

## Wang Image Annotation Tool Button Control

[Properties](#)   [Methods](#)   [Events](#)

The Wang **Image Annotation Tool Button** control adds image annotation functions to applications that support 32-bit OLE controls. It enables end users to add text and graphical annotations to displayed image files.

### Linking the Annotation Tool Button Control With the Image Edit Control

The **Image Edit** control is the main Imaging control. The Image Annotation Tool Button control links to Image Edit control to permit the annotation of displayed images. The Image Annotation Tool Button control sends messages to the Image Edit control that set annotation attributes, thereby changing all of the Image Edit annotation attributes to the values set within the Image Annotation Tool Button control. When the **Draw** method is invoked, the Image Edit control draws the annotation.

### Establishing the Link

To link the Image Annotation Tool Button control to the Image Edit control:

1. Set the **DestImageControl** property of the Image Annotation Tool Button control to the name of the desired Image Edit control.
2. Set the **ImageControl** property of the Image Edit control to the same Image Edit control name.

### Annotation Types

The Image Annotation Tool Button Control supports the annotation types described in the following list:

<u>Annotation Type</u>	<u>Description</u>
Attach-a-Note	Enters text into a background rectangle on an image
Filled Rectangle	Covers a portion of an image
Freehand Line	Draws a freehand line on a section of text or a portion of an image for emphasis
Hollow Rectangle	Places a border around areas of an image for emphasis
Image Embedded	Embeds an actual copy of another image in an image file
Image Reference	Includes another image in an image file by reference (that is, it links to an external file that contains the image)
Select Annotations	Selects annotation marks for deleting, modifying, moving, or resizing
Straight Line	Underlines text, demarcates a section of a page, or draws callout lines Highlights text when drawn using the transparent line style
Text	Enters text directly on an image
Text From File	Enters text from a file on an image
Text Stamp	Places a text stamp directly on an image

### See Also

[Image Edit control](#)

[Imaging Concepts](#)

## Properties (Image Annotation Tool Button control)

<a href="#"><u>AnnotationBackColor</u></a>	<a href="#"><u>AnnotationTextFile</u></a>
<a href="#"><u>AnnotationFillColor</u></a>	<a href="#"><u>AnnotationType</u></a>
<a href="#"><u>AnnotationFillStyle</u></a>	<a href="#"><u>DestImageControl</u></a>
<a href="#"><u>AnnotationFont</u></a>	<a href="#"><u>Enabled</u></a>
<a href="#"><u>AnnotationFontColor</u></a>	<a href="#"><u>hWnd</u></a>
<a href="#"><u>AnnotationImage</u></a>	<a href="#"><u>PictureDisabled</u></a>
<a href="#"><u>AnnotationLineColor</u></a>	<a href="#"><u>PictureDown</u></a>
<a href="#"><u>AnnotationLineStyle</u></a>	<a href="#"><u>PictureUp</u></a>
<a href="#"><u>AnnotationLineWidth</u></a>	<a href="#"><u>StatusCode</u></a>
<a href="#"><u>AnnotationStampText</u></a>	<a href="#"><u>Value</u></a>

### AnnotationBackColor Property

Returns or sets the background color of an Attach-a-Note annotation object.

#### Applies To

Image Annotation Tool Button control, Image Edit control

#### Syntax

*object*.**AnnotationBackColor**[=*color*]

#### Data Type

Color

#### Remarks

Use the [RGB format](#). The default color is yellow (255, 255, 0).

To ensure that the text in an Attach-a-Note annotation object will be visible against the background, specify a background color that is significantly different from the font color set using the **AnnotationFontColor** property.

#### See Also

[AnnotationFontColor property](#)

[Annotations](#)

[AnnotationType property](#)

[GetSelectedAnnotationBackColor method](#)

[SetSelectedAnnotationBackColor method](#)

## **AnnotationFillColor Property**

Returns or sets the color used to fill a Filled Rectangle annotation object.

### **Applies To**

Image Annotation Tool Button control, Image Edit control

### **Syntax**

*object*.**AnnotationFillColor**[=*color*]

### **Data Type**

Color

### **Remarks**

Use the [RGB format](#). The default color is red (255, 0, 0).

### **See Also**

[AnnotationFontColor property](#)

[Annotations](#)

[AnnotationType property](#)

[GetSelectedAnnotationFillColor method](#)

[SetSelectedAnnotationFillColor method](#)

## AnnotationFillStyle Property

Returns or sets the pattern used to fill image and Filled Rectangle annotation objects.

### Applies To

Image Annotation Tool Button control, Image Edit control

### Syntax

*object*.**AnnotationFillStyle**[=*value*]

### Data Type

Integer (enumerated)

<u>Setting</u>	<u>Description</u>
0 (default)	Transparent -- The underlying image data is visible
1	Opaque -- The underlying image data is obscured

### Remarks

The AnnotationFillStyle property is used with the following annotation types:

- Filled Rectangle
- Image Embedded
- Image Reference

### See Also

[Annotations](#)

[AnnotationType property](#)

[GetSelectedAnnotationFillStyle method](#)

[SetSelectedAnnotationFillStyle method](#)

## AnnotationFont Property

Returns or sets a font object's properties. Applies to all text annotation types.

### Applies To

Image Annotation Tool Button control, Image Edit control

### Syntax

*object*.**AnnotationFont**

### Data Type

Font object

### Remarks

Use the AnnotationFont property of an object to identify the specific font object whose properties you want to use or set. The following list shows the properties you can use or set, along with their data types, descriptions, and defaults:

<u>Property</u>	<u>Data Type</u>	<u>Description</u>	<u>Default</u>
Bold	Boolean	True -- Selects bold attribute False -- Deselects bold attribute	False
Italic	Boolean	True -- Selects italic attribute False -- Deselects italic attribute	False
Name	String	The desired font name	MS San Serif
Size	Single	The desired font size in points (0 to 2048)	12
Underline	Boolean	True -- Selects <u>underline</u> attribute False -- Deselects underline attribute	False
StrikeThrough	Boolean	True -- Selects <del>strikethrough</del> attribute False -- Deselects strikethrough attribute	False

For example, the following code sets the properties of the font object identified by the AnnotationFont property of an Image Edit object:

```
Dim x As Font  
Set x = Imgedit1.AnnotationFont  
x.Bold = True  
x.Italic = True  
x.Name = "Arial"  
x.SIZE = 16  
x.Underline = True  
x.StrikeThrough = True
```

The AnnotationFont property is used with the following annotation types:

Text

Attach-a-Note

Text From File

Text Stamp

### See Also

[Annotations](#)

[AnnotationType property](#)

[GetSelectedAnnotationFont method](#)

[SetSelectedAnnotationFont method](#)



## **AnnotationFontColor Property**

Returns or sets the font color of text annotation objects.

### **Applies To**

Image Annotation Tool Button control, Image Edit control

### **Syntax**

*object*.**AnnotationFontColor**[=*color*]

### **Data Type**

Color

### **Remarks**

Use the [RGB format](#). The default color is black (0, 0, 0).

The AnnotationFontColor property is used with the following annotation types:

Text

Attach-a-Note

Text From File

Text Stamp

### **See Also**

[AnnotationBackColor property](#)

[AnnotationFillColor property](#)

[Annotations](#)

[AnnotationType property](#)

[GetSelectedAnnotationFontColor method](#)

[SetSelectedAnnotationFontColor method](#)

## **AnnotationImage Property**

Returns or sets the fully-qualified filename of an image file. When the annotation is applied, the image file specified will be combined with the image currently displayed by the Image Edit control.

### **Applies To**

Image Annotation Tool Button control, Image Edit control

### **Syntax**

*object*.**AnnotationImage**[=*name*]

### **Data Type**

String

### **Remarks**

The name must be a fully-qualified filename. File extensions are required as part of the filename.

The AnnotationImage property is used with the following annotation types:

Image Embedded

Image Reference

### **See Also**

[Annotations](#)

[AnnotationType property](#)

[Display method](#)

[GetSelectedAnnotationImage method](#)

[Images](#)



## **AnnotationLineColor Property**

Returns or sets the line color for line and Hollow Rectangle annotation objects.

### **Applies To**

Image Annotation Tool Button control, Image Edit control

### **Syntax**

*object*.**AnnotationLineColor**[=*color*]

### **Data Type**

Color

### **Remarks**

Use the [RGB format](#). The default color is red (255, 0, 0).

The AnnotationLineColor property is used with the following annotation types:

Freehand Line

Hollow Rectangle

Straight Line

### **See Also**

[Annotations](#)

[AnnotationType property](#)

[GetSelectedAnnotationLineColor method](#)

[SetSelectedAnnotationLineColor method](#)

## AnnotationLineStyle Property

Returns or sets the line style for line and Hollow Rectangle annotation objects.

### Applies To

Image Annotation Tool Button control, Image Edit control

### Syntax

*object*.**AnnotationLineStyle**[=*value*]

### Data Type

Integer (enumerated)

<u>Setting</u>	<u>Description</u>
0 (default)	Transparent -- The underlying image data is visible
1	Opaque -- The underlying image data is obscured

### Remarks

The AnnotationLineStyle property is used with the following annotation types:

Freehand Line

Hollow Rectangle

Straight Line

### See Also

[AnnotationLineWidth property](#)

[Annotations](#)

[AnnotationType property](#)

[GetSelectedAnnotationLineStyle method](#)

[SetSelectedAnnotationLineStyle method](#)

## **AnnotationLineWidth Property**

Returns or sets the line width for line and Hollow Rectangle annotation objects.

### **Applies To**

Image Annotation Tool Button control, Image Edit control

### **Syntax**

*object*.**AnnotationLineWidth**[=*value*]

### **Data Type**

Integer

### **Remarks**

The integer value specifies the line width in pixels. The valid range is from 1 to 999 pixels; the default value is 2 pixels.

The AnnotationLineWidth property is used with the following annotation types:

Freehand Line

Hollow Rectangle

Straight Line

### **See Also**

[AnnotationLineStyle property](#)

[Annotations](#)

[AnnotationType property](#)

[GetSelectedAnnotationLineWidth method](#)

[SetSelectedAnnotationLineWidth method](#)

## AnnotationStampText Property

Returns or sets the format of the stamp text to be placed on an image by a Text Stamp annotation. The stamp text can consist of text, text macro(s), or a combination of both.

### Applies To

Image Annotation Tool Button control, Image Edit control

### Syntax

*object*.**AnnotationStampText**[=*stamp*]

### Data Type

String

### Remarks

Text is placed on the image when one of the following events occurs:

- The end user releases the left mouse button on a displayed image
- The **Draw** method is invoked

The stamp text can include the following text macros:

<b>Macro</b>	<b>Description</b>
%b	Alphabetic abbreviation of the month; for example, Jan
%B	Alphabetic full name of the month; for example, January
%d	ASCII numeric day of the month, ranging from 1 to 31
%H	ASCII time in a 24-hour, hh:mm format; where: hh = hour mm = minute
%l	ASCII time in a 12-hour, hh:mm Xm format; where: hh = hour mm = minute Xm = AM or PM
%m	ASCII numeric designation of the month, ranging from 1 to 12 for January through December respectively
%x	Default Windows date format
%X	Default Windows time format
%y	ASCII numeric last two digits of the year; for example, 95 for 1995
%Y	ASCII numeric full year; for example, 1995

### Examples

- To create an annotation text stamp that displays the current time and date in a 12-hour format, enter:

Time: %l Date: %d-%B-%y

The resulting annotation text stamp is:

Time: 10:38 pm Date: 07-November-95

- To create an annotation text stamp that displays the current time and date in a 24-hour format, enter:

Time: %H Date: %d-%B-%y

The resulting annotation text stamp is:

Time: 22:38 Date: 07-November-95

**See Also**

[Annotations](#)

[AnnotationType property](#)

[Draw method](#)

## **AnnotationTextFile Property**

Returns or sets the fully-qualified filename of a text file to embed into an image.

### **Applies To**

Image Annotation Tool Button control, Image Edit control

### **Syntax**

*object*.**AnnotationTextFile**[=*filename*]

### **Data Type**

String

### **Remarks**

The name must be a fully-qualified filename. A file extension is required for all files.

The AnnotationTextFile property is used with the Text From File annotation type.

### **See Also**

[Annotations](#)

[AnnotationType property](#)

## AnnotationType Property

Returns or sets the type of annotation to be drawn.

### Applies To

Image Annotation Tool Button control, Image Edit control

### Syntax

*object*.**AnnotationType**[=*value*]

### Data Type

Integer (enumerated)

<u>Setting</u>	<u>Description</u>
0 (default)	None
1	Straight Line
2	Freehand Line
3	Hollow Rectangle
4	Filled Rectangle
5	Image Embedded
6	Image Reference
7	Text
8	Text Stamp
9	Text From File
10	Attach-a-Note
11	Select Annotations

### Prerequisite Properties

Some annotation types require that other properties be set to valid values before they can be used in an annotation. The following list shows the properties that must be set before the corresponding annotation type can be drawn:

<u>Prerequisite Property</u>	<u>Annotation Type</u>
AnnotationImage	Image Embedded
AnnotationImage	Image Reference
AnnotationStampText	Text Stamp
AnnotationTextFile	Text From File

The **Draw** method generates an error if it is invoked without the required property being set.

If the end user attempts to draw an annotation using the Image Annotation Tool Button control without the required property being set, an error event is sent to the target Image Edit control window. It is up to you to decide whether to present this error to the end user in your application.

When using the standard [Annotation Tool Palette](#), a Select File dialog box appears at run-time to allow the end user to select the desired file.

Do not attempt to change the AnnotationType property when the standard Annotation Tool Palette is displayed. Use the **SelectTool** method instead.

### Remarks

The Image Embedded annotation type (setting 5) stores a copy of the actual image data. The

Image Reference annotation type (setting 6) stores the image data by reference (filename only).

**See Also**

[AnnotationImage property](#)

[Annotations](#)

[AnnotationStampText property](#)

[AnnotationTextFile property](#)

[Draw method](#)

[SelectTool method \(Image Edit control\)](#)

[ShowAnnotationToolPalette method \(Image Edit control\)](#)



## **DestImageControl Property**

Returns or sets the link to the Image Edit control.

### **Applies To**

Image Annotation Tool Button control

### **Syntax**

*object*.**DestImageControl**[=*controlName*]

### **Data Type**

String

### **Remarks**

Set the DestImageControl property to the name of the desired Image Edit control. The **ImageControl** property of the Image Edit control must also be set to the same name.

The **Image Annotation Tool Button** control links to Image Edit control to permit the annotation of displayed images. The Image Annotation Tool Button control sends messages to the Image Edit control that set annotation attributes, thereby changing all of the Image Edit annotation attributes to the values set within the Image Annotation Tool Button control. When the **Draw** method is invoked, the Image Edit control draws the annotation.

### **See Also**

[Draw method](#)

[ImageControl property](#)

## Enabled Property

Enables or disables the control.

### Applies To

Image Annotation Tool Button control, Image Edit control, Image Thumbnail control

### Syntax

*object*.**Enabled**[={*True*|*False*}]

### Data Type

Boolean

<u>Setting</u>	<u>Description</u>
True (default)	Control is enabled (can respond to events)
False	Control is disabled (cannot respond to events)

## hWnd Property

Indicates the window handle to the control.

### Applies To

Image Annotation Tool Button control, Image Edit control, Image Thumbnail control

### Syntax

[*object*.]**hWnd**

### Data Type

Long

### Remarks

Available at run-time as read-only.

## **PictureDisabled Property**

Returns or sets the bitmap image that appears on the control when its **Enabled** property is set to False (disabled).

### **Applies To**

Image Annotation Tool Button control

### **Syntax**

*object*.**PictureDisabled**[=*picture*]

### **Data Type**

Picture

### **Remarks**

The bitmap is scaled to fit the size of the control. If no bitmap is specified, the default bitmap is used.

### **See Also**

[Enabled property](#)

[PictureDown property](#)

[PictureUp property](#)

## **PictureDown Property**

Returns or sets the bitmap image that appears on the control when it is selected. A control is selected when an end user clicks on it, or when its **Value** property is set to True within a program.

### **Applies To**

Image Annotation Tool Button control

### **Syntax**

*object*.**PictureDown**[=*picture*]

### **Data Type**

Picture

### **Remarks**

The bitmap is scaled to fit the size of the control. If no bitmap is specified, the default bitmap is used.

### **See Also**

[PictureDisabled property](#)

[PictureUp property](#)

[Value property](#)

## PictureUp Property

Returns or sets the bitmap image that appears on the control when it is enabled but not selected. A control is enabled when its **Enabled** property is set to True. A control is not selected (deselected) when the end user has not clicked on it, or when its **Value** property is set to False within a program.

### Applies To

Image Annotation Tool Button control

### Syntax

*object*.**PictureUp**[=*picture*]

### Data Type

Picture

### Remarks

The bitmap is scaled to fit the size of the control. If no bitmap is specified, the default bitmap is used.

### See Also

[Enabled property](#)

[PictureDown property](#)

[PictureDisabled property](#)

[Value property](#)

## Value Property

Selects or deselects the control at run-time. Setting this property to True selects the control, which is the same as an end user clicking on it. Setting this property to False deselects the control.

When a control is selected, the following events occur:

- The bitmap specified in the **PictureDown** property is drawn on the control
- Other controls on the form with the same **DestImageControl** property value have their Value property set to False automatically
- The **AnnotationType** property in the Image Edit control is changed to the value of the AnnotationType property in the Image Annotation Tool Button control.

When a control is deselected, the bitmap specified in the **PictureUp** property is drawn on the control.

### Applies To

Image Annotation Tool Button control

### Syntax

*object*.**Value**[={True|False}]

### Data Type

Boolean

<u>Setting</u>	<u>Description</u>
True	Control is selected
False (default)	Control is deselected

### Remarks

This property is available only at run-time.

### See Also

[AnnotationType property](#)

[DestImageControl property](#)

[PictureDown property](#)

[PictureUp property](#)

## Methods (Image Annotation Tool Button control)

[AboutBox](#)

[Draw](#)

### Draw Method

Draws the annotation.

#### Applies To

Image Annotation Tool Button control, Image Edit control

#### Syntax

*object*.**Draw** *Left,Top[,Width,Height]*

#### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
Left	Long	The starting horizontal coordinate of the annotation in image pixels
Top	Long	The starting vertical coordinate of the annotation in image pixels
Width	Long	The width of the annotation in image pixels
Height	Long	The height of the annotation in image pixels

#### Return Value

None

#### Remarks

The Draw method draws the annotation specified by the **AnnotationType** property, standard [Annotation Tool Palette](#), or **SelectTool** method on the displayed image. The method draws the annotation in accordance with the coordinates specified in the left, top, width, and height parameters.

The width and height parameters must be specified when using the following annotation types:

Select Annotations (optional; see the following Note)

Freehand Line

Filled Rectangle

Hollow Rectangle

Straight Line

Attach-a-Note

#### Note

Width and height parameter entry is optional when using the Select Annotations annotation type. If only the left and top parameters are specified, selection can be made by point. If all of the parameters are specified, selection can be made using the Select Annotations rectangle.

#### See Also

[Annotations](#)

AnnotationType property

Images

MarkEnd event

SelectTool method (Image Edit control)



## Events (Image Annotation Tool Button control)

The following Events, used by the Image Annotation Tool Button control, are all standard:

Click	KeyUp
DbClick	MouseDown
Error	MouseMove
KeyDown	MouseUp
KeyPress	

Visual Basic adds the **DragDrop**, **DragOver**, **GotFocus**, and **LostFocus** events.

**RGB Format**

RGB (Red Green Blue) values range from 0 to 16,777,215 (&HFFFFFF). The high byte of a number in this range equals 0; the lower 3 bytes, from least to most significant byte, determine the amount of red, green, and blue, respectively. The red, green, and blue components are each represented by a number between 0 and 255 (&HFF).

## **Imaging Concepts**

The following terms describe the imaging concepts that are associated with Imaging OLE controls:

### **Images**

[What Is an Image?](#)

[Bitmap Image](#)

[Black-and-White Image](#)

[Color Image](#)

[File Types](#)

[Gray-Scale Image](#)

[Image Files](#)

[Image Page](#)

[Image Types](#)

[True Color Image](#)

[Units of Measure](#)

### **Annotations**

[What Are Annotations?](#)

[Annotation Functions](#)

[Annotation Groups](#)

[Annotation Tool Palette](#)

[Annotation Types](#)

### **Compression**

[What Is Compression?](#)

[Compressed Image](#)

[Compression Options](#)

[Compression Type Support](#)

[Compression Types](#)

[Uncompressed Image](#)

### **Display**

[What Are Display Functions?](#)

[Display Types](#)

### **Palettes**

[What Is a Palette?](#)

[Common Palette](#)

[Custom Palette](#)

### **Scanning**

[What Is Scanning?](#)

[TWAIN Specification](#)

## **Units of Measure**

Dots Per Inch

Pixel

Resolution

## **Annotations**

The following terms describe the annotation concepts that are associated with Imaging OLE controls:

[What Are Annotations?](#)

[Annotation Functions](#)

[Annotation Groups](#)

[Annotation Tool Palette](#)

[Annotation Types](#)

## **Compression**

The following terms describe the compression concepts that are associated with Imaging OLE controls:

[What Is Compression?](#)

[Compressed Image](#)

[Compression Options](#)

[Compression Type Support](#)

[Compression Types](#)

[Uncompressed Image](#)

## **Display**

The following terms describe the display concepts that are associated with Imaging OLE controls:

[What Are Display Functions?](#)

[Display Types](#)

## **Images**

The following terms describe the image concepts that are associated with Imaging OLE controls:

[What Is an Image?](#)

[Bitmap Image](#)

[Black-and-White Image](#)

[Color Image](#)

[File Types](#)

[Gray-Scale Image](#)

[Image Files](#)

[Image Page](#)

[Image Types](#)

[True Color Image](#)

[Units of Measure](#)



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The following terms describe the palette concepts that are associated with Imaging OLE controls:

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[Compression Types](#)

[Uncompressed Image](#)

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Color Image

File Types

Gray-Scale Image

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Image Page

Image Types

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Units of Measure

## **Palettes**

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[Common Palette](#)

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## **Scanning**

The following terms describe the scanning concepts that are associated with Imaging OLE controls:

What Is Scanning?

TWAIN Specification



## **Annotation Functions**

Annotation functions provide tools for drawing and manipulating annotation marks. Depending on how you implement them in your application, the end user can:

- Create, move, resize, edit, and delete annotation marks.
- Modify annotation attributes (such as color, size, text, and visibility).
- Group annotation marks and control their visibility.
- Save annotation marks as part of the image or separately.

## **Annotation Groups**

Annotation groups make it possible to organize and manage annotations, giving the end user the capability to:

- Logically organize annotations into functional groups; for example, Accounts Payable Group, Accounts Receivable Group, Purchasing Group, Receiving Group, and so on.
- Toggle the visibility of the groups; for example, to Turn On Accounts Payable Comments, Turn On All Comments, and so on.

A group can contain one or more annotation marks and multiple groups can be associated with a single image.

## Annotation Types

Imaging OLE controls support the following annotation types:

<b>Annotation Type</b>	<b>Description</b>
Attach-a-Note	Enters text into a background rectangle on an image
Filled Rectangle	Covers a portion of an image
Freehand Line	Draws a freehand line on a section of text or a portion of an image for emphasis
Highlighter	Draws a transparent, filled rectangle for highlighting emphasis (available as a discreet annotation type on the Annotation Tool Palette)
Hollow Rectangle	Places a border around areas of an image for emphasis
Image Embedded	Embeds an actual copy of another image in an image file
Image Reference	Includes another image in an image file by reference (that is, it links to an external file that contains the image)
Image Stamp	Places an image stamp directly on an image
Rubber Stamp	Places an image or text stamp directly on an image (available as a discreet annotation type on the Annotation Tool Palette)
Select Annotations	Selects annotation marks for deleting, modifying, moving, or resizing
Straight Line	Underlines text, demarcates a section of a page, or draws callout lines
Text	Places text directly on an image
Text From File	Places text from a file on an image
Text Stamp	Places a text stamp directly on an image

## **What Are Annotations?**

Annotations are digitized versions of the marks commonly used on documents in a paper-based environment; for example, highlight, rubber stamps, and text notes. Like their paper-based counterparts, digitized annotation marks are typically used to prepare documents for subsequent handling in a business process. However, digitized annotations provide additional benefits that paper-based tools do not:

- Digitized annotations can be added, moved, and deleted at will.
- The attributes of digitized annotations (such as color, size, text, and visibility) can be readily modified.
- Groups of digitized annotations can be named. The named groups can then be selectively acted upon.

Annotation marks can be saved within a TIFF image file as annotation data that is kept separate from the image data. The marks can also be merged with the image data in a process known as burning-in. To save annotations to any file type other than TIFF, the annotations must be burned-in.

Burning-in converts the annotation marks into image pixels and merges them with the underlying image pixels in the process. Once annotations are burned-in, they become part of the base image and can no longer be manipulated by the annotation functions.

**Black-and-White Image**

A Black-and-White image is a type of image where each pixel is either on (black) or off (white). This type of image is typically used in fax transmissions.

**Bitmap Image**

A Bitmap image is a representation of a graphic image, displayed by setting individual pixels to white, black, or a color. This type of image is typically used by the Windows Paintbrush applet and has a filename extension of .BMP.

**Color Image**

A Color image is a type of image that contains various colors. Imaging OLE controls support 4- and 8-bit palettized images, as well as 24-bit color images.

**Compressed Image**

A Compressed image is an image that is stored using a technique that reduces the size of the image, thereby saving storage space.



**What Is Compression?**

Compression is the process by which image data is reduced to require less storage space. Employing compression is particularly important when saving gray-scale or color images because of their large size.

## **Compression Options**

Compression options are bitwise values that dictate how image data is compressed. A relationship exists between compression options and compression types, where certain compression options apply only to specific compression types.

Whenever a compression option and a compression type are specified as arguments to an Imaging OLE method, the software checks the relationship for validity.

Compression Option Support

## Compression Option Support

Imaging OLE controls support the following compression options:

**Compressed LTR** -- Compressed bit order, Left-To-Right. The compressed data codes begin at the most significant bit of each byte and are ordered from the most significant bit to the least significant bit. The Compressed LTR compression option applies to all compression types that support black-and-white images, except the PackBits compression type.

**EOL** -- End Of Line. Each line of data is terminated with a standard end-of-line bit. The EOL compression option applies to the Group3(1D) and Group3(2D) compression types.

**Expand LTR** -- Expanded bit order, Left-To-Right. The expanded data codes begin at the most significant bit of each byte and are ordered from the most significant bit to the least significant bit. The Expand LTR compression option applies only to image data that is being read; it is therefore meaningless when writing or converting images. The Expand LTR compression option applies to all compression types except JPEG.

**Negate** -- A high-level request to invert black-and-white data. The Negate compression option applies to all compression types that support black-and-white images.

**Packed Lines** -- The compressed data is packed into bytes with no padding at the end of each line (the data is not byte-aligned). The Packed Lines compression option applies to the Group3(1D), Group3(2D), and Group4(2D) compression types.

**Prefixed EOL** -- Each strip of data is prefixed by a standard end-of-line bit sequence. The Prefixed EOL compression option requires that the EOL compression option be set as well. It applies to the Group3(1D) and Group3(2D) compression types.

**JPEG Options** -- Joint Photographics Experts Group compression options. JPEG compression options comprise all combinations of high, medium, or low compression and high, medium, or low quality (resolution).

The higher the compression, the lower the disk space requirement; the higher the resolution, the greater the image quality. An image compressed with the Low Compression/High Quality option has the highest disk space requirement and the highest image quality. Conversely, an image compressed with the High Compression/Low Quality option has the lowest disk space requirement and the lowest image quality.

The JPEG compression options apply to the JPEG compression type, which can be used with JPG and TIFF file types.

## Compression Type Support

For each file and image type, the Imaging OLE controls support the following compression types:

<b>File Type</b>	<b>Image Type</b>	<b>Compression Type Supported</b>
AWD	Black-and-White	RBA (Microsoft-proprietary)
BMP	Black-and-White Palettized4 Palettized8 BGR24	None
DCX/PCX	Black-and-White Palettized4 Palettized8 RGB24	PCX-proprietary
JPG	Gray8 RGB24	JPEG
TIFF	Black-and-White Gray4 Gray8 Palettized4 Palettized8 RGB24	None, Group3(1D), Group3(2D), Group3(MH), Group4(2D), LZW, PackBits None, LZW None, JPEG, LZW None, LZW None, LZW None, JPEG, LZW
XIF	Black-and-White	None, Xerox-proprietary

**Notes:** The DCX/PCX, JPG, and XIF file types are read-only. For TIFF file types, the Palettized4 image type is read-only. The Group3(2D) and LZW compression types are read-only.

## Compression Types

Imaging OLE controls support the following compression types:

**RBA** -- The RBA compression type is used to compress black-and-white AWD (At Work Document) images. RBA is a Microsoft-proprietary compression type.

**Group3(1D)** -- A compression type based on the CCITT Group3 fax standard, Group3(1D) is used to compress black-and-white TIFF image files. Group3(1D) encodings are designed to provide reliable delivery of image data over inherently unreliable data links. It is commonly used to compress images for fax transmission.

**Group3(2D)** -- Similar to the Group3(1D) compression type, Group3(2D) is used to compress black-and-white TIFF image files for fax transmission exclusively. Group 3(2D) encodings provide a high degree of error recovery during fax transmission. Read-only.

**Group3(Modified Huffman [MH])** -- Also similar to the Group3(1D) compression type, except Group3(MH) provides no end-of-line characters. It is used to compress black-and-white TIFF image files.

**Group4(2D)** -- Based on the CCITT Group4 fax standard, Group4(2D) is used to compress black-and-white TIFF image files. Group 4(2D) encodings are designed to provide delivery of image data over reliable data links, such as ISDN or X.25. It provides superior compression for non-dithered images when compared to the Group3(1D) compression type.

**JPEG** -- The Joint Photographics Experts Group compression type is used to compress 24-bit color (RGB24) and 8-bit gray-scale (Gray8) image files. JPEG produces a high compression ratio, but some image data is actually lost during compression.

**LZW (Lempel-Ziv-Welch)** -- A lossless compression type (that is, no data is lost during compression). It is used with black-and-white; BGR24, RGB24, Palettized4, and Palettized8 color images; as well as Gray4 and Gray8 gray-scale images. Read-only.

**PackBits** -- A simple, byte-oriented, run-length compression type, PackBits is used to compress black-and-white TIFF image files.

**PCX** -- A ZSoft-proprietary compression type, PCX is used to compress multipage DCX and single-page PCX black-and-white and color images.

**Xerox-proprietary** -- The Xerox-proprietary compression type is used to compress XIF images.

**Common Palette**

A common palette is shared by all images being displayed. It is a special, 8-bit palette that has a variety of colors, chosen because they give generally good results for both color and gray-scale images. While the resulting image display is not as good as a custom palette rendition of the image, the common palette has the advantage of permitting any number of images to be displayed simultaneously with good overall quality.

**Custom Palette**

A custom palette is optimized for the display of a particular image. An image displayed using a custom palette results in an image that is most like its original.

Using the custom palette has one disadvantage, which is only noticeable when displaying multiple images using a monitor and controller that display 256 or fewer colors. The disadvantage is that background images can appear in lower quality than their originals. This occurs because Windows shares the active palette of the foreground window, which may not be suitable for displaying background images.

### **What Are Display Functions?**

Display functions provide the ability to show and manipulate images within an image window.

Typical display functions include:

- Copying, cutting, and pasting to the Clipboard
- Flipping
- Rotating
- Scrolling
- Zooming

These display functions manipulate the image data in the display memory of the PC. The image file data is not modified unless the image is saved.



## Display Types

The display type pertains to the way in which data is presented to the monitor. It does not alter the original image in any way. Imaging OLE controls support the following display types:

**Black-and-White (Bi-Level)** -- Displays an image as black and white. The Black-and-White display type is typically used for applications that manage black-and-white documents exclusively.

**Common** -- Displays an image using the common palette. The Common display type permits the display of multiple images simultaneously while maintaining reasonable image quality. A monitor and controller capable of displaying 256 colors are recommended.

**Custom** -- Displays an image using the best palette possible. The palette used depends on the type of image being displayed, as described in the following list:

<u>Image</u>	<u>Palette Used</u>
Black-and-White	Binary
4-Bit Gray-Scale	Common
8-Bit Gray-Scale	Gray8
24-Bit Color Images	Common

Because the palette used is designed specifically for the type of image being displayed, the custom display type is best suited to application programs that display one image at a time. A monitor and controller capable of displaying 256 colors are recommended.

**Gray8** -- Displays an image using a linear-scale palette of up to 128 shades of gray.

**RGB24** -- Displays an image by letting Windows map the image directly to the monitor. With suitable hardware, the RGB24 display type produces the best color at the optimum speed. Further, it allows multiple images to be displayed with no loss in background image quality. A monitor and controller capable of displaying 32,000 colors are recommended.

**Dots Per Inch**

Dots Per Inch (dpi) indicates the number of dots (or pixels) per inch in an image. The more dots per inch in an image, the higher its density and quality.

## File Types

Imaging OLE controls support the following file types:

**AWD** -- The file format for Microsoft AWD (At Work Document) images. AWD supports black-and-white images only. AWD files are compressed using RBA compression.

**BMP** -- The file format used by the Windows Paintbrush applet. BMP (bitmap) supports single-page color images. Compression of BMP files is not supported.

**DCX** (read-only) -- The file format for multipage ZSoft PaintBrush images. DCX supports both black-and-white and color images. DCX files are compressed using PCX compression.

**JPG** (read-only) -- The file format for Joint Photographics Experts Group (JPEG) images. JPG supports single-page 8-bit gray-scale and RGB24 color images. JPG files are compressed using JPEG compression.

**PCX** (read-only) -- The file format for single-page ZSoft PaintBrush images. PCX supports both black-and-white and color images. PCX files are compressed using PCX compression.

**TIFF** -- The file format for Tag Image File Format (TIFF) images. TIFF supports multipage black-and-white, gray-scale, and color images; several compression types; and a variety of options. TIFF is compatible with all image densities.

**XIF** (read-only) -- The file format for Xerox images. XIF supports multipage black-and-white images only. XIF files can be uncompressed, or compressed using Xerox-proprietary compression.

**Gray-Scale Image**

A Gray-Scale image is a type of image that contains various shades of gray. Imaging OLE controls support 4- and 8-bit gray-scale images.

**What Is an Image?**

An image is a photograph, line drawing, or text document that has been converted to digitized form, usually by a scanning device. A scanned image is saved in a particular image file format.

Typically, an image is displayed in a window that can be sized or moved. Images can also be annotated, e-mailed, faxed, or printed.

**Image Files**

Images are stored in image files, which are standard Windows files. Image files can be organized in folders, copied, renamed, deleted, and so on, using standard Windows commands.

Depending on the file format, image files can contain one or more images. In multipage image files, each image is stored in a single image page. Image files can be stored on the hard drive of a local PC, or on redirected network drives. Applications can access any available image file by specifying its proper path (drive, folder, and filename).

## **Image Page**

Image pages provide a way to organize multiple images in an image file. Each page contains or stores one image. The following file types support multiple pages:

- AWD
- DCX
- TIFF
- XIF

## Image Types

Imaging OLE controls support the following image types:

**BGR24** -- This type of image uses 24 bits of data per pixel (eight bits-per-pixel for each of the three primary colors -- Blue, Green, and Red). This translates to 256 shades of each primary color to provide up to 16 million colors for each image. To display BGR24 images, the monitor and controller must be capable of displaying at least 32,000 colors. The BGR24 image type is typically encountered in BMP files.

**Black-and-White (Bi-Level)** -- The Black-and-White image type displays one bit of data per pixel on the screen as either black or white.

**Gray Scale** -- There are two types of gray-scale images: Gray4 and Gray8.

*Gray4* -- A Gray4 image uses 4 bits of data per pixel. Every pixel on the screen can be displayed in 16 shades of gray, giving the image much better clarity than black-and-white images.

*Gray8* -- A Gray8 image uses 8 bits of data per pixel. Every pixel can be displayed with 256 shades of gray, producing better image clarity than Gray4. Gray8 images are particularly effective for storing pictures and photographs.

**Palettized** -- There are two types of palettized images: Palettized4 and Palettized8.

*Palettized4* -- A Palettized4 image uses 4 bits of data per pixel to reference a palette of 16 RGB (Red, Green, Blue) colors. These images can use a custom palette only.

*Palettized8* -- A Palettized8 image uses 8 bits of data per pixel to reference a palette of 256 RGB colors. These images can use either a custom or common palette.

**RGB24** -- Also known as true color, an RGB24 image is the same as a BGR24 image, but with the colors (Red, Green, and Blue) in a different order.



**What Is a Palette?**

A palette is a look-up table that is used to translate an index value into a color value (known as an RGB value, for Red, Green, Blue). There are two types: Common and Custom.

Color images are often stored using a palette so that they take up less space. Such an image is said to be palettized. A complex image that has been palettized is often of lower quality than the original image. This is due to the fact that the eye can distinguish many more colors than are usually available in the palette.

Windows reserves 20 palette entries to use for window backgrounds, borders, and so on.

**Pixel**

The pixel is the smallest graphic unit on a screen or image. It is equal to one screen dot or picture element.

**Resolution**

Resolution is the overall measurement of image quality. It is expressed as the number of dots- or pixels-per-inch. It is possible for an image to have different horizontal and vertical resolutions. For example, images received from fax transmissions typically have resolutions of 200 by 100 pixels-per-inch. The more pixels-per-inch, the higher the resolution. Image quality increases in proportion with the resolution value. Therefore, the higher the resolution, the greater the image quality.

**What Is Scanning?**

Scanning is the procedure for capturing data as images in electronic form.

An image acquisition device (typically a scanner) is connected to the PC and controlled by an application program. The application program communicates with the scanner through an interface called the scanner data source (driver), which is usually supplied by the manufacturer of the scanner. Imaging OLE controls support TWAIN, the industry-standard specification for image capture.

**True Color Image**

A True Color image is a type of image that mixes shades of red, green, and blue to provide over 16 million colors. These color images are also known as BGR24 or RGB24 images.

## **TWAIN Specification**

TWAIN is an industry-standard, open specification that defines the way in which an image acquisition device (typically a scanner) communicates with an application program. With TWAIN, an application program can acquire images through any device that complies with its specification.

For your scanner, or other image acquisition device, to function properly, you need the TWAIN data source from its manufacturer as well as the latest 32-bit TWAIN DLLs. You can obtain the latest 32-bit TWAIN DLLs from the following sources:

**World Wide Web** -- At <http://www.twain.org>

**FTP** -- At <ftp.twain.org>

**Uncompressed Image**

An Uncompressed image is an image that is stored as is, without compression of any kind. This type of image is usually larger than a compressed image; it may therefore require a greater amount of storage space.

## **Out of Memory**

More memory was required than is available.

- There are too many applications, documents, or source files open.
- Close any unnecessary applications, documents, or source files that are open.
- There is a module or procedure that is too large.
- Break extremely large modules or procedures into smaller ones.
- There are terminate-and-stay resident programs running.
- Eliminate terminate-and-stay resident programs.
- There are too many device drivers loaded.
- Eliminate unnecessary device drivers.



## **File Not Found**

This file cannot be found.

- A statement refers to a file that does not exist.  
Check the spelling of the filename, and the path specification.

## **File Already Exists**

You tried to create a file with the same name as an existing file.

- Specify a new name, or delete the old file.

**Disk Full**

There is not enough room on the disk to complete the requested operation.

- Move some files to another disk, or delete some files on the current disk.
- Check your Windows\Temp directory or your Recycle Bin for files that you can safely delete.

## **Bad Filename**

An error occurred trying to access the specified file.

- There is an invalid filename.

Filenames must conform to operating system conventions, as well as those of the programming language. Filenames can be up to 255 characters. Respecify the filename, and then retry your operation.

## **Path File Access Error**

During a file or disk-access operation, the operating system could not make a connection between the path and the filename.

- The file specification is not correctly formatted.

A filename can contain a fully-qualified (absolute) or relative path. A fully-qualified path starts with the drive name (if the path is on another drive) and then lists the explicit path from the root to the file. Any path that is not fully-qualified is relative to the current drive and directory.

- You attempted to save a file that would replace an existing read-only file.

From Windows Explorer, right-mouse click on the file, and select Properties from the pop-up menu. From the Properties window, change the properties to enable read/write capability.

## **Path Not Found**

The path to a file comprises the drive specification plus the directories and subdirectories used to locate the file. A path can be relative or absolute.

- During the file or disk-access operation, the operating system was unable to find the specified path. Check the pathname and its syntax and retry your operation.

## **Invalid File Format**

The file format you have specified is invalid. The supported file types include:

- Tag Image File Format (TIF): The OCX supports read/write access.
- At Work Document (AWD): The OCX supports read/write access.
- PC Paintbrush Format (PCX): The OCX supports read access.
- Multi-Page Paintbrush Format (DCX): The OCX supports read access.
- Bitmap Image (BMP): The OCX supports read/write access.
- Joint Photographic Experts Group (JPG): The OCX supports read access.

If the file format you specified is a supported file type, then the data in the file may be corrupted.

- Restore the file from a backup copy of the file, if it is available.

**Set Not Supported at Run Time**

You can only set this property at design time.



**Set Not Supported**

You tried to assign a value to a property that is read only at design time and run time.

**Get Not Supported at Run Time**

You can only get a value for this property at design time.

**Get Not Supported**

You tried to get a value for a property that is write only.

### **Invalid Clipboard Format**

The specified Clipboard format is incompatible with the method that is being executed.

- The two supported Clipboard formats include:

CF\_DIB - image data

Wang Annotation - annotation data

## Invalid Picture

Only an icon, bitmap, or Windows metafile can be assigned to the **Picture** property or **Picture** object.

- You attempted to assign a file to a **Picture** property or a **Picture** object that is not recognized as an icon, bitmap, or Microsoft Windows metafile. For the **MouseIcon** property, the valid pictures are .ICO and .CUR file types.

## **Printer Error**

There is a problem that prevents printing.

- You do not have a printer installed.

Open My Computer and double-click on the printer icon to install your printer. The Printers window opens, and then you can double-click on the Add Printer icon to install your printer.

- The printer is not online.

Switch the printer online.

- The printer is jammed, or out of paper.

Correct the paper jam, or add paper.

- You tried to print a form to a printer that can accept only text.

Switch to an installed printer that can print graphics.

## **Invalid Property Array Index**

The index number is out of bounds for the specified property.

- Ensure that your index number is within the range for the property you are using.

## Invalid Icon

You have set the **Mouselcon** property to an invalid file type.

- Valid Icon file types are .ICO and .CUR.



## **Internal Error**

An internal error has occurred.

## **Cancel Pressed**

The **CancelError** property in the Admin OCX has been set to True. During run time, the Cancel Pressed error will be returned when the user chooses Cancel. If you do not want this error message to be returned, set the **CancelError** property to False during design time. If you are using the Scan OCX, the Cancel Pressed error is returned from a method to inform you that a cancel occurred.

## **Scanner Already Open**

The scanner is already open.

- If the scanner is in use by another application, close the scanner in the other application, and retry your operation. Otherwise, close the scanner in the current application, via the `CloseScanner` method, and retry your operation.

## **Scanner Error**

An error has occurred with either the scanner or the scanner handler. This error may be related to your scanner hardware or software.

- Check your scanner hardware to ensure that it is properly powered on, and then retry the scan operation.
- Save your work-in-progress, reboot your PC, and then retry the scan operation.

**Bad Size**

You selected an invalid image size.

- Select a different image size from the TWAIN setup.

## **Start Scanner Failure**

The start scanner operation failed.

- Close the scanner driver software, and then retry the scanner operation.

## **Scanner Timeout**

The scanner timed out.

- Close the scanner, and then retry the operation.

**Scanner Not Open**

The scanner is closed. The scanner must be opened prior to initiating a scan operation.

- Open the scanner using the `OpenScanner` method, and then retry your operation.



## **Invalid Registration Information**

The Scan registration information is incorrect.

- Edit the registration information or reinstall the scanner and its software.

### **No Paper Feeder is Available**

No paper feeder is available to the scanner.

- Install a paper feeder on your scanner if there is not one already installed.
- If a paper feeder is installed, then check the cable connections between the scanner and the paper feeder.

**No Paper**

There is no paper in the scanner's paper feeder.

- Check the paper supply and add paper to the feeder.

## **File Limit**

Unable to generate new filenames in the current directory.

- Check the path to ensure that it is valid and retry the template scan.
- Check if all the file numbers have been used. Valid file numbers range from img00000 through img99999. If all the file numbers have been used, create a new directory and continue scanning.

### **Scanner Powered Off**

The scanner is powered off.

- Check that the scanner is plugged in and that the power is turned on.

### **Scanner Cover Open**

The scanner cover is open.

- Close the scanner cover and retry your operation.

**Scan Aborted**

The scan operation was aborted while the scanner was still operating.

- This error message is informational. No action is necessary.

## **Scanner Jammed**

The scanner is jammed.

- Clear the paper path and retry the scan operation.



## Invalid Compression Type

The compression type is invalid.

- Select a valid compression type from the Page Options dialog box.
- Specify a valid compression type for the specified image file type.

<b>Setting</b>	<b>Description</b>
<b>0</b>	Unknown
<b>1</b>	No compression
<b>2</b>	Group3(1D)
<b>3</b>	Group3(Modified Huffman)
<b>4</b>	PackBits
<b>5</b>	Group4(2D)
<b>6</b>	JPEG

AWD and BMP files must be saved using a Compression Type setting of 1.

## Invalid Page Type

The page type is invalid.

- Select a different page type from the Page Options dialog box or Scanner Setup dialog box.
- Specify a valid page type based on the specified image file type.

<b><u>File</u></b> <b><u>Types</u></b>	<b><u>Valid Page</u></b> <b><u>Type</u></b>
TIF	All except BGR24
AWD	Black and White
BMP	All except RGB24

## Invalid Compression Information

The compression information is invalid.

- Select valid compression information from the Page Options dialog box. You can access the Page Options dialog box from the **Image** property page of the Scan OCX.

- The method or property used requires that an image is displayed in the Image Edit control window.
- Verify that an image is displayed in the window prior to calling this method or setting this property.

### **No Image Specified**

The **Image** property for the specified image window has not been set correctly or it is blank.

- Check the **Image** property to ensure that a valid path and image filename have been set.

### **Invalid Annotation Selected**

The specified method cannot be completed using the selected annotation.

- Verify that the selected annotation supports the attribute(s) that the method is trying to alter. For example, if the selected annotation mark is an embedded image, then the **SetSelectedAnnotationLineWidth** method cannot be used.

### **Parameters Exceed the Maximum Limit**

The argument(s) for the specified method exceed the maximum number of characters.

- Respecify the argument(s) using shorter string lengths; for example, the maximum length for the **DestImageControl** property is 50 characters. A valid string length for this property must be 50 characters or less.

**Set Not Supported at Design Time**

You cannot set this property at design time. You can only set this property at run time.



### **No Selection Rectangle Drawn**

The specified method or property requires that a selection rectangle must be drawn on the displayed image.

- Before you call the method or before you set the specified property, ensure that a selection rectangle is drawn.
- Ensure that the **SelectRectangle** property of the Image Edit control is set to True to enable the drawing of selection rectangles.

## **Unable to Create Tool Palette**

Unable to create the Image Annotation Tool Palette window.

- Save your work, terminate the application, and then retry this operation.

### **Additional Parameters Required**

The method requires that you specify additional parameter values.

- Ensure that you specified valid values for all of the parameters required by the method you are using. For example, the **ClipboardCopy** method allows you to optionally specify the coordinates of the rectangle that you want to copy. If you choose to provide any of the rectangle coordinate values for this method, then you must provide all of the coordinate values.

### **Could Not Get Font Attributes**

Could not retrieve the font attributes for the selected annotation.

- Verify that the selected annotation supports the font attribute properties. Save your work, exit from the application, and then retry the operation.

### **Invalid Annotation Type**

The **AnnotationType** property contains an invalid value.

- Set the **AnnotationType** property to a valid value.

### **Tool Palette Already Displayed**

You can only have one annotation tool palette open per application.

- Ensure that you have only one annotation tool palette open or close the existing annotation tool palette.

## **Tool Palette Not Displayed**

To use the **Hide** method to hide the annotation tool palette, the tool palette must first be displayed.

- Use the **ShowAnnotationToolPalette** method to display the standard annotation tool palette prior to executing the **Hide** method.

## **Scanner is Busy**

The scanner is in use by another application.

- Close the application that has the scanner in use, and then retry your operation.



## **Permission Denied**

You do not have access rights to read or write to this file.

- From Windows Explorer, right-mouse click on the file, and select Properties from the pop-up menu. From the Properties dialog box, select the appropriate access rights.

## **Illegal Function Call**

The method has terminated due to invalid parameters or property values.

- Check the input parameters of the function you have called.

## **Invalid Property Value**

A property has been set to an invalid value.

- Set the property to a valid value and then retry your operation.

## **Page in Use**

This error is returned by the **DeletePages** method from the Image Admin OCX. You cannot delete a page because it is being displayed by either the Thumbnail OCX or the Image Edit control.

- Close all images that are being displayed by either the Thumbnail OCX or the Image Edit control and then retry your operation.

## Invalid Display Scale

The display scale may be valid, but not for the currently displayed image

- Respecify the value of the **Zoom** property in the Image Edit control. You may have to adjust the scale value several times before you find a valid value.

## Invalid Rectangle

Either no rectangle was drawn, or the specified rectangle coordinates were invalid or out of range for the displayed image.

- Ensure that you are in the image selection mode and then drag the image within range or use the **DrawSelectionRectangle** method to draw the rectangle. All X coordinates must be between 0 and the width of the image. All Y coordinates must be between 0 and the height of the image.

## **Invalid Display Options**

You have requested an operation on an image that cannot be currently performed.

- Review the parameters that you last used to display the image. Operations might include editing operations such as cut, copy, or paste, or modifications such as a rotation. Ensure that the parameters are valid values.
- You may have specified valid parameters for the methods being used individually; however, if you combined any editing operations, you may have created invalid display parameters.

## Invalid Page

Either the page number is beyond the range of pages in the file or the page number is 0.

- Ensure that the **Page Number** property is set to a value that is valid for the currently displayed image.



## No Annotation Selected

The method requires that an annotation is selected before it is executed.

- Before you execute the method, select the annotation mark. You can select the annotation mark via the Selection Annotation Tool palette with your mouse. You can also use the **SelectAnnotationGroup** method to select all of the marks for the selected annotation group, or you can bundle a group of annotations by drawing a selection rectangle around them.

## **Cannot Delete File**

An error occurred during the delete operation.

- Ensure that the file exists and that you have provided the correct filename. If you are on a network, the file may be in use by another user or you may not have the appropriate access rights to perform the delete operation.

## Wang Image Edit Control

[Properties](#)   [Methods](#)   [Events](#)

The Wang **Image Edit** control adds imaging and image annotation functions to applications that support 32-bit OLE controls. It enables end users to display, annotate, manipulate, and manage image files.

### Image Display

The Image Edit control allows end users to display image files of various types. Specifically, the control supports the following file types:

- AWD
- BMP
- DCX
- JPG
- PCX
- TIFF
- XIF

### Image Annotation

The control includes several properties, methods, and events that enable programmers to add annotation functions to application programs. The annotation functions permit end users to annotate displayed images. The control also includes an [Annotation Tool Palette](#) that can be optionally invoked to provide end users with a complete set of annotation tools.

The control supports the annotation types described in the following list:

<u>Annotation Type</u>	<u>Description</u>
Attach-a-Note	Enters text into a background rectangle on an image
Filled Rectangle	Covers a portion of an image
Freehand Line	Draws a freehand line on a section of text or a portion of an image for emphasis
Hollow Rectangle	Places a border around areas of an image for emphasis
Image Embedded	Embeds an actual copy of another image in an image file
Image Reference	Includes another image in an image file by reference (that is, it links to an external file that contains the image)
Select Annotations	Selects annotation marks for deleting, modifying, moving, or resizing
Straight Line	Underlines text, demarcates a section of a page, or draws callout lines
Text	Enters text directly on an image
Text From File	Enters text from a file on an image
Text Stamp	Places a text stamp directly on an image

### Image Manipulation

The Image Edit control has properties, methods, and events that enable programmers to add image manipulation functions to application programs. These functions permit end users to perform the following tasks on displayed images:

- Copy, cut, and paste to the Clipboard
- Flip
- Rotate
- Scale

- Scroll
- Zoom

## **File Management**

The control also includes methods that enable programmers to add image and annotation file management functions to application programs. These functions permit end users to retrieve, save, print, and delete image and annotation data.

## **Linking With the Image Edit Control**

The Image Edit control is the main Imaging control. The Wang **Image Annotation Tool Button** and **Image Scan** controls link to Image Edit control to perform several functions.

### **Image Annotation Tool Button Control**

The Image Annotation Tool Button control links to the Image Edit control to permit the annotation of displayed images. The Image Annotation Tool Button control sends messages to the Image Edit control that set annotation attributes, thereby changing all of the Image Edit annotation attributes to the values set within the Image Annotation Tool Button control. When the **Draw** method is invoked, the Image Edit control draws the annotation.

### **Image Scan Control**

The Image Scan control links to the Image Edit control to display images while they are being scanned.

### **Establishing the Link**

To link the Image Annotation Tool Button control to the Image Edit control:

1. Set the **DestImageControl** property of the Image Annotation Tool Button control to the name of the desired Image Edit control.
2. Set the **ImageControl** property of the Image Edit control to the same Image Edit control name.

To link the Image Scan control to the Image Edit control:

1. Set the **DestImageControl** property of the Image Scan control to the name of the desired Image Edit control.
2. Set the **ImageControl** property of the Image Edit control to the same Image Edit control name.

### **See Also**

[Image Annotation Tool Button control](#)

[Image Scan control](#)

[Imaging Concepts](#)

## Properties (Image Edit control)

<a href="#"><u>AnnotationBackColor</u></a>	<a href="#"><u>CompressionInfo</u></a>	<a href="#"><u>ImageScaleWidth</u></a>
<a href="#"><u>AnnotationFillColor</u></a>	<a href="#"><u>CompressionType</u></a>	<a href="#"><u>ImageWidth</u></a>
<a href="#"><u>AnnotationFillStyle</u></a>	<a href="#"><u>DisplayScaleAlgorithm</u></a>	<a href="#"><u>Mouselcon</u></a>
<a href="#"><u>AnnotationFont</u></a>	<a href="#"><u>Enabled</u></a>	<a href="#"><u>MousePointer</u></a>
<a href="#"><u>AnnotationFontColor</u></a>	<a href="#"><u>FileType</u></a>	<a href="#"><u>Page</u></a>
<a href="#"><u>AnnotationGroupCount</u></a>	<a href="#"><u>hWnd</u></a>	<a href="#"><u>PageCount</u></a>
<a href="#"><u>AnnotationImage</u></a>	<a href="#"><u>Image</u></a>	<a href="#"><u>PageType</u></a>
<a href="#"><u>AnnotationLineColor</u></a>	<a href="#"><u>ImageControl</u></a>	<a href="#"><u>ScrollBars</u></a>
<a href="#"><u>AnnotationLineStyle</u></a>	<a href="#"><u>ImageDisplayed</u></a>	<a href="#"><u>ScrollPositionX</u></a>
<a href="#"><u>AnnotationLineWidth</u></a>	<a href="#"><u>ImageHeight</u></a>	<a href="#"><u>ScrollPositionY</u></a>
<a href="#"><u>AnnotationStampText</u></a>	<a href="#"><u>ImageModified</u></a>	<a href="#"><u>ScrollShortcutsEnabled</u></a>
<a href="#"><u>AnnotationTextFile</u></a>	<a href="#"><u>ImagePalette</u></a>	<a href="#"><u>SelectionRectangle</u></a>
<a href="#"><u>AnnotationType</u></a>	<a href="#"><u>ImageResolutionX</u></a>	<a href="#"><u>StatusCode</u></a>
<a href="#"><u>AutoRefresh</u></a>	<a href="#"><u>ImageResolutionY</u></a>	<a href="#"><u>Zoom</u></a>
<a href="#"><u>BorderStyle</u></a>	<a href="#"><u>ImageScaleHeight</u></a>	

### AnnotationGroupCount Property

Returns the number of annotation groups that are on an image page.

#### Applies To

Image Edit control

#### Syntax

*object*.**AnnotationGroupCount**

#### Data Type

Integer

#### Remarks

The AnnotationGroupCount is used as the upper bound value when indexing through all of the annotation groups.

When a new annotation group is created, the AnnotationGroupCount is not incremented until at least one annotation mark is added to the group.

Available at run-time as read-only.

The **Display** method must be invoked prior to reading this property.

#### See Also

[Annotations](#)

[Display method](#)

[GetAnnotationGroup method](#)

[GetAnnotationMarkCount method](#)

[SetCurrentAnnotationGroup method](#)

## AutoRefresh Property

Returns or sets whether a displayed image is refreshed immediately after changes are made to properties that can affect its visual appearance.

### Applies To

Image Edit control

### Syntax

*object*.**AutoRefresh**[={True|False}]

### Data Type

Boolean

<u>Setting</u>	<u>Description</u>
True	Refreshes the image immediately when changes are made to display-related properties
False (default)	The image is not refreshed immediately

### Remarks

Set this property to True when you want the image to be refreshed every time a property is changed that affects its visual display.

Set this property to False when you do not want the image to be refreshed every time a property is changed that affects its visual display. The image can be refreshed at any time by invoking the Refresh method, which updates the image using the current settings.

When the AutoRefresh property is set to True, changing the following properties causes the displayed image to be refreshed automatically:

[DisplayScaleAlgorithm property](#)

[ImagePalette property](#)

[ImageResolutionX property](#)

[ImageResolutionY property](#)

[ScrollBars property](#)

[ScrollPositionX property](#)

[ScrollPositionY property](#)

[Zoom property](#)

### See Also

[Refresh method](#)

## BorderStyle Property

Returns or sets whether the control is displayed with a border.

### Applies To

Image Edit control

### Syntax

*object*.**BorderStyle**[=*value*]

### Data Type

Integer (enumerated)

<u>Setting</u>	<u>Description</u>
0	None
1 (default)	Fixed Single

### Remarks

Single-line, fixed-size is the only available border style.  
Available at design-time only.

## CompressionInfo Property

Returns compression option information for the image specified in the **Image** property, and the page specified in the **Page** property.

### Applies To

Image Edit control

### Syntax

*object*.**CompressionInfo**

### Data Type

Long

Property settings are expressed using the following bit-wise values:

<b>Setting</b>	<b>Description</b>	<b>Notes</b>
0	No compression options set.	Applicable only to uncompressed image files
1	EOL -- Include/expect End Of Line. Each line is terminated with a standard end-of-line bit.	Not used for JPEG compression
2	Packed Lines -- Byte-align new lines.	Not used for JPEG compression
4	Prefixed EOL -- Include/expect, prefixed End Of Line. Each strip of data is prefixed by a standard end-of-line bit sequence.	Not used for JPEG compression
8	Compressed LTR -- Compressed bit order, Left-To-Right. The bit order for the compressed data is the most significant bit to the least significant bit.	Not used for JPEG compression
16	Expand LTR -- Expanded bit order, Left-To-Right. The bit order for the expanded data is the most significant bit to the least significant bit.	Not used for JPEG compression
32	Negate -- Invert black and white on expansion. Indicates the setting of the Photometric Interpretation field of a TIFF file.	Not used for JPEG compression
64	High Compression/High Quality	Used for JPEG compression only
128	High Compression/Medium Quality	Used for JPEG compression only
256	High Compression/Low Quality	Used for JPEG compression only
512	Medium Compression/High Quality	Used for JPEG compression only
1024	Medium Compression/Medium Quality	Used for JPEG compression only
2048	Medium Compression/Low Quality	Used for JPEG



4096	Low Compression/High Quality	compression only Used for JPEG compression only
8192	Low Compression/Medium Quality	Used for JPEG compression only
16384	Low Compression/Low Quality	Used for JPEG compression only

### Remarks

Image files with compression types other than JPEG can have CompressionInfo values between 1 and 63, in any combination. Image files with the JPEG compression type can have only one specific value between 64 and 16384 (as indicated in the preceding list).

The CompressionInfo value is independent of an image being displayed. If the image specified in the Image and Page properties is being displayed, the value indicates the compression of the displayed image. If the image specified in the Image and Page properties is not being displayed, the value indicates the compression of the image specified in the Image property.

Available at run-time as read-only.

### See Also

[Compression](#)

[CompressionType property](#)

[Image property](#)

[Page property](#)

[SaveAs method](#)

## CompressionType Property

Returns the compression type of the image specified in the **Image** property, and the page specified in the **Page** property.

### Applies To

Image Edit control

### Syntax

*object*.**CompressionType**

### Data Type

Integer (enumerated)

Property settings are expressed using the following values:

<b>Setting</b>	<b>Description</b>
0	Unknown
1	No compression
2	Group3(1D)
3	Group3(Modified Huffman)
4	PackBits
5	Group4(2D)
6	JPEG
7	RBA
8	Group3(2D)
9	LZW

### Remarks

The CompressionType value is independent of an image being displayed. If the image specified in the Image and Page properties is being displayed, the value indicates the compression type of the displayed image. If the image specified in the Image and Page properties is not being displayed, the value indicates the compression type of the image specified in the Image property.

Available at run-time as read-only.

### See Also

[Compression](#)

[CompressionInfo property](#)

[Image property](#)

[Page property](#)

[SaveAs method](#)

## DisplayScaleAlgorithm Property

Returns or sets the scaling algorithm used when displaying images.

### Applies To

Image Edit control

### Syntax

*object*.**DisplayScaleAlgorithm**[=*integer*]

### Data Type

Integer (enumerated)

Property settings are expressed using the following values:

<u>Setting</u>	<u>Descriptio n</u>	<u>Notes</u>
0 (default)	Normal	Normal decimation
1	Gray4	4-bit gray-scale, 16 shades of gray
2	Gray8	8-bit gray-scale, 256 shades of gray
3	Stamp	Used for thumbnail representation of images
4	Optimize	Changes the display algorithm based on the image type of the displayed image

### Remarks

The DisplayScaleAlgorithm value can be specified before or after an image is displayed. If the value is specified after an image is displayed, the displayed image may change visually.

When the **AutoRefresh** property is set to True, changing the DisplayScaleAlgorithm property causes the displayed image to be refreshed automatically. Some settings may not be apparent until the image is scaled to a Zoom value under 100 percent.

### See Also

[AutoRefresh property](#)

[Display](#)

[Image property](#)

[Zoom property](#)

## FileType Property

Returns the file type of the image file specified in the **Image** property, and the page specified in the **Page** property.

### Applies To

Image Edit control

### Syntax

*object*.**FileType**

### Data Type

Integer (enumerated)

Property settings are expressed using the following values:

<b>Setting</b>	<b>Description</b>
1	TIFF
2	AWD
3	BMP
4	PCX
5	DCX
6	JPG
7	XIF

### Remarks

The FileType value is independent of an image being displayed. If the image specified in the Image and Page properties is being displayed, the value indicates the file type of the displayed image. If the image specified in the Image and Page properties is not being displayed, the value indicates the file type of the image specified in the Image property.

Available at run-time as read-only.

### See Also

[Image property](#)

[Images](#)

[Page property](#)

[SaveAs method](#)

## **Image Property**

Returns the fully-qualified filename of an image file being displayed, or sets the fully-qualified filename of an image file to be displayed or otherwise operated on by the Image Edit control.

### **Applies To**

Image Edit control

### **Syntax**

*object*.**Image**[=*filename*]

### **Data Type**

String

### **Remarks**

The name must be a fully-qualified filename.

### **See Also**

[Display method](#)

[Images](#)

## ImageControl Property

Returns or sets the unique identifier to be specified for linking with another Imaging control. The Wang **Image Annotation Tool Button** and **Image Scan** controls link to the Image Edit control in order to perform several functions.

### Applies To

Image Edit control

### Syntax

*object*.**ImageControl**[=*controlname*]

### Data Type

String

### Remarks

A unique default name is provided when you draw the control on a form.

### See Also

[DestImageControl property \(Image Annotation Tool Button control\)](#)

[DestImageControl property \(Image Scan control\)](#)

[Image Annotation Tool Button control](#)

[Image Scan control](#)

[Images](#)

## ImageDisplayed Property

Indicates whether an image is currently being displayed.

### Applies To

Image Edit control

### Syntax

*object*.ImageDisplayed

### Data Type

Boolean

<u>Setting</u>	<u>Description</u>
True	An image is being displayed
False	An image is not being displayed

### Remarks

Available at run-time as read-only.

### See Also

[Display method](#)

[Images](#)

## **ImageHeight Property**

Returns the height in full-size coordinates of the image being displayed.

### **Applies To**

Image Edit control

### **Syntax**

*object*.**ImageHeight**

### **Data Type**

Long

### **Remarks**

If an image is not being displayed, the ImageHeight property returns the full-size height of the image specified in the **Image** property.

If an image is not being displayed and the Image property does not contain the filename of an image, the ImageHeight property generates an error.

Available at run-time as read-only.

### **See Also**

[Image property](#)

[Images](#)

[ImageScaleHeight property](#)

[ImageWidth property](#)



## ImageModified Property

Indicates whether an image has been modified.

### Applies To

Image Edit control

### Syntax

*object*.ImageModified

### Data Type

Boolean

<u>Setting</u>	<u>Description</u>
True	The image has been modified
False	The image has not been modified

### Remarks

Because the value of this property indicates whether an image file has been modified, you can use it to determine whether your program should prompt the end user to save the image file.

Available at run-time as read-only.

Changes to the following properties set the ImageModified property to True:

[ImageResolutionX property](#)

[ImageResolutionY property](#)

Invoking the following methods sets the ImageModified property to True:

[AddAnnotationGroup method](#)

[BurnInAnnotations method](#)

[ClipboardCut method](#)

[ClipboardPaste method](#)

[ConvertPageType method](#)

[DeleteAnnotationGroup method](#)

[DeleteImageData method](#)

[DeleteSelectedAnnotations method](#)

[Draw method](#)

[EditSelectedAnnotationText method](#)

[Flip method](#)

[HideAnnotationGroup method](#)

[RotateLeft method](#)

[RotateRight method](#)

[SetSelectedAnnotationBackColor method](#)

[SetSelectedAnnotationFillColor method](#)

[SetSelectedAnnotationFillStyle method](#)

[SetSelectedAnnotationFont method](#)

[SetSelectedAnnotationFontColor method](#)

[SetSelectedAnnotationLineColor method](#)

[SetSelectedAnnotationLineStyle method](#)

[SetSelectedAnnotationLineWidth method](#)

[ShowAnnotationGroup method](#)

Drawing an annotation using the standard [Annotation Tool Palette](#) sets the ImageModified property to True.

**See Also**

[Close event](#)

[Images](#)

[Save method](#)

[SaveAs method](#)

## ImagePalette Property

Returns or sets the palette to use when displaying an image.

### Applies To

Image Edit control

### Syntax

*object*.ImagePalette[=*value* ]

### Data Type

Integer (enumerated)

Property settings are expressed using the following values:

<u>Setting</u>	<u>Description</u>	<u>Notes</u>
0 (default)	Custom	Selects a custom palette
1	Common	Selects the common palette
2	Gray8	Selects the 8-bit gray-scale, 256 shades-of-gray palette
3	RGB24	Selects the 24-bit, millions-of-colors palette
4	Black-and-white	Selects the black-and-white palette

### Remarks

The ImagePalette value can be specified before or after an image is displayed. If the value is specified after an image is displayed, the displayed image may change visually.

When the **AutoRefresh** property is set to True, changing the ImagePalette property causes the displayed image to be refreshed automatically.

### See Also

[AutoRefresh property](#)

[Images](#)

[Palettes](#)

[SetImagePalette method](#)

## ImageResolutionX Property

Returns or sets the horizontal resolution of the image being displayed.

### Applies To

Image Edit control

### Syntax

*object*.**ImageResolutionX**[=*integer* ]

### Data Type

Long

### Remarks

When the **AutoRefresh** property is set to True, changing the ImageResolutionX property causes the displayed image to be refreshed automatically.

If an image is not being displayed, the ImageResolutionX property returns or sets the horizontal resolution of the image specified in the **Image** property.

If an image is not being displayed and the Image property does not contain the filename of an image, the ImageResolutionX property generates an error.

Available at run-time as read-and-write.

### See Also

[AutoRefresh property](#)

[Image property](#)

[ImageResolutionY property](#)

[Images](#)

## ImageResolutionY Property

Returns or sets the vertical resolution of the image being displayed.

### Applies To

Image Edit control

### Syntax

*object*.**ImageResolutionY**[=*integer* ]

### Data Type

Long

### Remarks

When the **AutoRefresh** property is set to True, changing the ImageResolutionY property causes the displayed image to be refreshed automatically.

If an image is not being displayed, the ImageResolutionY property returns or sets the vertical resolution of the image specified in the **Image** property.

If an image is not being displayed and the Image property does not contain the filename of an image, the ImageResolutionY property generates an error.

Available at run-time as read-and-write.

### See Also

[AutoRefresh property](#)

[Image property](#)

[ImageResolutionX property](#)

[Images](#)

## ImageScaleHeight Property

Returns the height in pixels of the image as it is displayed.

### Applies To

Image Edit control

### Syntax

*object*.ImageScaleHeight

### Data Type

OLE\_YSIZE\_PIXELS

### Remarks

The **Display** method must be invoked prior to using this property.

The ImageScaleHeight property differs from the **ImageHeight** property. The ImageHeight property returns the height in full-size coordinates, while the ImageScaleHeight property value is affected by the current zoom factor.

The ImageScaleHeight and ImageHeight properties also differ for images with asymmetric resolutions. For example, when an 8½- by 11-inch image with a resolution of 200 by 100 dots per inch (dpi) is displayed, the ImageHeight property returns a value of 1100, while the ImageScaleHeight property returns a value of 2200 due to pixel replication that occurs at display-time to optimize display quality.

Available at run-time as read-only.

### See Also

[Display method](#)

[Image property](#)

[ImageHeight property](#)

[ImageResolutionX property](#)

[ImageResolutionY property](#)

[Images](#)

[ImageScaleWidth property](#)

[Zoom property](#)

## ImageScaleWidth Property

Returns the width in pixels of the image as it is displayed.

### Applies To

Image Edit control

### Syntax

*object*.ImageScaleWidth

### Data Type

OLE\_XSIZE\_PIXELS

### Remarks

The **Display** method must be invoked prior to using this property.

The ImageScaleWidth property differs from the **ImageWidth** property. The ImageWidth property returns the width in full-size coordinates, while the ImageScaleWidth property value is affected by the current zoom factor.

The ImageScaleWidth and ImageWidth properties also differ for images with asymmetric resolutions. For example, when an 8½- by 11-inch image with a resolution of 100 by 200 dots per inch (dpi) is displayed, the ImageWidth property returns a value of 850, while the ImageScaleWidth property returns a value of 1700 due to pixel replication that occurs at display-time to optimize display quality.

Available at run-time as read-only.

### See Also

[Display method](#)

[Image property](#)

[ImageResolutionX property](#)

[ImageResolutionY property](#)

[Images](#)

[ImageScaleHeight property](#)

[ImageWidth property](#)

[Zoom property](#)

## **ImageWidth Property**

Returns the width in full-size coordinates of the image being displayed.

### **Applies To**

Image Edit control

### **Syntax**

*object*.**ImageWidth**

### **Data Type**

Long

### **Remarks**

If an image is not being displayed, the ImageWidth property returns the full-size width of the image specified in the **Image** property.

If an image is not being displayed and the Image property does not contain the filename of an image, the ImageWidth property generates an error.

Available at run-time as read-only.

### **See Also**

[Image property](#)

[ImageHeight property](#)

[Images](#)

[ImageScaleWidth property](#)



## **Mouselcon Property**

Returns or sets the mouse icon to be displayed when the mouse pointer is moved over an Image Edit control.

### **Applies To**

Image Edit control

### **Syntax**

*object*.**Mouselcon**=**LoadPicture**(*pathname*)

### **Data Type**

String

The *pathname* is a string expression specifying the path and filename of the file containing the custom icon (.CUR or .ICO files).

### **Remarks**

The Mouselcon property provides a custom icon that is used when the **MousePointer** property is set to 99.

### **See Also**

[MousePointer property](#)

## MousePointer Property

Returns or sets the type of mouse pointer to be displayed when the pointer is moved over an Image Edit control at run-time.

### Applies To

Image Edit control

### Syntax

*object*.**MousePointer**[=*integer*]

### Data Type

Integer (enumerated)

<b>Setting</b>	<b>Description</b>
0 (Default)	As determined by the value of the <b>AnnotationType</b> property
1	Arrow
2	Cross (cross-hair pointer)
3	I-Beam
4	Arrow
5	Size (four-pointed arrow pointing North, South, East, and West)
6	Size NE SW (double arrow pointing NorthEast and SouthWest)
7	Size N S (double arrow pointing North and South)
8	Size NW SE (double arrow pointing NorthWest and SouthEast)
9	Size W E (double arrow pointing West and East)
10	Up Arrow
11	Hourglass (wait)
12	No Drop
13	Arrow and Hourglass
14	Arrow and Question mark
15	Size All
16	Freehand Line
17	Hollow Rectangle
18	Filled Rectangle
19	Text Stamp
20	Text
21	Text From File
22	Attach-a-Note
23	Hand
24	Image Selection
99	Custom pointer specified by the <b>Mouselcon</b> property.

### Remarks

The MouseIcon property must be set prior to setting the MousePointer property to 99.

Use this property to indicate changes in functionality as the mouse pointer passes over controls on a form or dialog box. Use the Hourglass setting (11) to indicate that the end user should wait for a process or operation to finish.

**See Also**

[AnnotationType property](#)

[MouseIcon property](#)

## Page Property

Returns the page number of an image file where an action was performed, or sets the page number of an image file where an action is to be performed.

### Applies To

Image Edit control

### Syntax

*object*.**Page**[=*integer*]

### Data Type

Long

### Remarks

The default value for this property is 1. This property is typically used to specify the page to be displayed by the **Display** method.

### See Also

[Display method](#)

[Image Page](#)

[PageCount property](#)

## **PageCount Property**

Returns the total number of pages in the image file that is currently being displayed.

### **Applies To**

Image Edit control

### **Syntax**

*object*.**PageCount**

### **Data Type**

Long

### **Remarks**

If an image is not being displayed, the PageCount property returns the total number of pages in the image file specified in the **Image** property.

If an image is not being displayed and the Image property does not contain the filename of an image, the PageCount property generates an error.

Available at run-time as read-only.

### **See Also**

[Image Page](#)

[Image property](#)

[Page property](#)

## PageType Property

Returns the image type of the image specified in the **Image** property and the page specified in the **Page** property.

### Applies To

Image Edit control

### Syntax

*object*.**PageType**

### Data Type

Integer (enumerated)

Property settings are expressed using the following values:

<b>Setting</b>	<b>Description</b>
1	Black-and-white
2	Gray4
3	Gray8
4	Palettized4
5	Palettized8
6	RGB24
7	BGR24

### Remarks

The PageType property value is independent of an image being displayed. If the image page specified in the Page property is being displayed, the value is the image type of the displayed image. If the image page specified in the Image and Page properties is not being displayed, the value is the image type of the page specified in the Image and Page properties.

Available at run-time as read-only.

### See Also

[ConvertPageType method](#)

[Image Page](#)

[Page property](#)

[SaveAs method](#)

## ScrollBars Property

Returns or sets whether a displayed image contains horizontal and/or vertical scroll bars.

### Applies To

Image Edit control

### Syntax

*object*.**ScrollBars**[={True|False}]

### Data Type

Boolean

<u>Setting</u>	<u>Description</u>
True (default)	Horizontal and/or vertical scroll bars are displayed
False	No scroll bars are displayed

### Remarks

If this property is set to True, horizontal and/or vertical scroll bars are displayed only when the image extends beyond the object's borders.

If the image has scroll bars and the **ScrollShortcutsEnabled** property is set to True, accelerator keys are provided to permit the end user to scroll an image using the keyboard.

When the **AutoRefresh** property is set to True, changing the ScrollBars property causes the displayed image to be refreshed automatically.

### See Also

[AutoRefresh property](#)

[Images](#)

[Scroll event](#)

[ScrollImage method](#)

[ScrollShortcutsEnabled property](#)

[ScrollPositionX property](#)

[ScrollPositionY property](#)

## ScrollPositionX Property

Returns or sets the horizontal scroll position in pixels.

### Applies To

Image Edit control

### Syntax

*object*.**ScrollPositionX**[=*integer*]

### Data Type

Long

### Remarks

Setting the ScrollPositionX property causes the displayed image to scroll horizontally to the pixel position specified.

To set the scroll position prior to displaying an image, the ScrollPositionX and **ScrollPositionY** properties must be set in the **Load** event.

When the image is first displayed using the **Display** method, this property is set to 0 by default.

When the **AutoRefresh** property is set to True, changing the ScrollPositionX property causes the displayed image to be refreshed automatically.

Available at run-time as read-and-write.

### See Also

[AutoRefresh property](#)

[Display method](#)

[Images](#)

[Load event](#)

[Scroll event](#)

[ScrollBars property](#)

[ScrollImage method](#)

[ScrollPositionY property](#)



## ScrollPositionY Property

Returns or sets the vertical scroll position in pixels.

### Applies To

Image Edit control

### Syntax

*object*.**ScrollPositionY**[=*integer* ]

### Data Type

Long

### Remarks

Setting the ScrollPositionY property causes the displayed image to scroll vertically to the pixel position specified.

To set the scroll position prior to displaying an image, the **ScrollPositionX** and ScrollPositionY properties must be set in the **Load** event.

When the image is first displayed using the **Display** method, this property is set to 0 by default.

When the **AutoRefresh** property is set to True, changing the ScrollPositionY property causes the displayed image to be refreshed automatically.

Available at run-time as read-and-write.

### See Also

[AutoRefresh property](#)

[Display method](#)

[Images](#)

[Load event](#)

[Scroll event](#)

[ScrollBars property](#)

[ScrollImage method](#)

[ScrollPositionX property](#)

## ScrollShortcutsEnabled Property

Returns or sets whether the object recognizes a set of accelerator keys for scrolling a displayed image provided horizontal and/or vertical scroll bars are present.

### Applies To

Image Edit control

### Syntax

*object*.**ScrollShortcutsEnabled**[={True|False}]

### Data Type

Boolean

<u>Setting</u>	<u>Description</u>
True (default)	Accelerator keys can be used to scroll an image
False	Accelerator keys cannot be used

### Remarks

If this property and the **ScrollBars** property are set to True, and the image extends beyond the object's borders, the end user can use accelerator keys to scroll the displayed image.

Under certain circumstances, it may be necessary to set the focus to the Image Edit control for the accelerator keys to function.

The following accelerator keys provide scrolling capabilities:

<u>Accelerator Key</u>	<u>Description</u>
Page Down	Scrolls the image downward by one full screen
Page Up	Scrolls the image upward by one full screen
Ctrl + Page Down	Scrolls the image to the right by one full screen
Ctrl + Page Up	Scrolls the image to the left by one full screen
Right Arrow	Scrolls the image to the right by 4 pixels
Left Arrow	Scrolls the image to the left by 4 pixels
Up Arrow	Scrolls the image upward by 4 pixels
Down Arrow	Scrolls the image downward by 4 pixels

### See Also

[Images](#)

[Scroll event](#)

[ScrollBars property](#)

[ScrollImage method](#)

## SelectionRectangle Property

Indicates whether a selection box will be drawn when the end user clicks the left mouse button and drags the mouse pointer over a displayed image.

### Applies To

Image Edit control

### Syntax

*object*.**SelectionRectangle**[=*boolean*]

### Data Type

Boolean

<u>Setting</u>	<u>Description</u>
True (default)	Selection box drawing is enabled
False	Selection box drawing is not enabled

### Remarks

Once the end user draws a selection box, cutting and copying to the Clipboard can be accomplished.

### See Also

[ClipboardCopy method](#)

[ClipboardCut method](#)

[SelectionRectDrawn event](#)

[ZoomToSelection method](#)

## **StatusCode Property**

Returns a status code, which identifies the error that occurred when the last property was set or read, or the last method was invoked. A status code of 0 indicates that no error has occurred.

### **Applies To**

Image Admin control, Image Annotation Tool Button control, Image Edit control, Image Scan control, Image Thumbnail control

### **Syntax**

*object*.**StatusCode**

### **Data Type**

Long

### **Remarks**

The default value for this property is 0.  
Available at run-time as read-only.

## Zoom Property

Returns or sets the zoom factor for an image.

### Applies To

Image Edit control

### Syntax

*object*.**Zoom**[=*value*]

### Data Type

Single

### Remarks

The Zoom value is expressed as a percentage. The valid range is from 2 to 6500 percent; the default value is 100 percent.

When invoked, the **FitTo** and **ZoomToSelection** methods update the value of the Zoom property.

A Zoom value can be specified before or after an image is displayed. If the image currently specified in the **Image** property is being displayed when the Zoom value is changed, the displayed image may change visually.

When the **AutoRefresh** property is set to True, changing the Zoom property causes the displayed image to be refreshed automatically.

### See Also

[AutoRefresh property](#)

[Display](#)

[FitTo method](#)

[Image property](#)

[ZoomToSelection method](#)

## Methods (Image Edit control)

<a href="#"><u>AboutBox</u></a>	<a href="#"><u>GetAnnotationMarkCount</u></a>	<a href="#"><u>ScrollImage</u></a>
<a href="#"><u>AddAnnotationGroup</u></a>	<a href="#"><u>GetCurrentAnnotationGroup</u></a>	<a href="#"><u>SelectAnnotationGroup</u></a>
<a href="#"><u>BurnInAnnotations</u></a>	<a href="#"><u>GetSelectedAnnotationBackColor</u></a>	<a href="#"><u>SelectTool</u></a>
<a href="#"><u>ClearDisplay</u></a>	<a href="#"><u>GetSelectedAnnotationFillColor</u></a>	<a href="#"><u>SetCurrentAnnotationGroup</u></a>
<a href="#"><u>ClipboardCopy</u></a>	<a href="#"><u>GetSelectedAnnotationFillColor</u></a>	<a href="#"><u>SetImagePalette</u></a>
<a href="#"><u>ClipboardCut</u></a>	<a href="#"><u>GetSelectedAnnotationFont</u></a>	<a href="#"><u>SetSelectedAnnotationBackColor</u></a>
<a href="#"><u>ClipboardPaste</u></a>	<a href="#"><u>GetSelectedAnnotationFillColor</u></a>	<a href="#"><u>SetSelectedAnnotationFillColor</u></a>
<a href="#"><u>CompletePaste</u></a>	<a href="#"><u>GetSelectedAnnotationImage</u></a>	<a href="#"><u>SetSelectedAnnotationFillColor</u></a>
<a href="#"><u>ConvertPageType</u></a>	<a href="#"><u>GetSelectedAnnotationLineColor</u></a>	<a href="#"><u>SetSelectedAnnotationFont</u></a>
<a href="#"><u>DeleteAnnotationGroup</u></a>	<a href="#"><u>GetSelectedAnnotationLineStyle</u></a>	<a href="#"><u>SetSelectedAnnotationFontColor</u></a>
<a href="#"><u>DeleteImageData</u></a>	<a href="#"><u>GetSelectedAnnotationLineWidth</u></a>	<a href="#"><u>SetSelectedAnnotationLineColor</u></a>
<a href="#"><u>DeleteSelectedAnnotations</u></a>	<a href="#"><u>HideAnnotationGroup</u></a>	<a href="#"><u>SetSelectedAnnotationLineStyle</u></a>
<a href="#"><u>Display</u></a>	<a href="#"><u>HideAnnotationToolPalette</u></a>	<a href="#"><u>SetSelectedAnnotationLineWidth</u></a>
<a href="#"><u>DisplayBlankImage</u></a>	<a href="#"><u>IsClipboardDataAvailable</u></a>	<a href="#"><u>ShowAnnotationGroup</u></a>
<a href="#"><u>Draw</u></a>	<a href="#"><u>PrintImage</u></a>	<a href="#"><u>ShowAnnotationToolPalette</u></a>
<a href="#"><u>DrawSelectionRect</u></a>	<a href="#"><u>Refresh</u></a>	<a href="#"><u>ShowAttribsDialog</u></a>
<a href="#"><u>EditSelectedAnnotationText</u></a>	<a href="#"><u>RotateLeft</u></a>	<a href="#"><u>ShowRubberStampDialog</u></a>
<a href="#"><u>FitTo</u></a>	<a href="#"><u>RotateRight</u></a>	<a href="#"><u>ZoomToSelection</u></a>
<a href="#"><u>Flip</u></a>	<a href="#"><u>Save</u></a>	
<a href="#"><u>GetAnnotationGroup</u></a>	<a href="#"><u>SaveAs</u></a>	

### AboutBox Method

Displays an About dialog box that contains the version number of the control.

### Applies To

Image Admin control, Image Annotation Tool Button control, Image Edit control, Image Scan control, Image Thumbnail control

### Syntax

*object*.**AboutBox**

### Arguments

None

### Return Value

None

## AddAnnotationGroup Method

Adds a new annotation group to an image page.

### Applies To

Image Edit control

### Syntax

*object*.**AddAnnotationGroup** *GroupName*

### Argument

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
GroupName	String	The name of the new annotation group

### Return Value

None

### Remarks

The **Display** method must be invoked prior to calling this method.

The annotation group is not actually created until the first annotation mark is placed on the image.

### See Also

[Annotations](#)

[DeleteAnnotationGroup method](#)

[Display method](#)

[Images](#)

## BurnInAnnotations Method

Burns annotations onto an image, causing them to be permanently incorporated into the image. Use this method with caution because once annotations are burned-in, they can no longer be removed or modified.

### Applies To

Image Edit control

### Syntax

*object*.**BurnInAnnotations** *Option,MarkOption[,GroupName]*

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>	<u>Description</u>
Option	Integer (enumerated)	0	All annotations marks, invisible and visible, are saved to the base image
		1	All annotations that are visible are saved to the base image
		2	All annotations that are selected are saved to the base image
MarkOption (Refer to the Notes section following this list for more information.)	Integer (enumerated)	0	Changes annotations to black (on black-and-white images only)
		1	Changes annotations to white (on black-and-white images only)
		2	Default rendering -- Does not change the colors of annotations for non-bilevel images (for example, color and gray-scale images)
GroupName	String	Name	The name of the group that contains the annotations (if specified, the Option parameter is ignored)

### Notes Regarding the Use of the MarkOption Parameter

#### MarkOption Set to 0

For black-and-white image types, the BurnInAnnotations method with a MarkOption of 0 changes annotations to black.

#### MarkOption Set to 1

For black-and-white image types, the BurnInAnnotations method with a MarkOption of 1 changes annotations to white.

#### MarkOption Set to 2

For black-and-white image types, the BurnInAnnotations method with a MarkOption of 2 changes annotations to black, white, or black-and-white dither patterns based on the type of annotation



mark, its color, and its transparency setting. Refer to the following list:

<u>Annotation Type</u>	<u>MarkOption2 Burn-In Format</u>
Attach-a-Note	Burned-in as a black or white rectangle based on the original background color, with text burned-in as black or white based on the original color of the font. Light colors, like yellow, are burned-in as white; dark colors, like red, are burned-in as black. The underlying image data is obscured.
Freehand Line, Hollow Rectangle, Straight Line, Text, Text From File, and Text Stamp	Burned-in as black or white based on the original color of the annotation. Light colors, like yellow, are burned-in as white; dark colors, like red, are burned-in as black.
Filled Rectangle	Burned-in as black-and-white dithered rectangles. The underlying image data is obscured.
Highlighter	Burned-in as black-and-white transparent dithered rectangles. The underlying image data is visible.
Image Embedded and Image Reference	Burned-in as a black-and-white representation of the original image.

For all other image types, the `BurnInAnnotations` method with a `MarkOption` of 2 burns annotations onto the image using the displayed colors. Then it converts the image to a 24-bit color image (BGR24 or RGB24). Because 24-bit color images require a large amount of memory and disk space, use caution when selecting this option. To minimize the memory and disk space requirements of 24-bit color images, you can use the **SaveAs** method to save the 24-bit color images as 8-bit Palettized images.

To save color annotations on a black-and-white image, use the **ConvertPageType** method to convert the image to a page type other than black-and-white. Then invoke the `BurnInAnnotations` method with a `Mark Option` of 2; the `BurnInAnnotations` method burns the annotations onto the image in color.

### Return Value

None

### Remarks

After invoking the `BurnInAnnotations` method, the **Save** or `SaveAs` method must be invoked to save the combined image and annotation.

When a `GroupName` is specified, the `Option` parameter is ignored and all annotation marks in the specified `GroupName` are burned-in.

### See Also

[Annotations](#)

[ConvertPageType method](#)

[Display method](#)

[Images](#)

[Save method](#)

[SaveAs method](#)



## ClearDisplay Method

Clears a displayed image in the control.

### Applies To

Image Edit control

### Syntax

*object*.ClearDisplay

### Arguments

None

### Return Value

None

### Remarks

An image must be displayed before the ClearDisplay method can be invoked.

The ClearDisplay method does not save any changes that may have been made to an existing image, nor does it change the value of the **Image** property. It does, however, trigger the **Close** event.

### See Also

[Close event](#)

[Display](#)

[Image property](#)

## ClipboardCopy Method

Copies the selected or specified portion of an image or annotation to the Clipboard.

### Applies To

Image Edit control

### Syntax

*object*.**ClipboardCopy** [*Left,Top,Width,Height*]

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
Left	Long	The upper-left corner of the selection rectangle in pixel coordinates of the displayed image
Top	Long	The top of the selection rectangle in pixel coordinates of the displayed image
Width	Long	The width of the selection rectangle in pixels
Height	Long	The height of the selection rectangle in pixels

### Return Value

None

### Remarks

If the ClipboardCopy method is invoked without parameters after an end user draws a selection rectangle, the image data bounded by the selection rectangle is copied to the Clipboard.

If the ClipboardCopy method is invoked without parameters and without an end user drawing a selection rectangle, the ClipboardCopy method generates an error.

To copy annotations to the Clipboard, the end user selects the desired annotation marks using the Select Annotations tool.

To copy image data to the Clipboard, the end user selects the desired area using the image selection rectangle, which is the default when no annotation tool is selected.

It is not possible to copy both image and annotation data to the Clipboard simultaneously.

### See Also

[ClipboardCut method](#)

[ClipboardPaste method](#)

[Display](#)

[DrawSelectionRect method](#)

[SelectionRectangle property](#)

[SelectionRectDrawn event](#)

## ClipboardCut Method

Copies the selected or specified portion of an image or annotation to the Clipboard and then clears (cuts) the portion from the image or annotation.

### Applies To

Image Edit control

### Syntax

*object*.**ClipboardCut** [*Left,Top,Width,Height*]

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
Left	Long	The upper-left corner of the selection rectangle in pixel coordinates of the displayed image
Top	Long	The top of the selection rectangle in pixel coordinates of the displayed image
Width	Long	The width of the selection rectangle in pixels
Height	Long	The height of the selection rectangle in pixels

### Return Value

None

### Remarks

If the ClipboardCut method is invoked without parameters after an end user draws a selection rectangle, the image data bounded by the selection rectangle is copied to the Clipboard and cleared from the image.

If the ClipboardCut method is invoked without parameters and without an end user drawing a selection rectangle, the ClipboardCut method generates an error.

To cut annotations to the Clipboard, the end user selects the desired annotation marks using the Select Annotations tool.

To cut image data to the Clipboard, the end user selects the desired area using the image selection rectangle, which is the default when no annotation tool is selected.

It is not possible to cut both image and annotation data to the Clipboard simultaneously.

### See Also

[ClipboardCopy method](#)

[ClipboardPaste method](#)

[Display](#)

[DrawSelectionRect method](#)

[SelectionRectangle property](#)

[SelectionRectDrawn event](#)

## ClipboardPaste Method

Pastes image or annotation data from the Clipboard.

### Applies To

Image Edit control

### Syntax

*object*.**ClipboardPaste** [*Left,Top*]

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
Left	Long	The left point of the displayed image in pixels
Top	Long	The top point of the displayed image in pixels

### Return Value

None

### Remarks

To determine if data is available for pasting from the Clipboard, invoke the **IsClipboardDataAvailable** method.

If the Left and Top parameters are not entered, the data is pasted at the left-top point of the displayed image.

### See Also

[ClipboardCopy method](#)

[ClipboardCut method](#)

[CompletePaste method](#)

[Display](#)

[IsClipboardDataAvailable method](#)

[PasteCompleted event](#)

## CompletePaste Method

Completes a Clipboard paste operation, making the pasted image or annotation data part of the original image.

### Applies To

Image Edit control

### Syntax

*object*.**CompletePaste**

### Arguments

None

### Return Value

None

### Remarks

The **ClipboardPaste** method pastes image or annotation data from the Clipboard into the control. After the image or annotation data appears in the control, it can be moved at will and is therefore not part of the original image. To make the pasted image or annotation data part of the original image, the Clipboard paste operation must be completed. When invoked, the CompletePaste method completes a Clipboard paste operation.

A Clipboard paste operation can also be completed by an end user clicking on the form, outside of the pasted data.

### See Also

[ClipboardPaste method](#)

[PasteCompleted event](#)

## ConvertPageType Method

Converts a displayed image to the page type specified and optionally repaints the image.

### Applies To

Image Edit control

### Syntax

*object*.**ConvertPageType** *PageType*[,*Repaint*]

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
PageType	Integer (enumerated )	The desired <u>PageType</u> setting
Repaint	Boolean	True -- Image is repainted (default) False -- Image is not repainted

### Return Value

None

### Remarks

An image must be displayed before the ConvertPageType method can be invoked. If the Repaint parameter is not specified, True is entered as a default (the image is repainted). Invoking this method sets the **ImageModified** property to True.

To save the converted image, the **Save** or **SaveAs** method must be invoked.

An image cannot be converted to a PageType of Palettized4 unless it presently has a 4-bit palette.

### See Also

[ImageModified property](#)

[Images](#)

[PageType property](#)

[Save method](#)

[SaveAs method](#)



## DeleteAnnotationGroup Method

Deletes an annotation group as well as its annotation marks, and then redisplay the image.

### Applies To

Image Edit control

### Syntax

*object*.**DeleteAnnotationGroup** *GroupName*

### Argument

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
GroupName	String	The name of the annotation group to delete

### Return Value

None

### Remarks

The **Display** method must be invoked prior to calling this method.

To save the image without the annotation marks, the **Save** or **SaveAs** method must be invoked.

### See Also

[AddAnnotationGroup method](#)

[Annotations](#)

[DeleteSelectedAnnotations method](#)

[Display method](#)

[Save method](#)

[SaveAs method](#)

## DeletelImageData Method

Deletes a selected or specified portion of an image.

### Applies To

Image Edit control

### Syntax

*object*.DeletelImageData [*Left,Top,Width,Height*]

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
Left	Long	The upper-left corner of the selection rectangle in pixel coordinates of the displayed image
Top	Long	The top of the selection rectangle in pixel coordinates of the displayed image
Width	Long	The width of the selection rectangle in pixels
Height	Long	The height of the selection rectangle in pixels

### Return Value

None

### Remarks

If the DeletelImageData method is invoked without parameters after an end user draws a selection rectangle, the area bounded by the selection rectangle is deleted. This method does not delete annotation data.

If the DeletelImageData method is invoked without parameters and without an end user drawing a selection rectangle, the DeletelImageData method generates an error.

After invoking the DeletelImageData method, the **Save** or **SaveAs** method must be invoked to save the altered image.

### See Also

[DeleteSelectedAnnotations method](#)

[DrawSelectionRect method](#)

[Images](#)

[Save method](#)

[SaveAs method](#)

[SelectionRectangle property](#)

[SelectionRectDrawn event](#)

## DeleteSelectedAnnotations Method

Deletes selected annotations.

### Applies To

Image Edit control

### Syntax

*object*.DeleteSelectedAnnotations

### Arguments

None

### Return Value

None

### Remarks

To be deleted, annotations must first be selected using the Select Annotations tool. If no annotations are selected, the DeleteSelectedAnnotations method generates an error.

After invoking the DeleteSelectedAnnotations method, the **Save** or **SaveAs** method must be invoked to save the altered image.

Note that annotations can also be deleted by invoking the **DeleteAnnotationGroup** method.

### See Also

[Annotations](#)

[DeleteAnnotationGroup method](#)

[Save method](#)

[SaveAs method](#)

## Display Method

Displays the image specified in the **Image** property.

### Applies To

Image Edit control

### Syntax

*object*.**Display**

### Arguments

None

### Return Value

None

### Remarks

The Display method triggers a **Load** event before the actual image is displayed. End users can then hide or show any of the annotation groups before they are actually displayed, or set any other display-oriented properties (for example, Zoom, ScrollPosition, etc.). If an image is already displayed, this method triggers a **Close** event.

### See Also

[Close event](#)

[Display](#)

[Load event](#)

[Image property](#)

[ImageDisplayed property](#)

[Page property](#)

## DisplayBlankImage Method

Displays a blank image according to the dimensions specified.

### Applies To

Image Edit control

### Syntax

*object*.**DisplayBlankImage** *ImageWidth,ImageHeight[,ResolutionX,ResolutionY,PageType]*

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
ImageWidth	Long	The width of the image in pixels at full-scale (100 percent)
ImageHeight	Long	The height of the image in pixels at full-scale (100 percent)
ResolutionX	Long	The horizontal resolution of the image in dots per inch
ResolutionY	Long	The vertical resolution of the image in dots per inch
PageType	Integer (enumerated)	The desired <u>PageType</u> setting

### Return Value

None

### Remarks

When the DisplayBlankImage method is invoked with an image already displayed, it triggers a **Close** event. The displayed image file is closed without being saved, and the new image data is displayed. The value of the **Image** property remains unchanged.

If the ResolutionX parameter or the ResolutionY parameter is not entered, a value of 200 is used as a default. If the PageType parameter is not entered, the Black-and-White page type is used as a default.

### See Also

[Close event](#)

[Display](#)

## DrawSelectionRect Method

Draws a selection rectangle on an image.

### Applies To

Image Edit control

### Syntax

*object*.**DrawSelectionRect** *Left,Top,Width,Height*

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
Left	Long	The beginning horizontal position of the rectangle relative to the image window in pixels
Top	Long	The beginning vertical position of the rectangle relative to the image window in pixels
Width	Long	The width of the selection rectangle in pixels
Height	Long	The height of the selection rectangle in pixels

### Return Value

None

### Remarks

None

### See Also

[ClipboardCopy method](#)

[ClipboardCut method](#)

[DeleteImageData method](#)

[Images](#)

[SelectionRectangle property](#)

[SelectionRectDrawn event](#)

[ZoomToSelection method](#)

## EditSelectedAnnotationText Method

Displays a dialog box with the selected text annotation. The dialog box enables the end user to modify the text.

### Applies To

Image Edit control

### Syntax

*object*.**EditSelectedAnnotationText** *Left,Top*

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
Left	Long	The beginning horizontal position of the mark to be edited
Top	Long	The beginning vertical position of the mark to be edited

### Return Value

None

### Remarks

The left and top coordinates of the annotation to be edited can be obtained from the **MarkSelect** event.

After invoking the EditSelectedAnnotationText method, the **Save** or **SaveAs** method must be invoked to save the altered annotation.

### See Also

[Annotations](#)

[MarkSelect event](#)

[Save method](#)

[SaveAs method](#)

## FitTo Method

Scales the image relative to the image window.

### Applies To

Image Edit control

### Syntax

*object*.FitTo *Option*[,*Repaint*]

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>	<u>Description</u>
Option	Integer (enumerated)	0	Best fit -- Fits the image to the size of the window
		1	Fit to width -- Fits the image to the width of the
		2	window
		3	Fit to height -- Fits the image to the height of the
			window
			Inch to inch -- Maintains the relative size of the
			original image regardless of the resolution of the
			image
Repaint	Boolean	True	Image is repainted (default)
		False	Image is not repainted

### Return Value

None

### Remarks

The Inch to inch setting calculates the size of the image dependent upon the dots per inch reported by the display driver.

When invoked, the FitTo method updates the **Zoom** property with the new zoom factor.

The FitTo method can be invoked before or after an image is displayed. If an image is displayed when the method is invoked, and the Repaint parameter is set to True, the image is redisplayed using the Option setting specified.

### See Also

[Display](#)

[Zoom property](#)

[ZoomToSelection method](#)



## **Flip Method**

Rotates a displayed image by 180 degrees.

### **Applies To**

Image Edit control

### **Syntax**

*object*.**Flip**

### **Arguments**

None

### **Return Value**

None

### **Remarks**

The **Display** method must be invoked prior to calling this method.

Invoking the Flip method modifies the displayed image. The **Save** or **SaveAs** method must be invoked to save the modified image.

### **See Also**

[Display](#)

[Display method](#)

[RotateLeft method](#)

[RotateRight method](#)

[Save method](#)

[SaveAs method](#)

## GetAnnotationGroup Method

Returns the name of the annotation group based on the index specified.

### Applies To

Image Edit control

### Syntax

*object*.**GetAnnotationGroup**(*Index*)

### Argument

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
Index	Integer	The index value of the annotation group

### Return Value

String

### Remarks

The **Display** method must be invoked prior to calling this method.

Index is a 0-based value, where 0 is the first annotation group in the array, 1 is the second, 2 is the third, and so on. The upper bound value of the index can be obtained from the **AnnotationGroupCount** property.

The GetAnnotationGroup method is valid only at run-time.

### See Also

[AnnotationGroupCount property](#)

[Annotations](#)

[Display method](#)

[GetCurrentAnnotationGroup method](#)

[HideAnnotationGroup method](#)

[SelectAnnotationGroup method](#)

[SetCurrentAnnotationGroup method](#)

[ShowAnnotationGroup method](#)

## GetAnnotationMarkCount Method

Returns the number of annotation marks on an image page or in an annotation group.

### Applies To

Image Edit control

### Syntax

*object*.**GetAnnotationMarkCount**([GroupName,AnnotationType])

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
GroupName	String	The name of the annotation group
AnnotationType	Integer (enumerated )	The desired <u>AnnotationType</u> setting

### Return Value

Integer

### Remarks

The **Display** method must be invoked prior to calling this method.

If the GroupName and Annotation Type parameters are both entered, the GetAnnotationMarkCount method returns the number of annotation marks of the type specified that are in the annotation group specified.

If the GroupName parameter is entered, but the Annotation Type is not entered, the GetAnnotationMarkCount method returns the total number of annotation marks that are in the annotation group specified.

If the GroupName parameter is not entered, but the Annotation Type is entered, the GetAnnotationMarkCount method returns the number of annotation marks of the type specified that are in all of the annotation groups.

If no parameters are entered, the GetAnnotationMarkCount method returns the total number of annotation marks that are on the page.

The GetAnnotationMarkCount method is valid only at run-time.

### See Also

[AnnotationGroupCount property](#)

[Annotations](#)

[AnnotationType property](#)

[Display method](#)

## **GetCurrentAnnotationGroup Method**

Returns the name of the annotation group to which subsequent annotations will belong.

### **Applies To**

Image Edit control

### **Syntax**

*object*.**GetCurrentAnnotationGroup**

### **Arguments**

None

### **Return Value**

String

### **Remarks**

The GetCurrentAnnotationGroup method is valid only at run-time.

### **See Also**

[Annotations](#)

[BurnInAnnotations method](#)

[GetAnnotationGroup method](#)

[HideAnnotationGroup method](#)

[SetCurrentAnnotationGroup method](#)

[SelectAnnotationGroup method](#)

[ShowAnnotationGroup method](#)

## **GetSelectedAnnotationBackColor Method**

Returns the background color of a selected Attach-a-Note annotation.

### **Applies To**

Image Edit control

### **Syntax**

*object*.**GetSelectedAnnotationBackColor**

### **Arguments**

None

### **Return Value**

Color

### **Remarks**

The GetSelectedAnnotationBackColor method is valid only at run-time. It is used with annotations of the Attach-a-Note type.

Color is expressed using the Red-Green-Blue (R,G,B) format.

### **See Also**

[AnnotationBackColor property](#)

[Annotations](#)

[AnnotationType property](#)

[SetSelectedAnnotationBackColor method](#)

## **GetSelectedAnnotationFillColor Method**

Returns the color used to fill a selected Filled Rectangle annotation.

### **Applies To**

Image Edit control

### **Syntax**

*object*.**GetSelectedAnnotationFillColor**

### **Arguments**

None

### **Return Value**

Color

### **Remarks**

The GetSelectedAnnotationFillColor method is valid only at run-time. It is used with annotations of the Filled Rectangle type.

Color is expressed using the Red-Green-Blue (R,G,B) format.

### **See Also**

[AnnotationFillColor property](#)

[Annotations](#)

[AnnotationType property](#)

[SetSelectedAnnotationFillColor method](#)

## **GetSelectedAnnotationFillStyle Method**

Returns the style used to fill a selected image or Filled Rectangle annotation.

### **Applies To**

Image Edit control

### **Syntax**

*object*.**GetSelectedAnnotationFillStyle**

### **Arguments**

None

### **Return Value**

Integer (enumerated)

<u>Value</u>	<u>Description</u>
0	Transparent
1	Opaque

### **Remarks**

The GetSelectedAnnotationFillStyle method is valid only at run-time. It is used with annotations of the following types:

Filled Rectangle

Image Embedded

Image Reference

### **See Also**

[AnnotationFillStyle property](#)

[Annotations](#)

[AnnotationType property](#)

[SetSelectedAnnotationFillStyle method](#)

## **GetSelectedAnnotationFont Method**

Returns a font object's properties. Applies to selected text annotations.

### **Applies To**

Image Edit control

### **Syntax**

*object*.**GetSelectedAnnotationFont**

### **Arguments**

None

### **Return Value**

Font object

### **Remarks**

For example, the following code returns the properties of the font object identified by the GetSelectedAnnotationFont method of an Image Edit object:

```
Dim x As Font  
Set x = Imgedit1.GetSelectedAnnotationFont  
CommonDialog1.FontBold = x.Bold  
CommonDialog1.FontItalic = x.Italic  
CommonDialog1.FontName = x.Name  
CommonDialog1.FontSize = x.SIZE  
CommonDialog1.FontUnderline = x.Underline  
CommonDialog1.Font Strikethru = x.StrikeThrough  
CommonDialog1.Flags = &H103&  
CommonDialog1.ShowFont
```

The GetSelectedAnnotationFont method is valid only at run-time. It is used with annotations of the following types:

Text

Attach-a-Note

Text From File

Text Stamp

### **See Also**

[AnnotationFont property](#)

[Annotations](#)

[AnnotationType property](#)

[SetSelectedAnnotationFont method](#)



## **GetSelectedAnnotationFontColor Method**

Returns the color used in a selected text annotation.

### **Applies To**

Image Edit control

### **Syntax**

*object*.**GetSelectedAnnotationFontColor**

### **Arguments**

None

### **Return Value**

Color

### **Remarks**

The GetSelectedAnnotationFontColor method is valid only at run-time. It is used with annotations of the following types:

Text

Attach-a-Note

Text From File

Text Stamp

Color is expressed using the Red-Green-Blue (R,G,B) format.

### **See Also**

[AnnotationFontColor property](#)

[Annotations](#)

[AnnotationType property](#)

[SetSelectedAnnotationFontColor method](#)

## **GetSelectedAnnotationImage Method**

Returns the fully-qualified filename of the image that is being used in a selected image annotation.

### **Applies To**

Image Edit control

### **Syntax**

*object*.**GetSelectedAnnotationImage**

### **Arguments**

None

### **Return Value**

String

### **Remarks**

The GetSelectedAnnotationImage method is valid only at run-time. It is used with annotations of the following types:

Image Embedded

Image Reference

### **See Also**

[AnnotationImage property](#)

[Annotations](#)

[AnnotationType property](#)

[Images](#)

## **GetSelectedAnnotationLineColor Method**

Returns the line color used in a selected line or Hollow Rectangle annotation.

### **Applies To**

Image Edit control

### **Syntax**

*object*.**GetSelectedAnnotationLineColor**

### **Arguments**

None

### **Return Value**

Color

### **Remarks**

The GetSelectedAnnotationLineColor method is valid only at run-time. It is used with annotations of the following types:

Freehand Line

Hollow Rectangle

Straight Line

Color is expressed using the Red-Green-Blue (R,G,B) format.

### **See Also**

[AnnotationLineColor property](#)

[Annotations](#)

[AnnotationType property](#)

[SetSelectedAnnotationLineColor method](#)

## GetSelectedAnnotationLineStyle Method

Returns the line style used in a selected line or Hollow Rectangle annotation.

### Applies To

Image Edit control

### Syntax

*object*.GetSelectedAnnotationLineStyle

### Arguments

None

### Return Value

Integer (enumerated)

<u>Value</u>	<u>Description</u>
0	Transparent
1	Opaque

### Remarks

The GetSelectedAnnotationLineStyle method is valid only at run-time. It is used with annotations of the following types:

Freehand Line

Hollow Rectangle

Straight Line

### See Also

[AnnotationLineStyle property](#)

[Annotations](#)

[AnnotationType property](#)

[SetSelectedAnnotationLineStyle method](#)

## **GetSelectedAnnotationLineWidth Method**

Returns the line width in pixels used in a selected line or Hollow Rectangle annotation.

### **Applies To**

Image Edit control

### **Syntax**

*object*.**GetSelectedAnnotationLineWidth**

### **Arguments**

None

### **Return Value**

Integer

### **Remarks**

The GetSelectedAnnotationLineWidth method is valid only at run-time. It is used with annotations of the following types:

Freehand Line

Hollow Rectangle

Straight Line

### **See Also**

[AnnotationLineWidth property](#)

[Annotations](#)

[AnnotationType property](#)

[SetSelectedAnnotationLineWidth method](#)

## HideAnnotationGroup Method

Hides an annotation group.

### Applies To

Image Edit control

### Syntax

*object*.**HideAnnotationGroup** [*GroupName*]

### Argument

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
GroupName	String	The name of the annotation group to hide

### Return Value

None

### Remarks

The **Display** method must be invoked prior to calling this method.

If the GroupName parameter is not specified, the HideAnnotationGroup method hides all annotation groups.

### See Also

[Annotations](#)

[Display method](#)

[GetAnnotationGroup method](#)

[GetCurrentAnnotationGroup method](#)

[SetCurrentAnnotationGroup method](#)

[ShowAnnotationGroup method](#)

## **HideAnnotationToolPalette Method**

Hides the [Annotation Tool Palette](#).

### **Applies To**

Image Edit control

### **Syntax**

*object*.**HideAnnotationToolPalette**

### **Arguments**

None

### **Return Value**

None

### **Remarks**

The **ShowAnnotationToolPalette** method must be invoked prior to calling this method.

### **See Also**

[Annotations](#)

[ShowAnnotationToolPalette method](#)

[ToolPaletteHidden event](#)

## IsClipboardDataAvailable Method

Determines whether image or annotation data is present in the Clipboard.

### Applies To

Image Edit control

### Syntax

*object*.IsClipboardDataAvailable

### Arguments

None

### Return Value

Boolean

<u>Value</u>	<u>Description</u>
True	Image or annotation data is in the clipboard
False	Image or annotation data is not in the clipboard

### Remarks

Use the IsClipboardDataAvailable method to determine whether the **ClipboardPaste** method can be invoked.

### See Also

[Annotations](#)

[ClipboardCopy method](#)

[ClipboardCut method](#)

[ClipboardPaste method](#)

[Images](#)



## PrintImage Method

Prints the image being displayed.

### Applies To

Image Edit control

### Syntax

*object*.**PrintImage** [*StartPage,EndPage,OutputFormat,Annotations,Printer,Driver,PortNumber*]

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
StartPage	Long	The starting page in a range of pages to be printed
EndPage	Long	The ending page in a range of pages to be printed
OutputFormat	Integer (enumerated )	The output format to be used: 0 -- Pixel to pixel 1 -- Inch to inch 2 -- Fit to page
Annotations	Boolean	Whether annotations will be printed with the image:  True -- Annotations will be printed False -- Annotations will not be printed
Printer	String	The name of the printer
Driver	String	The name of the printer driver
PortNumber	String	The name of the output port

### Return Value

None

### Remarks

If an image is displayed when the PrintImage method is invoked, the image is printed as it appears, including any changes made.

If an image is not being displayed, the PrintImage method prints the image specified in the **Image** property. If an image is not being displayed and the Image property does not contain the filename of an image, the PrintImage method generates an error.

If the StartPage and EndPage parameters are not entered, this method prints all pages by default.

If the Annotations parameter is not specified, all annotations are printed by default.

### See Also

[Image property](#)

[Images](#)

## Refresh Method

Repaints the contents of the Image Edit control.

### Applies To

Image Edit control

### Syntax

*object*.Refresh

### Arguments

None

### Return Value

None

### Remarks

The **Display** method must be invoked prior to calling this method.

### See Also

[Display method](#)

[DisplayScaleAlgorithm property](#)

[ImagePalette property](#)

[ImageResolutionX property](#)

[ImageResolutionY property](#)

[ScrollBars property](#)

[ScrollPositionX property](#)

[ScrollPositionY property](#)

[Zoom property](#)

## **RotateLeft Method**

Rotates the displayed image 90 degrees to the left.

### **Applies To**

Image Edit control

### **Syntax**

*object*.**RotateLeft**

### **Arguments**

None

### **Return Value**

None

### **Remarks**

The **Display** method must be invoked prior to calling this method.

Invoking the RotateLeft method modifies the displayed image. The **Save** or **SaveAs** method must be invoked to save the modified image.

### **See Also**

[Display](#)

[Display method](#)

[Flip method](#)

[RotateRight method](#)

[Save method](#)

[SaveAs method](#)

## **RotateRight Method**

Rotates the displayed image 90 degrees to the right.

### **Applies To**

Image Edit control

### **Syntax**

*object*.**RotateRight**

### **Arguments**

None

### **Return Value**

None

### **Remarks**

The **Display** method must be invoked prior to calling this method.

Invoking the RotateRight method modifies the displayed image. The **Save** or **SaveAs** method must be invoked to save the modified image.

### **See Also**

[Display](#)

[Display method](#)

[Flip method](#)

[RotateLeft method](#)

[Save method](#)

[SaveAs method](#)

## Save Method

Saves the displayed image (page) to the original path and file.

### Applies To

Image Edit control

### Syntax

*object*.**Save** [*SaveAtZoom*]

### Argument

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
SaveAtZoom	Boolean	Whether the image is saved using the current or original scale percentage value:  True -- The image is saved using the current scale percentage value, as specified in the Zoom property False -- The image is saved using the original scale percentage value (Zoom value of 100 percent)

### Return Value

None

### Remarks

The **Display** method must be invoked prior to calling this method.

For the TIFF file type, annotations are saved as annotation data. For all other file types, annotations are lost unless the **BurnInAnnotations** method was invoked prior to calling the Save method. The BurnInAnnotations method burns annotations onto an image, causing them to be permanently incorporated into the image.

The Save method saves the image to the same file from which it was opened. The saved image remains in the display window at its original resolution.

If the SaveAtZoom parameter is not specified, the image is saved using the original zoom scale percentage value.

### See Also

[Annotations](#)

[BurnInAnnotations method](#)

[Close event](#)

[Display](#)

[Display method](#)

[ImageModified property](#)

[Images](#)

[SaveAs method](#)

[Zoom property](#)

## SaveAs Method

Saves the displayed image using the filename specified.

### Applies To

Image Edit control

### Syntax

*object*.**SaveAs** *Image[,FileType,PageType,CompressionType,CompressionInfo,SaveAtZoom]*

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
Image	String	The name of the image file being saved
FileType	Integer (enumerated )	The <u>FileType</u> the image is being saved as
PageType	Integer (enumerated )	The <u>PageType</u> the image is being saved as
CompressionType	Integer (enumerated )	The <u>CompressionType</u> at which the image is being saved
CompressionInfo	Integer (enumerated )	The <u>CompressionInfo</u> setting of the image being saved
SaveAtZoom	Boolean	Whether the image is being saved using the current or original scale percentage value:  True -- The image is being saved using the current scale percentage value False -- The image is being saved using the original scale percentage value

### Return Value

None

### Remarks

The **Display** method must be invoked prior to calling this method.

The **SaveAs** method saves the image using the filename specified in the **Image** parameter. If the file already exists, it is overwritten.

Upon successful completion of the **SaveAs** method, the image display window continues to display the original image; the **Image** property value remains unchanged. Continuing to display the original image ensures that the image on display is the same as the image specified in the **Image** property. For example, assume the currently displayed image is **payroll.tif** and the value of the **Image** property is also **payroll.tif**. When the **SaveAs** method is invoked with its **Image** parameter set to **payroll96.tif**, the image is saved as **payroll96.tif**. The image display window continues to display **payroll.tif**, and the **Image** property value remains unchanged at **payroll.tif**.

If a multipage image file (AWD, DCX, TIFF, or XIF) is saved as a file type that does not support multipage image files (for example, BMP), only the page currently being displayed is saved to the new file.

For the TIFF file type, annotations are saved as annotation data. For all other file types, annotations are lost unless the **BurnInAnnotations** method is invoked prior to calling the SaveAs method. The BurnInAnnotations method burns annotations onto an image, causing them to be permanently incorporated into the image.

If the FileType parameter is not entered, the SaveAs method uses the original FileType setting of the image as a default. If the original FileType setting cannot be determined or is read-only, the method saves the image as a TIFF file. (For example, the SaveAs method saves a XIF file as a TIFF file.)

If the PageType and FileType parameters are not entered, the SaveAs method uses the original PageType setting of the image as a default. However, if a FileType is entered, the SaveAs method uses a PageType default setting that is associated with the FileType setting of the image. The following list describes the default PageType settings:

<b>FileType Setting</b>	<b>Default PageType Setting</b>
1 -- TIFF	PageType setting of the displayed image
3 -- BMP	PageType setting of the displayed image

If the CompressionType parameter is Group3(2D), the SaveAs method saves the image using the Group4(2D) compression type. If the CompressionType parameter is LZW, the SaveAs method saves the image using no compression.

If the CompressionType parameter is not entered, the SaveAs method uses a default CompressionType setting that is associated with the FileType and PageType settings of the image. The following list describes the default CompressionType settings:

<b>FileType Setting</b>	<b>PageType Setting</b>	<b>Default CompressionType Setting</b>
3 -- BMP	1,5,7 -- All supported PageTypes	1 -- No compression
1 -- TIFF	1 -- Black-and-white	2 -- Group3(1D)
1 -- TIFF	2 -- Gray4	1 -- No compression
1 -- TIFF	3 -- Gray8	6 -- JPEG
1 -- TIFF	4 -- Palettized4	1 -- No compression
1 -- TIFF	5 -- Palettized8	1 -- No compression
1 -- TIFF	6 -- RGB24	6 -- JPEG

**Note:** To use a PageType setting of 4 (Palettized4), the displayed image must already be a Palettized4 image.

If the CompressionInfo parameter is not entered, the SaveAs method uses a default CompressionInfo setting that is associated with the CompressionType setting of the image. The following list describes the default CompressionInfo settings:

<b>CompressionType Setting</b>	<b>CompressionInfo Default Setting</b>
1 -- No compression	0 -- No compression
2 -- Group3(1D)	8 -- Compressed LTR, 16 -- Expand LTR, 1 -- EOL, and 4 -- Prefixed EOL
3 -- Group3(Modified Huffman)	8 -- Compressed LTR and 16 -- Expand LTR
4 -- PackBits	16 -- Expand LTR
5 -- Group4(2D)	2 -- Packed Lines,

8 -- Compressed LTR, and  
16 -- Expand LTR

6 -- JPEG

1024 -- Medium Compression/Medium Quality

When a CompressionInfo value of 0 is entered with the CompressionType parameter set to 1 (no compression), the file is saved using no compression.

When a CompressionInfo value of 0 is entered with the CompressionType parameter set to a value other than 1, the file is saved using the default CompressionInfo parameter settings that correspond to the setting of the CompressionType parameter (as explained in the preceding list).

For example, if the end user specifies a CompressionType value of 1 (no compression) and then a CompressionInfo value of 0, the file is saved using no compression. If the end user specifies a CompressionType value of 2 (Group3[1D]) and then a CompressionInfo value of 0, the file is saved using the default CompressionInfo values for Group3(1D):

8 -- Compressed LTR,  
16 -- Expand LTR,  
1 -- EOL, and  
4 -- Prefixed EOL

If the SaveAtZoom parameter is not specified, the image is saved using the original zoom scale percentage value.

### **See Also**

[BurnInAnnotations method](#)

[Compression](#)

[CompressionInfo property](#)

[CompressionType property](#)

[Close event](#)

[Display](#)

[Display method](#)

[FileType property](#)

[Image property](#)

[ImageModified property](#)

[Images](#)

[PageType property](#)

[Save method](#)



## ScrollImage Method

Scrolls a displayed image.

### Applies To

Image Edit control

### Syntax

*object*.**ScrollImage** *Direction,ScrollAmount*

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
Direction	Integer (enumerated)	The direction in which to scroll the image:  0 -- Down 1 -- Up 2 -- Right 3 -- Left
ScrollAmount	Long	The number of pixels to scroll the image

### Return Value

None

### Remarks

The **Display** method must be invoked prior to calling this method.

### See Also

[Display method](#)

[Images](#)

[Scroll event](#)

[ScrollBars property](#)

[ScrollPositionX property](#)

[ScrollPositionY property](#)

[ScrollShortcutsEnabled property](#)

## SelectAnnotationGroup Method

Selects all annotation marks within a specific group on the image page.

### Applies To

Image Edit control

### Syntax

*object*.**SelectAnnotationGroup** *GroupName*

### Argument

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
GroupName	String	The name of the annotation group to select

### Return Value

None

### Remarks

The **Display** method must be invoked prior to calling this method.

### See Also

[AddAnnotationGroup method](#)

[Annotations](#)

[Display method](#)

[GetAnnotationGroup method](#)

[GetCurrentAnnotationGroup method](#)

[MarkSelect event](#)

[SetCurrentAnnotationGroup method](#)

[ShowAnnotationGroup method](#)

## SelectTool Method

Selects an annotation tool from the [Annotation Tool Palette](#).

### Applies To

Image Edit control

### Syntax

*object*.**SelectTool** *ToolID*

### Argument

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>	<u>Description</u>
ToolID	Integer (enumerated)	0	No Tool
		1	Selection
		2	Freehand Line
		3	Highlighter
		4	Straight Line
		5	Hollow Rectangle
		6	Filled Rectangle
		7	Text
		8	Attach-a-Note
		9	Text From File
10	Text Stamp		

### Return Value

None

### Remarks

The Highlighter annotation type is composed of a Filled Rectangle annotation type with a transparent fill style.

When a tool is selected from the tool palette, the previous tool is deselected automatically.

The Annotation Tool Palette does not have to be visible to use this method.

### See Also

[Annotations](#)

[ShowAnnotationToolPalette method](#)

[ToolSelected event](#)

## SetCurrentAnnotationGroup Method

Sets the annotation group to which subsequent annotations will belong.

### Applies To

Image Edit control

### Syntax

*object*.**SetCurrentAnnotationGroup** *GroupName*

### Argument

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
GroupName	String	The name of the annotation group

### Return Value

None

### Remarks

The SetCurrentAnnotationGroup method is valid only at run-time.

The names of the groups can be obtained from the **GetAnnotationGroup** method.

A new group can be created using the **AddAnnotationGroup** method.

### See Also

[AddAnnotationGroup method](#)

[Annotations](#)

[BurnInAnnotations method](#)

[GetAnnotationGroup method](#)

[GetCurrentAnnotationGroup method](#)

## SetImagePalette Method

Sets the palette to be used for the image currently being displayed, or an image to be displayed.

### Applies To

Image Edit control

### Syntax

*object*.**SetImagePalette** *Option*

### Argument

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>	<u>Description</u>
Option	Integer	0	Foreground
	(enumerated)	1	Background

### Return Value

None

### Remarks

Images are displayed using the foreground palette by default. When the default foreground palette is used, it is loaded into the Windows palette, which can cause other images or other color-aware objects to become distorted. Setting the SetImagePalette Option value to 1 (Background) sets the existing palette, which has already been loaded by Windows.

### See Also

[ImagePalette property](#)

[Images](#)

[Palettes](#)

## SetSelectedAnnotationBackColor Method

Sets the background color of a selected Attach-a-Note annotation.

### Applies To

Image Edit control

### Syntax

*object*.**SetSelectedAnnotationBackColor** *Color*

### Argument

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
Color	Color	The desired Attach-a-Note color

### Return Value

None

### Remarks

The SetSelectedAnnotationBackColor method is used with annotations of the Attach-a-Note type. Use the [RGB format](#). To ensure that the text in an Attach-a-Note annotation will be visible against the background, specify a background color that is significantly different from the font color set using the **SetSelectedAnnotationFontColor** method.

### See Also

[AnnotationBackColor property](#)

[AnnotationType property](#)

[Annotations](#)

[GetSelectedAnnotationBackColor method](#)

[SetSelectedAnnotationFontColor method](#)

## SetSelectedAnnotationFillColor Method

Sets the color used to fill a selected Filled Rectangle annotation.

### Applies To

Image Edit control

### Syntax

*object*.**SetSelectedAnnotationFillColor** *Color*

### Argument

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
Color	Color	The desired Filled Rectangle color

### Return Value

None

### Remarks

The SetSelectedAnnotationFillColor method is used with annotations of the Filled Rectangle annotation type.

Use the [RGB format](#).

### See Also

[AnnotationFillColor property](#)

[Annotations](#)

[AnnotationType property](#)

[GetSelectedAnnotationFillColor method](#)

[SetSelectedAnnotationFontColor method](#)

## SetSelectedAnnotationFillStyle Method

Sets the style used to fill a selected image or Filled Rectangle annotation.

### Applies To

Image Edit control

### Syntax

*object*.SetSelectedAnnotationFillStyle *Style*

### Argument

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>	<u>Description</u>
Style	Integer (enumerated )	0 1	Transparent -- The underlying image data is visible Opaque -- The underlying image data is obscured

### Return Value

None

### Remarks

The SetSelectedAnnotationFillStyle method is used with annotations of the following types:

Filled Rectangle

Image Embedded

Image Reference

### See Also

[AnnotationFillStyle property](#)

[Annotations](#)

[AnnotationType property](#)

[GetSelectedAnnotationFillStyle method](#)



## SetSelectedAnnotationFont Method

Sets a font object's properties. Applies to selected text annotations.

### Applies To

Image Edit control

### Syntax

*object*.**SetSelectedAnnotationFont** *Font*

### Argument

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
Font	Font object	The properties of the font object

### Return Value

None

### Remarks

Use the SetSelectedAnnotationFont method to identify the specific font object whose properties you want to set. The following list shows the properties you can set, along with their data types, descriptions, and defaults:

<u>Property</u>	<u>Data Type</u>	<u>Description</u>	<u>Default</u>
Bold	Boolean	True -- Selects bold attribute False -- Deselects bold attribute	False
Italic	Boolean	True -- Selects italic attribute False -- Deselects italic attribute	False
Name	String	The desired font name	MS San Serif
Size	Single	The desired font size in points (0 to 2048)	12
Underline	Boolean	True -- Selects <u>underline</u> attribute False -- Deselects underline attribute	False
StrikeThrough	Boolean	True -- Selects <del>strikethrough</del> attribute False -- Deselects strikethrough attribute	False

For example, the following code sets the properties of the font object identified by the SetSelectedAnnotationFont method of an Image Edit object:

```
Dim x As Font  
Set x = Form1.Font  
x.Bold = True  
x.Italic = True  
x.Name = "Courier New"  
x.SIZE = 14  
x.Underline = True  
x.StrikeThrough = True  
Imgedit1.SetSelectedAnnotationFont x
```

The SetSelectedAnnotationFont method is used with annotations of the following types:

Text

Attach-a-Note

Text From File

Text Stamp

### See Also

AnnotationFont property

Annotations

AnnotationType property

GetSelectedAnnotationFont method

## SetSelectedAnnotationFontColor Method

Sets the font color used in a selected text annotation.

### Applies To

Image Edit control

### Syntax

*object*.**SetSelectedAnnotationFontColor** *Color*

### Argument

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
Color	Color	The desired font color

### Return Value

None

### Remarks

The SetSelectedAnnotationFontColor method is used with annotations of the following types:

Text

Attach-a-Note

Text From File

Text Stamp

Use the [RGB format](#). To ensure that the text in an Attach-a-Note annotation will be visible against the background, specify a font color that is significantly different from the background color set using the **SetSelectedAnnotationBackColor** method.

### See Also

[AnnotationFontColor property](#)

[Annotations](#)

[AnnotationType property](#)

[GetSelectedAnnotationFontColor method](#)

[SetSelectedAnnotationBackColor method](#)

[SetSelectedAnnotationFillColor method](#)

## SetSelectedAnnotationLineColor Method

Sets the line color used in a selected line or Hollow Rectangle annotation.

### Applies To

Image Edit control

### Syntax

*object*.**SetSelectedAnnotationLineColor** *Color*

### Argument

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
Color	Color	The desired line color

### Return Value

None

### Remarks

The SetSelectedAnnotationLineColor method is used with annotations of the following types:

Freehand Line

Hollow Rectangle

Straight Line

Use the [RGB format](#).

### See Also

[AnnotationLineColor property](#)

[Annotations](#)

[AnnotationType property](#)

[GetSelectedAnnotationLineColor method](#)

## SetSelectedAnnotationLineStyle Method

Sets the line style used in a selected line or Hollow Rectangle annotation.

### Applies To

Image Edit control

### Syntax

*object*.**SetSelectedAnnotationLineStyle** *Style*

### Argument

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>	<u>Description</u>
Style	Integer (enumerated )	0 1	Transparent -- The underlying image data is visible Opaque -- The underlying image data is obscured

### Return Value

None

### Remarks

The SetSelectedAnnotationLineStyle method is used with annotations of the following types:

Freehand Line

Hollow Rectangle

Straight Line

### See Also

[AnnotationLineStyle property](#)

[Annotations](#)

[AnnotationType property](#)

[GetSelectedAnnotationLineStyle method](#)

## SetSelectedAnnotationLineWidth Method

Sets the line width used in a selected line or Hollow Rectangle annotation.

### Applies To

Image Edit control

### Syntax

*object*.**SetSelectedAnnotationLineWidth** *Width*

### Argument

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
Width	Integer	The desired line width in pixels

### Return Value

None

### Remarks

The SetSelectedAnnotationLineWidth method is used with annotations of the following types:

Freehand Line

Hollow Rectangle

Straight Line

### See Also

[AnnotationLineWidth property](#)

[Annotations](#)

[AnnotationType property](#)

[GetSelectedAnnotationLineWidth method](#)

## ShowAnnotationGroup Method

Shows the specified annotation group.

### Applies To

Image Edit control

### Syntax

*object*.**ShowAnnotationGroup** [*GroupName*]

### Argument

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
GroupName	String	The name of the desired annotation group

### Return Value

None

### Remarks

The **Display** method must be invoked prior to calling this method.

If the GroupName parameter is not entered, the ShowAnnotationGroup method shows all annotation groups.

### See Also

[Annotations](#)

[Display method](#)

[GetAnnotationGroup method](#)

[GetCurrentAnnotationGroup method](#)

[HideAnnotationGroup method](#)

[SelectAnnotationGroup method](#)

## ShowAnnotationToolPalette Method

Shows the Annotation Tool Palette, which enables end users to edit images displayed in this control.

### Applies To

Image Edit control

### Syntax

*object*.**ShowAnnotationToolPalette** [*ShowAttributesDialog,Left,Top,ToolTipText*]

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
ShowAttributesDialog	Boolean	Whether the Annotation Attributes dialog box is invoked:  True -- When the end user clicks on a tool palette button using the right mouse button and selects properties from a pop-up menu, the Annotation Attributes dialog box appears. When the end user clicks on the Rubber Stamp tool button, a pop-up menu appears that contains a list of previously defined stamps.  False -- The Annotation Attributes dialog box cannot be invoked.
Left	Long	The horizontal position of the Annotation Tool Palette in pixels, relative to the upper-left corner of the Image Edit control.
Top	Long	The vertical position of the Annotation Tool Palette in pixels, relative to the upper-left corner of the Image Edit control.
ToolTipText	String	Contains the tool tip text used for each Annotation Tool Palette button. Ten strings are required; use the vertical bar ( ) character to separate each string. If not specified, default strings are provided.

### Return Value

None

### Remarks

The ShowAnnotationToolPalette method can be invoked only once per control.

If the ShowAttributesDialog parameter is not entered, it is set to True by default.

If the Left and Top parameters are not entered, the Annotation Tool Palette is displayed at Position 10,10 relative to the Image Edit control.

ToolTip strings are displayed by default only as long as the tool palette control has focus. It is the responsibility of the calling application to insure that the control gets focus in the appropriate situations, either through explicit or implicit means.

To draw annotations using the Annotation Tool Palette, an annotation tool must be selected. This can be accomplished by the end user clicking on a button on the tool palette, or by invoking the **SelectTool** method. The annotation mark can then be drawn manually by the end user, or programatically by calling the **Draw** method. Changing the **AnnotationType** property with the Annotation Tool Palette displayed will not achieve the desired results.



**See Also**

[Annotations](#)

[Display method](#)

[Draw method](#)

[HideAnnotationToolPalette method](#)

[SelectTool method](#)

[ShowAttribsDialog method](#)

[ToolSelected event](#)

[ToolTip event](#)

## **ShowAttribsDialog Method**

Shows an Annotation Attributes dialog box, which the end user can use to change the attributes of the selected annotation mark.

### **Applies To**

Image Edit control

### **Syntax**

*object*.**ShowAttribsDialog**

### **Arguments**

None

### **Return Value**

None

### **Remarks**

An annotation must be selected before invoking the ShowAttribsDialog method.

### **See Also**

[Annotations](#)

[SelectAnnotationGroup method](#)

[SelectTool method](#)

## **ShowRubberStampDialog Method**

Can be used in conjunction with the Annotation Tool Palette to show the Rubber Stamp Properties dialog box to allow the end user to create, delete, and edit Rubber Stamps.

### **Applies To**

Image Edit control

### **Syntax**

*object*.**ShowRubberStampDialog**

### **Arguments**

None

### **Return Value**

None

### **Remarks**

None

### **See Also**

[Annotations](#)

[SelectTool method](#)

[ShowAnnotationToolPalette method](#)

## **ZoomToSelection Method**

Scales a selected portion of a displayed image so that it fits into the size of the control.

### **Applies To**

Image Edit control

### **Syntax**

*object*.**ZoomToSelection**

### **Arguments**

None

### **Return Value**

None

### **Remarks**

A selection rectangle must be drawn on the image prior to calling the ZoomToSelection method.

The ZoomToSelection method updates the **Zoom** property with the zoom factor used.

### **See Also**

[Display](#)

[Display method](#)

[DrawSelectionRect method](#)

[FitTo method](#)

[SelectionRectDrawn event](#)

[Zoom property](#)

## Events (Image Edit control)

The following events used by the Image Edit control are all standard:

Click	KeyUp
DbClick	MouseDown
Error	MouseMove
KeyDown	MouseUp
KeyPress	

The **Error** event occurs only when an error condition triggers it. It does not occur when a property is set or a method is invoked.

If you are using Visual Basic, it adds the **DragDrop**, **DragOver**, **GotFocus**, and **LostFocus** events.

The following list shows the custom, Image Edit control events:

<u>Close</u>	<u>Scroll</u>
<u>Load</u>	<u>SelectionRectDrawn</u>
<u>MarkEnd</u>	<u>ToolPaletteHidden</u>
<u>MarkSelect</u>	<u>ToolTip</u>
<u>PasteCompleted</u>	<u>ToolSelected</u>

## Close Event

This event occurs whenever one of the following methods is invoked:

- **Display**
- **ClearDisplay**
- **DisplayBlankImage**

The Close event can be used to indicate to the end user that the displayed image is about to be closed.

### Applies To

Image Edit control

### Syntax

**Sub** *object*\_**Close**( )

### Arguments

None

### Remarks

Once a Close event occurs, any changes made to displayed images are lost unless the **Save** or **SaveAs** method is invoked.

If desired, your program can check the **ImageModified** property to see if any changes have been made to the displayed image. If changes have been made, the program can be written so it prompts the end user to save the changes.

### See Also

[ClearDisplay method](#)

[Display](#)

[Display method](#)

[DisplayBlankImage method](#)

[ImageModified property](#)

[Save method](#)

[SaveAs method](#)



## Load Event

This event occurs immediately after the **Display** method is invoked.

### Applies To

Image Edit control

### Syntax

**Sub** *object\_Load*(Zoom)

### Argument

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
Zoom	Double	Returns the default zoom factor of 100.  The Zoom parameter can also return the following values:  -1 -- Fit to width. The image was fit to the width of the window when it was displayed. -2 -- Fit to height. The image was fit to the height of the window when it was displayed. -3 -- No previously saved zoom factor.  <b>Note:</b> Zoom values of -1 and -2 may not be compatible with some applications.

### Remarks

Once a Load event occurs, the visibility of the group can be changed, and other properties and methods can be set or invoked.

If desired, your program can use the returned zoom factor to set the **Zoom** property, or the Option parameter of the **FitTo** method, prior to displaying another image.

### See Also

[Display](#)

[Display method](#)

[FitTo method](#)

[Zoom property](#)

## MarkEnd Event

This event occurs immediately after the end user or program completes the drawing of an annotation mark.

### Applies To

Image Edit control

### Syntax

**Sub** *object* **MarkEnd**(*Left,Top,Width,Height,MarkType,GroupName*)

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
Left	Long	The starting horizontal position of the annotation mark within the image in image pixels
Top	Long	The starting vertical position of the annotation mark within the image in image pixels
Width	Long	The ending horizontal position of the annotation mark within the image in image pixels
Height	Long	The ending vertical position of the annotation mark within the image in image pixels
MarkType	Integer	The <u>AnnotationType</u> of the annotation mark (except for the Select Annotations annotation type)
GroupName	String	The name of the annotation group to which the annotation belongs

### Remarks

The MarkType parameter cannot be the Select Annotations annotation type.

A MarkEnd event does not occur if a Select Annotation rectangle is drawn (AnnotationType of 0).

### See Also

[Annotations](#)

[Draw method](#)



## PasteCompleted Event

This event occurs immediately after pasted image or annotation data is committed to a location on an image. Pasted image or annotation data is committed when an end user clicks on a form, outside of a pasted image or annotation, or whenever the **CompletePaste** method is invoked.

### Applies To

Image Edit control

### Syntax

**Sub** *object* **PasteCompleted**( )

### Arguments

None

### Remarks

The **ClipboardPaste** method must be invoked for this event to be triggered.

### See Also

[ClipboardPaste method](#)

[CompletePaste method](#)

## **Scroll Event**

This event occurs immediately after the end user or program scrolls an image in the control.

### **Applies To**

Image Edit control

### **Syntax**

**Sub** *object*\_**Scroll**( )

### **Arguments**

None

### **Remarks**

None

### **See Also**

[ScrollBars property](#)

[ScrollImage method](#)

[ScrollShortcutsEnabled property](#)

[ScrollPositionX property](#)

[ScrollPositionY property](#)

## MarkSelect Event

This event occurs immediately after the end user or program selects an annotation mark.

### Applies To

Image Edit control

### Syntax

**Sub** *object* **MarkSelect**(*Button,Shift,Left,Top,Width,Height,MarkType,GroupName*)

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
Button	Integer (enumerated)	Specifies the mouse button pressed: 1 -- Left button 2 -- Right button 4 -- Middle button
Shift	Integer (enumerated)	Specifies whether the Shift, Ctrl, or Alt key is pressed: 1 -- Shift key 2 -- Ctrl key 4 -- Alt key
Left	Long	The beginning horizontal position within the image in image pixels
Top	Long	The beginning vertical position within the image in image pixels
Width	Long	The ending horizontal position within the image in image pixels
Height	Long	The ending vertical position within the image in image pixels
MarkType	Integer	The <u>AnnotationType</u> of the annotation mark (except for the Select Annotations annotation type)
GroupName	String	The name of the annotation group to which the annotation belongs

### Remarks

If multiple annotations are selected, a MarkType parameter value of 0 is returned.

The GroupName parameter is an empty string when multiple annotations are selected.

### See Also

[Annotations](#)

[SelectAnnotationGroup method](#)

## SelectionRectDrawn Event

This event occurs immediately after the end user presses the left mouse button, or the **DrawSelectionRect** method is invoked.

### Applies To

Image Edit control

### Syntax

**Sub** *object* **SelectionRectDrawn**(*Left,Top,Width,Height*)

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
Left	Long	The beginning horizontal position within the image in image pixels relative to the upper-left corner of the Image Edit display window
Top	Long	The beginning vertical position within the image in image pixels relative to the upper-left corner of the Image Edit display window
Width	Long	The ending horizontal position within the image in image pixels relative to the upper-left corner of the Image Edit display window
Height	Long	The ending vertical position within the image in image pixels relative to the upper-left corner of the Image Edit display window

### Remarks

The **SelectionRectangle** property must be set to True for this event to be triggered.

If the end user draws a selection rectangle of 3 pixels or less, no selection rectangle is drawn. When this happens, the SelectionRectDrawn event is still triggered, but all of its parameters contain a value of 0. Your program can use these 0 values to determine whether cut, copy, or delete operations should be enabled.

### See Also

[DrawSelectionRect method](#)

[Images](#)

[SelectionRectangle property](#)

## ToolPaletteHidden Event

This event occurs immediately after the [Annotation Tool Palette](#) has been hidden.

### Applies To

Image Edit control

### Syntax

**Sub** *object\_* **ToolPaletteHidden**(*Left,Top*)

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
Left	Long	The horizontal position of the Annotation Tool Palette in pixels when it was closed, relative to the upper-left corner of the screen
Top	Long	The vertical position of the Annotation Tool Palette in pixels when it was closed, relative to the upper-left corner of the screen

### Remarks

The Annotation Tool Palette can be hidden by invoking the **HideAnnotationToolPalette** method or by clicking on the Close icon on the Annotation Tool Palette caption bar.

### See Also

[Annotations](#)

[HideAnnotationToolPalette method](#)

## ToolTip Event

This event occurs immediately after a tool tip has been displayed on the [Annotation Tool Palette](#).

### Applies To

Image Edit control

### Syntax

**Sub** *object* **ToolTip**(*Index*)

### Argument

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
Index	Integer (enumerated )	Index value of the tool tip displayed, which corresponds to the <a href="#">Tool ID</a> <a href="#">settings</a>

### Remarks

The **ShowAnnotationToolPalette** method displays the Annotation Tool Palette. The **SelectTool** method selects the annotation tool in the Annotation Tool Palette.

### See Also

[Annotations](#)

[SelectTool method](#)

[ShowAnnotationToolPalette method](#)

[ToolSelected event](#)

## ToolSelected Event

This event occurs immediately after the end user selects a tool from the [Annotation Tool Palette](#).

### Applies To

Image Edit control

### Syntax

**Sub** *object\_***ToolSelected**(*ToolID*)

### Argument

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>
ToolID	Integer (enumerated )	Identifier of the tool, which corresponds to the <a href="#">Tool ID settings</a>

### Remarks

The **ShowAnnotationToolPalette** method does not have to be invoked to trigger this event. The **SelectTool** method can be used to select the annotation tool in the Annotation Tool Palette.

### See Also

[Annotations](#)

[SelectTool method](#)

[ShowAnnotationToolPalette method](#)

[ToolTip event](#)

## PageType Settings

The following list shows the valid PageType settings:

<b>Setting</b>	<b>Description</b>
1	Black-and-white
2	Gray4
3	Gray8
4	Palettized4 (not available as a parameter for the <b>ConvertPageType</b> method unless the image presently has a 4-bit palette)
5	Palettized8
6	RGB24
7	BGR24



## PageType Settings

The valid PageType settings for the **SaveAs** method depend on the FileType setting entered. The following list shows the valid PageType settings:

<b>Setting</b>	<b>Description</b>	<b>Prerequisite FileType</b>
1	Black-and-white	1 -- TIFF, or 3 -- BMP
2	Gray4	1 -- TIFF
3	Gray8	1 -- TIFF
4	Palettized4	1 -- TIFF or 3 -- BMP
5	Palettized8	1 -- TIFF or 3 -- BMP
6	RGB24	1 -- TIFF
7	BGR24	3 -- BMP

To use a PageType setting of 4 (Palettized4), the displayed image must already be a Palettized4 image.

## Annotation Type Settings

The following list shows the valid AnnotationType settings:

<b>Setting</b>	<b>Description</b>
0	None
1	Straight Line
2	Freehand Line
3	Hollow Rectangle
4	Filled Rectangle
5	Image Embedded
6	Image Reference
7	Text
8	Text Stamp
9	Text From File
10	Attach-a-Note
11	Select Annotations

## FileType Settings

The following list shows the valid FileType settings:

<b>Setting</b>	<b>Description</b>
1	TIFF
2	AWD
3	BMP
4	PCX (read only)
5	DCX (read only)
6	JPG (read only)
7	XIF (read only)

Displayed file types of PCX, DCX, JPG, or XIF must be saved using a FileType setting of 1 (TIFF), 2 (AWD), or 3 (BMP).

If a multipage image file (AWD, DCX, TIFF, or XIF) is saved as a BMP file, only the page currently being displayed is saved to the new file.

## CompressionType Settings

The following list shows the valid CompressionType settings:

<b>Setting</b>	<b>Description</b>
1	No compression
2	Group3(1D)
3	Group3(Modified Huffman)
4	PackBits
5	Group4(2D)
6	JPEG
7	RBA
8	Group3(2D) (read only)
9	LZW (read only)

BMP files must be saved using a CompressionType setting of 1.

JPG files must be saved using a CompressionType setting of 6.

## CompressionInfo Settings

The following list shows the valid CompressionInfo settings (bit-wise values):

<b>Setting</b>	<b>Description</b>
0	No compression -- If CompressionType is set to 1 (no compression) Default compression -- If CompressionType is set to a value other than 1
1	EOL
2	Packed Lines
4	Prefixed EOL
8	Compressed LTR
16	Expand LTR
32	Negate
64	High Compression/High Quality (JPEG compression only)
128	High Compression/Medium Quality (JPEG compression only)
256	High Compression/Low Quality (JPEG compression only)
512	Medium Compression/High Quality (JPEG compression only)
1024	Medium Compression/Medium Quality (JPEG compression only)
2048	Medium Compression/Low Quality (JPEG compression only)
4096	Low Compression/High Quality (JPEG compression only)
8192	Low Compression/Medium Quality (JPEG compression only)
16384	Low Compression/Low Quality (JPEG compression only)

BMP and other uncompressed files must be saved using a CompressionInfo setting of 0.

## Tool ID Settings

The following list shows the valid Tool ID settings:

<u>Parameter</u>	<u>Data Type</u>	<u>Setting</u>	<u>Description</u>
ToolID	Integer (enumerated )	0 1 2 3 4 5 6 7 8 9 10	No Tool Select Annotations Freehand Line Highlighter Straight Line Hollow Rectangle Filled Rectangle Text Attach-a-Note Text From File Rubber Stamp

## Annotation Tool Palette

Click on the components of the tool palette to see an explanation of each one.



**Select Annotations**

The only tool that does not draw an annotation, the Select Annotations tool is used to select single or multiple annotation marks. You can select annotation marks by clicking on them, or by dragging a selection rectangle around them.



**Highlighter**

The Highlighter tool is used to draw a transparent, filled rectangle for highlighting emphasis.

**Hollow Rectangle**

The Hollow Rectangle tool is used to place a border around areas of an image for emphasis.

**Text**

The Text tool is used to enter text directly on an image.

**Text From File**

The Text From File tool is used to enter text from a file onto an image.

**Freehand Line**

The Freehand Line tool is used to draw a freehand line on a section of text or a portion of an image for emphasis.

**Straight Line**

The Straight Line tool is used to underline text, demarcate a section of a page, or draw callout lines.

**Filled Rectangle**

The Filled Rectangle tool is used to create a color background for text annotations or to hide a portion of an image.

**Attach-a-Note**

The Attach-a-Note tool is used to enter text into a background rectangle on an image.



**Rubber Stamp**

The Rubber Stamp tool is used to place an image or text stamp onto an image.

## **Wang Image Admin Control**

[Properties](#)   [Methods](#)

Wang's Image Admin control provides a method to administer image files that reside locally, or on a local area network (LAN). File and Print common dialog boxes support specific image file options as well as general directory and file functions.

General functions you can perform include creating, deleting, renaming, and moving directories and files, retrieving image file attributes, and setting image file attribute defaults.

Image-specific functions include inserting, appending, and replacing pages in a multi-page image file.

### **See Also**

[Imaging Concepts](#)

## Properties (Admin control)

<a href="#">CancelError</a>	<a href="#">HelpContextId</a>	<a href="#">PageNumber</a>
<a href="#">CompressionInfo</a>	<a href="#">HelpFile</a>	<a href="#">PageType</a>
<a href="#">CompressionType</a>	<a href="#">HelpKey</a>	<a href="#">PrintAnnotations</a>
<a href="#">DefaultExt</a>	<a href="#">Image</a>	<a href="#">PrintEndPage</a>
<a href="#">DialogTitle</a>	<a href="#">ImageHeight</a>	<a href="#">PrintNumCopies</a>
<a href="#">FileType</a>	<a href="#">ImageResolutionX</a>	<a href="#">PrintOutputFormat</a>
<a href="#">Filter</a>	<a href="#">ImageResolutionY</a>	<a href="#">PrintRangeOption</a>
<a href="#">FilterIndex</a>	<a href="#">ImageWidth</a>	<a href="#">PrintStartPage</a>
<a href="#">Flags</a>	<a href="#">InitDir</a>	<a href="#">PrintToFile</a>
<a href="#">HelpCommand</a>	<a href="#">PageCount</a>	<a href="#">StatusCode</a>

### CancelError Property

Indicates or sets if an error will be returned when a user chooses Cancel from either the File or Print dialog boxes.

#### Applies To

Image Admin control

#### Syntax

*object*.**CancelError**[= {True|False}]

#### Data Type

Boolean

<u>Setting</u>	<u>Description</u>
True (default)	Causes an error to be returned when the user chooses Cancel from either the File or Print dialog boxes.
False	No error is returned when the user chooses Cancel.

#### Remarks

When a user chooses Cancel from the File or Print dialog boxes, and this property is set to True, an error is returned by the **ShowFileDialog** or **ShowPrintDialog** methods, respectively.

#### See Also

[ShowFileDialog method](#)

[ShowPrintDialog method](#)

## CompressionInfo Property

Returns the bitwise compression options set for the current image.

### Applies To

Image Admin control

### Syntax

*object*.**CompressionInfo**[=*value*]

### Data Type

Long

<u>Setting</u>	<u>Description</u>
----------------	--------------------

**Note:** *Values 1 to 32 are not used with JPEG compression.*

1	EOL -- include or expect standard end of line bit sequences
2	Packed lines -- data is not byte aligned
4	Prefixed EOLs -- include or expect prefixed end of line bit sequences
8	Compressed bit order, left to right
16	Expanded bit order, left to right
32	Negate -- indicates data is stored with black bits equal to 0 (zero)

**Note:** *Values 64 to 16384 pertain only to JPEG compression.*

64	High compression, high quality
128	High compression, medium quality
256	High compression, low quality
512	Medium compression, high quality
1024	Medium compression, medium quality
2048	Medium compression, low quality
4096	Low compression, high quality
8192	Low compression, medium quality
16384	Low compression, low quality

### Remarks

The value returned by this property is for the image page specified by the **PageNumber** property. If no image is specified by PageNumber, the value returned is 0 (zero).

This property is read-only.

### See Also

[Image property](#)

[Compression](#)

[PageNumber property](#)

CompressionType property

## CompressionType Property

Returns the compression type of the current image.

### Applies To

Image Admin control

### Syntax

*object*.**CompressionType**[=*value*]

### Data Type

Integer (enumerated)

<u>Setting</u>	<u>Description</u>
0	Unknown
1	No compression
2	Group 3 1D FAX
3	Group 3 Modified Huffman
4	Packed Bits
5	Group 4 2D FAX
6	JPEG
7	RBA
8	Group 3 2D FAX
9	LZW

### Remarks

The value returned by this property is for the image page specified by the **PageNumber** property. If the **Image** property is empty, the value returned is 0 (zero).

This property is read-only.

### See Also

[Image property](#)

[Compression](#)

[PageNumber property](#)

[CompressionInfo property](#)

## **DefaultExt Property**

Returns or sets the default file extension in the ShowFileDialog dialog box.

### **Applies To**

Image Admin control

### **Syntax**

*object*.**DefaultExt**[=*extension*]

### **Data Type**

String

### **Remarks**

The extension of the currently selected filter overrides the default extension.

The default extension is used only when there is no extension associated with the filter (for example, 'All files \*.\*').

The first three characters of the string you specify are used as the file extension when the user does not specify a file extension.

### **See Also**

[ShowFileDialog method](#)

## **DialogTitle Property**

Returns or sets the title used in the common dialog boxes.

### **Applies To**

Image Admin control

### **Syntax**

*object*.**DialogTitle**[=*title*]

### **Data Type**

String

### **Remarks**

This property is used in conjunction with the **ShowFileDialog** method.

If a string is not specified, the default is used -- either Open or Save As.

### **See Also**

[ShowFileDialog method](#)



## FileType Property

Returns the file format of the image file.

### Applies To

Image Admin control

### Syntax

*object*.**FileType**[=*value*]

### Data Type

Integer (enumerated)

Property settings are expressed using the following values:

<u>Setting</u>	<u>Description</u>
0	Unknown
1	TIFF
2	AWD
3	Bitmap (BMP)
4	PCX
5	DCX
6	JPEG
7	XIF

### Remarks

The file format is determined by the **Image** property.

This property is read-only.

### See Also

[File types](#)

[Image property](#)

## Filter Property

Returns or sets the list of file filters displayed.

### Applies To

Image Admin control

### Syntax

*object*.**Filter**[=*filter*]

### Data Type

String

### Remarks

Filters are displayed in the common dialog box created by the **ShowFileDialog** method.

Each filter type consists of two strings separated by, and ending with, a pipe symbol ( | ). The first string contains a description of the filter, such as 'Tiff files'. The second string contains the file extension, such as '\*.tif'. Be sure not to include spaces immediately before and after the pipe symbol, or they become part of the string. For example:

All image files|\*.tif;\*.bmp|TIFF files|BMP files|\*.bmp|

If no filter type is provided, the system supplies a default filter.

### See Also

[ShowFileDialog method](#)

## FilterIndex Property

Specifies which of the file filters is highlighted in the file common dialog box when the dialog box first opens.

### Applies To

Image Admin control

### Syntax

*object*.**FilterIndex**[=*index*]

### Data Type

Long

### Remarks

If no filters are specified by the **Filter** property and the **FilterIndex** property is set to 0 (zero), then a default filter will be highlighted. If a different filter is selected, the index still remains set to 0.

If a value was set for the Filter property, and a different filter is selected, the index will be updated to reflect the selected filter.

The default value is 0 (zero).

### See Also

[Filter property](#)

[ShowFileDialog method](#)

## Flags Property

Sets initialization flags for dialog boxes created by the ShowFileDialog and ShowPrintDialog methods.

### Applies To

Image Admin control

### Syntax

*object*.Flags[=*value*]

### Data Type

Long

Values for ShowFileDialog

<b>Value</b>	<b>Description</b>
&H400&	Indicates that the extension of the returned filename is different from the extension specified by the DefaultExt property. This flag is not set if the DefaultExt property is empty, if the extensions match, or if the file has no extension. This flag value can be checked upon returning from the dialog box.
&H4&	Hides the Read-Only check box.
&H8&	Forces the dialog box to set the current directory to what it was when the dialog box was invoked.
&H8000&	Specifies that the returned file will not have the Read-Only attribute set and will not be in a write-protected directory.
&H100&	Specifies that the common dialog box allows invalid characters in the returned filename.
&H1&	Causes the Read Only check box to be initially checked when the dialog box is created. This flag also indicates the state of the Read Only check box when the dialog box is closed.
&H10&	Causes the dialog box to display the Help button. If this option is specified, the parameter hParentWnd in the ShowFileDialog method must be set to null.

Values for ShowPrintDialog

<b>Value</b>	<b>Description</b>
&H10&	Sets or returns the state of the Collate check box.
&H80000&	Disables the Print to File check box.
&H100000&	The Print to File check box is not displayed.
&H80&	Prevents a warning message from being displayed when there is no default printer.
&H400&	Causes the ShowPrintDialog method to return

the system default printer. The ShowPrintDialog method does this without displaying the dialog box.

&H40000& If a printer driver does not support multiple copies, setting this flag disables the copies' edit control. If a driver does support multiple copies, setting this flag indicates that the dialog box should store the requested number of copies in the Copies property.

### **Remarks**

The flags are bitwise and can be OR'd together.

These flags are defined in the Visual Basic CONSTANT.TXT file.

The Help button in the dialog box is not shown unless a Help file is specified by the **HelpFile** property.

### **See Also**

[HelpFile property](#)

[ShowFileDialog method](#)

## HelpCommand Property

Returns or sets the type of Help requested.

### Applies To

Image Admin control

### Syntax

*object*.**HelpCommand**[=*value*]

### Data Type

Integer

<u>Setting</u>	<u>Description</u>
&H1&	Displays Help for a particular context. When using this setting, you must also specify a context using the HelpContext property.
&H3&	Displays the index of the specified Help file. An application should use this value only for a Help file with a single index.
&H4&	Displays Help for using the Help application itself.
&H5&	Sets the context specified by the HelpContext property as the current index for the Help file specified by the HelpFile property. This index remains current until the user accesses a different Help file. Use this value only for Help files with more than one index.
&H101&	Displays Help for a particular keyword. When using this setting, you must also specify a keyword using the HelpKey property.
&H105&	Brings up a search box in Help, with the key specified by the HelpKey property.

### Remarks

Values for the HelpCommand property constants are defined in the VisualBasic CONSTANT.TXT file.

### See Also

[HelpContextId property](#)

[HelpKey property](#)

[HelpFile property](#)

[ShowFileDialog method](#)

## **HelpContextId Property**

Returns or sets a Help context Id.

### **Applies To**

Image Admin control

### **Syntax**

*object*.**HelpContextId**[=*Value*]

### **Data Type**

Integer

### **Remarks**

Context Ids are assigned to objects to provide context-sensitive Help to your application.

### **See Also**

[HelpCommand property](#)

[HelpKey property](#)

[HelpFile property](#)

[ShowFileDialog method](#)

## **HelpKey Property**

Returns or sets the keyword that identifies the requested Help topic.

### **Applies To**

Image Admin control

### **Syntax**

*object*.**HelpKey**[=*keyword*]

### **Data Type**

String

### **Remarks**

Use this property with the **HelpCommand** property to specify a Help topic to be displayed.

### **See Also**

[HelpContextId property](#)

[HelpCommand property](#)

[HelpFile property](#)

[ShowFileDialog method](#)



## **HelpFile Property**

Returns or sets the name of a Help file to be used with the application.

### **Applies To**

Image Admin control

### **Syntax**

*object*.**HelpFile**[=*filename*]

### **Data Type**

String

### **See Also**

[HelpContextId property](#)

[HelpCommand property](#)

[HelpKey property](#)

[ShowFileDialog method](#)

## Image Property

Returns or sets the filename of the current image.

### Applies To

Image Admin control

### Syntax

*object*.Image[=*filename*]

### Data Type

String

### Remarks

When a new image is specified, the PageNumber property is set to 1.

This property is used by the following Image Admin control methods:

Append	DeletePages	Insert	VerifyImage
Replace	ShowFileDialog	ShowPrintDialog	

When the Image property changes, the following Admin control properties are updated:

CompressionInfo	ImageResolutionX	PageNumber
CompressionType	ImageResolutionY	PageType
FileType	ImageWidth	
ImageHeight	PageCount	

### See Also

[Images](#)

## **ImageHeight Property**

Returns the height of the current page.

### **Applies To**

Image Admin control

### **Syntax**

*object*.**ImageHeight**[=*value*]

### **Data Type**

Long

### **Remarks**

The page is part of the current image file, as specified by the **Image** property.

Height is indicated in pixels.

This property is read-only.

### **See Also**

[PageNumber property](#)

[ImageWidth property](#)

[Image property](#)

## **ImageResolutionX Property**

Returns the horizontal resolution of the current page.

### **Applies To**

Image Admin control

### **Syntax**

*object*.**ImageResolutionX**[=*value*]

### **Data Type**

Long

### **Remarks**

The page is part of the current image file, as specified by the **Image** property.

Resolution is in dots-per-inch (dpi).

This property is read-only.

### **See Also**

[ImageResolutionY property](#)

[Image property](#)

[PageNumber property](#)

## **ImageResolutionY Property**

Returns the vertical resolution of the current page.

### **Applies To**

Image Admin control

### **Syntax**

*object*.**ImageResolutionY**[=*value*]

### **Data Type**

Long

### **Remarks**

The page is part of the current image file, as specified by the **Image** property.

Resolution is in dots-per-inch (dpi).

This property is read-only.

### **See Also**

[ImageResolutionX property](#)

[Image property](#)

[PageNumber property](#)

## **ImageWidth Property**

Returns the width of the current page.

### **Applies To**

Image Admin control

### **Syntax**

*object*.**ImageWidth**[=*value*]

### **Data Type**

Long

### **Remarks**

The page is part of the current image file, as specified by the **Image** property.

Width is indicated in pixels.

This property is read-only.

### **See Also**

[ImageHeight property](#)

[Image property](#)

[PageNumber property](#)

**InitDir Property**

Returns or sets the initial directory displayed in the ShowFileDialog dialog box.

**Applies To**

Image Admin control

**Syntax**

*object*.**InitDir**[=*directoryname*]

**Data Type**

String

**Remarks**

If the specified directory is invalid, the current directory appears on the dialog box.

**See Also**

[ShowFileDialog method](#)

## **PageCount Property**

Returns the number of pages in the image file.

### **Applies To**

Image Admin control

### **Syntax**

*object*.**PageCount**[=*value*]

### **Data Type**

Long

### **Remarks**

The image file is specified by the **Image** property.

The value is 0 (zero) if the image specified does not exist.

This property is read-only.

### **See Also**

[Image page](#)

[Image property](#)



## **PageNumber Property**

Returns or sets a page number in the current image file.

### **Applies To**

Image Admin control

### **Syntax**

*object*.**PageNumber**

### **Data Type**

Long

### **Remarks**

This property is available only at run-time (read and write).

The image file is specified by the **Image** property.

If the image file is not multi-page, this value must be 1.

### **See Also**

[Image page](#)

[Image property](#)

## PageType Property

Returns the image type of the specified page.

### Applies To

Image Admin control

### Syntax

*object*.**PageType**[=*value*]

### Data Type

Integer (enumerated)

<u>Setting</u>	<u>Description</u>
0	Unknown
1	Black and white
2	4-bit gray scale
3	8-bit gray scale
4	4-bit palettized
5	8-bit palettized
6	24-bit RGB
7	24-bit BGR

### Remarks

The Image file is specified by the **Image** property; the page is specified by the **PageNumber** property.

If the Image property is empty, the value is 0 (zero).

This property is read-only.

### See Also

[Image types](#)

[Image property](#)

[PageNumber property](#)

## PrintAnnotations Property

Indicates if the Print Annotations check box in the Print dialog box is checked.

### Applies To

Image Admin control

### Syntax

*object*.**PrintAnnotations**[={*True*|*False*}]

### Data Type

Boolean

<u>Setting</u>	<u>Description</u>
True (default)	The check box is checked, and annotations are to be printed.
False	The check box is not checked and annotations are not to be printed.

### Remarks

This property sets the state of the check box that is displayed when the dialog box is first opened. The user can accept or change this setting.

The Print dialog box is created by the **ShowPrintDialog** method.

### See Also

[Annotations](#)

[ShowPrintDialog method](#)

## **PrintEndPage Property**

Returns or sets the number of the last page to be printed.

### **Applies To**

Image Admin control

### **Syntax**

*object*.**PrintEndPage**

### **Data Type**

Long

### **Remarks**

The value set by this property is displayed when the Print dialog box is first opened. The user can then accept or change that value.

The default value is the value specified in the PageCount property.

The Print dialog box is created by the **ShowPrintDialog** method.

This property is available only at run-time (read and write).

### **See Also**

[Image page](#)

[PrintStartPage property](#)

[ShowPrintDialog method](#)

## **PrintNumCopies Property**

Returns or sets the default number of copies for the Print Dialog box.

### **Applies To**

Image Admin control

### **Syntax**

*object*.**PrintNumCopies**[=*value*]

### **Data Type**

Long

### **Remarks**

The Print dialog box is created by the **ShowPrintDialog** method.

The value set by this property is displayed when the Print dialog box is first opened. The user can then accept or change that value.

The value entered by the user is returned by the ShowPrintDialog method.

### **See Also**

[ShowPrintDialog method](#)

## PrintOutputFormat Property

Returns or sets the format of the printer output.

### Applies To

Image Admin control

### Syntax

*object*.PrintOutputFormat[=*value*]

### Data Type

Integer (enumerated)

<u>Setting</u>	<u>Description</u>
0	Pixel-to-pixel
1	Actual size
2 (default)	Fit to page

### Remarks

The Print dialog box is created by the **ShowPrintDialog** method.

The value set by this property is displayed when the Print dialog box is first opened. The user can then accept or change that value.

### See Also

[ShowPrintDialog method](#)

## PrintRangeOption Property

Returns or sets the print range option for the Print dialog box.

### Applies To

Image Admin control

### Syntax

*object*.**PrintRangeOption**[=*value*]

### Data Type

Integer (enumerated)

<u>Setting</u>	<u>Description</u>
0 (default)	All pages
1	Range of pages
2	Current page

### Remarks

The value set by this property is displayed when the Print dialog box is first opened. The user can then accept or change that value.

If a value of 1 is set, the start and end pages are provided by the **PrintStartPage** and **PrintEndPage** properties.

The Print dialog box is created by the **ShowPrintDialog** method.

### See Also

[Image page](#)

[PrintStartPage property](#)

[PrintEndPage property](#)

## **PrintStartPage Property**

Returns or sets the number of the first page to be printed for the Print dialog box.

### **Applies To**

Image Admin control

### **Syntax**

*object*.**PrintStartPage**

### **Data Type**

Long

### **Remarks**

The value set by this property is displayed when the Print dialog box is first opened. The user can then accept or change that value.

The Print dialog box is created by the **ShowPrintDialog** method.

The default value is 1.

This property is available only at run-time (read and write).

### **See Also**

[Image page](#)

[PrintEndPage property](#)

[ShowPrintDialog method](#)



## PrintToFile Property

Indicates or sets if the Print to File check box in the Print dialog box is checked.

### Applies To

Image Admin control

### Syntax

*object*.**PrintToFile**[={True|False}]

### Data Type

Boolean

<u>Setting</u>	<u>Description</u>
True	The check box is checked, and data is to be printed to a file.
False (default)	The check box is not checked, and data is not to be sent to a file.

### Remarks

The Print dialog box is created by the **ShowPrintDialog** method.

This property sets the state of the check box that is displayed when the dialog box is first opened. The user can accept or change this setting.

The state of the check box is returned by the ShowPrintDialog method.

## Methods (Admin control)

AboutBox

Append

CreateDirectory

Delete

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GetSysCompressionInfo

GetSysCompressionType

GetSysFileType

GetUniqueName

Replace

SetSystemFileAttributes

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VerifyImage

## Append Method

Appends one or more pages to the current image.

### Applies To

Image Admin control

### Syntax

*object*.**Append** *Source, SourcePage, NumPages [,CompressionType, CompressionInfo]*

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Description</u>
Source	String	Specifies the image file that contains the page(s) to be appended.
SourcePage	Long	Specifies the first page in the source image file to be appended.
NumPages	Long	Specifies the number of pages from the source image file to append to the current image file.
CompressionType	Integer	(Optional) Specifies the compression type to apply to the appended pages. If a type is not specified, the compression type of the source page(s) is used.
CompressionInfo	Long	(Optional) Specifies which compression options to apply to the appended pages. If options are not specified, the compression options of the source page(s) are used.

### Remarks

The current image file is specified by the **Image** property.

The current image, if one exists, must be in either AWD or TIFF format, as these formats support multiple pages. If the image pages added are of another type, they will be converted to the file type format used by the current image.

You can append a single BMP file to a new file. If you do, the only compression type allowed is None, with no options.

If the CompressionType and CompressionInfo values specified are not compatible with a source page's page type (color), the source file's compression type and compression information are used in place of those arguments.

If JPEG compression type is specified, and the compression argument is 0 (zero), a default JPEG value is used. The default value is 4096 (low compression, high quality).

If the destination file is in AWD format, only black and white files without annotations may be appended.

The only allowable compression type for AWD is None, with no options.

### See Also

[Compression](#)

CompressionType property

CompressionInfo property

## CreateDirectory Method

Creates a user-defined directory.

### Applies To

Image Admin control

### Syntax

*object*.**CreateDirectory** *Path*

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Description</u>
<u>r</u> Path	String	Specifies the path to be created.

### Remarks

If the Path contains more than one subdirectory that does not exist, an error is returned.

## Delete Method

Deletes a user-specified object.

### Applies To

Image Admin control

### Syntax

*object.Delete Object*

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Description</u>
Object	String	Specifies the object to be deleted.

### Remarks

The Object specified can be a filename or a path.

A file cannot be deleted if it is being used by any Wang Image application or OCX control.

## DeletePages Method

Deletes a user-specified range of pages from the image file.

### Applies To

Image Admin control

### Syntax

*object*.**DeletePages** *StartPage*, *NumPages*

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Description</u>
StartPage	Long	First page to be deleted.
NumPages	Long	Number of pages to be deleted, including StartPage.

### Remarks

The image file is specified by the **Image** property.

Pages cannot be deleted if they are being used by any Wang Image application or OCX control.

If StartPage is within the image, and NumPages is greater than the number of pages in the image, all the pages after StartPage are deleted.

### See Also

[Image page](#)

## Insert Method

Inserts one or more user-specified pages into the current image file.

### Applies To

Image Admin control

### Syntax

*object.Insert Source, SourcePage, DestinationPage, NumPages [,CompressionType, CompressionInfo]*

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Description</u>
Source	String	Specifies the image file that contains the page(s) to be inserted.
SourcePage	Long	Specifies which page in the source image file will be inserted.
DestinationPage	Long	Specifies the page in the current image file the selected pages will be inserted before.
NumPages	Long	Specifies the number of pages from the source image file to insert into the current image file.
CompressionType	Integer	(Optional) Specifies the compression type to apply to the inserted pages. If a type is not specified, the compression type of the source image is used.
CompressionInfo	Long	(Optional) Specifies which compression options to apply to the inserted pages. If options are not specified, the compression options of the source image are used.

### Remarks

The current image is specified by the **Image** property.

The current image must be in either AWD or TIFF format, because these formats support multiple pages. If the image pages added are of another type, they will be converted to the file type used by the current image.

You can insert a single BMP page into a new image.

If the CompressionType and CompressionInfo values specified are not compatible with a source page's page type, the source file's compression type and compression information is used in place of the arguments.

If JPEG compression is specified, and the compression argument is 0 (zero), a default JPEG value is used. The default value is 4096 (low compression, high quality).

If the destination file is in AWD format, only black and white files without annotations may be appended.



The only allowable compression type for AWD is None, with no options.

**See Also**

[Compression](#)

[CompressionType property](#)

[CompressionInfo property](#)

## GetSysCompressionInfo Method

Retrieves the system default compression information for a given page type.

### Applies To

Image Admin control

### Syntax

*object*.GetSysCompressionInfo(*PageType*)

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Description</u>
PageType	Integer	Specifies a page type.

  

<u>Setting</u>	<u>Description</u>
0	Unknown
1	Black and white
2	4-bit gray scale
3	8-bit gray scale
4	4-bit palettized
5	8-bit palettized
6	24-bit RGB
7	24-bit BGR

### Return Value

Long

Returns the following bitwise compression information:

<u>Setting</u>	<u>Description</u>
1	EOL -- include or expect standard end of line bit sequences
2	Packed lines -- data is not byte aligned
4	Prefixed EOLs -- include or expect prefixed end of line bit sequences
8	Compressed bit order, left to right
16	Expanded bit order, left to right
32	Negate -- reverses black and white on expansion
64	High compression, high quality
128	High compression, medium quality
256	High compression, low quality
512	Medium compression, high quality

- 1024 Medium compression, medium quality
- 2048 Medium compression, low quality
- 4096 Low compression, high quality
- 8192 Low compression, medium quality
- 16384 Low compression, low quality

**See Also**

[Compression](#)

[Image types](#)

[SetSystemFileAttributes method](#)

## GetSysCompressionType Method

Retrieves the system default compression type for a given page type.

### Applies To

Image Admin control

### Syntax

*object*.**GetSystemCompressionType**(*PageType*)

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Description</u>
PageType	Integer	Specifies a page type.

<u>Setting</u>	<u>Description</u>
0	Unknown
1	Black and white
2	4-bit gray scale
3	8-bit gray scale
4	4-bit palettized
5	8-bit palettized
6	24-bit RGB
7	24-bit BGR

### Return Value

Integer (enumerated)

Returns one of the following compression types:

<u>Setting</u>	<u>Description</u>
0	Unknown
1	No compression
2	Group 3 1D FAX
3	Group 3 Modified Huffman
4	Packed Bits
5	Group 4 2D FAX
6	JPEG
7	RBA
8	Group 3 2D FAX
9	LZW

**See Also**

[GetSystemFileAttributes method](#)

[Image types](#)

[Compression types](#)

## GetSysFileType Method

Retrieves the system default file type for a given page type.

### Applies To

Image Admin control

### Syntax

*object*.GetSysFileType(*PageType*)

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Description</u>
Page Type	Integer	Specifies a page type.

<u>Setting</u>	<u>Description</u>
0	Unknown
1	Black and white
2	4-bit gray scale
3	8-bit gray scale
4	4-bit palettized
5	8-bit palettized
6	24-bit RGB
7	24-bit BGR

### Return Value

Integer (enumerated)

One of the following file types is returned:

<u>Setting</u>	<u>Description</u>
0	Unknown
1	TIFF
2	AWD
3	Bitmap (BMP)

### See Also

[SetSystemFileAttributes method](#)

[Image types](#)

[File types](#)

## GetUniqueName Method

Generates a unique filename.

### Applies To

Image Admin control

### Syntax

*object*.**GetUniqueName**(*Path, Template, Extension*)

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Description</u>
Path	String	The name of the existing path where the filename will be generated.
Template	String	The initial characters of the filename. Up to 4 characters can be used.
Extension	String	The extension to be used with the generated filename. Up to 3 characters can be used.

### Return Value

A string that contains a fully-qualified filename.

### Remarks

The filename is based on user-supplied path, template, and file extension information.

## Replace Method

Replaces one or more user-specified pages into the current image file.

### Applies To

Image Admin control

### Syntax

*object*.**Replace** *Source, SourcePage, DestinationPage, NumPages* [,*CompressionType, CompressionInfo*]

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Description</u>
Source	String	Specifies the image file that contains the page(s) to be inserted.
SourcePage	Long	Specifies the first page in the source image file that will be inserted.
DestinationPage	Long	Specifies the first page in the current image file that will be replaced.
NumPages	Long	Specifies the number of pages in the current image file to replace with pages from the source image file.
CompressionType	Integer	(Optional) Specifies the compression type to apply to the replaced pages. If a type is not specified, the compression type of the source image is used.
CompressionInfo	Long	(Optional) Specifies which compression options to apply to the replaced pages. If options are not specified, the compression options of the source page are used.

### Remarks

The current image is specified by the **Image** property.

The replaced pages are converted to the file type of the current image (TIFF, AWD, or BMP).

If you are replacing the single page in a BMP file, the only compression type allowed is None, with no options.

If the CompressionType and CompressionInfo values specified are not compatible with a source page's page type, the source file's compression type and compression information is used in place of the arguments.

If JPEG compression is specified, and the compression argument is 0 (zero), a default JPEG value is used. The default value is 4096 (low compression, high quality).

If the destination file is in AWD format, only black and white files without annotations may be



appended.

The only allowable compression type for AWD is None, with no options.

**See Also**

[Compression](#)

[CompressionInfo property](#)

[CompressionType property](#)

## SetSystemFileAttributes Method

Allows the user to set how image files will be saved for a given type.

### Applies To

Image Admin control

### Syntax

*object*.**SetSystemFileAttributes** *PageType, FileType, CompressionType, CompressionInfo*

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Description</u>
<u>PageType</u>	Integer	Specifies a page type value.
<u>FileType</u>	Integer	Specifies a file type value.
<u>CompressionType</u>	Integer	Specifies compression information.
<u>CompressionInfo</u>	Long	Specifies compression information.

### Remarks

These settings will be used when scanning files with the Image Scan control.

Defaults are set for a classification of the page type into one of three categories:

- Black and White
- Gray scale
- Color

If a compression option of 0 (zero) is specified for a JPEG compression type, then a default value will be used (4096 -- low compression, high quality).

### See Also

[File types](#)

[Image types](#)

[Compression](#)

[GetSysCompressionType](#)

[GetSysFileType](#)

[GetSysCompressionInfo](#)

## ShowFileDialog Method

Allows a user to select a file specification from the file system displayed in an Open or Save As dialog box.

### Applies To

Image Admin control

### Syntax

*object*.**ShowFileDialog** *DialogOption*[,*hParentWnd*]

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Description</u>
DialogOption	Integer	Indicates what type of file dialog box will be displayed:  0= Open or Select 1= Save As
hParentWnd	hWnd	(Optional) Assigns a parent window handle to the displayed dialog box.

### Remarks

The file specification selected by the user from the dialog box is set in the **Image** property when the method returns the value.

If a help file is not specified in the **HelpFile** property, a Help button will not be shown. This is true even if the show help flag is set in the **Flags** property.

Dialog boxes are modal.

### See Also

[HelpFile property](#)

[HelpContextId property](#)

[HelpCommand property](#)

[HelpKey property](#)

[Flags property](#)

[Image property](#)

## ShowPrintDialog Method

Presents a printer dialog box from which the user sets various print options.

### Applies To

Image Admin control

### Syntax

*object*.**ShowPrintDialog** [*hParentWnd*]

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Description</u>
hParentWnd	hWnd	(Optional) Assigns a parent window handle to the displayed dialog box.

### Remarks

The image property must be set to an existing image or an error is returned.

This function returns any parameters set by the user to the application via the corresponding properties.

Dialog boxes are modal.

### See Also

[PrintAnnotations property](#)

[PrintEndPage property](#)

[PrintNumCopies property](#)

[PrintOutputFormat property](#)

[PrintRangeOption property](#)

[PrintStartPage property](#)

[PrintToFile property](#)

[Flags property](#)

[Image property](#)

## VerifyImage Method

Checks to see if the image specified in the Image property exists, and verifies level of access.

### Applies To

Image Admin control

### Syntax

*object*.VerifyImage(*Option*)

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Description</u>
Option	Long	Specifies the level of access to verify.  0 = Verify existence 1 = Verify read access 2 = Verify write access 3 = Verify read/write access

### Return Value

Boolean

<u>Setting</u>	<u>Description</u>
True	The file exists and has the level of access specified by the Option argument.
False	The file does not exist, or does not have the level of access specified in the Option argument.

## File Type argument

<b>Setting</b>	<b>Description</b>
0	Unknown
1	TIFF
2	AWD
3	Bitmap (BMP)
4	PCX
5	DCX
6	JPEG
7	XIF

**PageType argument**

<b>Setting</b>	<b>Description</b>
0	Unknown
1	Black and white
2	4-bit gray scale
3	8-bit gray scale
4	4-bit palettized
5	8-bit palettized
6	24-bit RGB
7	24-bit BGR

**CompressionType argument**

<b>Setting</b>	<b>Description</b>
0	Unknown
1	No compression
2	Group 3 1D FAX
3	Group 3 Modified Huffman
4	Packed Bits
5	Group 4 2D FAX
6	JPEG
7	RBA
8	Group 3 2D FAX
9	LZW



## CompressionInfo argument

<b>Setting</b>	<b>Description</b>
1	EOL -- include or expect standard end of line bit sequences
2	Packed lines -- data is not byte aligned
4	Prefixed EOLs -- include or expect prefixed end of line bit sequences
8	Compressed bit order, left to right
16	Expanded bit order, left to right
32	Negate -- reverses black and white on expansion
64	High compression, high quality
128	High compression, medium quality
256	High compression, low quality
512	Medium compression, high quality
1024	Medium compression, medium quality
2048	Medium compression, low quality
4096	Low compression, high quality
8192	Low compression, medium quality
16384	Low compression, low quality

## Wang Image Scan Control

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Wang's Image Scan control adds scanning capabilities to applications that support 32-bit OLE controls. The Scan control is invisible and can work independently of other controls. To display images while they are being scanned, you can link the Scan control to the Wang Image Edit control.

The Image Scan control supports TWAIN-compatible scanners. For a list of scanners that have been certified with Imaging software, refer to the README.DOC file included with your Wang software or contact the manufacturer of your scanner.

Your scanner will require a TWAIN data source (usually supplied by the manufacturer) and the latest version of the TWAIN DLLs. You can obtain the latest 32-bit TWAIN DLLs from the following sources:

World Wide Web -- At <http://www.twain.org>

FTP -- At <ftp.twain.org>

**Notes:** After installing the latest TWAIN DLLs, you may experience compatibility problems with some applications.

Some scanners may have been sold with data sources that are not compatible with your current operating system. Please contact the manufacturer of your scanner for the latest data sources and compatibility information.

The ShowScannerSetup method is no longer supported. Refer to the [StartScan](#) method, which can be used with the [ShowSetupBeforeScan](#) property to provide the same function.

### See Also

[Imaging Concepts](#)

## Properties (Scan control)

<u>CompressionInfo</u>	<u>PageOption</u>
<u>CompressionType</u>	<u>PageType</u>
<u>DestImageControl</u>	<u>ScanTo</u>
<u>FileType</u>	<u>Scroll</u>
<u>Image</u>	<u>ShowSetupBeforeScan</u>
<u>MultiPage</u>	<u>StatusCode</u>
<u>Page</u>	<u>StopScanBox</u>
<u>PageCount</u>	<u>Zoom</u>

## CompressionInfo Property

Sets the compression options to use when scanning.

### Applies To

Image Scan control

### Syntax

*object*.**CompressionInfo**[=*value*]

### Data Type

Long

<u>Setting</u>	<u>Description</u>
<b>Note:</b> <i>Settings 1 to 32 cannot be used with JPEG compression.</i>	
1	EOL -- include or expect standard end of line bit sequences
2	Packed lines -- data is not byte aligned
4	Prefixed EOLs -- include or expect prefixed end of line bit sequences
8	Compressed bit order, left to right
16 (default)	Expanded bit order, left to right
32	Negate -- reverses black and white on expansion

**Note:** *The following settings pertain only to JPEG compression.*

64	High compression, high quality
128	High compression, medium quality
256	High compression, low quality
512	Medium compression, high quality
1024	Medium compression, medium quality
2048	Medium compression, low quality
4096	Low compression, high quality
8192	Low compression, medium quality
16384	Low compression, low quality

### Remarks

Using the JPEG compression method, the higher the compression ratio, the more degraded the image quality becomes. The amount of degradation that is acceptable varies with the image and the application. Experimenting with different settings is recommended.

Resolution is independent of the compression ratio. Optimal settings will vary, based on individual requirements.

Be careful when changing these values -- the compression type could be affected.

**See Also**

[Compression Options](#)

[FileType property](#)

[PageType property](#)

[CompressionType property](#)

[Zoom property](#)

## CompressionType Property

Sets the compression type to use when scanning.

### Applies To

Image Scan control

### Syntax

*object*.**CompressionType**[=*value*]

### Data Type

Integer (enumerated)

<u>Setting</u>	<u>Description</u>
1	No compression
2	Group 3 1D FAX
3 (default)	Group 3 1D Modified Huffman
4	Packed Bits
5	Group 4 2D FAX
6	JPEG

### Remarks

The value set for this property determines which settings are available in the **CompressionInfo** property.

### See Also

[Compression types](#)

[FileType property](#)

[PageType property](#)

[CompressionInfo property](#)

[Zoom property](#)

## **DestImageControl Property**

Returns or sets the name of the destination image / edit control.

### **Applies To**

Image Scan control

### **Syntax**

*object*.**DestImageControl**[=*controlName*]

### **Data Type**

String

### **Remarks**

This property links the Image Scan control to a specified Wang ImageEdit control, letting you see the image that is scanned.

Use the name of the ImageEdit control to which you want to link.

### **See Also**

[ImageControl property](#) (Wang ImageEdit control)

## FileType Property

Returns or sets the type of image file that will be created.

### Applies To

Image Scan control

### Syntax

*object*.**FileType**[=*value*]

### Data Type

Integer (enumerated)

<u>Setting</u>	<u>Description</u>
1 (default)	TIFF
2	AWD
3	BMP

### Remarks

Set to the file type you want to create.

### See Also

[File types](#)

[PageType property](#)

[CompressionType property](#)

[CompressionInfo property](#)

[Zoom property](#)



## Image Property

Returns or sets the name of the object to which you are scanning.

### Applies To

Image Scan control

### Syntax

*object*.**Image**[=*filename*]

### Data Type

String

### Remarks

This property is not the same as, or linked to, the Image properties used by the Wang ImageEdit or Thumbnail controls.

You can point to a file template, and have image files generated and incremented as you scan to them. For example, if you use a template named 'img', you must specify a path, such as c:\scan\images\img. The template 'img' will generate files named img00000.xxx, img00001.xxx, img00002.xxx, and so on. This cannot be used if you Scan to display using the **DestImageControl** property in conjunction with the Wang Image Edit control.

### See Also

[Images](#)

[DestImageControl property](#)

## MultiPage Property

Returns or sets if one or more image pages will be scanned to an image file.

### Applies To

Image Scan control

### Syntax

*object*.MultiPage[= {True|False}]

### Data Type

Boolean

<u>Setting</u>	<u>Description</u>
True	Scans multiple image pages to an image file.
False (default)	Scans a single image page to an image file.

### Remarks

This property is generally used with scanners that have an automatic document feeder (ADF), and you are scanning multiple documents to a template.

### See Also

[Image page](#)

## Page Property

Returns or sets the starting page for a scanning session.

### Applies To

Image Scan control

### Syntax

*object*.**Page**[=*pagenumber*]

### Data Type

Long

### Remarks

Set this property to the current page number.

To append to a file, set the page number to 0 (zero).

To insert one or more page, set the page number to the number of the page you are inserting before, less 1. For example, to insert before page 5, enter page number 4.

### See Also

[Image page](#)

## PageCount Property

Returns or sets the number of pages per image file.

### Applies To

Image Scan control

### Syntax

*object*.**PageCount**[=*pagenumber*]

### Data Type

Long

### Remarks

This property is generally used with scanners that have an automatic document feeder (ADF), and you are scanning multiple documents to a template.

Set this property to the page count of fixed length files. You must also specify the path to the template (for example c:\scan\images\img, where the Template name is img).

If the **MultiPage** property is set to False, then PageCount images are scanned with the same number of image files.

### See Also

[Image page](#)

[MultiPage property](#)

## PageOption Property

Indicates or sets if a scanned page will be Appended or Inserted, or if a page will be overwritten with or without a prompt at scan time.

### Applies To

Image Scan control

### Syntax

*object*.**PageOption**[=*value*]

### Data Type

Integer (enumerated)

<u>Setting</u>	<u>Description</u>
0	Creates a new image file and adds image pages. An error will occur if the file exists. Pages can be added only if an automatic document feeder (ADF) is present.
1 (default)	Creates a new image file and adds image pages. If an image file exists, a prompt is displayed before overwriting. Pages can be added only if an automatic document feeder (ADF) is present.
2	Appends to an existing image file.
3	Inserts a page in the existing image file, before the current image page, as specified in the Page property. An error will occur if the file does not exist.
4	Overwrites an image file on an existing image page. If the image page does not exist, an error will occur.
5	Displays a prompt prior to overwriting an existing image page. If the image page does not exist, an error will occur.
6	Overwrites all pages in an image file.

### Remarks

The Page property determines the current image page in a selected file.

If settings 0, 1, 2, or 6 are chosen, a new file is created if the file specified in the **Image** property does not exist.

### See Also

[Page property](#)

[Image property](#)

## PageType Property

Returns or sets the image type for the pages being saved after scanning.

### Applies To

Image Scan control

### Syntax

*object*.**PageType**[=*value*]

### Data Type

Integer (enumerated)

<u>Setting</u>	<u>Description</u>
1 (default)	Black and white
2	Gray scale, 4-bit
3	Gray scale, 8-bit
4	Palettized, 4-bit (BMP only)
5	Palettized, 8-bit (TIFF only)
6	RGB, 24-bit
7	BGR, 24-bit

### Remarks

This property also determines the compression type and compression information required for saving the image file.

### See Also

[Image Types](#)

[FileType property](#)

[CompressionType property](#)

[CompressionInfo property](#)

[Zoom property](#)

## ScanTo Property

Returns or sets the destination of the image being scanned.

### Applies To

Image Scan control

### Syntax

*object*.**ScanTo**[=*value*]

### Data Type

Integer (enumerated)

<u>Setting</u>	<u>Description</u>
0 (default)	Display the scanned image.
1	Display the scanned image and write it to a file.
2	Write the scanned image to a file.
3	Write the scanned image to a file using a template, and display the image.
4	Write the scanned image to a file using a template.
5	Fax the scanned image.

### Remarks

Images scanned to display must be saved in the Wang ImageEdit control.

Ensure that the ImageEdit control's **Image** property is set correctly.

### See Also

[Image property](#), Wang ImageEdit control

[MultiPage property](#)

[PageCount property](#)

## Scroll Property

Sets or indicates if a displayed image will be scrolled while it is being scanned.

### Applies To

Image Scan control

### Syntax

*object*.**Scroll**[={*True*|*False*}]

### Data Type

Boolean

<u>Setting</u>	<u>Description</u>
True (default)	Scanned image is scrolled.
False	Scanned image is not scrolled.

### Remarks

Used in conjunction with the **ScanTo** property if ScanTo is set to a value of 0, 1, or 3.

### See Also

[ScanTo property](#)



## ShowSetupBeforeScan Property

Displays the Setup dialog box before starting a scan.

### Applies To

Image Scan control

### Syntax

*object*.**ShowSetupBeforeScan**[={True|False}]

### Data Type

Boolean

<u>Setting</u>	<u>Description</u>
True (default)	Displays the Setup dialog box before scanning.
False	Does not display the Setup dialog box before scanning.

### Remarks

Used to set up the scanner before the first scan, and then bypass the setup dialog box for subsequent scans.

Some TWAIN scanner data sources require the Setup dialog be displayed before each scan, because the settings from the previous scan are not saved.

## StopScanBox Property

Sets or indicates if a dialog box from which you can stop the scanning session will be displayed.

### Applies To

Image Scan control

### Syntax

*object*.**StopScanBox**[={True|False}]

### Data Type

Boolean

<u>Setting</u>	<u>Description</u>
True	Displays the Stop Scan dialog box.
False (default)	Does not display the Stop Scan dialog box.

## **Zoom Property**

Returns or sets the scale at which scanned pages are displayed.

### **Applies To**

Image Scan control

### **Syntax**

*object*.**Zoom**[=*value*]

### **Data Type**

Long

### **Remarks**

Used in conjunction with the **ScanTo** property if ScanTo is set to a value of 0, 1, or 3.

At scan time, the zoom value set is rounded to one of the following values: 6.25%, 12.5%, 25%, 50%, 100%, 200%, 400%, or 800%.

### **See Also**

[ScanTo property](#)

## **Methods (Scan control)**

<u>AboutBox</u>	<u>ShowSelectScanner</u>
<u>CloseScanner</u>	<u>StartScan</u>
<u>OpenScanner</u>	<u>ShowScanNew</u>
<u>ResetScanner</u>	<u>ShowScanPage</u>
<u>ScannerAvailable</u>	<u>ShowScanPreferences</u>
<u>ShowScannerSetup</u>	<u>StopScan</u>

## **CloseScanner Method**

Closes the scanner by unloading the driver.

### **Applies To**

Image Scan control

### **Syntax**

*object*.**CloseScanner**

### **Arguments**

None

### **Return Value**

Long

Most errors need to be intercepted by Catch ( ) in C++ or by On Error... in Visual Basic.

A busy condition returns an informational message.

### **Remarks**

When a scanner or application error occurs, close the scanner before you access it again to avoid possible problems.

### **See Also**

[OpenScanner method](#)

## **OpenScanner Method**

Opens the scanner by loading the driver.

### **Applies To**

Image Scan control

### **Syntax**

*object*.**OpenScanner**

### **Arguments**

None

### **Return Value**

Long

Most errors need to be intercepted by Catch ( ) in C++ or by On Error... in Visual Basic.

A busy condition returns an informational message.

### **Remarks**

After successfully opening a scanner with this call, you should call the CloseScanner method. This frees up the scanner so that .dlls and executable files can be unloaded.

### **See Also**

[CloseScanner method](#)

## ResetScanner Method

Resets the scanner hardware and software.

### Applies To

Image Scan control

### Syntax

*object*.ResetScanner

### Arguments

None

### Return Value

Long

Most errors need to be intercepted by Catch ( ) in C++ or by On Error... in Visual Basic.

A busy condition returns an informational message.

## ScannerAvailable Method

Checks to see if any TWAIN-compatible software is available.

### Applies To

Image Scan control

### Syntax

*object*.ScannerAvailable

### Return Value

Boolean

<u>Setting</u>	<u>Description</u>
True	Support for a TWAIN-compliant scanner is available.
False	Support for a TWAIN-compliant scanner is not available.

### Remarks

This is done by checking the software (drivers and .dlls), not the hardware.

### See Also

[ShowScannerSetup method](#)

## ShowScannerSetup Method

Displays the setup dialog box provided by the TWAIN scanner driver.

**NOTE:** This method is not supported in this release, and calling it will return an error. The recommended way to setup a scanner is:

Use the **StartScan** method with the **ShowSetupBeforeScan** property.

Set the ShowSetupBeforeScan property to TRUE.

### Applies To

Image Scan control

### Syntax

*object*.**ShowScannerSetup**

### Arguments

None

### Return Value

Long

Most errors need to be intercepted by Catch ( ) in C++ or by On Error... in Visual Basic.

A busy condition returns an informational message.

### Remarks

The dialog box and selectable options are provided by the library twain.dll.



## **ShowSelectScanner Method**

Select the TWAIN scanner you want to use.

### **Applies To**

Image Scan control

### **Syntax**

*object*.**ShowSelectScanner**

### **Arguments**

None

### **Return Value**

Long

Most errors need to be intercepted by Catch ( ) in C++ or by On Error... in Visual Basic.

A busy condition or cancel returns an informational message.

### **Remarks**

Displays a dialog box that shows the installed TWAIN scanners.

### **See Also**

[ScannerAvailable method](#)

## **StartScan Method**

Starts the scanning process.

### **Applies To**

Image Scan control

### **Syntax**

*object*.**StartScan**

### **Arguments**

None

### **Return Value**

Long

Most errors need to be intercepted by Catch ( ) in C++ or by On Error... in Visual Basic.

A busy condition or cancel returns an informational message.

### **Remarks**

If the scanner is closed, it will be opened.

### **See Also**

[Image property](#)

[PageOption property](#)

[ScanTo property](#)

[MultiPage property](#)

[FileType property](#)

## ShowScanNew Method

Displays the Scan New dialog box from which you can change options and scan.

### Applies To

Image Scan control

### Syntax

*object*.**ShowScanNew**[={True|False}]

### Arguments

Boolean (optional)

Variant

<u>Setting</u>	<u>Description</u>
True (default)	Modal dialog.
False	Modeless dialog.

### Return Value

Long

Most errors need to be intercepted by Catch ( ) in C++ or by On Error... in Visual Basic.

A busy condition or cancel returns an informational message.

### Remarks

Provides an interactive method to change scanning options before starting a session. The scanner will be opened if it is not already.

## ShowScanPage Method

Displays the Scan Page dialog box from which you can change options and scan.

### Applies To

Image Scan control

### Syntax

```
object.ShowScanPage[={True|False}]
```

### Arguments

Boolean (optional)

Variant

<u>Setting</u>	<u>Description</u>
True (default)	Modal dialog.
False	Modeless dialog.

### Return Value

Long

Most errors need to be intercepted by Catch ( ) in C++ or by On Error... in Visual Basic.

A busy condition or cancel returns an informational message.

### Remarks

This method is used to Insert, Append, or Overwrite pages in an existing image file while scanning.

## **ShowScanPreferences Method**

Sets preferences for scanning.

### **Applies To**

Image Scan control

### **Syntax**

*object*.**ShowScanPreferences**

### **Arguments**

None

### **Return Value**

Long

Most errors need to be intercepted by Catch ( ) in C++ or by On Error... in Visual Basic.

A busy condition returns an informational message.

### **Remarks**

Displays a dialog box with a list of available options.

You can create a custom option that displays a dialog box with a detailed list of preferences.

## **StopScan Method**

The scanning operation is halted.

### **Applies To**

Image Scan control

### **Syntax**

*object*.**StopScan**

### **Arguments**

None

### **Return Value**

Long

Most errors need to be intercepted by Catch ( ) in C++ or by On Error... in Visual Basic.

A busy condition returns an informational message.

### **Remarks**

The scan operation will stop on the page that is currently being scanned. Cleanup, including clearing paper and buffers, will be performed.

## **Events (Scan control)**

The Scanner control uses the following custom Events:

PageDone

ScanDone

ScanStarted

A standard Event, Error, is used for fired errors.

## **PageDone Event**

Signals the completion of each scanned page.

### **Applies To**

Image Scan control

### **Syntax**

*object\_***PageDone**

### **Remarks**

This event is triggered after a page is scanned.

### **Return Value**

Long

Passes the Number of the page scanned.

## **ScanDone Event**

Signals the end of a scanning operation.

### **Applies To**

Image Scan control

### **Syntax**

*object\_***ScanDone**

### **Remarks**

This event is triggered immediately after a scanning operation is completed.



## **ScanStarted Event**

Signals the start of a scanning operation.

### **Applies To**

Image Scan control

### **Syntax**

*object\_***ScanStarted**

### **Remarks**

This event is triggered just before scanning starts.

## Wang Image Thumbnail Control

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The Image Thumbnail control displays thumbnail views of the images contained in an image file in uniformly sized and spaced frames called thumbnail boxes. Thumbnails are useful for displaying each page of a multipage image file in a miniature format. When you specify an image file, thumbnail representations of images are generated and buffered for use. You can use the buffered thumbnails or choose to regenerate thumbnails to reflect subsequent changes made to the image file, such as inserted or deleted pages, or alterations made to pages (annotations).

The Thumbnail control can be configured to scroll either vertically or horizontally. When scrolled vertically, thumbnails are displayed sequentially from the top left, across the rows and down to the bottom right. When scrolled horizontally, thumbnails are displayed sequentially from the top left, down the columns and across to the bottom right. The scroll bar is displayed only when there are more thumbnails available than can fit in the control's window. A scrollbar is never displayed in the non-scrolling direction.

You can change the size of the thumbnail boxes collectively, making them smaller, to fit more into the control's window, or making them larger to see more detail. The views displayed in the thumbnail boxes maintain the same aspect ratio (height to width relationship) as the image pages they represent.

Although the Thumbnail control can only display views of the image, it can be used in conjunction with the Admin control to add or delete pages in the image file.

You can also choose to display text labels beneath the thumbnails, and assign different fonts, colors, and styles to the labels.

### See Also

[Imaging Concepts](#)

## **Properties (Thumbnail control)**

<u>BackColor</u>	<u>SelectedThumbCount</u>
<u>BorderStyle</u>	<u>StatusCode</u>
<u>Enabled</u>	<u>ThumbBackColor</u>
<u>FirstSelectedThumb</u>	<u>ThumbCaption</u>
<u>HighlightColor</u>	<u>ThumbCaptionColor</u>
<u>HighlightSelectedThumbs</u>	<u>ThumbCaptionFont</u>
<u>hWnd</u>	<u>ThumbCaptionStyle</u>
<u>Image</u>	<u>ThumbCount</u>
<u>LastSelectedThumb</u>	<u>ThumbHeight</u>
<u>MouseIcon</u>	<u>ThumbSelected[PageNumber]</u>
<u>MousePointer</u>	<u>ThumbWidth</u>
<u>ScrollDirection</u>	

## BackColor Property

Returns or sets the background color of the entire control.

### Applies To

Image Thumbnail control

### Syntax

*object*.**BackColor**[=*color*]

### Data Type

Long

### Remarks

Use the [RGB format](#). The default value is light gray -- RGB (192, 192, 192).

The color specified should be different from the color set by the **HighlightColor** property to ensure the highlight remains visible against the background.

Do not confuse this property with the **ThumbBackColor** property, which sets the color of the background of the thumbnail boxes.

### See Also

[HighlightColor property](#)

[ThumbBackColor property](#)

## BorderStyle Property

Returns or sets if the control is displayed with or without a border.

### Applies To

Image Thumbnail control

### Syntax

*object*.**BorderStyle**[=*value*]

### Data Type

Integer (enumerated)

<u>Setting</u>	<u>Description</u>
0	No border is displayed.
1 (default)	A single line, fixed size border is displayed.

### Remarks

This property can only be set at design time.

## **FirstSelectedThumb Property**

Returns the page number of the first selected thumbnail.

### **Applies To**

Image Thumbnail control

### **Syntax**

*object*.**FirstSelectedThumb**

### **Data Type**

Long

### **Remarks**

Available at run-time as read-only.

The value will be in the range 0 (zero) to ThumbCount, inclusive.

A value of 0 (zero) indicates there are no thumbnails selected.

## HighlightColor Property

Returns or sets the color of the highlight that is applied to selected thumbnail boxes.

### Applies To

Image Thumbnail control

### Syntax

*object*.**HighlightColor**[=*color*]

### Data Type

Long

### Remarks

The highlight appears only if the **HighlightSelectedThumbs** property is set to True.

Use the RGB format. The default value is black -- RGB (0, 0, 0).

The color specified should be different from the color set by the **BackColor** property to ensure the highlight remains visible against the background.

### See Also

[BackColor property](#)

[ThumbBackColor property](#)

[HighlightSelectedThumbs property](#)

## HighlightSelectedThumbs Property

Returns or sets whether a highlight will be displayed around selected thumbnails.

### Applies To

Image Thumbnail control

### Syntax

*object*.**HighlightSelectedThumbs**[={*True*|*False*}]

### Data Type

Boolean

<u>Setting</u>	<u>Description</u>
True (default)	Selected thumbnails highlight is displayed.
False	Selected thumbnails highlight is not displayed.



## Image Property

Returns or sets which image file's thumbnails are displayed.

### Applies To

Image Thumbnail control

### Syntax

*object*.**Image**[=*filename*]

### Data Type

String

### Remarks

An empty string is a valid value that resets the control so that no thumbnails are displayed.

Specifying a new image or respecifying the current image forces the following changes:

The thumbnails of the image are displayed with the thumbnail of the first page located in the upper-left corner of the control.

**SelectedThumbCount** property value is reset to (0).

**FirstSelectedThumb** property value is reset to (0).

**LastSelectedThumb** property value is reset to (0).

**ThumbCount** property value is reset to the number of pages in the specified file.

Each element in the **ThumbSelected[PageNumber]** array is reset to False.

### See Also

[Images](#)

[SelectedThumbCount property](#)

[ThumbCount property](#)

[FirstSelectedThumb property](#)

[LastSelectedThumb property](#)

[ThumbSelected\[PageNumber\] property](#)

## **LastSelectedThumb Property**

Returns the page number of the last selected thumbnail.

### **Applies To**

Image Thumbnail control

### **Syntax**

*object*.**LastSelectedThumb**

### **Data Type**

Long

### **Remarks**

Available at run-time as read-only.

The value will be in the range 0 (zero) to ThumbCount, inclusive.

A value of 0 indicates there are no thumbnails selected.

## **MouseIcon Property**

Returns or sets the cursor displayed when a custom MousePointer is used.

### **Applies To**

Image Thumbnail control

### **Syntax**

*object*.**MouseIcon**[=Picture]

### **Data Type**

Picture

### **Remarks**

Only ICO and CUR file types are supported.

### **See Also**

[MousePointer property](#)

## MousePointer Property

Returns or sets the type of mouse cursor displayed when the cursor is positioned over the control.

### Applies To

Image Thumbnail control

### Syntax

*object*.**MousePointer**[=*integer*]

### Data Type

Integer (enumerated)

<u>Setting</u>	<u>Description</u>
0 (default)	Default (For this control, the default is 'Arrow')
1	Arrow
2	Cross
3	I-Beam
4	Arrow
5	Size
6	Size NESW
7	Size NS
8	Size NW SE
9	Size W E
10	Up Arrow
11	Hourglass
12	No Drop
13	Arrow and Hourglass
14	Arrow and Question mark
15	Size All
99	Custom pointer specified by this property

### See Also

[MouseIcon property](#)

## **SelectedThumbCount Property**

Returns the number of thumbnails currently selected.

### **Applies To**

Image Thumbnail control

### **Syntax**

*object*.**SelectedThumbCount**

### **Data Type**

Long

### **Remarks**

Available at run-time as read-only.

The value will be in the range 0 (zero) to **ThumbCount**, inclusive.

A value of 0 (zero) means that no thumbnails are currently selected. This is the default value set each time a new image is specified by the **Image** property.

### **See Also**

[Image property](#)

## ThumbBackColor Property

Returns or sets the background color of the thumbnail boxes.

### Applies To

Image Thumbnail control

### Syntax

*object*.ThumbBackColor[=*color*]

### Data Type

Long

### Remarks

Use the [RGB format](#). The default value is dark gray -- RGB (128, 128, 128).

Do not confuse this property with the **BackColor** property, which sets the color for the control's entire background.

### See Also

[BackColor property](#)

[HighlightColor property](#)

## ThumbCaption Property

Returns or sets the optional custom caption used with the ThumbCaptionStyle property.

### Applies To

Image Thumbnail control

### Syntax

*object*.**ThumbCaption**[=*caption*]

### Data Type

String

### Remarks

Lets you customize the caption beneath each thumbnail.

Used when the **ThumbCaptionStyle** property specifies that captions are to be displayed.

You can use the **ThumbCaptionFont** property and **ThumbCaptionColor** property to alter the appearance of captions.

You can use the reserved characters # (number sign) to represent the thumbnail's page number, and \* (asterisk) to represent the total number of thumbnails. For example, the captions 'Page 1 of 20', 'Page 2 of 20', and so on, can be displayed by specifying the string 'Page # of \*'.

### See Also

[ThumbCaptionStyle property](#)

[ThumbCaptionFont property](#)

[ThumbCaptionColor property](#)

## ThumbCaptionColor Property

Returns or sets the color of caption labels displayed beneath thumbnails.

### Applies To

Image Thumbnail control

### Syntax

*object*.**ThumbCaptionColor**[=*color*]

### Data Type

Long

### Remarks

Use the [RGB format](#). The default value is black -- RGB (0, 0, 0).

You can use the **ThumbCaptionFont** property and **ThumbCaptionStyle** property to alter the appearance of captions.

### See Also

[ThumbCaptionFont property](#)

[ThumbCaptionStyle property](#)



## **ThumbCaptionFont Property**

Returns or sets the font used to display captions.

### **Applies To**

Image Thumbnail control

### **Syntax**

*object*.**ThumbCaptionFont**[=*font*]

### **Data Type**

OLEFONT

### **Remarks**

The default font is MS Sans Serif, regular weight, 12 point; no italic, underline, or strikethrough.

### **See Also**

[ThumbCaptionColor property](#)

[ThumbCaptionStyle property](#)

## ThumbCaptionStyle Property

Returns or sets the type of caption that appears beneath each thumbnail. You can also choose not to display captions.

### Applies To

Image Thumbnail control

### Syntax

*object*.**ThumbCaptionStyle**[=*integer*]

### Data Type

Integer (enumerated)

<b>Setting</b>	<b>Description</b>
0	No captions beneath the thumbnails.
1 (default)	Page number, left justified, beneath each thumbnail.
2	Same as Setting 1, but also includes a graphic before the caption for those thumbnail pages whose image file pages have annotations present.
3	The string set by the property <b>ThumbCaption</b> is displayed, left justified, beneath the thumbnail.
4	Same as Setting 3, but also includes a graphic before the caption for those thumbnail pages whose image file pages have annotations present.

### Remarks

You can use the **ThumbCaptionColor** and **ThumbCaptionFont** properties to alter the appearance of captions.

Note that any captions displayed are clipped to the width of the thumbnail box.

### See Also

[ThumbCaption property](#)

[ThumbCaptionColor property](#)

[ThumbCaptionFont property](#)

## **ThumbCount Property**

Returns the total number of pages present in the current image file.

### **Applies To**

Image Thumbnail control

### **Syntax**

*object*.**ThumbCount**

### **Data Type**

Long

### **Remarks**

Available at run-time as read-only.

**ThumbCount** is recalculated each time a valid image is specified, or when either of the methods **InsertThumbs** or **DeleteThumbs** is executed.

### **See Also**

[Image property](#)

[InsertThumbs method](#)

[DeleteThumbs method](#)

## ThumbHeight Property

Returns or sets the height of thumbnail boxes.

### Applies To

Image Thumbnail control

### Syntax

*object*.**ThumbHeight**[=*value*]

### Data Type

Long

### Remarks

Used with the **ThumbWidth** property to specify the size of the displayed thumbnail boxes.

Specify a height between 50 and 500 (pixels).

The default value of 110, used with the ThumbWidth property default value of 85, produces a close representation of a standard letter-sized sheet.

If the thumbnail box size is altered, new thumbnail representations must be generated for all pages of the specified image file. This is equivalent to calling the **ClearThumbs** method or respecifying the **Image** property.

### See Also

[ThumbWidth property](#)

[UISetThumbSize property](#)

## ThumbSelected[PageNumber] Property

Returns or sets the selection status of the specified thumbnail.

### Applies To

Image Thumbnail control

### Syntax

*object*.**ThumbSelected**[PageNumber][={True|False}]

### Data Type

ThumbSelected Boolean

PageNumber Long

ThumbSelected

<b>Setting</b>	<b>Description</b>
True	The thumbnail is selected.
False (default for each item in the array)	The thumbnail is not selected.

### Remarks

Valid PageNumber values must be between 1 and the current value of the **ThumbCount** property (inclusive).

If the **HighlightSelectedThumbs** property is set to True, selected thumbnails will display a border of the color set in the **HighlightColor** property.

### See Also

[HighlightSelectedThumbs](#)

[FirstSelectedThumb property](#)

[LastSelectedThumb property](#)

[SelectedThumbCount property](#)

[HighlightColor property](#)

[SelectAllThumbs method](#)

[DeselectAllThumbs method](#)

## ScrollDirection Property

Returns or sets the scrolling direction.

### Applies To

Image Thumbnail control

### Syntax

*object*.**ScrollDirection**[= {0|1}]

### Data Type

Integer (enumerated)

<u>Setting</u>	<u>Description</u>
0	Displays a horizontal scrollbar.
1 (default)	Displays a vertical scrollbar.

### Remarks

The scrollbar will be displayed in the direction selected, when required, to accommodate more thumbnails.

Note that either horizontal or vertical scroll may be specified, but not both.

## ThumbWidth Property

Returns or sets the width of the thumbnail boxes.

### Applies To

Image Thumbnail control

### Syntax

*object*.**ThumbWidth**[=*value*]

### Data Type

Long

### Remarks

Used with the **ThumbHeight** property to specify the size of the displayed thumbnail boxes.

Specify a width between 50 and 500 (pixels).

The default value of 85, used with the **ThumbHeight** default value of 110, produces a close representation of a standard letter sized sheet.

If the thumbnail box size is altered, new thumbnail representations must be generated for all pages of the specified image file. This is equivalent to calling the **ClearThumbs** method or respecifying the **Image** property

### See Also

[ThumbHeight property](#)

[UISetThumbSize method](#)

## **Methods (Thumbnail control)**

AboutBox

ClearThumbs

DeleteThumbs

DeselectAllThumbs

DisplayThumbs

GenerateThumb

GetMaximumSize

GetMinimumSize

GetScrollDirectionSize

InsertThumbs

Refresh

ScrollThumbs

SelectAllThumbs

UISetThumbSize



## ClearThumbs Method

Clears the buffered thumbnail representations of one or all pages.

### Applies To

Image Thumbnail control

### Syntax

*object*.**ClearThumbs** *pagenumber*

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Description</u>
PageNumber	Long	Optional. If a value is not specified, a default value of 0 (zero) is assumed. The value 0 clears all pages.  The one (1) relative page number that corresponds to the page whose thumbnail will be cleared.

### Remarks

Thumbnails that have been cleared will be regenerated either when needed for display, or by calling the **GenerateThumb** method.

## DeleteThumbs Method

Notifies the Thumbnail control that pages have been deleted from the image whose thumbnails are currently displayed.

### Applies To

Image Thumbnail control

### Syntax

*object*.**DeleteThumbs** *DeleteAt, DeleteCount*

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Description</u>
DeleteAt	Long	The one (1) relative page number of the first page deleted. Valid values are in the range 1 to ThumbCount.
DeleteCount	Long	Optional. The number of pages to be deleted. If a value is not specified, a default value of 1 is used.

### Remarks

The pages must be removed from the image file itself prior to calling this method. This can be done by first calling the Admin control's **DeletePages** method.

DeleteThumbs preserves the integrity of the control's internal mapping of displayed thumbnails and the pages of the specified image file. If pages are deleted from the displayed image, and this method is not called, the thumbnails displayed will not reflect the change.

This method refreshes the control's display.

### See Also

[DeletePages method](#), Wang Image Admin control

## **DeselectAllThumbs Method**

Deselects all thumbnails.

### **Applies To**

Image Thumbnail control

### **Syntax**

*object*.**DeselectAllThumbs**

### **Remarks**

This method is equivalent to setting each item in the **ThumbSelected[ ]** array to False.

### **See Also**

[ThumbSelected\[PageNumber\] property](#)

## DisplayThumbs Method

Displays thumbnails using specified options.

### Applies To

Image Thumbnail control

### Syntax

*object*.**DisplayThumbs** *ThumbNumber, Option*

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Description</u>
ThumbNumber	Long	Optional. The number of the Thumbnail whose position will be set. If a value is not specified, a default value of 1 is used, and the Option parameter cannot be specified.
Option	Integer	Optional. Sets the position of the specified Thumbnail within the control. If no value is specified, a default value of 0 (zero) is used. Allowable values are:

<u>Setting</u>	<u>Description</u>
0	Thumbnail box is displayed in the top row (for vertical scrolling).
0	Thumbnail box is displayed in leftmost column (for horizontal scrolling).
1	Thumbnail box is displayed in the middle row.
2	Thumbnail box is displayed in the bottom row (for vertical scrolling).
2	Thumbnail box is displayed in the rightmost column (for horizontal scrolling).

### Remarks

This method refreshes the control's display.

Note that it is not necessary to call this method after setting the **Image** property to initiate a display of the specified image file's thumbnails.

## GenerateThumb Method

Forces the generation or regeneration of the specified image's thumbnail representation.

### Applies To

Image Thumbnail control

### Syntax

*object.GenerateThumb* Option, PageNumber

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Description</u>
Option	Integer	Indicates when the Thumbnail of a specified page should be generated. Allowable values are:

<u>Setting</u>	<u>Description</u>
0	Generates a thumbnail if one has not already been obtained.  Not specifying a PageNumber, or specifying a PageNumber of 0 causes all pages that have not been obtained to be generated.
1	Causes the thumbnail to be generated immediately. If the thumbnail was previously generated, a new one will be obtained.  Not specifying a PageNumber, or specifying a PageNumber of 0 causes all pages that have not been obtained to be generated.

PageNumber	Long	Optional. The number of the page for which a Thumbnail will be generated. If a value is not specified, a default value of 0, to indicate that ALL pages are to be generated, is used.
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### Remarks

This method should be called to reflect any changes made to the image file after a previous thumbnail was generated.

It is not always necessary to obtain new thumbnails (Option=1). Thumbnail images that have been generated during the current session remain buffered, even though they may not be displayed.

Use caution when using a PageNumber of 0. Resulting operations can be lengthy.

## GetMaximumSize Method

Determines the largest non-scrolling control dimension that can be used to display a specified number of thumbnail boxes.

### Applies To

Image Thumbnail control

### Syntax

*object*.**GetMaximumSize**(*ThumbCount*, *ScrollBar*)

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Description</u>
ThumbCount	Long	The number of thumbnail boxes desired in the non-scrolling direction.
ScrollBar	Boolean	Indicates whether or not the size value returned allows space for a scroll bar.  True -- Allows space for a scroll bar. False -- Does not allow space for a scroll bar.

### Return Value

Long

The maximum control size, in pixels, needed to accommodate the number of thumbnail boxes specified by the ThumbCount parameter.

### Remarks

**GetMaximumSize** uses the current values of the **ScrollDirection**, **ThumbHeight**, and **ThumbWidth** properties to calculate this value.

**GetMaximumSize** and **GetMinimumSize** should be used together to determine a range of control sizes that allow for a display that fits the required number of thumbnails in the non-scrolling dimension.

A control size larger than this dimension in the non-scrolling direction will contain space for more than the specified number of thumbnails.

Once a control size is determined (based on the results of **GetMaximumSize** and **GetMinimumSize**), a call to the **GetScrollDirectionSize** method may be used to calculate the size required in the scrolling direction to display a specified number of thumbnails.

### See Also

[GetMinimumSize method](#)

[GetScrollDirectionSize method](#)

[ScrollDirection property](#)

[ThumbHeight property](#)

[ThumbWidth property](#)

## GetMinimumSize Method

Determines the smallest non-scrolling control dimension that can be used to display a specified number of thumbnail boxes.

### Applies To

Image Thumbnail control

### Syntax

*object*.**GetMinimumSize**(ThumbCount, ScrollBar)

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Description</u>
ThumbCount	Long	The number of thumbnail boxes desired in the non-scrolling direction.
ScrollBar	Boolean	Indicates whether or not the size value returned allows space for a scroll bar.  True -- Allows space for a scroll bar. False -- Does not allow space for a scroll bar.

### Return Value

Long

The minimum control size needed to accommodate the number of thumbnail boxes specified by the ThumbCount parameter.

### Remarks

**GetMinimumSize** uses the current values of the **ScrollDirection**, **ThumbHeight**, and **ThumbWidth** properties to calculate this value.

**GetMaximumSize** and **GetMinimumSize** should be used together to determine a range of control sizes that allow for a display that fits the required number of thumbnails in the non-scrolling dimension.

A control size smaller than this dimension in the non-scrolling direction will contain space for fewer than the specified number of thumbnails.

Once a control size is determined (based on results of **GetMaximumSize** and **GetMinimumSize**), a call to the **GetScrollDirectionSize** method may be used to calculate the size required in the scrolling direction to display a specified number of thumbnails.

### See Also

[GetMaximumSize method](#)

[GetScrollDirectionSize method](#)

[ScrollDirection property](#)

[ThumbHeight property](#)

[ThumbWidth property](#)

## GetScrollDirectionSize Method

Determines what the control size has to be, in the scrolling dimension, to display a specified number of thumbnails.

### Applies To

Image Thumbnail control

### Syntax

*object*.**GetScrollDirectionSize**(*ScrollDirectionThumbCount*, *NonScrollDirectionThumbCount*, *NonScrollDirectionSize*, *ScrollBar*)

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Description</u>
ScrollDirectionThumbCount	Long	The number of thumbnail boxes desired in the scrolling direction.
NonScrollDirectionThumbCount	Long	The number of thumbnail boxes desired in the non-scrolling direction.
NonScrollDirectionSize	Long	The size of the control's area, in pixels, in the non-scrolling dimension for which a corresponding scroll direction size is desired.
ScrollBar	Boolean	Indicates whether or not the size specified for NonScrollDirectionSize allows space for a scroll bar.  True -- Allows space for a scroll bar. False -- Does not allow space for a scroll bar.

### Return Value

Long

Returns the control size, in pixels, needed to accommodate the number of thumbnail boxes specified by the parameter ScrollDirectionThumbCount in the scrolling direction.

### Remarks

If NonScrollDirectionSize is determined by first calling the **GetMaximumSize** and **GetMinimumSize** methods, **GetScrollDirectionSize** can calculate the size and scrolling direction required to display a specified number of thumbnails.

The value of the argument NonScrollDirectionThumbCount must be the same value passed as the argument ThumbCount to the GetMaximumSize and GetMinimumSize methods.

The value of the argument ScrollBar must be the same in the GetMaximumSize, GetMinimumSize, and GetScrollDirectionSize methods.

### See Also

[GetMinimumSize method](#)

[GetMaximumSize method](#)

[ThumbWidth property](#)

[ThumbHeight property](#)



ScrollDirection property

## InsertThumbs Method

Informs the Thumbnail control that pages have been inserted into the currently displayed image file.

### Applies To

Image Thumbnail control

### Syntax

*object*.**InsertThumbs** *InsertBeforeThumb*, *InsertCount*

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Description</u>
InsertBeforeThumb	Long	Optional. The page number of the thumbnail before which the new thumbnails will be inserted.  A value of 1 means the thumbnails will be inserted before the first page.  A value of <b>ThumbCount</b> +1 means the thumbnails will be inserted after the last page.  If InsertBeforeThumb is not specified, the default value of <b>ThumbCount</b> +1 is used, and the InsertCount parameter cannot be set.
InsertCount	Long	Optional. The number of pages inserted.  If a value is not specified, the default value of 1 is used.

### Remarks

The pages must be inserted into the image file itself prior to calling this method. This can be done by first calling the Admin control's **Insert** method.

**InsertThumbs** preserves the integrity of the control's internal mapping of displayed thumbnails and the pages of the specified image file. If pages are inserted into the displayed image file and this method is not called, the thumbnails displayed will not reflect the change.

This method refreshes the control's display.

### See Also

[ThumbCount property](#)

[InsertThumbs method](#)

[Insert method](#), Wang Image Admin control

## **Refresh Method**

Repaints the control.

### **Applies To**

Image Thumbnail control

### **Syntax**

*object*.**Refresh**

### **Arguments**

None

### **Remarks**

If the control has an active window, the refresh occurs synchronously. Otherwise, the control is refreshed asynchronously.

This method refreshes the control's display.

## ScrollThumbs Method

Specifies a direction and amount for scrolling.

### Applies To

Image Thumbnail control

### Syntax

*object*.**ScrollThumbs**(*Direction, Amount*)

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Description</u>
Direction	Integer	<p>Specifies the direction of scroll.</p> <p>A value of 0 (zero) scrolls the control towards the last thumbnail.</p> <p>A value of 1 scrolls the control towards the first thumbnail.</p>
Amount	Integer	<p>Specifies the amount of scroll desired.</p> <p>A value of 0 (zero) scrolls in the requested direction by almost a full control screenful. A small amount of original screen area is left to serve as a reference.</p> <p>The amount scrolled is equivalent to the amount scrolled when you click in the scroll bar (between the up / down arrows and the scroll box).</p> <p>A value of 1 scrolls the control in the requested direction by a small amount.</p> <p>The amount scrolled is equivalent to the amount scrolled when you click the scroll bar's up or down arrow box once.</p>

### Return Value

Boolean

The return value indicates if the control was scrolled.

<u>Setting</u>	<u>Description</u>
True	The scroll was performed.
False	The scroll was not performed (for example, if the scroll was at either end of its scrolling limit and could not scroll any further).

### See Also

[ScrollDirection](#) property

## SelectAllThumbs Method

Selects all thumbnails.

### Applies To

Image Thumbnail control

### Syntax

*object*.**SelectAllThumbs**

### Remarks

This method is equivalent to setting each item in the **ThumbSelected[ ]** array to True.

### See Also

[ThumbSelected\[ \] property](#)

## UISetThumbSize Method

Displays a dialog box from which a user can set the width and height of the thumbnail box.

### Applies To

Image Thumbnail control

### Syntax

*object*.**UISetThumbSize**(Image, PageNumber)

### Arguments

<u>Parameter</u>	<u>Data Type</u>	<u>Description</u>
Image	String	Optional. Used with the PageNumber parameter to specify the name and page of the image file to be displayed in the sample thumbnail.  If not specified, the default value of an empty string will be used, and an image will not be displayed.
PageNumber	Long	Optional. Used with the Image parameter to specify the name and page of the image file to be displayed in the sample thumbnail.  If a value is not specified, a default value of 1 is used.

### Return Value

Boolean

<u>Setting</u>	<u>Description</u>
True	The dialog box was dismissed with the OK button, generally indicating new values have been set for the <b>ThumbHeight</b> and <b>ThumbWidth</b> properties.
False	The dialog box was dismissed with the CANCEL button, indicating the values for the ThumbHeight and ThumbWidth properties are unchanged.

### Remarks

If the thumbnail box size is altered, new thumbnail representations must be generated for all pages of the specified image file. This is equivalent to calling the **ClearThumbs** method or respecifying the **Image** property.

### See Also

[ClearThumbs method](#)

## Events (Thumbnail control)

The Events used by the Thumbnail control are all standard.

*Click	*MouseDown
*DbIclick	*MouseMove
KeyDown	*MouseUp
KeyUp	

Events with an asterisk (\*) use the additional argument ThumbNumber.

### Argument

<u>Parameter</u>	<u>Data Type</u>	<u>Description</u>
ThumbNumber	Long	The number of the thumbnail on which the event occurred. This parameter is 1 relative (that is, a value of 1 means the event occurred on the thumbnail for page 1).  A 0 (zero) value means an event occurred on the control, but not on a thumbnail.

