapterTrackMBS as Boolean

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** True if this movie has a chapter track.
**Notes:**

Returns false on any error.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

### 8.1.37 HasTimeCodeTrackMBS as boolean

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether the movie has a time code track.
**Notes:**

True if such a track exists in this movie.
False on any error.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

### 8.1.38 InsertEmptyMovieSegmentMBS(time as Integer, Duration as Integer) as Integer

Plugin Version: 8.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Adds an empty segment to a movie.
**Notes:**

self:
The movie for this operation. Your application obtains this movie identifier from such functions as New-Movie, NewMovieFromFile, or NewMovieFromHandle.

time:
A time value that specifies where the segment is to be inserted. This time value must be expressed in the

movie's time scale.

Duration:
A time value that specifies the duration of the segment to be added. This time value must be expressed in the movie's time scale.

Discussion
You specify the starting time and duration of the empty segment to be added. These times must be expressed in the movie's time scale. You cannot add empty space to the end of a movie. If you want to insert a segment beyond the end of a movie, use InsertMovieSegment.

Returns a Mac OS error code.

## 8.1.39   InsertMovieSegmentMBS(dest as movie, srcIn as Integer, srcDuration as Integer, dstIn as Integer) as Integer

Plugin Version: 8.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Copies part of one movie to another.
**Notes:**

self:
The source movie for this operation. This function obtains the movie segment from the source movie specified in this parameter.

dest:
The destination movie for this operation. The function places a copy of the segment, which it obtained from the source movie, into this destination movie.

srcIn:
The start of the segment in the source movie. This time value must be expressed in the source movie's time scale.

srcDuration:
The duration of the segment in the source movie. This time value must be expressed in the source movie's time scale.

dstIn:
A time value specifying where the segment is to be inserted. This time value must be expressed in the destination movie's time scale.

Return Value

You can access Movie Toolbox error returns through GetMoviesError and GetMoviesStickyError, as well as in the function result. See Error Codes.

Discussion
If you are not copying data from one location in a movie to a different point in the same movie, this function may create new tracks, as appropriate. Before adding a track to the destination movie, the Movie Toolbox looks in the destination movie for tracks that have the same characteristics as the tracks in the source movie. The toolbox considers several characteristics when searching for an appropriate track, including track spatial dimensions, track matrix, track clipping region, track matte, alternate group affiliation, media time scale, media type, media language, and data reference (that is, referring to the same file). If the Movie Toolbox cannot find an appropriate track in the destination movie, it creates a new track with the proper characteristics.

Special Considerations
If you have assigned a progress function to the destination movie, the Movie Toolbox calls that progress function during long copy operations. Some Movie Toolbox functions can take a long time to execute. For example, if you call FlattenMovie and specify a large movie, the Movie Toolbox must read and write all the sample data for the movie. During such operations you may wish to display some kind of progress indicator to the user.

## 8.1.40   IsAutoPlayMovieMBS as boolean

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns true if the movie is an autoplay movie.

## 8.1.41   IsMediaTypeInMovieMBS(mediatype as string) as boolean

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns true if the movie contains this mediatype.
**Notes:**

Possible codes:

## 8.1.42   IsMovieDoneMBS as boolean

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns true if the movie is on it's end.
**Notes:**

Returns false on any error.

| | |
|---|---|
| Video | vide |
| Sound | soun |
| Text | text |
| Base | gnrc |
| MPEG | MPEG |
| Music | musi |
| TimeCode | tmcd |
| Sprite | sprt |
| Flash | flsh |
| Movie | moov |
| Tween | twen |
| ThreeDee | qd3d |
| ResourceData | rsrc |
| URLData | url |
| WiredAction | wire |

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

### 8.1.43   IsQTVRmovieMBS as boolean

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns true if the movie is a QTVR movie.

### 8.1.44   IsStreamedMovieMBS as boolean

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns true if the movie is a streamed movie.

### 8.1.45   LoadIntoRamFramesMBS(FrameStart as Double, FrameDuration as Double, flags as Integer) as Integer

Plugin Version: 2.9, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Loads the movie within the time bounds into memory.
**Notes:**

Flags:

Returns -1 if QuickTime is not available. Any other value is a Mac OS error code.

| keepInRam | 1 | Renders all data loaded with this flag set as nonpurgeable. Nonpurgeable data is not released from memory until you request it explicitly. This practice can fill up the user's heap very quickly; exercise caution. |
| unkeepInRam | 2 | Renders all indicated data purgeable. The data is not necessarily released from memory immediately, however. Information about whether a chunk can be purged is maintained internally by a single bit. This means there is no counter. Therefore, if you care very much about the data, you have to work very hard and use the edit list meticulously. |
| flushFromRam | 4 | Purges all indicated data from memory, unless it is currently in use by a media handler (for example, if it is still drawing frames from the requested times). This flag makes the memory available for purging, and then performs the purge. You may want to use this option if you are particularly low on memory. |
| loadForwardTrackEdits | 8 | In some cases, an edited movie plays back much more smoothly if the data around edits is already in RAM. By setting either this flag or the loadBackwardTrackEdits flag, you can load only the data around edits. The Movie Toolbox walks through the edits and decides the right amount of data to load for you. If you are going to play the movie forward, set only the loadForwardTrackEdits flag. If you are going to play in both directions, or you don't know which direction, set both flags. |
| loadBackwardTrackEdits | 16 | In some cases, an edited movie plays back much more smoothly if the data around edits is already in RAM. By setting either this flag or loadForwardTrackEdits, you can load only the data around edits. The Movie Toolbox walks through the edits and decides the right amount of data to load for you. If you are going to play the movie only backward, set the loadBackwardTrackEdits flag. If you are going to play in both directions, or you don't know which direction, set both flags. |

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

## 8.1.46 LoadIntoRamMBS(Start as Double, Duration as Double, flags as Integer) as Integer

Plugin Version: 2.9, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Loads the movie within the time bounds into memory.
**Notes:**

Flags:

Returns -1 if QuickTime is not available. Any other value is a Mac OS error code.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

| | | |
|---|---|---|
| keepInRam | 1 | Renders all data loaded with this flag set as nonpurgeable. Nonpurgeable data is not released from memory until you request it explicitly. This practice can fill up the user's heap very quickly; exercise caution. |
| unkeepInRam | 2 | Renders all indicated data purgeable. The data is not necessarily released from memory immediately, however. Information about whether a chunk can be purged is maintained internally by a single bit. This means there is no counter. Therefore, if you care very much about the data, you have to work very hard and use the edit list meticulously. |
| flushFromRam | 4 | Purges all indicated data from memory, unless it is currently in use by a media handler (for example, if it is still drawing frames from the requested times). This flag makes the memory available for purging, and then performs the purge. You may want to use this option if you are particularly low on memory. |
| loadForwardTrackEdits | 8 | In some cases, an edited movie plays back much more smoothly if the data around edits is already in RAM. By setting either this flag or the loadBackwardTrackEdits flag, you can load only the data around edits. The Movie Toolbox walks through the edits and decides the right amount of data to load for you. If you are going to play the movie forward, set only the loadForwardTrackEdits flag. If you are going to play in both directions, or you don't know which direction, set both flags. |
| loadBackwardTrackEdits | 16 | In some cases, an edited movie plays back much more smoothly if the data around edits is already in RAM. By setting either this flag or loadForwardTrackEdits, you can load only the data around edits. The Movie Toolbox walks through the edits and decides the right amount of data to load for you. If you are going to play the movie only backward, set the loadBackwardTrackEdits flag. If you are going to play in both directions, or you don't know which direction, set both flags. |

## 8.1.47 LoadStateMBS as Integer

Plugin Version: 5.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Queries the load state of the movie.
**Notes:**

Please do not attach not loaded movies to the movieplayer control.

| | |
|---|---|
| kMovieLoadStateError | = -1 |
| kMovieLoadStateLoading | = 1000 |
| kMovieLoadStateLoaded | = 2000 |
| kMovieLoadStatePlayable | = 10000 |
| kMovieLoadStatePlaythroughOK | = 20000 |
| kMovieLoadStateComplete | = 100000 |

(hex or decimal values?)

### 8.1.48 MetaDataMBS as QTMetaDataMBS

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The metadata of the movie.
**Example:**

```
// pick a movie
dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
// open it
dim m as EditableMovie = f.OpenEditableMovie
// get metadata
dim q as QTMetaDataMBS = m.MetaDataMBS

// add a metadata value. This property is visible in QuickTime Player 7
call q.AddItem(q.kQTMetaDataStorageFormatQuickTime, q.kQTMetaDataKeyFormatQuickTime, "com.apple.quicktime.producer", "Christian Schmitz",1)

q = nil

// save
call m.CommitChanges
```

**Notes:**

Returns nil on any error.
Requires QuickTime 7.

### 8.1.49 MovieHasSoundTrackMBS as boolean

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns true if the movie contains a sound track.

### 8.1.50 MovieHasTimeCodeTrackMBS as boolean

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns true if the movie contains a timecode track.

### 8.1.51 MoviePictureFramesMBS(frameposition as Double) as picture

Plugin Version: 2.9, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the picture of the movie for the given position in time units.

**Example:**

dim m as movie // your movie
backdrop=m.MoviePictureFramesMBS(5*m.TimeScaleMBS) // 5th second

**Notes:**

Returns nil on low memory.
The picture returned is a Pichandle picture, so you may use the picture.bitmap function if you want a picture you can edit or save as JPEG.
This function can be very slow because it may be necessary to render this picture from the last 20 pictures. For best performance, you can use QTFrameExtractorMBS class.

## 8.1.52 MoviePictureMBS(position as Double) as picture

Plugin Version: 2.8, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the picture of the movie for the given position in seconds.
**Example:**

dim m as movie // your movie
backdrop=m.MoviePictureMBS(5) // 5th second

**Notes:**

Returns nil on low memory.
The picture returned is a Pichandle picture, so you may use the picture.bitmap function if you want a picture you can edit or save as JPEG.
This function can be very slow because it may be necessary to render this picture from the last 20 pictures. For best performance, you can use QTFrameExtractorMBS class.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

## 8.1.53 MoviePollMBS

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Gives CPU time to QuickTime to update this movie.
**Deprecated:** This item is deprecated and should no longer be used. **Notes:** Some people cry about missing performance on playing movies in RB. This function may help there. if you use threads it may be good to call it from time to time.

### 8.1.54 NextInterestingVideoTimeMBS(byref time as Integer, byref duration as Integer) as boolean

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Finds the next interesting video time (the next frame).
**Notes:**

Time is an integer for the time to start the search.
Returns in Time the time found (or 0 on an error).
Duration is set to the duration of this frame.
Remember that in QuickTime each frame can have it's individual length.

time=0 is the beginning of the first frame and it is a frame edge, so starting search with 0 will find zero.

Normally you find using this function the next frame of a movie.
You start with time=1 just after the first frame starts and loop using this function from frame to frame till you get time<=0 again.

After you found a time, use time+1 for the next starting point.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

To move a movie to the found position set the movie.timembs property to the new time.
See also:

- 8.1.55 NextInterestingVideoTimeMBS(byref time as Integer, byref duration as Integer, rate as Double) as boolean 153

### 8.1.55 NextInterestingVideoTimeMBS(byref time as Integer, byref duration as Integer, rate as Double) as boolean

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Finds the next interesting video time (the next frame).
**Notes:**

Time is an integer for the time to start the search.
Returns in Time the time found (or 0 on an error).
Duration is set to the duration of this frame.
Remember that in QuickTime each frame can have it's individual length.
Set Rate to a negative value to search backwards.

time=0 is the beginning of the first frame and it is a frame edge, so starting search with 0 will find zero.

Normally you find using this function the next frame of a movie.
You start with time=1 just after the first frame starts and loop using this function from frame to frame till you get time<=0 again.

After you found a time, use time+1 for the next starting point.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

To move a movie to the found position set the movie.timembs property to the new time.
See also:

- 8.1.54 NextInterestingVideoTimeMBS(byref time as Integer, byref duration as Integer) as boolean 153

### 8.1.56   NextInterestingVideoTimeWithFlagsMBS(flags as Integer, byref time as Integer, byref duration as Integer) as boolean

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Finds the next interesting video time (the next frame).
**Notes:**

Time is an integer for the time to start the search.
Returns in Time the time found (or 0 on an error).
Duration is set to the duration of this frame.
Remember that in QuickTime each frame can have it's individual length.

time=0 is the beginning of the first frame and it is a frame edge, so starting search with 0 will find zero.

Normally you find using this function the next frame of a movie.
You start with time=1 just after the first frame starts and loop using this function from frame to frame till you get time<=0 again.

After you found a time, use time+1 for the next starting point.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

To move a movie to the found position set the movie.timembs property to the new time.

This function requires you to pass correct flags:

nextTimeMediaSample = 1
nextTimeMediaEdit = 2
nextTimeTrackEdit = 4
nextTimeSyncSample = 8
nextTimeStep = 16
nextTimeEdgeOK = 16384
nextTimeIgnoreActiveSegment = 32768

Default of the other functions are to use nextTimeEdgeOK+nextTimeStep.
See also:

- 8.1.57 NextInterestingVideoTimeWithFlagsMBS(flags as Integer, byref time as Integer, byref duration as Integer, rate as Double) as boolean 155

## 8.1.57 NextInterestingVideoTimeWithFlagsMBS(flags as Integer, byref time as Integer, byref duration as Integer, rate as Double) as boolean

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Finds the next interesting video time (the next frame).
**Notes:**

Time is an integer for the time to start the search.
Returns in Time the time found (or 0 on an error).
Duration is set to the duration of this frame.
Remember that in QuickTime each frame can have it's individual length.
Set Rate to a negative value to search backwards.

time=0 is the beginning of the first frame and it is a frame edge, so starting search with 0 will find zero.

Normally you find using this function the next frame of a movie.
You start with time=1 just after the first frame starts and loop using this function from frame to frame till you get time<=0 again.

After you found a time, use time+1 for the next starting point.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

To move a movie to the found position set the movie.timembs property to the new time.

This function requires you to pass correct flags:

nextTimeMediaSample = 1

nextTimeMediaEdit = 2
nextTimeTrackEdit = 4
nextTimeSyncSample = 8
nextTimeStep = 16
nextTimeEdgeOK = 16384
nextTimeIgnoreActiveSegment = 32768

Default of the other functions are to use nextTimeEdgeOK+nextTimeStep.
See also:

- 8.1.56 NextInterestingVideoTimeWithFlagsMBS(flags as Integer, byref time as Integer, byref duration as Integer) as boolean                                                           154

### 8.1.58   PlayMBS

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Starts playback of the movie.

### 8.1.59   PosterPictureMBS as picture

Plugin Version: 2.8, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the poster picture of the movie if there is one.
**Example:**

dim m as movie // your movie
backdrop=m.PosterPictureMBS

**Notes:**

Returns nil on low memory.
The picture returned is a Pichandle picture, so you may use the picture.bitmap function if you want a picture you can edit or save as JPEG.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

### 8.1.60   RegisterAccessKeyMBS(keytype as string, SystemWide as boolean, AccessKey as string) as Integer

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Registers a media key.

**Notes:**

Returns an error code (0 for success).
keytype must be a MacRoman string.

### 8.1.61 RemoveMovieApertureModeDimensionsMBS as Integer

Plugin Version: 8.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Removes aperture mode dimension information from a movie.
**Notes:** This function removes aperture mode dimension information from a movie's tracks. It does not attempt to modify sample descriptions, so it may not completely reverse the effect of GenerateMovieApertureModeDimensions. It sets the kQTVisualPropertyID_HasApertureModeDimensions property to false.

### 8.1.62 RemoveTextTrackMBS(index as Integer) as Integer

Plugin Version: 8.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Removes a text track.
**Notes:**

Index is from 1 to the number of text chapters.
Pass 0 to delete all text tracks.
Returns a Mac OS error code.

### 8.1.63 SaveMBS(file as folderitem, Flatten as boolean, FlattenActiveTracksOnly as boolean) as Integer

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Saves a movie.
**Example:**

// e=SaveMBS(file,false,false) // save command in QuickTime movie Player

// save as reference movie
dim f as FolderItem
dim m as movie

f=SpecialFolder.Desktop.Child("test.mov")
m=f.OpenAsMovie

f=SpecialFolder.Desktop.Child("new movie.mov")

msgbox str(m.SaveMBS(f,false,false))

**Notes:**

File must be a valid folderitem. This function does not support long file names so you better save to e.g. "temp.mov" and rename the file on success later.
If Flatten is true the whole movie data is written and in that case FlattenActiveTracksOnly controls whether inactivate tracks are written or not.
Returns a Mac OS error code. (0 for success)

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

Make sure the file you point to, is not the current movie file as overwriting the files may not work.

### 8.1.64  ScaleMovieSegmentMBS(startTime as Integer, oldDuration as Integer, newDuration as Integer) as Integer

Plugin Version: 8.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Changes the duration of a segment of a movie.
**Notes:**

self:
The movie for this operation.

startTime:
The start of the segment. The oldDuration parameter specifies the segment's duration. This time value must be expressed in the movie's time scale.

oldDuration:
The original duration of the segment in the source movie. This time value must be expressed in the movie's time scale.

newDuration:
The new duration of the segment. This time value must be expressed in the movie's time scale. The function alters the segment to accommodate the new duration.

Return Value
You can access Movie Toolbox error returns through GetMoviesError and GetMoviesStickyError, as well as in the function result. See Error Codes.

Discussion
The Movie Toolbox scales the segment to accommodate the new duration.

### 8.1.65 SetActiveSegmentFramesMBS(StartFrame as Integer, DurationFrame as Integer)

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Sets the active segment of the movie in frames.

### 8.1.66 SetActiveSegmentMBS(StartFrame as Double, DurationFrame as Double)

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Sets the active segment of the movie.
**Example:**

dim f as FolderItem
dim m as movie // global
dim s,d as Double

f=SpecialFolder.Desktop.Child("test movie.mov")
m=f.OpenAsMovie

m.SetActiveSegmentMBS 30,30 // 30 seconds starting at the 30th second

m.PlayMBS

m.GetActiveSegmentMBS s,d
MsgBox "playing "+str(d)+" seconds from position "+str(s)

**Notes:**

SetActiveSegmentMBS + PlayMBS = PlaySelection

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

### 8.1.67 SetAllowBlackliningMBS(active as boolean)

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Tells QuickTime whether to allow the movie codec to use black lines for better performance.
**Notes:**

There seems no way to read the current state.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

### 8.1.68    SetAllowInterlaceMBS(active as boolean)

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Tells QuickTime whether to allow the movie codec to interlace video.
**Notes:**

There seems no way to read the current state.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

### 8.1.69    SetHighQualityMBS(value as boolean)

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Tells QuickTime whether to use High Quality movie playback.
**Notes:**

There seems no way to read the current state.

Please read this website for more details:
http://developer.apple.com/qa/qa2001/qa1149.html

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

### 8.1.70    SetHintsDeinterlaceFieldsMBS(value as boolean)

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Tells QuickTime whether to use Deinterlaced movie playback.
**Notes:**

Deinterlacing is only available with QuickTime 6.5 or greater
There seems no way to read the current state.

Please read this website for more details:
http://developer.apple.com/qa/qa2001/qa1149.html

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

## 8.1.71 SetHintsSingleFieldMBS(value as boolean)

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Tells QuickTime whether to use Single field movie playback.
**Notes:**

There seems no way to read the current state.

Please read this website for more details:
http://developer.apple.com/qa/qa2001/qa1149.html

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

## 8.1.72 SetMovieApertureModeMBS(theApertureMode as string) as Integer

Plugin Version: 8.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Sets the movie aperture mode.
**Notes:**

kQTApertureMode_Classic = "clas"

An aperture mode which gives compatibility with behavior in QuickTime 7.0.x and earlier. A movie in classic aperture mode uses track dimensions as set in NewMovieTrack and SetTrackDimensions. A decompression session in classic aperture mode does not set the clean aperture or pixel aspect ratio attachments on emitted pixel buffers. Movies default to classic aperture mode. If you call SetTrackDimensions on a track, the movie is automatically switched into classic aperture mode.

kQTApertureMode_CleanAperture = "clea"

An aperture mode for general display. Where possible, video will be displayed at the correct pixel aspect ratio, trimmed to the clean aperture. A movie in clean aperture mode sets each track's dimensions to match its kQTVisualPropertyID_CleanApertureDimensions. A decompression session in clean aperture mode sets the clean aperture and pixel aspect ratio attachments on emitted pixel buffers based on the image description.

kQTApertureMode_ProductionAperture = "prod"

An aperture mode for modal use in authoring applications. Where possible, video will be displayed at the

correct pixel aspect ratio, but without trimming to the clean aperture so that the edge processing region can be viewed. A movie in production aperture mode sets each track's dimensions to match its kQTVisual-PropertyID_ProductionApertureDimensions. A decompression session in production aperture mode sets the pixel aspect ratio attachments on emitted pixel buffers based on the image description.

kQTApertureMode_EncodedPixels = "enco"

An aperture mode for technical use. Displays all encoded pixels with no aspect ratio or clean aperture compensation. A movie in encoded pixels aperture mode sets each track's dimensions to match its kQTVisualPropertyID_EncodedPixelsDimensions. A decompression session in encoded pixels aperture mode does not set the clean aperture or pixel aspect ratio attachments on emitted pixel buffers.

### 8.1.73   SetPlayingEveryFrameMBS(active as boolean)

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Tells QuickTime whether to play all frames or to skip frames to keep in sync with audio.
**Notes:**

There seems no way to read the current state.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

### 8.1.74   ShowMovieGWorldIntoRectMBS(GWorldHandle as Integer, left as Integer, top as Integer, width as Integer, height as Integer) as Integer

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Shows the current frame of the movie into the given GWorld object.
**Notes:**

The movie is scaled to the given rectangle.
Note that following frames on playing the movie will also be drawn into this graphics port.
Returns -1 if the function is not available, else a Mac OS error code like 0 for no error.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

### 8.1.75   ShowMovieGWorldMBS(GWorldHandle as Integer) as Integer

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Draws the current frame of the movie into the given gworld object.

**Notes:**

Note that following frames on playing the movie may also be drawed into this graphics port.
Returns -1 if the function is not available, else a Mac OS error code like 0 for no error.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

### 8.1.76   ShowMovieIntoRectMBS(g as graphics, left as Integer, top as Integer, width as Integer, height as Integer) as Integer

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Shows the current frame of the movie into the given graphics object.
**Notes:**

The movie is scaled to the given rectangle.
Note that following frames on playing the movie will also be drawed into this graphics port.
Returns -1 if the function is not available, else a Mac OS error code like 0 for no error.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

### 8.1.77   ShowMovieMBS(g as graphics) as Integer

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Draws the current frame of the movie into the given graphics object.
**Notes:**

If you need to extract frames from a movie faster than MoviePictureMBS, please use the QTFrameExtractorMBS class.

Note that following frames on playing the movie may also be drawed into this graphics port.
Returns -1 if the function is not available, else a Mac OS error code like 0 for no error.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

### 8.1.78  SoundRawDataMBS(starttime as Double=0.0, length as Double=0.0, ChannelCount as Integer=2, SampleSize as Integer=16, Rate as Integer=44100) as memoryblock

Plugin Version: 7.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the sound of the first soundtrack in the movie as a memoryblock.
**Example:**

// Plays a MP3 file using SoundRawDataMBS and CoreAudioPlayer (on Mac OS X only)

dim m as movie
dim buf as MemoryBlock
dim b as Boolean
dim pos,size,n as Integer
dim mpos,msize as Double
dim length as Double
dim c as CoreAudioPlayerMBS

// get a pointer to your movie. You might openAsMovie a folderitem, for
// example

m = myMovie

// allocate and initialize the audio player to standard values

c=new CoreAudioPlayerMBS
c.NumberOfChannels=2
c.SampleRate = 44100

// play the entire file

mpos=0
msize=m.DurationMBS

// while stuff left to do.

do

// get a buffer's worth of audio data. It will always be 16bit signed, stereo, 44.1khz
// figure out how many seconds worth of data it is, and update the pointer for the
// next read

buf=m.SoundRawDataMBS(mpos,10) // always 16bit, stereo, 44100 Hz
length=buf.Size/2/2/44100
mpos=mpos+length

// log.append "got "+str(buf.size)+" bytes = "+str(length)+" seconds"

// while there is unplayed data in the buffer, push it out to the audioplayer
// object. buffer length will always be even, since samples are 2 bytes long.
// and since the audio player deals with samples, we'll handle them in those
// units

pos=0
size=buf.Size/2

do

// figure out how much space there is left in the buffer. .Freespace
// returns number of samples (2 bytes each)

n=c.FreeSpace
if n>size-pos then
n=size-pos
end if

// log.append " play "+str(n)+" samples @ "+str(pos)+" offset"

// playaudio takes byte offset and length, not samples. If you
// don't compensate for this, then you get alignment errors
// if pos is odd, and noise results

b=c.PlayAudio(buf,pos+pos,n+n,15)

// if we failed, quit

if not b then
MsgBox "PlayAudio failed"
Return
else

// otherwise, move along in our buffer

pos=pos+n
end if

// give the audio a little time to play before trying to stuff more
// into the audioplayer buffer

DelayMBS 0.1

loop until pos>=size

loop until mpos>=msize

**Notes:**

The whole sound in 16bit, stereo, 44100 Hz, interleaved per default.
You can specify 8 or 16 bit, one or two channels and one of the following rates: 8000, 11025, 11127, 16000, 22254, 22050, 32000, 44100 and 48000.

Returns nil on any error.
Should do AAC and MP3, even VBRs.
You give times, but as most sound data is saved in chunks this will not be taken exactly. So if you work throught the movie, you will get returned blocks bigger than you asked for.
On Windows it may need byte swapping before using it (memoryblock.SwapBytes16MBS to be exact).
On Windows also make sure the movie is opened with QuickTime. You can ensure this by using OpenAs-MovieMBS for opening it.

Also check QTSoundExtractMBS class.

### 8.1.79   StopMBS

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Stops playback of the movie.

### 8.1.80   TimeScaleMBS as Integer

Plugin Version: 2.9, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The time scale for the movie.
**Notes:**

e.g. a value of 90000 on one movie here.
time units = seconds * time scale

Returns 0 on any error.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

### 8.1.81   TrackCountMBS as Integer

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The number of tracks in the movie.

### 8.1.82 UnregisterAccessKeyMBS(keytype as string, SystemWide as boolean, AccessKey as string) as Integer

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Unregisters a media key.
**Notes:**

Returns an error code (0 for success).
keytype must be a MacRoman string.

### 8.1.83 UpdateMBS as Integer

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Updates the movie.
**Notes:** Returns an error code.

### 8.1.84 UserDataMBS as QTUserDataMBS

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The userdata of the movie.
**Example:**

dim m as EditableMovie
dim f as FolderItem
dim u as QTUserDataMBS

f=SpecialFolder.Desktop.Child("test.mov")
m=f.CreateMovie

u=m.UserDataMBS

u.AddText ConvertEncoding("nam",Encodings.MacRoman),1,0,ConvertEncoding("Christian Schmitz ",Encodings.MacRoman)

call m.CommitChanges

// now the movie has the title "Christian Schmitz "

**Notes:**

You are working on the original data.
After the movie is closed, this object will be invalid and should no longer be used.
Returns nil on any error.

### 8.1.85   Properties

### 8.1.86   ActiveMBS as boolean

Plugin Version: 6.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether movie is active or not.
**Notes:** (Read and Write computed property)

### 8.1.87   GWorldHandleMBS as Integer

Plugin Version: 14.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Function:** The Gworld the movie is currently using for drawing.
**Notes:**

You can assign a GWorld here if you like.
Just make sure there is no movie reference to a destroyed gworld.
(Read and Write computed property)

### 8.1.88   LoopingMBS as Integer

Plugin Version: 8.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether the movie should loop.
**Example:**

```
dim f as FolderItem
dim m as EditableMovie

f=SpecialFolder.Desktop.Child("test.mov")

m=f.OpenEditableMovie

// 0 = looping
// 1 = palindrome
// 2 = no looping

m.LoopingMBS=1

call m.CommitChanges
```

**Notes:**

0 - normal looping
1 - palindrome looping

2 - no looping

this sets the looping preference for quicktime player. It does not tell PlayMBS to loop.
If you want to play a looping movie, please use a movieplayer control and set looping to true.
(Read and Write computed property)

### 8.1.89 MovieHeightMBS as Integer

Plugin Version: 4.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The height of the movie.
**Notes:**

In contrast to this property, RB's movie width/height properties are cached.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.
(Read and Write computed property)

### 8.1.90 MovieVisualBrightnessMBS as single

Plugin Version: 6.4, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Function:** The brightness of the movie.
**Deprecated:** This item is deprecated and should no longer be used. **Notes:**

Value is not saved in the movie and only used for display.
Requires Mac OS X 10.4 and requires a new movie control.
(so in current Realbasic it seems to have no effect)
(Read and Write computed property)

### 8.1.91 MovieVisualContrastMBS as single

Plugin Version: 6.4, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Function:** The contrast of the movie.
**Deprecated:** This item is deprecated and should no longer be used. **Notes:**

Value is not saved in the movie and only used for display.
Requires Mac OS X 10.4 and requires a new movie control.
(so in current Realbasic it seems to have no effect)
(Read and Write computed property)

## 8.1.92   MovieVisualHueMBS as single

Plugin Version: 6.4, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Function:** The hue of the movie.
**Deprecated:** This item is deprecated and should no longer be used. **Notes:**

Value is not saved in the movie and only used for display.
Requires Mac OS X 10.4 and requires a new movie control.
(so in current Realbasic it seems to have no effect)
(Read and Write computed property)

## 8.1.93   MovieVisualSaturationMBS as single

Plugin Version: 6.4, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Function:** The saturation of the movie.
**Deprecated:** This item is deprecated and should no longer be used. **Notes:**

Value is not saved in the movie and only used for display.
Requires Mac OS X 10.4 and requires a new movie control.
(so in current Realbasic it seems to have no effect)
(Read and Write computed property)

## 8.1.94   MovieWidthMBS as Integer

Plugin Version: 4.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The width of the movie.
**Notes:**

In contrast to this property, RB's movie width/height properties are cached.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.
(Read and Write computed property)

## 8.1.95   PitchMBS as Double

Plugin Version: 8.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The movie pitch.
**Notes:**

Requires QuickTime 7.1

Get/Set Movie pitch adjustment. Adjusts the pitch of all audio tracks that contribute to the AudioContext mix. Pitch control takes effect only if RateChangesPreservePitchMBS is in effect, otherwise does nothing.

The value is specified in cents: 0.0 == no change, 1.0 == one cent up, 100.0 == one semi-tone up, -1.0 == one cent down. The most useful ranges for pitch are +/- 1200. (ie, one octave)
(Read and Write computed property)

### 8.1.96 PosterTimeMBS as Integer

Plugin Version: 5.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The current poster time of the movie.
**Notes:**

Unit is the timebase of the movie.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.
(Read and Write computed property)

### 8.1.97 PreferredRateMBS as Integer

Plugin Version: 3.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Sets and gets a movie's preferred playback rate.
**Example:**

myMovie.PreferredRateMBS=65536 'normal

**Notes:**

Use this function to change the speed at which a movie is preferred playing.
The new movie rate as a 32-bit, fixed-point number. Positive integers indicate forward rates and negative integers indicate reverse rates. This value immediately changes the rate at which the movie is playing. A value of 1 starts the movie playing at normal speed, a value of 2 causes the movie to play at double speed, -2 starts the movie playing backward at double speed, and so on. A value of 0 stops the movie.

Useful constants:

| kNormalSpeed | & H10000 | = 1.0 * 65536 |
|---|---|---|
| kDoubleSpeed | & H20000 | = 2.0 * 65536 |
| kHalfSpeed | & H08000 | = 0.5 * 65536 |
| kStopSpeed | & H00000 | = 0.0 * 65536 |

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

(Read and Write computed property)

### 8.1.98 PreferredVolumeMBS as Integer

Plugin Version: 3.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Set and get the preferred volume of a movie.
**Example:**

myMovie.PreferredVolumeMBS=256 'max

**Notes:**

See the volume property for details.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.
(Read and Write computed property)

### 8.1.99 RateChangesPreservePitchMBS as Boolean

Plugin Version: 8.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether a change in the movie playback rate changes the pitch of the audio.
**Notes:**

Requires QuickTime 7.1

Get/Set When the playback rate is not unity, audio must be resampled in order to play at the new rate. The default resampling affects the pitch of the audio (eg, playing at 2x speed raises the pitch by an octave, 1/2x lowers an octave). If this property is set on the Movie, an alternative algorithm may be used, which alters the speed without changing the pitch. As this is more computationally expensive, this property may be silently ignored on some slow CPUs. Media handlers may query this movie property and honor it when performing Scaled Edits. This property can be specified as a property to the OpenAsMovieWithPropertiesMBS. Currently, it has no effect when set on an open movie.
(Read and Write computed property)

### 8.1.100 RateMBS as Integer

Plugin Version: 3.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Sets and gets a movie's playback rate.
**Example:**

myMovie.rateMBS=-65536 'backwards

**Notes:**

Use this function to change the speed at which a movie is playing.
The new movie rate as a 32-bit, fixed-point number. Positive integers indicate forward rates and negative integers indicate reverse rates. This value immediately changes the rate at which the movie is playing. A value of 1 starts the movie playing at normal speed, a value of 2 causes the movie to play at double speed, -2 starts the movie playing backward at double speed, and so on. A value of 0 stops the movie.

Useful constants:

| | | |
|---|---|---|
| kNormalSpeed | & H10000 | = 1.0 * 65536 |
| kDoubleSpeed | & H20000 | = 2.0 * 65536 |
| kHalfSpeed | & H08000 | = 0.5 * 65536 |
| kStopSpeed | & H00000 | = 0.0 * 65536 |

You need to set the rate after you used the play method to start playback.
Else the Play method will reset the play rate to normal speed.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.
(Read and Write computed property)

### 8.1.101   SelectionLengthFramesMBS as Integer

Plugin Version: 4.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The selection length in frames.
**Notes:**

(TimeScaleMBS * SelectionLengthMBS = SelectionLengthFramesMBS)

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.
(Read and Write computed property)

### 8.1.102   SelectionLengthMBS as Double

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The selection length in seconds.

**Notes:**

(TimeScaleMBS * SelectionLengthMBS = SelectionLengthFramesMBS)

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.
(Read and Write computed property)

### 8.1.103    SelectionStartFramesMBS as Integer

Plugin Version: 4.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The selection start position in frames.
**Notes:**

(TimeScaleMBS * SelectionStartMBS = SelectionStartFramesMBS)

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.
(Read and Write computed property)

### 8.1.104   SelectionStartMBS as Double

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The selection start position in seconds.
**Notes:**

(TimeScaleMBS * SelectionStartMBS = SelectionStartFramesMBS)

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.
(Read and Write computed property)

### 8.1.105   TimeCodeDisplayedMBS as boolean

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether timecode data should be displayed for this movie.
**Notes:**

(Read and Write computed property)

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.

### 8.1.106   TimeMBS as Integer

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The current position inside the movie.
**Notes:**

Unit is the timebase of the movie.

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.
(Read and Write computed property)

### 8.1.107   volumeMBS as Integer

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Set and get the volume of a movie.
**Example:**

myMovie.volumeMBS=256 'max

**Notes:**

The volume may be between -256 and 256.
you don't hear anything if volume <=0.
For Sound Manager 3.0 and newer it should even work to set volume bigger than 256.
To switch between sound and nosound do:
movie.volume = -movie.volume

Useful constants:

| | | |
|---|---|---|
| kNoVolume | & H000 | setting for no sound volume |
| kFullVolume | & H100 | setting for full hardware output volume |

Does not work if movie.handle is 0. You can use e.g. OpenAsMovieMBS which returns a movie with handle<>0.
(Read and Write computed property)

## 8.2 class Movieplayer

### 8.2.1 class Movieplayer

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Extends the Movieplayer class inside Realbasic.
**Notes:** Some calls need QuickTime 2.5 and some 3.0. Ask if you need details and I can add the version requirement to each call.

### 8.2.2 Methods

### 8.2.3 clearMBS as Integer

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Clears current selection.
**Example:**

```
if movieplayer1.ClearMBS=0 then
msgbox "ok"
else
msgbox "unable to clear"
end if
```

**Deprecated:** This item is deprecated and should no longer be used. **Notes:** Returns a Mac OS error code.

### 8.2.4 ControlbarHeightMBS as Integer

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the height of the controlbar in pixels.
**Example:**

```
msgbox str(movieplayer1.ControlbarHeightMBS)
```

**Deprecated:** This item is deprecated and should no longer be used. **Notes:** Normally 16 pixels.

### 8.2.5 CopyMBS as movie

Console & Web: No, Mac: Yes, Win: No, Linux: No. **Function:** make a copy of the current selection.
**Example:**

dim m as movie
m=movieplayer1.copyMBS

**Deprecated:** This item is deprecated and should no longer be used. **Notes:**

There is nothing in the RB Plugin SDK to make a RB movie object on Windows.
Let me know if this changes.
Returns nil on any error.
This function does not work in Cocoa due to a bug in Real Studio. This bug has been fixed in Xojo 2013r1.

### 8.2.6   CutMBS as movie

Console & Web: No, Mac: Yes, Win: No, Linux: No. **Function:** cuts off the current selection.
**Example:**

dim m as movie
m=movieplayer1.cutMBS

**Deprecated:** This item is deprecated and should no longer be used. **Notes:**

There is nothing in the RB Plugin SDK to make a RB movie object on Windows.
Let me know if this changes.
Returns nil on any error.
This function does not work in Cocoa due to a bug in Real Studio. This bug has been fixed in Xojo 2013r1.

### 8.2.7   MovieChangedMBS as Integer

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Informs the movie player control that its movie changed.
**Deprecated:** This item is deprecated and should no longer be used. **Notes:**

If you change the movie internally you may call this function so the moviecontroller can update itself. (e.g. after you added new stuff to the movie)

Returns a Mac OS error code.
See also:

- 8.2.8 MovieChangedMBS(themovie as movie) as Integer                                   179

### 8.2.8 MovieChangedMBS(themovie as movie) as Integer

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Informs the movie player control that the movie changed.
**Deprecated:** This item is deprecated and should no longer be used. **Notes:**

If you change the movie internally you may call this function so the moviecontroller can update itself. (e.g. after you added new stuff to the movie)

Returns a Mac OS error code.
See also:

- 8.2.7 MovieChangedMBS as Integer 178

### 8.2.9 PasteMBS(source as movie) as Integer

Console & Web: No, Mac: Yes, Win: No, Linux: No. **Function:** paste a movie into the current selection.
**Example:**

dim newmovie as movie // some movie
dim i as Integer
i=movieplayer1.pasteMBS(newmovie)

**Deprecated:** This item is deprecated and should no longer be used. **Notes:** Returns a Mac OS error code.

### 8.2.10 RedrawMBS

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Redraws the current shown picture.
**Example:**

movieplayer1.RedrawMBS

**Deprecated:** This item is deprecated and should no longer be used. **Notes:**

Implemented but not tested.
Seems to be not useful in Realbasic.

### 8.2.11 SelectAllMBS

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Select all in the movieplayer.
**Deprecated:** This item is deprecated and should no longer be used.

## 8.2.12   SelectNoneMBS

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Removes the selection of the movie player object.
**Deprecated:** This item is deprecated and should no longer be used.

## 8.2.13   ShowStatusMessage(message as string) as Integer

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Tells the movieplayer to show a status message.
**Deprecated:** This item is deprecated and should no longer be used. **Notes:** Returns a Mac OS error code. (0 for successfull, -1 for function not available)

## 8.2.14   StepMBS(value as Integer)

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Moves the current position by value frames.
**Example:**

movieplayer1.stepmbs 1 // one frame forward

**Deprecated:** This item is deprecated and should no longer be used. **Notes:**

The movement ends on the bounds of the movie without an error.
Negative values for moving backward.

## 8.2.15   UndoMBS as Integer

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Undos last action.
**Example:**

if movieplayer1.undoMBS=0 then
msgbox "ok"
else
msgbox "unable to undo"
end if

**Deprecated:** This item is deprecated and should no longer be used. **Notes:** Returns a Mac OS error code.

### 8.2.16 Properties

### 8.2.17 EditableMBS as boolean

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Set and get if a movie can be edited in the movieplayer control.
**Example:**

MoviePlayer1.EditableMBS=True 'make editable

**Deprecated:** This item is deprecated and should no longer be used. **Notes:**

You'll see the controller button changing on QuickTime 4.0.
(Read and Write computed property)

### 8.2.18 KeysEnabledMBS as boolean

Plugin Version: 5.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether keystokes are enabled or disabled.
**Deprecated:** This item is deprecated and should no longer be used. **Notes:** (Read and Write computed property)

### 8.2.19 PlayEveryFrameMBS as boolean

Plugin Version: 4.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether to play every frame of the movie.
**Deprecated:** This item is deprecated and should no longer be used. **Notes:** (Read and Write computed property)

### 8.2.20 PlaySelectionMBS as boolean

Plugin Version: 4.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether to play only the selection of the movie.
**Deprecated:** This item is deprecated and should no longer be used. **Notes:** (Read and Write computed property)

## 8.2.21   volumeMBS as Integer

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Set and get the volume of a movie.
**Example:**

MoviePlayer1.volumeMBS=256 'max

**Deprecated:** This item is deprecated and should no longer be used. **Notes:**

The volume may be between -256 and 256.
you don't hear anything if volume <=0.
For Sound Manager 3.0 and newer it should even work to set volume bigger than 256.
To switch between sound and nosound do:
movie.volumeMBS = -movie.volumeMBS
Disabled in Realbasic 4.5 because there is allready such a method.
(Read and Write computed property)

# 8.3 class MoviePlayerActionFilterMBS

### 8.3.1 class MoviePlayerActionFilterMBS

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** A class to filter the actions on a movieplayer.
**Deprecated:** This item is deprecated and should no longer be used. **Notes:** You can use this class to filter the events sent to the movieplayer class like e.g. mouse clicks.

### 8.3.2 Methods

### 8.3.3 Attach(mplayer as movieplayer) as Integer

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Attaches the object to the movieplayer.
**Notes:** Only one MoviePlayerActionFilterMBS object for each MoviePlayer control object.

### 8.3.4 Close

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The destructor.
**Notes:**

There is no need to call this method except you want to free all resources of this object now without waiting for Realbasic to do it for you.
(e.g. some Realbasic versions crash on Windows if there are plugin objects not closed.)

### 8.3.5 Properties

### 8.3.6 Player as MoviePlayer

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The player connected.
**Notes:**

(value is only for getting, not for setting.)
(Read and Write property)

### 8.3.7    Events

### 8.3.8    Action(action as Integer, parameter as memoryblock) as boolean

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** An action message was received for the player.
**Notes:**

Return true if you handled the event.
For the stuff inside the memoryblock parameter, please check Apple's documentation.


Some and not all actions:

| Constant | Value | Parameter |
|---|---|---|
| ActionIdle | = 1 | no param |
| ActionDraw | = 2 | param is WindowRef |
| ActionActivate | = 3 | no param |
| ActionDeactivate | = 4 | no param |
| ActionMouseDown | = 5 | param is pointer to EventRecord |
| ActionKey | = 6 | param is pointer to EventRecord |
| ActionPlay | = 8 | param is Fixed, play rate |
| ActionGoToTime | = 12 | param is TimeRecord |
| ActionSetVolume | = 14 | param is a short |
| ActionGetVolume | = 15 | param is pointer to a short |
| ActionStep | = 18 | param is number of steps (short) |
| ActionSetLooping | = 21 | param is Boolean |
| ActionGetLooping | = 22 | param is pointer to a Boolean |
| ActionSetLoopIsPalindrome | = 23 | param is Boolean |
| ActionGetLoopIsPalindrome | = 24 | param is pointer to a Boolean |
| ActionSetGrowBoxBounds | = 25 | param is a Rect |
| ActionControllerSizeChanged | = 26 | no param |
| ActionSetSelectionBegin | = 29 | param is TimeRecord |
| ActionSetSelectionDuration | = 30 | param is TimeRecord, action only taken on set-duration |
| ActionSetKeysEnabled | = 32 | param is Boolean |
| ActionGetKeysEnabled | = 33 | param is pointer to Boolean |
| ActionSetPlaySelection | = 34 | param is Boolean |
| ActionGetPlaySelection | = 35 | param is pointer to Boolean |
| ActionSetUseBadge | = 36 | param is Boolean |
| ActionGetUseBadge | = 37 | param is pointer to Boolean |
| ActionSetFlags | = 38 | param is long of flags |
| ActionGetFlags | = 39 | param is pointer to a long of flags |
| ActionSetPlayEveryFrame | = 40 | param is Boolean |
| ActionGetPlayEveryFrame | = 41 | param is pointer to Boolean |
| ActionGetPlayRate | = 42 | param is pointer to Fixed |
| ActionShowBalloon | = 43 | param is a pointer to a boolean. set to false to stop balloon |
| ActionBadgeClick | = 44 | param is pointer to Boolean. set to false to ignore click |
| ActionMovieClick | = 45 | param is pointer to event record. change "what" to nullEvt to kill click |
| ActionSuspend | = 46 | no param |
| ActionResume | = 47 | no param |
| ActionSetControllerKeysEnabled | = 48 | param is Boolean |
| ActionGetTimeSliderRect | = 49 | param is pointer to rect |
| ActionMovieEdited | = 50 | no param |
| ActionGetDragEnabled | = 51 | param is pointer to Boolean |
| ActionSetDragEnabled | = 52 | param is Boolean |
| ActionGetSelectionBegin | = 53 | param is TimeRecord |
| ActionGetSelectionDuration | = 54 | param is TimeRecord |
| ActionPrerollAndPlay | = 55 | param is Fixed, play rate |
| ActionGetCursorSettingEnabled | = 56 | param is pointer to Boolean |
| ActionSetCursorSettingEnabled | = 57 | param is Boolean |
| ActionSetColorTable | = 58 | param is CTabHandle |
| ActionLinkToURL | = 59 | param is Handle to URL |
| ActionCustomButtonClick | = 60 | param is pointer to EventRecord |
| ActionForceTimeTableUpdate | = 61 | no param |
| ActionSetControllerTimeLimits | = 62 | param is pointer to 2 time values min/max. do no send this message to controller. used internally only. |
| ActionExecuteAllActionsForQTEvent | = 63 | param is ResolvedQTEventSpecPtr |
| ActionExecuteOneActionForQTEvent | = 64 | param is ResolvedQTEventSpecPtr |
| ActionAdjustCursor | = 65 | param is pointer to EventRecord (WindowRef is in message parameter) |
| ActionUseTrackForTimeTable | = 66 | param is pointer to { long trackID; Boolean useIt } . do not send this message to controller. |
| ActionClickAndHoldPoint | = 67 | param is point (local coordinates). return true if point has click and hold action (e.g., VR object movie autorotate spot) |
| ActionShowMessageString | = 68 | param is a StringPtr |
| ActionShowStatusString | = 69 | param is a QTStatusStringPtr |
| ActionGetExternalMovie | = 70 | param is a QTGetExternalMoviePtr |
| ActionGetChapterTime | = 71 | param is a QTGetChapterTimePtr |
| ActionPerformActionList | = 72 | param is a QTAtomSpecPtr |
| ActionEvaluateExpression | = 73 | param is a QTEvaluateExpressionPtr |
| ActionFetchParameterAs | = 74 | param is a QTFetchParameterAsPtr |
| ActionGetCursorByID | = 75 | param is a QTGetCursorByIDPtr |
| ActionGetNextURL | = 76 | param is a Handle to URL |
| ActionMovieChanged | = 77 | ? |
| ActionDoScript | = 78 | param is QTDoScriptPtr |
| ActionRestartAtTime | = 79 | param is QTResartAtTimePtr |
| ActionGetIndChapter | = 80 | param is QTChapterInfoPtr |

## 8.4    class QTChapterDataMBS

### 8.4.1    class QTChapterDataMBS

Plugin Version: 8.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The class to hold the data for a new text track.
**Example:**

```
// add chapters to a movie
dim e as EditableMovie
dim f as FolderItem
dim q as QTChapterTrackMBS
dim data(9) as QTChapterDataMBS
dim i,c,d as Integer
dim texts(-1) as string

f=SpecialFolder.Desktop.Child("test.mov")
e=f.OpenEditableMovie

d=e.DurationFramesMBS
MsgBox str(d)
for i=0 to 9
data(i)=new QTChapterDataMBS
data(i).FrameDuration=d/11
data(i).Text="Chapter "+str(i+1)
data(i).HasBackColor=true
data(i).BackColor=rgb(127+rnd*128,127+rnd*128,127+rnd*128)
data(i).HasTextColor=true
data(i).TextColor=rgb(rnd*128,rnd*128,rnd*128)
next

q=e.AddTextTrackMBS(data, "vide", true)

if q<>Nil then
c=q.ChapterCount
MsgBox "Success!"+EndOfLine+"Added "+str(c)+" chapters. "+str(q.TrackHandle)
for i=0 to c-1
texts.Append q.ChapterText(q.GetChapterTime(i))
next

MsgBox Join(texts,EndOfLine)
else
MsgBox "Failed"
end if

call e.CommitChanges
```

### 8.4.2 Properties

### 8.4.3 BackColor as Color

Plugin Version: 8.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The color for drawing the background.
**Example:**

dim q as QTChapterDataMBS // your chapter data

q.BackColor=& cFF0000
q.HasBackColor=True

**Notes:**

Set the HasBackColor property to true if you use this property.
(Read and Write property)

### 8.4.4 bold as Boolean

Plugin Version: 8.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether to use bold text style.
**Notes:** (Read and Write property)

### 8.4.5 condense as Boolean

Plugin Version: 8.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether to use condensed text style.
**Notes:** (Read and Write property)

### 8.4.6 DisplayFlags as Integer

Plugin Version: 8.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Contains the text display flags.
**Notes:**

See these constants:

dfDontDisplay
dfDontAutoScale

dfClipToTextBox
dfShrinkTextBoxToFit
dfScrollIn
dfScrollOut
dfHorizScroll
dfReverseScroll
dfContinuousScroll
dfFlowHoriz
dfContinuousKaraoke
dfDropShadow
dfAntiAlias
dfKeyedText
dfInverseHilite
dfTextColorHilite
(Read and Write property)

### 8.4.7    extend as Boolean

Plugin Version: 8.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether to use extend text style.
**Notes:** (Read and Write property)

### 8.4.8    FontName as String

Plugin Version: 8.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The fontnumber property translated to a font name.
**Example:**

dim d as new QTChapterDataMBS

d.FontName="Helvetica"

MsgBox str(D.FontNumber) // shows "21"
MsgBox d.FontName // shows "Helvetica"

**Notes:**

If you get the name, the plugin lookups what font has the font number stored in the fontnumber property to return you the string.

If you set the name, the plugin will lookup the number and set the fontnumber property.
(Read and Write property)

### 8.4.9   FontNumber as Integer

Plugin Version: 8.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The number for the font in which to display the text.
**Notes:** (Read and Write property)

### 8.4.10   FontSize as Integer

Plugin Version: 8.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Indicates the size of the font to be used.
**Notes:**

Default fontsize is 0.
(Read and Write property)

### 8.4.11   FrameDuration as Integer

Plugin Version: 8.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The duration of this chapter.
**Notes:**

Pass in the time value from the movie.
The length of the movie is movie.DurationFramesMBS and this is a fraction of that value.
(Read and Write property)

### 8.4.12   HasBackColor as Boolean

Plugin Version: 8.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether the backcolor property should be used.
**Notes:** (Read and Write property)

### 8.4.13   HasHighLightColor as Boolean

Plugin Version: 8.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether the highlightcolor property should be used.
**Notes:** (Read and Write property)

### 8.4.14   HasTextColor as Boolean

Plugin Version: 8.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether the text-color property should be used.
**Notes:** (Read and Write property)

### 8.4.15   Height as Integer

Plugin Version: 10.0, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The height to use for the text box.
**Notes:**

Default is zero.
If you use zero, the actual track width is used for the text box width.
(Read and Write property)

### 8.4.16   HighLightColor as Color

Plugin Version: 8.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The color for drawing the highlighted text.
**Example:**

dim q as QTChapterDataMBS // your chapter data

q.HighLightColor=& cFF0000
q.HasHighLightColor=True

**Notes:**

Set the HasHighLightColor property to true if you use this property.
(Read and Write property)

### 8.4.17   HighLightEnd as Integer

Plugin Version: 8.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The end of the text to be highlighted.
**Notes:**

This is useful for karaoke.

If the hiliteEnd parameter is greater than the hiliteStart parameter, then the text is highlighted from the

selection specified by hiliteStart to hiliteEnd.
(Read and Write property)

### 8.4.18 HighLightStart as Integer

Plugin Version: 8.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The beginning of
the text to be highlighted.
**Notes:**

This is useful for karaoke.
(Read and Write property)

### 8.4.19 italic as Boolean

Plugin Version: 8.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether to use
italic text style.
**Notes:** (Read and Write property)

### 8.4.20 Left as Integer

Plugin Version: 10.0, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The x position to
use for the text box.
**Notes:**

Default is zero.
(Read and Write property)

### 8.4.21 outline as Boolean

Plugin Version: 8.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether to use
outline text style.
**Notes:** (Read and Write property)

### 8.4.22 ScrollDelay as Integer

Plugin Version: 8.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The scroll delay.
**Notes:**

Indicates the delay in scrolling associated with the setting of the dfScrollIn and dfScrollOut display flags. If the value of the scrollDelay parameter is greater than 0 and the dfScrollIn flag is set, the text pauses when it has scrolled all the way in for the amount of time specified by scrollDelay. If the dfScrollOut flag is set, the pause occurs first before the text scrolls out. If both these flags are set, the pause occurs at the midpoint between scrolling in and scrolling out.
(Read and Write property)

### 8.4.23    shadow as Boolean

Plugin Version: 8.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether to use shadow text style.
**Notes:** (Read and Write property)

### 8.4.24    Text as String

Plugin Version: 8.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The text for this chapter.
**Notes:** (Read and Write property)

### 8.4.25    TextColor as Color

Plugin Version: 8.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The color for drawing the text.
**Example:**

dim q as QTChapterDataMBS // your chapter data

q.TextColor=& cFF0000
q.HasTextColor=True

**Notes:**

Set the HasTextColor property to true if you use this property.
(Read and Write property)

### 8.4.26    TextJustification as Integer

Plugin Version: 8.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The text justification to use.

**Example:**

dim q as QTChapterDataMBS // your chapter data

q.TextJustification=q.teLeft

**Notes:**

Default value is teCenter.
(Read and Write property)

### 8.4.27 Top as Integer

Plugin Version: 10.0, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The y position to use for the text box.
**Notes:**

Default is zero.
(Read and Write property)

### 8.4.28 underline as Boolean

Plugin Version: 8.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether to use underline text style.
**Notes:** (Read and Write property)

### 8.4.29 Width as Integer

Plugin Version: 10.0, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The width to use for the text box.
**Notes:**

Default is zero.
If you use zero, the actual track width is used for the text box width.
(Read and Write property)

### 8.4.30   Constants

### 8.4.31   dfAntiAlias = 8192

Plugin Version: 8.4. **Function:** One of the flag you can use for the DisplayFlags property.
**Notes:** attempt to display text anti aliased.

### 8.4.32   dfClipToTextBox = 4

Plugin Version: 8.4. **Function:** One of the flag you can use for the DisplayFlags property.
**Notes:** Clip update to the textbox.

### 8.4.33   dfContinuousKaraoke = 2048

Plugin Version: 8.4. **Function:** One of the flag you can use for the DisplayFlags property.
**Notes:** ignore begin offset, hilite everything up to the end offset(karaoke)

### 8.4.34   dfContinuousScroll = 512

Plugin Version: 8.4. **Function:** One of the flag you can use for the DisplayFlags property.
**Notes:** new samples cause previous samples to scroll out

### 8.4.35   dfDontAutoScale = 2

Plugin Version: 8.4. **Function:** One of the flag you can use for the DisplayFlags property.
**Notes:** Don't scale text as track bounds grows or shrinks.

### 8.4.36   dfDontDisplay = 1

Plugin Version: 8.4. **Function:** One of the flag you can use for the DisplayFlags property.
**Notes:** Don't display the text

### 8.4.37   dfDropShadow = 4096

Plugin Version: 8.4. **Function:** One of the flag you can use for the DisplayFlags property.
**Notes:** display text with a drop shadow.

### 8.4.38   dfFlowHoriz = 1024

Plugin Version: 8.4. **Function:** One of the flag you can use for the DisplayFlags property.
**Notes:** horiz scroll text flows in textbox rather than extend to right

### 8.4.39   dfHorizScroll = 128

Plugin Version: 8.4. **Function:** One of the flag you can use for the DisplayFlags property.
**Notes:** Scroll text horizontally (otherwise it's vertical).

### 8.4.40   dfInverseHilite = 32768

Plugin Version: 8.4. **Function:** One of the flag you can use for the DisplayFlags property.
**Notes:** Use inverse hiliting rather than using hilite color.

### 8.4.41   dfKeyedText = 16384

Plugin Version: 8.4. **Function:** One of the flag you can use for the DisplayFlags property.
**Notes:** key the text over background.

### 8.4.42   dfReverseScroll = 256

Plugin Version: 8.4. **Function:** One of the flag you can use for the DisplayFlags property.
**Notes:** vert: scroll down rather than up; horiz: scroll backwards (justfication dependent)

### 8.4.43   dfScrollIn = 32

Plugin Version: 8.4. **Function:** One of the flag you can use for the DisplayFlags property.
**Notes:** Scroll text in until last of text is in view.

### 8.4.44   dfScrollOut = 64

Plugin Version: 8.4. **Function:** One of the flag you can use for the DisplayFlags property.
**Notes:** Scroll text out until last of text is gone (if both set, scroll in then out).

### 8.4.45   dfShrinkTextBoxToFit = 16

Plugin Version: 8.4. **Function:** One of the flag you can use for the DisplayFlags property.
**Notes:** Compute minimum box to fit the sample.

### 8.4.46   dfTextColorHilite = 65536

Plugin Version: 8.4. **Function:** One of the flag you can use for the DisplayFlags property.
**Notes:** changes text color in place of hiliting.

### 8.4.47   dfUseMovieBGColor = 8

Plugin Version: 8.4. **Function:** One of the flag you can use for the DisplayFlags property.
**Notes:** Set text background to movie's background color.

### 8.4.48   teCenter = 1

Plugin Version: 8.4. **Function:** One of the constants to use for the TextJustification property.

### 8.4.49   teDefault = 0

Plugin Version: 8.4. **Function:** One of the constants to use for the TextJustification property.

### 8.4.50   teLeft = -2

Plugin Version: 8.4. **Function:** One of the constants to use for the TextJustification property.

## 8.4.51 teRight = -1

Plugin Version: 8.4. **Function:** One of the constants to use for the TextJustification property.

## 8.5    class QTChapterTrackMBS

### 8.5.1    class QTChapterTrackMBS

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** A class for a chapter track in a QuickTime movie.
**Notes:** Subclass of the QTTrackMBS class.

### 8.5.2    Methods

### 8.5.3    ChapterCount as Integer

Plugin Version: 8.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Counts the chapters in this text track.

### 8.5.4    ChapterText(Time as Integer) as string

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the chapter text for the given time.
**Example:**

dim q as QTChapterTrackMBS // your chapter track

msgbox q.ChapterText(q.GetChapterTime(5))

**Notes:**

Lasterror is set.
Returns ”” on any error.

### 8.5.5    GetChapterTime(index as Integer) as Integer

Plugin Version: 8.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Searches the chapters to find the start time of the chapter with the given time.
**Example:**

dim q as QTChapterTrackMBS // your chapter track
msgbox q.ChapterText(q.GetChapterTime(5))

### 8.5.6 GetFirstChapterTime as Integer

Plugin Version: 8.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Finds the time where the first chapter begins.

### 8.5.7 GetNextChapterTime(time as Integer) as Integer

Plugin Version: 8.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Finds the next chapter time starting with the given time value.
**Notes:** Returns 0 on any error.

# 8.6   class QTComponentInformationMBS

## 8.6.1   class QTComponentInformationMBS

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** A class to walk through the list of the installed QuickTime components.
**Deprecated:** This item is deprecated and should no longer be used. **Notes:** none.

## 8.6.2   Methods

## 8.6.3   Close

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The destructor.
**Notes:**

There is no need to call this method except you want to free all resources of this object now without waiting for Realbasic to do it for you.
(e.g. some Realbasic versions crash on Windows if there are plugin objects not closed.)

## 8.6.4   CountComponents as Integer

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The number of components installed.
**Notes:** This function was named count until it was renamed in version 3.2 to CountComponents.

## 8.6.5   CountComponentsOfType(type as string) as Integer

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Counts the number of components with the given type.

## 8.6.6   GetComponentVersion as Integer

Plugin Version: 7.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Opens the component and queries the version.
**Notes:**

Returns the version number of the component you specify. The high-order 16 bits represent the major version, and the low-order 16 bits represent the minor version. The major version specifies the component specification level the minor version specifies a particular implementation's version number.

This call costs some time to load the component.

### 8.6.7 NextComponent as boolean

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Looks for the next component.
**Notes:** Returns true if one was found.

### 8.6.8 NextComponentOfType(type as string) as boolean

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Looks for the next component with the given type code.
**Notes:**

Returns true if one was found.
If you call this function over and over again, you get to the full list of all components, but the components with the given type define your start point in this list.

### 8.6.9 Properties

### 8.6.10 ID as Integer

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The ID of the component.
**Notes:**

none.
(Read and Write property)

### 8.6.11 Info as string

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The info string of the component.
**Notes:**

none.
(Read and Write property)

### 8.6.12 Manufacturer as string

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The 4 letter code for this manufacturer.
**Notes:**

e.g. "appl" for Apple.
On Windows the code is reversed. MBS Plugin 3.1 corrects that.
(Read and Write property)

### 8.6.13    name as string

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The name of the component.
**Notes:**

none.
(Read and Write property)

### 8.6.14    SubType as string

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The 4 letter code for the subtype of the component.
**Notes:**

On Windows the code is reversed. MBS Plugin 3.1 corrects that.
(Read and Write property)

### 8.6.15    Type as string

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The 4 letter code for the type of the component.
**Notes:**

On Windows the code is reversed. MBS Plugin 3.1 corrects that.
(Read and Write property)

## 8.7   class QTEffectMBS

### 8.7.1   class QTEffectMBS

Plugin Version: 5.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** A class for a Quick-Time effect.

### 8.7.2   Methods

### 8.7.3   AddEffectID(id as string)

Plugin Version: 5.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Adds the effect ID to this effect description.
**Notes:**

useful constants:

| | |
|---|---|
| const kAlphaCompositorTransition | = "blnd" |
| const kCrossFadeTransition | = "dslv" |
| const kChannelCompositeEffect | = "chan" |
| const kChromaKeyTransition | = "ckey" |
| const kImplodeTransition | = "mplo" |
| const kExplodeTransition | = "xplo" |
| const kGradientTransition | = "matt" |
| const kPushTransition | = "push" |
| const kSlideTransition | = "slid" |
| const kWipeTransition | = "smpt" |
| const kIrisTransition | = "smp2" |
| const kRadialTransition | = "smp3" |
| const kMatrixTransition | = "smp4" |
| const kZoomTransition | = "zoom" |

### 8.7.4   AddFixedFloatValue(id as string, value as single)

Plugin Version: 5.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Adds a fixed floating point value to the effect description.
**Notes:** Check the effect description for details about which effect takes which parameters.

### 8.7.5   AddFixedFloatValueRange(id as string, value1 as single, value2 as single)

Plugin Version: 5.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Adds fixed floating point values to the effect description.

**Example:**

dim q as QTEffectMBS // your effect
q.AddFixedFloatValueRange "pcnt",0,100

**Notes:** Check the effect description for details about which effect takes which parameters.

### 8.7.6   AddInt16Value(id as string, value as Integer)

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Adds a 16 bit integer
value to the effect description.
**Notes:** Check the effect description for details about which effect takes which parameters.

### 8.7.7   AddInt32Value(id as string, value as Integer)

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Adds a 32 bit integer
value to the effect description.
**Notes:** Check the effect description for details about which effect takes which parameters.

### 8.7.8   AddInt8Value(id as string, value as Integer)

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Adds an eight bit
integer value to the effect description.
**Notes:** Check the effect description for details about which effect takes which parameters.

### 8.7.9   AddMemory(id as string, value as memoryblock, offset as Integer, size as Integer)

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Adds a memoryblock
content to the effect description.
**Notes:**

Check the effect description for details about which effect takes which parameters.
You have to take care the bytes in the memoryblock have the correct byte order and the correct text encoding.

### 8.7.10 AddString(id as string, value as string)

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Adds a string value to the effect description.
**Notes:**

Check the effect description for details about which effect takes which parameters.
You have to take care the bytes in the string have the correct byte order and the correct text encoding.

### 8.7.11 Close

Plugin Version: 5.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The destructor.
**Notes:**

There is no need to call this method except you want to free all resources of this object now without waiting for Realbasic to do it for you.
(e.g. some Realbasic versions crash on Windows if there are plugin objects not closed.)

### 8.7.12 Properties

### 8.7.13 Handle as Integer

Plugin Version: 5.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The handle for the effect description.
**Notes:** (Read and Write property)

### 8.7.14 Lasterror as Integer

Plugin Version: 5.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The last error code reported.
**Notes:** (Read and Write property)

# 8.8   class QTEffectMovieMBS

## 8.8.1   class QTEffectMovieMBS

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** A class to create a new QuickTime movie with a Slide Show.
**Notes:** The images are saved with the effect, so the movie is quite small and the effects are calculated while playing.

## 8.8.2   Methods

## 8.8.3   AddMediaFile(m as folderitem)

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Adds a media file to the list.
**Notes:** Media files can be pictures or movies.

## 8.8.4   ClearMediaFiles

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Clears the media files list.

## 8.8.5   CountMediaFiles as Integer

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Counts the folderitems in the Media files list.
**Notes:** Returns 0 on any error.

## 8.8.6   MediaFile(index as Integer) as folderitem

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The list of media files to be used for the new movie.
**Notes:**

Index from 0 to CountMediaFiles.
Media files can be pictures or movies.

### 8.8.7 Run

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Creates an effect movie.
**Example:**

DIM Q AS QTEffectMovieMBS
dim dir as FolderItem
dim file as FolderItem
dim i,c as Integer

q=new QTEffectMovieMBS

dir=SpecialFolder.Desktop.Child("pictures")
c=Dir.Count
for i=1 to c
file=dir.Item(i)
if file<>nil and file.Visible then
q.AddMediaFile file
ListBox1.AddRow file.Name
end if
next

q.Target=SpecialFolder.Desktop.Child("test.mov")

q.run

Title=str(q.Lasterror)

**Notes:**

Lasterror is set.
Returns -1 if some parameters are bad. 0 for success and other values are QuickTime error codes.

### 8.8.8 Properties

### 8.8.9 Effect as QTEffectMBS

Plugin Version: 5.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The effect to use.
**Notes:**

Must be supplied. Else you get a parameter error later in the lasterror property when calling Run.
(Read and Write property)

### 8.8.10    EffectDuration as Integer

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The duration of the effects.
**Notes:**

Default value is 600.
(Read and Write property)

### 8.8.11    Height as Integer

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The height of the new movie.
**Notes:** (Read and Write property)

### 8.8.12    Lasterror as Integer

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The last error code returned.
**Notes:** (Read and Write property)

### 8.8.13    MinimumDuration as Integer

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The minimum duration of a picture to show.
**Notes:** (Read and Write property)

### 8.8.14    Quality as Integer

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The quality for the compression in the new movie.
**Notes:**

Default value is normal quality (& h200)

Constants:

(Read and Write property)

codecLosslessQuality    = & h00000400
codecMaxQuality         = & h000003FF
codecMinQuality         = & h00000000
codecLowQuality         = & h00000100
codecNormalQuality      = & h00000200
codecHighQuality        = & h00000300

### 8.8.15   StillDuration as Integer

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The duration where the images are shown.
**Notes:**

Default value is 1200.
(Read and Write property)

### 8.8.16   Target as Folderitem

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The target location of the movie to be created.
**Notes:** (Read and Write property)

### 8.8.17   TimeScale as Integer

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The timescale of the new movie.
**Notes:**

Default value is 600.
(Read and Write property)

### 8.8.18   Width as Integer

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The width of the movie to create.
**Notes:** (Read and Write property)

**8.8.19   Events**

**8.8.20   NextFile(index as Integer, count as Integer)**

Plugin Version: 5.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** An event called whenever a new file is about to be added to the slide show.
**Notes:** Index is from 1 to count.

## 8.9   class QTFlashSampleDescriptionMBS

### 8.9.1   class QTFlashSampleDescriptionMBS

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** A class to describe flash data in a movie track.
**Notes:** Subclass of the QTSampleDescriptionMBS class.

### 8.9.2   Properties

### 8.9.3   DecompressorType as String

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The decompressor to use.
**Notes:**

"" for no decompression.
(Read and Write property)

# 8.10    class QTFrameExtractorMBS

## 8.10.1    class QTFrameExtractorMBS

Plugin Version: 9.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** This class extracts video frames from a movie.
**Example:**

```
dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
dim m as movie = f.OpenAsMovie

dim e as new QTFrameExtractorMBS(m)

// move forward 10 frames
for i as Integer=1 to 10
call e.MoveForward
next

// show current frame:
Backdrop=e.CurrentPicture
```

**Notes:**

You initialize the QTFrameExtractorMBS object with a movie object. Now you can pick the current picture and move forward using the MoveForward method.

Like all QuickTime functions, you need a QuickTime movie to operate on. So on Windows, please use OpenAsMovieMBS as our function makes sure the movie is opened with QuickTime and not Windows Media Player.

## 8.10.2    Methods

## 8.10.3    Constructor(m as movie)

Plugin Version: 9.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Initializes the extractor with the given movie.
**Notes:**

Raises NilObjectException if the movie is nil. Raises OutOfMemoryException on low memory.
Calls GoToBeginningOfMovie for you automatically, so you can start right away with MoveForward.

### 8.10.4 CurrentPicture as picture

Plugin Version: 9.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The picture of the current frame.
**Notes:** On Mac OS X this is the buffer itself. On Windows it is a copy.

### 8.10.5 Duration as Double

Plugin Version: 9.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The duration of the movie in seconds.

### 8.10.6 DurationTime as Integer

Plugin Version: 9.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The duration of the movie in frames.
**Notes:** Duration = DurationTime / TimeScale

### 8.10.7 FrameDuration as Double

Plugin Version: 9.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The duration of the current frame in seconds.
**Notes:** This value is set by the MoveForward method.

### 8.10.8 FrameDurationTime as Integer

Plugin Version: 9.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The duration of the current frame.
**Notes:**

MoveForward sets this value.

FrameDuration = FrameDurationTime / TimeScale

### 8.10.9 GoToBeginningOfMovie

Plugin Version: 11.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Moves the movie position to the beginning of the movie.

**Notes:**

Same as setting position to 0.
After chaning position, you may want to call Idle method to update the current video picture.

### 8.10.10   GoToEndOfMovie

Plugin Version: 11.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Moves the movie
position to the end of the movie.
**Notes:**

Same as setting position to duration.
After chaning position, you may want to call Idle method to update the current video picture.

### 8.10.11   Idle

Plugin Version: 9.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Gives the movie
some CPU time to update itself.
**Example:**

dim file as FolderItem = SpecialFolder.Desktop.Child("test.mov")
dim m as movie = file.OpenAsMovie
dim q as new QTFrameExtractorMBS(m)

q.Position = 11.0
q.Idle
window1.Backdrop = q.CurrentPicture

**Notes:**

Some operations do not call idle for you, like setting position.
Idle updates the current picture.

### 8.10.12   IsMovieDone as boolean

Plugin Version: 9.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns true if the
Movie finished.

### 8.10.13 MoveBackward as boolean

Plugin Version: 11.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Moves the movie backward one frame.
**Notes:**

Depending on the video type, frames may have very different durations.
Going backward is much slower than going forward.
Call GoToEndOfMovie to go to the end of movie before you start moving backwards.

MoveBackward calls Idle for you to update the current video picture.

### 8.10.14 MoveForward as boolean

Plugin Version: 9.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Moves the movie forward one frame.
**Notes:**

Depending on the video type, frames may have very different durations.
MoveForward calls Idle for you to update the current video picture.

### 8.10.15 Properties

### 8.10.16 Height as Integer

Plugin Version: 9.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The height of the movie.
**Notes:**

The constructor sets this to the natural movie height.
(Read only property)

### 8.10.17 Lasterror as Integer

Plugin Version: 9.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The last error value.
**Notes:** (Read and Write property)

### 8.10.18    Movie as Movie

Plugin Version: 9.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The movie the extractor is using.
**Notes:** (Read only property)

### 8.10.19    MovieHandle as Integer

Plugin Version: 9.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The handle of the movie used.
**Notes:**

If this value is zero the constructor failed.
(Read only property)

### 8.10.20    Width as Integer

Plugin Version: 9.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The width of the movie.
**Notes:**

The constructor sets this to the natural movie width.
(Read only property)

### 8.10.21    Position as Double

Plugin Version: 9.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The position in the movie in seconds.
**Example:**

```
// save pictures for first 30 seconds:

dim file as FolderItem = SpecialFolder.Desktop.Child("test.m4v")
dim m as movie = file.OpenAsMovie

dim f as new QTFrameExtractorMBS(m)
dim posit as Double = 0

do
f.Position = posit // set new position
f.Idle // update currentpicture

dim p as Picture = f.CurrentPicture
```

file = SpecialFolder.Desktop.Child(str(posit)+".jpg")
p.Save(file, p.SaveAsJPEG)

posit = posit+1 // next second
Loop Until posit>29

**Notes:**

After chaning position, you may want to call Idle method to update the current video picture.
(Read and Write computed property)

### 8.10.22    PositionTime as Integer

Plugin Version: 9.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The position in the movie.
**Notes:**

Position = PositionTime / TimeScale
After chaning position, you may want to call Idle method to update the current video picture.
(Read and Write computed property)

# 8.11    class QTMetaDataItemMBS

## 8.11.1    class QTMetaDataItemMBS

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The class to represent a meta data item.

## 8.11.2    Methods

## 8.11.3    Close

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The destructor.
**Notes:**

There is no need to call this method except you want to free all resources of this object now without waiting for Realbasic to do it for you.
(e.g. some Realbasic versions crash on Windows if there are plugin objects not closed.)

## 8.11.4    GetMemory as memoryblock

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Copies the content of the metadata item and returns it as a memoryblock.
**Notes:**

Lasterror is set.
Returns nil on any error.

## 8.11.5    GetPropertyCode(what as string) as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Copies the content of the metadata item part.
**Notes:**

Same as GetPropertyCode, but for 4 letter OSType codes.

Some properties like the data type are stored as OSType values which means they are 4 byte long strings which are stored in bigendian. This function swaps bytes if needed.

## 8.11.6  GetPropertyMemory(what as string) as memoryblock

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Copies the content of the metadata item part.
**Notes:**

Lasterror is set.

Useful constants:

| | |
|---|---|
| kQTMetaDataKeyAuthor | = "auth" |
| kQTMetaDataKeyComment | = "cmmt" |
| kQTMetaDataKeyCopyright | = "cprt" |
| kQTMetaDataKeyDirector | = "dtor" |
| kQTMetaDataKeyDisplayName | = "name" |
| kQTMetaDataKeyInformation | = "info" |
| kQTMetaDataKeyKeywords | = "keyw" |
| kQTMetaDataKeyProducer | = "prod" |
| kQTMetaDataKeyAlbum | = "albm" |
| kQTMetaDataKeyArtist | = "arts" |
| kQTMetaDataKeyArtwork | = "artw" |
| kQTMetaDataKeyChapterName | = "chap" |
| kQTMetaDataKeyComposer | = "comp" |
| kQTMetaDataKeyDescription | = "desc" |
| kQTMetaDataKeyGenre | = "genr" |
| kQTMetaDataKeyOriginalFormat | = "orif" |
| kQTMetaDataKeyOriginalSource | = "oris" |
| kQTMetaDataKeyPerformers | = "perf" |
| kQTMetaDataKeySoftware | = "soft" |
| kQTMetaDataKeyWriter | = "wrtr" |

Also check SetPropertyMemory.

## 8.11.7  GetPropertyString(what as string) as string

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Copies the content of the metadata item part.
**Notes:**

Lasterror is set.
Returns "" on any error.

Useful constants:

Also check SetPropertyString.

| kQTMetaDataKeyAuthor | = "auth" |
| kQTMetaDataKeyComment | = "cmmt" |
| kQTMetaDataKeyCopyright | = "cprt" |
| kQTMetaDataKeyDirector | = "dtor" |
| kQTMetaDataKeyDisplayName | = "name" |
| kQTMetaDataKeyInformation | = "info" |
| kQTMetaDataKeyKeywords | = "keyw" |
| kQTMetaDataKeyProducer | = "prod" |
| kQTMetaDataKeyAlbum | = "albm" |
| kQTMetaDataKeyArtist | = "arts" |
| kQTMetaDataKeyArtwork | = "artw" |
| kQTMetaDataKeyChapterName | = "chap" |
| kQTMetaDataKeyComposer | = "comp" |
| kQTMetaDataKeyDescription | = "desc" |
| kQTMetaDataKeyGenre | = "genr" |
| kQTMetaDataKeyOriginalFormat | = "orif" |
| kQTMetaDataKeyOriginalSource | = "oris" |
| kQTMetaDataKeyPerformers | = "perf" |
| kQTMetaDataKeySoftware | = "soft" |
| kQTMetaDataKeyWriter | = "wrtr" |

## 8.11.8   GetString as string

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Copies the content of the item and returns it as a string.
**Notes:**

Lasterror is set.
Returns "" on any error.

## 8.11.9   SetMemory(data as memoryblock, offset as Integer, size as Integer, datatype as Integer)

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Replaces the content of this item with the data in the string.
**Notes:**

Offset and size are in bytes.
Lasterror is set.

Values for datatype:

| | | |
|---|---|---|
| const kQTMetaDataTypeBinary | = 0 | |
| const kQTMetaDataTypeUTF8 | = 1 | |
| const kQTMetaDataTypeUTF16BE | = 2 | |
| const kQTMetaDataTypeMacEncodedText | = 3 | |
| const kQTMetaDataTypeJPEGImage | = 13 | |
| const kQTMetaDataTypePNGImage | = 14 | |
| const kQTMetaDataTypeSignedIntegerBE | = 21 | The size of the integer is defined by the value size |
| const kQTMetaDataTypeUnsignedIntegerBE | = 22 | The size of the integer is defined by the value size |
| const kQTMetaDataTypeFloat32BE | = 23 | |
| const kQTMetaDataTypeFloat64BE | = 24 | |
| const kQTMetaDataTypeBMPImage | = 27 | |

## 8.11.10   SetPropertyCode(what as string, code as string)

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Replaces the content of the metadata item part with the given string content.
**Notes:**

Same as SetPropertyString, but for 4 letter OSType codes.

Some properties like the data type are stored as OSType values which means they are 4 byte long strings which are stored in bigendian. This function swaps bytes if needed.

## 8.11.11   SetPropertyMemory(what as string, data as memoryblock, offset as Integer, size as Integer)

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Replaces the content of the metadata item part with the given memoryblock content.
**Notes:**

Offset and size are in bytes.
Lasterror is set.

Properties:
kQTMetaDataItemPropertyID_Value="valu": The value of the metadata item. Value is binary data.

kQTMetaDataItemPropertyID_DataType="dtyp": The value type of the metadata item. Value is an integer with datatype constants. (see SetString)

kQTMetaDataItemPropertyID_StorageFormat="sfmt": The storage format (QTMetaDataStorageFormat). Value is a QTMetaDataStorageFormat which is an integer value.

kQTMetaDataItemPropertyID_Key="key ": The key associated with the metadata item. Value is binary data.

kQTMetaDataItemPropertyID_KeyFormat="keyf": The format of the key used. Value is an OSType, which is a 4 byte string in MacRoman format.

kQTMetaDataItemPropertyID_Locale="loc ": The locale identifier based on the naming convention defined by the International Components for Unicode (ICU). The identifier consists of two pieces of ordered information: a language code and a region code. The language code is based on the ISO 639-1 standard, which defines two-character codes, such as "en" and "fr", for the world's most commonly used languages. If a two-letter code is not available, then ISO 639-2 three-letter identifiers are accepted as well, for example "haw" for Hawaiian. The region code is defined by ISO 3166-1. The region code is in all caps and appended, after an underscore, after the language code, for example "en_US", "en_GB", and "fr_FR". Value is a C String.

Also check GetPropertyMemory.


## 8.11.12    SetPropertyString(what as string, data as string)

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Replaces the content of the metadata item part with the given string content.
**Notes:**

Lasterror is set.

Properties:
kQTMetaDataItemPropertyID_Value="valu": The value of the metadata item. Value is binary data.

kQTMetaDataItemPropertyID_DataType="dtyp": The value type of the metadata item. Value is an integer with datatype constants. (see SetString)

kQTMetaDataItemPropertyID_StorageFormat="sfmt": The storage format (QTMetaDataStorageFormat). Value is a QTMetaDataStorageFormat which is an integer value.

kQTMetaDataItemPropertyID_Key="key ": The key associated with the metadata item. Value is binary data.

kQTMetaDataItemPropertyID_KeyFormat="keyf": The format of the key used. Value is an OSType, which is a 4 byte string in MacRoman format.

kQTMetaDataItemPropertyID_Locale="loc ": The locale identifier based on the naming convention defined by the International Components for Unicode (ICU). The identifier consists of two pieces of ordered information: a language code and a region code. The language code is based on the ISO 639-1 standard, which defines two-character codes, such as "en" and "fr", for the world's most commonly used languages. If a two-

letter code is not available, then ISO 639-2 three-letter identifiers are accepted as well, for example "haw" for Hawaiian. The region code is defined by ISO 3166-1. The region code is in all caps and appended, after an underscore, after the language code, for example "en_US", "en_GB", and "fr_FR". Value is a C String.

Also check GetPropertyString.

### 8.11.13   SetString(data as string, datatype as Integer)

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Replaces the content of this item with the data in the string.
**Notes:**

Lasterror is set.

Values for datatype:

| | | |
|---|---|---|
| const kQTMetaDataTypeBinary | = 0 | |
| const kQTMetaDataTypeUTF8 | = 1 | |
| const kQTMetaDataTypeUTF16BE | = 2 | |
| const kQTMetaDataTypeMacEncodedText | = 3 | |
| const kQTMetaDataTypeJPEGImage | = 13 | |
| const kQTMetaDataTypePNGImage | = 14 | |
| const kQTMetaDataTypeSignedIntegerBE | = 21 | The size of the integer is defined by the value size |
| const kQTMetaDataTypeUnsignedIntegerBE | = 22 | The size of the integer is defined by the value size |
| const kQTMetaDataTypeFloat32BE | = 23 | |
| const kQTMetaDataTypeFloat64BE | = 24 | |
| const kQTMetaDataTypeBMPImage | = 27 | |

### 8.11.14   Properties

### 8.11.15   Lasterror as Integer

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The last error code reported.
**Notes:** (Read and Write property)

# 8.12    class QTMetaDataMBS

## 8.12.1    class QTMetaDataMBS

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The class to represent meta data from a movie or movie track.
**Example:**

```
// Open a movie and changes its info string, info key type must exist.
// from Ian Steele
dim key, keyFmt as string
dim i as QTMetaDataItemMBS
dim QTmd as QTMetaDataMBS
dim f as FolderItem
dim m as EditableMovie

f=GetOpenFolderItem("application/binary")
if f<>nil then
m=f.OpenEditableMovie
QTmd=m.MetaDataMBS
if QTmd <>nil then
i=QTmd.FirstItem
//loop through each metadata item
while i<>nil
KeyFmt=i.GetPropertyString("keyf")
Key=i.GetPropertyString("key")
if KeyFmt="udta" then
key=DefineEncoding(key,Encodings.MacRoman)
else
key=DefineEncoding(key,Encodings.ASCII)
end if
//old style metadata
if key="inf" then
i.SetString("Info string old",3)//3=MacEncoded
end if
//new style metadata
if key="com.apple.quicktime.information" then
i.SetString("Info string new",1)//1=utf-8
end if
i=QTmd.NextItem
wend
call m.CommitChanges
end if
end if
```

## 8.12.2 Methods

### 8.12.3 AddItem(StorageFormat as string, KeyFormat as string, Key as string, Value as String, DataType as Integer) as QTMetaDataItemMBS

Plugin Version: 6.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Adds an inline metadata item to the metadata storage format.
**Example:**

```
// Open a movie and add a metadataitem
dim key, keyFmt as string
dim i as QTMetaDataItemMBS
dim QTmd as QTMetaDataMBS
dim f as FolderItem
dim m as EditableMovie

f=SpecialFolder.Desktop.Child("testmovie.mov")
if f<>nil then
m=f.OpenEditableMovie
QTmd=m.MetaDataMBS
if QTmd <>nil then
i=QTmd.AddItem("mdta","mdta","com.apple.quicktime.producer","Christian Horst Schmitz",1)
MsgBox str(qtmd.Lasterror)

i=QTmd.FirstItem
//loop through each metadata item to check whether it was saved
while i<>nil
KeyFmt=i.GetPropertyString("keyf")
Key=i.GetPropertyString("key ")

KeyFmt=DefineEncoding(KeyFmt,Encodings.MacRoman)
key=DefineEncoding(key,Encodings.MacRoman)

MsgBox KeyFmt+" "+key

i=QTmd.NextItem
wend
call m.CommitChanges // save to disk
end if
end if
```

**Notes:**

This method is a variant of the AddItem method. AddItem is for string keys, but AddItemCode method is for 4 letter codes which may need to be endian swapped.

Parameters:

self: The metadata object for this operation.

StorageFormat: The metadata storage format used by the object. The format may be UserData storage, iTunes metadata storage, or QuickTime metadata storage. Not all objects will include all forms of storage, and other storage formats may appear in the future. You cannot pass kQTMetaDataStorageFormatWildcard to target all storage formats.

KeyFormat: The format of the key.

Key: The key of the item to be used.

Value: The value to be added. This can be "" if you want to add an item with no value.

DataType: A data type from the following list: kQTMetaDataTypeBinary = 0, kQTMetaDataTypeUTF8 = 1, kQTMetaDataTypeUTF16BE = 2, kQTMetaDataTypeMacEncodedText = 3, kQTMetaDataType-SignedIntegerBE = 21, kQTMetaDataTypeUnsignedIntegerBE = 22, kQTMetaDataTypeFloat32BE = 23, kQTMetaDataTypeFloat64BE = 24With kQTMetaDataTypeSignedIntegerBE and kQTMetaDataTypeUn-signedIntegerBE, the size of the integer is determined by the value size.

Result: On return, you get a reference to the newly added item.

Lasterror is set. Returns nil on any error.

If key is a 4 letter OSType, it must have MacRoman textencoding.

### 8.12.4    AddItemCode(StorageFormat as string, KeyFormat as string, KeyCode as string, Value as String, DataType as Integer) as QTMetaDataItemMBS

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Adds an inline metadata item to the metadata storage format.
**Notes:**

This method is a variant of the AddItem method. AddItem is for string keys, but AddItemCode method is for 4 letter codes which may need to be endian swapped.

Parameters:

self: The metadata object for this operation.

StorageFormat: The metadata storage format used by the object. The format may be UserData storage, iTunes metadata storage, or QuickTime metadata storage. Not all objects will include all forms of storage, and other storage formats may appear in the future. You cannot pass kQTMetaDataStorageFormatWildcard to target all storage formats.

KeyFormat: The format of the key.

Key: The key of the item to be used. The key must be a 4 letter code.

Value: The value to be added. This can be "" if you want to add an item with no value.

DataType: A data type from the following list: kQTMetaDataTypeBinary = 0, kQTMetaDataTypeUTF8 = 1, kQTMetaDataTypeUTF16BE = 2, kQTMetaDataTypeMacEncodedText = 3, kQTMetaDataType-SignedIntegerBE = 21, kQTMetaDataTypeUnsignedIntegerBE = 22, kQTMetaDataTypeFloat32BE = 23, kQTMetaDataTypeFloat64BE = 24With kQTMetaDataTypeSignedIntegerBE and kQTMetaDataTypeUn-signedIntegerBE, the size of the integer is determined by the value size.

Result: On return, you get a reference to the newly added item.
Lasterror is set. Returns nil on any error.
If key is a 4 letter OSType, it must have MacRoman textencoding.

### 8.12.5 Close

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The destructor.
**Notes:**

There is no need to call this method except you want to free all resources of this object now without waiting for Realbasic to do it for you.
(e.g. some Realbasic versions crash on Windows if there are plugin objects not closed.)

### 8.12.6 CountItems as Integer

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Counts all items.
**Notes:**

Lasterror is set.
Returns 0 on any error.

### 8.12.7 CountItemsWithKey(StorageFormat as string, KeyFormat as string, Key as string) as Integer

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Counts all items with the given key.
**Example:**

```
dim QTmd as QTMetaDataMBS
dim f as FolderItem
dim m as EditableMovie
dim count as Integer
dim sfmt,kfmt,key as string

sfmt="mdta"
kfmt="mdta"
key="com.apple.quicktime.information"

f=GetOpenFolderItem("application/binary")
if f<>nil then
m=f.OpenEditableMovie
QTmd=m.MetaDataMBS
if QTmd <>nil then
```

count=QTmd.CountItemsWithKey(sfmt,kfmt,key)
MsgBox str(count)
end if
end if

**Notes:**

This method is a variant of the CountItemsWithKeyCode method. CountItemsWithKey is for string keys, but CountItemsWithKeyCode method is for 4 letter codes which may need to be endian swapped.

Lasterror is set.
Returns 0 on any error.

### 8.12.8   CountItemsWithKeyCode(StorageFormat as string, KeyCode as string, Key as string) as Integer

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Counts all items with the given key.
**Notes:**

This method is a variant of the CountItemsWithKey method. CountItemsWithKey is for string keys, but CountItemsWithKeyCode method is for 4 letter codes which may need to be endian swapped.

Lasterror is set.
Returns 0 on any error.

### 8.12.9   FirstItem as QTMetaDataItemMBS

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Resets the iterator and returns the first item in the list.
**Notes:**

Lasterror is set.
Returns nil on any error.

### 8.12.10   FromMovie(M as Movie) as QTMetaDataMBS

Plugin Version: 15.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The metadata of the movie.

**Notes:** Returns nil on any error.

## 8.12.11 FromMovieHandle(MovieHandle as Integer) as QTMetaDataMBS

Plugin Version: 15.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The metadata of the movie.
**Notes:** Returns nil on any error.

## 8.12.12 GetPropertyMemory(what as string) as memoryblock

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Copies the property data part and returns it as a memoryblock.
**Notes:**

Lasterror is set.
Returns nil on any error.

Useful constants:

| | |
|---|---|
| kQTMetaDataKeyAuthor | = "auth" |
| kQTMetaDataKeyComment | = "cmmt" |
| kQTMetaDataKeyCopyright | = "cprt" |
| kQTMetaDataKeyDirector | = "dtor" |
| kQTMetaDataKeyDisplayName | = "name" |
| kQTMetaDataKeyInformation | = "info" |
| kQTMetaDataKeyKeywords | = "keyw" |
| kQTMetaDataKeyProducer | = "prod" |
| kQTMetaDataKeyAlbum | = "albm" |
| kQTMetaDataKeyArtist | = "arts" |
| kQTMetaDataKeyArtwork | = "artw" |
| kQTMetaDataKeyChapterName | = "chap" |
| kQTMetaDataKeyComposer | = "comp" |
| kQTMetaDataKeyDescription | = "desc" |
| kQTMetaDataKeyGenre | = "genr" |
| kQTMetaDataKeyOriginalFormat | = "orif" |
| kQTMetaDataKeyOriginalSource | = "oris" |
| kQTMetaDataKeyPerformers | = "perf" |
| kQTMetaDataKeySoftware | = "soft" |
| kQTMetaDataKeyWriter | = "wrtr" |

### 8.12.13   GetPropertyString(what as string) as string

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Copies the property data part and returns it as a string.
**Notes:**

Lasterror is set.
Returns "" on any error.

Useful constants:

| | |
|---|---|
| kQTMetaDataKeyAuthor | = "auth" |
| kQTMetaDataKeyComment | = "cmmt" |
| kQTMetaDataKeyCopyright | = "cprt" |
| kQTMetaDataKeyDirector | = "dtor" |
| kQTMetaDataKeyDisplayName | = "name" |
| kQTMetaDataKeyInformation | = "info" |
| kQTMetaDataKeyKeywords | = "keyw" |
| kQTMetaDataKeyProducer | = "prod" |
| kQTMetaDataKeyAlbum | = "albm" |
| kQTMetaDataKeyArtist | = "arts" |
| kQTMetaDataKeyArtwork | = "artw" |
| kQTMetaDataKeyChapterName | = "chap" |
| kQTMetaDataKeyComposer | = "comp" |
| kQTMetaDataKeyDescription | = "desc" |
| kQTMetaDataKeyGenre | = "genr" |
| kQTMetaDataKeyOriginalFormat | = "orif" |
| kQTMetaDataKeyOriginalSource | = "oris" |
| kQTMetaDataKeyPerformers | = "perf" |
| kQTMetaDataKeySoftware | = "soft" |
| kQTMetaDataKeyWriter | = "wrtr" |

### 8.12.14   kUserDataTextAlbum as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextAlbum // shows "alb"

// pick a movie
dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
// open it
dim m as EditableMovie = f.OpenEditableMovie
// get metadata
dim q as QTMetaDataMBS = m.MetaDataMBS

// add a metadata value. This property is visible in QuickTime Player X and 7
call q.AddItemCode(q.kQTMetaDataStorageFormatUserData, q.kQTMetaDataKeyFormatUserData, q.kUser-DataTextAlbum, "My Album", q.kQTMetaDataTypeUTF8)

q = nil

// save
call m.CommitChanges

### 8.12.15  kUserDataTextArtist as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextArtist // shows "ART"

### 8.12.16  kUserDataTextAuthor as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextAuthor // shows "aut"

### 8.12.17  kUserDataTextChapter as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextChapter // shows "chp"

### 8.12.18  kUserDataTextComment as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.

**Example:**

MsgBox QTMetaDataMBS.kUserDataTextComment // shows "cmt"

### 8.12.19    kUserDataTextComposer as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextComposer // shows "com"

### 8.12.20    kUserDataTextCopyright as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextCopyright // shows "cpy"

### 8.12.21    kUserDataTextCreationDate as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextCreationDate // shows "day"

### 8.12.22    kUserDataTextDescription as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextDescription // shows "des"

### 8.12.23 kUserDataTextDirector as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextDirector // shows "dir"

### 8.12.24 kUserDataTextDisclaimer as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextDisclaimer // shows "dis"

### 8.12.25 kUserDataTextEditDate1 as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextEditDate1 // shows "ed1"

### 8.12.26 kUserDataTextEncodedBy as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextEncodedBy // shows "enc"

### 8.12.27 kUserDataTextFullName as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextFullName // shows "nam"

### 8.12.28   kUserDataTextGenre as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextGenre // shows "gen"

### 8.12.29   kUserDataTextHostComputer as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextHostComputer // shows "hst"

### 8.12.30   kUserDataTextInformation as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextInformation // shows "inf"

### 8.12.31   kUserDataTextKeywords as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextKeywords // shows "key"

### 8.12.32 kUserDataTextMake as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextMake // shows "mak"

### 8.12.33 kUserDataTextModel as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextModel // shows "mod"

### 8.12.34 kUserDataTextOriginalArtist as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextOriginalArtist // shows "ope"

### 8.12.35 kUserDataTextOriginalFormat as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextOriginalFormat // shows "fmt"

### 8.12.36 kUserDataTextOriginalSource as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextOriginalSource // shows "src"

### 8.12.37    kUserDataTextPerformers as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextPerformers // shows "prf"

### 8.12.38    kUserDataTextProducer as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextProducer // shows "prd"

### 8.12.39    kUserDataTextProduct as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextProduct // shows "PRD"

### 8.12.40    kUserDataTextPublisher as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextPublisher // shows "pub"

### 8.12.41   kUserDataTextSoftware as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextSoftware // shows "swr"

### 8.12.42   kUserDataTextSpecialPlaybackRequirements as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextSpecialPlaybackRequirements // shows "req"

### 8.12.43   kUserDataTextTrack as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextTrack // shows "trk"

### 8.12.44   kUserDataTextURLLink as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextURLLink // shows "url"

### 8.12.45   kUserDataTextWarning as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextWarning // shows "wrn"

## 8.12.46    kUserDataTextWriter as string

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the user data constants.
**Example:**

MsgBox QTMetaDataMBS.kUserDataTextWriter // shows "wrt"

## 8.12.47    NextItem as QTMetaDataItemMBS

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The next item in the iterator.
**Notes:**

Lasterror is set.
Returns nil on any error.
The RemoveItem method will reset the search so the next call returns the first item found.

## 8.12.48    RemoveItem(item as QTMetaDataItemMBS)

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Removes the given item from the meta data object.
**Notes:**

Lasterror is set.
If you got the item by calling NextItem the plugin will reset the search so NextItem will return the first item.

## 8.12.49    RemoveItemsWithKey(StorageFormat as string, KeyFormat as string, Key as string)

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Removes the items matching the key.
**Notes:**

Lasterror is set.
This method is a variant of the RemoveItemsWithKeyCode method. RemoveItemsWithKey is for string

keys, but RemoveItemsWithKeyCode method is for 4 letter codes which may need to be endian swapped.

### 8.12.50 RemoveItemsWithKeyCode(StorageFormat as string, KeyCode as string, Key as string)

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Removes the items matching the key.
**Notes:**

Lasterror is set.
This method is a variant of the RemoveItemsWithKey method. RemoveItemsWithKey is for string keys, but RemoveItemsWithKeyCode method is for 4 letter codes which may need to be endian swapped.

### 8.12.51 SetPropertyMemory(what as string, data as memoryblock, offset as Integer, size as Integer)

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Replaces the content of the metadata item part with the given memoryblock content.
**Notes:**

Lasterror is set.
Offset and size are in bytes.

Properties:
kQTMetaDataPropertyID_StorageFormats="fmts": The list of storage formats (QTMetaDataStorageFormat) associated with this QTMetaData object. C-style array of OSTypes.

kQTMetaDataPropertyID_OwnerType="ownt": The owner type associated with this QTMetaData object. OSType (QT_MOVIE_TYPE="moov", QT_TRACK_TYPE="trak", QT_MEDIA_TYPE="mdia").

kQTMetaDataPropertyID_Owner="ownr": The owner associated with this QTMetaData object. The QT-MetaDataRef object does not necessarily need to have an owner. Movie, Track, or Media reference.

### 8.12.52 SetPropertyString(what as string, data as string)

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Replaces the content of the metadata item part with the given string content.
**Notes:**

Lasterror is set.

Properties:

kQTMetaDataPropertyID_StorageFormats="fmts": The list of storage formats (QTMetaDataStorageFormat) associated with this QTMetaData object. C-style array of OSTypes.

kQTMetaDataPropertyID_OwnerType="ownt": The owner type associated with this QTMetaData object. OSType (QT_MOVIE_TYPE="moov", QT_TRACK_TYPE="trak", QT_MEDIA_TYPE="mdia").

kQTMetaDataPropertyID_Owner="ownr": The owner associated with this QTMetaData object. The QTMetaDataRef object does not necessarily need to have an owner. Movie, Track, or Media reference.

### 8.12.53    Properties

### 8.12.54    Handle as Integer

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The handle to the metadata object.
**Notes:** (Read and Write property)

### 8.12.55    Lasterror as Integer

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The last error code reported.
**Notes:** (Read and Write property)

### 8.12.56    Constants

### 8.12.57    kPropertyClass_MetaData = "meta"

Plugin Version: 10.4. **Function:** The constant for the property class of a meta data object.

### 8.12.58    kPropertyClass_MetaDataItem = "mdit"

Plugin Version: 10.4. **Function:** The property class constant for a meta data item.

### 8.12.59   kQTAnimatedGIFLoopCountInfinite = 0

Plugin Version: 10.4. **Function:** The value you need to set for the GIF Loop meta data to tell QuickTime that this GIF loops infinite.

### 8.12.60   kQTMetaDataCommonKeyAlbum = ”albm”

Plugin Version: 10.4. **Function:** One of the common key constants.
**Example:**

```
// pick a movie
dim f as FolderItem = SpecialFolder.Desktop.Child(”test.mov”)
// open it
dim m as EditableMovie = f.OpenEditableMovie
// get metadata
dim q as QTMetaDataMBS = m.MetaDataMBS

// add a metadata value. This property is visible in QuickTime Player X and 7
call q.AddItemCode(q.kQTMetaDataStorageFormatQuickTime, q.kQTMetaDataKeyFormatCommon, q.kQT-
MetaDataCommonKeyAlbum, ”My best Album”, q.kQTMetaDataTypeUTF8)

q = nil

// save
call m.CommitChanges
```

### 8.12.61   kQTMetaDataCommonKeyArtist = ”arts”

Plugin Version: 10.4. **Function:** One of the common key constants.

### 8.12.62   kQTMetaDataCommonKeyArtwork = ”artw”

Plugin Version: 10.4. **Function:** One of the common key constants.

### 8.12.63   kQTMetaDataCommonKeyAuthor = ”auth”

Plugin Version: 10.4. **Function:** One of the common key constants.

## 8.12.64   kQTMetaDataCommonKeyChapterName = "chap"

Plugin Version: 10.4. **Function:** One of the common key constants.

## 8.12.65   kQTMetaDataCommonKeyComment = "cmmt"

Plugin Version: 10.4. **Function:** One of the common key constants.

## 8.12.66   kQTMetaDataCommonKeyComposer = "comp"

Plugin Version: 10.4. **Function:** One of the common key constants.

## 8.12.67   kQTMetaDataCommonKeyCopyright = "cprt"

Plugin Version: 10.4. **Function:** One of the common key constants.

## 8.12.68   kQTMetaDataCommonKeyDescription = "desc"

Plugin Version: 10.4. **Function:** One of the common key constants.

## 8.12.69   kQTMetaDataCommonKeyDirector = "dtor"

Plugin Version: 10.4. **Function:** One of the common key constants.

## 8.12.70   kQTMetaDataCommonKeyDisplayName = "name"

Plugin Version: 10.4. **Function:** One of the common key constants.

## 8.12.71   kQTMetaDataCommonKeyGenre = "genr"

Plugin Version: 10.4. **Function:** One of the common key constants.

### 8.12.72  kQTMetaDataCommonKeyInformation = "info"

Plugin Version: 10.4. **Function:** One of the common key constants.

### 8.12.73  kQTMetaDataCommonKeyKeywords = "keyw"

Plugin Version: 10.4. **Function:** One of the common key constants.

### 8.12.74  kQTMetaDataCommonKeyOriginalFormat = "orif"

Plugin Version: 10.4. **Function:** One of the common key constants.

### 8.12.75  kQTMetaDataCommonKeyOriginalSource = "oris"

Plugin Version: 10.4. **Function:** One of the common key constants.

### 8.12.76  kQTMetaDataCommonKeyPerformers = "perf"

Plugin Version: 10.4. **Function:** One of the common key constants.

### 8.12.77  kQTMetaDataCommonKeyProducer = "prod"

Plugin Version: 10.4. **Function:** One of the common key constants.

### 8.12.78  kQTMetaDataCommonKeySoftware = "soft"

Plugin Version: 10.4. **Function:** One of the common key constants.

### 8.12.79  kQTMetaDataCommonKeyWriter = "wrtr"

Plugin Version: 10.4. **Function:** One of the common key constants.

### 8.12.80   kQTMetaDataInvalidItemErr = -2174

Plugin Version: 10.4. **Function:** One of the QuickTime error constants related to meta data.
**Notes:** Returned if the metadata item is invalid.

### 8.12.81   kQTMetaDataInvalidKeyFormatErr = -2176

Plugin Version: 10.4. **Function:** One of the QuickTime error constants related to meta data.
**Notes:** Returned if the key format is invalid.

### 8.12.82   kQTMetaDataInvalidMetaDataErr = -2173

Plugin Version: 10.4. **Function:** One of the QuickTime error constants related to meta data.
**Notes:** Returned if the metadata container is invalid.

### 8.12.83   kQTMetaDataInvalidStorageFormatErr = -2175

Plugin Version: 10.4. **Function:** One of the QuickTime error constants related to meta data.
**Notes:** Returned if the storage format is invalid.

### 8.12.84   kQTMetaDataItemPropertyID_DataType = "dtyp"

Plugin Version: 10.4. **Function:** One of the property ID constants.
**Notes:** The value type of the metadata item. UInt32, Read/Write

### 8.12.85   kQTMetaDataItemPropertyID_Key = "key "

Plugin Version: 10.4. **Function:** One of the property ID constants.
**Notes:** The key associated with the metadata item. Read/Write

### 8.12.86   kQTMetaDataItemPropertyID_KeyFormat = "keyf"

Plugin Version: 10.4. **Function:** One of the property ID constants.
**Notes:** The format of the key used. Result is an OSType (4 byte string). Read/Write

### 8.12.87 kQTMetaDataItemPropertyID_Locale = "loc "

Plugin Version: 10.4. **Function:** One of the property ID constants.
**Notes:** The locale identifier based on the naming convention defined by the International Components for Unicode (ICU). The identifier consists of two pieces of ordered information: a language code and a region code. The language code is based on the ISO 639-1 standard, which defines two-character codes, such as "en" and "fr", for the world's most commonly used languages. If a two-letter code is not available, then ISO 639-2 three-letter identifiers are accepted as well, for example "haw" for Hawaiian. The region code is defined by ISO 3166-1. The region code is in all caps and appended, after an underscore, after the language code, for example "en_US", "en_GB", and "fr_FR". A C String. Read/Write

### 8.12.88 kQTMetaDataItemPropertyID_StorageFormat = "sfmt"

Plugin Version: 10.4. **Function:** One of the property ID constants.
**Notes:** The storage format (see kQTMetaDataStorageFormat* constants). Read only.

### 8.12.89 kQTMetaDataItemPropertyID_Value = "valu"

Plugin Version: 10.4. **Function:** One of the property ID constants.
**Notes:**

The value of the metadata item.
This is the data you can read only.

### 8.12.90 kQTMetaDataKeyFormatCommon = "comn"

Plugin Version: 10.4. **Function:** One of the meta data key format constants.
**Example:**

```
// pick a movie
dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
// open it
dim m as EditableMovie = f.OpenEditableMovie
// get metadata
dim q as QTMetaDataMBS = m.MetaDataMBS

// add a metadata value. This property is visible in QuickTime Player X and 7
call q.AddItemCode(q.kQTMetaDataStorageFormatQuickTime, q.kQTMetaDataKeyFormatCommon, q.kQTMetaDataCommonKeyAlbum, "My best Album", q.kQTMetaDataTypeUTF8)

q = nil
```

// save
call m.CommitChanges

**Notes:** Uses the kQTMetaDataCommonKey* constants.

### 8.12.91   kQTMetaDataKeyFormatiTunesLongForm = "itlk"

Plugin Version: 10.4. **Function:** One of the meta data key format constants.
**Notes:** Reverse DNS format

### 8.12.92   kQTMetaDataKeyFormatiTunesShortForm = "itsk"

Plugin Version: 10.4. **Function:** One of the meta data key format constants.
**Example:**

```
// pick a movie
dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
// open it
dim m as EditableMovie = f.OpenEditableMovie
// get metadata
dim q as QTMetaDataMBS = m.MetaDataMBS

// add a metadata value. This property is visible in QuickTime Player X and 7 and iTunes
call q.AddItemCode(q.kQTMetaDataStorageFormatiTunes, q.kQTMetaDataKeyFormatiTunesShortForm, q.kUserDataTextAlbum, "My best Album", q.kQTMetaDataTypeUTF8)

q = nil

// save
call m.CommitChanges
```

**Notes:** FourCharCode

### 8.12.93   kQTMetaDataKeyFormatQuickTime = "mdta"

Plugin Version: 10.4. **Function:** One of the meta data key format constants.
**Example:**

```
// pick a movie
dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
// open it
dim m as EditableMovie = f.OpenEditableMovie
// get metadata
dim q as QTMetaDataMBS = m.MetaDataMBS

// add a metadata value. This property is visible in QuickTime Player 7
call q.AddItem(q.kQTMetaDataStorageFormatQuickTime, q.kQTMetaDataKeyFormatQuickTime, "com.apple.quicktime.producer", "Christian Schmitz",1)

q = nil

// save
call m.CommitChanges
```

**Notes:** Reverse DNS format

## 8.12.94   kQTMetaDataKeyFormatUserData = "udta"

Plugin Version: 10.4. **Function:** One of the meta data key format constants.
**Example:**

```
// pick a movie
dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
// open it
dim m as EditableMovie = f.OpenEditableMovie
// get metadata
dim q as QTMetaDataMBS = m.MetaDataMBS

// add a metadata value. This property is visible in QuickTime Player X and 7
call q.AddItemCode(q.kQTMetaDataStorageFormatUserData, q.kQTMetaDataKeyFormatUserData, q.kUserDataTextAlbum, "My Album", q.kQTMetaDataTypeUTF8)

q = nil

// save
call m.CommitChanges
```

**Notes:** FourCharCode

### 8.12.95   kQTMetaDataNoMoreItemsErr = -2177

Plugin Version: 10.4. **Function:** One of the QuickTime error constants related to meta data.
**Notes:** Returned if there is no more metadata items.

### 8.12.96   kQTMetaDataPropertyID_Owner = "ownr"

Plugin Version: 10.4. **Function:** One of the meta data property ID constants.
**Notes:** The owner associated with this QTMetaDataRef object. The QTMetaDataRef object does not necessarily need to have an owner. Returns Movie, Track, or Media handle, Read only.

### 8.12.97   kQTMetaDataPropertyID_OwnerType = "ownt"

Plugin Version: 10.4. **Function:** One of the meta data property ID constants.
**Notes:** The owner type associated with this QTMetaData object. Return - OSType (QT_MOVIE_TYPE = "moov", QT_TRACK_TYPE = "trak", QT_MEDIA_TYPE = "mdia"), Read only.

### 8.12.98   kQTMetaDataPropertyID_StorageFormats = "fmts"

Plugin Version: 10.4. **Function:** One of the meta data property ID constants.
**Notes:** The list of storage formats (see kQTMetaDataStorageFormat* constants) associated with this QTMetaDataRef object. Returns C-style array of OSTypes, Read only.

### 8.12.99   kQTMetaDataStorageFormatiTunes = "itms"

Plugin Version: 10.4. **Function:** One of the meta data storage format constants.
**Example:**

```
// pick a movie
dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
// open it
dim m as EditableMovie = f.OpenEditableMovie
// get metadata
dim q as QTMetaDataMBS = m.MetaDataMBS

// add a metadata value.
dim pic as Picture = LogoMBS(500)
dim data as string = PictureToJPEGStringMBS(pic, 75)

// Add a cover to the movie for iTunes:
```

call q.AddItemCode(q.kQTMetaDataStorageFormatiTunes, q.kQTMetaDataKeyFormatiTunesShortForm, "covr", data, q.kQTMetaDataTypeJPEGImage)

q = nil

// save
call m.CommitChanges

**Notes:** iTunes metadata storage format

### 8.12.100 kQTMetaDataStorageFormatQuickTime = "mdta"

Plugin Version: 10.4. **Function:** One of the meta data storage format constants.
**Example:**

// pick a movie
dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
// open it
dim m as EditableMovie = f.OpenEditableMovie
// get metadata
dim q as QTMetaDataMBS = m.MetaDataMBS

// add a metadata value. This property is visible in QuickTime Player 7
call q.AddItem(q.kQTMetaDataStorageFormatQuickTime, q.kQTMetaDataKeyFormatQuickTime, "com.apple.quicktime.producer", "Christian Schmitz",1)

q = nil

// save
call m.CommitChanges

**Notes:** QuickTime metadata storage format

### 8.12.101 kQTMetaDataStorageFormatUserData = "udta"

Plugin Version: 10.4. **Function:** One of the meta data storage format constants.
**Example:**

// pick a movie
dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
// open it

dim m as EditableMovie = f.OpenEditableMovie
// get metadata
dim q as QTMetaDataMBS = m.MetaDataMBS

// add a metadata value. This property is visible in QuickTime Player X and 7
call q.AddItemCode(q.kQTMetaDataStorageFormatUserData, q.kQTMetaDataKeyFormatUserData, q.kUser-DataTextAlbum, "My Album", q.kQTMetaDataTypeUTF8)

q = nil

// save
call m.CommitChanges

**Notes:** UserData storage format

### 8.12.102   kQTMetaDataTypeBinary = 0

Plugin Version: 10.4. **Function:** One of the data type constants.
**Notes:** Binary data without a defined format.

### 8.12.103   kQTMetaDataTypeBMPImage = 27

Plugin Version: 10.4. **Function:** One of the data type constants.
**Notes:** BMP image data.

### 8.12.104   kQTMetaDataTypeFloat32BE = 23

Plugin Version: 10.4. **Function:** One of the data type constants.
**Notes:**

A 32 bit float value. In REALbasic a single value.
And here in Big Endian format.

### 8.12.105   kQTMetaDataTypeFloat64BE = 24

Plugin Version: 10.4. **Function:** One of the data type constants.
**Notes:**

A 64 bit float value. In REALbasic a double value.
And here in Big Endian format.

### 8.12.106   kQTMetaDataTypeJPEGImage = 13

Plugin Version: 10.4. **Function:** One of the data type constants.
**Example:**

```
// pick a movie
dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
// open it
dim m as EditableMovie = f.OpenEditableMovie
// get metadata
dim q as QTMetaDataMBS = m.MetaDataMBS

// add a metadata value.
dim pic as Picture = LogoMBS(500)
dim data as string = PictureToJPEGStringMBS(pic, 75)

// Add a cover to the movie for iTunes:
call q.AddItemCode(q.kQTMetaDataStorageFormatiTunes, q.kQTMetaDataKeyFormatiTunesShortForm, "covr",
data, q.kQTMetaDataTypeJPEGImage)

q = nil

// save
call m.CommitChanges
```

**Notes:** JPEG image data.

### 8.12.107   kQTMetaDataTypeMacEncodedText = 3

Plugin Version: 10.4. **Function:** One of the data type constants.
**Notes:** A string with Mac Roman encoding.

## 8.12.108   kQTMetaDataTypePNGImage = 14

Plugin Version: 10.4. **Function:** One of the data type constants.
**Notes:** PNG image data.

## 8.12.109   kQTMetaDataTypeQuickTimeMetaData = 28

Plugin Version: 10.4. **Function:** One of the data type constants.

## 8.12.110   kQTMetaDataTypeSignedIntegerBE = 21

Plugin Version: 10.4. **Function:** One of the data type constants.
**Notes:**

A signed integer.
The size of the integer is defined by the value size

## 8.12.111   kQTMetaDataTypeUnsignedIntegerBE = 22

Plugin Version: 10.4. **Function:** One of the data type constants.
**Notes:**

An unsigned integer.
The size of the integer is defined by the value size

## 8.12.112   kQTMetaDataTypeUTF16BE = 2

Plugin Version: 10.4. **Function:** One of the data type constants.
**Notes:** UTF-16 text in Big Endian format.

## 8.12.113   kQTMetaDataTypeUTF8 = 1

Plugin Version: 10.4. **Function:** One of the data type constants.
**Notes:** UTF-8 text.

## 8.12.114 kUserDataAnimatedGIFBufferingSize = "gifb"

Plugin Version: 10.4. **Function:** One of the user data constants.

## 8.12.115 kUserDataAnimatedGIFLoopCount = "gifc"

Plugin Version: 10.4. **Function:** One of the user data constants.

## 8.12.116 kUserDataMovieControllerType = "ctyp"

Plugin Version: 10.4. **Function:** One of the user data constants.

## 8.12.117 kUserDataName = "name"

Plugin Version: 10.4. **Function:** One of the user data constants.

## 8.13    class QTMovieExporterMBS

### 8.13.1    class QTMovieExporterMBS

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** A class for exporting movies.
**Example:**

```
// An example which gets an example movie and converts it to the sound
dim q as QTMovieExporterMBS
dim m as movie
dim s as String

m=SpecialFolder.Desktop.Child("Sample Movie").OpenAsMovie
q=new QTMovieExporterMBS

if m=nil then
MsgBox "No movie?"
else
if q.OpenAIFFExporter then
// 22050Hz are & h56220000 (=22050 * 65536)
// "Qclp" is Qualcomm Purevoice
q.SetSoundFormat 16,& h56220000,OSTypeFromStringMBS("Qclp"),1
if q.Lasterror=0 then
if q.ConvertMovieToFile(m,SpecialFolder.Desktop.Child("Sample Movie.aif"),"AIFF","TVOD",0) then
MsgBox "Saved Sample Movie.aif"
else
MsgBox "Error on converting movie: "+str(q.Lasterror)
end if
Else
MsgBox "Can't set sound format: "+str(q.Lasterror)
end if
else
MsgBox "Can't open the AIFF Exporter. ("+format(q.Lasterror,"-0")+")"
end if
end if
```

**Notes:**

The class was originally designed to enable the example above: Exporting AIFF sound from any movie. Over time more functionality was added.
Please send in requests if you need additional functionality.


Please read the MPEG4 Audio licensing stuff for Windows:
http://developer.apple.com/qa/qa2001/qa1347.html

## 8.13.2 Methods

## 8.13.3 Close

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The destructor.
**Example:**

dim q as new QTMovieExporterMBS

if q.OpenAIFFExporter then
// do something

q.Close
end if

**Notes:**

There is no need to call this method except you want to free all resources of this object now without waiting for Realbasic to do it for you.
(e.g. some Realbasic versions crash on Windows if there are plugin objects not closed.)

## 8.13.4 ConvertMovieToFile(mov as movie, file as folderitem, filetype as string, filecreator as string, flags as Integer) as boolean

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Takes a specified movie and converts it into a specified file and type, supporting a Save As dialog box.
**Example:**

dim q as QTMovieExporterMBS
dim m as movie
dim s as String
dim f as FolderItem
dim o as OpenDialog

o=new OpenDialog
o.Filter="video/QuickTime"
o.PromptText="Please select a QuickTime movie"
f=o.ShowModal
if f<>nil then
m=f.OpenAsMovie
if m=nil then
MsgBox "That file seems to be no movie."+chr(13)+"("+f.AbsolutePath+")"
else
q=new QTMovieExporterMBS

' no openexporter as we want to let the user choose!

q.Progress=1 // default dialog

s=f.name
if q.ConvertMovieToFile(m,SpecialFolder.Desktop.Child(s),"","",2) then
MsgBox "Saved movie to file "+s+"."
else
MsgBox "Error on converting movie: "+str(q.Lasterror)
end if

end if
end if

**Notes:**

Flags:

| | | |
|---|---|---|
| showUserSettingsDialog | 2 | If this bit is set, the Save As dialog box will be displayed to allow the user to choose the type of file to export to, as well as the file name to export to. |
| movieToFileOnlyExport | 4 | If this bit is set and the showUserSettingsDialog bit is set, the Save As dialog box restricts the user to those file formats that are supported by movie data export components. |
| movieFileSpecValid | 8 | If this bit is set and the showUserSettingsDialog bit is set, the name value of the folderitem is used as the default name of the exported file in the Save As dialog box. |

filetype and filecreator can be "" to use the default type.
If also no exporter was opened (handle=0), the user can choose the new file type.

File is limited to 31 characters in file name, so better export to temp file first and later rename.

You may need to use EnableHighResolutionAudio property for high res audio exports.
See also:

## 8.13.5   ConvertMovieToFile(movHandle as Integer, file as folderitem, filetype as string, filecreator as string, flags as Integer) as boolean

Plugin Version: 15.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Takes a specified movie and converts it into a specified file and type, supporting a Save As dialog box.

**Notes:** Same as other ConvertMovieToFile method, but using a Movie Handle value instead of a movie object.
See also:

- 8.13.4 ConvertMovieToFile(mov as movie, file as folderitem, filetype as string, filecreator as string, flags as Integer) as boolean 255

### 8.13.6 ConvertMovieToFile2(mov as movie, byref file as folderitem, filetype as string, filecreator as string, flags as Integer) as boolean

Plugin Version: 10.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Takes a specified movie and converts it into a specified file and type, supporting a Save As dialog box.
**Example:**

```
dim q as QTMovieExporterMBS
dim m as movie
dim s as String
dim f as FolderItem
dim o as OpenDialog

o=new OpenDialog
o.Filter="video/QuickTime"
o.PromptText="Please select a QuickTime movie"
f=o.ShowModal
if f<>nil then
m=f.OpenAsMovie
if m=nil then
MsgBox "That file seems to be no movie."+chr(13)+"("+f.AbsolutePath+")"
else
q=new QTMovieExporterMBS

' no openexporter as we want to let the user choose!

q.Progress=1 // default dialog

s=f.name
dim d as folderitem = SpecialFolder.Desktop.Child(s)
if q.ConvertMovieToFile2(m, d,"","",2) then
MsgBox "Saved movie to file "+d.absolutepath
else
MsgBox "Error on converting movie: "+str(q.Lasterror)
end if

end if
end if
```

**Notes:**

Same as ConvertMovieToFile, but you get the file parameter set to the output file after the export.

Flags:

| | | |
|---|---|---|
| showUserSettingsDialog | 2 | If this bit is set, the Save As dialog box will be displayed to allow the user to choose the type of file to export to, as well as the file name to export to. |
| movieToFileOnlyExport | 4 | If this bit is set and the showUserSettingsDialog bit is set, the Save As dialog box restricts the user to those file formats that are supported by movie data export components. |
| movieFileSpecValid | 8 | If this bit is set and the showUserSettingsDialog bit is set, the name value of the folderitem is used as the default name of the exported file in the Save As dialog box. |

filetype and filecreator can be "" to use the default type.
If also no exporter was opened (handle=0), the user can choose the new file type.

You may need to use EnableHighResolutionAudio property for high res audio exports.

### 8.13.7   ConvertMovieToFileTrack(mov as movie, trackhandle as Integer, file as folderitem, filetype as string, filecreator as string, flags as Integer) as boolean

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Same as Convert-MovieToFile but converts only the given track of the movie.
**Example:**

dim q as QTMovieExporterMBS
dim m as movie
dim s as String
dim f as FolderItem
dim o as OpenDialog

o=new OpenDialog
o.Filter="video/QuickTime"
o.PromptText="Please select a QuickTime movie"
f=o.ShowModal
if f<>nil then
m=f.OpenAsMovie
if m=nil then
MsgBox "That file seems to be no movie."+chr(13)+"("+f.AbsolutePath+")"
else
q=new QTMovieExporterMBS

' no openexporter as we want to let the user choose!

q.Progress=1 // default dialog

s=f.name
if q.ConvertMovieToFile(m,SpecialFolder.Desktop.Child(s),"","",2) then
MsgBox "Saved movie to file "+s+"."
else
MsgBox "Error on converting movie: "+str(q.Lasterror)
end if

end if
end if

**Notes:**

Pass for the track the TrackHandle property of the QTTrackMBS class and the movie property for the movie parameter.

filetype and filecreator can be "" to use the default type.
If also no exporter was opened (handle=0), the user can choose the new file type.

File is limited to 31 characters in file name, so better export to temp file first and later rename.

You may need to use EnableHighResolutionAudio property for high res audio exports.

### 8.13.8  ConvertMovieToFileTrack2(mov as movie, trackhandle as Integer, byref file as folderitem, filetype as string, filecreator as string, flags as Integer) as boolean

Plugin Version: 10.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Same as ConvertMovieToFile but converts only the given track of the movie.
**Example:**

dim q as QTMovieExporterMBS
dim m as movie
dim s as String
dim f as FolderItem
dim o as OpenDialog

o=new OpenDialog
o.Filter="video/QuickTime"

o.PromptText="Please select a QuickTime movie"
f=o.ShowModal
if f<>nil then
m=f.OpenAsMovie
if m=nil then
MsgBox "That file seems to be no movie."+chr(13)+"("+f.AbsolutePath+")"
else
q=new QTMovieExporterMBS

' no openexporter as we want to let the user choose!

q.Progress=1 // default dialog

s=f.name
dim d as folderitem = SpecialFolder.Desktop.Child(s)
if q.ConvertMovieToFile2(m,d,"","",2) then
MsgBox "Saved movie to file "+d.absolutepath
else
MsgBox "Error on converting movie: "+str(q.Lasterror)
end if

end if
end if


**Notes:**

Same as ConvertMovieToFileTrack, but you get the file parameter set to the output file after the export.

Pass for the track the TrackHandle property of the QTTrackMBS class and the movie property for the movie parameter.

filetype and filecreator can be "" to use the default type.
If also no exporter was opened (handle=0), the user can choose the new file type.

You may need to use EnableHighResolutionAudio property for high res audio exports.


### 8.13.9   CreatorType as string

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The creator code to use.

## 8.13.10  ExportToFile(mov as movie, file as folderitem) as boolean

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Exports the movie to a file with the current settings.
**Example:**

dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
dim m as movie = f.OpenAsMovie // use f.OpenAsMovieMBS on Windows to use QuickTime and not MediaPlayer
dim q as new QTMovieExporterMBS

// open the AIFF exporter
if q.OpenExporter("AIFF", "soun") then

dim d as FolderItem = SpecialFolder.Desktop.Child("test.aiff")

// Seems like the file must exist?
dim b as BinaryStream = BinaryStream.Create(d, true)
b.Close

// We export to file
if q.ExportToFile(m, d) then
MsgBox "OK"
else
MsgBox "Failed"
end if

end if

**Notes:** The short version of ExportToFile.
See also:

- 8.13.11 ExportToFile(mov as movie, file as folderitem, StartPositionInFrame as Integer, DurationInFrames as Integer) as boolean 261

## 8.13.11  ExportToFile(mov as movie, file as folderitem, StartPositionInFrame as Integer, DurationInFrames as Integer) as boolean

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Exports the movie to a file with the current settings.
**Example:**

// Copy a section of a movie into a new movie.

dim myMovie as movie
dim qtm as QTMovieExporterMBS

```
dim startframe,durframe as Integer
dim startTimeinSeconds,endtimeInSeconds as Double
dim err as Boolean
dim newDocument,originalDocument as FolderItem

originalDocument=SpecialFolder.Desktop.Child("test.mov")
startTimeinSeconds=30.0
endtimeInSeconds=60.0

myMovie= originalDocument.openasMovie

qtm = new qtmovieExporterMBS
if qtm.OpenExporter("MooV","appl") then

newDocument = originalDocument.parent.child("Copy of "+originalDocument.name)

startframe = startTimeinSeconds*myMovie.TimeScaleMBS
durframe = (endtimeInSeconds-startTimeinSeconds)*myMovie.TimeScaleMBS

if qtm.SetupDialog(myMovie) then
err = qtm.exportToFile(myMovie, newDocument , startframe, durframe)
if err then
MsgBox "ok"
else
MsgBox "failed"
end if
end if
else
MsgBox "Failed to load exporter component"
end if
```

See also:

### 8.13.12   ExportToFileTrack(mov as movie, TrackHandle as Integer, file as folderitem) as boolean

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Exports a track of the movie into a file.
**Example:**

```
dim s as String
dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
dim m as movie = f.OpenAsMovie // use f.OpenAsMovieMBS on Windows to use QuickTime and not MediaPlayer
```

dim soundTrack as QTTrackMBS

dim c as Integer = m.TrackCountMBS
for i as Integer = 1 to c
dim t as QTTrackMBS = m.GetTrackIndexMBS(i)
if t.MediaType = "soun" then
soundTrack = t
end if
next

if soundTrack = nil then
MsgBox "Failed to find sound track."
Return
end if

dim q as new QTMovieExporterMBS
' no openexporter as we want to let the user choose!

q.Progress=1 // default dialog

s=f.name
if q.ConvertMovieToFileTrack(m, soundTrack.TrackHandle, SpecialFolder.Desktop.Child(s),"","",2) then
MsgBox "Saved movie to file "+s+"."
else
MsgBox "Error on converting movie: "+str(q.Lasterror)
end if

**Notes:** Returns true on success.
See also:

- 8.13.13 ExportToFileTrack(mov as movie, TrackHandle as Integer, file as folderitem, StartPositionIn-Frame as Integer, DurationInFrames as Integer) as boolean                263

### 8.13.13   ExportToFileTrack(mov as movie, TrackHandle as Integer, file as folderitem, StartPositionInFrame as Integer, DurationInFrames as Integer) as boolean

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Exports a track of the movie into a file.
**Example:**

dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
dim m as movie = f.OpenAsMovie // use f.OpenAsMovieMBS on Windows to use QuickTime and not Me-diaPlayer
dim q as new QTMovieExporterMBS
dim soundTrack as QTTrackMBS

```
dim c as Integer = m.TrackCountMBS
for i as Integer = 1 to c
dim t as QTTrackMBS = m.GetTrackIndexMBS(i)
if t.MediaType = "soun" then
soundTrack = t
end if
next

if soundTrack = nil then
MsgBox "Failed to find sound track."
Return
end if

// open the AIFF exporter
if q.OpenExporter("AIFF", "soun") then

dim d as FolderItem = SpecialFolder.Desktop.Child("test.aiff")

// Seems like the file must exist?
dim b as BinaryStream = BinaryStream.Create(d, true)
b.Close

// We export to file
dim DurationInFrames as Integer = m.TimeScaleMBS*60 // first 60 seconds
if q.ExportToFileTrack(m, soundTrack.TrackHandle, d, 0, DurationInFrames) then
MsgBox "OK"
else
MsgBox "Failed"
end if

end if
```

**Notes:** Returns true on success.
See also:

### 8.13.14   ExportToMemory(mov as movie) as memoryblock

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Exports the movie into a memoryblock.
**Example:**

```
dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
dim m as movie = f.OpenAsMovie // use f.OpenAsMovieMBS on Windows to use QuickTime and not Me-
```

diaPlayer
dim q as new QTMovieExporterMBS

// open the AIFF exporter
if q.OpenExporter("AIFF", "soun") then

// We export to string
dim s as string = q.ExportToMemory(m)

// now write to file
if lenb(s)>0 then
dim d as FolderItem = SpecialFolder.Desktop.Child("test.aiff")
dim b as BinaryStream = BinaryStream.Create(d, true)
b.Write s
end if

end if

**Notes:** Returns nil on any error.
See also:

### 8.13.15 ExportToMemory(mov as movie, StartPositionInFrame as Integer, DurationInFrames as Integer) as memoryblock

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Exports the movie into a memoryblock.
**Example:**

dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
dim m as movie = f.OpenAsMovie // use f.OpenAsMovieMBS on Windows to use QuickTime and not MediaPlayer
dim q as new QTMovieExporterMBS

// open the AIFF exporter
if q.OpenExporter("AIFF", "soun") then

// We export to string
dim DurationInFrames as Integer = m.TimeScaleMBS*60 // first 60 seconds
dim s as string = q.ExportToMemory(m, 0, DurationInFrames)

// now write to file
if lenb(s)>0 then
dim d as FolderItem = SpecialFolder.Desktop.Child("test.aiff")

```
dim b as BinaryStream = BinaryStream.Create(d, true)
b.Write s
end if

end if
```

**Notes:** Returns nil on any error.
See also:

### 8.13.16   ExportToMemoryTrack(mov as movie, TrackHandle as Integer) as memoryblock

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Exports a track of the movie into a memoryblock.
**Example:**

```
dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
dim m as movie = f.OpenAsMovie // use f.OpenAsMovieMBS on Windows to use QuickTime and not MediaPlayer
dim q as new QTMovieExporterMBS

// open the AIFF exporter
if q.OpenExporter("AIFF", "soun") then

// We export to string
dim DurationInFrames as Integer = m.TimeScaleMBS*60 // first 60 seconds
dim s as string = q.ExportToString(m, 0, DurationInFrames)

// now write to file
if lenb(s)>0 then
dim d as FolderItem = SpecialFolder.Desktop.Child("test.aiff")
dim b as BinaryStream = BinaryStream.Create(d, true)
b.Write s
end if

end if
```

**Notes:** Returns nil on any error.
See also:

### 8.13.17 ExportToMemoryTrack(mov as movie, TrackHandle as Integer, Start-PositionInFrame as Integer, DurationInFrames as Integer) as memory-block

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Exports a track of the movie into a memoryblock.
**Example:**

```
dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
dim m as movie = f.OpenAsMovie // use f.OpenAsMovieMBS on Windows to use QuickTime and not MediaPlayer
dim q as new QTMovieExporterMBS
dim soundTrack as QTTrackMBS

dim c as Integer = m.TrackCountMBS
for i as Integer = 1 to c
dim t as QTTrackMBS = m.GetTrackIndexMBS(i)
if t.MediaType = "soun" then
soundTrack = t
end if
next

if soundTrack = nil then
MsgBox "Failed to find sound track."
Return
end if

// open the AIFF exporter
if q.OpenExporter("AIFF", "soun") then

// We export to string
dim DurationInFrames as Integer = m.TimeScaleMBS*60 // first 60 seconds
dim s as string = q.ExportToMemoryTrack(m, soundTrack.TrackHandle, 0, DurationInFrames)

// now write to file
if lenb(s)>0 then
dim d as FolderItem = SpecialFolder.Desktop.Child("test.aiff")
dim b as BinaryStream = BinaryStream.Create(d, true)
b.Write s
end if

end if
```

**Notes:** Returns nil on any error.
See also:

### 8.13.18   ExportToString(mov as movie) as string

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Exports the movie into a string.
**Example:**

dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
dim m as movie = f.OpenAsMovie // use f.OpenAsMovieMBS on Windows to use QuickTime and not MediaPlayer
dim q as new QTMovieExporterMBS

// open the AIFF exporter
if q.OpenExporter("AIFF", "soun") then

// We export to string
dim s as string = q.ExportToString(m)

// now write to file
if lenb(s)>0 then
dim d as FolderItem = SpecialFolder.Desktop.Child("test.aiff")
dim b as BinaryStream = BinaryStream.Create(d, true)
b.Write s
end if

end if

**Notes:** The short version of ExportToString.
See also:

### 8.13.19   ExportToString(mov as movie, StartPositionInFrame as Integer, DurationInFrames as Integer) as string

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Exports the movie into a string.
**Example:**

dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
dim m as movie = f.OpenAsMovie // use f.OpenAsMovieMBS on Windows to use QuickTime and not MediaPlayer
dim q as new QTMovieExporterMBS

```
// open the AIFF exporter
if q.OpenExporter("AIFF", "soun") then

// We export to string
dim DurationInFrames as Integer = m.TimeScaleMBS*60 // first 60 seconds
dim s as string = q.ExportToString(m, 0, DurationInFrames)

// now write to file
if lenb(s)>0 then
dim d as FolderItem = SpecialFolder.Desktop.Child("test.aiff")
dim b as BinaryStream = BinaryStream.Create(d, true)
b.Write s
end if

end if
```

See also:

## 8.13.20   ExportToStringTrack(mov as movie, TrackHandle as Integer) as string

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Exports a track of the movie into a string.
**Example:**

```
dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
dim m as movie = f.OpenAsMovie // use f.OpenAsMovieMBS on Windows to use QuickTime and not MediaPlayer
dim q as new QTMovieExporterMBS
dim soundTrack as QTTrackMBS

dim c as Integer = m.TrackCountMBS
for i as Integer = 1 to c
dim t as QTTrackMBS = m.GetTrackIndexMBS(i)
if t.MediaType = "soun" then
soundTrack = t
end if
next

if soundTrack = nil then
MsgBox "Failed to find sound track."
Return
end if
```

```
// open the AIFF exporter
if q.OpenExporter("AIFF", "soun") then

// We export to string
dim s as string = q.ExportToStringTrack(m, soundTrack.TrackHandle)

// now write to file
if lenb(s)>0 then
dim d as FolderItem = SpecialFolder.Desktop.Child("test.aiff")
dim b as BinaryStream = BinaryStream.Create(d, true)
b.Write s
end if

end if
```

**Notes:** Returns "" on any error.
See also:

## 8.13.21    ExportToStringTrack(mov as movie, TrackHandle as Integer, StartPositionInFrame as Integer, DurationInFrames as Integer) as string

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Exports a track of the movie into a string.
**Example:**

```
dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
dim m as movie = f.OpenAsMovie // use f.OpenAsMovieMBS on Windows to use QuickTime and not MediaPlayer
dim q as new QTMovieExporterMBS
dim soundTrack as QTTrackMBS

dim c as Integer = m.TrackCountMBS
for i as Integer = 1 to c
dim t as QTTrackMBS = m.GetTrackIndexMBS(i)
if t.MediaType = "soun" then
soundTrack = t
end if
next

if soundTrack = nil then
MsgBox "Failed to find sound track."
Return
end if
```

```
// open the AIFF exporter
if q.OpenExporter("AIFF", "soun") then

// We export to string
dim DurationInFrames as Integer = m.TimeScaleMBS*60 // first 60 seconds
dim s as string = q.ExportToStringTrack(m, soundTrack.TrackHandle, 0, DurationInFrames)

// now write to file
if lenb(s)>0 then
dim d as FolderItem = SpecialFolder.Desktop.Child("test.aiff")
dim b as BinaryStream = BinaryStream.Create(d, true)
b.Write s
end if

end if
```

**Notes:** Returns "" on any error.
See also:

- 8.13.20 ExportToStringTrack(mov as movie, TrackHandle as Integer) as string

### 8.13.22   FileExtensions as string

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** A string with file possible file extensions for this exporter.
**Notes:** Returns "" on any error.

### 8.13.23   FileNameExtension as string

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The file name extension suggested for this exporter.
**Example:**

```
dim q as new QTMovieExporterMBS

if q.OpenAIFFExporter then
MsgBox q.FileNameExtension // aif
end if
```

### 8.13.24   FileTypes as string

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** A string with possible file types.
**Example:**

dim q as new QTMovieExporterMBS
MsgBox q.FileTypes // ="3gppAIFFAIFFBMPfFLC MidiMooVMooVMooVMooVMooVPICTTEXTTEX-
TULAWVfW WAVEdvc!embdgrexmpg4sfilsnd "

**Notes:** Each of this 4 byte strings can be used in OpenExporter.

### 8.13.25   OpenAIFFExporter as boolean

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Open the AIFF exporter component.
**Example:**

dim q as new QTMovieExporterMBS

if q.OpenAIFFExporter then
MsgBox q.FileNameExtension // shows aif
end if

**Notes:** equal to OpenExporter("AIFF","soun")

### 8.13.26   OpenExporter(subtype as string, manufacturer as string) as boolean

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Opens the given movie exporter component.
**Example:**

// Let's convert a QuickTime movie to MPEG4

dim q as QTMovieExporterMBS
dim m as movie
dim s as String
dim f as FolderItem
dim o as OpenDialog

o=new OpenDialog
o.Filter="video/QuickTime"

```
o.PromptText="Please select a QuickTime movie"
f=o.ShowModal
if f<>nil then
m=f.OpenAsMovie
if m=nil then
MsgBox "That file seems to be no movie."+chr(13)+"("+f.AbsolutePath+")"
else
q=new QTMovieExporterMBS

q.progress=1

if q.OpenExporter("mpg4","appl") then
// 22000 Hz are & h56220000

s=f.name
if right(s,4)=".mov" then
s=left(s,len(s)-4)
end if
s=s+".mp4"

if q.ConvertMovieToFile(m,SpecialFolder.Desktop.Child(s),"mpg4","TVOD",0) then
MsgBox "Saved sound to file "+s+"."
else
MsgBox "Error on converting movie: "+str(q.Lasterror)
end if
Else
MsgBox "Can't set sound format: "+str(q.Lasterror)
end if
end if
end if
```

**Notes:**

Returns true if successfull.
Lasterror is set to
-1 if QuickTime is missing
-2 if the component was not found and
-3 if the component could not be opened.

You can use the QTComponentList example to find the available codecs.

Please read the MPEG4 Audio licensing stuff for Windows:
http://developer.apple.com/qa/qa2001/qa1347.html

## 8.13.27   SetSoundFormat(SampleSize as Integer, SampleRate as Integer, DataFormat as Integer, NumChannels as Integer)

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Defines the sound format for an exporter with sound.
**Example:**

dim q as QTMovieExporterMBS // your movie exporter

// 22000 Hz are & h56220000
q.SetSoundFormat 16,& h56220000,OSTypeFromStringMBS(”Qclp”),1

**Notes:**

SampleSize is 8 or 16 bits.
NumChannels is 1 for mono or 2 for stereo.

Constants for the dataformat:
(not all may be installed or even available as exporters)

| | | |
|---|---|---|
| kSoundNotCompressed | NONE | sound is not compressed |
| k8BitOffsetBinaryFormat | raw | 8-bit offset binary |
| k16BitBigEndianFormat | twos | 16-bit big endian |
| k16BitLittleEndianFormat | sowt | 16-bit little endian |
| kFloat32Format | fl32 | 32-bit floating point |
| kFloat64Format | fl64 | 64-bit floating point |
| k24BitFormat | in24 | 24-bit integer |
| k32BitFormat | in32 | 32-bit integer |
| k32BitLittleEndianFormat | 23ni | 32-bit little endian integer |
| kMACE3Compression | MAC3 | MACE 3:1 |
| kMACE6Compression | MAC6 | MACE 6:1 |
| kCDXA4Compression | cdx4 | CD/XA 4:1 |
| kCDXA2Compression | cdx2 | CD/XA 2:1 |
| kIMACompression | ima4 | IMA 4:1 |
| kULawCompression | ulaw | Law 2:1 |
| kALawCompression | alaw | aLaw 2:1 |
| kMicrosoftADPCMFormat | & h6D730002 | Microsoft ADPCM - ACM code 2 |
| kDVIIntelIMAFormat | & h6D730011 | DVI/Intel IMA ADPCM - ACM code 17 |
| kDVAudioFormat | dvca | DV Audio |
| kQDesignCompression | QDMC | QDesign music |
| kQDesign2Compression | QDM2 | QDesign2 music |
| kQUALCOMMCompression | Qclp | QUALCOMM PureVoice |
| kMPEGLayer3Format | & h6D730055 | MPEG Layer 3, CBR only (pre QT4.1) |
| kFullMPEGLay3Format | .mp3 | MPEG Layer 3, CBR & VBR (QT4.1 and later) |

Constants for the samplerate:

There is no way to use this method with higher sample rates. In that case please enable EnableHighReso-

| rate48khz   | & hBB800000 | 48000.00000 in fixed-point |
| rate44khz   | & hAC440000 | 44100.00000 in fixed-point |
| rate32khz   | & h7D000000 | 32000.00000 in fixed-point |
| rate22050hz | & h56220000 | 22050.00000 in fixed-point |
| rate22khz   | & h56EE8BA3 | 22254.54545 in fixed-point |
| rate16khz   | & h3E800000 | 16000.00000 in fixed-point |
| rate11khz   | & h2B7745D1 | 11127.27273 in fixed-point |
| rate11025hz | & h2B110000 | 11025.00000 in fixed-point |
| rate8khz    | & h1F400000 | 8000.00000 in fixed-point  |

lutionAudio and call the setup dialog.
See also:

- 8.13.28 SetSoundFormat(SampleSize as Integer, SampleRate as Integer, DataFormat as string, Num-
  Channels as Integer)                                                                       275

### 8.13.28   SetSoundFormat(SampleSize as Integer, SampleRate as Integer, DataFormat as string, NumChannels as Integer)

Plugin Version: 9.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Defines the sound
format for an exporter with sound.
**Example:**

dim q as QTMovieExporterMBS // your movie exporter

// 22000 Hz are & h56220000
q.SetSoundFormat 16,& h56220000,"Qclp",1

**Notes:**

SampleSize is 8 or 16 bits.
NumChannels is 1 for mono or 2 for stereo.

Constants for the dataformat:
(not all may be installed or even available as exporters)

Constants for the samplerate:

There is no way to use this method with higher sample rates. In that case please enable EnableHighReso-
lutionAudio and call the setup dialog.
See also:

- 8.13.27 SetSoundFormat(SampleSize as Integer, SampleRate as Integer, DataFormat as Integer, Num-

| | | |
|---|---|---|
| kSoundNotCompressed | NONE | sound is not compressed |
| k8BitOffsetBinaryFormat | raw | 8-bit offset binary |
| k16BitBigEndianFormat | twos | 16-bit big endian |
| k16BitLittleEndianFormat | sowt | 16-bit little endian |
| kFloat32Format | fl32 | 32-bit floating point |
| kFloat64Format | fl64 | 64-bit floating point |
| k24BitFormat | in24 | 24-bit integer |
| k32BitFormat | in32 | 32-bit integer |
| k32BitLittleEndianFormat | 23ni | 32-bit little endian integer |
| kMACE3Compression | MAC3 | MACE 3:1 |
| kMACE6Compression | MAC6 | MACE 6:1 |
| kCDXA4Compression | cdx4 | CD/XA 4:1 |
| kCDXA2Compression | cdx2 | CD/XA 2:1 |
| kIMACompression | ima4 | IMA 4:1 |
| kULawCompression | ulaw | Law 2:1 |
| kALawCompression | alaw | aLaw 2:1 |
| kMicrosoftADPCMFormat | & h6D730002 | Microsoft ADPCM - ACM code 2 |
| kDVIIntelIMAFormat | & h6D730011 | DVI/Intel IMA ADPCM - ACM code 17 |
| kDVAudioFormat | dvca | DV Audio |
| kQDesignCompression | QDMC | QDesign music |
| kQDesign2Compression | QDM2 | QDesign2 music |
| kQUALCOMMCompression | Qclp | QUALCOMM PureVoice |
| kMPEGLayer3Format | & h6D730055 | MPEG Layer 3, CBR only (pre QT4.1) |
| kFullMPEGLay3Format | .mp3 | MPEG Layer 3, CBR & VBR (QT4.1 and later) |

| | | |
|---|---|---|
| rate48khz | & hBB800000 | 48000.00000 in fixed-point |
| rate44khz | & hAC440000 | 44100.00000 in fixed-point |
| rate32khz | & h7D000000 | 32000.00000 in fixed-point |
| rate22050hz | & h56220000 | 22050.00000 in fixed-point |
| rate22khz | & h56EE8BA3 | 22254.54545 in fixed-point |
| rate16khz | & h3E800000 | 16000.00000 in fixed-point |
| rate11khz | & h2B7745D1 | 11127.27273 in fixed-point |
| rate11025hz | & h2B110000 | 11025.00000 in fixed-point |
| rate8khz | & h1F400000 | 8000.00000 in fixed-point |

Channels as Integer) 274

## 8.13.29  SetupDialog(mov as movie) as boolean

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Shows the dialog for the user to set the sound settings.
**Example:**

dim q as new QTMovieExporterMBS

if q.OpenExporter("AIFF", "soun") then
call q.SetupDialog(nil)
end if

**Notes:**

If you don't have a movie yet, pass nil for the movie.

A short version of SetupDialog.

Because of some clipping bug in RB the calling window of this method must have a size of minimum 600 in width and 550 in height.
See also:

## 8.13.30 SetupDialog(mov as movie, StartPositionInFrame as Integer, DurationInFrames as Integer) as boolean

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Shows the dialog for the user to set the sound settings.
**Example:**

```
dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
dim m as movie = f.OpenAsMovie // use f.OpenAsMovieMBS on Windows to use QuickTime and not MediaPlayer
dim q as new QTMovieExporterMBS

if q.OpenExporter("MooV", "appl") then
call q.SetupDialog(m, 0, m.TimeScaleMBS*60)
end if
```

**Notes:**

If you don't have a movie yet, pass nil for the movie.

Because of some clipping bug in RB the calling window of this method must have a size of minimum 600 in width and 550 in height.
See also:

### 8.13.31   SetupDialog(movHandle as Integer) as boolean

Plugin Version: 15.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Shows the dialog
for the user to set the sound settings.
**Notes:** Same as other SetupDialog method, but using a Movie Handle value instead of a movie object.
See also:

- 8.13.29 SetupDialog(mov as movie) as boolean                                                                276

- 8.13.30 SetupDialog(mov as movie, StartPositionInFrame as Integer, DurationInFrames as Integer) as
  boolean                                                                                                      277


### 8.13.32   SetupDialogTrack(mov as movie, trackhandle as Integer) as boolean

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Same as SetupDialog
but limited to the given track.
**Notes:**

If you don't have a movie yet, pass nil for the movie. If you don't have a track handle, pass 0 or use one of
the other methods.


Pass for the track the TrackHandle property of the QTTrackMBS class and the movie property for the movie
parameter.


Because of some clipping bug in RB the calling window of this method must have a size of minimum 600 in
width and 550 in height.
See also:

- 8.13.33 SetupDialogTrack(mov as movie, trackhandle as Integer, StartPositionInFrame as Integer, Du-
  rationInFrames as Integer) as boolean                                                                         278


### 8.13.33   SetupDialogTrack(mov as movie, trackhandle as Integer, StartPosition-
InFrame as Integer, DurationInFrames as Integer) as boolean

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Same as SetupDialog
but limited to the given track.
**Notes:**

If you don't have a movie yet, pass nil for the movie. If you don't have a track handle, pass 0 or use one of
the other methods.


Pass for the track the TrackHandle property of the QTTrackMBS class and the movie property for the movie
parameter.

Because of some clipping bug in RB the calling window of this method must have a size of minimum 600 in width and 550 in height.
See also:

### 8.13.34   Validate(mov as movie) as boolean

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Determines whether a movie export component can export all the data for a specified movie or track.
**Example:**

```
dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
dim m as movie = f.OpenAsMovie // use f.OpenAsMovieMBS on Windows to use QuickTime and not MediaPlayer

dim q as new QTMovieExporterMBS
if q.OpenAIFFExporter then
if q.Validate(m) then
MsgBox "OK"
else
MsgBox "Failed"
end if
end if
```

**Notes:** Lasterror is set.
See also:

### 8.13.35   Validate(movHandle as Integer) as boolean

Plugin Version: 15.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Same as Validate but takes movie as handle instead of object.
See also:

### 8.13.36   ValidateTrack(mov as movie, trackhandle as Integer) as boolean

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Same as Validate but limited to the given track.
**Example:**

```
dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
dim m as movie = f.OpenAsMovie // use f.OpenAsMovieMBS on Windows to use QuickTime and not Me-
diaPlayer

dim soundTrack as QTTrackMBS
dim videoTrack as QTTrackMBS

dim c as Integer = m.TrackCountMBS
for i as Integer = 1 to c
dim t as QTTrackMBS = m.GetTrackIndexMBS(i)
if t.MediaType = "soun" then
soundTrack = t
elseif t.MediaType = "vide" then
videoTrack = t
end if
next

dim q as new QTMovieExporterMBS
if q.OpenAIFFExporter then
MsgBox "Validate sound track: "+str(q.ValidateTrack(m, soundTrack.TrackHandle))+EndOfLine+_
"Validate video track: "+str(q.ValidateTrack(m, videoTrack.TrackHandle))
end if

// shows true for sound track and false for video track.
```

**Notes:** Pass for the track the TrackHandle property of the QTTrackMBS class and the movie property for
the movie parameter.
See also:

## 8.13.37    ValidateTrack(movHandle as Integer, trackhandle as Integer) as boolean

Plugin Version: 15.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Same as Validate-
Track but takes movie as handle instead of object.
See also:

### 8.13.38    Properties

### 8.13.39    Handle as Integer

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The handle to the QuickTime component.
**Example:**

dim q as new QTMovieExporterMBS
MsgBox str(q.Handle) // no handle
call q.OpenAIFFExporter
MsgBox str(q.Handle) // here we have one

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

### 8.13.40    Lasterror as Integer

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The last error code.
**Example:**

dim q as new QTMovieExporterMBS

call q.OpenExporter("xxxx", "xxxx")

MsgBox str(Q.Lasterror) // -2 for Exporter not found

**Notes:**

0 if successfull.
-1 if function is not supported or a parameter error.
else a Mac OS error code.
(Read and Write property)

### 8.13.41    Progress as Integer

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Which progress indicator to use.
**Example:**

dim q as new QTMovieExporterMBS
if q.OpenAIFFExporter then
q.Progress = 3

```
// now do something
end if
```

**Notes:**

This property replaces the UseDefaultProgressDialog property used before.

Values:

0 - no progress dialog
1 - default progress dialog
2 - call Realbasic events.
3 - call Realbasic events and give RB CPU time to process events. (like redrawing windows)

Default value is 0.
The default progress dialog from QuickTime works for the ConvertMovieToFile* functions, but not for the Export* functions.
(Read and Write property)

### 8.13.42   Release as Boolean

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** whether the destructor will destroy the handle.
**Notes:** (Read and Write property)

### 8.13.43   Settings as String

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The settings of the movie in a binary format.
**Example:**

```
// Let's save some settings:

dim q as QTMovieExporterMBS
dim m as movie
dim s as String
dim f as FolderItem
dim o as OpenDialog
dim b as BinaryStream
```

```
o=new OpenDialog
o.Filter="video/QuickTime"
o.PromptText="Please select a QuickTime movie"
f=o.ShowModal
if f<>nil then
m=f.OpenAsMovie
if m=nil then
MsgBox "That file seems to be no movie."+chr(13)+"("+f.AbsolutePath+")"
else
q=new QTMovieExporterMBS
q.progress=1

if q.OpenExporter("mpg4","appl") then

s=f.name
if right(s,4)=".mov" then
s=left(s,len(s)-4)
end if
s=s+".mp4"

if q.SetupDialog(m) then
f=GetFolderItem("export settings")
b=f.CreateBinaryFile("text/plain")
b.Write q.Settings
b.Close
end if

else
MsgBox "Can't open the MPEG 4 Exporter. ("+format(q.Lasterror,"-0")+")"
end if
end if
end if

// And now read them back in:

// same variables as above:
' dim q as QTMovieExporterMBS
' dim m as movie
' dim s as String
' dim f as FolderItem
' dim o as OpenDialog
' dim b as BinaryStream

o=new OpenDialog
o.Filter="video/QuickTime"
o.PromptText="Please select a QuickTime movie"
f=o.ShowModal
if f<>nil then
```

```
m=f.OpenAsMovie
if m=nil then
MsgBox "That file seems to be no movie."+chr(13)+"("+f.AbsolutePath+")"
else
q=new QTMovieExporterMBS
q.progress=1

if q.OpenExporter("mpg4","appl") then

s=f.name
if right(s,4)=".mov" then
s=left(s,len(s)-4)
end if
s=s+".mp4"

f=GetFolderItem("export settings")
b=f.OpenAsBinaryFile(false)
q.Settings=b.Read(b.Length)
b.Close

// Let's check if the settings are restored
if q.SetupDialog(m) then
end if

else
MsgBox "Can't open the MPEG 4 Exporter. ("+format(q.Lasterror,"-0")+")"
end if
end if
end if
```

**Notes:**

You can't display it to the user, but you can save it to a file.
Lasterror is set.
(Read and Write property)

## 8.13.44   EnableHighResolutionAudio as boolean

Plugin Version: 5.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Enables or disables
high resolution audio.
**Example:**

```
dim q as QTMovieExporterMBS
// later
q.EnableHighResolutionAudio=true
```

**Notes:**

If you set it to true and you have QuickTime 7 on your Mac OS X copy, you can e.g. export a movie with 96000 HZ audio.

Must be used after the OpenExporter call.
(Read and Write computed property)

### 8.13.45   MovieHeight as Integer

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The destination height of the movie.
**Example:**

```
// Convert a movie to MP4 with something different
// than the standard 320x240 pixel size.

dim q as QTMovieExporterMBS
dim m as movie
dim s as String
dim f as FolderItem
dim o as OpenDialog

o=new OpenDialog
o.Filter="video/QuickTime"
o.PromptText="Please select a QuickTime movie"
f=o.ShowModal
if f<>nil then
m=f.OpenAsMovie
if m=nil then
MsgBox "That file seems to be no movie."+chr(13)+"("+f.AbsolutePath+")"
else
q=new QTMovieExporterMBS

q.progress=1

if q.OpenExporter("mpg4","appl") then

s=f.name
if right(s,4)=".mov" then
s=left(s,len(s)-4)
end if
s=s+".mp4"
```

MsgBox str(q.MovieWidth)+" x "+str(q.MovieHeight)

q.MovieWidth=m.MovieWidth
q.MovieHeight=m.MovieHeight

MsgBox str(q.MovieWidth)+" x "+str(q.MovieHeight)

if q.ConvertMovieToFile(m,SpecialFolder.Desktop.Child(s),"mpg4","TVOD",0) then
MsgBox "Saved movie to file "+s+"."
else
MsgBox "Error on converting movie: "+str(q.Lasterror)
end if
else
MsgBox "Can't open the MPEG 4 Exporter. ("+format(q.Lasterror,"-0")+")"
end if
end if
end if

**Notes:**

If the value is not defined you get returned 0 and lasterror will report an error.
Lasterror is set.
(Read and Write computed property)

### 8.13.46   MovieWidth as Integer

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The destination width of the movie.
**Example:**

// Convert a movie to MP4 with something different
// than the standard 320x240 pixel size.

dim q as QTMovieExporterMBS
dim m as movie
dim s as String
dim f as FolderItem
dim o as OpenDialog

o=new OpenDialog
o.Filter="video/QuickTime"
o.PromptText="Please select a QuickTime movie"
f=o.ShowModal
if f<>nil then

m=f.OpenAsMovie
if m=nil then
MsgBox "That file seems to be no movie."+chr(13)+"("+f.AbsolutePath+")"
else
q=new QTMovieExporterMBS

q.progress=1

if q.OpenExporter("mpg4","appl") then

s=f.name
if right(s,4)=".mov" then
s=left(s,len(s)-4)
end if
s=s+".mp4"

MsgBox str(q.MovieWidth)+" x "+str(q.MovieHeight)

q.MovieWidth=m.MovieWidth
q.MovieHeight=m.MovieHeight

MsgBox str(q.MovieWidth)+" x "+str(q.MovieHeight)

if q.ConvertMovieToFile(m,SpecialFolder.Desktop.Child(s),"mpg4","TVOD",0) then
MsgBox "Saved movie to file "+s+"."
else
MsgBox "Error on converting movie: "+str(q.Lasterror)
end if
else
MsgBox "Can't open the MPEG 4 Exporter. ("+format(q.Lasterror,"-0")+")"
end if
end if
end if

**Notes:**

If the value is not defined you get returned 0 and lasterror will report an error.
Lasterror is set.
(Read and Write computed property)

### 8.13.47   SoundChannelCount as Integer

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The number of sound channels.
**Example:**

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dim q as new QTMovieExporterMBS

if q.OpenExporter("AIFF", "soun") then
MsgBox str(Q.SoundChannelCount) // shows 2
end if

**Notes:**

One for Mono or Two for Stereo.
Lasterror is set.
Not all movie exporters support this value in the settings.
(Read and Write computed property)

### 8.13.48  SoundCodec as string

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The sound codec used.
**Example:**

dim q as new QTMovieExporterMBS

if q.OpenExporter("AIFF", "soun") then
MsgBox q.SoundCodec // shows "twos"
end if

**Notes:**

A 4 byte string.
Lasterror is set.
Not all movie exporters support this value in the settings.
(Read and Write computed property)

### 8.13.49  SoundSampleRate as Integer

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The sound sample rate.
**Example:**

dim q as new QTMovieExporterMBS

if q.OpenExporter("AIFF", "soun") then
MsgBox str(Q.SoundSampleRate) // shows 44100

end if

**Notes:**

Values like 22050 or 44100 Hz are used often.
Lasterror is set.
Not all movie exporters support this value in the settings.
(Read and Write computed property)

### 8.13.50 SoundSampleSize as Integer

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The sound sample size.
**Example:**

dim q as new QTMovieExporterMBS

if q.OpenExporter("AIFF", "soun") then
MsgBox str(Q.SoundSampleSize) // shows 16
end if

**Notes:**

Typical 8 or 16 bits.
Lasterror is set.
Not all movie exporters support this value in the settings.
(Read and Write computed property)

### 8.13.51 Events

### 8.13.52 ProgressClose

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Called when the processing is complete.

### 8.13.53 ProgressOpen

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Called when the processing is about to begin.

## 8.13.54   ProgressUpdatePercent(percent as Double) as boolean

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Called from time to time so you can update your progress bar.
**Notes:** Retruns true to cancel the export.

## 8.14 class QTMovieRateChangedMBS

### 8.14.1 class QTMovieRateChangedMBS

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** A class to give you an event whenever the playback rate in a movie changes.

### 8.14.2 Methods

### 8.14.3 Close

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The destructor.
**Notes:**

There is no need to call this method except you want to free all resources of this object now without waiting for Realbasic to do it for you.
(e.g. some Realbasic versions crash on Windows if there are plugin objects not closed.)

### 8.14.4 Constructor(mov as movie, flags as Integer, rate as Double)

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The constructor.
**Notes:**

some constants for flags:

```
const triggerTimeFwd        = & h0001 // when curTime exceeds triggerTime going forward
const triggerTimeBwd        = & h0002 // when curTime exceeds triggerTime going backwards
const triggerTimeEither     = & h0003 // when curTime exceeds triggerTime going either direction
const triggerRateLT         = & h0004 // when rate changes to less than trigger value
const triggerRateGT         = & h0008 // when rate changes to greater than trigger value
const triggerRateEqual      = & h0010 // when rate changes to equal trigger value
const triggerRateLTE        = triggerRateLT + triggerRateEqual
const triggerRateGTE        = triggerRateGT + triggerRateEqual
const triggerRateNotEqual   = triggerRateGT + triggerRateEqual + triggerRateLT
const triggerRateChange     = 0
const triggerAtStart        = & h0001
const triggerAtStop         = & h0002
```

### 8.14.5   Reset

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Restarts the timer.
**Notes:** Call this in the Action event if you want to be called again.

### 8.14.6   Properties

### 8.14.7   Lasterror as Integer

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The last error code.
**Notes:**

-1 not implemented, 0 success. Else a Mac OS error code.
(Read and Write property)

### 8.14.8   Events

### 8.14.9   Action

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** This event is called
if the playback rate changes.

## 8.15 class QTMusicSampleDescriptionMBS

### 8.15.1 class QTMusicSampleDescriptionMBS

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** A class to describe music data in a movie track.
**Notes:** Subclass of the QTSampleDescriptionMBS class.

## 8.16    class QTPictureMovieTrackMBS

### 8.16.1    class QTPictureMovieTrackMBS

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** A class to add pictures to a movie track.
**Example:**

```
dim f as FolderItem
dim p as Picture
dim i as Integer
dim e as EditableMovie
dim q as QTPictureMovieTrackMBS

p=NewPicture(320,240,32)
f=GetFolderItem("QTPictureMovieTrackMBS.mov")
e=f.CreateMovie
q=new QTPictureMovieTrackMBS
// "jpeg", "rle ", etc.
'q.CompressionCodec="mjpa"
q.FrameDuration=0.1

if q.CreateTrack(e,320,240) then

for i=0 to 255
p.Graphics.ForeColor=rgb(i,0,255-i)
p.Graphics.FillRect 0,0,320,240

q.AddPicture p

if q.Lasterror<>0 then
MsgBox str(q.Lasterror)+" addpicture"
end if
next
q.CloseTrack
else
MsgBox str(q.Lasterror)
end if
```

**Deprecated:** This item is deprecated and should no longer be used. **Notes:** Please move to AVFoundation with AVAssetWriterMBS and AVAssetWriterInputPixelBufferAdaptorMBS classes.

## 8.16.2 Methods

## 8.16.3 AddPicture(p as picture)

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Adds a picture to the track.
**Notes:**

The picture is drawn into a GWorld picture and than added.
So you don't need to resize the picture before to match the track dimensions.
Lasterror is set.
If you change the Frameduration property between addpicture calls you can have frames with different durations.

Cocoa supported added in Plugin version 13.4.

## 8.16.4 Close

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The destructor.
**Notes:**

There is no need to call this method except you want to free all resources of this object now without waiting for Realbasic to do it for you.
(e.g. some Realbasic versions crash on Windows if there are plugin objects not closed.)

## 8.16.5 closeTrack

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Closes the track.
**Notes:**

The track may be damaged if it's not closed properly.
Lasterror is set.

## 8.16.6 CreateTrack(TargetMovie as movie, width as Integer, height as Integer) as boolean

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Creates a new video track for the given movie.
**Notes:**

Returns true on success.
Lasterror is set.

Please set CompressionCodec and Quality first.
See also:

### 8.16.7    CreateTrack(TargetMovieHandle as Integer, width as Integer, height as Integer) as boolean

Plugin Version: 15.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Creates a new video track for the given movie handle.
**Notes:**

Returns true on success.
Lasterror is set.

Please set CompressionCodec and Quality first.
See also:

### 8.16.8    RequestSettingsDialog(pic as picture=nil) as boolean

Plugin Version: 8.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Shows the codec settings dialog.
**Example:**

dim q as new QTPictureMovieTrackMBS

call q.RequestSettingsDialog

MsgBox q.CompressionCodec

**Notes:**

You can pass a preview picture for Mac OS. On Windows the preview picture is ignored.
Returns true if the user presses OK. Else False.
Lasterror is set. 0 for OK and -128 for user cancelled.
The class only uses depth, codec and quality. The other settings are not used.

Some codecs are actually installed multiple times. So if you choose DV and you choose progressive, you get the codec "dvcp", with interlaced you get "dvpp". So this setting is used by the class, but the format setting (e.g. 16:9) is ignored.

This function does not use the preview image with Cocoa applications. Please try the QTMovie class instead. Or contact MBS and ask for this functionality to be added.

### 8.16.9    Properties

### 8.16.10    CompressionCodec as String

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The compression codec to use.
**Notes:**

Please set this value before the functions in this class use it.
Default is "rle ".

A list of some important codecs:

| | |
|---|---|
| kRawCodecType | raw |
| kCinepakCodecType | cvid |
| kGraphicsCodecType | smc |
| kAnimationCodecType | rle |
| kVideoCodecType | rpza |
| kComponentVideoCodecType | yuv2 |
| kJPEGCodecType | jpeg |
| kMotionJPEGACodecType | mjpa |
| kMotionJPEGBCodecType | mjpb |
| kSGICodecType | .SGI |
| kPlanarRGBCodecType | 8BPS |
| kMacPaintCodecType | PNTG |
| kGIFCodecType | gif |
| kPhotoCDCodecType | kpcd |
| kQuickDrawGXCodecType | qdgx |
| kAVRJPEGCodecType | avr |
| kOpenDMLJPEGCodecType | dmb1 |
| kBMPCodecType | WRLE |
| kWindowsRawCodecType | WRAW |
| kH261CodecType | h261 |
| kH263CodecType | h263 |
| kTargaCodecType | tga |
| kPNGCodecType | png |
| kTIFFCodecType | tiff |
| kSorensonCodecType | SVQ1 |
| kSorenson3CodecType | SVQ3 |

(Read and Write property)

## 8.16.11    Depth as Integer

Plugin Version: 4.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The depth of the track to create.
**Notes:**

Please set this value before the functions in this class use it.
Default is 32 bit per pixel.
(Read and Write property)

## 8.16.12    FrameDuration as Double

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The duration of one frame in seconds.
**Notes:**

Please set this value before the functions in this class use it.
You can change this value before adding a frame.
Default is 1.
(Read and Write property)

## 8.16.13    Gamma as Integer

Plugin Version: 15.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The gamma setting to use.
**Example:**

q=new QTPictureMovieTrackMBS
q.Gamma = q.kGamma18

**Notes:**

See kGamma* constants.
The gamma setting is assigned when adding a picture, so the encoder knows what gamma to use.
(Read and Write property)

## 8.16.14    Height as Integer

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The height value used with CreateTrack.
**Notes:** (Read and Write property)

### 8.16.15   Lasterror as Integer

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The last error code reported.
**Notes:**

0 on success, -1 on parameter error and else a Mac OS error code.
(Read and Write property)

### 8.16.16   MediaHandle as Integer

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The handle of the track media used.
**Notes:**

Value can be used with toolbox calls.
(Read and Write property)

### 8.16.17   Movie as Movie

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The movie used for adding pictures.
**Notes:**

Don't change this value while creating a track!
(Read and Write property)

### 8.16.18   MovieHandle as Integer

Plugin Version: 15.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The movie handle in use.
**Notes:** (Read and Write property)

### 8.16.19   Quality as Integer

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The quality setting.
**Notes:**

Please set this value before the functions in this class use it.
Some of the possible values:

| codecMinQuality | & h000 | The minimum valid value for a CodecQ field. |
| codecLowQuality | & h100 | Low-quality image reproduction. This value should correspond to the lowest image quality that still results in acceptable display characteristics. |
| codecNormalQuality | & h200 | Image reproduction of normal quality. |
| codecHighQuality | & h300 | High-quality image reproduction. This value should correspond to the highest image quality that can be achieved with reasonable performance. |
| codecMaxQuality | & h3FF | The maximum standard value for a CodecQ field. |
| codecLosslessQuality | & h400 | Lossless compression or decompression. This special value is valid only for components that can support lossless compression or decompression. |

Default is codecNormalQuality.
(Read and Write property)

### 8.16.20    TimeScale as Integer

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The timescale to use for this movie.
**Notes:**

Please set this value before the functions in this class use it.
Default is 600.
For NTSC movies use a timescale of 2997 and use 100 timeunits per frame.
(Read and Write property)

### 8.16.21    TrackHandle as Integer

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The handle of the track used.
**Notes:**

Value can be used with toolbox calls.
(Read and Write property)

### 8.16.22    Width as Integer

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The width value used with CreateTrack.
**Notes:** (Read and Write property)

## 8.16.23   Constants

## 8.16.24   kGamma18 = & h0001CCCC

Plugin Version: 15.3. **Function:** One of the gamme modes.
**Notes:** Gamma 1.8 (Mac)

## 8.16.25   kGamma22 = & h00023333

Plugin Version: 15.3. **Function:** One of the gamme modes.
**Notes:** Gamma 2.2 (PC)

# 8.17    class QTPrerollMBS

## 8.17.1    class QTPrerollMBS

Plugin Version: 10.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The class to preroll a QuickTime movie.
**Notes:** Prerolling a movie is a technique for improving the playback performance of the movie. When you ask the Movie Toolbox to preroll a movie (typically by calling the function PrerollMovie), the Movie Toolbox opens the appropriate media handlers and tells them to prepare to play the movie. The media handlers may then load some of the movie data, set up sound channels, start up decompression sequences, and the like. With streamed movies, you may need to perform some additional actions even before you can preroll a movie, such as making network connections to the remote machine that is serving the streamed content, negotiating a streaming protocol, and setting up buffers to receive the streamed data. This process is known as "preprerolling".

## 8.17.2    Methods

## 8.17.3    Abort(prerollErr as Integer)

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Aborts the preroll process passing the given error code.

## 8.17.4    Constructor(mov as movie, time as Double = -1, rate as Double = -1)

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Creates a new QTPrerollMBS object.
**Notes:**

This will start the preprerolling process and later call the Complete event.
time is the position in the movie (in seconds) and rate the movie rate you need (1.0 = normal playback). Using -1 for the time will use the current movie time and -1 for rate will use the movie's preferred time.

Check the lasterror property for the result.

## 8.17.5    LoadMovieIntoRam(mov as movie, time as Double = -1, rate as Double = -1, keepInRam as boolean = false) as Integer

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Loads the movie into RAM.
**Example:**

dim e as Integer = QTPrerollMBS.LoadMovieIntoRam(myMovie)
MsgBox "LoadMovieIntoRam: "+str(e)

**Notes:**

Returns a Mac OS / QuickTime error code. 0 for no error and -1 if movie is nil.
time is the position in the movie (in seconds) and rate the movie rate you need (1.0 = normal playback).
Using -1 for the time will use the current movie time and -1 for rate will use the movie's preferred time.

### 8.17.6   PrerollMovie(mov as movie, time as Double = -1, rate as Double = -1) as Integer

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Prerolls the movie.
**Example:**

dim e as Integer = QTPrerollMBS.PrerollMovie(myMovie)
MsgBox "PrerollMovie: "+str(e)

**Notes:**

Returns a Mac OS / QuickTime error code. 0 for no error and -1 if movie is nil.
time is the position in the movie (in seconds) and rate the movie rate you need (1.0 = normal playback).
Using -1 for the time will use the current movie time and -1 for rate will use the movie's preferred time.

### 8.17.7   Properties

### 8.17.8   Lasterror as Integer

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The lasterror code.
**Notes:** (Read and Write property)

### 8.17.9   Ref as QTPrerollMBS

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The owner reference.
**Notes:**

This property is set by the Constructor to increase the reference count of the object. After the complete
event was called, the reference is released, so the object can be released.
(Read and Write property)

### 8.17.10   Tag as Variant

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** A variant value where you can store whatever you like.
**Notes:** (Read and Write property)

### 8.17.11   TargetMovie as Movie

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The movie we target.
**Notes:** (Read and Write property)

### 8.17.12   Events

### 8.17.13   Complete(prerollErr as Integer)

Plugin Version: 10.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Prerolling completed.
**Notes:** prerollErr, if not 0, is the error code returned from prerolling.

# 8.18 class QTSampleDescriptionMBS

## 8.18.1 class QTSampleDescriptionMBS

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** A class for media data in a movie track.

## 8.18.2 Properties

## 8.18.3 CodecType as String

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The data format of this samples.
**Notes:** (Read and Write property)

## 8.19   class QTSoundExtractMBS

### 8.19.1   class QTSoundExtractMBS

Plugin Version: 7.4, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** A class to extract sound from a movie.

### 8.19.2   Methods

### 8.19.3   DataMemory as Memoryblock

Plugin Version: 7.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Copies the data from the buffer into a new memoryblock.
**Notes:** Returns nil on any error.

### 8.19.4   DataString as String

Plugin Version: 7.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Copies the data from the buffer into a new string.
**Notes:** Returns ”” on any error.

### 8.19.5   Extract as boolean

Plugin Version: 7.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Starts the extract progress.

### 8.19.6   SoundRawDataHandleMBS(MovieHandle as Integer, starttime as Double=0.0, length as Double=0.0, ChannelCount as Integer=2, SampleSize as Integer=16, Rate as Integer=44100) as memoryblock

Plugin Version: 15.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the sound of the first soundtrack in the movie as a memoryblock.
**Notes:**

This is the variant taking a movie handle instead of a movie object.

The whole sound in 16bit, stereo, 44100 Hz, interleaved per default.
You can specify 8 or 16 bit, one or two channels and one of the following rates: 8000, 11025, 11127, 16000,

22254, 22050, 32000, 44100 and 48000.


Returns nil on any error.

Should do AAC and MP3, even VBRs.

You give times, but as most sound data is saved in chunks this will not be taken exactly. So if you work throught the movie, you will get returned blocks bigger than you asked for.

On Windows it may need byte swapping before using it (memoryblock.SwapBytes16MBS to be exact).

On Windows also make sure the movie is opened with QuickTime. You can ensure this by using OpenAs-MovieMBS for opening it.


Also check QTSoundExtractMBS class.


### 8.19.7   SoundRawDataMBS(Movie as Movie, starttime as Double=0.0, length as Double=0.0, ChannelCount as Integer=2, SampleSize as Integer=16, Rate as Integer=44100) as memoryblock

Plugin Version: 15.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the sound of the first soundtrack in the movie as a memoryblock.
**Notes:**

The whole sound in 16bit, stereo, 44100 Hz, interleaved per default.

You can specify 8 or 16 bit, one or two channels and one of the following rates: 8000, 11025, 11127, 16000, 22254, 22050, 32000, 44100 and 48000.


Returns nil on any error.

Should do AAC and MP3, even VBRs.

You give times, but as most sound data is saved in chunks this will not be taken exactly. So if you work throught the movie, you will get returned blocks bigger than you asked for.

On Windows it may need byte swapping before using it (memoryblock.SwapBytes16MBS to be exact).

On Windows also make sure the movie is opened with QuickTime. You can ensure this by using OpenAs-MovieMBS for opening it.


Also check QTSoundExtractMBS class.


### 8.19.8   Properties

### 8.19.9   ChannelCount as Integer

Plugin Version: 7.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Number of channels.
**Notes:**

Value can be 1 or 2.

(Read and Write property)

### 8.19.10    DontPreallocate as boolean

Plugin Version: 7.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether memory should be preallocated or not.
**Example:**

```
dim q as QTSoundExtractMBS // your sound extractor
q.DontPreallocate=true
```

**Notes:**

The extraction is faster if memory is preallocated for the whole buffer needed.
But if you use the DataAvailable event, you can set this property to true and save some memory.


Default value is false.
(Read and Write property)

### 8.19.11    EndTime as Double

Plugin Version: 7.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The end time of the sound.
**Notes:**

Default is zero, which is the length of the sound track following after starttime.
(Read and Write property)

### 8.19.12    Movie as Movie

Plugin Version: 7.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The movie to use as the data source.
**Notes:** (Read and Write property)

### 8.19.13    MovieHandle as Integer

Plugin Version: 15.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The movie handle.
**Notes:**

You can specify a movie or a movie handle for the target movie.
Useful for declares.
(Read and Write property)

### 8.19.14   Rate as Integer

Plugin Version: 7.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Sound rate to produce.
**Notes:**

Default is 44100.
Possible values: 8000, 11025, 11127, 16000, 22254, 22050, 32000, 44100 and 48000.
(Read and Write property)

### 8.19.15   SampleSize as Integer

Plugin Version: 7.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The sample size of the data to produce.
**Notes:**

Value can be 8 or 16.
(Read and Write property)

### 8.19.16   SoundTrackIndex as Integer

Plugin Version: 7.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The index of the Sound Track to use.
**Notes:**

Default is 1.
(Read and Write property)

### 8.19.17   StartTime as Double

Plugin Version: 7.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The start time.
**Notes:**

Default is zero, which is the start of the sound track.
(Read and Write property)

### 8.19.18    YieldTicks as Integer

Plugin Version: 7.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** How much time is given back to REALbasic for other ticks.
**Example:**

dim s as QTSoundExtractMBS // your sound extractor
s.YieldTicks=6 // only use 1/10th of a second

**Notes:**

If value is greater than zero, the application will yield to another RB thread after the given number of ticks have passed. 60 ticks are one second. Using a small value can slow down processing a lot while a big value keeps your application not responding to mouse clicks.
If you use this property with e.g. 6 as the value, you may also want to use this method in a thread so you can handle mouse events or let REALbasic redraw a progressbar.
(Read and Write property)

### 8.19.19    Events

### 8.19.20    DataAvailable(data as memoryblock, size as Integer) as boolean

Plugin Version: 7.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** New data is there to be processed.
**Notes:**

The memoryblock is only a pointer to the data, so size is given using the size parameter.

Return true to let the plugin ignore the data. If you have no code in this event or you return false the data is collected and can later be copied by DataString and DataMemory.

### 8.19.21    ProgressEnd

Plugin Version: 7.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The sound extraction is about to end.
**Notes:** ProgressEnd is always called after a ProgressStart.

## 8.19.22   ProgressStart

Plugin Version: 7.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The sound extraction is about to start.

## 8.19.23   ProgressUpdatePercent(percent as Integer) as boolean

Plugin Version: 7.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Progress changed.
**Notes:**

May be called every few percent values.
Return true to cancel the process.
Return false to continue.

# 8.20    class QTSoundOutputMBS

## 8.20.1    class QTSoundOutputMBS

Plugin Version: 4.0, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** A class to play memoryblocks filled with sound data.

## 8.20.2    Methods

## 8.20.3    close

Plugin Version: 4.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The destructor.
**Notes:**

There is no need to call this method except you want to free all resources of this object now without waiting for Realbasic to do it for you.
(e.g. some Realbasic versions crash on Windows if there are plugin objects not closed.)

## 8.20.4    Flush

Plugin Version: 4.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Flushes all commands on the sound channel command queue.
**Notes:**

This will not stop the sound currently played.
Lasterror is set.

## 8.20.5    GetVolume(byref left as Integer, byref right as Integer)

Plugin Version: 4.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the current volume.
**Notes:** Lasterror is set.

## 8.20.6    Pause

Plugin Version: 4.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Pauses the currently played sound.
**Notes:** Lasterror is set.

### 8.20.7 Play(buf as memoryblock, size as Integer)

Plugin Version: 4.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Plays the given sound inside the memoryblock with the given size.
**Notes:** Lasterror is set.

### 8.20.8 Quiet

Plugin Version: 4.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Stops the current playing sound.
**Notes:** Lasterror is set.

### 8.20.9 Resume

Plugin Version: 4.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Resumes playback.
**Notes:** Lasterror is set.

### 8.20.10 SetVolume(left as Integer, right as Integer)

Plugin Version: 4.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Sets the volume for the two speakers.
**Notes:** Lasterror is set.

### 8.20.11 Wait(Seconds as Double)

Plugin Version: 4.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Adds a wait command to the sound channel's command queue.

### 8.20.12 Properties

### 8.20.13 ChannelCount as Integer

Plugin Version: 4.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The number of channels.
**Notes:**

1 = mono, 2 = stereo.
(Read and Write property)

### 8.20.14   Format as String

Plugin Version: 4.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The format of the data inside the memoryblock.
**Notes:**

Default is 32bit float.
(Read and Write property)

### 8.20.15   Handle as Integer

Plugin Version: 4.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The toolbox handle to the sound channel used.
**Notes:** (Read and Write property)

### 8.20.16   Lasterror as Integer

Plugin Version: 4.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The last error code reported.
**Notes:**

0 for no error, -1 for plugin error (out of memory, wrong parameters, etc.).
Else a Mac OS error code.
(Read and Write property)

### 8.20.17   SampleRate as Integer

Plugin Version: 4.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The samplerate of the sound to play.
**Notes:** (Read and Write property)

### 8.20.18   Events

### 8.20.19   Finished

Plugin Version: 7.8, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Called when the playback is done.
**Notes:**

Called for each play command.
Make sure you keep a reference of the object around so the event can come and will not crash your app.

### 8.20.20   Constants

### 8.20.21   k16BitBigEndianFormat = "twos"

Plugin Version: 14.2. **Function:** One of the audio format constants.
**Notes:**

16-bit big endian
The memoryblock is filled with 2 byte integer (short) values (Big Endian = Mac PPC byte ordering).

### 8.20.22   k16BitLittleEndianFormat = "sowt"

Plugin Version: 14.2. **Function:** One of the audio format constants.
**Notes:**

16-bit little endian
The memoryblock is filled with 2 byte integer (short) values (Little Endian).

### 8.20.23   k24BitFormat = "in24"

Plugin Version: 14.2. **Function:** One of the audio format constants.
**Notes:**

24-bit integer
24bit integers are used per sample.

### 8.20.24   k32BitFormat = "in32"

Plugin Version: 14.2. **Function:** One of the audio format constants.
**Notes:** 32-bit integer, native endian.

### 8.20.25   k32BitLittleEndianFormat = "23ni"

Plugin Version: 14.2. **Function:** One of the audio format constants.
**Notes:**

32-bit little endian integer
The memoryblock is filled with 4 byte integer values (Litte Endian = Intel byte ordering).

### 8.20.26   kFloat32Format = "fl32"

Plugin Version: 14.2. **Function:** One of the audio format constants.
**Notes:**

32-bit floating point
The memoryblock is filled with 4 byte float values in big endian format.

### 8.20.27   kFloat64Format = "fl64"

Plugin Version: 14.2. **Function:** One of the audio format constants.
**Notes:**

64-bit floating point
The memoryblock is filled with 8 byte double values in big endian format.

## 8.21 class QTSoundSampleDescriptionMBS

### 8.21.1 class QTSoundSampleDescriptionMBS

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** A class to describe sound data in a movie track.
**Example:**

dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
dim theMovie as movie=f.openasmovie

if theMovie = nil then
MsgBox "Failed to load movie from "+f.AbsolutePath
end if

// Get the sound track.

dim found as Boolean=false
dim iMax as Integer = theMovie.TrackCountMBS
for iLoop as Integer = 1 to iMax
dim qtt as QTTrackMBS = theMovie.GetTrackIndexMBS(iLoop)
if qtt.MediaType = "soun" then

// Now that we have a sound track, find a valid description.
dim jMax as Integer = qtt.MediaSampleDescriptionCount
for jLoop as Integer = 1 to jMax
dim qtsd as QTSampleDescriptionMBS = qtt.MediaSampleDescription(jLoop)
if qtsd <>nil then
if qtsd isa QTSoundSampleDescriptionMBS then
dim qtssd as QTSoundSampleDescriptionMBS = QTSoundSampleDescriptionMBS(qtsd)

MsgBox "Sound track with "+str(qtssd.ChannelCount)+" channels with "+str(qtssd.SampleSize)+" bits at "+str(qtssd.SampleRate)+" Hz."

end if
end if
next

end if
next

**Notes:** Subclass of the QTSampleDescriptionMBS class.

### 8.21.2   Properties

### 8.21.3   ChannelCount as Integer

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Number of channels of sound.
**Notes:** (Read and Write property)

### 8.21.4   CodecVendor as String

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whose codec compressed this data.
**Notes:** (Read and Write property)

### 8.21.5   SampleRate as Double

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Sample rate sound is captured at.
**Notes:** (Read and Write property)

### 8.21.6   SampleSize as Integer

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Number of bits per sample.
**Notes:** (Read and Write property)

### 8.21.7   Version as Integer

Plugin Version: 9.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The version of the sound sample description.
**Example:**

```
dim f as FolderItem = SpecialFolder.Desktop.Child("96k.wav")
dim theMovie as movie=f.openasmovie

if theMovie = nil then
MsgBox "Failed to load movie from "+f.AbsolutePath
end if

dim TrackCount as Integer = theMovie.TrackCountMBS
```

```
for TrackIndex as Integer = 1 to TrackCount
dim qtt as QTTrackMBS = theMovie.GetTrackIndexMBS(TrackIndex)
if qtt.MediaType = "soun" then

dim SampleCount as Integer = qtt.MediaSampleDescriptionCount
for SampleIndex as Integer = 1 to SampleCount
dim qtsd as QTSampleDescriptionMBS = qtt.MediaSampleDescription(SampleIndex)

if qtsd isa QTSoundSampleDescriptionMBS then
dim qtssd as QTSoundSampleDescriptionMBS = QTSoundSampleDescriptionMBS(qtsd)

MsgBox "Sound track with "+str(qtssd.ChannelCount)+" channels with "+str(qtssd.SampleSize)+" bits
at "+str(qtssd.SampleRate)+" Hz."
end if
next
end if
next
```

**Notes:**

If version is 2, the description is in the newer format and supports multiple channels and sample rates above 48 Khz.
(Read and Write property)

# 8.22   class QTSpriteSampleDescriptionMBS

## 8.22.1   class QTSpriteSampleDescriptionMBS

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** A class to describe sprite data in a movie track.
**Notes:** Subclass of the QTSampleDescriptionMBS class.

## 8.22.2   Properties

## 8.22.3   DecompressorType as String

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The decompressor to use.
**Notes:**

"" for no decompression.
(Read and Write property)

## 8.23 class QTStatusFilterMBS

### 8.23.1 class QTStatusFilterMBS

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** A class for intercepting the status messages from a streaming movieplayer.
**Deprecated:** This item is deprecated and should no longer be used. **Notes:** Only one Filter works per movieplayer.

### 8.23.2 Methods

### 8.23.3 Attach(mplayer as movieplayer) as Integer

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Attaches this class to the movieplayer.
**Notes:** Returns a Mac OS error code. (0 for successfull, -1 for function not available)

### 8.23.4 Close

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The destructor.
**Notes:**

There is no need to call this method except you want to free all resources of this object now without waiting for Realbasic to do it for you.
(e.g. some Realbasic versions crash on Windows if there are plugin objects not closed.)

### 8.23.5 Properties

### 8.23.6 Player as MoviePlayer

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The reference to the movieplayer.
**Notes:**

We keep a reference so the movieplayer is not destroyed while we use it.
(Read and Write property)

## 8.23.7   Events

## 8.23.8   Action(message as string, flags as Integer) as boolean

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The event called whenever the filter finds a message.
**Notes:**

Return true if you want the message to be not received by the movieplayer.


Flags value you can combine:


| | | |
|---|---|---|
| kStatusStringIsURLLink | 2 | |
| kStatusStringIsStreamingStatus | 4 | |
| kStatusHasCodeNumber | 8 | high 16 bits of flags is error code number |
| kStatusIsError | 16 | |

## 8.24    class QTTextSampleDescriptionMBS

### 8.24.1    class QTTextSampleDescriptionMBS

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** A class to describe text data in a movie track.
**Notes:** Subclass of the QTSampleDescriptionMBS class.

### 8.24.2    Properties

### 8.24.3    BackgroundColor as Color

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Background color.
**Notes:** (Read and Write property)

### 8.24.4    Bold as Boolean

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the font styles for this text.
**Notes:** (Read and Write property)

### 8.24.5    Condense as Boolean

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the font styles for this text.
**Notes:** (Read and Write property)

### 8.24.6    DefaultFontName as String

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The default Font Name.
**Notes:** (Read and Write property)

### 8.24.7    DisplayFlags as Integer

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Some flags for this text.

**Notes:**

flag contants:

| | | |
|---|---|---|
| kDontDisplay | 1 | Don't display the text |
| kDontAutoScale | 2 | Don't scale text as track bounds grows or shrinks |
| kClipToTextBox | 4 | Clip update to the textbox |
| kUseMovieBGColor | 8 | Set text background to movie's background color |
| kShrinkTextBoxToFit | 16 | Compute minimum box to fit the sample |
| kScrollIn | 32 | Scroll text in until last of text is in view |
| kScrollOut | 64 | Scroll text out until last of text is gone (if both set, scroll in then out) |
| kHorizScroll | 128 | Scroll text horizontally (otherwise it's vertical) |
| kReverseScroll | 256 | vert: scroll down rather than up; horiz: scroll backwards (justfication dependent) |
| kContinuousScroll | 512 | new samples cause previous samples to scroll out |
| kFlowHoriz | 1024 | horiz scroll text flows in textbox rather than extend to right |
| kContinuousKaraoke | 2048 | ignore begin offset, hilite everything up to the end offset(karaoke) |
| kDropShadow | 4096 | display text with a drop shadow |
| kAntiAlias | 8192 | attempt to display text anti aliased |
| kKeyedText | 16384 | key the text over background |
| kInverseHilite | 32768 | Use inverse hiliting rather than using hilite color |
| kTextColorHilite | 65536 | changes text color in place of hiliting. |

(Read and Write property)

## 8.24.8  Extend as Boolean

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the font styles for this text.
**Notes:** (Read and Write property)

## 8.24.9  Height as Integer

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Location to place the text within the track bounds.
**Notes:** (Read and Write property)

## 8.24.10  Italic as Boolean

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the font styles for this text.

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

### 8.24.11 Left as Integer

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Location to place the text within the track bounds.
**Notes:** (Read and Write property)

### 8.24.12 Outline as Boolean

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the font styles for this text.
**Notes:** (Read and Write property)

### 8.24.13 Shadow as Boolean

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the font styles for this text.
**Notes:** (Read and Write property)

### 8.24.14 TextAscent as Integer

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The text ascent.
**Notes:** (Read and Write property)

### 8.24.15 TextColor as Color

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The text color.
**Notes:** (Read and Write property)

### 8.24.16 TextFace as Integer

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The text style for this text.
**Notes:**

This value is decoded into the properties: bold, italic, underline, shadow, extend, condense and outline.
(Read and Write property)

### 8.24.17   TextFontID as Integer

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The text font ID.
**Notes:**

A Mac OS font ID.
(Read and Write property)

### 8.24.18   TextHeight as Integer

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The text height.
**Notes:** (Read and Write property)

### 8.24.19   TextJustification as Integer

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Justification (word alignment) style.
**Notes:**

| FlushDefault | 0 | flush according to the line direction |
| --- | --- | --- |
| Center | 1 | center justify (word alignment) |
| FlushRight | -1 | flush right for all scripts |
| FlushLeft | -2 | flush left for all scripts |

(Read and Write property)

### 8.24.20   TextSize as Integer

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The text size.
**Notes:** (Read and Write property)

### 8.24.21 Top as Integer

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Location to place the text within the track bounds.
**Notes:** (Read and Write property)

### 8.24.22 Underline as Boolean

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** One of the font styles for this text.
**Notes:** (Read and Write property)

### 8.24.23 Width as Integer

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Location to place the text within the track bounds.
**Notes:** (Read and Write property)

## 8.25   class QTThreeDeeSampleDescriptionMBS

### 8.25.1   class QTThreeDeeSampleDescriptionMBS

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** A class to describe threedee data in a movie track.
**Notes:** Subclass of the QTSampleDescriptionMBS class.

### 8.25.2   Properties

### 8.25.3   DecompressorType as String

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The decompressor to use.
**Notes:**

"" for no decompression.
(Read and Write property)

### 8.25.4   RendererType as String

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The renderer to use.
**Notes:**

"" for no decompression.
(Read and Write property)

# 8.26 class QTTimeCodeCreationParametersMBS

## 8.26.1 class QTTimeCodeCreationParametersMBS

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** A class for the time code creation parameters.

## 8.26.2 Methods

## 8.26.3 Close

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The destructor.
**Notes:**

There is no need to call this method except you want to free all resources of this object now without waiting for Realbasic to do it for you.
(e.g. some Realbasic versions crash on Windows if there are plugin objects not closed.)

## 8.26.4 Properties

## 8.26.5 CounterStartValue as Integer

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The start value for the counter.
**Notes:**

Default value: 0
(Read and Write property)

## 8.26.6 DisplayBelowVideo as Boolean

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether the counter should be displayed below the video area.
**Notes:**

True ->below
False ->above
Default value: true
(Read and Write property)

### 8.26.7    DisplayTimeCode as Boolean

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether the time code should be displayed.
**Notes:**

If you set this to false you can create an invisible time code track.
Default value: false
(Read and Write property)

### 8.26.8    DropFrames as Boolean

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether frames may be dropped for better performance.
**Notes:**

Default value: true
(Read and Write property)

### 8.26.9    FontBackColor as Color

Plugin Version: 6.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The background color of the font to use.
**Notes:** (Read and Write property)

### 8.26.10    FontFace as Integer

Plugin Version: 6.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The font face to use.
**Example:**

dim tcp as new QTTimeCodeCreationParametersMBS

// font face constants
const normal = 0
const bold = 1
const italic = 2
const underline = 4
const outline = 8
const shadow = 16
const condense = 32
const extend = 64

// graphical things

tcp.FontFace=bold+extend
tcp.FontSize=24
tcp.FontForeColor=& cFF0000
tcp.FontBackColor=& c000033

**Notes:**

The font face is a combination of the font face constants. (see example)
Use -1 for the default settings.
(Read and Write property)

### 8.26.11   FontForeColor as Color

Plugin Version: 6.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The fore color of the font to use.
**Notes:** (Read and Write property)

### 8.26.12   FontName as String

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The name of the font to use.
**Notes:**

Should be set.
Default value: "Monaco"
(Read and Write property)

### 8.26.13   FontSize as Integer

Plugin Version: 6.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The font size to use.
**Notes:**

Default is -1 to use the default size.
(Read and Write property)

### 8.26.14   FrameDuration as Integer

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The frame duration for this track.

**Notes:**

In TimeScale units.
Default value: 100
(which makes 29.97 frames per seconds)
(Read and Write property)

### 8.26.15    Frames as Integer

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The start value for the time code.
**Notes:**

Default value: 0
(Read and Write property)

### 8.26.16    Height as Integer

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The height in pixels of the track.
**Notes:**

Default value: 20
(Read and Write property)

### 8.26.17    Hours as Integer

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The start value for the time code.
**Notes:**

Default value: 0
(Read and Write property)

### 8.26.18    IsNeg as Boolean

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether to display the sign on negative values.
**Notes:**

Default value: false
(Read and Write property)

### 8.26.19    Minutes as Integer

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The start value for the time code.
**Notes:**

Default value: 0
(Read and Write property)

### 8.26.20    NumberOfFrames as Integer

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The number of frames per second.
**Notes:**

Default value: 30
(Read and Write property)

### 8.26.21    Seconds as Integer

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The start value for the time code.
**Notes:**

Default value: 0
(Read and Write property)

### 8.26.22    SourceName as String

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The name of the time code source.
**Notes:**

Here you can place any string. e.g. the software name.
Default value: "MBS REALbasic Plugin"
(Read and Write property)

### 8.26.23    TimeScale as Integer

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The time scale factor.
**Notes:**

TimeScale is the number of units per second.
Default value: 2997 (best for NTSC)
(Read and Write property)

### 8.26.24    Use24Hours as Boolean

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether to use 24
hours per day.
**Notes:**

True ->24 hours
False ->12 hours AM and 12 hours PM.
Default value: true
(Read and Write property)

### 8.26.25    UseTimeCode as Boolean

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether to use the
timecode or the counter.
**Notes:**

True ->Timecode
False ->Counter
Default value: true
(Read and Write property)

## 8.27 class QTTimeCodeMBS

### 8.27.1 class QTTimeCodeMBS

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** A class for the time code values.

### 8.27.2 Methods

### 8.27.3 Close

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The destructor.
**Notes:**

There is no need to call this method except you want to free all resources of this object now without waiting for Realbasic to do it for you.
(e.g. some Realbasic versions crash on Windows if there are plugin objects not closed.)

### 8.27.4 Properties

### 8.27.5 Counter as Integer

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The value for the counter.
**Notes:**

Value is only useful if UseTimeCode is false.
(Read and Write property)

### 8.27.6 DropFrames as Boolean

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Drop frames to time code.
**Notes:**

From wikipedia's page for SMTPE time code:
http://en.wikipedia.org/wiki/SMPTE_time_code# Drop_frame_timecode

Drop frame timecode dates to a compromise invented when color NTSC video was invented. The NTSC re-designers wanted to retain compatibility with existing monochrome TVs. Technically, the 3.58 MHz (actually 315/88 MHz = 3.57954545 MHz) color subcarrier would absorb common-phase noise from the harmonics

of the line scan frequency. Rather than adjusting the audio or chroma subcarriers, they adjusted everything else, including the frame rate, which was set to 30 1.000/1.001 Hz.

This meant that an "hour of timecode" at a nominal frame rate of 30 frame/s was longer than an hour of wall-clock time by 3.59 seconds, leading to an error of almost a minute and a half over a day. This caused people to make unnecessary mistakes in broadcasting studios and precious advertising dollars could be lost. To correct this, drop frame SMPTE timecode was invented. In spite of what the name implies, false video frames are dropped (skipped) using drop-frame timecode. What's actually being dropped are some of the timecode "labels". In order to make an hour of timecode match an hour on the clock, drop-frame timecode drops frame numbers 0 and 1 of the first second of every minute, and includes them when the number of minutes is divisible by ten. This achieves an "easy-to-track" drop frame rate of 18 frames each ten minutes (18,000 frames @ 30frame/s) and almost perfectly compensates for the difference in rate, leaving a residual timing error of roughly 86.4 milliseconds per day, an error of only 1.0 ppm.

i.e. - Drop frame TC drops two frames every minute, except every tenth minute, achieving 29.97frame/s. Drop frame is usually represented with a semi-colon (;) whereas non-drop is represented with a colon (:) (Read and Write property)

### 8.27.7   Flags as Integer

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The flags of this timecode.
**Notes:**

Values are available using the boolean properties.
(Read and Write property)

### 8.27.8   FrameDuration as Integer

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The frame duration for this track.
**Notes:**

In TimeScale units.
(Read and Write property)

### 8.27.9   FrameNumber as Integer

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The current frame number.
**Notes:**

Set by TimeCodeAtTime, CurrentTimeCode and TimeCodeToFrameNumber.
Used by FrameNumberToTimeCode.

(Read and Write property)

### 8.27.10   Frames as Integer

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The start value for the time code.
**Notes:**

Value is only useful if UseTimeCode is true.
(Read and Write property)

### 8.27.11   Hours as Integer

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The start value for the time code.
**Notes:**

Value is only useful if UseTimeCode is true.
(Read and Write property)

### 8.27.12   IsNeg as Boolean

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether to display the sign on negative values.
**Notes:** (Read and Write property)

### 8.27.13   Minutes as Integer

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The start value for the time code.
**Notes:**

Value is only useful if UseTimeCode is true.
(Read and Write property)

### 8.27.14   NumberOfFrames as Integer

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The number of frames per second.

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

### 8.27.15    Seconds as Integer

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The start value for the time code.
**Notes:**

Value is only useful if UseTimeCode is true.
(Read and Write property)

### 8.27.16    SourceName as String

Plugin Version: 5.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The source name of the time code.
**Notes:**

This value is not always present.
TrackMBS.TimeCodeAtTime does set it, but QTTrackMBS.CurrentTimeCode does not.
(Read and Write property)

### 8.27.17    TimeScale as Integer

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The time scale factor.
**Notes:**

TimeScale is the number of units per second.
(Read and Write property)

### 8.27.18    Use24Hours as Boolean

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether to use 24 hours per day.
**Notes:**

True ->24 hours
False ->12 hours AM and 12 hours PM.
(Read and Write property)

### 8.27.19   UseTimeCode as Boolean

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether to use the timecode or the counter.
**Notes:**

True ->Timecode
False ->Counter
(Read and Write property)

# 8.28    class QTTrackMBS

## 8.28.1    class QTTrackMBS

Plugin Version: 3.2, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** The class for a QuickTime movie track.
**Notes:** The class keeps a reference to the RB movie object.

## 8.28.2    Methods

## 8.28.3    AddClonedTrackToMovie(dest as movie, flags as Integer) as QTTrackMBS

Plugin Version: 4.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Clones a track and adds it to the current movie.
**Notes:**

Constants for the flags:

| | |
|---|---|
| kQTCloneShareSamples | 1 |
| kQTCloneDontCopyEdits | 2 |

Check Apples QuickTime documentation about the AddClonedTrackToMovie function which has a few limitations.

## 8.28.4    BeginMediaEdits

Plugin Version: 13.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Starts a media-editing session.
**Notes:**

Lasterror is set.

Use EndMediaEdits to end a media-editing session. You must call BeginMediaEdits before you add samples to a media with the AddMediaSample function. You must also call BeginMediaEdits before calling Insert-TrackSegment if you wish InsertTrackSegment to copy media samples instead of copying the segment by reference.

### 8.28.5 ChapterTrack as QTChapterTrackMBS

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the chapter track for this movie.

### 8.28.6 CurrentTimeCode as QTTimeCodeMBS

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Retrieves the timecode and source identification information for the current movie time.
**Example:**

```
Function GetQTTimeCodeMBS(m As movie) As QTTimeCodeMBS
dim tc as QTTimeCodeMBS
dim t as QTTrackMBS
dim i,c as Integer

c=m.TrackCountMBS
for i=1 to c
t=m.GetTrackIndexMBS(i)
if t<>NIL then
tc=t.CurrentTimeCode
if tc<>NIL and tc.TimeScale>0 then
Return tc
end if
end if
next
End Function
```

**Notes:**

Lasterror is set.
Returns nil on any error.
Requires QuickTime 3.

### 8.28.7 DeleteTrackReference(type as string, index as Integer)

Plugin Version: 11.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Removes a track reference from a track.
**Notes:**

self: Identifies the track for this operation.
type: The type of reference.
index: The index value of the reference to be deleted. You obtain this index value when you create the track

reference.

This function deletes a track reference from a track. If there are additional track references with higher index values, the toolbox automatically renumbers those references, decrementing their index values by 1.

Lasterror property is set.

### 8.28.8    DeleteTrackSegment(time as Integer, Duration as Integer)

Plugin Version: 8.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Removes a specified segment from a track.
**Notes:**

self:
The track for this operation.

time:
A time value specifying the starting point of the segment to be deleted. This time value must be expressed in the time scale of the movie that contains the source track.

Duration:
A time value that specifies the duration of the segment to be deleted. This time value must be expressed in the time scale of the movie that contains the source track.

Discussion
You identify the segment to remove by specifying its starting time and duration.

Lasterror is set.

### 8.28.9    DisposeTrackMedia

Plugin Version: 11.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Removes a media from a track.
**Notes:**

This function does not remove the track from its movie.
Lasterror property is set.

## 8.28.10   Duration as Integer

Plugin Version: 4.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The duration of the track.
**Notes:** In timescale of the movie.

## 8.28.11   EndMediaEdits

Plugin Version: 13.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Ends a media-editing session.

## 8.28.12   File(index as Integer) as folderitem

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the file referenced for this track.
**Example:**

```
dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
dim m as movie = f.OpenAsMovie

dim c as Integer = m.TrackCountMBS
for i as Integer = 1 to c
dim t as QTTrackMBS = m.GetTrackIndexMBS(i)

'MsgBox "Track "+t.MediaType+" has "+str(t.FileCount)+" files."

dim fc as Integer = t.FileCount
for fi as Integer = 0 to fc-1
dim file as FolderItem = t.file(fi)
if file = nil then
MsgBox "file missing."
else
MsgBox file.AbsolutePath
end if
next
next
```

**Notes:**

Index is from 1 to FileCount.
Each QuickTime Movie Track can reference several media files.

### 8.28.13   FileAlias(index as Integer) as string

Plugin Version: 14.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Queries alias info
for nth File Reference.
**Notes:**

Index is from 1 to FileCount.
Each QuickTime Movie Track can reference several media files.

### 8.28.14   FileCount as Integer

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The number of files
referenced by the media used in this track.
**Example:**

dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
dim m as movie = f.OpenAsMovie

dim c as Integer = m.TrackCountMBS
for i as Integer = 1 to c
dim t as QTTrackMBS = m.GetTrackIndexMBS(i)

MsgBox "Track "+t.MediaType+" has "+str(t.FileCount)+" files."
next

**Notes:** Returns 0 on any error.

### 8.28.15   FrameNumberToTimeCode(timecode as QTTimeCodeMBS)

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Converts a frame
number into its corresponding timecode time value.
**Notes:**

Uses the frameNumber property of the timecode class and fills the time/counter values.
Lasterror is set.

### 8.28.16   GenerateTrackApertureModeDimensions as Integer

Plugin Version: 8.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Examines a track
and sets up aperture mode dimensions.
**Notes:** This function can be used to add information needed to support aperture modes to tracks created

with applications and/or versions of QuickTime that did not support aperture mode dimensions. If the image descriptions in video tracks lack tags describing clean aperture and pixel aspect ratio information, the media data may be scanned to see if the correct values can be divined and attached. Then the aperture mode dimensions are calculated and set. Afterwards, the kQTVisualPropertyID_HasApertureModeDimensions property will be set to true for these tracks. Tracks which do not support aperture modes are not changed.

### 8.28.17 GetMediaSample(byref data as Memoryblock, byref time as Integer, byref durationPerSample as Integer, byref description as memoryblock, byref sampleDescriptionIndex as Integer, maxNumberOfSample as Integer, byref numberOfSamples as Integer, byref flags as Integer) as boolean

Plugin Version: 9.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns a sample from a movie data file.
**Example:**

dim f as FolderItem
dim m as movie

f=SpecialFolder.Desktop.Child("test.mov")
m=f.OpenAsMovie

dim q as QTTrackMBS

q=m.GetTrackIndexMBS(1)

MsgBox q.MediaType

dim data, description as Memoryblock
dim time, durationPerSample, sampleDescriptionIndex, maxNumberOfSample, numberOfSamples, flags as Integer

time=5.0*m.TimeScaleMBS // 5th second

MsgBox "We ask for data at time: "+Format(time,"0")

if q.GetMediaSample(data, time, durationPerSample, description, sampleDescriptionIndex, maxNumberOfSample, numberOfSamples, flags) then

MsgBox "We got data for time: "+Format(time,"0")+EndOfLine+str(numberOfSamples)+" samples"

end if

**Notes:**

data: A memoryblock. The GetMediaSample function returns the sample data into this memoryblock.


time: The starting time of the sample to be retrieved. You must specify this value in the media's time scale. The GetMediaSample function updates this time value to indicate the actual time of the returned sample data. (The returned time may differ from the time you specified with the time parameter. This will occur if the time you specified falls in the middle of a sample.)


durationPerSample: The Movie Toolbox returns the duration of each sample in the media. This time value is expressed in the media's time scale.
description: A memoryblock which will contain a SampleDescription structure. The GetMediaSample function returns the sample description corresponding to the returned sample data.


sampleDescriptionIndex: An integer. The GetMediaSample function returns an index value to the SampleDescription structure that corresponds to the returned sample data. You can retrieve the structure by calling GetMediaSampleDescription and passing this index.


maxNumberOfSamples: The maximum number of samples to be returned. The Movie Toolbox does not return more samples than you specify with this parameter. If you set this parameter to 0, the Movie Toolbox uses a value that is appropriate for the media, and returns that value in the field referenced by the numberOfSamples parameter.


numberOfSamples: An integer. The GetMediaSample function updates the field referred to by this parameter with the number of samples it actually returns.


sampleFlags: An integer in which GetMediaSample returns flags (see below) that describe the sample. Unused flags are set to 0. See the mediaSampleNotSync flag in the QuickTime documentation.


LastError is set.




### 8.28.18   GetSoundTrackWithIndex(M as Movie, Index as Integer, EnabledTracksOnly as boolean = false) as QTTrackMBS

Plugin Version: 15.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the sound track with the given index.
**Notes:** Index starts with 1. Returns nil if no track was found.
See also:


- 8.28.19 GetSoundTrackWithIndex(MovieHandle as Integer, Index as Integer, EnabledTracksOnly as boolean = false) as QTTrackMBS                                                                347

### 8.28.19 GetSoundTrackWithIndex(MovieHandle as Integer, Index as Integer, EnabledTracksOnly as boolean = false) as QTTrackMBS

Plugin Version: 15.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the sound track with the given index.
**Notes:** Index starts with 1. Returns nil if no track was found.
See also:

### 8.28.20 GetTrackRawMatrix(byref matrix00 as Integer, byref matrix01 as Integer, byref matrix02 as Integer, byref matrix10 as Integer, byref matrix11 as Integer, byref matrix12 as Integer, byref matrix20 as Integer, byref matrix21 as Integer, byref matrix22 as Integer)

Plugin Version: 11.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Gets the matrix for this track.
**Notes:**

This is a 3 x 3 matrix stored in integers. Left and middle columns are Fixed data type, which means integer value = real value * 65536.0 and right column is a Fract, which means integer value = real value * 1073741824.0.

The identity matrix is:

| | | |
|---|---|---|
| 65536 | 0 | 0 |
| 0 | 65536 | 0 |
| 0 | 0 | 1073741824 |

Please read:
http://developer.apple.com/library/mac/# qa/qa2001/qa1227.html

Lasterror is set.

### 8.28.21 GetVideoTrackWithIndex(M as Movie, Index as Integer, EnabledTracksOnly as boolean = false) as QTTrackMBS

Plugin Version: 15.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the video track with the given index.

**Notes:** Index starts with 1. Returns nil if no track was found.
See also:

## 8.28.22    GetVideoTrackWithIndex(MovieHandle as Integer, Index as Integer, EnabledTracksOnly as boolean = false) as QTTrackMBS

Plugin Version: 15.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the video track with the given index.
**Notes:** Index starts with 1. Returns nil if no track was found.
See also:

## 8.28.23    HasChapterTrack as boolean

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether the track's movie has a chaptertrack.

## 8.28.24    InsertEmptyTrackSegment(time as Integer, Duration as Integer)

Plugin Version: 8.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Adds an empty segment to a track.
**Notes:**

self:
The track for this operation. Your application obtains this track identifier from such functions as NewMovieTrack and GetMovieTrack.

time:
A time value specifying where the segment is to be inserted. This time value must be expressed in the time scale of the movie that contains the destination track.

Duration:
A time value that specifies the duration of the segment to be added. This time value must be expressed in the time scale of the movie that contains the destination track.

Return Value
See Error Codes. If you try to add an empty segment beyond the end of a track, this function does not add

the empty segment and returns a result code of invalidTime. Returns noErr if there is no error.

Discussion
You specify the starting time and duration of the empty segment to be added. These times must be expressed in the movie's time scale. This function then inserts the appropriate amount of empty time into the track. The exact meaning of the term empty time depends upon the type of track. For example, empty time in a sound track is silence. Note that you cannot add empty space to the end of a movie or to the end of a track.

Lasterror is set.

### 8.28.25   InsertTrackSegment(dest as QTTrackMBS, srcIn as Integer, srcDuration as Integer, dstIn as Integer)

Plugin Version: 8.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Copies data into a track.
**Notes:**

self:
The source track for this operation.

dest:
The destination track for this operation. This function places a copy of the segment, which is obtained from the source track, into this destination track. The media for the destination track must be opened for writing by calling BeginMediaEdits in order for the data to be copied. If the media is not opened for writing, the segment will be copied by reference. At the end of the editing session, your application must call EndMediaEdits if it has called BeginMediaEdits.

srcIn:
The start of the segment in the source track. This time value must be expressed in the time scale of the movie that contains the source track.

srcDuration:
The duration of the segment in the source track. This time value must be expressed in the time scale of the movie that contains the source track.

dstIn:
A time value specifying where the segment is to be inserted. This time value must be expressed in the time scale of the movie that contains the destination track.

Discussion
If you are copying data between tracks, make sure that the two tracks are of the same type. For example, you cannot copy a segment from a sound track into a video track. If you have assigned a progress function

to the movie that contains the destination track, the Movie Toolbox calls that progress function during long copy operations.

Special Considerations
If you copy a segment without calling BeginMediaEdits on the destination track's media, the data can be copied later by flattening the movie.

Lasterror is set.

### 8.28.26   IsChapterTrack as boolean

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether this track is a chapter track.

### 8.28.27   MediaFlashSampleDescription(index as Integer) as QTFlashSampleDescriptionMBS

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the sample description for the flash data in the track.
**Notes:** Returns nil if this track does not contain flash data.

### 8.28.28   MediaGetGraphicsMode(byref Mode as Integer, byref TheColor as color)

Plugin Version: 5.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Obtains the graphics mode and blend color values currently in use by any media handler.
**Notes:**

Mode: The media handler returns the graphics mode currently in use by the media handler.

TheColor: The Movie Toolbox returns the color currently in use by the media handler. This is the blend value for blends and the transparent color for transparent operations. The toolbox supplies this value to QuickDraw when you draw in addPin, subPin, blend, transparent, or graphicsModeStraightAlphaBlend mode.

Sets lasterror property.
Requires QuickTime 3 or earlier.

Some additional modes:

### 8.28.29 MediaHandle as Integer

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The handle to the media used for this track.

### 8.28.30 MediaHandlerHandle as Integer

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The handle to the media handler used for this track.

### 8.28.31 MediaMusicSampleDescription(index as Integer) as QTMusicSampleDescriptionMBS

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the sample description for the music data in the track.
**Notes:** Returns nil if this track does not contain music data.

### 8.28.32 MediaSampleCount as Integer

Plugin Version: 9.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Determines the number of samples in a media.
**Notes:** Returns 0 on Linux or on any error.

### 8.28.33 MediaSampleDescription(index as Integer) as QTSampleDescriptionMBS

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The sample description with the given index for this track.
**Example:**

dim f as FolderItem = SpecialFolder.Desktop.Child("test.mov")
dim theMovie as movie=f.openasmovie

if theMovie = nil then
MsgBox "Failed to load movie from "+f.AbsolutePath
end if

// Get the sound track.

dim found as Boolean=false

dim iMax as Integer = theMovie.TrackCountMBS
for iLoop as Integer = 1 to iMax
dim qtt as QTTrackMBS = theMovie.GetTrackIndexMBS(iLoop)
if qtt.MediaType = "soun" then

// Now that we have a sound track, find a valid description.
dim jMax as Integer = qtt.MediaSampleDescriptionCount
for jLoop as Integer = 1 to jMax
dim qtsd as QTSampleDescriptionMBS = qtt.MediaSampleDescription(jLoop)
if qtsd <>nil then
if qtsd isa QTSoundSampleDescriptionMBS then
dim qtssd as QTSoundSampleDescriptionMBS = QTSoundSampleDescriptionMBS(qtsd)

MsgBox "Sound track with "+str(qtssd.ChannelCount)+" channels with "+str(qtssd.SampleSize)+" bits
at "+str(qtssd.SampleRate)+" Hz."

end if
end if
next

end if
next


**Notes:**

Returns nil on any error.
If e.g. the track is a video track, a QTVideoSampleDescriptionMBS object is returned.


### 8.28.34    MediaSampleDescriptionCount as Integer

Plugin Version: 4.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The number of media
sample descriptions in media of this track.
**Notes:** Returns 0 on any error.


### 8.28.35    MediaSampleDescriptionRaw(index as Integer) as memoryblock

Plugin Version: 9.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The sample descrip-
tion with the given index for this track as raw data in a memoryblock.
**Notes:** Returns nil on any error.

### 8.28.36 MediaSetGraphicsMode(Mode as Integer, TheColor as color)

Plugin Version: 5.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Sets the graphics mode and blend color values currently in use by any media handler.
**Notes:**

See MediaGetGraphicsMode.
Lasterror is set.

### 8.28.37 MediaSoundSampleDescription(index as Integer) as QTSoundSampleDescriptionMBS

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the sample description for the sound data in the track.
**Notes:** Returns nil if this track does not contain sound data.

### 8.28.38 MediaSpriteSampleDescription(index as Integer) as QTSpriteSampleDescriptionMBS

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the sample description for the sprite data in the track.
**Notes:** Returns nil if this track does not contain sprite data.

### 8.28.39 MediaTextSampleDescription(index as Integer) as QTTextSampleDescriptionMBS

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the sample description for the text data in the track.
**Notes:** Returns nil if this track does not contain text data.

### 8.28.40 MediaThreeDeeSampleDescription(index as Integer) as QTThreeDeeSampleDescriptionMBS

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the sample description for the three dee data in the track.
**Notes:** Returns nil if this track does not contain three dee data.

### 8.28.41   MediaType as string

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The type of the media data.
**Notes:**

Possible values:

### 8.28.42   MediaVideoSampleDescription(index as Integer) as QTVideoSampleDescriptionMBS

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the sample description for the video data in the track.
**Notes:** Returns nil if this track does not contain video data.

### 8.28.43   MetaData as QTMetaDataMBS

Plugin Version: 6.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The metadata of the track.
**Notes:**

Returns nil on any error and sets the lasterror property.
Requires QuickTime 7.

### 8.28.44   NextInterestingTimeMBS(byref time as Integer, byref duration as Integer) as boolean

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Finds the next interesting video time (the next frame).
**Notes:**

Time is an integer for the time to start the search.
Returns in Time the time found (or 0 on an error).
Duration is set to the duration of this frame.
Remember that in QuickTime each frame can have it's individual length.

Normally you find using this function the next frame of a movie.
You start with time=0 in the first frame and loop using this function from frame to frame till you get time<=0 again.
See also:

- 8.28.45 NextInterestingTimeMBS(byref time as Integer, byref duration as Integer, rate as Double) as

### 8.28.45 NextInterestingTimeMBS(byref time as Integer, byref duration as Integer, rate as Double) as boolean

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Finds the next interesting video time (the next frame).
**Notes:**

Time is an integer for the time to start the search.
Returns in Time the time found (or 0 on an error).
Duration is set to the duration of this frame.
Remember that in QuickTime each frame can have it's individual length.
Set Rate to a negative value to search backwards.

Normally you find using this function the next frame of a movie.
You start with time=0 in the first frame and loop using this function from frame to frame till you get time<=0 again.
See also:

- 8.28.44 NextInterestingTimeMBS(byref time as Integer, byref duration as Integer) as boolean  354

### 8.28.46 RemoveTrackApertureModeDimensions as Integer

Plugin Version: 8.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Removes aperture mode dimension information from a track.
**Notes:** This function removes aperture mode dimension information from a track. It does not attempt to modify sample descriptions, so it may not completely reverse the effect of GenerateTrackApertureModeDimensions. It sets the kQTVisualPropertyID_HasApertureModeDimensions property to false.

### 8.28.47 ScaleTrackSegment(startTime as Integer, oldDuration as Integer, newDuration as Integer)

Plugin Version: 8.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Changes the duration of a segment of a track.
**Notes:**

self:
The track for this operation.

startTime:
The start of the segment. The oldDuration parameter specifies the segment's duration. This time value

must be expressed in the time scale of the movie that contains the track.

oldDuration:
The duration of the segment. This time value must be expressed in the time scale of the movie that contains the track.

newDuration:
The new duration of the segment. This time value must be expressed in the time scale of the movie that contains the track. The function alters the segment to accommodate the new duration.

Discussion
This function does not cause the Movie Toolbox to add data to or remove data from the movie.

Lasterror is set.

## 8.28.48    SetFile(index as Integer, file as folderitem) as Integer

Plugin Version: 9.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Changes the media file reference to point to another file.
**Example:**

dim MovieFile,f as FolderItem
dim m as movie
dim i,c,ii,cc as Integer
dim t as QTTrackMBS
dim paths(-1) as string

// take this movie, linked to test2.mov
MovieFile=SpecialFolder.Desktop.Child("testing.mov")
m=MovieFile.OpenAsMovie

// will be changed to test1.mov
f=SpecialFolder.Desktop.Child("test1.mov")

c=m.TrackCountMBS
for i=1 to c
t=m.GetTrackIndexMBS(i)

redim paths(-1)

cc=t.FileCount
for ii=1 to cc
paths.Append t.File(ii).AbsolutePath
next

MsgBox t.MediaType+EndOfLine+EndOfLine+Join(paths,EndOfLine)

// change path now:
cc=t.FileCount
for ii=1 to cc
MsgBox "SetFile reports: "+str(t.SetFile(ii, f))
next

redim paths(-1)

cc=t.FileCount
for ii=1 to cc
paths.Append t.File(ii).AbsolutePath
next

MsgBox "Changed to:"+EndOfLine+EndOfLine+Join(paths,EndOfLine)

next

call m.SaveMBS(MovieFile,false,false)

**Notes:**

Returns a QuickTime error code. Returns -1 if the function is not available.

Index is from 1 to FileCount.
Each QuickTime Movie Track can reference several media files.

### 8.28.49    SetTextTrackAsChapterTrack(type as string, isChapterTrack as boolean)

Plugin Version: 8.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Set the (first) text track in the specified movie to be or not to be a chapter track for the (first) enabled track of the specified type.
**Notes:** Lasterror is set.

### 8.28.50    SetTrackApertureModeDimensionsUsingSampleDescription as Integer

Plugin Version: 8.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Sets a track's aperture mode dimensions using values calculated using a sample description.
**Notes:**

This function should be used to add information needed to support aperture modes to newly created tracks. This information is calculated using the track's first sample description is used.
Returns a QuickTime error code.

## 8.28.51   SetTrackDimensions(width as Double, height as Double)

Plugin Version: 4.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Changes the track dimensions.

## 8.28.52   SetTrackMatrix(x as Integer, y as Integer, w as Integer, h as Integer)

Plugin Version: 4.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Sets the destination rectangle for the track inside the movie rectangle.
**Example:**

Sub RepositionTimeCodeTrack()
// Find Time Code track and move/resize it as you like

dim q as QTTrackMBS
dim i,c as Integer

c=myMovie.TrackCountMBS
for i=1 to c
q=myMovie.GetTrackIndexMBS(i)

if q.MediaType="tmcd" then
q.SetTrackMatrix 0,0,200,50
end if
next
End Sub

**Notes:**

You can use this to have a movie with e.g. two video tracks and one for example in the center of the playing movie.
Lasterror is set.

### 8.28.53 SetTrackRawMatrix(matrix00 as Integer, matrix01 as Integer, matrix02 as Integer, matrix10 as Integer, matrix11 as Integer, matrix12 as Integer, matrix20 as Integer, matrix21 as Integer, matrix22 as Integer)

Plugin Version: 11.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Sets the matrix for this track.
**Notes:**

This is a 3 x 3 matrix stored in integers. Left and middle columns are Fixed data type, which means integer value = real value * 65536.0 and right column is a Fract, which means integer value = real value * 1073741824.0.

The identity matrix is:

Please read:
http://developer.apple.com/library/mac/# qa/qa2001/qa1227.html

Lasterror is set.

### 8.28.54 SoundGetEffectiveBalance as Integer

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Gets the effective sound balance setting of a media handler used for this track.
**Notes:**

The Movie Toolbox returns the current balance setting of the media handler as a 16-bit, fixed-point value. The high-order 8 bits contain the integer part of the value; the low-order 8 bits contain the fractional part. Valid balance values range from -1.0 to 1.0. Negative values emphasize the left sound channel, and positive values emphasize the right sound channel; a value of 0 specifies neutral balance.

Introduced in QuickTime 4.
Lasterror is set.

### 8.28.55 SoundGetEffectiveVolume as Integer

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Gets the effective volume setting for the media handler used by this track.
**Notes:**

The media's current volume setting. This value is represented as a 16-bit, fixed-point number. The high-order 8 bits contain the integer portion; the low-order 8 bits contain the fractional part. Volume values range from -1.0 to 1.0. Negative values play no sound but preserve the absolute value of the volume setting.

Introduced in QuickTime 4.
Lasterror is set.

### 8.28.56    SoundGetEqualizerBandLevels(count as Integer) as memoryblock

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the current
sound equalizer band levels.
**Notes:**

Returns a memoryblock with count bytes.
One byte for each band.
Returns nil on any error.

### 8.28.57    SoundLevelMeterInfo(byref numChannels as Integer, byref leftMeter as Integer, byref rightMeter as Integer)

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Gets the right and
left sound level meter values for a media handler used by this track.
**Notes:**

Introduced in QuickTime 4.
Lasterror is set.

### 8.28.58    SoundSetDefaultEqualizerBands as Integer

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Initializes the sound
equalizer bands.
**Notes:**

The band frequencies used here (these are the same bands used by QuickTime Player):

### 8.28.59    SoundSetEqualizerBands(count as Integer, values as memoryblock) as Integer

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Initializes the sound
equalizer bands.
**Notes:** Pass in a memoryblock with count integer values (4 byte per value) for the frequencies.

## 8.28.60 TimeCodeAtTime(MediaTime as Integer) as QTTimeCodeMBS

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Searches the time code at the given media time.
**Notes:**

Returns nil on any error.
Lasterror is set.

## 8.28.61 TimeCodeToFrameNumber(timecode as QTTimeCodeMBS)

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Converts a timecode time value into its corresponding frame number.
**Notes:**

Uses the values from the timecode for the conversion and stores result in the frameNumber property.
Lasterror is set.
Requires QuickTime 3.

## 8.28.62 TimeCodeToString(timecode as QTTimeCodeMBS) as string

Plugin Version: 5.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Converts a time value into a text string (HH:MM:SS.FF).
**Notes:**

Lasterror is set.
The passed in timecode is used to get the values for the conversion.
Returns an ASCII string.
If the timecode uses the dropframe technique, the separators are semicolons (;) rather than colons (:).
Requires QuickTime 3.

## 8.28.63 TrackCreationTime as Integer

Plugin Version: 4.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The track creation time.

## 8.28.64 TrackID as Integer

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The ID of the track.

### 8.28.65   TrackModificationTime as Integer

Plugin Version: 4.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The track modification time.

### 8.28.66   UserData as QTUserDataMBS

Plugin Version: 9.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the userdata object for this movie.
**Notes:**

You are working on the original data.
After the movie is closed, this object will be invalid and should no longer be used.
Returns nil on any error.

### 8.28.67   Properties

### 8.28.68   Lasterror as Integer

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The last error code reported.
**Notes:** (Read and Write property)

### 8.28.69   Movie as Movie

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The reference to the original movie.
**Notes:** (Read and Write property)

### 8.28.70   TrackHandle as Integer

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The handle for the track.
**Notes:** (Read and Write property)

## 8.28.71 AudioChannelLayout as QTAudioChannelLayoutMBS

Plugin Version: 11.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Get or set the audio channel layout.
**Notes:**

Lasterror is set.
(Read and Write computed property)

## 8.28.72 Height as Integer

Plugin Version: 4.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The height of the track media.
**Notes:**

Not valid for sound tracks.
(Read and Write computed property)

## 8.28.73 Layer as Integer

Plugin Version: 4.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The layer of this track.
**Notes:**

Returns 0 on any error.
(Read and Write computed property)

## 8.28.74 SoundBalance as Integer

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The balance of the sound.
**Example:**

dim ml,mr as movie
dim f as FolderItem
dim t as QTTrackMBS

f=SpecialFolder.Desktop.Child("Left.aif")
ml=f.OpenAsMovie

f=SpecialFolder.Desktop.Child("Right.aif")
mr=f.OpenAsMovie

t=mr.GetTrackIndexMBS(1) // first track
t.SoundBalance=127 // right only

t=ml.GetTrackIndexMBS(1) // first track
t.SoundBalance=-128 // left only

MoviePlayerr.movie=mr
MoviePlayerl.movie=ml

MoviePlayerl.play
MoviePlayerr.Play

**Notes:**

Range is from -128 to 127.
(Read and Write computed property)

### 8.28.75   SoundBass as Integer

Plugin Version: 5.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The bass value of a sound track.
**Example:**

Sub SetMovieBass(m as movie, value as Integer)
dim i,c as Integer
dim t as qttrackmbs

// walk through each track
c=m.TrackCountMBS
for i=1 to c
t=m.GetTrackIndexMBS(i)

// set value
t.SoundBass=value // for bass
next
End Sub

**Notes:**

The value is a short (-32767 to 32766), but the correct range is unknown.
Default value for a track is 0.
Lasterror is set.
(Read and Write computed property)

## 8.28.76 SoundLevelMeteringEnabled as boolean

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether sound level metering capability is enabled.
**Notes:**

The media's current volume setting. This value is represented as a 16-bit, fixed-point number. The high-order 8 bits contain the integer portion; the low-order 8 bits contain the fractional part. Volume values range from -1.0 to 1.0. Negative values play no sound but preserve the absolute value of the volume setting.
Introduced in QuickTime 4.
Lasterror is set.
(Read and Write computed property)

## 8.28.77 SoundOutputComponentHandle as Integer

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Which output component to use for sound output.
**Notes:**

You get such a handle from the QTComponentInformation class.
(Read and Write computed property)

## 8.28.78 SoundTreble as Integer

Plugin Version: 5.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The treble value of a sound track.
**Example:**

Sub SetMovieTreble(m as movie, value as Integer)
dim i,c as Integer
dim t as qttrackmbs

// walk through each track
c=m.TrackCountMBS
for i=1 to c
t=m.GetTrackIndexMBS(i)

// set value
t.SoundTreble=value // for bass
next
End Sub

**Notes:**

The value is a short (-32767 to 32766), but the correct range is unknown.
Default value for a track is 0.
Lasterror is set.
(Read and Write computed property)

### 8.28.79    TimeOffset as Integer

Plugin Version: 4.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The time offset of the track within the movie.
**Notes:**

In timescale of the movie.
(Read and Write computed property)

### 8.28.80    TrackClipMask as picture

Plugin Version: 5.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The clip mask for this track.
**Notes:**

Pass nil to remove the mask.
Black parts in the mask are shown, white ones are invisible.
Returns nil on any error.
(Read and Write computed property)

### 8.28.81    TrackEnabled as boolean

Plugin Version: 4.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether a track is enabled.
**Example:**

dim t as QTTrackMBS // your track
t.TrackEnabled=true

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

## 8.28.82 TrackVolume as Integer

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The sound volume for this track.
**Example:**

Title=str(MoviePlayer1.Position)+" "+str(MoviePlayer1.movie.GetTrackIndexMBS(1).TrackVolume)

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

## 8.28.83 Width as Integer

Plugin Version: 4.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The width of the track media.
**Notes:**

Not valid for sound tracks.
(Read and Write computed property)

| srcCopy | 0 | If the source is black, apply the foreground color to the destination; if the source is white, apply the background color; otherwise apply weighted portions of the foreground and background colors. |
|---|---|---|
| srcOr | 1 | If the source is black, apply the foreground color to the destination; if the source is white, do nothing; otherwise apply weighted portions of the foreground color. |
| srcXor | 2 | If the source is black, invert the destination (this operation is undefined for a colored destination). Otherwise, do nothing. |
| srcBic | 3 | If the source is black, apply the background color to the destination. If the source is white, do nothing. Otherwise, apply weighted portions of the background color. |
| notSrcCopy | 4 | If the source is white, apply the foreground color to the destination; if the source is black, apply the background color; otherwise apply weighted portions of the foreground and background colors. |
| notSrcOr | 5 | If the source is white, apply the foreground color to the destination; if the source is black, do nothing; otherwise apply weighted portions of the foreground color. |
| notSrcXor | 6 | If the source is white, invert the destination (this operation is undefined for a colored destination pixel). Otherwise, do nothing. |
| notSrcBic | 7 | If the source is white, apply the background color to the destination. If the source is black, do nothing. Otherwise, apply weighted portions of the background color. |
| Text dimming: grayishTextOr | 49 | Dim the destination. If in color, replace it with a blend of the foreground and background; if black-and-white, replace it with dithered black and white. This mode is used primarily for text. |
| Highlighting: hilite | 50 | Replace the background color with the highlight color. |
| Arithmetic modes: blend | 32 | Replace the destination with a blend of the source and destination colors. If the destination is a bitmap, this is the same as srcCopy. |
| addPin | 33 | Replace the destination with the sum of the source and destination, up to a maximum value. If the destination is a bitmap, this is the same as srcBic. |
| addOver | 34 | Replace the destination with the sum of the source and destination, but if the resulting red, green, or blue value exceeds 65536, then subtract 65536 from it. If the destination is a bitmap, this is the same as srcXor. |
| subPin | 35 | Replace the destination with the difference between the source and destination, but not less than a minimum value. If the destination is a bitmap, this is the same as srcOr. |
| addMax | 37 | Compare the source and destination, and replace the destination with the greater value of each of the red, green, and blue components. If the destination is a bitmap, this is the same as srcBic. |
| subOver | 38 | Replace the destination with the difference between the source and destination, but if the resulting red, green, or blue value is negative, then add 65536 to it. If the destination is a bitmap, this is the same as srcXor. |
| addMin | 39 | Compare the source and destination, and replace the destination with the lesser value of each of the red, green, and blue components. If the destination is a bitmap, this is the same as srcOr. |
| ditherCopy | 64 | Replace the destination with a dither mix of the source and destination. |
| Transparent mode: transparent | 36 | Replace the destination with the source if the source is not equal to the background. |

| | |
|---|---|
| graphicsModeStraightAlpha | = 256 |
| graphicsModePreWhiteAlpha | = 257 |
| graphicsModePreBlackAlpha | = 258 |
| graphicsModeComposition | = 259 |
| graphicsModeStraightAlphaBlend | = 260 |
| graphicsModePreMulColorAlpha | = 261 |
| graphicsModePerComponentAlpha | = 272 |

| | |
|---|---|
| VideoMediaType | "vide" |
| SoundMediaType | "soun" |
| TextMediaType | "text" |
| BaseMediaType | "gnrc" |
| MPEGMediaType | "MPEG" |
| MusicMediaType | "musi" |
| TimeCodeMediaType | "tmcd" |
| SpriteMediaType | "sprt" |
| FlashMediaType | "flsh" |
| MovieMediaType | "moov" |
| TweenMediaType | "twen" |
| ThreeDeeMediaType | "qd3d" |
| SkinMediaType | "skin" |
| HandleDataHandlerSubType | "hndl" |
| PointerDataHandlerSubType | "ptr " |
| NullDataHandlerSubType | "null" |
| ResourceDataHandlerSubType | "rsrc" |
| URLDataHandlerSubType | "url " |
| WiredActionHandlerType | "wire" |

| | | |
|---|---|---|
| 65536 | 0 | 0 |
| 0 | 65536 | 0 |
| 0 | 0 | 1073741824 |

| | |
|---|---|
| numChannels | Contains 1 for mono or 2 for stereo source. |
| leftMeter | Left meter level, 0-255 range. |
| rightMeter | Right meter level, 0-255 range. |

| | | |
|---|---|---|
| kBandFreq0 | & h00C80000 | 00200 Hz |
| kBandFreq1 | & h01900000 | 00400 Hz |
| kBandFreq2 | & h03200000 | 00800 Hz |
| kBandFreq3 | & h06400000 | 01600 Hz |
| kBandFreq4 | & h0C800000 | 03200 Hz |
| kBandFreq5 | & h19000000 | 06400 Hz |
| kBandFreq6 | & h32000000 | 12800 Hz |
| kBandFreq7 | & h52080000 | 21000 Hz |

# 8.29    class QTUserDataMBS

## 8.29.1    class QTUserDataMBS

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** A class for QuickTime user data.

## 8.29.2    Methods

## 8.29.3    AddData(type as string, data as memoryblock)

Plugin Version: 13.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Adds data to the userdata.
**Notes:**

Lasterror is set.
Type must be a 4 letter code in MacRoman encoding.
See also:

- 8.29.4 AddData(type as string, data as string)                                              370

## 8.29.4    AddData(type as string, data as string)

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Adds data to the userdata.
**Notes:**

Lasterror is set.
Type must be a 4 letter code in MacRoman encoding.
See also:

- 8.29.3 AddData(type as string, data as memoryblock)                                370

## 8.29.5    AddText(type as string, index as Integer, region as Integer, text as string)

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Adds text to the userdata.
**Example:**

dim q as QTUserDataMBS // your user data
// Set model on picture metadata

q.AddText "mod",1,0,"test"

// Use region=0 as it will not work, as other values seem
// not to work on exif metadata inside a picture.

**Notes:**

Lasterror is set.
Type must be a 4 letter code in MacRoman encoding.
The text should be encoded in MacRoman.

### 8.29.6 Close

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The destructor.
**Notes:**

There is no need to call this method except you want to free all resources of this object now without waiting for Realbasic to do it for you.
(e.g. some Realbasic versions crash on Windows if there are plugin objects not closed.)

### 8.29.7 CountType(type as string) as Integer

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Counts the items with the given type code.
**Notes:** Type must be a 4 letter code in MacRoman encoding.

### 8.29.8 GetData(type as string, index as Integer) as string

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the data for the given type with the given index.
**Notes:**

Lasterror is set.
Type must be a 4 letter code in MacRoman encoding.

### 8.29.9 GetNextType(type as string) as string

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** This function can be used to get the list of available type codes.

**Notes:**

Start with "" and call the function as often as you not get "" back.
Lasterror is set.
Type must be a 4 letter code in MacRoman encoding.

### 8.29.10   GetText(type as string, index as Integer, region as Integer) as string

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns text for the given item.
**Notes:**

Lasterror is set.
Type must be a 4 letter code in MacRoman encoding.

### 8.29.11   RemoveData(type as string, index as Integer)

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Removes the specified data.
**Notes:**

Lasterror is set.
Type must be a 4 letter code in MacRoman encoding.

### 8.29.12   RemoveText(type as string, index as Integer, region as Integer)

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Removes the specified text item.
**Notes:**

Lasterror is set.
Type must be a 4 letter code in MacRoman encoding.

### 8.29.13   Properties

### 8.29.14   Handle as Integer

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The handle to the userdata.
**Notes:** (Read and Write property)

### 8.29.15 Lasterror as Integer

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The last error code.
**Notes:**

0 for success, -1 for bad parameter or out of memory.
(Read and Write property)

### 8.29.16 Release as Boolean

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether the destructor will release the handle.
**Notes:** (Read and Write property)

### 8.29.17 BinaryData as string

Plugin Version: 3.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The binary data representing this object.
**Notes:**

You can save this string to a file.
Lasterror is set.
(Read and Write computed property)

### 8.29.18 Memory as Memoryblock

Plugin Version: 13.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Function:** The binary data representing this object.
**Notes:**

You can save this memoryblock to a file.
Lasterror is set.
(Read and Write computed property)

# 8.30    class QTVideoSampleDescriptionMBS

## 8.30.1    class QTVideoSampleDescriptionMBS

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** A class to describe video data in a movie track.
**Notes:** Subclass of the QTSampleDescriptionMBS class.

## 8.30.2    Properties

## 8.30.3    CodecName as String

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The name of the codec.
**Notes:**

(in case not installed)
(Read and Write property)

## 8.30.4    CodecVendor as String

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whose codec compressed this data.
**Notes:**

This is a 4 letter code for the manufactorer.
("" if the default is to use)
(Read and Write property)

## 8.30.5    Depth as Integer

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** What depth is this data (1-32) or ( 33-40 grayscale ).
**Notes:** (Read and Write property)

## 8.30.6    FrameCount as Integer

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Number of frames this description applies to.

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

### 8.30.7   Height as Integer

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** How many pixels high is this data.
**Notes:** (Read and Write property)

### 8.30.8   HorizontalResolution as Double

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The horizontal resolution in dpi.
**Notes:** (Read and Write property)

### 8.30.9   Size as Integer

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** If known, the size of data for this image descriptor.
**Notes:** (Read and Write property)

### 8.30.10   SpatialQuality as Integer

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** What was the spatial quality factor.
**Notes:** (Read and Write property)

### 8.30.11   TemporalQuality as Integer

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** What was the temporal quality factor.
**Notes:** (Read and Write property)

### 8.30.12   VerticalResolution as Double

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The vertical resolution in dpi.

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

### 8.30.13   Width as Integer

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** How many pixels wide is this data.
**Notes:** (Read and Write property)

## 8.31 Globals

### 8.31.1 LastQuickTimeErrorMBS as Integer

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Asks QuickTime for the last error code.
**Notes:**

Returns the contents of the current error value and resets the current error value to 0.
If QuickTime is not available, the function returns -1.

### 8.31.2 OpenMovieFromMemoryBlockMBS(mem as memoryblock, offset as Integer, size as Integer, name as string, mime as string) as movie

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Opens a file from a memoryblock.
**Notes:**

A Movie (loaded from file or from a network) is opened as a movie.
The name (filename) and the mime code is used to tell QuickTime what Movieimporter to use. And this function will fail most of the time if there is no name and no mime type.
Name and Mime may be "".
On any error returns nil.
If the used data string is destroyed, the movie object goes invalid and using the movie after this will certainly crash your application. So store a memoryblock reference somewhere (window or module) to keep it alive.
This function does not work in Cocoa due to a bug in Real Studio. This bug has been fixed in Xojo 2013r1.

### 8.31.3 OpenMovieFromStringMBS(data as string, name as string, mime as string) as movie

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Opens a file from a memoryblock.
**Example:**

dim data as string // global. For example in the window

dim f as FolderItem = GetFolderItem("test.mov")
dim b as BinaryStream = f.OpenAsBinaryFile(False)

if b=nil then
MsgBox "Failed to open movie file"
Return
end if

data = b.Read(b.Length) // data must exists as long as movie exists!

if lenb(data)=0 then
MsgBox "Failed to read movie file"
Return
end if

dim m as movie = OpenMovieFromStringMBS(data,"test.mov","")

if m=nil then
MsgBox "Failed to load movie"
Return
end if

MoviePlayer1.Movie=m

**Notes:**

A Movie (loaded from file or from a network) is opened as a movie.
The name (filename) and the mime code is used to tell QuickTime what Movieimporter to use. And this
function will fail most of the time if there is no name and no mime type.
Name and Mime may be "".
On any error returns nil.
If the used data string is destroyed, the movie object goes invalid and using the movie after this will certainly
crash your application. So store a string reference somewhere (window or module) to keep it alive.

On Windows you need to set movieplayer to QuickTime before you assign this movie so Real Studio runtime
uses QuickTime for playback. Trying Windows Media Player will fail.
This function does not work in Cocoa due to a bug in Real Studio. This bug has been fixed in Xojo 2013r1.

### 8.31.4   OpenMovieHandleMBS(moviehandle as Integer) as movie

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Creates a movie
object from a handle.
**Notes:**

Don't destroy the handle after using this function.
Returns nil on any error.
This function does not work in Cocoa due to a bug in Real Studio. This bug has been fixed in Xojo 2013r1.

### 8.31.5   OpenMovieURLMBS(url as string, flags as Integer) as movie

Plugin Version: 5.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Opens a movie from
an URL.

**Example:**

dim m as movie
dim n,i as Integer

const newMovieAsyncOK=256 // we are trying async loading
const url="rtsp://a2047.v1411b.c1411.g.vq.akamaistream.net/5/2047/1411/2_h264_650/1a1a1ae454c430950065de4cbb2f94c2
// Apple Special Event Stream URL from 12th October 2005. Change if needed.

i=ticks
for n=1 to 10
m=OpenMovieURLMBS(url, newMovieAsyncOK)
m=nil
next
i=ticks-i
MsgBox str(i)

i=ticks
for n=1 to 10
m=OpenURLMovie(url)
m=nil
next
i=ticks-i
MsgBox str(i)

**Notes:**

URL must be ASCII or UTF-8 encoded.

Possible flags value:

| | |
|---|---|
| newMovieActive | = 1 |
| newMovieDontResolveDataRefs | = 2 |
| newMovieDontAskUnresolvedDataRefs | = 4 |
| newMovieDontAutoAlternates | = 8 |
| newMovieDontUpdateForeBackPointers | = 16 |
| newMovieDontAutoUpdateClock | = 32 |
| newMovieAsyncOK | = 256 |
| newMovieIdleImportOK | = 1024 |
| newMovieDontInteractWithUser | = 2048 |

Default is to use newMovieActive and newMovieDontResolveDataRefs.

Please check LoadStateMBS for the status of the movie if you used newMovieAsyncOK.

Returns nil on any error or on Linux.
This function does not work in Cocoa due to a bug in Real Studio. This bug has been fixed in Xojo 2013r1.

### 8.31.6    OpenURLMovieMBS(url as string) as movie

Plugin Version: 9.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Opens a movie with the given URL.
**Example:**

dim m as movie
dim s as string = "http://www.monkeybreadsoftware.de/realbasic/movies/AppleScript-iPhone.m4v"

m=OpenURLMovieMBS(s)

MoviePlayer1.movie=m

**Notes:**

The URL must be in plain ASCII text encoding.
Returns nil on any error.

### 8.31.7    QTRegisterAccessKeyMBS(accessKeyType as string, flags as Integer, accessKey as string) as Integer

Plugin Version: 6.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Registers an access key.
**Notes:**

accessKeyType: The access key type of the key to be registered.
flags: Flags that specify the operation of this function. To register a system access key, set the kAccessKeySystemFlag flag (see below). To register an application access key, set this parameter to 0.
accessKey: A handle to the key to be registered.

Returns an error code (-1 if function is missing).

Most access keys are binary strings.

const kAccessKeySystemFlag=1

accessKeyType and accessKey must have the needed text encoding.

## 8.31.8 QTUnregisterAccessKeyMBS(accessKeyType as string, flags as Integer, accessKey as string) as Integer

Plugin Version: 6.0, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Removes a previously registered access key.
**Notes:**

accessKeyType: The access key type of the key to be removed.
flags: Flags (see below) that specify the operation of this function. To remove a system access key, set the kAccessKeySystemFlag flag. To remove an application access key, set this parameter to 0.
accessKey: The key to be removed.

Returns an error code (-1 if function is missing).

Most access keys are binary strings.

const kAccessKeySystemFlag=1

accessKeyType and accessKey must have the needed text encoding.

## 8.31.9 QuickTimeGetUsersConnectionSpeedMBS as Integer

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns a code for the speed of the line.
**Example:**

msgbox str(QuickTimeGetUsersConnectionSpeedMBS)

**Notes:**

You get these values:

if no rate is set the function returns 2800 for an 28k Modem.

## 8.31.10 QuickTimePollMBS

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Gives CPU time to QuickTime to update movies.
**Notes:**

Some people cry about missing performance on playing movies in RB. This function may help there. if you

| 1400 | 14k Modem |
| 2800 | 28k Modem |
| 5600 | ISDN |
| 11200 | Dual ISDN |
| 25600 | DSL with 256 KBit/s |
| 38400 | DSL with 384 KBit/s |
| 51200 | DSL with 512 KBit/s |
| 76800 | DSL with 768 KBit/s |
| 100000 | DSL with 1 MBit/s |
| 150000 | T1 |
| & h7FFFFFFF | InfiniteRate |

use threads it may be good to call it from time to time.

Suggested timer period setting is 50 ms.

Calls internally MovieTasks(NULL).

### 8.31.11   QuickTimePresentMBS as boolean

Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns true if QuickTime is present.

### 8.31.12   QuickTimeSetUsersConnectionSpeedMBS(newspeed as Integer) as boolean

Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Sets the connection speed.
**Notes:**

See QuickTimeGetUsersConnectionSpeed for the rate codes.
This function returns true if it is successfull.

# Chapter 9

# QuickTime Sequence Grabber

## 9.1 class QTGrabberDeviceInputListMBS

### 9.1.1 class QTGrabberDeviceInputListMBS

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** A class for a list of device inputs.

### 9.1.2 Methods

### 9.1.3 Close

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The destructor.
**Notes:**

There is no need to call this method except you want to free all resources of this object now without waiting for Realbasic to do it for you.
(e.g. some Realbasic versions crash on Windows if there are plugin objects not closed.)

### 9.1.4 Item(index as Integer) as QTGrabberDeviceInputMBS

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the input device with the given index.

## 9.1.5   Properties

## 9.1.6   Count as Integer

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** How many input devices are in this list.
**Notes:** (Read only property)

## 9.1.7   Selected as Integer

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Which device is currently selected.
**Notes:** (Read only property)

## 9.2 class QTGrabberDeviceInputMBS

### 9.2.1 class QTGrabberDeviceInputMBS

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** A class for a Quicktime audio or video device.
**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

### 9.2.2 Methods

### 9.2.3 Close

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The destructor.
**Notes:**

There is no need to call this method except you want to free all resources of this object now without waiting for Realbasic to do it for you.
(e.g. some Realbasic versions crash on Windows if there are plugin objects not closed.)

### 9.2.4 Constructor

Plugin Version: 13.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The private constructor.

### 9.2.5 Properties

### 9.2.6 Flags as Integer

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The flags of the device.
**Notes:**

Reserved for future flags which are not covored by the DeviceAvailable property.
(Read only property)

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### 9.2.7   Icon as picture

Plugin Version: 2.7, Console & Web: No, Mac: No, Win: Yes, Linux: No.  **Function:** The icon of the device.
**Notes:**

There seems to be a bug on Mac OS X so we have no icons there.
(Read only property)

### 9.2.8   name as string

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No.  **Function:** Name of the device input.
**Notes:** (Read only property)

## 9.3   class QTGrabberDeviceListMBS

### 9.3.1   class QTGrabberDeviceListMBS

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** A class for a list of devices.
**Notes:** This is an abstract class. You can't create an instance, but you can get one from various plugin functions.

### 9.3.2   Methods

### 9.3.3   Close

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The destructor.
**Notes:**

There is no need to call this method except you want to free all resources of this object now without waiting for Realbasic to do it for you.
(e.g. some Realbasic versions crash on Windows if there are plugin objects not closed.)

### 9.3.4   Constructor

Plugin Version: 13.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The private constructor.

### 9.3.5   Item(index as Integer) as QTGrabberDeviceMBS

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the device with the given index.

### 9.3.6   Properties

### 9.3.7   Count as Integer

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** How many devices are in this list.
**Notes:** (Read only property)

### 9.3.8   Selected as Integer

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Which device is currently selected.
**Notes:** (Read only property)

## 9.4 class QTGrabberDeviceMBS

### 9.4.1 class QTGrabberDeviceMBS

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** A class for a Quicktime audio or video device.

### 9.4.2 Methods

### 9.4.3 Close

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The destructor.
**Notes:**

There is no need to call this method except you want to free all resources of this object now without waiting for Realbasic to do it for you.
(e.g. some Realbasic versions crash on Windows if there are plugin objects not closed.)

### 9.4.4 Properties

### 9.4.5 DeviceAvailable as boolean

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Is this device available?
**Notes:** (Read only property)

### 9.4.6 Flags as Integer

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The flags of the device.
**Notes:**

Reserved for future flags which are not covored by the DeviceAvailable property.
(Read only property)

### 9.4.7 Icon as picture

Plugin Version: 2.7, Console & Web: No, Mac: No, Win: Yes, Linux: No. **Function:** The icon of the device.

**Notes:**

There seems to be a bug on Mac OS X so we have no icons there.
(Read only property)

### 9.4.8   Inputs as QTGrabberDeviceInputListMBS

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No.   **Function:** The list of input
devices of this device.
**Notes:**

A new feature of QuickTime 6 is that a device may support several input devices.
On QuickTime 5.5 or lower you may get nil.

I was unable to get a list of inputdevices on my testings! Please report if you find this value non nil.
(Read only property)

### 9.4.9   Name as string

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No.   **Function:** Name of the device.
**Notes:** (Read only property)

# 9.5   class QTGrabberMBS

## 9.5.1   class QTGrabberMBS

Plugin Version: 2.7, Console & Web: Yes, Mac: Yes, Win: Yes, Linux: No. **Function:** A class for a QuickTime Sequence Grabber.
**Notes:**

Documentation from Apple is available on their website. For example here:
http://developer.apple.com/techpubs/quicktime/qtdevdocs/INMAC/QTC/imSeqGrabChanComp.1.htm

You may for Windows need a VDIG to add the normal Windows cameras to QuickTimes devices. Such a VDIG is sold e.g. by <http://www.abstractplane.com.au/products_vdig.jsp>.

## 9.5.2   Methods

## 9.5.3   AskAudioSettings

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Causes a sequence grabber to display its settings dialog box to the user.
**Notes:**

Sets lasterror property (-1 if function is not available or sequence grabber or the sound channel was not initialised).

Returns nil on any error.
Introduced in QuickTime 3 or earlier.

For some users this method fails to show the dialog if they loaded old settings from the preference file.

## 9.5.4   AskVideoSettings

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Causes a sequence grabber to display its settings dialog box to the user.
**Notes:**

Sets lasterror property (-1 if function is not available or sequence grabber or the video channel was not initialised).

Pauses the video before displaying the dialog and continues after the dialog is closed.

Returns nil on any error.
Introduced in QuickTime 3 or earlier.

For some users this method fails to show the dialog if they loaded old settings from the preference file.

### 9.5.5   AudioDeviceList as QTGrabberDeviceListMBS

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Retrieves a list of the devices that are valid for an audio channel.
**Notes:**

Sets lasterror property (-1 if function is not available or sequence grabber was not initialised).

Returns nil on any error.
Introduced in QuickTime 3 or earlier.

### 9.5.6   available as boolean

Plugin Version: 12.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether QuickTime grabber is available.
**Notes:** Returns true on 32 bit Mac and Windows apps.

### 9.5.7   close

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The destructor.
**Notes:**

There is no need to call this method except you want to free all resources of this object now without waiting for Realbasic to do it for you.
(e.g. some Realbasic versions crash on Windows if there are plugin objects not closed.)

### 9.5.8   CreateEmptyMovie(file as folderitem)

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Creates an empty movie file.
**Notes:**

Sets lasterror property.
(Lasterror is set to -1 if the function is not available or file is nil or not valid).

Introduced in QuickTime 3 or earlier.
Using older QuickTime API, this function does not work for file names longer than 31 characters. So please use short name temp file and rename later.

### 9.5.9 GetAudioInputParameters(byref Samplesize as Integer, byref numchannels as Integer, byref CompressionType as string)

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Retrieves various parameters that relate to sound recording.
**Notes:**

Sets lasterror property (-1 if function is not available or sound channel was not initialised).

SampleSize is 8 or 16.
numchannels is 1 or 2.

Possible values for CompressionType:

| | |
|---|---|
| "raw " | Sound samples are uncompressed, in offset-binary format (that is, sample data values range from 0 to 255). |
| "MAC3" | Sound samples have been compressed by the Sound Manager at a ratio of 3:1. |
| "MAC6" | Sound samples have been compressed by the Sound Manager at a ratio of 6:1. |

Introduced in QuickTime 3 or earlier.

### 9.5.10 GetDataOutput(byref file as folderitem, byref flags as Integer)

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Determines the movie file that is currently assigned to a sequence grabber component and the control flags that would govern a record operation.
**Notes:**

Sets lasterror property (-1 if function is not available or sequence grabber was not initialised).

Introduced in QuickTime 3 or earlier.

See SetDataOutput for the flags.
Using older QuickTime API, this function does not work for file names longer than 31 characters. So please use short name temp file and rename later.

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### 9.5.11    GetMovie as movie

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns a reference to the movie that contains the data collected during a record operation.
**Notes:**

Sets lasterror property (-1 if function is not available or sequence grabber was not initialised).


Returns nil on any error.
Introduced in QuickTime 3 or earlier.


### 9.5.12    GetSoundLevelMeterValue as Integer

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The current sound level meter value.
**Notes:**

Only for one channel.
Lasterror is set.


### 9.5.13    Idle

Plugin Version: 8.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Gives CPU time to the grabber.
**Notes:** The plugin automatically gives time to the grabber.


### 9.5.14    InitFrameBuffer(width as Integer, height as Integer) as boolean

Plugin Version: 8.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Creates the back buffer used for capturing frames.
**Notes:**

That buffer is used to fill the currentframe picture property.
Returns true on success and false on failure.


### 9.5.15    InitGrabber

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Initializes the sequence grabber component.

**Notes:** Sets lasterror property (-1 if function is not available).

### 9.5.16 InitSound

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Creates the sound channel.
**Notes:**

Sets lasterror property (-1 if function is not available).
The volume is set to a low value and additional sound rates are added (8, 11, 16, 22 and 32 kHz).
Channel Usage is set to Preview and Record.

In case you get lasterror with value -9405 which means "couldntGetRequiredComponent" you have as a possible solution in case you really have recording hardware, that the QuickTime installation is without Authoring Support. The default QuickTime Installation installs only software needed for playing movies and displaying picture, but not to record them. You may need to do a custom installation to have the Authoring Support files installed.

### 9.5.17 InitVideo

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Creates the video channel.
**Notes:**

Sets lasterror property (-1 if function is not available).
Sets channel bounds to video source bounds.
Channel Usage is set to Preview, Record and PlayDuringRecord.

In case you get lasterror with value -9405 which means "couldntGetRequiredComponent" you have as a possible solution in case you really have recording hardware, that the QuickTime installation is without Authoring Support. The default QuickTime Installation installs only software needed for playing movies and displaying picture, but not to record them. You may need to do a custom installation to have the Authoring Support files installed.

### 9.5.18 NewOutput(file as folderitem, flags as Integer) as QTGrabberOutputMBS

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Creates a new sequence grabber output.
**Notes:**

Sets lasterror property (-1 if function is not available, file is nil or sequence grabber was not initialised).

Introduced in QuickTime 3 or earlier.

Possible values for this flags (you can combine them using bitwiseor):

| | |
|---|---|
| seqGrabToDisk | 1 |
| seqGrabToMemory | 2 |
| seqGrabDontUseTempMemory | 4 |
| seqGrabAppendToFile | 8 |
| seqGrabDontAddMovieResource | 16 |
| seqGrabDontMakeMovie | 32 |
| seqGrabPreExtendFile | 64 |
| seqGrabDataProcIsInterruptSafe | 128 |
| seqGrabDataProcDoesOverlappingReads | 256 |

seqGrabToDisk
Instructs the sequence grabber component to write the recorded data to a QuickTime movie in the movie file specified by the movieFile parameter. If this flag is set to 1, the sequence grabber writes the data to the file as the data is recorded.

seqGrabToMemory
Instructs the sequence grabber component to store the recorded data in memory until the recording process is complete. The sequence grabber then writes the recorded data to the movie file specified by the movieFile parameter. This technique provides better performance than recording directly to the movie file, but it limits the amount of data you can record. If this flag is set to 1, the sequence grabber component is recording to memory.

seqGrabDontUseTempMemory
Prevents the sequence grabber component from using temporary memory during the record operation. By default, the sequence grabber component and its channel components use as much temporary memory as necessary to perform the record operation. If this flag is set to 1, the sequence grabber component and its channel components do not use temporary memory.

seqGrabAppendToFile
Directs the sequence grabber component to add the recorded data to the data fork of the movie file specified by the movieFile parameter. By default, the sequence grabber component deletes the movie file and creates a new file containing one movie and its movie resource. If this flag is set to 1, the sequence grabber component appends the recorded data to the data fork of the movie file and creates a new movie resource in that file.

seqGrabDontAddMovieResource
Prevents the sequence grabber component from adding the new movie resource to the movie file specified by the movieFile parameter. By default, the sequence grabber component creates a new movie resource and adds that resource to the movie file. If this flag is set to 1, the sequence grabber component does not add the movie resource to the movie file. You are then responsible for adding the resource to a file, if you so desire

seqGrabDontMakeMovie
Prevents the sequence grabber component from creating a movie. By default, the sequence grabber component creates a new movie resource and adds the captured data to that movie. If this flag is set to 1, the sequence grabber still calls your data function, but does not write any data to the movie file.

Using older QuickTime API, this function does not work for file names longer than 31 characters. So please use short name temp file and rename later.

### 9.5.19 Pause

Plugin Version: 8.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Pauses the recording of the movie.
**Notes:** Lasterror is set.

### 9.5.20 Prepare

Plugin Version: 8.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Instructs a sequence grabber to get ready to begin a preview or record operation.
**Notes:** Sets lasterror property (-1 if function is not available or sequence grabber was not initialised).

### 9.5.21 Release

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Instructs the sequence grabber to release any system resources it allocated when you called Prepare.
**Notes:**

Sets lasterror property (-1 if function is not available or sequence grabber was not initialised).

Introduced in QuickTime 3 or earlier.

### 9.5.22 Resume

Plugin Version: 8.4, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Continues the recording after you called Pause.
**Notes:** Lasterror is set.

## 9.5.23  SetAudioInputParameters(Samplesize as Integer, numchannels as Integer, CompressionType as string)

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Sets various parameters that relate to sound recording.
**Notes:**

Sets lasterror property (-1 if function is not available or sound channel was not initialised).

SampleSize is 8 or 16.
numchannels is 1 or 2.

Possible values for CompressionType:

| | |
|---|---|
| ”raw ” | Sound samples are uncompressed, in offset-binary format (that is, sample data values range from 0 to 255). |
| ”MAC3” | Sound samples have been compressed by the Sound Manager at a ratio of 3:1. |
| ”MAC6” | Sound samples have been compressed by the Sound Manager at a ratio of 6:1. |

Introduced in QuickTime 3 or earlier.

## 9.5.24  SetDataOutput(file as folderitem, flags as Integer)

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Specifies the movie file and options for a sequence grabber record operation.
**Notes:**

Sets lasterror property (-1 if function is not available, file is nil or sequence grabber was not initialised).

Introduced in QuickTime 3 or earlier.

Possible values for this flags (you can combine them using bitwiseor):

seqGrabToDisk
Instructs the sequence grabber component to write the recorded data to a QuickTime movie in the movie file specified by the movieFile parameter. If this flag is set to 1, the sequence grabber writes the data to the file as the data is recorded.

seqGrabToMemory
Instructs the sequence grabber component to store the recorded data in memory until the recording process

| seqGrabToDisk | 1 |
|---|---|
| seqGrabToMemory | 2 |
| seqGrabDontUseTempMemory | 4 |
| seqGrabAppendToFile | 8 |
| seqGrabDontAddMovieResource | 16 |
| seqGrabDontMakeMovie | 32 |
| seqGrabPreExtendFile | 64 |
| seqGrabDataProcIsInterruptSafe | 128 |
| seqGrabDataProcDoesOverlappingReads | 256 |

is complete. The sequence grabber then writes the recorded data to the movie file specified by the movieFile parameter. This technique provides better performance than recording directly to the movie file, but it limits the amount of data you can record. If this flag is set to 1, the sequence grabber component is recording to memory.

seqGrabDontUseTempMemory
Prevents the sequence grabber component from using temporary memory during the record operation. By default, the sequence grabber component and its channel components use as much temporary memory as necessary to perform the record operation. If this flag is set to 1, the sequence grabber component and its channel components do not use temporary memory.

seqGrabAppendToFile
Directs the sequence grabber component to add the recorded data to the data fork of the movie file specified by the movieFile parameter. By default, the sequence grabber component deletes the movie file and creates a new file containing one movie and its movie resource. If this flag is set to 1, the sequence grabber component appends the recorded data to the data fork of the movie file and creates a new movie resource in that file.

seqGrabDontAddMovieResource
Prevents the sequence grabber component from adding the new movie resource to the movie file specified by the movieFile parameter. By default, the sequence grabber component creates a new movie resource and adds that resource to the movie file. If this flag is set to 1, the sequence grabber component does not add the movie resource to the movie file. You are then responsible for adding the resource to a file, if you so desire

seqGrabDontMakeMovie
Prevents the sequence grabber component from creating a movie. By default, the sequence grabber component creates a new movie resource and adds the captured data to that movie. If this flag is set to 1, the sequence grabber still calls your data function, but does not write any data to the movie file.

Using older QuickTime API, this function does not work for file names longer than 31 characters. So please use short name temp file and rename later.

### 9.5.25   SetVideoChannelSize(left as Integer, top as Integer, width as Integer, height as Integer)

Plugin Version: 8.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Sets the video channel boundary rectangle.
**Notes:** SetVideoChannelSize merely allows the client to specify the preferred bounds. The actual bounds returned by the Video Digitizer might be different. If the client has strict requirements about the size and scaling of the captured video, it must be prepared to adjust the captured video as needed.

### 9.5.26   SetVideoSize(left as Integer, top as Integer, width as Integer, height as Integer)

Plugin Version: 8.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Sets the video size.
**Example:**

dim q as QTGrabberMBS // your grabber

// resize it to the window size:

q.SetVideoSize 0, 0, window1.Width, window1.Height
q.SetVideoChannelSize 0, 0, window1.Width, window1.Height

if not q.InitFrameBuffer(window1.Width, window1.Height) then
MsgBox "Failed to create frame buffer."
end if

**Notes:** The video rectangle determines the portion of the source video image that is to be captured.

### 9.5.27   SoundLevels as memoryblock

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns a memory-block for the sound levels.
**Notes:**

2 bytes (one short) for each sound channel with a value between 0 and 255.
Lasterror is set.

### 9.5.28   StartPreview

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Instructs the sequence grabber to begin processing data from its channels.

**Notes:**

Sets lasterror property (-1 if function is not available or sequence grabber was not initialised).

Introduced in QuickTime 3 or earlier.

### 9.5.29   StartRecord

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Instructs the sequence grabber to begin processing data from its channels.
**Notes:**

Sets lasterror property (-1 if function is not available or sequence grabber was not initialised).

Introduced in QuickTime 3 or earlier.

### 9.5.30   Stop

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Stops a record operation.
**Notes:**

Sets lasterror property (-1 if function is not available or sequence grabber was not initialised).

Introduced in QuickTime 3 or earlier.

### 9.5.31   VideoDeviceList as QTGrabberDeviceListMBS

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Retrieves a list of the devices that are valid for a video channel.
**Notes:**

Sets lasterror property (-1 if function is not available or sequence grabber was not initialised).

Returns nil on any error.
Introduced in QuickTime 3 or earlier.

## 9.5.32    Properties

## 9.5.33    AudioChannelHandle as Integer

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The handle to the audio channel.
**Notes:**

A SGChannel reference for use in toolbox calls.
(Read only property)

## 9.5.34    AudioDevice as string

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The name of the current audio device.
**Notes:**

Sets lasterror property (-1 if function is not available or the audio channel is not initialized).

return "" on any error.
Introduced in QuickTime 3 or earlier.
(Read and write property)
(Read and Write property)

## 9.5.35    AudioDeviceInput as Integer

Plugin Version: 6.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The index of the current selected audio device input in the AudioDeviceList list.
**Notes:**

Lasterror is set.
Introduced in QuickTime 6.
(Read and Write property)

## 9.5.36    AudioDeviceInputName as String

Plugin Version: 6.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The name of the current audio device input.
**Notes:**

An input device (like Built-In) may have several inputs like "Line-In", "Digial-In" and "Microphone".

Lasterror is set.
Introduced in QuickTime 6.
(Read only property)

### 9.5.37 AudioDeviceName as String

Plugin Version: 6.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The name of the current audio device.
**Notes:**

Lasterror is set.
Introduced in QuickTime 6.
(Read only property)

### 9.5.38 AudioInputRate as Double

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The rate at which the sound channel is collecting sound data.
**Notes:**

Sets lasterror property (-1 if function is not available or the sound channel is not initialized).

return "" on any error.
Introduced in QuickTime 3 or earlier.
(Read and write property)
(Read and Write property)

### 9.5.39 AudioOutput as QTGrabberOutputMBS

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The output for the audio channel.
**Notes:**

Sets lasterror property (-1 if function is not available or the sound channel is not initialized).

Return nil on any error.
(Read and write property)
(Read and Write property)

## 9.5.40    AudioPlayFlags as Integer

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The playback control flags.
**Notes:**

Sets lasterror property (-1 if function is not available or the video channel is not initialized).

Possible flags:

channelPlayNormal
Your channel component uses its default playback methodology.

channelPlayFast
Your channel component sacrifices playback quality to achieve the specified playback rate.

channelPlayHighQuality
Your channel component plays the channel's data at the highest possible quality. This option sacrifices playback rate for the sake of image quality. It may reduce the amount of processor time available to other programs in the computer. This option should not affect the quality of the recorded data, however.

channelPlayAllData
Your channel component tries to play all of the data it captures, even the data that is stored in offscreen buffers. This option is useful when you want to be sure that the user sees as much of the captured data as possible. The sequence grabber component sets this flag to 1 to play all the captured data. The sequence grabber component may combine this flag with any of the other values for the playFlags parameter.

| | |
|---|---|
| channelPlayNormal | 0 |
| channelPlayFast | 1 |
| channelPlayHighQuality | 2 |
| channelPlayAllData | 4 |

Introduced in QuickTime 3 or earlier.
(Read and write property)
(Read and Write property)

## 9.5.41    AudioSettings as string

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Current audio settings used by the sequence grabber.
**Notes:**

Sets lasterror property (-1 if function is not available or the sequence grabber is not initialized).

return ”” on any error.
Introduced in QuickTime 3 or earlier.
(Read and write property)
(Read and Write property)

## 9.5.42   AudioTimeScale as Integer

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Lets the sequence grabber retrieve the audio channel's time scale.
**Notes:**

Sets lasterror property (-1 if function is not available or the audio channel is not initialized).

Introduced in QuickTime 3 or earlier.
(Read only property)

## 9.5.43   AudioUsage as Integer

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** How you like to
**Notes:**

Sets lasterror property (-1 if function is not available or the sound channel is not initialized).

Return -1 on any error.
(Read and write property)

Possible values:

| | | |
|---|---|---|
| seqGrabRecord | 1 | This flag is set to 1 if your channel is being used for recording. |
| seqGrabPreview | 2 | This flag is set to 1 if your channel is being used for previewing. |
| seqGrabPlayDuringRecord | 4 | This flag is set to 1 if your channel plays its captured data during a record operation. |
| seqGrabLowLatencyCapture | 8 | return the freshest frame possible, for live work (videoconferencing, live broadcast, live image processing) |
| seqGrabAlwaysUseTimeBase | 16 | Tell VDIGs to use TimebaseTime always, rather than creating uniform frame durations, for more accurate live sync with audio |

(Read and Write property)

## 9.5.44   AudioVolume as Integer

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Determines a channel's sound volume setting.
**Example:**

dim q as QTGrabberMBS
q.AudioVolume=256*0.5 // multiply with 256; 0.5 is for 50%

**Notes:**

Sets lasterror property (-1 if function is not available or the video channel is not initialized).

An integer for volume setting of the channel represented as a 16-bit, fixed-point number. The high-order 8 bits contain the integer part of the value; the low-order 8 bits contain the fractional part. Volume values range from -1.0 to 1.0. Negative values play no sound but preserve the absolute value of the volume setting.

Introduced in QuickTime 3 or earlier.
(Read and write property)
(Read and Write property)

## 9.5.45   AverageFPS as Double

Plugin Version: 8.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The average FPS value measured for the video.
**Notes:** (Read and Write property)

## 9.5.46   CurrentFrame as Picture

Plugin Version: 8.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The last picture which has been captured.
**Notes:**

If no new frame is generated, the CurrentFrame property may have the same picture object than the last time you called it.
(Read only property)

### 9.5.47 DataRate as Integer

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Determines for a sequence grabber how much bytes is processed per second.
**Notes:**

Sets lasterror property (-1 if function is not available or the sound channel is not initialized).

Introduced in QuickTime 3 or earlier.
(Read only property)

### 9.5.48 DisableDecode as Boolean

Plugin Version: 10.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether decoding is disabled.
**Example:**

```
dim q as QTGrabberMBS // your global instance of Quicktime Grabber
dim p as picture

q.DisableDecode = false
do
q.Idle
p=q.currentFrame
loop until p <>nil
q.DisableDecode = true
```

**Notes:**

If you don't need an uptodate frame in the next minutes, you can set this property to true. While DisableDecode is true, no NewFrame event is generated and the CurrentFrame property is not updated.
If you set it to false, please also call the idle method soon to get the CurrentFrame property updated.
(Read and Write property)

### 9.5.49 FPS as Double

Plugin Version: 8.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The current FPS value measured for the video.
**Notes:** (Read and Write property)

## 9.5.50   Framerate as Double

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The video channel's frame rate for recording.
**Example:**

dim q as QTGrabberMBS // your grabber
q.Framerate=10.0 // 10 fps

**Notes:**

Sets lasterror property (-1 if function is not available or the video channel is not initialized).

Introduced in QuickTime 3 or earlier.
(in plugin version before 6.3 the value needed to be multiplied with 65536)
(Read and Write property)

## 9.5.51   LastError as Integer

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The error code for the last error.
**Notes:**

A Mac OS error code. You can pass this error code to MacErrorString to get a text to display to the user.

Identify errors generated while executing QuickTime calls.

General QuickTime errors

QuickTime Music Architecture errors

Windows-specific errors

QT atom errors

Data access errors

Digitizing errors

Codec errors

QuickTime VR Errors

In case you get lasterror with value -9405 which means "couldntGetRequiredComponent" you have as a possible solution in case you really have recording hardware, that the QuickTime installation is without Authoring Support. The default QuickTime Installation installs only software needed for playing movies and displaying picture, but not to record them. You may need to do a custom installation to have the Authoring Support files installed.
(Read and Write property)

### 9.5.52 MaxFrameRate as Integer

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The maximum frame rate used.
**Notes:**

Sets lasterror property (-1 if function is not available or the video channel is not initialized).

Return -1 on any error.
(Read and Write property)

### 9.5.53 MaximumRecordTime as Integer

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The time limit you have set for a record operation.
**Notes:**

Returns -1 on any error.

A value indicating the maximum duration for the record operation, in system ticks (sixtieths of a second). A value of 0 indicates that there is no time limit.

Sets lasterror property on reading and writing.
(Read and write property)
Introduced in QuickTime 3 or earlier.
(Read and Write property)

### 9.5.54    MaximumVideoHeight as Integer

Plugin Version: 8.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The maximum video size for the video channel.
**Notes:**

Sets lasterror property (-1 if function is not available or the video channel is not initialized).


Returns zero on any error.
(Read only property)


### 9.5.55    MaximumVideoWidth as Integer

Plugin Version: 8.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The maximum video size for the video channel.
**Notes:**

Sets lasterror property (-1 if function is not available or the video channel is not initialized).


Returns zero on any error.
(Read only property)


### 9.5.56    Paused as Boolean

Plugin Version: 8.5, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns true if the recording is paused.
**Notes:**

Lasterror is set.
(Read only property)


### 9.5.57    Previewing as boolean

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns true while previewing.
**Notes:**

Sets lasterror property (-1 if function is not available or the sound channel is not initialized).


Return false on any error.
(Read only property)

### 9.5.58   Recording as boolean

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns true while recording.
**Notes:**

Sets lasterror property (-1 if function is not available or the sound channel is not initialized).

Return false on any error.
(Read only property)

### 9.5.59   RequestedDataRate as Integer

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the current maximum data rate requested for a channel.
**Notes:**

A SGChannel reference for use in toolbox calls.
Sets lasterror property (-1 if function is not available).

This property allows the sequence grabber component to specify the maximum rate at which it would like to receive data from your channel component. The data rate supplied by the sequence grabber component represents a requested data rate; your component may not be able to observe that rate under all conditions.

Returns -2 on any error.
(Read and Write property)

### 9.5.60   SequenceGrabberHandle as Integer

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The handle to the sequence grabber.
**Notes:**

A SeqGrabComponent reference for use in toolbox calls.

Introduced in QuickTime 3 or earlier.
(Read only property)

## 9.5.61    Settings as string

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Current settings of all channels used by the sequence grabber.
**Notes:**

Sets lasterror property (-1 if function is not available or the sequence grabber is not initialized).


return "" on any error.
Introduced in QuickTime 3 or earlier.
(Read and write property)
(Read and Write property)


## 9.5.62    SettingsDialogOpen as Boolean

Plugin Version: 7.7, Console & Web: No, Mac: No, Win: Yes, Linux: Yes. **Function:** Whether the settings dialog is open.
**Notes:**

Returns true whenever the audio or video settings dialog is visible.
(Read only property)


## 9.5.63    SoundInputDriverHandle as Integer

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The handle to the sound input driver.
**Notes:**

Maybe useful for some Toolbox calls.
(Read only property)


## 9.5.64    SoundRecordChunkSize as Integer

Plugin Version: 4.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The number of seconds which fit in the sound record buffer.
**Notes:**

Default is 1.
(Read and Write property)

## 9.5.65   StorageSpaceRemaining as Double

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the amount of space remaining on the movie file.
**Notes:**

First trys the 64bit version from QuickTime 5. If that function is not available, trys the 32bit version from QuickTime 3.
Returns -1 on any error.

You can call this function only after you have started a record operation.

Sets lasterror property on reading.
Introduced in QuickTime 3 or earlier.
(Read only property)

## 9.5.66   TimeRemaining as Integer

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Obtains an estimate of the amount of recording time that remains for the current record operation.
**Notes:**

Sets lasterror property (-1 if function is not available or the sequence grabber is not initialized).

Amount of time remaining for the current record operation. This value is expressed in system ticks (sixtieths of a second).

return "" on any error.
Introduced in QuickTime 3 or earlier.
(Read only property)

## 9.5.67   VideoBlackLevel as Integer

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The black level of the video channel.
**Notes:**

Ranges from 0 to 65535.
(Read and Write property)

### 9.5.68   VideoBrightness as Integer

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The brightness of the video channel.
**Notes:**

Ranges from 0 to 65535.
(Read and Write property)

### 9.5.69   VideoChannelHandle as Integer

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The handle to the video channel.
**Notes:**

A SGChannel reference for use in toolbox calls.
(Read only property)

### 9.5.70   VideoChannelHeight as Integer

Plugin Version: 8.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The height of the video channel boundary rectangle.
**Notes:** (Read only property)

### 9.5.71   VideoChannelLeft as Integer

Plugin Version: 8.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The left position of the video channel boundary rectangle.
**Notes:** (Read only property)

### 9.5.72   VideoChannelTop as Integer

Plugin Version: 8.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The top position of the video channel boundary rectangle.
**Notes:** (Read only property)

### 9.5.73   VideoChannelWidth as Integer

Plugin Version: 8.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The width of the video channel boundary rectangle.
**Notes:** (Read only property)

### 9.5.74   VideoCompressor as string

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Type of image compression that is being applied to a channel's video data.
**Notes:**

A SGChannel reference for use in toolbox calls.
Sets lasterror property (-1 if function is not available).

Possible values:

(Read and Write property)

### 9.5.75   VideoContrast as Integer

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The contrast of the video channel.
**Notes:**

Ranges from 0 to 65535.
(Read and Write property)

### 9.5.76   VideoDefaultBlackLevel as Integer

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The default black level of the video channel.
**Notes:**

Ranges from 0 to 65535.
(Read only property)

## 9.5.77    VideoDefaultBrightness as Integer

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The default brightness of the video channel.
**Notes:**

Ranges from 0 to 65535.
(Read only property)

## 9.5.78    VideoDefaultContrast as Integer

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The default contrast of the video channel.
**Notes:**

Ranges from 0 to 65535.
(Read only property)

## 9.5.79    VideoDefaultHue as Integer

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The default hue of the video channel.
**Notes:**

Ranges from 0 to 65535.
(Read only property)

## 9.5.80    VideoDefaultSaturation as Integer

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The default saturation of the video channel.
**Notes:**

Ranges from 0 to 65535.
(Read only property)

## 9.5.81    VideoDefaultSharpness as Integer

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The default sharpness of the video channel.
**Notes:**

Ranges from 0 to 65535.
(Read only property)

### 9.5.82   VideoDefaultWhiteLevel as Integer

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The default white level of the video channel.
**Notes:**

Ranges from 0 to 65535.
(Read only property)

### 9.5.83   VideoDevice as string

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The name of the current video device.
**Notes:**

Sets lasterror property (-1 if function is not available or the video channel is not initialized).

return ”” on any error.
Introduced in QuickTime 3 or earlier.
(Read and write property)
(Read and Write property)

### 9.5.84   VideoDeviceInput as Integer

Plugin Version: 6.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The index of the current selected video device input in the VideoDeviceList list.
**Notes:**

Lasterror is set.
Introduced in QuickTime 6.
(Read and Write property)

### 9.5.85   VideoDeviceInputName as String

Plugin Version: 6.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The name of the current video device input.
**Notes:**

Lasterror is set.
Introduced in QuickTime 6.
(Read only property)


### 9.5.86   VideoDeviceName as String

Plugin Version: 6.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The name of the current video device.
**Notes:**

Lasterror is set.
Introduced in QuickTime 6.
(Read only property)


### 9.5.87   VideoGammaBlue as Integer

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The blue gamma level of the video channel.
**Notes:**

Ranges from 0 to 65535.
(Read and Write property)


### 9.5.88   VideoGammaGreen as Integer

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The green gamma level of the video channel.
**Notes:**

Ranges from 0 to 65535.
(Read and Write property)


### 9.5.89   VideoGammaRed as Integer

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The red gamma level of the video channel.
**Notes:**

Ranges from 0 to 65535.
(Read and Write property)

### 9.5.90 VideoHeight as Integer

Plugin Version: 8.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The height of the video.
**Notes:**

The video rectangle determines the portion of the source video image that is to be captured.
Lasterror is set.
Value is 0 if there is no video channel.
(Read only property)

### 9.5.91 VideoHue as Integer

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The hue of the video channel.
**Notes:**

Ranges from 0 to 65535.
(Read and Write property)

### 9.5.92 VideoLeft as Integer

Plugin Version: 8.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The left position of the video.
**Notes:**

The video rectangle determines the portion of the source video image that is to be captured.
Lasterror is set.
Value is 0 if there is no video channel.
(Read only property)

### 9.5.93 VideoOutput as QTGrabberOutputMBS

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The output for the video channel.
**Notes:**

Sets lasterror property (-1 if function is not available or the sound channel is not initialized).

Return nil on any error.
(Read and write property)
(Read and Write property)

## 9.5.94   VideoPlayFlags as Integer

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The playback control flags.
**Notes:**

Sets lasterror property (-1 if function is not available or the video channel is not initialized).

Possible flags:

channelPlayNormal
Your channel component uses its default playback methodology.

channelPlayFast
Your channel component sacrifices playback quality to achieve the specified playback rate.

channelPlayHighQuality
Your channel component plays the channel's data at the highest possible quality. This option sacrifices playback rate for the sake of image quality. It may reduce the amount of processor time available to other programs in the computer. This option should not affect the quality of the recorded data, however.

channelPlayAllData
Your channel component tries to play all of the data it captures, even the data that is stored in offscreen buffers. This option is useful when you want to be sure that the user sees as much of the captured data as possible. The sequence grabber component sets this flag to 1 to play all the captured data. The sequence grabber component may combine this flag with any of the other values for the playFlags parameter.

Introduced in QuickTime 3 or earlier.
(Read and write property)
(Read and Write property)

## 9.5.95   VideoSaturation as Integer

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The saturation of the video channel.
**Notes:**

Ranges from 0 to 65535.
(Read and Write property)

### 9.5.96 VideoSettings as string

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Current video settings used by the sequence grabber.
**Notes:**

Sets lasterror property (-1 if function is not available or the sequence grabber is not initialized).

return "" on any error.
Introduced in QuickTime 3 or earlier.
(Read and write property)
(Read and Write property)

### 9.5.97 VideoSharpness as Integer

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The sharpness of the video channel.
**Notes:**

Ranges from 0 to 65535.
(Read and Write property)

### 9.5.98 VideoTimeScale as Integer

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Lets the sequence grabber retrieve video channel's time scale.
**Notes:**

Sets lasterror property (-1 if function is not available or the video channel is not initialized).

Introduced in QuickTime 3 or earlier.
(Read only property)

### 9.5.99 VideoTop as Integer

Plugin Version: 8.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The top position of the video.
**Notes:**

The video rectangle determines the portion of the source video image that is to be captured.
Lasterror is set.
Value is 0 if there is no video channel.

(Read only property)

### 9.5.100    VideoUsage as Integer

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** How you like to
**Notes:**

Sets lasterror property (-1 if function is not available or the video channel is not initialized).

Return -1 on any error.
(Read and write property)

Possible values:

(Read and Write property)

### 9.5.101    VideoWhiteLevel as Integer

Plugin Version: 3.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The white level of
the video channel.
**Notes:**

Ranges from 0 to 65535.
(Read and Write property)

### 9.5.102    VideoWidth as Integer

Plugin Version: 8.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The width of the
video.
**Notes:**

The video rectangle determines the portion of the source video image that is to be captured.
Lasterror is set.
Value is 0 if there is no video channel.
(Read only property)

## 9.5.103 SoundLevelMeterEnabled as boolean

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Whether the sound level meter values are collected.
**Notes:**

Lasterror is set.
(Read and Write computed property)

| | | |
|---|---|---|
| couldNotResolveDataRef | -2000 | |
| badImageDescription | -2001 | |
| badPublicMovieAtom | -2002 | |
| cantFindHandler | -2003 | |
| cantOpenHandler | -2004 | |
| badComponentType | -2005 | |
| noMediaHandler | -2006 | |
| noDataHandler | -2007 | |
| invalidMedia | -2008 | |
| invalidTrack | -2009 | |
| invalidMovie | -2010 | |
| invalidSampleTable | -2011 | |
| invalidDataRef | -2012 | |
| invalidHandler | -2013 | |
| invalidDuration | -2014 | |
| invalidTime | -2015 | |
| cantPutPublicMovieAtom | -2016 | |
| badEditList | -2017 | |
| mediaTypesDontMatch | -2018 | |
| progressProcAborted | -2019 | |
| movieToolboxUninitialized | -2020 | |
| noRecordOfApp | -2020 | A replica of the movieToolboxUninitialized error. |
| wfFileNotFound | -2021 | |
| cantCreateSingleForkFile | -2022 | The file to be created already exists. |
| invalidEditState | -2023 | |
| nonMatchingEditState | -2024 | |
| staleEditState | -2025 | |
| userDataItemNotFound | -2026 | |
| maxSizeToGrowTooSmall | -2027 | |
| badTrackIndex | -2028 | |
| trackIDNotFound | -2029 | |
| trackNotInMovie | -2030 | |
| timeNotInTrack | -2031 | |
| timeNotInMedia | -2032 | |
| badEditIndex | -2033 | |
| internalQuickTimeError | -2034 | |
| cantEnableTrack | -2035 | |
| invalidRect | -2036 | |
| invalidSampleNum | -2037 | |
| invalidChunkNum | -2038 | |
| invalidSampleDescIndex | -2039 | |
| invalidChunkCache | -2040 | |
| invalidSampleDescription | -2041 | |
| dataNotOpenForRead | -2042 | |
| dataNotOpenForWrite | -2043 | |
| dataAlreadyOpenForWrite | -2044 | |
| dataAlreadyClosed | -2045 | |
| endOfDataReached | -2046 | |
| dataNoDataRef | -2047 | |
| noMovieFound | -2048 | |
| invalidDataRefContainer | -2049 | |
| badDataRefIndex | -2050 | |
| noDefaultDataRef | -2051 | |
| couldNotUseAnExistingSample | -2052 | |
| featureUnsupported | -2053 | |
| unsupportedAuxiliaryImportData | -2057 | |
| auxiliaryExportDataUnavailable | -2058 | |
| samplesAlreadyInMediaErr | -2059 | |
| noSourceTreeFoundErr | -2060 | |
| sourceNotFoundErr | -2061 | |
| movieTextNotFoundErr | -2062 | |
| missingRequiredParameterErr | -2063 | |
| invalidSpriteWorldPropertyErr | -2064 | |
| invalidSpritePropertyErr | -2065 | |
| gWorldsNotSameDepthAndSizeErr | -2066 | |
| invalidSpriteIndexErr | -2067 | |
| invalidImageIndexErr | -2068 | |
| invalidSpriteIDErr | -2069 | |

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|---|---|
| internalComponentErr | -2070 |
| notImplementedMusicOSErr | -2071 |
| cantSendToSynthesizerOSErr | -2072 |
| cantReceiveFromSynthesizerOSErr | -2073 |
| illegalVoiceAllocationOSErr | -2074 |
| illegalPartOSErr | -2075 |
| illegalChannelOSErr | -2076 |
| illegalKnobOSErr | -2077 |
| illegalKnobValueOSErr | -2078 |
| illegalInstrumentOSErr | -2079 |
| illegalControllerOSErr | -2080 |
| midiManagerAbsentOSErr | -2081 |
| synthesizerNotRespondingOSErr | -2082 |
| synthesizerOSErr | -2083 |
| illegalNoteChannelOSErr | -2084 |
| noteChannelNotAllocatedOSErr | -2085 |
| tunePlayerFullOSErr | -2086 |
| tuneParseOSErr | -2087 |
| noExportProcAvailableErr | -2089 |
| videoOutputInUseErr | -2090 |

| | | |
|---|---|---|
| componentDllLoadErr | -2091 | Windows error returned when a component is loading. |
| componentDllEntryNotFoundErr | -2092 | Windows error returned when a component is loading. |
| qtmlDllLoadErr | -2093 | Windows error returned when the QuickTime Media Layer is loading. |
| qtmlDllEntryNotFoundErr | -2094 | Windows error returned when the QuickTime Media Layer is loading. |
| qtmlUninitialized | -2095 | |
| unsupportedOSErr | -2096 | |
| unsupportedProcessorErr | -2097 | |
| noVideoTrackInMovieErr | -2054 | |
| noSoundTrackInMovieErr | -2055 | |
| soundSupportNotAvailableErr | -2056 | |

| | |
|---|---|
| cannotFindAtomErr | -2101 |
| notLeafAtomErr | -2102 |
| atomsNotOfSameTypeErr | -2103 |
| atomIndexInvalidErr | -2104 |
| duplicateAtomTypeAndIDErr | -2105 |
| invalidAtomErr | -2106 |
| invalidAtomContainerErr | -2107 |
| invalidAtomTypeErr | -2108 |
| cannotBeLeafAtomErr | -2109 |

| | |
|---|---|
| pathTooLongErr | -2110 |
| emptyPathErr | -2111 |
| noPathMappingErr | -2112 |
| pathNotVerifiedErr | -2113 |
| unknownFormatErr | -2114 |
| wackBadFileErr | -2115 |
| wackForkNotFoundErr | -2116 |
| wackBadMetaDataErr | -2117 |
| qfcbNotFoundErr | -2118 |
| qfcbNotCreatedErr | -2119 |
| AAPNotCreatedErr | -2120 |
| AAPNotFoundErr | -2121 |
| ASDBadHeaderErr | -2122 |
| ASDBadForkErr | -2123 |
| ASDEntryNotFoundErr | -2124 |
| fileOffsetTooBigErr | -2125 |
| notAllowedToSaveMovieErr | -2126 |
| qtNetworkAlreadyAllocatedErr | -2127 |
| urlDataHHTTPProtocolErr | -2129 |
| urlDataHHTTPNoNetDriverErr | -2130 |
| urlDataHHTTPURLErr | -2131 |
| urlDataHHTTPRedirectErr | -2132 |
| urlDataHFTPProtocolErr | -2133 |
| urlDataHFTPShutdownErr | -2134 |
| urlDataHFTPBadUserErr | -2135 |
| urlDataHFTPBadPasswordErr | -2136 |
| urlDataHFTPServerErr | -2137 |
| urlDataHFTPDataConnectionErr | -2138 |
| urlDataHFTPNoDirectoryErr | -2139 |
| urlDataHFTPQuotaErr | -2140 |
| urlDataHFTPPermissionsErr | -2141 |
| urlDataHFTPFilenameErr | -2142 |
| urlDataHFTPNoNetDriverErr | -2143 |
| urlDataHFTPBadNameListErr | -2144 |
| urlDataHFTPNeedPasswordErr | -2145 |
| urlDataHFTPNoPasswordErr | -2146 |
| urlDataHFTPServerDisconnectedErr | -2147 |
| urlDataHFTPURLErr | -2148 |
| notEnoughDataErr | -2149 |
| qtActionNotHandledErr | -2157 |

| | | |
|---|---|---|
| digiUnimpErr | -2201 | Digitizer feature is unimplemented. |
| qtParamErr | -2202 | Bad input parameter (out of range, for example). |
| matrixErr | -2203 | Bad matrix; the digitizer did nothing. |
| notExactMatrixErr | -2204 | Warning of a bad matrix; the digitizer did its best. |
| noMoreKeyColorsErr | -2205 | All the key indexes are in use. |
| notExactSizeErr | -2206 | Can't digitize to the exact size requested. |
| badDepthErr | -2207 | Can't digitize into the requested pixel depth. |
| noDMAErr | -2208 | Can't do DMA digitizing; that is, can't go to the requested destination. |
| badCallOrderErr | -2209 | A status call was made before being set up first. |

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|---|---|
| codecErr | -8960 |
| noCodecErr | -8961 |
| codecUnimpErr | -8962 |
| codecSizeErr | -8963 |
| codecScreenBufErr | -8964 |
| codecImageBufErr | -8965 |
| codecSpoolErr | -8966 |
| codecAbortErr | -8967 |
| codecWouldOffscreenErr | -8968 |
| codecBadDataErr | -8969 |
| codecDataVersErr | -8970 |
| codecExtensionNotFoundErr | -8971 |
| scTypeNotFoundErr | -8971 |
| codecConditionErr | -8972 |
| codecOpenErr | -8973 |
| codecCantWhenErr | -8974 |
| codecCantQueueErr | -8975 |
| codecNothingToBlitErr | -8976 |
| codecNoMemoryPleaseWaitErr | -8977 |
| codecDisabledErr | -8978 |
| codecNeedToFlushChainErr | -8979 |
| lockPortBitsBadSurfaceErr | -8980 |
| lockPortBitsWindowMovedErr | -8981 |
| lockPortBitsWindowResizedErr | -8982 |
| lockPortBitsWindowClippedErr | -8983 |
| lockPortBitsBadPortErr | -8984 |
| lockPortBitsSurfaceLostErr | -8985 |
| codecParameterDialogConfirm | -8986 |
| codecNeedAccessKeyErr | -8987 |
| codecOffscreenFailedErr | -8988 |
| codecDroppedFrameErr | -8989 |
| directXObjectAlreadyExists | -8990 |
| lockPortBitsWrongGDeviceErr | -8991 |
| codecOffscreenFailedPleaseRetryErr | -8992 |

| | |
|---|---|
| notAQTVRMovieErr | -30540 |
| constraintReachedErr | -30541 |
| callNotSupportedByNodeErr | -30542 |
| selectorNotSupportedByNodeErr | -30543 |
| invalidNodeIDErr | -30544 |
| invalidViewStateErr | -30545 |
| timeNotInViewErr | -30546 |
| propertyNotSupportedByNodeErr | -30547 |
| settingNotSupportedByNodeErr | -30548 |
| limitReachedErr | -30549 |
| invalidNodeFormatErr | -30550 |
| invalidHotSpotIDErr | -30551 |
| noMemoryNodeFailedInitialize | -30552 |
| streamingNodeNotReadyErr | -30553 |
| qtvrLibraryLoadErr | -30554 |
| qtvrUninitialized | -30555 |

| | |
|---|---|
| "rpza" | Video compressor. |
| "jpeg" | Photo compressor. |
| "rle " | Animation compressor. |
| "raw " | Raw compressor. |
| "smc " | Graphics compressor. |
| "cvid" | Compact video compressor. |

| | |
|---|---|
| channelPlayNormal | 0 |
| channelPlayFast | 1 |
| channelPlayHighQuality | 2 |
| channelPlayAllData | 4 |

| | | |
|---|---|---|
| seqGrabRecord | 1 | This flag is set to 1 if your channel is being used for recording. |
| seqGrabPreview | 2 | This flag is set to 1 if your channel is being used for previewing. |
| seqGrabPlayDuringRecord | 4 | This flag is set to 1 if your channel plays its captured data during a record operation. |
| seqGrabLowLatencyCapture | 8 | return the freshest frame possible, for live work (videoconferencing, live broadcast, live image processing) |
| seqGrabAlwaysUseTimeBase | 16 | Tell VDIGs to use TimebaseTime always, rather than creating uniform frame durations, for more accurate live sync with audio |

### 9.5.104 SoundPlaythroughEnabled as Integer

Plugin Version: 3.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Is play through enabled.
**Notes:**

0 for off.
1 to 7 for the playthrough volume.
7 is max volume.

It doesn't work with my iMic, so write me an email if it works for you.

Lasterror is set.
(Read and Write computed property)

### 9.5.105 Events

### 9.5.106 NewFrame

Plugin Version: 8.1, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The event coming in whenever a new video frame was captured.
**Notes:** The video data is in the currentframe property.

## 9.6 class QTGrabberOutputMBS

### 9.6.1 class QTGrabberOutputMBS

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** A reference to an output location.
**Notes:**

This class must be destroyed before the matching QuickTime Grabber class is destroyed, else you risk a crash!
If you wan't to record to multiple files, you need this class.

### 9.6.2 Methods

### 9.6.3 Close

Plugin Version: 4.3, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The destructor.
**Notes:**

There is no need to call this method except you want to free all resources of this object now without waiting for Realbasic to do it for you.
(e.g. some Realbasic versions crash on Windows if there are plugin objects not closed.)

### 9.6.4 Properties

### 9.6.5 Flags as Integer

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The flags for this output.
**Example:**

dim q as new QTGrabberOutputMBS

const seqGrabToDisk=1
const seqGrabAppendToFile=8

q.flags=bitwiseor(seqGrabToDisk,seqGrabAppendToFile)

**Notes:**

Sets lasterror property on reading.
(Read& Write property)

Possible values for this flags (you can combine them using bitwiseor):

| | |
|---|---|
| seqGrabToDisk | 1 |
| seqGrabToMemory | 2 |
| seqGrabDontUseTempMemory | 4 |
| seqGrabAppendToFile | 8 |
| seqGrabDontAddMovieResource | 16 |
| seqGrabDontMakeMovie | 32 |
| seqGrabPreExtendFile | 64 |
| seqGrabDataProcIsInterruptSafe | 128 |
| seqGrabDataProcDoesOverlappingReads | 256 |

seqGrabToDisk
Instructs the sequence grabber component to write the recorded data to a QuickTime movie in the movie file specified by the movieFile parameter. If this flag is set to 1, the sequence grabber writes the data to the file as the data is recorded.

seqGrabToMemory
Instructs the sequence grabber component to store the recorded data in memory until the recording process is complete. The sequence grabber then writes the recorded data to the movie file specified by the movieFile parameter. This technique provides better performance than recording directly to the movie file, but it limits the amount of data you can record. If this flag is set to 1, the sequence grabber component is recording to memory.

seqGrabDontUseTempMemory
Prevents the sequence grabber component from using temporary memory during the record operation. By default, the sequence grabber component and its channel components use as much temporary memory as necessary to perform the record operation. If this flag is set to 1, the sequence grabber component and its channel components do not use temporary memory.

seqGrabAppendToFile
Directs the sequence grabber component to add the recorded data to the data fork of the movie file specified by the movieFile parameter. By default, the sequence grabber component deletes the movie file and creates a new file containing one movie and its movie resource. If this flag is set to 1, the sequence grabber component appends the recorded data to the data fork of the movie file and creates a new movie resource in that file.

seqGrabDontAddMovieResource
Prevents the sequence grabber component from adding the new movie resource to the movie file specified by the movieFile parameter. By default, the sequence grabber component creates a new movie resource and adds that resource to the movie file. If this flag is set to 1, the sequence grabber component does not add the movie resource to the movie file. You are then responsible for adding the resource to a file, if you so desire

seqGrabDontMakeMovie

Prevents the sequence grabber component from creating a movie. By default, the sequence grabber component creates a new movie resource and adds the captured data to that movie. If this flag is set to 1, the sequence grabber still calls your data function, but does not write any data to the movie file.
(Read and Write property)

### 9.6.6   LastError as Integer

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The error code for the last error.
**Notes:**

A Mac OS error code. You can pass this error code to MacErrorString to get a text to display to the user.
See QTGrabberMBS.Lasterror for a list of possible error values.
(Read& Write property)
(Read and Write property)

### 9.6.7   MaximumSegmentSize as Double

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The maximum size for data written to a specified sequence grabber output.
**Notes:**

Internally a 64bit integer value is used to this should work for files larger than 2 GB.
Returns -1 on error.

If an attempt is made to write data beyond the maximum segmentsize, the sequence grabber switches to the next output specified by the NextOutput property. If no more outputs are available, an end-of-file error is returned and recording ends.

Sets lasterror property on reading and writing.
(Read& Write property)
Introduced in QuickTime 3 or earlier.
(Read and Write property)

### 9.6.8   NextOutput as QTGrabberOutputMBS

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The next output in the output chain.
**Notes:**

Specifies the order in which sequence grabber outputs should be used.
This function should not be called while recording.

Introduced in QuickTime 3 or earlier.

Sets lasterror property on reading or writing.
Returns nil on any error.
(Read and Write property)

### 9.6.9    OutputHandle as Integer

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The handle to the output.
**Notes:**

A SGOutput reference for use in toolbox calls.
(Read only property)

### 9.6.10    SeqGrabHandle as Integer

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The handle to the sequence grabber.
**Notes:**

A SeqGrabComponent reference for use in toolbox calls.
(Read only property)

### 9.6.11    StorageSpaceRemaining as Double

Plugin Version: 2.7, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** Returns the amount of space remaining in the data reference associated with an output.
**Notes:**

First trys the 64bit version from QuickTime 5. If that function is not available, trys the 32bit version from QuickTime 3.
Returns -1 on any error.

Use this property in place of QTGrabberMBS.StorageSpaceRemaining in cases where you are working with more than one output.

A sequence grabber output ties a sequence grabber channel to a specified data reference for the output of captured data. If you are capturing to a single movie file, you can continue to use QTGrabberMBS.SetDataOutput to specify the sequence grabber's destination. However, if you want to capture movie data into several different files or data references, you must use sequence grabber outputs to do so. Even if you are

using outputs, you must still use QTGrabberMBS.SetDataOutput to identify where the sequence grabber should create the movie resource. You are responsible for creating outputs, assigning them to sequence grabber channels, and disposing of them when you are done.

Sets lasterror property on reading.
Introduced in QuickTime 3 or earlier.
(Read only property)

# Chapter 10

# System

## 10.1 Globals

### 10.1.1 GestaltMBS(code as string, byref result as Integer) as Boolean

Plugin Version: 3.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Function:** The same as the Gestalt function in Realbasic.
**Notes:** GestaltMBS supports Windows, what System.Gestalt does not.

# Chapter 11

# List of Questions in the FAQ

# Chapter 12

# The FAQ

### 12.0.1   Can anyone help me convert seconds to time in this format hh:mm:ss?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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)

### 12.0.2   How do I get the proper highlight color on Mac OS X for active/inactive selection?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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:

## 12.0.3 How to catch delete key?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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:

## 12.0.4 How to convert cmyk to rgb?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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:

## 12.0.5  How to delete a folder?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** The following is the code 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
else ' file
fo.Delete
end if
next

f.Delete
End Sub
```

See also:

### 12.0.6  How to detect if CPU if 64bit processor?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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:

### 12.0.7  How to refresh a htmlviewer on Windows?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** You can ask the browser to reload the website with this code line:
**Example:**

call htmlViewer1.IERunJavaScriptMBS("javascript:document.location.reload()")

See also:

## 12.0.8   Is there an example for vector graphics in REALbasic?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes.  **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
```

## 12.0.9   Picture functions do not preserve resolution values?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes.  **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.

### 12.0.10    A toolbox call needs a rect - how do I give it one?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **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

### 12.0.11    API client not supported?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

### 12.0.12 Can I access Access Database with Java classes?

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No. **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 librery as string = Join(libjs, "")
dim vm as new JavaVMMBS(librery)

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

### 12.0.13    Can I create PDF from Real Studio Report using DynaPDF?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** Sorry, no. We can't
provide a graphics subclass from plugin.
**Notes:**

The is a feature request to allow graphics subclasses:
Feedback case 11391: feedback://showreport?report_id=11391

### 12.0.14    Can I use AppleScripts in a web application?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

### 12.0.15  Can I use graphics class with DynaPDF?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** Sorry, no. We can't provide a graphics subclass from plugin.
**Notes:**

The is a feature request to allow graphics subclasses:
Feedback case 11391: feedback://showreport?report_id=11391

### 12.0.16  Can I use OGG with REALbasic?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Answer:** There is a QuickTime plugin for OGG which works with REALbasic.
**Notes:** That should be a solution for playback and recording on Mac and Windows.

### 12.0.17  Can I use sockets on a web application?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** Yes, but they run on the server, not on the client.
**Notes:**

You can use HTTPSocket, SMTPSocket, POP3Socket, SMTPSecureSocket, SecurePOP3Socket, EasyTCP-Socket, 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.

### 12.0.18  Can I use your ChartDirector plugin on a web application?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** Yes, our ChartDirector plugin works just fine on the Real Studio 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 & hbbbbbb
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. Tranfserring 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.

### 12.0.19   Can I use your DynaPDF plugin on a web application?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** Yes, our DynaPDF plugin works just fine on the Real Studio 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 Real Studio Web Edition.
http://www.monkeybreadsoftware.de/realbasic/webapps.shtml

### 12.0.20   Can I use your plugin controls on a web application?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** No.

### 12.0.21   Can you get an unique machine ID?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.



## 12.0.22   ChartDirector: Alignment Specification

Plugin Version: 8.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** ChartDirector:
Alignment Specification
**Notes:**

In many ChartDirector objects, you may specify the alignment of the object's content relative to its bound-
ary. 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



## 12.0.23   ChartDirector: Color Specification

Plugin Version: 8.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** ChartDirector: Color
Specification
**Notes:**

Many functions in the ChartDirector API accept colors as parameters. ChartDirector supports colors spec-
ified 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-

| | | |
|---|---|---|
| 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 Axis.setTitlePos 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 Axis.setTitlePos 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 Axis.setTitlePos 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 Axis.setTitlePos 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. |

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 all at. This is equivalent to traditional RGB colors. A non-zero alpha transparency means the 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 looks 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

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.

| 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. |

ConstantDescription

| 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. |

## 12.0.24   ChartDirector: Font Specification

Plugin Version: 8.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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 "Gill-Sans.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
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 "FONTPATH".

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.Indirect Font Names
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 fonts in your charts in one place.Font Index

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.Font Size

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.Font Color

This is the color to draw the font. (See Color Specification on how colors are represented in ChartDirector.)Font Angle

This is the angle in degrees by which the font should be rotated anti-clockwise.Vertical Layout

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.

## 12.0.25   ChartDirector: Mark Up Language

Plugin Version: 8.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

AttributeDescription

| | |
|---|---|
| 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. |

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".)

| | |
|---|---|
| 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. |

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 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:

AttributeDescription

| | |
|---|---|
| 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. |

The value baseline means the baseline of sub-blocks should align with the baseline of the block. The baseline

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.

### 12.0.26   ChartDirector: Parameter Substitution and Formatting

Plugin Version: 8.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

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

| 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. |

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.

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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 "& amps;# nn;" (eg. ">" will become "& amps;# 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.

## 12.0.27    ChartDirector: Shape Specification

Plugin Version: 8.2, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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

### 12.0.28 Copy styled text?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

### 12.0.29 Do you have code to validate a credit card number?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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)

### 12.0.30   Do you have plugins for X-Rite EyeOne, eXact or i1Pro?

Plugin Version: all, Console & Web: No. **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.
Than we can talk about the plugin.

### 12.0.31   Does SQL Plugin handle stored procedures with multiple result sets?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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. Than 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.

### 12.0.32 Does the plugin home home?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

### 12.0.33 folderitem.absolutepath is limited to 255 chars. How can I get longer ones?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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

## 12.0.34   Future of editablemovie class?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** In short, it will go away, so switch to plugin functions soon.
**Notes:**

The editableMovie class has been deprecated.
Deprecated means that Real Software will remove it someday, but as of today (and probably a few more years) the class will be available and running. Just not forever. The reason is that Apple deprecated the old QuickTime APIs and they are not available for 64 bit.
For 64 bit, you can move to our QTKit plugin.
We expect the old QuickTime classes in Real Studio and our plugins will continue to work in 32 bit applications. Even if editableMovie class is removed next year from Real Studio, our plugin still provides movie class extensions to do similar functions.

## 12.0.35   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?

Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

### 12.0.36   How about Plugin support for older OS X?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

## 12.0.37   How can I detect whether an Intel CPU is a 64bit CPU?

Plugin Version: all, Console & Web: No. **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.

### 12.0.38 How can I disable the close box of a window on Windows?

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No. **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.

### 12.0.39 How can I get all the environment variables from Windows?

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No. **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.

### 12.0.40  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, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

### 12.0.41  How can I get text from a PDF?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

### 12.0.42  How can I get text from a Word Document?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

## 12.0.43  How can I get the item string for a given file creator?

Plugin Version: all, Console & Web: No. **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.

### 12.0.44   How can I launch an app using it's creator code?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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

### 12.0.45   How can I learn what shared libraries are required by a plugin on Linux?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.




### 12.0.46   How can I validate an email address?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** You can try this code:
**Example:**

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Dim re As RegEx
re = New RegEx
Dim rm As RegExMatch

re.SearchPattern = " [ a-z0-9!# $ % & '*+/=?^_' { | }
textasciitilde - ] +(?:\. [ a-z0-9!# $ % & '*+/=?^_' { | }
textasciitilde - ] +)*@(?: [ a-z0-9 ] (?: [ a-z0-9- ] * [ a-z0-9 ] )?\.)+ [ a-z0-9 ] (?: [ a-z0-9- ] * [ a-z0-9 ] )?"
rm = re.Search(editField1.Text)

if rm = Nil Then
StaticText2.text = editField1.Text + " not valid email"
Else
StaticText2.Text = editField1.Text + " is valid"
End if

**Notes:**

Adapted from:
http://www.regular-expressions.info/email.html

## 12.0.47 How do I check if the QuickTime component for the JPEG exporting is available?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Answer:** If you want to know if the PictureToString functions will work, you may try this function:
**Example:**

Function IsQTJPEGExporerAvailable() As boolean
dim q as QTComponentInformationMBS

// search for QuickTime JPEG exporter codec
q=new QTComponentInformationMBS

while q.NextComponent
if q.Type="imco" and q.SubType="jpeg" then
Return true
end if
wend

Return false // not found
End Function

**Notes:**

It should work like this for other types like:
"tiff" ->TIFF
"PNTG" ->Mac Paint
"gif " ->GIF
"WRLE" ->Windows BMP
"tga " ->Targa
"png " ->PNG
etc.

### 12.0.48   How do I check if the QuickTime component for the JPEG importing is available?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Answer:** If you want to know if the StringToPicture functions will work, you may try this function:
**Example:**

```
Function IsQTJPEGImporterAvailable() As boolean
dim q as QTComponentInformationMBS

// search for QuickTime JPEG importer codec
q=new QTComponentInformationMBS

while q.NextComponent
if q.Type="imdc" and q.SubType="jpeg" then
Return true
end if
wend

Return false // not found
End Function
```

**Notes:**

It should work like this for other types like:
"tiff" ->TIFF
"PNTG" ->Mac Paint
"gif " ->GIF
"WRLE" ->Windows BMP
"tga " ->Targa
"png " ->PNG
etc.

### 12.0.49   How do I check if the QuickTime component for the Sequence grabber is available?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Answer:** If you want to know if the QTGrabberClass will work, you can use this code:
**Example:**

```
Function IsQTGrabberAvailable() As boolean
dim q as QTComponentInformationMBS

q=new QTComponentInformationMBS

while q.NextComponent
if q.Type="barg" then
Return true
end if
wend

Return false // not found
End Function
```

**Notes:** Don't forget that you need to check for each other component you use like the compression functions.

### 12.0.50   How do I decode correctly an email subject?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** The following code can be used to decode an email subject including several encodings including Base 64.
**Example:**

```
dim src as string // input

dim theRegex as Regex
dim theRegexMatch as RegexMatch
dim result, infoCharset, encodedPart as string
dim theStart as Integer

if instr(src, "=?") >0 then
theRegex = new Regex
theRegex.Options.Greedy = false
theRegex.searchPattern = "(.*)=\?(.+)\?(Q | B)\?(.+)\?="
theRegexMatch = theRegex.search(src)
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
```

## 12.0.51 How do I enable/disable a single tab in a tabpanel?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

## 12.0.52   How do I find the root volume for a file?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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
```

## 12.0.53   How do I get the current languages list?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

## 12.0.54   How do I get the Mac OS Version?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

### 12.0.55 How do I get the printer name?

Plugin Version: all, Console & Web: No. **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.

### 12.0.56 How do I make a metal window if RB does not allow me this?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

### 12.0.57  How do I make a smooth color transition?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

### 12.0.58   How do I read the applications in the dock app?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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 CFObjectMBS = 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
```

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.

### 12.0.62 How to add icon to file on Mac?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

### 12.0.63 How to ask the Mac for the Name of the Machine?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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).

### 12.0.64  How to automatically enable retina in my apps?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

### 12.0.65  How to avoid leaks with Cocoa functions?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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 REALbasic 2009r4 the code above should not be needed as REALbasic runtime does automatically handle the NSAutoreleasePools for you. For older REALbasic versions you need to use code with a timer with the action event above to avoid memory leaks.

Please do not use REALbasic 2009r4 and newer with plugins before version 9.5. You can get crashes there which typically show a line with a objc_msgSend call.

## 12.0.66   How to avoid trouble connecting to oracle database with SQL Plugin?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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>
```

## 12.0.67   How to avoid __NSAutoreleaseNoPool console messages in threads?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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/NSAutorelease-Pool_Class/Reference/Reference.html

## 12.0.68   How to bring app to front?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

## 12.0.69   How to bring my application to front?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Answer:** This makes SimpleText (Code ttxt) 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)

## 12.0.70   How to catch Control-C on Mac or Linux in a console app?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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 catched, a flag is set and you can ask later in your normal application flow for the result.

## 12.0.71   How to change name of application menu?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **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.

## 12.0.72   How to change the name in the menubar of my app on Mac OS X?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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/ .

## 12.0.73   How to check if a folder/directory has subfolders?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

## 12.0.74   How to check if Macbook runs on battery or AC power?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No.  **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.

## 12.0.75   How to check if Microsoft Outlook is installed?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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

### 12.0.76 How to check on Mac OS which country or language is currently selected?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

### 12.0.77   How to code sign my app with plugins?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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 Mac and Windows to make sure they have not been modified.

In terminal, you do like this:

cd <Path to folder of 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/*.frame-work"
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.

### 12.0.78   How to collapse a window?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

### 12.0.79   How to compare two pictures?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

## 12.0.80   How to compile PHP library?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

## 12.0.81   How to convert a BrowserType to a String with WebSession.Browser?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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
```

## 12.0.82   How to convert a EngineType to a String with WebSession.Engine?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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

### 12.0.83  How to convert a PlatformType to a String with WebSession.Platform?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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

### 12.0.84   How to convert a text to iso-8859-1 using the TextEncoder?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:**

This code can help you althrough 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("Bjrn, this text should be converted")
Mac2PC.clear
```

**Notes:** You have to call Mac2PC.clear after every conversion to reset the encoding engine.

### 12.0.85   How to convert ChartTime back to Xojo date?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

### 12.0.86   How to convert line endings in text files?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

### 12.0.87   How to convert picture to string and back?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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

## 12.0.88   How to copy an array?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

### 12.0.89    How to copy an dictionary?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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 an dictionary of objects, you need to change code to also make a copy of those objects.

### 12.0.90    How to copy parts of a movie to another one?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **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.

### 12.0.91   How to create a birthday like calendar event?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

### 12.0.92 How to create a GUID?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** Use the UUIDMBS class for this.

### 12.0.93 How to create a Mac picture clip file?

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No. **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("AQAAAAAAAAAAAAAAACAFRDRVIAAAABAAAAAAAAABUQ0lQAAAAA
r.AddResource(data,"drag",128,"") 'ditto
r.Close

**Notes:** In general Apple has deprecated this, but a few application still support clippings.

## 12.0.94   How to create a PDF file in REALbasic?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

## 12.0.95   How to create EmailAttachment for PDF Data in memory?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

### 12.0.96  How to create PDF for image files?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

## 12.0.97   How to CURL Options translate to Plugin Calls?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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 intrepreted 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. Pas this additional header with the SetOptionHTTPHeader method.

curl -X PUT http://127.0.0.1:5984/appserials/f2f4e540bf8bb60f61cfcd4328001c59 -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)

## 12.0.98  How to delete file with ftp and curl plugin?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

## 12.0.99  How to detect display resolution changed?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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".

## 12.0.100  How to detect retina?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** Please use Window.BackingScaleFactorMBS to query the factor.
**Example:**

msgbox str(window1.BackingScaleFactorMBS)

## 12.0.101  How to disable force quit?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

### 12.0.102    How to disable the error dialogs from Internet Explorer on javascript errors?

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No. **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.

### 12.0.103    How to display a PDF file in REALbasic?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

### 12.0.104    How to do a lottery in RB?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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

Sub Open()
// Test it

dim za(0) as Integer ' the array of the numbers

lotto 49,6,za ' 6 of 49 in Germany


' and display them
staticText1.text=str(za(0))+chr(13)+str(za(1))+chr(13)+str(za(2))+chr(13)+str(za(3))+chr(13)+str(za(4))+chr(13)+str(za
End Sub
```

## 12.0.105   How to do an asycron DNS lookup?

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No. **Answer:** use CFHostMBS class (Mac OS X only).
**Notes:**

REALbasic internal functions and plugin DNS functions are sycronized.

You can use DNSLookupThreadMBS class for doing them asyncron.

### 12.0.106   How to draw a dushed pattern line?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** You can try this code:
**Example:**

```
// call like this: DrawDushedPatternLine g,0,0,width,height,10

Sub DrawDushedPatternLine(g as graphics,x1 as Integer,y1 as Integer,x2 as Integer,y2 as Integer, partlen as Integer)
dim x,y,ox,oy as Double
dim dx,dy as Double
dim w,h,d as Double
dim b as Boolean

w=x2-x1
h=y2-y1

d=sqrt(w*w+h*h)

dx=w/d*partlen
dy=h/d*partlen

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 Realbasic code, so it even works on Windows.

### 12.0.107   How to draw a nice antialiased line?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:**

This code can help you althrough 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.

## 12.0.108 How to draw with CGContextMBS using my own handle?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** You can try this code:
**Example:**

Soft Declare Function QDBeginCGContext Lib "Carbon" (port as Integer, ByRef contextHandle as Integer) as Integer
dim contextRef as Integer
call QDBeginCGContext(g.handle(graphics.HandleTypeCGrafPtr), contextRef)
dim c as new CGContextMBS(contextRef)

c.BeginPath
c.SetLineWidth(3)
c.SetRGBFillColor(1,0,0,0.5)
c.FillRect(CGMakeRectMBS(0,0,100,100))
c.DrawPath(c.kCGPathFillStroke)
c.Flush // and so on

Soft Declare Function QDEndCGContext Lib "Carbon" (port as Integer, ByRef contextHandle as Integer) as Integer
dim h as Integer = c.Handle
call QDEndCGContext(g.handle(graphics.HandleTypeCGrafPtr), h)
c.Handle=0

**Notes:** Basicly you can provide your own handle to CGContextMBS. But if you do not set it back to 0 the CGContextMBS destructor will release the handle which can result into a crash. (if the reference count is wrong)

## 12.0.109 How to dump java class interface?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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

## 12.0.110   How to duplicate a picture with mask or alpha channel?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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 Real Studio versions because of the # if even if your RS version does not support alpha channel pictures. This way it's future proof.

## 12.0.111   How to enable assistive devices?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

## 12.0.112   How to encrypt a file with Blowfish?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

## 12.0.113   How to extract text from HTML?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** Use both Remove-HTMLTagsMBS 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: Gre

**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 .

## 12.0.114   How to find empty folders in a folder?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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

## 12.0.115   How to find iTunes on a Mac OS X machine fast?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Answer:** You can try Launch Services.
**Example:**

dim f as FolderItem

f=LaunchServicesFindApplicationForInfoMBS("hook","com.apple.iTunes","iTunes.app")

MsgBox f.AbsolutePath

## 12.0.116   How to find network interface for a socket by it's name?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

## 12.0.117   How to find version of Microsoft Word?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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".

## 12.0.118   How to fix CURL error 60/53 on connecting to server?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.UnixpathMBS
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/

## 12.0.119   How to format double with n digits?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

## 12.0.120   How to get a time converted to user time zone in a web app?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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
```

## 12.0.121   How to get an handle to the frontmost window on Windows?

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No. **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
```

### 12.0.122   How to get CFAbsoluteTime from date?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Answer:** Use code like this:
**Example:**

dim d as new date
dim t as CFTimeZoneMBS = SystemCFTimeZoneMBS
dim g as new CFGregorianDateMBS
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.

### 12.0.123   How to get client IP address on web app?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** Use the WebSession.RemoteAddress property.
**Example:**

Sub Open()
Title = Session.RemoteAddress
End Sub

## 12.0.124 How to get fonts to load in charts on Linux?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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"
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.

## 12.0.125 How to get fonts to load in DynaPDF on Linux?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

## 12.0.126    How to get GMT time and back?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

## 12.0.127    How to get good crash reports?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** Check this website from the webkit website:
**Notes:** http://webkit.org/quality/crashlogs.html

## 12.0.128    How to get list of all threads?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

### 12.0.129 How to get parameters from webpage URL in Real Studio Web Edition?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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 Real Studio 2010r5. Please use DefineEncoding.

### 12.0.130 How to get Real Studio apps running Linux?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** You need to install some requuire 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.

### 12.0.131   How to get the color for disabled textcolor?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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" ...

### 12.0.132   How to get the current free stack space?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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 ThreadCurrentStackSpace lib "Carbon" (threadid as Integer, byref size as Integer) as short

if GetCurrentThread(threadid)=0 then
if 0=ThreadCurrentStackSpace(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.

### 12.0.133    How to get the current timezone?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **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
```

## 12.0.134   How to get the current window title?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Answer:** The code below returns the current window title for the frontmost window on Mac OS X if Accessibilty services are

**Notes:** 60 ticks make one second.

### 12.0.136   How to get the list of the current selected files in the Finder?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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 Realbasic 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.folderItemItem(i)

dateiname=f.name
```

```
// editfield1 with property "mulitline=true"!
editfield1.text=editfield1.text + dateiname + chr(13)
next
end if
```

## 12.0.137   How to get the Mac OS system version?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No.  **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
```

## 12.0.138   How to get the Mac OS Version using System.Gestalt?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No.  **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.

### 12.0.139   How to get the screensize excluding the task bar?

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No. **Answer:** Try this code:
**Notes:** Use the Screen class with the available* properties.

### 12.0.140   How to get the size of the frontmost window on Windows?

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No. **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!

## 12.0.141   How to get the source code of a HTMLViewer?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Answer:** Try this code:
**Example:**

// for Windows:

msgbox HTMLViewer1.IEHTMLTextMBS

// for Mac OS X:

msgbox HTMLViewer1.mainFrameMBS.dataSource.data

## 12.0.142   How to handle really huge images with GraphicsMagick or ImageMagick?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** Sometimes it may be better to use an extra application to process images.
**Notes:**

A typical 32 bit app made with Xojo (Real Studio) 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.

## 12.0.143   How to handle tab key for editable cells in listbox?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

### 12.0.144 How to hard link MapKit framework?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

### 12.0.145 How to have a PDF downloaded to the user in a web application?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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 Real Studio Web Edition.

## 12.0.146   How to hide all applications except mine?

Console & Web: No, Mac: Yes, Win: No, Linux: No. **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
```

## 12.0.147   How to hide script errors in HTMLViewer on Windows?

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No. **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).

## 12.0.148  How to hide the grid/background/border in ChartDirector?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** If you want to hide something in a chart, simply assign the kTransparent constant as color.

## 12.0.149  How to hide the mouse cursor on Mac?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

## 12.0.150  How to insert image to NSTextView or TextArea?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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 underlaying NSTextViewMBS object via TextArea.NSTextViewMBS method.

### 12.0.151   How to jump to an anchor in a htmlviewer?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **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"""
elseif TargetMacOS then
call HTMLViewer1.EvaluateJavaScriptMBS "window.location = """# 16"""
else
// not supported
end if
```

### 12.0.152   How to keep a movieplayer unclickable?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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
```

### 12.0.153   How to keep my web app from using 100% CPU time?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** On Linux and Mac OS X 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.

### 12.0.154   How to kill a process by name?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

### 12.0.155   How to know how many CPUs are present?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Answer:** Try this function:
**Example:**

```
Function GetCPUCount() as Integer
Declare Function MPProcessors Lib "Carbon" () as Integer

Return MPProcessors()
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.

### 12.0.156   How to know if a movie is finished?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Answer:** This code can help you althrough it's not perfect:
**Example:**

```
Declare Function IsMovieDone Lib "QuickTime" (theMovie as Integer) as Integer

if IsMovieDone(moviePlayer1.movie.handle) <>0 then
//movie is finished
end if
```

**Notes:** But be carefull! It crashes sometimes for an unknown reason!?

### 12.0.157   How to know if QuickTime is installed on any target and can play MPEG 4 movies?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Answer:** Try this code:
**Example:**

```
dim q as QTComponentInformationMBS

q=new QTComponentInformationMBS

// "eat " = Movie importers
while q.NextComponentOfType("eat ")
if q.SubType="MP4 " then
MsgBox "found: "+q.Name+ " codec"
end if
wend
```

**Notes:** If you find a MP4 movie importing codec you can be sure that a MP4 movie can be opened.

## 12.0.158　How to know if QuickTime is installed on any target?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Answer:** Try this function:
**Example:**

Dim theEffect as QTEffect

theEffect=GetQTCrossFadeEffect

if theEffect = nil then
msgBox "QuickTime is not installed."
else
msgBox "Quicktime is installed."
end if

**Notes:** The problem with this code is that it checks only if the QuickTime part of the cross fade effect is available. Use the QTComponentInformationMBS to check for the features you really need.

## 12.0.159　How to know the calling function?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

## 12.0.160   How to launch an app using it's creator code?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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
```

## 12.0.161   How to launch disc utility?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

## 12.0.162 How to make a lot of changes to a REAL SQL Database faster?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** You may try to embed your changes to the database between two transaction calls.
**Example:**

dim db as Database // some database

db.SQLExecute "BEGIN TRANSACTION"
// Do some Stuff
db.SQLExecute "END TRANSACTION"

**Notes:** This can increase speed by some factors.

## 12.0.163 How to make a NSImage object for my retina enabled app?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

## 12.0.164 How to make a window borderless on Windows?

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No. **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
```

## 12.0.165   How to make an alias using AppleEvents?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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

### 12.0.166 How to make an application smaller?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:**

If you use an older copy of REALbasic, you should try to compile for 68k only instead of PPC. It's a little bit slower, but code is much smaller.

On any Mac OS target you can save your images as JPEG and drop the into your application. REALbasic will include them as JPEGs into the Mac applications (convert to BMP for Windows). This will make the resources of your application smaller, but requires that the user has QuickTime 2.5 or newer installed.

### 12.0.167 How to make AppleScripts much faster?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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

### 12.0.168 How to make double clicks on a canvas?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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 GetDblTime Lib "Carbon" () as Integer
doubleClickTime = GetDblTime()
# 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 occured close enough together in space
if abs(X - lastClickX) <= 5 and abs(Y - LastClickY) <= 5 then
DoubleClick //a double click has occured 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

## 12.0.169   How to make my Mac not sleeping?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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 HDActivity = 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.

### 12.0.170   How to make my own registration code scheme?

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No. **Answer:** There are excellent articles about how to make a registratin code scheme, but you can also simply use our RegistrationEngineMBS class.
**Notes:** If you need a license text, why not use the one from Real Studio as a starting point?

### 12.0.171   How to make small controls on Mac OS X?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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 OSType, 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))
```

## 12.0.172  How to mark my Mac app as background only?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

## 12.0.173 How to move a file or folder to trash?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

### 12.0.174   How to move an application to the front using the creator code?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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)

### 12.0.175   How to move file with ftp and curl plugin?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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 RNTO with the new file name. To delete use DELE and the file path.

### 12.0.176   How to normalize string on Mac?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

## 12.0.177   How to obscure the mouse cursor on Mac?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

## 12.0.178   How to open icon file on Mac?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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

## 12.0.179   How to open PDF in acrobat reader?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

## 12.0.180   How to open printer preferences on Mac?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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
```

### 12.0.181   How to open special characters panel on Mac?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

### 12.0.182   How to optimize picture loading in Web Edition?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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:
http://www.monkeybreadsoftware.de/realbasic/webapps.shtml

## 12.0.183   How to parse XML?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

## 12.0.184   How to play audio in a web app?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** You can use the HTML5 audio tag and control it with javscript.
**Notes:**

See our web apps here:
http://www.monkeybreadsoftware.de/realbasic/webapps.shtml

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 Real Studio 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 element.</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)+";")

## 12.0.185    How to pretty print xml?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** Use the XML Transform method with the right XLS.
**Notes:**

Learn more here:
http://docs.xojo.com/index.php/XMLDocument.Transform

## 12.0.186   How to print to PDF?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

## 12.0.187   How to query Spotlight's Last Open Date for a file?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

## 12.0.188   How to quit windows?

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No. **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.

## 12.0.189   How to read a CSV file correctly?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

## 12.0.190   How to read the command line on windows?

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No. **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 Realbasic versions have a system.commandline property.

### 12.0.191   How to render PDF pages with PDF Kit?

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No. **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.

### 12.0.192   How to restart a Mac?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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
```

### 12.0.193   How to resume ftp upload with curl plugin?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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 OptionResume-From is used. Store there (or in OptionResumeFromLarge) your start value.
Don't forget to implement the read event and return data there as requested.

### 12.0.194   How to rotate a PDF page with CoreGraphics?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

### 12.0.195   How to rotate image with CoreImage?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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 Real Studio picture object for display
dim pic as Picture = outputImage.CopyPictureWithMask

Backdrop = pic

## 12.0.196 How to run a 32 bit application on a 64 bit Linux?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

## 12.0.197 How to save a quicktime movie as a reference movie?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Answer:** Example code is below:
**Example:**

// save as reference movie
dim f as FolderItem
dim m as movie

f=SpecialFolder.Desktop.Child("test.mov")
m=f.OpenAsMovie

f=SpecialFolder.Desktop.Child("new movie.mov")

msgbox str(m.SaveMBS(f,false,false))

## 12.0.198 How to save HTMLViewer to PDF with landscape orientation?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Answer:** You can use NSPrint-InfoMBS 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.

## 12.0.199   How to save RTFD?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.rtfd”)

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 underlaying NSTextViewMBS object via TextArea.NSTextViewMBS
method.

## 12.0.200   How to scale a picture proportionally with mask?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** For a proportional
scaling, we calculate the new picture size relative to the target maximum size.
**Example:**

```
Function ProportinalScaledWithMask(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)

// 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.

## 12.0.201   How to scale a picture proportionally?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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)

### 12.0.202   How to scale/resize a picture?

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No. **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:
- The GWorld class which uses QuickTime. Includes nice Bicubic scaling with QuickTime 6.
- QTGraphicsImporterMBS and QTGraphicsExporterMBS 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 REALbasic:
- make a new picture and draw the old one with new size inside.

### 12.0.203  How to search with regex and use unicode codepoints?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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
```

### 12.0.204  How to see if a file is invisible for Mac OS X?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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

## 12.0.205   How to set cache size for SQLite or REALSQLDatabase?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

### 12.0.206  How to set the modified dot in the window?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Answer:** Try this declares:
**Example:**

window1.ModifiedMBS=true

### 12.0.207  How to show a PDF file to the user in a Web Application?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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 Real Studio Web Edition.
http://www.monkeybreadsoftware.de/realbasic/webapps.shtml

### 12.0.208  How to show Keyboard Viewer programmatically?

Console & Web: No, Mac: Yes, Win: No, Linux: No. **Answer:** Use Realbasic 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/SharedSupport/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

### 12.0.209   How to show the mouse cursor on Mac?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Answer:** Try this declare:
**Example:**

Declare Sub ShowCursor Lib "Carbon" ()

ShowCursor

**Notes:** The MBS Plugin has this function and supports it on Windows, too.

### 12.0.210   How to shutdown a Mac?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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 immediataly: No document asked to be saved, all applications quitting without knowing).

```
Declare Sub ShutDwnPower Lib "Carbon" ()
ShutDwnPower
```

### 12.0.211   How to sleep a Mac?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Answer:** Ask the Finder via Apple Events:
**Example:**

```
dim ae as appleevent
ae=newappleEvent("FNDR","slep","MACS")
if not ae.send then
msgBox "The computer doesn't want to sleep."
end if
```

## 12.0.212   How to speed up rasterizer for displaying PDFs with DynaPDF?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

## 12.0.213   How to use PDFLib in my RB application?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** The PDFlib plugin
was discontinued in favor of our DynaPDF plugin.
**Notes:** If you need help to move, please contact us.

## 12.0.214   How to use quotes in a string?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** Just double them.
**Example:**

msgbox "This String contains ""quotes""."

## 12.0.215   How to use Sybase in Web App?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** Please use our MBS
Real Studio 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

## 12.0.216 How to use the Application Support folder?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Answer:**

I was saving a registration code for an app to the Preferencefolder.
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.UnixpathMBS

**Notes:** You may not be able to write there with a normal user account!

## 12.0.217 How to use the IOPMCopyScheduledPowerEvents function in Realbasic?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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 cfarrayMBS
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 CFDictionaries
'* 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.

## 12.0.218   How to validate a GUID?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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".

## 12.0.219   How to walk a folder hierarchie non recursively?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

### 12.0.220  I got this error: PropVal, QDPictMBS.Name (property value), Type mismatch error.  Expected CGDataProviderMBS, but got Variant, Name:QDPictMBS

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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 Real Studio IDE on Windows crashed on compilation.

## 12.0.221   I registered the MBS Plugins in my application, but later the registration dialog is shown.

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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 tempory 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.

Finally make sure you use the right serial number. Not an older one or a misspelled one.

## 12.0.222   I want to accept Drag & Drop from iTunes

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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(NewCFBinaryDataMBSStr(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=NewCFURLMBSCFStringMBS(CFStringMBS(o),nil)

file=u.file
if file<>nil then
MsgBox file.UnixpathMBS
end if
end if
end if
next
end if
end if
```

end if
End Sub

**Notes:** The code above inside a window on Realbasic 5.5 with MBS Plugin 5.3 will do it nice and show the paths.

### 12.0.223   I'm drawing into a listbox but don't see something.

Plugin Version: all, Console & Web: No. **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 cliping and an offset which the plugin doesn't know about.

### 12.0.224   I'm searching for a method or so to move a window from position x.y to somewhere else on the screen.

Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

## 12.0.225 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?

Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** Stand alone.
**Notes:**

REALbasic compiles all used plugins into the application binary.
Some plugin parts need external dlls but you will find that in the documentation. (e.g. pdflib for some classes)

## 12.0.226 Is the fn key on a powerbook keyboard down?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

## 12.0.227 Is there a case sensitive Dictionary?

Plugin Version: all, Console & Web: No. **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

### 12.0.228   Is there a way to use the MBS plugin to get only the visible item and folder count on a volume?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

### 12.0.229   Is there an easy way I can launch the Displays preferences panel?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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
```

### 12.0.230 Is there an easy way I can launch the Quicktime preferences panel?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Answer:** Use the code below:
**Example:**

```
dim error as Integer

error=OpenMacOSXPreferencesPaneMBS("QuickTime")
if error<>0 then
MsgBox "Failed to launch QuickTime System Preferences panel."
end if
```

### 12.0.231 List of Windows Error codes?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** We have a list of windows error codes on our website.
**Notes:** http://www.monkeybreadsoftware.de/xojo/winerror.shtml

### 12.0.232 Midi latency on Windows problem?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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)

### 12.0.233   My Xojo Web App does not launch. Why?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Answer:** Here is a list of checks to do for linux apache installations with Xojo or Real Studio 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?

## 12.0.234 Pictures are not shown in my application. Why?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Answer:**

On Mac OS Classic, please check the memory partition size which may be too low.
Else (most times on Windows) you are simple missing the part of QuickTime to load images.

## 12.0.235 Realbasic doesn't work with your plugins on Windows 98.

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No. **Answer:** Upgrade your Windows version or complain to Realsoftware.

## 12.0.236 REALbasic or my RB application itself crashes on launch on Mac OS Classic. Why?

Plugin Version: all, Console & Web: No. **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 prefered to use 50 MB and for an application a 10 MB partition is a good way to start.

## 12.0.237 SQLDatabase not initialized error?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** Before you can use SQLDatabaseMBS, it must be initialized.
**Example:**

dim d as new SQLDatabaseMBS

**Notes:**

This happens normally when you use "new SQLDatabaseMBS".
But if you just have a SQLConnectionMBS and get a recordset there, the initialization may not have happend, yet.
So please simply add a line "dim d as new SQLDatabaseMBS" to your app.open code after registration, so the plugin part can initialize and late provide recordsets.

## 12.0.238 Textconverter returns only the first x characters. Why?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:**

Some older REALbasic versions limit the Textconverter to around 1024 characters in input and output. This should be fixed with RB5.
**Notes:** REALbasic seems not to support Textconverters at all on Windows.

### 12.0.239   The type translation between CoreFoundation/Foundation and Real-basic data types.

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Answer:** The plugin does conversion between Cocoa/Carbon data types and native REALbasic 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 ->NSDate


Carbon CFTypeRef 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 CFTypeRef:

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.

## 12.0.240   Uploaded my web app with FTP, but it does not run on the server!

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No. **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.

## 12.0.241   What classes to use for hotkeys?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** Please use Carbon-
HotKeyMBS class on Mac and WindowsKeyFilterMBS on Windows.
**Notes:** CarbonHotKeyMBS will also work fine in Cocoa apps.

## 12.0.242 What do I need for Linux to get picture functions working?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

## 12.0.243 What does the NAN code mean?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:**

## 12.0.244   What font is used as a 'small font' in typical Mac OS X apps?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Answer:**

REALbasic 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
fontStyle 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
```

## 12.0.245   What is last plugin version to run on Mac OS X 10.4?

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No. **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.

## 12.0.246   What is last plugin version to run on PPC?

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No. **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.

## 12.0.247   What is the difference between Timer and WebTimer?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** Time is server side and WebTimer client side.
**Notes:** Timer is the normal timer class in Real Studio. It runs on the server. On the 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.

## 12.0.248   What is the list of Excel functions?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** Below 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.TOOL-BAR, 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, COR-REL, COS, COSH, COUNT, COUNTA, COUNTBLANK, COUNTIF, COVAR, CREATE.OBJECT, CRIT-BINOM, CUSTOM.REPEAT, CUSTOM.UNDO, DATE, DATEDIF, DATESTRING, DATEVALUE, DAV-ERAGE, DAY, DAYS360, DB, DBCS, DCOUNT, DCOUNTA, DDB, DEGREES, DELETE.BAR, DELETE.COM-MAND, 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, EVAL-UATE, 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.TOOL-
BAR, GET.WINDOW, GET.WORKBOOK, GET.WORKSPACE, GETPIVOTDATA, GOTO, GROUP,
GROWTH, HALT, HARMEAN, HELP, HLOOKUP, HOUR, HYPERLINK, HYPGEOMDIST, IF, IN-
DEX, INDIRECT, INFO, INITIATE, INPUT, INT, INTERCEPT, IPMT, IRR, ISBLANK, ISERR, ISER-
ROR, 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.COM-
MAND, N, NA, NAMES, NEGBINOMDIST, NEXT, NORMDIST, NORMINV, NORMSDIST, NORM-
SINV, NOT, NOTE, NOW, NPER, NPV, NUMBERSTRING, ODD, OFFSET, OPEN.DIALOG, OP-
TIONS.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, REFTEXT, REGISTER, REGISTER.ID,
RELREF, RENAME.COMMAND, REPLACE, REPLACEB, REPT, REQUEST, RESET.TOOLBAR, RESTART,
RESULT, RESUME, RETURN, RIGHT, RIGHTB, ROMAN, ROUND, ROUNDBAHTDOWN, ROUND-
BAHTUP, 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, STANDARD-
IZE, STDEV, STDEVA, STDEVP, STDEVPA, STEP, STEYX, SUBSTITUTE, SUBTOTAL, SUM, SUMIF,
SUMPRODUCT, SUMSQ, SUMX2MY2, SUMX2PY2, SUMXMY2, SYD, T, TAN, TANH, TDIST, TER-
MINATE, TEXT, TEXT.BOX, TEXTREF, THAIDAYOFWEEK, THAIDIGIT, THAIMONTHOFYEAR,
THAINUMSOUND, THAINUMSTRING, THAISTRINGLENGTH, THAIYEAR, TIME, TIMEVALUE,
TINV, TODAY, TRANSPOSE, TREND, TRIM, TRIMMEAN, TRUE, TRUNC, TTEST, TYPE, UNREG-
ISTER, UPPER, USDOLLAR, USERDEFINED, VALUE, VAR, VARA, VARP, VARPA, VDB, VIEW.GET,
VLOOKUP, VOLATILE, WEEKDAY, WEIBULL, WHILE, WINDOW.TITLE, WINDOWS, YEAR and
ZTEST.

## 12.0.249   What is the replacement for PluginMBS?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Answer:** Use the SoftDeclareMBS
class to load libraries dynamically.

## 12.0.250   What to do on Realbasic reporting a conflict?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:**

I get an error like "This item conflicts with another item of the same name" when using one of the plugin
functions.

REALbasic 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.

### 12.0.251   What to do with a NSImageCacheException?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Answer:** You need to add exception handlers for NSExceptionMBS 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.

### 12.0.252   What to do with MySQL Error 2014?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** You can get this error on MySQL if you have a recordset open while you create another one.

### 12.0.253   What ways do I have to ping?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **Answer:** You have different ways
**Notes:**

1. Use the shell class and the ping utility.

2. Use the MBS Network Plugin and there the SuperSocket part:

a) On Windows the ICMPPingMBS works to ping.
b) On Mac OS X it uses OpenTransport and needs root rights. You need to use sudo to run this application. This does not work on Intel Macs, because the plugin is not endian safe.

3. The DarwinPingMBS.Ping method:

Compiled for Mac OS X Macho target it works as a syncronized ping method.
The Windows version had a bug and was fixed in plugin version 8.2pr4. So it works now.

4. The DarwinPingMBS.SimplePing method:

Works on Mac OS X Macho target.

But this method can be called from a thread to make it working in background.

### 12.0.254    Where is CGGetActiveDisplayListMBS?

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No. **Answer:** This is now CGDisplayMBS.GetActiveDisplayList.

### 12.0.255    Where is CGGetDisplaysWithPointMBS?

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No. **Answer:** This is now CGDisplayMBS.GetDisplaysWithPoint.

### 12.0.256    Where is CGGetDisplaysWithRectMBS?

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No. **Answer:** This is now CGDisplayMBS.GetDisplaysWithRect.

### 12.0.257    Where is CGGetOnlineDisplayListMBS?

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No. **Answer:** This is now CGDisplayMBS.GetOnlineDisplayList.

### 12.0.258    Where is GetObjectClassNameMBS?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **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.

## 12.0.259   Where is NetworkAvailableMBS?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:** We removed NetworkAvailableMBS some versions ago. It was not working right and basicly it's not useful. If you want to check whether you have a network, than do a DNS resolve:
**Example:**

```
// two independend domain names
const domain1 = "www.google.com"
const domain2 = "www.macsw.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.

## 12.0.260   Where is StringHeight function in DynaPDF?

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No. **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.

## 12.0.261   Where is XLSDocumentMBS class?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Answer:** This class has been removed in favor of XLBookMBS class.
**Notes:** This classes have been removed XLSCellMBS, XLSDocumentMBS, XLSFormatRecordMBS, XLSMergedCellsMBS, XLSRowMBS and XLSSheetMBS.

## 12.0.262   Where to get information about file formats?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:**

Please visit this web page:
http://www.wotsit.org

## 12.0.263   Where to register creator code for my application?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **Answer:**

Register at Apple:
http://developer.apple.com/dev/cftype/information.html

## 12.0.264   Which Mac OS X frameworks are 64bit only?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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.

## 12.0.265   Which plugins are 64bit only?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No.  **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.

## 12.0.266   Why application doesn't launch because of a missing ddraw.dll!?

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No.  **Answer:** Some RB versions require that you install DirectX from Microsoft on your Windows.

## 12.0.267   Why application doesn't launch because of a missing shlwapi.dll!?

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No.  **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.

## 12.0.268   Why do I hear a beep on keydown?

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No.  **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.

## 12.0.269   Why does folderitem.item return nil?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes.  **Answer:** Because Realbasic 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.

## 12.0.270   Why doesn't showurl work?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: Yes. **Answer:**

There are three main reasons:

1. showurl is not supported by REALbasic 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.

## 12.0.271   Why have I no values in my chart?

Plugin Version: all, Console & Web: No, Mac: Yes, Win: Yes, Linux: No. **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.

## 12.0.272   Will application size increase with using plugins?

Plugin Version: all, Console & Web: No, Mac: No, Win: Yes, Linux: No. **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.

## 12.0.273   XLS: Custom format string guidelines

Plugin Version: all, Console & Web: No, Mac: Yes, Win: No, Linux: No. **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

| Parameter | Description |
|---|---|
| x | The x value of the data point. For an enumerated x-axis (see Axis.setLabels 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 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 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 LineLayer.setSymbolScale. |
| zy | The symbol scale in the y dimension. Applicable for layers with symbol scales set by LineLayer.setSymbolScale. |
| z | The symbol scale without distinguishing the dimension to use. Applicable for layers with symbol scales set by LineLayer.setSymbolScale. |

| 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 ]

textasciitilde ' for no thousand separator. The default is '
textasciitilde ', which can be modified using BaseChart.setNumberFormat.

[ c ]

[ d ]

textasciitilde ' for no negative sign character. The default is '-', which can be modified using BaseChart.setNumberFormat.

The thousand separator. Should be a non-alphanumeric character (not 0-9, A-Z, a-z). Use '

The decimal point character. The default is '.', which can be modified using BaseChart.setNumberFormat.
The negative sign character. Use '

| 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 adds 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,, |