

# MBS REALbasic JPEG Plugin Documentation

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January 17, 2011

## 0.1 Introduction

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

## 0.2 Content

- 1 List of all topics 3
- 2 All items in this plugin 7
- 3 List of all classes 61
- 4 List of all global methods 63

# Chapter 1

## List of Topics

• 2 JPEG	7
– 2.1 class JPEGTransformationMBS	7
* 2.1.1 close	8
* 2.1.1 Transform as boolean	8
* 2.1.2 CopyOption as Integer	9
* 2.1.2 DebugLevel as Integer	9
* 2.1.2 ErrorCode as Integer	9
* 2.1.2 ErrorMessage as String	10
* 2.1.2 Grayscale as Boolean	10
* 2.1.2 InputFile as Folderitem	10
* 2.1.2 MaxMemoryToUse as Integer	10
* 2.1.2 MirrorHorizontal as Boolean	11
* 2.1.2 MirrorVertical as Boolean	11
* 2.1.2 OptimizeCoding as Boolean	11
* 2.1.2 OutputFile as Folderitem	12
* 2.1.2 Progressive as Boolean	12
* 2.1.2 Rotate180 as Boolean	12
* 2.1.2 Rotate270 as Boolean	13
* 2.1.2 Rotate90 as Boolean	13
* 2.1.2 Transpose as Boolean	13
* 2.1.2 Transverse as Boolean	13
* 2.1.2 Trim as Boolean	14
* 2.1.2 WarningMessage as String	14
* 2.1.3 Error(message as string, ErrorCode as integer)	14
* 2.1.3 Info(message as string, msglevel as integer, ErrorCode as integer)	15

* 2.1.3 Warning(message as string, ErrorCode as integer)	15
– 2.5 class JPEGImporterMBS	36
* 2.5.1 BlueTestPicture as picture	37
* 2.5.1 CleanMarkers	37
* 2.5.1 FinishJPEG	37
* 2.5.1 GreenTestPicture as picture	38
* 2.5.1 Import	38
* 2.5.1 ImportCMYK	39
* 2.5.1 InitJPEG as boolean	40
* 2.5.1 LoopJPEG as integer	41
* 2.5.1 MarkerCount as integer	42
* 2.5.1 MarkerItem(index as integer) as JPEGImporterMarkerMBS	42
* 2.5.1 ReadHeader as boolean	43
* 2.5.1 RedTestPicture as picture	44
* 2.5.2 AllowDamaged as boolean	44
* 2.5.2 CMYK as Boolean	44
* 2.5.2 ColorComponentCount as Integer	45
* 2.5.2 CurrentDepth as integer	45
* 2.5.2 data as string	46
* 2.5.2 ErrorMessage as string	46
* 2.5.2 ExifData as String	46
* 2.5.2 file as folderitem	47
* 2.5.2 FileOffset as integer	47
* 2.5.2 Height as integer	47
* 2.5.2 HorizontalResolution as Integer	48
* 2.5.2 Mode as Integer	48
* 2.5.2 OriginalDepth as integer	48
* 2.5.2 Picture as Picture	49
* 2.5.2 PictureData as MemoryBlock	49
* 2.5.2 ProfileData as String	50
* 2.5.2 ReadExifData as Boolean	51
* 2.5.2 ReadMarkers as Boolean	51
* 2.5.2 ReadProfileData as Boolean	52
* 2.5.2 ReadXMPData as Boolean	53
* 2.5.2 ResolutionUnit as Integer	53
* 2.5.2 ScaleFactor as Integer	53
* 2.5.2 UseTempMemory as boolean	54
* 2.5.2 VerticalResolution as Integer	54
* 2.5.2 WarningMessage as String	54
* 2.5.2 Width as integer	55
* 2.5.2 XMPData as String	55

* 2.5.2 YieldTicks as Integer	55
* 2.5.3 Error(message as string, ErrorCode as integer)	56
* 2.5.3 Info(message as string, msglevel as integer, ErrorCode as integer)	56
* 2.5.3 Warning(message as string, ErrorCode as integer)	56
* 2.5.4 ModeCMYK=2	57
* 2.5.4 ModeCMYKbyRow=12	57
* 2.5.4 ModeGray=3	57
* 2.5.4 ModeGraybyRow=13	58
* 2.5.4 ModePicture=0	58
* 2.5.4 ModeRGB=1	58
* 2.5.4 ModeRGBbyRow=11	59
– 2.2 Globals	15
* 2.2 JPEGStringToPictureMBS(buf as string) as picture	15
* 2.2 JPEGStringToPictureMBS(buf as string,allowdamaged as Boolean) as picture	16
* 2.2 PictureToJPEGStringMBS(pic as picture, quality as integer) as string	17
– 2.3 class JPEGExporterMBS	18
* 2.3.1 Export	19
* 2.3.1 ExportCMYK(data as memoryblock, width as integer, height as integer, rowbytes as integer)	21
* 2.3.1 ExportRGB(data as memoryblock, width as integer, height as integer, rowbytes as integer)	22
* 2.3.1 ExportRGBwithRowDataEvent(width as integer, height as integer, rowbytes as integer)	23
* 2.3.2 data as string	23
* 2.3.2 ErrorCode as integer	23
* 2.3.2 ErrorMessage as string	24
* 2.3.2 EXIFData as String	24
* 2.3.2 file as folderitem	25
* 2.3.2 HorizontalResolution as Integer	26
* 2.3.2 OptimizeCoding as Boolean	26
* 2.3.2 Picture as Picture	27
* 2.3.2 ProfileData as String	27
* 2.3.2 Progressive as Boolean	28
* 2.3.2 Quality as integer	29
* 2.3.2 ResolutionUnit as Integer	29
* 2.3.2 VerticalResolution as Integer	30
* 2.3.2 WarningMessage as String	30
* 2.3.2 YieldTicks as Integer	31
* 2.3.3 Error(message as string, ErrorCode as integer)	31
* 2.3.3 GetRowData(index as integer) as memoryblock	32
* 2.3.3 Info(message as string, msglevel as integer, ErrorCode as integer)	32

* 2.3.3 Warning(message as string, ErrorCode as integer)	32
– 2.4 class JPEGImporterMarkerMBS	33
* 2.4.1 Data as String	33
* 2.4.1 DataLength as Integer	34
* 2.4.1 Marker as Integer	34
* 2.4.1 OriginalLength as Integer	35

# Chapter 2

## JPEG

### 2.1 class JPEGTransformationMBS

**class JPEGTransformationMBS**

class, JPEG, MBS REALbasic JPEG Plugin (JPEGRotation), Plugin version: 3.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** A class to wrap the jpegtran utility.

**Notes:**

Although rotating and flipping data expressed as DCT coefficients is not hard, there is an asymmetry in the JPEG format specification for images whose dimensions aren't multiples of the iMCU size. The right and bottom image edges are padded out to the next iMCU boundary with junk data; but no padding is possible at the top and left edges. If we were to flip the whole image including the pad data, then pad garbage would become visible at the top and/or left, and real pixels would disappear into the pad margins — perhaps permanently, since encoders & decoders may not bother to preserve DCT blocks that appear to be completely outside the nominal image area. So, we have to exclude any partial iMCUs from the basic transformation.

Transpose is the only transformation that can handle partial iMCUs at the right and bottom edges completely cleanly. Mirror horizontal can flip partial iMCUs at the bottom, but leaves any partial iMCUs at the right edge untouched. Similarly mirror vertical leaves any partial iMCUs at the bottom edge untouched. The other transforms are defined as combinations of these basic transforms and process edge blocks in a way that preserves the equivalence.

The "trim" option causes untransformable partial iMCUs to be dropped; this is not strictly lossless, but it usually gives the best-looking result for odd-size images. Note that when this option is active, the expected mathematical equivalences between the transforms may not hold. (For example, `-rot 270 -trim` trims only the bottom edge, but `-rot 90 -trim` followed by `-rot 180 -trim` trims both edges.)

We also offer a "force to grayscale" option, which simply discards the chrominance channels of a YCbCr image. This is lossless in the sense that the luminance channel is preserved exactly. It's not the same kind of thing as the rotate/flip transformations, but it's convenient to handle it as part of this package, mainly because the transformation routines have to be aware of the option to know how many components to work on.

Bases on libjpeg.

### 2.1.1 Methods

#### close

method from class JPEGTransformationMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGRotation), Plugin version: 3.4, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**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.)

#### Transform as boolean

method from class JPEGTransformationMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGRotation), Plugin version: 3.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** Runs the transformation.

**Notes:**

Outputfile and Inputfile should never be identical, because this will corrupt the file.

Returns only false if the file specifications are invalid.  
So after true is returned you still need to check the errorcode property.

## 2.1.2 Properties

### CopyOption as Integer

property from class JPEGTransformationMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGRotation), Plugin version: 3.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** What to copy from the meta information.

**Notes:**

Values:

JCOPYOPT_ NONE	0	copy no optional markers
JCOPYOPT_ COMMENTS	1	copy only comment (COM) markers
JCOPYOPT_ ALL	2	copy all optional markers

(Read and Write property)

### DebugLevel as Integer

property from class JPEGTransformationMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGRotation), Plugin version: 3.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The debug level for the jpeg library.

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

### ErrorCode as Integer

property from class JPEGTransformationMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGRotation), Plugin version: 3.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The last error code reported.

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

**ErrorMessage as String**

property from class JPEGTransformationMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGRotation), Plugin version: 3.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The last error message reported.

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

**Grayscale as Boolean**

property from class JPEGTransformationMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGRotation), Plugin version: 3.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** whether to reduce to grayscale (omit color data).

**Notes:**

If true the a color image is converted to grayscale.

(Read and Write property)

**InputFile as Folderitem**

property from class JPEGTransformationMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGRotation), Plugin version: 3.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The input file.

**Notes:**

Outputfile and Inputfile should never be identical, because this will corrupt the file.

(Read and Write property)

**MaxMemoryToUse as Integer**

property from class JPEGTransformationMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGRotation), Plugin version: 3.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** Maximum memory to use.

**Notes:**

Unit is bytes.  
(Read and Write property)

### MirrorHorizontal as Boolean

property from class JPEGTransformationMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGRotation),  
Plugin version: 3.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** whether to use the left-right mirror transformation.

**Notes:**

Only one transformation can be used.  
(Read and Write property)

### MirrorVertical as Boolean

property from class JPEGTransformationMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGRotation),  
Plugin version: 3.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** whether to use the top-bottom mirror transformation.

**Notes:**

Only one transformation can be used.  
(Read and Write property)

### OptimizeCoding as Boolean

property from class JPEGTransformationMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGRotation),  
Plugin version: 3.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** Optimize Huffman table (smaller file, but slow compression)

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

**OutputFile as Folderitem**

property from class JPEGTransformationMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGRotation), Plugin version: 3.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The output file.

**Notes:**

On Mac OS X, this function uses the short file name (31 characters).

So you may consider to save to a temporary file and rename it after the transformation was successful.

Outputfile and Inputfile should never be identical, because this will corrupt the file.  
(Read and Write property)

**Progressive as Boolean**

property from class JPEGTransformationMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGRotation), Plugin version: 3.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** whether to create progressive JPEG file.

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

**Rotate180 as Boolean**

property from class JPEGTransformationMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGRotation), Plugin version: 3.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** whether to use the 180 clockwise rotation transformation.

**Notes:**

Only one transformation can be used.  
(Read and Write property)

**Rotate270 as Boolean**

property from class JPEGTransformationMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGRotation), Plugin version: 3.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** whether to use the 270 clockwise rotation transformation.

**Notes:**

Only one transformation can be used.  
(Read and Write property)

**Rotate90 as Boolean**

property from class JPEGTransformationMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGRotation), Plugin version: 3.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** whether to use the 90 clockwise rotation transformation.

**Notes:**

Only one transformation can be used.  
(Read and Write property)

**Transpose as Boolean**

property from class JPEGTransformationMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGRotation), Plugin version: 3.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** whether to transpose the image across UR-to-LL axis.

**Notes:**

Only one transformation can be used.  
(Read and Write property)

**Transverse as Boolean**

property from class JPEGTransformationMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGRotation), Plugin version: 3.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** whether to transpose the image across UL-to-LR axis.

**Notes:**

Only one transformation can be used.  
(Read and Write property)

### Trim as Boolean

property from class JPEGTransformationMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGRotation), Plugin version: 3.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** whether to drop non-transformable edge blocks.

**Notes:**

if true, trim partial MCUs as needed.  
(Read and Write property)

### WarningMessage as String

property from class JPEGTransformationMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGRotation), Plugin version: 8.5, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The last warning message reported.

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

## 2.1.3 Events

### Error(message as string, ErrorCode as integer)

event from class JPEGTransformationMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGRotation), Plugin version: 8.5, not console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** This events reports all error messages from the jpeg library.

**Info(message as string, msglevel as integer, ErrorCode as integer)**

event from class JPEGTransformationMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGRotation), Plugin version: 8.5, not console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** This events reports all information messages from the jpeg library.

**Notes:**

msglevel is one of:

- 1: recoverable corrupt-data warning, may want to abort.
- 0: important advisory messages (always display to user).
- 1: first level of tracing detail.
- 2,3,...: successively more detailed tracing messages.

**Warning(message as string, ErrorCode as integer)**

event from class JPEGTransformationMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGRotation), Plugin version: 8.5, not console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** This events reports all warning messages from the jpeg library.

## 2.2 Globals

**JPEGStringToPictureMBS(buf as string) as picture**

global method, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), , console safe in REAL Studio 2010r3 or newer, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** Reads a picture from a JPEG file.

**Example:**

```
dim s as string
```

```
dim h as new HTTPSocket
```

```
s=h.Get("http://www.monkeybreadsoftware.de/realbasic/images/rbplugin.jpg",90)
```

```
Backdrop=JPEGStringToPictureMBS(s)
```

**Notes:** Short version of the "JPEGStringToPicture(buf as string,allowdamaged as Boolean) as picture" method. allowdamaged is set to false.

See also:

- 2.2 JPEGStringToPictureMBS(buf as string,allowdamaged as Boolean) as picture 16

### JPEGStringToPictureMBS(buf as string,allowdamaged as Boolean) as picture

global method, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), , console safe in REAL Studio 2010r3 or newer, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** Reads a picture from a JPEG file.

**Example:**

```
dim p as Picture = LogoMBS(500)
dim s as string = PictureToJPEGStringMBS(p, 80)

s = leftb(s, lenb(s)-1000) // remove last 1000 bytes

dim q as Picture = JPEGStringToPictureMBS(s, true)

Backdrop = q
```

**Notes:**

This methods should read all JPEG file data you can get, but I've only tested it for 32 bit color and 8 bit grayscale.

This method is not depending on any library! It works without QuickTime even on System 7, but as it contains everything needed this method is around 120 KB big!  
(REALbasic's OpenAsPicture depends on QuickTime)

I wrote it mainly because Realbasic's built in OpenAsJPEG code crashes badly if your picture is not full downloaded. For example if you have a webbrowser you can now show JPEGs while you download them. Normally you can see a good picture already with 50% of the data.

REALbasic's OpenAsPicture in contrast crashes if the picture is not 100% downloaded or instead of a crash you get a white picture.

See the "JPEGToString example", "jpeg load crashtest" and "SaveJPEG without QuickTime" examples. See also:

- 2.2 JPEGStringToPictureMBS(buf as string) as picture 15

### PictureToJPEGStringMBS(pic as picture, quality as integer) as string

global method, JPEG, MBS REALbasic JPEG Plugin (JPEGCompression), , console safe in REAL Studio 2010r3 or newer, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** Saves a picture into a string using JPEG compression.

**Example:**

```
dim p as Picture = LogoMBS(500)
dim s as string = PictureToJPEGStringMBS(p, 80)
dim q as Picture = JPEGStringToPictureMBS(s)
```

```
Backdrop = q
```

#### Notes:

This methods saves 32bit pictures to a file using JPEG Compression. Using the parameter you can specify the quality in range between 25 and 100%

This method is not depending on any library! It works without QuickTime even on System 7, but as it contains everything needed this method is around 100 KB big!  
(REALbasic's SaveAsJPEG depends on QuickTime)

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

See the "JPEGToString example" and "SaveJPEG without QuickTime" examples.

Use the JPEGExporterMBS class for more options.

The returned string has the encoding set to binary (no encoding). 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.

The picture is always encoded with 72 dpi. If you want to set a different dpi value, please use the JPEGExporterMBS class.

## 2.3 class JPEGExporterMBS

### class JPEGExporterMBS

class, JPEG, MBS REALbasic JPEG Plugin (JPEGCompression), , console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** A class for JPEG Exporting.

**Example:**

```
dim g as FolderItem
dim ji as JPEGImporterMBS
dim je as JPEGExporterMBS
dim f as FolderItem
dim m as MemoryBlock

// this code copies a JPG: CMYK or RGB

// import it
g=SpecialFolder.Desktop.Child("PICT1533.JPG")
ji=new JPEGImporterMBS
ji.File=g
ji.AllowDamaged=true
ji.CMYK=true // if it is cmyk
if ji.InitJPEG then
do
loop until ji.LoopJPEG<>0
ji.FinishJPEG
end if

// export it
```

```

f=SpecialFolder.Desktop.child("PICT1533 copy.JPG")
je=new JPEGExporterMBS
je.File=f
je.Quality=75

if ji.CMYK then
m=ji.PictureData
je.ExportCMYK m, ji.Width, ji.Height, ji.Width*4
else
je.Picture=ji.Picture
je.Export
end if

```

**Notes:**

This class is not depending on any library! It works without QuickTime even on System 7, but as it contains everything needed this method is around 100 KB big!  
(REALbasic's SaveAsJPEG depends on QuickTime)

Bases on libjpeg.

**2.3.1 Methods****Export**

method from class JPEGExporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGCompression), , console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** Exports the picture.

**Example:**

```

dim g as FolderItem
dim ji as JPEGImporterMBS
dim je as JPEGExporterMBS
dim f as FolderItem
dim m as MemoryBlock

// this code copies a JPG: CMYK or RGB

// import it

```

```

g=SpecialFolder.Desktop.Child("PICT1533.JPG")
ji=new JPEGImporterMBS
ji.File=g
ji.AllowDamaged=true
ji.CMYK=true // if it is cmyk
if ji.InitJPEG then
do
loop until ji.LoopJPEG<>0
ji.FinishJPEG
end if

// export it
f=SpecialFolder.Desktop.child("PICT1533 copy.JPG")
je=new JPEGExporterMBS
je.File=f
je.Quality=75

if ji.CMYK then
m=ji.PictureData
je.ExportCMYK m, ji.Width, ji.Height, ji.Width*4
else
je.Picture=ji.Picture
je.Export
end if

```

**Notes:**

This methods saves 32bit pictures to a file using JPEG Compression. Using the properties of the class you can specify the quality in range between 0 and 100%

This method is not depending on any library! It works without QuickTime even on System 7, but as it contains everything needed this method is around 100 KB big!  
(REALbasic's SaveAsJPEG depends on QuickTime)

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 method uses the YieldTicks property and may yield time to other threads.

**ExportCMYK**(data as memoryblock, width as integer, height as integer, rowbytes as integer)

method from class JPEGExporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGCompression), Plugin version: 3.1, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** Exports a picture from CMYK data in a memoryblock.

**Example:**

```
dim g as FolderItem
dim ji as JPEGImporterMBS
dim je as JPEGExporterMBS
dim f as FolderItem
dim m as MemoryBlock

// import it
g=getOpenFolderItem("image/jpeg")
ji=new JPEGImporterMBS
ji.File=g
ji.AllowDamaged=true
ji.ImportCMYK

m=ji.PictureData

// export it
f=SpecialFolder.Desktop.child("test.jpg")
je=new JPEGExporterMBS
je.HorizontalResolution=300
je.VerticalResolution=300
je.ResolutionUnit=1
je.File=f
je.Quality=75
je.ExportCMYK m, ji.Width, ji.Height, ji.Width*4
```

**Notes:**

This methods saves 32bit CMYK pictures to a file using JPEG Compression. Using the properties of the class you can specify the quality in range between 0 and 100%

This method is not depending on any library! It works without QuickTime even on System 7, but as it contains everything needed this method is around 100 KB big!  
(REALbasic's SaveAsJPEG depends on QuickTime)

The picture must be in the format that one byte is used for each channel and the channels are ordered in memory in Cyan, Magenta, Yellow and Black.

If rowbytes is 0, the plugin uses width\*4 for rowbytes.

This method uses the YieldTicks property and may yield time to other threads.

### **ExportRGB(data as memoryblock, width as integer, height as integer, rowbytes as integer)**

method from class JPEGExporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGCompression), Plugin version: 8.4, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** Exports a picture from RGB data in a memoryblock.

**Example:**

```

dim f as FolderItem
dim ji as new JPEGImporterMBS
dim je as new JPEGExporterMBS
dim m as MemoryBlock
dim i,c as integer

// read jpeg
f=SpecialFolder.Desktop.Child("input.jpg")

ji.Mode=ji.ModeRGB // read RGB to memoryblock
ji.File=f
ji.Import

m=ji.PictureData

// add red
c=m.Size-1
for i=0 to c step 3
m.Byte(i)=255
next

// write jpeg
f=SpecialFolder.Desktop.Child("test.jpg")

je.File=f
je.ExportRGB(m,ji.Width, ji.Height, ji.Width*3)

```

**Notes:** The memoryblock data must be in the format with bytes in the order RGB.

### **ExportRGBwithRowDataEvent(width as integer, height as integer, rowbytes as integer)**

method from class JPEGExporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGCompression), Plugin version: 9.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** Exports a picture from RGB data in memoryblocks from the GetRowData event.

**Notes:**

You need to implement the GetRowData event by subclassing this class.  
The memoryblock data must be in the format with bytes in the order RGB.

## 2.3.2 Properties

### **data as string**

property from class JPEGExporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGCompression), , console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The destination string.

**Notes:**

If file is nil, the compressed data is saved in this property.

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.  
(Read and Write property)

### **ErrorCode as integer**

property from class JPEGExporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGCompression), , console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The error code from the Export method.

**Example:**

```
dim j as new JPEGExporterMBS
// do something
MsgBox str(j.ErrorCode)+" " +j.ErrorMessage
```

**Notes:**

The last function was successful if ErrorCode is 0.  
 If the parameters are not valid, the value is set to -1.  
 Other values are Mac OS error codes.  
 (Read and Write property)

**ErrorMessage as string**

property from class JPEGExporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGCompression), ,  
 console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The last error message reported.

**Example:**

```
dim j as new JPEGExporterMBS
// do something
MsgBox j.ErrorMessage
```

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

**EXIFData as String**

property from class JPEGExporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGCompression), Plugin  
 version: 10.0, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The EXIF data for this file.

**Example:**

```
// Read a picture file
dim f as FolderItem = SpecialFolder.Desktop.Child("test.jpg")
dim ji as new JPEGImporterMBS

ji.ReadExifData=true
ji.File=f
ji.Import

// Write a new picture file
dim o as FolderItem = SpecialFolder.Desktop.Child("out.jpg")
dim je as new JPEGExporterMBS

je.File=o
je.EXIFData = ji.ExifData
je.Picture = ji.Picture
je.Export
```

**Notes:**

The export methods use this property.  
(Read and Write property)

**file as folderitem**

property from class JPEGExporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGCompression), ,  
console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The destination file.

**Example:**

```
dim p as Picture = LogoMBS(500)

'Save the scan
dim je as new JPEGExporterMBS
je.file = SpecialFolder.Desktop.Child("just a test.jpg")
je.quality = 75
je.picture = p
je.VerticalResolution = 72
je.HorizontalResolution = 72
```

```
je.ResolutionUnit = 1
je.export
```

**Notes:**

If file is nil, the destination is the data property.  
(Read and Write property)

**HorizontalResolution as Integer**

property from class JPEGExporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGCompression), Plugin  
version: 3.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The horizontal resolution.

**Example:**

```
dim j as new JPEGExporterMBS

// setup 300 dpi
j.VerticalResolution = 300
j.HorizontalResolution = 300
j.ResolutionUnit = 1
```

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

**OptimizeCoding as Boolean**

property from class JPEGExporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGCompression), Plugin  
version: 10.0, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** Whether the plugin should ask the compressor to optimize the huffman coding tables.

**Example:**

```
dim j as new JPEGExporterMBS
j.OptimizeCoding = true
```

**Notes:**

This usually provides a small percentage decrease in file size.  
(Read and Write property)

**Picture as Picture**

property from class JPEGExporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGCompression), , console safe in REAL Studio 2010r3 or newer, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The picture to use.

**Example:**

```
dim MyPic as Picture = LogoMBS(500)
dim j as JPEGExporterMBS // your exporter
j.picture=MyPic
```

**Notes:**

Should be a bitmap picture, so you the bitmap function of the picture class.  
(Read and Write property)

**ProfileData as String**

property from class JPEGExporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGCompression), Plugin version: 7.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** An ICC profile to write to the file.

**Example:**

```
dim f as FolderItem
dim j as JPEGImporterMBS
dim p as CMProfileMBS
dim e as JPEGExporterMBS

f=SpecialFolder.Desktop.Child("test2.jpg")
```

```

j=new JPEGImporterMBS

j.ReadMarkers=true // else no metadata is read at all
j.ReadProfileData=true // needed to fill ProfileData property
j.file=f

j.Import

if j.ProfileData="" then
MsgBox "no profile"
Return
end if

p=LCMSMBS.CreatesRGBProfile

f=SpecialFolder.Desktop.Child("test3.jpg")
e=new JPEGExporterMBS
e.File=f
e.Picture=j.Picture
e.ProfileData=p.SaveProfileToString
e.Quality=75
e.Export

```

**Notes:**

the string must contain the binary data of the profile. For example SaveProfileToString of the CMProfileMBS class returns such a string.

If the string is empty, no profile is written.

(Read and Write property)

**Progressive as Boolean**

property from class JPEGExporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGCompression), , console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** whether to make a progressive compressed image.

**Example:**

```

dim j as new JPEGExporterMBS
j.Progressive = true

```

**Notes:**

Default is true.  
(Read and Write property)

**Quality as integer**

property from class JPEGExporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGCompression), , console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The quality to use.

**Example:**

```
dim je as new JPEGExporterMBS
je.quality = 75
```

**Notes:**

Range from 0 to 100. Default is 75.  
(Read and Write property)

**ResolutionUnit as Integer**

property from class JPEGExporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGCompression), Plugin version: 3.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The unit of the resolution properties.

**Example:**

```
dim j as new JPEGExporterMBS

// setup 300 dpi
j.VerticalResolution = 300
j.HorizontalResolution = 300
j.ResolutionUnit = 1
```

**Notes:**

Values:

- 0 unknown
- 1 dots per inch
- 2 dots per cm

(Read and Write property)

**VerticalResolution as Integer**

property from class JPEGExporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGCompression), Plugin version: 3.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The vertical resolution.**Example:**

```
dim j as new JPEGExporterMBS
```

```
// setup 300 dpi  
j.VerticalResolution = 300  
j.HorizontalResolution = 300  
j.ResolutionUnit = 1
```

**Notes:** (Read and Write property)**WarningMessage as String**

property from class JPEGExporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGCompression), Plugin version: 8.5, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The last warning message reported.**Example:**

```
dim j as new JPEGExporterMBS
```

```
// do something  
MsgBox j.WarningMessage
```

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

### YieldTicks as Integer

property from class JPEGExporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGCompression), Plugin version: 7.3, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** How much time is given back to REALbasic for other ticks.

**Example:**

```
dim j as JPEGExporterMBS // your exporter  
j.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)

### 2.3.3 Events

**Error(message as string, ErrorCode as integer)**

event from class JPEGExporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGCompression), Plugin version: 8.5, not console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** This events reports all error messages from the jpeg library.

**GetRowData(index as integer) as memoryblock**

event from class JPEGExporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGCompression), Plugin version: 9.2, not console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The event called to query for the next data block.

**Notes:**

The memoryblock data must be in the format with bytes in the order RGB.

Index is from 0 to height-1.

Returning nil will result in an error on the JPEG compression.

**Info(message as string, msglevel as integer, ErrorCode as integer)**

event from class JPEGExporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGCompression), Plugin version: 8.5, not console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** This events reports all information messages from the jpeg library.

**Notes:**

msglevel is one of:

- 1: recoverable corrupt-data warning, may want to abort.
- 0: important advisory messages (always display to user).
- 1: first level of tracing detail.
- 2,3,...: successively more detailed tracing messages.

**Warning(message as string, ErrorCode as integer)**

event from class JPEGExporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGCompression), Plugin version: 8.5, not console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** This events reports all warning messages from the jpeg library.

## 2.4 class JPEGImporterMarkerMBS

### class JPEGImporterMarkerMBS

class, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 6.5, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** A class for a JPEG marker.

### 2.4.1 Properties

#### Data as String

property from class JPEGImporterMarkerMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 6.5, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The actual data read as a binary string.

**Example:**

```
dim j as JPEGImporterMBS
dim f as FolderItem

f=SpecialFolder.Desktop.Child("test.jpg")
j=new JPEGImporterMBS

j.ReadMarkers=true // needed to fill ExifData property

// do the import

dim data as string = j.MarkerItem(0).Data

// work with data
```

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

**DataLength as Integer**

property from class JPEGImporterMarkerMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 6.5, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The data length in bytes of the data string.

**Example:**

```
dim j as JPEGImporterMBS
dim f as FolderItem

f=SpecialFolder.Desktop.Child("test.jpg")
j=new JPEGImporterMBS

j.ReadMarkers=true // needed to fill ExifData property

// do the import

MsgBox str(j.MarkerItem(0).DataLength)

// work with data
```

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

**Marker as Integer**

property from class JPEGImporterMarkerMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 6.5, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The type of this datablock.

**Example:**

```
dim j as JPEGImporterMBS
dim f as folderitem

f=SpecialFolder.Desktop.Child("test.jpg")
j=new JPEGImporterMBS

j.ReadMarkers=true // needed to fill ExifData property

// do the import
```

```
MsgBox str(j.MarkerItem(0).Marker)
```

```
// work with data
```

**Notes:**

For example & hE0 for the first user defined block.  
(Read and Write property)

**OriginalLength as Integer**

property from class JPEGImporterMarkerMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 6.5, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The original data length in the file.

**Example:**

```
dim j as JPEGImporterMBS  
dim f as FolderItem
```

```
f=SpecialFolder.Desktop.Child("test.jpg")  
j=new JPEGImporterMBS
```

```
j.ReadMarkers=true // needed to fill ExifData property
```

```
// do the import
```

```
MsgBox str(j.MarkerItem(0).OriginalLength)
```

```
// work with data
```

**Notes:**

Maybe smaller than datalength because of compression.  
(Read and Write property)

## 2.5 class JPEGImporterMBS

### class JPEGImporterMBS

class, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), , console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** A class for JPEG Importing.

**Example:**

```

dim g as FolderItem
dim ji as JPEGImporterMBS
dim je as JPEGExporterMBS
dim f as FolderItem
dim m as MemoryBlock

// this code copies a JPG: CMYK or RGB

// import it
g=SpecialFolder.Desktop.Child("PICT1533.JPG")
ji=new JPEGImporterMBS
ji.File=g
ji.AllowDamaged=true
ji.CMYK=true // if it is cmyk
if ji.InitJPEG then
do
loop until ji.LoopJPEG<>0
ji.FinishJPEG
end if

// export it
f=SpecialFolder.Desktop.child("PICT1533 copy.JPG")
je=new JPEGExporterMBS
je.File=f
je.Quality=75

if ji.CMYK then
m=ji.PictureData
je.ExportCMYK m, ji.Width, ji.Height, ji.Width*4
else
je.Picture=ji.Picture
je.Export
end if

```

**Notes:**

This class is not depending on any library! It works without QuickTime even on System 7, but as it contains everything needed this method is around 100 KB big!  
(REALbasic's OpenAsPicture depends on QuickTime)

Bases on libjpeg.

### 2.5.1 Methods

**BlueTestPicture as picture**

method from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 5.3, console safe in REAL Studio 2010r3 or newer, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** Returns a 100x100 pixel big picture files with RGB(0,0,255).

**Notes:** Just for testing how well the plugin picture code works.

**CleanMarkers**

method from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 6.5, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** Clears the marker list.

**FinishJPEG**

method from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 3.3, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** Releases all memory buffers needed for the JPEG decompression.

**Notes:**

This must be called if you used InitJPEG!  
Else you have a memory leak.

**GreenTestPicture as picture**

method from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 5.3, console safe in REAL Studio 2010r3 or newer, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** Returns a 100x100 pixel big picture files with RGB(0,255,0).

**Notes:** Just for testing how well the plugin picture code works.

**Import**

method from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), , console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** Imports the picture.

**Example:**

```
dim f as FolderItem
dim ji as new JPEGImporterMBS
dim je as new JPEGExporterMBS
dim m as MemoryBlock
dim i,c as integer

// read jpeg
f=SpecialFolder.Desktop.Child("input.jpg")

ji.Mode=ji.ModeRGB // read RGB to memoryblock
ji.File=f
ji.Import

m=ji.PictureData

// add red
c=m.Size-1
for i=0 to c step 3
m.Byte(i)=255
next

// write jpeg
f=SpecialFolder.Desktop.Child("test.jpg")
```

```
je.File=f
je.ExportRGB(m,ji.Width, ji.Height, ji.Width*3)
```

**Notes:** The memoryblock data must be in the format with bytes in the order RGB.

### ImportCMYK

method from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 3.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** Imports a CMYK picture.

**Example:**

```
dim g as FolderItem
dim ji as JPEGImporterMBS
dim je as JPEGExporterMBS
dim f as FolderItem
dim m as MemoryBlock

// import it
g=getOpenFolderItem("image/jpeg")
ji=new JPEGImporterMBS
ji.File=g
ji.AllowDamaged=true
ji.ImportCMYK

m=ji.PictureData

// export it
f=SpecialFolder.Desktop.child("test.jpg")
je=new JPEGExporterMBS
je.HorizontalResolution=300
je.VerticalResolution=300
je.ResolutionUnit=1
je.File=f
je.Quality=75
je.ExportCMYK m, ji.Width, ji.Height, ji.Width*4
```

**Notes:**

This methods should read all JPEG files you can get, but I've only tested it for 32 bit color and 8 bit grayscale.

The read CMYK values are stored in the picturedata property.

This method uses the YieldTicks property and may yield time to other threads.

### InitJPEG as boolean

method from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 3.3, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** Initializes the JPEG decompressor for use with LoopJPEG.

**Example:**

```

dim g as FolderItem
dim ji as JPEGImporterMBS
dim je as JPEGExporterMBS
dim f as FolderItem
dim m as MemoryBlock

// this code copies a JPG: CMYK or RGB

// import it
g=SpecialFolder.Desktop.Child("PICT1533.JPG")
ji=new JPEGImporterMBS
ji.File=g
ji.AllowDamaged=true
ji.CMYK=true // if it is cmyk
if ji.InitJPEG then
do
loop until ji.LoopJPEG<>0
ji.FinishJPEG
end if

// export it
f=SpecialFolder.Desktop.child("PICT1533 copy.JPG")
je=new JPEGExporterMBS
je.File=f
je.Quality=75

if ji.CMYK then
m=ji.PictureData

```

```

je.ExportCMYK m, ji.Width, ji.Height, ji.Width*4
else
je.Picture=ji.Picture
je.Export
end if

```

**Notes:**

Call FinishJPEG even if this failes.  
Returns true if you can loop using LoopJPEG.

**LoopJPEG as integer**

method from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 3.3, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** Decompresses one line of the picture.

**Example:**

```

dim j as new JPEGImporterMBS
// fill properties...

if j.initJPEG then
do
loop until j.LoopJPEG<>0
end if
j.FinishJPEG

backdrop=j.Picture // nil if failed

```

**Notes:**

Return values:

- 0 Decompression was okay
- 1 Finished decompression
- 2 if there was an error.
- 3 Not initialized
- 4 Header only was requested

### MarkerCount as integer

method from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 6.5, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** Number of markers found in the JPEG data stream.

**Example:**

```
dim j as JPEGImporterMBS
dim f as FolderItem

f=SpecialFolder.Desktop.Child("test.jpg")
j=new JPEGImporterMBS

j.ReadMarkers=true // else no metadata is read at all

// do the import

MsgBox str(j.MarkerCount)
```

**Notes:** Only available if ReadMarkers was true on reading the JPEG data.

### MarkerItem(index as integer) as JPEGImporterMarkerMBS

method from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 6.5, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** Returns the marker with the given index.

**Example:**

```
dim j as JPEGImporterMBS
dim f as FolderItem
```

```

f=SpecialFolder.Desktop.Child("test.jpg")
j=new JPEGImporterMBS

j.ReadMarkers=true // needed to fill ExifData property

// do the import

dim data as string = j.MarkerItem(0).Data

// work with data

```

**Notes:** Only available if ReadMarkers was true on reading the JPEG data.

### ReadHeader as boolean

method from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 3.3, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** Read the header of the JPEG data in a file or a memoryblock.

**Example:**

```

dim f as FolderItem
dim j as JPEGImporterMBS

f=SpecialFolder.Desktop.Child("Jaguar1600.jpg")
j=new JPEGImporterMBS
j.file=f
if j.ReadHeader then
MsgBox str(j.Width)+" x "+str(j.Height)
else
MsgBox "no JPEG"
end if

```

**Notes:** You can use this function to see if the file is a JPEG image and which dimension it has.

**RedTestPicture as picture**

method from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 5.3, console safe in REAL Studio 2010r3 or newer, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** Returns a 100x100 pixel big picture files with RGB(255,0,0).

**Notes:** Just for testing how well the plugin picture code works.

**2.5.2 Properties****AllowDamaged as boolean**

property from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** whether you want damaged pictures to be returned.

**Notes:**

If AllowDamaged is false, nil will be returned if the picture is damaged.

Default value is false.

(Read and Write property)

**CMYK as Boolean**

property from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 3.3, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** Whether the decompressor has imported the picture as a CMYK image into a memoryblock.

**Example:**

```
dim g as FolderItem
dim ji as JPEGImporterMBS

g=getFolderItem("a_auf")
ji=new JPEGImporterMBS
ji.File=g
if ji.InitJPEG then
```

```
if ji.CMYK then
MsgBox "CMYK"
else
MsgBox "not"
end if
end if
```

**Notes:**

This property sets the Mode property to ModeCMYK.  
(Read and Write property)

**ColorComponentCount as Integer**

property from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression),  
Plugin version: 3.3, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The number of color components.

**Notes:**

- 1 Grayscale
- 3 RGB
- 4 CMYK

(Read and Write property)

**CurrentDepth as integer**

property from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), ,  
console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The depth of the picture property.

**Notes:**

In the current implementation always 32bit.  
0 if the loading of the picture failed.  
(Read and Write property)

**data as string**

property from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), , console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The source string.

**Notes:**

If file is nil, the compressed data is taken from this property.  
(Read and Write property)

**ErrorMessage as string**

property from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), , console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The last error message reported.

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

**ExifData as String**

property from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 8.5, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The exif data stored in the file.

**Example:**

```
dim j as JPEGImporterMBS
dim f as FolderItem

f=SpecialFolder.Desktop.Child("test.jpg")
j=new JPEGImporterMBS

j.ReadExifData=true // needed to fill ExifData property

// do the import

dim data as string = j.ExifData

// work with data
```

**Notes:**

Only used when ReadExifData is set to true before you import the image.  
The string contains the binary content of a exif data on disc.  
Value is "" if no data was found.  
(Read and Write property)

**file as folderitem**

property from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), , console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The destination file.

**Notes:**

If file is nil, the source is taken from the data property.  
(Read and Write property)

**FileOffset as integer**

property from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), , console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The offset inside the file.

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

**Height as integer**

property from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), , console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The height of the picture.

**Notes:**

0 if the loading of the picture failed.  
(Read and Write property)

### **HorizontalResolution as Integer**

property from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression),  
Plugin version: 3.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The horizontal resolution.

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

### **Mode as Integer**

property from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression),  
Plugin version: 8.4, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The operation mode.

**Notes:**

Can be either ModePicture (Default), ModeRGB or ModeCMYK.  
(Read and Write property)

### **OriginalDepth as integer**

property from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), ,  
console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The original depth of the picture.

**Notes:**

Value maybe 8 for grayscale pictures and 24 or 32 for colored pictures.  
0 if the loading of the picture failed.  
(Read and Write property)

**Picture as Picture**

property from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), , console safe in REAL Studio 2010r3 or newer, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The picture as the result.

**Notes:**

Set to nil on any error.  
(Read and Write property)

**PictureData as MemoryBlock**

property from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 3.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The cmyk picture data after importing.

**Example:**

```
dim g as FolderItem
dim ji as JPEGImporterMBS
dim je as JPEGExporterMBS
dim f as FolderItem
dim m as MemoryBlock

// import it
g=getFolderItem("CMYK Example.jpg")
ji=new JPEGImporterMBS
ji.File=g
ji.AllowDamaged=true
ji.ImportCMYK

m=ji.PictureData
msgBox g.name
// export it
f=SpecialFolder.Desktop.child("CMYK Example2.jpg")
je=new JPEGExporterMBS
je.File=f
je.Quality=75
je.ExportCMYK m, ji.Width, ji.Height, ji.Width*4
```

**Notes:**

Basically a memoryblock with one byte for each channel.  
 Ordered CMYK.  
 (Read and Write property)

**ProfileData as String**

property from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression),  
 Plugin version: 7.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The ICC profile stored in the file.

**Example:**

```

dim f as FolderItem
dim j as JPEGImporterMBS
dim p as CMProfileMBS

f=SpecialFolder.Desktop.Child("test2.jpg")
j=new JPEGImporterMBS

j.ReadMarkers=true // else no metadata is read at all
j.ReadProfileData=true // needed to fill ProfileData property
j.file=f

j.Import

if j.ProfileData="" then
  MsgBox "no profile"
  Return
end if

p=LCMSMBS.OpenProfileFromData(j.ProfileData)
MsgBox p.Name

```

**Notes:**

Only used when ReadProfileData is set to true before you import the image.  
 The string contains the binary content of a profile file on disc. So you can pass it to the CMOpenProfile-  
 FromDataMBS function or write it to a file using the binarystream class.  
 Value is "" if no profile was found.  
 (Read and Write property)

### ReadExifData as Boolean

property from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 8.5, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** Whether the plugin should read in the exif data.

**Example:**

```
dim j as JPEGImporterMBS
dim f as FolderItem

f=SpecialFolder.Desktop.Child("test.jpg")
j=new JPEGImporterMBS

j.ReadExifData=true // needed to fill ExifData property

// do the import

dim data as string = j.ExifData

// work with data
```

### Notes:

If there is exif data, it will be stored in the ExifData property.

Setting this value to true will set ReadMarkers to true, too.

The data is stored in one or more markers, so it is needed to read them before extracting the data. (Read and Write property)

### ReadMarkers as Boolean

property from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 6.5, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** Whether importer should read markers.

**Example:**

```
dim j as JPEGImporterMBS
```

```

dim f as FolderItem

f=SpecialFolder.Desktop.Child("test.jpg")
j=new JPEGImporterMBS

j.ReadMarkers=true // else no metadata is read at all

// do the import

MsgBox str(j.MarkerCount)

```

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

### ReadProfileData as Boolean

property from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 7.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** Whether the plugin should read in the icc profile.

**Example:**

```

dim j as JPEGImporterMBS
dim f as FolderItem

f=SpecialFolder.Desktop.Child("test.jpg")
j=new JPEGImporterMBS

j.ReadProfileData=true // needed to fill ProfileData property

// do the import

dim Profile as string = j.ProfileData

// work with profile data

```

**Notes:**

If there is a profile, it will be stored in the ProfileData property.

Setting this value to true will set ReadMarkers to true, too.

A profile is stored in one or more markers, so it is needed to read them before extracting the profile.

(Read and Write property)

### ReadXMPData as Boolean

property from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 8.5, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** Whether the plugin should read in the xmp data.

**Notes:**

If there is xmp data, it will be stored in the XMPData property.

Setting this value to true will set ReadMarkers to true, too.

The data is stored in one or more markers, so it is needed to read them before extracting the data.

(Read and Write property)

### ResolutionUnit as Integer

property from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 3.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The unit of the resolution properties.

**Notes:**

Values:

- 0 unknown
- 1 dots per inch
- 2 dots per cm

(Read and Write property)

### ScaleFactor as Integer

property from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 10.0, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The JPEG Library can scale down the picture on the fly.

**Notes:**

Allowed values: 0, 1, 2, 4, 8

0 and 1 disable scaling.

Default value is 0 for no scaling.

(Read and Write property)

### UseTempMemory as boolean

property from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), , console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** whether to use temporary memory for the bitmap or not.

**Notes:**

On Mac OS Classic this can save a lot of memory.

With MBS Plugin 3.1 this property is no longer used as all picture functions will try to use temporary memory first before trying heap memory.

(Read and Write property)

### VerticalResolution as Integer

property from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 3.2, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The vertical resolution.

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

### WarningMessage as String

property from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 8.5, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The last warning message reported.

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

**Width as integer**

property from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), , console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The width of the picture.

**Notes:**

0 if the loading of the picture failed.  
(Read and Write property)

**XMPData as String**

property from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 8.5, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** The XMP Data stored in the file.

**Notes:**

Only used when ReadXMPData is set to true before you import the image.  
The string contains the binary content of a xmp data on disc.  
Value is "" if no data was found.  
(Read and Write property)

**YieldTicks as Integer**

property from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 7.3, console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** How much time is given back to REALbasic for other ticks.

**Example:**

```
dim j as JPEGImporterMBS // your importer
j.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)

### 2.5.3 Events

**Error(message as string, ErrorCode as integer)**

event from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 8.5, not console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** This events reports all error messages from the jpeg library.

**Info(message as string, msglevel as integer, ErrorCode as integer)**

event from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 8.5, not console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** This events reports all information messages from the jpeg library.

**Notes:**

msglevel is one of:

- 1: recoverable corrupt-data warning, may want to abort.
- 0: important advisory messages (always display to user).
- 1: first level of tracing detail.
- 2,3,...: successively more detailed tracing messages.

**Warning(message as string, ErrorCode as integer)**

event from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 8.5, not console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** This events reports all warning messages from the jpeg library.

### 2.5.4 Constants

#### ModeCMYK=2

const from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 8.4, not console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** One of the mode constants.

**Notes:**

Load the image into the picturedata property.  
The PictureData Memoryblock uses 4 bytes per pixel.

#### ModeCMYKbyRow=12

const from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 9.1, not console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** One of the mode constants.

**Notes:**

Same as ModeCMYK, but PictureData contains only the current row  
The PictureData Memoryblock uses 4 bytes per pixel.

#### ModeGray=3

const from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin version: 8.7, not console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** One of the mode constants.

**Example:**

```
dim j as new JPEGImporterMBS
```

```
j.Mode=j.ModeGray
```

```
j.File=SpecialFolder.Desktop.Child("testGray.JPG")
j.Import
```

```
MsgBox str(j.Width)+" x "+str(j.Height)
```

**Notes:**

Load the image into the picturedata property.  
The PictureData Memoryblock uses one byte per pixel.

**ModeGraybyRow=13**

const from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin  
version: 9.1, not console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** One of the mode constants.

**Notes:**

Same as ModeGray, but PictureData contains only the current row  
The PictureData Memoryblock uses one byte per pixel.

**ModePicture=0**

const from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin  
version: 8.4, not console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** One of the mode constants.

**Notes:** Load the image into the picture property.

**ModeRGB=1**

const from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin  
version: 8.4, not console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** One of the mode constants.

**Example:**

```
dim j as new JPEGImporterMBS
j.Mode=j.ModeRGB
j.File=SpecialFolder.Desktop.Child("testRGB.JPG")
j.Import

MsgBox str(j.Width)+" x "+str(j.Height)
```

**Notes:**

Load the image into the picturedata property.  
The PictureData Memoryblock uses 3 bytes per pixel.

**ModeRGBbyRow=11**

const from class JPEGImporterMBS, JPEG, MBS REALbasic JPEG Plugin (JPEGDecompression), Plugin  
version: 9.1, not console safe, Mac OS X: Works, Windows: Works, Linux x86: Works.

**Function:** One of the mode constants.

**Notes:**

Same as ModeRGB, but PictureData contains only the current row  
The PictureData Memoryblock uses 3 bytes per pixel.



## Chapter 3

### List of all classes

• JPEGExporterMBS	18
• JPEGImporterMarkerMBS	33
• JPEGImporterMBS	36
• JPEGTransformationMBS	7



## Chapter 4

### List of all global methods

- 2.2 JPEGStringToPictureMBS(buf as string) as picture 15
- 2.2 JPEGStringToPictureMBS(buf as string,allowdamaged as Boolean) as picture 16
- 2.2 PictureToJPEGStringMBS(pic as picture, quality as integer) as string 17