EzImage Script Reference
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This document applies to version 1.01 of EzImage

This document provides basic reference information on the commands that can be found in script files that are generated by the EzImage application, specifically the set of actions written to a script when using the recording facility.

The scripting system is not complex by any means. In fact, creating scripts using the recording method generally works in most cases. Script files contain a sequence of commands to execute in a specific order. Beyond that, there is no formal language to learn. If you know the actions that EzImage performs, and the parameters they require, then you will have pretty much mastered the script file format.

DISCLAIMER
Script files were designed for the EzImage recording process. However, the simple text format convention of a script file certainly does allow one to alter the contents outside of the EzImage application. For this reason, we have decided to provide a reference document outlining the complete command list and format of a script file.

Scripts are based on a precise sequence of actions, spelling, and syntax. If you do not follow the basic structure and sequence of a script file in the way it was intended, the script file may behave unpredictably when executed. You are responsible for the execution of script files that are created outside of the EzImage recording process.

Disabled Script Actions
Keep in mind that the user has the final control in the execution of certain script commands, specifically those related to file operations. If actions based on files are disabled, then they will more than likely affect any operation that refers to any window other than the active image.

Online Command Help
This reference manual does not provide details on the how each script command works. The parameter lists generally correspond to options available within the EzImage application. Where commands vary from the corresponding menu actions (or have no menu equivalent) then the appropriate summary help will be provided here. For all other cases, refer to the online help for the application.

Basic Content Format
Script files are plain text files, one line per script command. The file has a basic structure containing two parts: Header information, and body content, which is composed of a series of commands and command parameters.

There is no wrapping of text lines in a script file. Each line in a script command is terminated by the standard carriage return + linefeed (ASCII 13 + ASCII 10) character pair.

Comments in a script file can be used on a line-basis only, by placing a pound (#) character in the first position of the line. You can not place comments on the same line following any command and its parameter list.

Blank lines are ignored in the file.

Header Section
The header section of a script file contains exactly 7 lines of information:

```
Line 1: Script Type Identifier
Line 2: Version Number
Line 3: Date of Creation
Line 4: File Name
Line 5: Description for hint help
Line 6: Palette Name
Line 7: Author
```

The Author field is the only line that can have a blank parameter string. Each of these lines begins with the # comment character (these are not comment lines, they are simply marked with the # character to identify header content in the script).

Lines 2-7 contain a 4-character abbreviation that can't be altered in any way:

```
# Vers:
# Date:
# File:
# Desc:
# Name:
# Auth:
```

Script Identifier:
This will be `EZIMAGE SCRIPT:<Format Tag>`, where the tag is a single character that can be one of:

```
M: Shortcut menu script
D: Dialogs enabled
N: Non-dialog (silent) mode
```

You should never alter a shortcut menu script, since they are never really involved in the play back system – they are simply shortcut references to a main menu action. This type of script file is generated by the **Menu Record** facility within EzImage.

Version Number:
This is currently 1.01. You should not change this number.

Date:
This is the date that the file was created, in YYYY/MM/DD HH:MM am/pm format

File:
This is the name of the script file. It should match the actual name of the script file and is used for cross-reference integrity.

Description:
This is the message that appears in the status bar hint message area of the EzImage main view.

Name:
This is the palette name and the name that will appear in a main menu shortcut.

Author:
The author field is optional, but can be used to identify the owner of the script.

Example:

```
# EZIMAGE SCRIPT:N
# Vers: 1.01
# Date: 2003/11/29 01:48 pm
# File: vfade.scr
# Desc: Apply a vertical color fade effect.
# Name: Vertical Color Fade
# Auth: SoftPro 2010 Inc.
# Please do not modify the 7 lines above or the script may fail to run.

2RGBA
VIEWALPHA
FILL GRADIENT NORMAL 100 NO L_T2B 00.00.00 FF.FF.FF
VIEWALL
S_ALL
F_CREATE REGION COPY
2GRAY
F_BLEND
S_NONE
2RGB
```

Command Body Section
This section contains script commands. There is no language syntax for a script. There are no control loops, variables, indentation structure or anything else that you might find in a programming or script language. The body content is simply a sequence of actions that correspond to keyboard events, mouse clicks, menu, or button commands within the EzImage application.

The format of a script command is quite simple:

```
COMMAND NAME [Parameter 1] [Param. 2] [Param. 3] … [Param. N]
```

Some commands require multiple lines of text to be recorded properly, such as a freehand polygon selection. For those commands, each additional line will begin with some type of punctuation character, such as a colon or > symbol. Refer to the individual command help to see how multiple line formats are implemented.

Parameters
Parameters are separated by spaces, and there must be at least one space between a command and the first parameter. Parameters are in many cases optional. For example, the 2INDEXED command is used to convert an image to indexed-color mode. If you omit all of the parameters, then the command will still run, but will result in the dialog window for indexed-color conversions being displayed.

All parameters are entered in upper case letters unless the parameter is a text string. All command words must also be entered as upper case text.

Required and Optional Parameters
Required parameters use the format: `<Required Parameter>.`

Optional parameters use the format: `[Optional Parameter].`

Optional parameters usually depend on the syntax of the parameter list itself. For example, a third parameter may only be needed depending on the value of the second parameter. Since the parameters themselves relate to properties you generally define in the dialog window for the command in EzImage, it is fairly simple to determine when to provide the optional parameters.

Most commands allow you to omit required parameters. If you omit a required parameter, you must omit *all* parameters and just enter the command word by itself. This format is allowable for commands that provide a dialog window equivalent in the application.

Numeric Values and Precision
Where numeric values need to be entered, you will have a choice between integers and floating point numbers. All floating point values that use a fixed number of digits after the decimal point are limited to that precision. If you see a range indicated as `0.10 to 9.99`, then the precision is .01. If you don't see any decimal point in the range for a parameter, then you should use integer values only.

String Parameters
If you are providing text parameters such as file names, you need to enclose the text in double quotation characters, only if the string contains spaces, as in `"C:\Sample Images\Sample1.tif"`.

Percentage Values
When parameters are described as percentage values, do not add a percent character after the value. Simply enter a percentage as you would for any other numeric value.

If You Are Unsure, Record It
With a few exceptions, all commands can be generated from the recording facility within EzImage. If you wish to see how commands are formatted in the script, record one, then open it in your favorite text editor.

Multiple Syntax Formats
Some commands have multiple parameter formats, and will be indicated with more than one syntax entry.

Parameter Units and Formats
This section describes the various formats for parameters that must be entered in a specific way. You will see references to these format types appearing in the syntax for many commands.

Dimension Unit
This specifies the coordinate or size of image information. There are several units to choose from, which are defined based on the character code that follows the value (the code can be lower or upper case text).

```
Percent of Image Size: %                  (50%)
Inches:                I or I             (8.5i)
Centimeters:           C or c             (17.9c)
Millimeters:           M or m             (315.5m)
Pixels:                No character code  (1024)
```

The dimension value can be any whole or fractional number. EzImage will eventually convert this value into equivalent pixel dimensions. Not all commands will accept the percentage option, depending on whether it is applicable. For example, the NEW command can't specify percentage of image size, since there is no image to base this on. Inches, centimeters, and millimeters are based on the dots-per-inch print resolution (DPI) of the image. For example, a 3.5-inch value with an image that is 300 dots per inch is the same as 1050 pixels.

Dimension units can not exceed a value that would result in a pixel conversion of more than 30,000 pixels in width or height.

Resolution Unit
For any command that requires a print resolution, this value is used. It has two possible formats:

```
Dots per inch:       Add I or i to the end of the value
Dots per centimeter: Add C or c to the end of the value
```

The value will be converted to dots per inch in the image.

Color Unit
Color is specified using one of the following formats:

```
FORE:  Current foreground color
BACK:  Current background color
WHITE: Pure white (RGB = 255,255,255)
BLACK: Pure black (RGB = 0,0,0)
GRAY:  Medium gray (RGB = 128,128,128)

Hue-Saturation-Value: HHHH:SSSS:VVVV

Hue        = 0.0 to 359.0 degrees
Saturation = 0.0 to 100.0 percent
Value      = 0.0 to 100.0 percent
```

There is an implied decimal point after the 3rd digit, allowing for accuracy to one decimal point.

```
Red-Green-Blue Decimal: RRR.GGG.BBB

Red   = 000 to 255
Green = 000 to 255
Blue  = 000 to 255

Red-Green-Blue Hexadecimal: RR.GG.BB

Red =   00 to FF
Green = 00 to FF
Blue =  00 to FF
```

Leading zeroes must be used for all formats to ensure that the length of each component is 4 for HSV mode, 3 for decimal mode, and 2 for hexadecimal mode.

Blend Mode
For painting/imaging tools that use blend modes, it must be one of the following codes:

```
NORMAL
MULTIPLY
SCREEN
DARKEN
LIGHTEN
DIFFERENCE
NEGATE
EXCLUSION
OVERLAY
HARDLIGHT
SOFTLIGHT
COLORDODGE
COLORBURN
HUE
SATURATION
COLOR
LUMINOSITY
```

Tool Name
Where a painting command requires a brush tool reference, use one of the following codes:

```
PENCIL
ERASER
BRUSH
LINE
DODG
BURN
SPONGE
CLONE
BLUR
SHARP
POLY (Polyline version of Line tool)
```

Gradient Name
For painting/imaging tools that use gradients, use one of the following codes:

```
L_L2R : Linear left to right
L_R2L : Linear right to left
L_T2B : Linear top to bottom
L_B2T : Linear bottom to top

L_HI : Linear horizontal in
L_HO : Linear horizontal out
L_VI : Linear vertical in
L_VO : Linear vertical out

45_TL : 45° linear from top left
45_BL : 45° linear from bottom left
45_TR : 45° linear from top right
45_BR : 45° linear from bottom right

45_TLI : 45° linear top left inward
45_TLO : 45° linear top left outward
45_TRI : 45° linear top right inward
45_TRO : 45° linear top right outward

ANG_TL : Angular top left
ANG_BL : Angular bottom left
ANG_TR : Angular top right
ANG_BR : Angular bottom right

ANG_TLF : Angular top left from
ANG_BLF : Angular bottom left from
ANG_TRF : Angular top right from
ANG_BRF : Angular bottom right from

R_TO   : Rectangular to center
R_FROM : Rectangular from center

E_TO   : Elliptical to center
E_FROM : Elliptical from center
```

```
C_L  : Conical from left
C_R  : Conical from right
C_T  : Conical from top
C_B  : Conical from bottom
C_TL : Conical from top left
C_BL : Conical from bottom left
C_TR : Conical from top right
C_BR : Conical from bottom right
```

File Reference Format

A file reference format allows you to refer to a file without having to use a path name. This is only for saving and loading files within the EzImage application path.

You can refer to any file with the completely qualified path and file name, using drive letter or UNC share name format. For file reference only, it is based on a specific subfolder within the application path and also depends on the file type. When omitting the path name, place a colon character immediately before the file name. This allows EzImage to add the assigned application path and folder name to the file name.

Color Palette Files: **User** Folder

```
PALETTE ":Palette File"
```

Saving Images: **Temp** Folder

```
SAVE ":Sample1.bmp" BMP 24 0 0
```

Floater Files: **Floaters** Folder

```
F_CREATE FILE ":sample1.flt" NONE NONE
```

Workspace Files: **Work** Folder

```
SAVEW ":sample1.ezw"
```

Region Files: **Regions** Folder

```
S_SAVE REGION ":sample1.ezr"
```

Fill Patterns: **Patterns** Folder

```
S_SAVE PATTERN ":sample1.bmp"
```

Color Adjustment Files: **User** Folder

```
COLADJ ":adjust1.cha"
```

File Formats for Saving Images

For the file save commands, you must provide an image file format code. Each format can contain several different encoding formats, so the list is actually quite large.

JPEG Formats:

```
JPEG          : JFIF 4:4:4
JPEG_422      : JFIF 4:2:2
JPEG_411      : JFIF 4:1:1
JPEG_TIF      : JTIF 4:4:4
JPEG_TIF_411  : JTIF 4:1:1
JPEG_TIF_422  : JTIF 4:2:2
JPEG_EXIF     : JPEG EXIF
JPEG_EXIF_411 : JPEG EXIT 4:1:1

GIF : GIF Files (Note: May be disabled in current version of EzImage)
```

TIFF Formats:

```
TIF_LZWRGB  : TIFF RGB with LZW
TIF_LZWCMYK : TIFF CMYK with LZW
TIF_LZWYCC  : TIFF YCC with LZW

(Note: LZW formats may be disabled in current version of EzImage)

TIFF      : Uncompressed RGB
TIFF_CMYK : Uncompressed CMYK
TIFF_YCC  : Uncompressed YCC

TIFF_PB     : Packbits RGB
TIFF_PBCMYK : Packbits CMYK
TIFF_PBYCC  : Packbits YCC

TIFF_CMP  : CMP Compressed (May be disabled in current version)
TIFF_JBIG : JBIG Compressed  (May be disabled in current version)
TIFF_EXIF : EXIF Compressed
```

Bitmap Formats:

```
BMP      : Uncompressed Windows bitmap
BMP_RLE  : RLE Compressed Windows bitmap
BMP_OS21 : OS/2 Version 1
BMP_OS22 : OS/2 Version 2

ICO : Icon Files

CUR : Cursor Files

PCD : Kodak Photo CD (Can not write this format)

IFF_ILMB : IFF Interleaved Bitmap
IFF_CAT  : IFF CAT format
```

FPX Formats:

```
FPX      : Uncompressed
FPX_SC   : Single Color Compression
FPX_JPEG : JPEG Fixed Compression
FPX_Q    : JPEG Variable Compression

PCX : ZSoft PCX

PNG : Portable Network Graphics

PSD : Photoshop PSD 3.0

TGA     : True Vision Targa
TGA_RLE : RLE Compressed TGA

SGI     : Silicon Graphics Image
SGI_RLE : RLE Compressed SGI

PCT : Mac PICT Image

SCT : Scitex Conmtinuous Tone

XPM : XPicmap Image
```

TIFF Black and White Formats:

```
CCITT      : TIFF CCITT format
CCITT_G31D : TIFF CCITT Group 3 1-Dimension
CCITT_G32D : TIFF CCITT Group 3 2-Dimension
CCITT_G42D : TIFF CCITT Group 4 2-Dimension
```

Command Summary
The following lists all of the available commands that may appear in a script file. They are grouped by method type. The remainder of this manual organizes the commands in alphabetical order.

Conversions:

2GRAY – Convert to gray scale mode
2HALFTONE – Convert image to halftone
2INDEXED – Convert image to indexed color
2RGB – Convert image to RGB 24-bit format
2RGBA – Convert image to RGBA 32-bit format
THRESHOLD – Convert to black and white using an intensity threshold
VIEWALL – View all color channels
VIEWALPHA – View the alpha channel
VIEWBLUE – View the blue channel
VIEWGREEN – View the green channel
VIEWRED – View the red channel

Image Transformations:

AUTOTRIM – Crop image based on contrasting edges
BORDER – Add borders or crop an image
CROP – Crop an image
DESKEW – Correct a crooked image by auto-rotation
FLIPH – Horizontal flip
FLIPV – Vertical flip
RESIZE – Resize an image
ROT180 – Rotate 180 degrees
ROT90CCW – Rotate 90 degrees counter-clockwise
ROT90CW – Rotate 90 degrees clockwise
ROTATE – Rotate by an arbitrary angle
SHEAR – Shear an image

Color Adjustments:

BRICON – Brightness and contrast adjustment
COLADJUST – Adjust color channels
COLBAL – Adjust color balance
COLMIX – Color mixer
EQUALIZE – Perform histogram equalization to enhance dark images
HUESAT – Adjust hue, saturation and lightness
LEVELS – Adjust highlights, midtones, and shadows
STRETCH – Increase the contrast in an image by stretching intensity levels

Region Selection Commands:

S_AFROM – Replace region with the alpha channel
S_ALL – Select all
S_ANCHOR – Set region placement anchor
S_ATO – Replace alpha channel with a region mask
S_CLEAR – Clear region area with background color
S_CONTRACT – Contract the active region
S_COPY – Copy the region to temporary memory
S_EDGES – Show/hide region outline
S_EXPAND – Expand the active region
S_FROM_F – Create a region from the floater mask
S_INVERT – Invert the region area
S_LOAD – Load a region outline from file
S_MAKE – Make a region selection
S_MOVE – Move a region selection
S_MRECT – Make a region selection rectangular
S_NONE – Remove the active region
S_PASTE – Add the temporary region to the current one
S_REDO – Restore the prior region selection
S_SAVE – Save the region outline or image area
S_TEMPCLEAR – Clear the memory for a temporary region outline

Floater Commands:

F_ALPHA – Create a floating image from the alpha channel
F_ALPHA2MASK – Replace floater mask with alpha channel
F_BLEND – Blend a floater and image using alpha channel
F_CANCEL – Cancel (remove) the active floater
F_CREATE – Create a floating image
F_LSHAPE – Create a shape floater using the previous instance
F_MASK2ALPHA – Copy the floater mask to the alpha channel
F_MODES – Set floater mode flags
F_MOVE – Move a floating image
F_PASTE – Paste floater at current position
F_RENDER – Render floater using color or image
F_SAVE – Save floater to file
F_STAMP – Stamp floater at current position

Painting Tools:

BUCKET – Paint bucket fill
P_END – End current painting operation
P_FILE – Change the brush file
P_LINE – Draw a line with current painting tool
P_PIXEL – Single retouch of the painting tool
P_START – Define painting options
RESETFB – Reset foreground and background colors
SETBACK – Set current background color
SETCLONE – Set the cloning source point
SETFORE – Set the current foreground color
SWAPFB – Swap foreground and background colors

General Alteration Commands:

CLEARALL – Clear entire image with the current background color
FILL – Fill an image with color, gradient, or pattern
INVERT – Invert the image color information

Clipboard Commands:

CLIPCLEAR – Clear the clipboard contents
COPY – Copy floater/region selection to clipboard
CUT – Cut (move) floater/region selection to clipboard
PASTE – Paste the clipboard contents as a new floating image

Files and Window Control:

CLOSE – Close the active image window
CLOSEALL – Close all image windows
DUPIMAGE – Duplicate image to another window
IMG100 – Show image at 100% magnification
IMG2WIN – Fit image to window
MESSAGE – Show a script message
NEW – Create a new image
OPEN – Open an image file
OPENW – Open a workspace file
PALETTE – Load a user palette file
REVERT – Revert to the last saved version of an image
SAVE – Save active image window to file
SAVEW – Save active window to a workspace file
STOP – Stop script playback
TEMPCLEAR – Clear temporary image file
TEMPLOAD – Restore the image from a temporary file
TEMPSAVE – Save the image window to a temporary file
WIN2IMG – Fit the window to the image
WINDOW – Set the active image window
WINPOS – Set window position and size
ZOOM – Set the magnification level for the active window

Effects and Filters:

EF_EMBOSS – Apply an emboss effect
EF_MOSAIC – Apply a mosaic effect
EF_NOISE – Add noise to an image
EF_OILIFY – Apply an oilify effect
EF_POSTERIZE – Apply a posterize effect
EF_SOLARIZE – Apply a solarize effect

FI_AVERAGE – Pixel average filter
FI_BLURSHARP – Blur or sharpen an image
FI_GAUSS – Gaussian blur filter
FI_MEDIAN – Median noise reduction filter
FI_MOTION – Motion blur filter
FI_UNSHARP – Sharpen an image

2GRAY – Convert an Image to Gray Scale Format

Syntax:

```
2GRAY
```

This command converts an image or floating selection to 256 levels of gray using an ordered palette (black is palette index 0, white is palette index 255). If you have an unordered gray scale image or a reversed format (white is index 0), this will correct the image into the proper format. Gray scale images are manipulated at the pixel level in EzImage, not at the palette level, which is why it is important that the palette be black->white ordered format.

When applying a gray level conversion to a floating image, the source image must be in RGB or RGBA format. The image will remain in this format, but the color information will be discarded in the floater.

2HALFTONE – Convert an Image to Black & White Halftone Format

Syntax:

```
2HALFTONE <Type> <Angle> <Direction> <Dot Size>

Type:      PRINT|DISPLAY|RECT|CIRC|ELLIP|RANDOM|LINEAR
Angle:     0 to 360 degrees, with .01 degree resolution
Direction: CW (Clockwise) or CCW (Counter-clockwise)
Dot Size:  1 to 30
```

2INDEXED – Convert an Image to Indexed Color Format

Syntax:

```
2INDEXED <Bits> <Method> <Palette> <Color Limit> [Quality]

Bits:        Bit depth, 1 to 8 (ADAPTIVE must be 6+ bits)
Method:      NONE
             ADAPTIVE
             FLOYD (Floyd Steinburg)
             STUCKI
             BURKES
             SIERRA
             ARCE (Stevenson Arce)
             JARVIS
             ORDERED
             CLUSTERED
Palette:     OPTIMAL
             USER
             WEB
             FIXED
             WINDOWS
Color Limit: 2 up to Bits limit (i.e. 128 for 7 bits)
Quality:     1 (high) to 30 (low), ADAPTIVE method only
```

Note: The Adaptive method does not result in dithering of neighborhood pixels – it is a best palette fit, and as such, the palette type is always OPTIMAL.

If you specify a USER palette, you must load one into EzImage using the PALETTE script command. The method will then attempt to map the image pixels to fit that palette.

2RGB – Convert an Image to 24-bit RGB Format

Syntax:

```
2RGB
```

This command will convert any bit depth image to RGB format. If the original image was 32 bits, the alpha channel will be discarded. If the image was indexed color or gray scale, the palette will be discarded and the pixels remapped. EzImage works with RGB images in the common Blue-Green-Red storage format.

2RGBA – Convert an Image to 32-bit RGBA Format

Syntax:

```
2RGBA
```

This command converts an image to RGB format and adds a blank alpha channel (all black pixels).

AUTOTRIM – Crop an Image Based on Contrasting Edges

Syntax:

```
AUTOTRIM <Type> [X] [Y] <Tolerance> <Trim> <Border> <Color> <Ignore> [W] [H]

Type:      AUTO|TOPLEFT|BOTTOMRIGHT|SAMPLE
X,Y:       Pixel coordinate for SAMPLE type
Tolerance: 0 to 244
Trim:      Combination of L (Left), T (Top), R (Right), and B (Bottom)
Border:    ALL <Amount> or
           LEFT <Amount> TOP <Amount> RIGHT <Amount> BOTTOM <Amount>
Color:     Fill color for border expansion
Ignore:    YES = Ignore noise areas, NO = Eliminate noise areas
W,H:       Noise area elimination: minimum width and height
```

The type determines the source reference sample point. Automatic does not use any specific pixel position, while Sample must use the (X, Y) coordinate reference. For non-Sample types, the coordinate pair must not appear in the parameter list.

The Trim parameter determines which edges to trim. For automatic mode, the parameter must be set to LTRB, since all edges are affected.

The Border parameter determines cropping or expansion. Use negative values to crop after trim, or positive values to expand after trim. Use ALL plus an amount between –100 and 100 pixels to apply to all 4 edges at once. For individual cropping or expansion, add one or more of the edge type parameters, as in:

```
AUTOTRIM TOPLEFT 90 LTRB LEFT 10 RIGHT 10 TOP –5 BOTTOM –5 FF.FF.FF YES
```

The Color parameter is the border expansion color.

The Ignore parameter determines noise elimination. For Automatic type, the parameter must be set to YES. If you choose to eliminate noise areas from the image, set the parameter to NO and add the minimum width and height after this.

BORDER – Adjust Image Size by Adding a Border or Cropping

Syntax:

```
BORDER <Direction> <Width> <Height>

Direction: N|NE|E|SE|S|SW|W|NW|C
Width:     Width change or 0 for no change
Height:    Height change or 0 for no change
```

The direction corresponds to points on a compass, starting at North (N) and working clockwise to Northwest (NW). The last value of C will apply the expansion or crop based on the center of the image. This parameter determines the anchor point for the method.

The width and height values are Dimension Unit format. To exclude either a width or height change, set the value to 0. Values less than the image size will result in a crop. Values greater than the image size result in border expansion, using the current background color for filling in the new areas.

BRICON – Adjust Brightness and Contrast

Syntax:

```
BRICON <Brightness> <Contrast> <Histo-contrast>

Brightness:     -100.0 to 100.0 or 0 for no change
Contrast:       -100.0 to 100.0 or 0 for no change
Histo-contrast: YES or NO
```

Brightness and contrast values are accurate to 0.1 unit. Use negative values to decrease the brightness and contrast of an image.

Histo-contrast uses a histogram of intensity levels to achieve slightly better results on some images.

This command affects images, regions, and floaters.

BUCKET – Paint Bucket Fill

Syntax:

```
BUCKET <X> <Y> <Color> <Blend> <Opacity> <Tolerance>

X,Y:       Pixel coordinate where the fill begins
Color:     Fill color
Blend:     Blending mode
Opacity:   1 to 100 percent
Tolerance: 0 to 255
```

The color parameter is in Color Unit format.
The blend parameter is in Blend Unit format.
The (X, Y) coordinate pair are in Dimension Unit format.

This command affects images and regions.

CLEARALL – Clear the Entire Image

Syntax:

```
CLEARALL
```

This command will replace all pixels in the image with the current background color. It can be used while a floating image is active.

CLIPCLEAR – Clear Clipboard Contents

Syntax:

```
CLIPCLEAR <Source>

Source: ALL|IMAGE|FLOATER
```

Use Image to remove the DIB format image only. Use Floater to remove only the floater format.

CLOSE – Close Active Image Window

Syntax:

```
CLOSE <Window> <Save>

Window: The image name that appears in the window title bar
Save:   NOSAVE for close without save or SAVE to close with prompting enabled
```

The Save parameter determines if changes will be saved to a file when the window closes. With the NOSAVE option, you will never be prompted to save changes, therefore the image is discarded with the loss of any image modifications.

CLOSEALL – Close All Image Windows

Syntax:

```
CLOSEALL <Save>

Save: NOSAVE for close without save or SAVE to close with prompting enabled
```

As with the CLOSE command, the Save parameter determines if prompting should be enabled for any images that have been modified. With NOSAVE as a parameter, all image windows are closed without any type of prompting.

COLADJUST – Color Channel Adjustment

Syntax:

```
COLADJUST <File>

COLADJUST <*> <Red Adjust> <Green Adjust> <Blue Adjust>

File:         A channel adjustment file with an extension of .CHA
Red Adjust:   A set of three values:
Value 1:      Percentage of Red to add to Red output channel
Value 2:      Percentage of Red to add to Green output channel
Value 3:      Percentage of Red to add to Blue output channel

Green Adjust: A set of three values:
Value 1:      Percentage of Green to add to Red output channel
Value 2:      Percentage of Green to add to Green output channel
Value 3:      Percentage of Green to add to Blue output channel

Blue Adjust:  A set of three values:
Value 1:      Percentage of Blue to add to Red output channel
Value 2:      Percentage of Blue to add to Green output channel
Value 3:      Percentage of Blue to add to Blue output channel

Red Value 1 + Green Value 1 + Blue Value 1 = New Red
Red Value 2 + Green Value 2 + Blue Value 2 = New Green
Red Value 3 + Green Value 3 + Blue Value 3 = New Blue
```

This command affects images, regions and floaters.

COLBAL – Color Balance

Syntax:

```
COLBAL <File>

COLBAL <*> <Highlights> <Midtones> <Shadows> <Luminosity>

File:         A color balance file with an extension of .CBA

Highlights/Midtones/Shadows: A set of 3 color shift values:
Cyan/Red Shift:      -100 is an extreme cyan shift
Magenta/Green Shift: -100 is an extreme magenta shift
Yellow/Blue Shift:   -100 is an extreme yellow shift
Luminosity:          YES to preserve the luminosity, NO to ignore
```

The shift values are in percentages, from –100 to 100.

This command affects images, regions and floaters.

COLMIX – Color Mixer

Syntax:

COLMIX <File>

COLMIX <*> <Type> <Red/Gray Mix> <Green Mix> <Blue Mix>

```
File: A color mixer file with an extension of .MIX
Type: RGB or GRAY (Custom gray scale conversion)
Mix:  Set of 4 percentage values: Red, Green, Blue, and Constant
```

The mix sets are applied as a combination of input levels to generate new output levels. The red/gray mix will mix a percentage of input red, input green, input blue, and a constant to generate a new red channel or a new gray scale image is the GRAY option is chosen. The percentages range from –200 to 200 percent. The constant is a percentage of full intensity (255) that is added or subtracted from the output channel after the initial color mix of red, green, and blue is made.

This command affects images, regions and floaters.

COPY – Copy Region Area or Floater to the Clipboard

Syntax:

```
COPY
```

If an active region selection is present, the pixel data for that region is placed in the clipboard in DIB format. If the region is not rectangular, the remaining pixel information outside the region shape is filled with the current background color. If a floater is present, then it is placed in the clipboard in a proprietary image format that is not accessible to other applications.

CROP – Crop an Image

Syntax

```
CROP
```

This command only applies if an active region is present in the image. The bounding rectangle that defines the region will be used to set the width and height of the image.

CUT – Cut (Move) Region Area or Floater to the Clipboard

Syntax:

```
CUT
```

This command is similar to the COPY command in that it will place a DIB or floater image in the clipboard. However, the original image will be altered in the following way:

If a region is being moved to the clipboard, the original pixel area defined by it will be filled with the current background color.

If a floating image is moved to the clipboard, it will simply be lifted from the image then deleted. You can recall the floater at any time by using the PASTE command and it will be placed in the same (X, Y) coordinate position.

DESKEW – Correct the Skew of an Image Using Edge Analysis and Rotation

Syntax:

```
DESKEW <W> <H> <Tolerance> <Color> <Sample> [X] [Y]

W,H:       The minimum width and height of the image area to isolate
Tolerance: A value between 0 and 255. Increase this to select more pixels
Color:     File color or NONE to use the color of the top left pixel
Sample:    YES to use a sample reference point, NO to use top left pixel
X,Y:       The pixel coordinate of the sample point if used
```

The width and height are in pixels, and must be a minimum size of 16 by 16 and no larger than the image dimensions. Any image areas smaller than this width and height are counted as noise and eliminate from the analysis. If more than one solid area of image information is isolated from the background color and noise areas, the deskew operation will fail.

DUPIMAGE – Duplicate Image

Syntax:

```
DUPIMAGE <Image Name>
```

The image name must not be the same as that of any other open window in the application. You should avoid using a file extension with this command, since it will be added when the file is saved, based on the output format.

EF_EMBOSS – Apply an Emboss Effect

Syntax:

```
EF_EMBOSS <Depth> <Direction>

Depth:     A value between 0.1 and 100.0
Direction: N|NE|E|SE|S|SW|W|NW
```

This command affects images, regions and floaters.

EF_MOSAIC – Apply a Mosaic Effect

Syntax:

```
EF_MOSAIC <Size>

Size: The size of the tiling areas
```

This command affects images, regions and floaters.

EF_NOISE – Add Noise to an Image

Syntax:

```
EF_NOISE <Master> <Red> <Green> <Blue>

Master: A level from 0.1 to 100.0 for all channels, use 0 for no change
Red: A noise level from 0.1 to 100.0 for the red channel, 0 for no change
Green: A noise level from 0.1 to 100.0 for the green channel, 0 for no change
Blue: A noise level from 0.1 to 100.0 for the blue channel, 0 for no change
```

This command affects images, regions and floaters.

EF_OILIFY – Apply an Oilify Effect

Syntax:

```
EF_OILIFY <Size>

Size: Pixel neighborhood size, a value from 2 to 62.
```

This command affects images, regions and floaters.

EF_POSTERIZE – Apply a Posterize Effect

Syntax:

```
EF_POSTERIZE <Size>

Size: Pixel neighborhood size, a value from 2 to 64.
```

This command affects images, regions and floaters.

EF_SOLARIZE – Apply a Solarize Effect

Syntax:

```
EF_SOLARIZE <Threshold>

Threshold: The intensity level at which the colors will be inverted.
```

This command affects images, regions and floaters.

EQUALIZE – Perform Histogram Equalization to Enhance Dark Images

Syntax:

EQUALIZE <Color Space>

Color Space: YUV, RGB, or GRAY

This command affects images, regions and floaters.

F_ALPHA – Create a Floating Image from the Alpha Channel

Syntax:

```
F_ALPHA
```

F_ALPHA2MASK – Replace Floater Mask with Alpha Channel

Syntax:

```
F_ALPHA2MASK
```

F_BLEND – Blend a Floater and Image Using the Alpha Channel

Syntax:

```
F_BLEND
```

F_CANCEL – Cancel (remove) the Active Floater

Syntax:

```
F_CANCEL
```

F_CREATE – Create a Floating Image

There are multiple floater creation methods in EzImage, all controlled by one script command call. Since the syntax varies dramatically between these methods, they will be summarized individually.

Syntax 1: Clipboard Source

```
F_CREATE CLIP
```

Syntax 2: Image File Source

```
F_CREATE FILE <File> <Scaling> [W] [H] [Amount] <Transparency> [Color] [Edge]

File:    Name of an image file, in File Reference format
Scaling: NONE, CONSTRAIN, or ASPECT
W, H:    The width and height for CONSTRAIN scaling, Dimension Unit format
Amount:  The percentage for ASPECT ratio scaling (0.1 to 100.0 percent)

Transparency:
NONE:       No Transparency
TOPLEFT:    Top left pixel is transparent color
BOTTOMLEFT: Bottom left pixel is transparent color
COLOR:      A specific color is used for transparency
MASK:       The floater is created as a shape mask layer only

Color:   The transparent color if COLOR is used as the source type
Edge:    YES = Use edge transparency only, NO = all pixels are affected
```

Syntax 3: Floater File Source

```
F_CREATE FLOATER <Floater File>

Floater File: A valid floater format (.FLT) file, File Reference format
```

Syntax 4: Region Source

```
F_CREATE REGION <Copy Mode>

Copy Mode: Use CUT to move the image into floater, COPY to copy it
```

Syntax 5: Shape Source

```
F_CREATE SHAPE <X> <Y> <W> <H> <Name> <Color> <Anti> <Border> [Options]

X, Y:    The upper left corner in Dimension Unit format
W, H:    The width and height in Dimension Unit format
Name:    The shape name (see the section on Parameter Units)
Color:   The fill color for the shape
Anti:    YES = Antialiased shape, NO = non-antialiased
Border:  The border width for outline shapes or 0 (solid)
Options: Depends on the shape type

Rectangle: <Width> <Height>
Percentage of width and height of image to set roundness

Triangle: <Concavity>
The percentage of a triangle concavity (0-95)

Octagon: <Vertical Edge> <Horizontal Edge> <Vertical Distribution>
Percentage values from 1 to 99 to set distribution and edge sizes.

Pentagon: <Base Edge> <Vertical Distribution>
Percentage values from 1 to 99 to set distribution and edge sizes.

Diamond: <Vertical Distribution>
Percentage value from 1 to 99 to set distribution amount.

Line: <Line Size>
Line width from 1 to 64 pixels.

Trapezoid: <Base Edge> <Vertical Distribution>
Percentage values from 1 to 99 to set distribution and edge sizes.

Parallelogram: <Shear Angle>
A value from 0 to 45 degrees

Hexagon: <Base Edge> <Vertical Distribution>
Percentage values from 1 to 99 to set distribution and edge sizes.
```

```
Cross: <Beam Width> <Beam Height> <Link Beams>
Width and height are a percentage of shape size
Link beams:
YES to link the horizontal beam size to vertical
NO to leave the beam sizes independent
```

Syntax 6: Text Tool Source

```
F_CREATE TEXT <X> <Y> <Font> <Anti> <Size> <Units> <Align> <Style> <Adjust>
<Color> <Lines>

X, Y:   Position of text floater, upper left pixel, in Dimension Units
Font:   The font name (must be installed/supported by Windows)
Anti:   NO or YES = Antialiased
Size:   The font size in pixels or points, a value from 4 to 999.
Units:  0 = Points, 1 = Pixels, determines the font size
Align:  0 = Left, 1 = Center, 2 = Right
Style:  A bit mask, Bit 0 = Bold, Bit 1 = Italic
Adjust: Percentage to adjust spacing between lines, -50 to 500 percent
Color:  The color for the text
Lines:  Number of lines in the text data
```

This is a multiple line command. The text lines follow the F_CREATE line, using the following format:

```
:Text strings line 1:
:Text strings line 2:
```

The text string data is enclosed by colon characters. There is no auto-wrap facility for the text tool. Each line in the script corresponds to one line in the text floater. For blank lines, use 2 colon characters with no text data between them.

Syntax 7: Floater from Another Image Window

```
F_CREATE IMAGE <Image Name> <X> <Y>

Image Name: The name of a valid image window, as it appears in the title bar.
This window must contain a valid floater.

X, Y: The coordinate of the drop point for the upper left corner of the
floater, in Dimension Units.
```

F_LSHAPE – Create a Shape Floater Using the Previous Instance

Syntax:

```
F_LSHAPE
```

This is equivalent to a F_CREATE SHAPE using the exact same set of parameters.

F_MASK2ALPHA – Copy the Floater Mask to the Alpha Channel

Syntax:

```
F_MASK2ALPHA
```

F_MODES – Set Floater Mode Flags

```
Syntax:

F_MODES <Blend> <Opacity> <Invert>

Blend:   A blend mode
Opacity: An opacity level from 1 to 100 percent
Invert:  YES = invert image, NO = Don't invert
```

This is similar to F_PASTE, in that it affects the display of the floater image. However, the floater is not pasted.

F_MOVE – Move a Floating Image

Syntax:

```
F_MOVE <Origin> <Confine> <Percent of Image> <X> <Y>

Origin: The origin reference for a move, one of:

ABS: Absolute movement, (X, Y) = new position
REL: Relative movement (X, Y) = offset from current position
UL:  (X, Y) = relative to upper left corner
UC:  (X, Y) = relative to upper center edge
UR:  (X, Y) = relative to upper right corner
ML:  (X, Y) = relative to left middle edge
MC:  (X, Y) = relative to center of image
MR:  (X, Y) = relative to right middle edge
BL:  (X, Y) = relative to bottom left corner
BC:  (X, Y) = relative to bottom center edge
BR:  (X, Y) = relative to bottom right corner

Confine:
YES = Confine movement to last floater position and size
NO  = Confine movement within the entire image space

Percent of Image:
YES = Movement by percent is based on size of image
NO  = Movement by percent is based on size of region

X,Y: Coordinate or offset for movement, Dimension Unit format
```

F_PASTE – Paste Floater at Current Position

Syntax:

```
F_PASTE <Blend> <Opacity> <Invert>

Blend:   A blend mode
Opacity: An opacity level from 1 to 100 percent
Invert:  YES = invert image, NO = Don't invert
```

F_RENDER – Render Floater Using Color or Image

Syntax:

```
F_RENDER <Source>

Source: IMAGE to use the pixels of the image underneath the floater
        COLOR to use the current foreground color
```

F_SAVE – Save Floater to File

Syntax:

```
F_SAVE <File> [Description]

File:        The name of the floater, without the path or file extension
Description: Description of floater, 1 to 127 characters
```

F_STAMP – Stamp Floater at Current Position

Syntax:

```
F_STAMP
```

FI_AVERAGE – Pixel average filter

Syntax:

```
FI_AVERAGE <Size>

Size: Pixel neighborhood size, a value from 1 to 100
```

This command affects images, regions and floaters.

FI_BLURSHARP – Blur or sharpen an image

Syntax:

```
FI_BLURSHARP <Sharpness>

Sharpness: Use negative values to blur and positive to sharpen.
Range is –100.0 to 100.0 in 0.1 increments
```

This command affects images, regions and floaters.

FI_GAUSS – Gaussian blur filter

Syntax:

```
FI_GAUSS <Size>

Size: Pixel neighborhood size, a value from 0.1 to 60.0, in 0.1 increments
```

This command affects images, regions and floaters.

FI_MEDIAN – Median noise reduction filter

Syntax:

```
FI_MEDIAN <Size>

Size: Pixel neighborhood size, a value from 1 to 60
```

This command affects images, regions and floaters.

FI_MOTION – Motion blur filter

Syntax:

```
FI_MOTION <Size> <Angle> <Direction> <Unidirectional>

Size:           Pixel area of effect, a value from 1 to 250
Angle:          Angle of motion, 0.0 to 360.0 degrees in 0.1 increments
Direction:      CW (Clockwise) or CCW (Counter-clockwise)
Unidirectional: YES or NO
```

This command affects images, regions and floaters.

FI_UNSHARP – Sharpen an image

Syntax:

```
FI_UNSHARP <Amount> <Radius> <Threshold> <Color Space>

Amount:    The amount of sharpening, from 1-500
Radius:    The radius of effect, from 0.1 to 32.0 in 0.1 increments
Threshold: Value range is 0 to 255, increase to reduce noise/edging
```

This command affects images, regions and floaters.

FILL – Fill an Image with Color, Gradient, or Pattern

Syntax 1: Generic Fill

```
FILL <Color> <Blend> <Opacity>

Color:   Color Unit format
Blend:   Blend Unit format
Opacity: A percentage from 1 to 100
```

Syntax 2: Gradient Fill

```
FILL GRADIENT NORMAL 100 NO <Type> <Start> <End>

Type:  A Gradient Type (See Parameter Units section)
Start: The starting color, in Color Unit format
End:   The ending color, in Color Unit format
```

Syntax 3: Gradient Fill with Distribution

```
FILL GRADIENT NORMAL 100 YES <Type> <Start> <End> <PWidth> <PHeight> <OffW>
<OffH>

Type:    A Gradient Type (See Parameter Units section)
Start:   The starting color, in Color Unit format
End:     The ending color, in Color Unit format
PWidth:  Percentage of fill width, a fractional amount between 0.1 and 100.0
PHeight: Percentage of fill height
OffW:    Offset for width, a fractional percentage of fill width
OffH:    Offset for height, a fractional percentage of fill height
```

Syntax 4: Pattern Fill

```
FILL PATTERN <Blend> <Opacity> <Align> <File>

Blend:   Blend Unit format
Opacity: A percentage from 1 to 100
Align:   CENTER for center alignment, LEFT for left alignment
File:    A pattern image file, in File Reference format
```

This command affects images, regions and floaters.

FLIPH – Horizontal Flip

Syntax:

```
FLIPH
```

This command affects images and floaters.

FLIPV – Vertical Flip

Syntax:

```
FLIPV
```

This command affects images and floaters.

HUESAT – Adjust Hue, Saturation and Lightness

Syntax:

```
HUESAT <File>

HUESAT <*> <Hue> <Saturation> <Lightness> <Restrict> [Mid] [Range] [Left]
[Right]

File: A hue adjustment file with an extension of .HUE, File Reference format

Hue:        A value from –180 to 180 degrees
Saturation: A percentage from –100 to 100
Lightness:  A percentage from –100 to 100
Restrict:   NO or YES to include a range restriction
Mid:        Midpoint hue of range, 0 to 359 degrees
Range:      Range of restriction, 0 to 359 degrees
Left:       Left side leveling hue spread, 0 to 359 degrees
Right:      Right side leveling hue spread, 0 to 359 degrees
```

This command affects images, regions and floaters.

IMG100 – Show Image at 100% Magnification

Syntax:

```
IMG100
```

This command can not be recorded from within EzImage.

IMG2WIN – Fit image to window

Syntax:

```
IMG2WIN
```

This command can not be recorded from within EzImage.

INVERT – Invert the Image Color Information

Syntax:

```
INVERT
```

Note: For indexed color images, the palette entries are inverted.

This command affects images, regions and floaters.

LEVELS – Adjust Highlights, Midtones and Shadows

Syntax:

```
LEVELS <File>

LEVELS <*> <Left Inputs> <Right Inputs> <Left Outputs> <Right Outputs>
<Gammas>

File: A levels adjustment file with .LEV extension, File Reference format
```

The inputs, outputs, and gamma adjustments are each a set of 4 parameters, corresponding to the Master, Red, Green and Blue channels.

```
Left Inputs: <Master> <Red> <Green> <Blue>
Values range from 0 to 255

Right Inputs: <Master> <Red> <Green> <Blue>
Values range from 0 to 255, right input must be at least 2 higher than left

Left Outputs: <Master> <Red> <Green> <Blue>
Values range from 0 to 255

Right Outputs: <Master> <Red> <Green> <Blue>
Values range from 0 to 255

Gammas: <Master> <Red> <Green> <Blue>

Values range from 0.10 to 9.99
```

This command affects images, regions and floaters.

MESSAGE – Show a Script Message

Syntax:

```
MESSAGE <Line Count>
<Line Type Code><Line Data><Line Type Code>
```

This is a multi-line command that is used to display a message in a dialog window at any point during script execution. The text will automatically wrap, so only use blank lines where needed. The MESSAGE command line will be followed by <Line Count> message lines. A message line can consist of more than one line in the script file, since large lines are divided using continuation codes.

A single character Line Type Code must be used to begin and end any line in the script. These type codes are used to break the message into shorter sections that are easier to view in the script file.

The colon character ":" is used to start and end one message line. Therefore, the first character of the first script line must be a colon as will be the last character of the last script message line. Each line in the message can contain multiple script lines, for which there will be a pair of these code characters.

The greater than character “>” is used to continue one script line to the next. Any line after the first one must begin with this character. If the last character in the line is also a continuation code, then at least one line will follow.

Examples:

A script message that contains one line:

```
MESSAGE 1
:Text Message:
```

A script message that contains one line that is divided into two in the file:

```
MESSAGE 1
:Text Message>
>Text Message:
```

A script that contains two lines, with the first one split into 3 parts:

```
MESSAGE 2
:Text Message>
>Text Message>
>Text Message:
:Text Message 2:
```

NEW – Create a New Image

Syntax:

```
NEW <Name> <Source> <Type> <Width> <Height> <Resolution> <Fill> [Palette]

Name:   A file name that is not the same as any open image window
Source:
CUSTOM = Custom format
CLIP = Clipboard source
ACTIVE = Active image window
SELECT = Region selection in active image window

Type:
RGB  = 24-bit RGB
RGBA = 32-bit RGB
GRAY = 256-level ordered gray scale
8BIT = 8-bit indexed color
4BIT = 4-bit indexed color
BW   = 1-bit black and white

Width:      Width of image, Dimension Unit format
Height:     Height of image, Dimension Unit format
Resolution: Print resolution, Resolution Unit format
Fill:       CLIP = Fill with clipboard image else Color Unit value

Palette:    For indexed color images only, one of:
DEFAULT = Default color palette
FILE    = Palette file, palette file reference must follow as next parameter
ACTIVE  = Palette of active image window
CLIP    = Palette of clipboard image
```

OPEN – Open an Image File

Syntax:

```
OPEN <File> <PCD Res>

File:    The name of an image file.
PCD Res: Resolution of image to load for PCD format files.
```

If you use the File Reference format, the image must be placed in the Temp folder of the application path. There must not be an image with the same name open in another window. The PCD resolution determines the image size to load: 0 for the smallest size, up through to 5 for the largest size.

OPENW – Open a Workspace File

Syntax:

```
OPENW <File>

File: Name of a workspace file.
```

If you use the File Reference format, the file must be placed in the Work folder of the application path.

P_START – Define painting options

```
Syntax:

P_START <Tool> <R> <C> <Color> <Block> <Opacity> <Blend> <HMS> <Exposure>
<Rate> <Align> <Gradients> [Fade] [Cycle Mode] [Fade Type]

Tool:      A painting tool (see Parameter Units section)
R, C:      The row and column of the brush to use
Color:     The paint color
Block:     YES = Block mode, NO = normal mode
Opacity:   A percentage from 1 to 100
Blend:     Blend mode
HMS:       0 = highlights, 1 = midtones, 2 = shadows
Exposure:  A value from 0 to 100
Rate:      A value from 0 to 100
Align:     Clone tool, YES = aligned, NO = non-aligned
Gradients: The number of gradients, 0 to 8, if > 0, parameters follow:
Fade:      YES = Use transparent fade, NO = normal painting
Cycle Mode:
0 = Single pass
1 = Single pass, start to end to start
2 = Loop
3 = Loop, start to end to start

Fade Type: 0 = Transparent fade in, 1 = fade out
```

For brush gradients, each one in the group follows on its own line:

```
:<Start> <End> <Type> <Steps>

Start: A color unit value
End:   A color unit value
Type:  0 = RGB, 1 = HSV, 2 = Transparent
Steps: A value from 3 to 999
```

Note that not all parameters apply to all painting tools. Nevertheless, you must provide a default value for the command, even if it isn't used. Painting actions in a script file always follow the same format: P_START following by one or more lines of P_LINE or P_PIXEL commands, ending with a P_END command.

P_PIXEL – Single Retouch of the Painting Tool

Syntax:

```
P_PIXEL <X> <Y>

X, Y: Coordinate of center point of brush, in Dimension Unit format
```

P_LINE – Draw a Line with Current Painting Tool

Syntax:

```
P_LINE <X1> <Y1> <X2> <Y2>

X1, Y1: Starting point of line

X2, Y2: Ending point of line
```

For both pixel and line commands, the brush is generally larger than a single pixel. The coordinates refer to the center point of the overall brush area. Where the coordinate exists in the image, the brush will be drawn around this pixel position equally in all directions.

P_END – End Current Painting Operation

Syntax:

```
P_END
```

P_FILE – Change the Brush File

Syntax 1:

```
P_FILE LOAD <Tool> <Brush File>

Tool:       A painting tool (see Parameter Units section)
Brush File: The name of a brush file to load (do not include a path name)
```

The brush file for the tool will be replaced with a new one. Custom brush files must be located in the Brushes folder of the application path.

Syntax 2:

```
P_FILE RESET <Type> <Level>

Type:  Either ALL for all tools or a tool name to reset one tool
Level: SPACING = reset spacing only, BRUSHES = reset entire brush file
```

PALETTE – Load a User Palette File

Syntax:

```
PALETTE <File>

File: The name of a palette file in File Reference format.
```

This command will replace both the memory-resident palette in EzImage and the **user.pal** file located in the application path.

PASTE – Paste the Clipboard Contents as a New Floating Image

Syntax:

```
PASTE <Source>

Source: DIB = Device independent bitmap, FLOATER = floater format
```

RESETFB – Reset Foreground and Background Colors

Syntax:

```
RESETFB
```

This command changes the foreground color to black and the background color to white, as they appear in the Tools palette.

RESIZE – Resize an Image

Syntax 1: Change Print Resolution (image size unaffected)

```
RESIZE NONE <Mode> <Value>

Mode:  WIDTH = Change resolution using a width value
       HEIGHT = Change resolution using a height value
       RES = Change the resolution using a DPI/DPC value
Value: Width or height in Dimension Unit format or Resolution Unit value
```

Syntax 2: Preserve Aspect Ratio

```
RESIZE ASPECT <Mode> <Value> <Method> <DPI> <Show 100>

Mode:     WIDTH = Change the width and height will scale
          HEIGHT = Change the height and width will scale
Value:    Width or height in Dimension Unit format
Method:   NORMAL, INTERPOLATION or BICUBIC
DPI:      NO = No change or a Resolution Unit value
Show 100: YES = Reshow image at 100% after resize, NO = unchanged
```

Syntax 3: Constrained Size with Aspect Preservation

```
RESIZE CONSTRAIN <Width> <Height> <Method> <DPI> <Show 100>

Width:    Maximum allowable width, Dimension Unit format
Height:   Maximum allowable height
Method:   NORMAL, INTERPOLATION or BICUBIC
DPI:      NO = No change or a Resolution Unit value
Show 100: YES = Reshow image at 100% after resize, NO = unchanged
```

Syntax 4: Separate Width and Height Resize

```
RESIZE SEPARATE <Width> <Height> <Method> <DPI> <Show 100>

Width:    New image width, Dimension Unit format
Height:   New image height
Method:   NORMAL, INTERPOLATION or BICUBIC
DPI:      NO = No change or a Resolution Unit value
Show 100: YES = Reshow image at 100% after resize, NO = unchanged
```

REVERT – Revert to the Last Saved Version of an Image

Syntax:

```
REVERT
```

ROT180 – Rotate 180 degrees

Syntax:

```
ROT180
```

ROT90CCW – Rotate 90 degrees counter-clockwise

Syntax:

```
ROT90CCW
```

ROT90CW – Rotate 90 degrees clockwise

Syntax:

```
ROT90CW
```

ROTATE – Rotate by an arbitrary angle

Syntax:

```
ROTATE <Angle> <Direction> <Resize> [Fill]

Angle:     An angle from 0.00 to 360.00
Direction: CW = Clockwise, CCW = Counter-clockwise
Resize:    YES = Resize the image to preserve all data, NO = don't resize
Fill:      Fill color if image is resized
```

S_AFROM – Replace Region with the Alpha Channel

Syntax:

```
S_AFROM
```

S_ALL – Select All

Syntax:

```
S_ALL
```

S_ANCHOR – Set Region Placement Anchor

Syntax:

```
S_ANCHOR <X> <Y>

X, Y: Coordinate for anchor point, Dimension Unit format
```

S_ATO – Replace Alpha Channel with a Region Mask

Syntax:

```
S_ATO
```

Note that the entire alpha channel is erased before the region area is used to form the mask.

S_CLEAR – Clear Region Area with Background Color

Syntax:

```
S_CLEAR
```

S_CONTRACT – Contract the Active Region

Syntax:

```
S_CONTRACT <Amount>

Amount: Value in pixels
```

S_COPY – Copy the Region to Temporary Memory

Syntax:

```
S_COPY
```

S_EDGES – Show/hide Region Outline

Syntax:

```
S_EDGES <Mode>

Mode: SHOW = Show region outline
      HIDE = Hide region outline
```

If mode is omitted, the command acts as a state toggle.

S_EXPAND – Expand the Active Region

Syntax:

```
S_EXPAND <Amount>

Amount: Value in pixels
```

S_FROM_F – Create a Region From the Floater Mask

Syntax:

```
S_FROM_F <Mode>

Mode: SET = Replace existing region
      ADD = Add to existing region
      SUB = Subtract from existing region
      INT = Intersection with existing region
```

S_INVERT – Invert the Region Area

Syntax:

```
S_INVERT
```

S_LOAD – Load a Region Outline From File

Syntax:

```
S_LOAD <Name> <Mode> <Anchor>

Name:   Name of a region file in File Reference format
Mode:   SET = Replace existing region
        ADD = Add to existing region
        SUB = Subtract from existing region
        INT = Intersection with existing region
Anchor: ANCHOR = Defined anchor point
        UL = Upper left corner of image
        SAVED = Position that it was originally located when saved
```

S_MAKE – Make a Region Selection

Syntax 1: Magic Wand

S_MAKE WAND <Mode> <X> <Y> <Tolerance>

```
Mode:      SET = Replace existing region
           ADD = Add to existing region
           SUB = Subtract from existing region
X, Y:      Coordinate for wand, Dimension Unit format
Tolerance: A value from 0 to 255
```

Syntax 2: Color Wand

```
S_MAKE CWAND <Mode> <ONE> <Color>
S_MAKE CWAND <Mode> <RGB> <Color 1> <Color 2>
S_MAKE CWAND <Mode> <HSV> <HSV1 Triplet> <HSV2 Triplet>

Mode:        SET = Replace existing region
             ADD = Add to existing region
             SUB = Subtract from existing region
Color1/2:    Range between which colors are selected
HSV Triplet: <Hue> <Saturation> <Value>
             Hue = Value between 0 and 255 (adjusted to 0-359)
             Saturation = Value between 0 and 255 (adjusted to %)
             Value = Value between 0 and 255 (adjusted to %)
```

Syntax 3: Rectangle

```
S_MAKE RECT <Mode> <X> <Y> <W> <H>

Mode: SET = Replace existing region
      ADD = Add to existing region
      SUB = Subtract from existing region
      INT = Intersection with existing region
X, Y: Coordinate for upper left corner of bounding ares
W, H: Size of bounding area
```

Syntax 4: Ellipse

```
S_MAKE ELLIPS <Mode> <X> <Y> <W> <H>

Mode: SET = Replace existing region
      ADD = Add to existing region
      SUB = Subtract from existing region
      INT = Intersection with existing region
X, Y: Coordinate for upper left corner of bounding ares
W, H: Size of bounding area
```

Syntax 5: Polygon (Freehand is also based on this)

```
S_MAKE POLY <Mode> <Count>

Mode:  SET = Replace existing region
       ADD = Add to existing region
       SUB = Subtract from existing region
       INT = Intersection with existing region
Count: The number of coordinate pairs that follow
```

Coordinate pairs define each point of the polygon. This applies to both the Freehand and Polygon tools. The limit for the Polygon Tool is 200 points, and for the Freehand Tool is 16,000 points. Each point is one line in the script file, which must be of the format:

```
:<X> <Y>
```

S_MOVE – Move a Region Selection

Syntax:

```
S_MOVE <Origin> <Confine> <Percent of Image> <X> <Y>

Origin: The origin reference for a move, one of:

ABS: Absolute movement, (X, Y) = new position
REL: Relative movement (X, Y) = offset from current position
UL:  (X, Y) = relative to upper left corner
UC:  (X, Y) = relative to upper center edge
UR:  (X, Y) = relative to upper right corner
ML:  (X, Y) = relative to left middle edge
MC:  (X, Y) = relative to center of image
MR:  (X, Y) = relative to right middle edge
BL:  (X, Y) = relative to bottom left corner
BC:  (X, Y) = relative to bottom center edge
BR:  (X, Y) = relative to bottom right corner

Confine:
YES = Confine movement to last floater position and size
NO  = Confine movement within the entire image space

Percent of Image:
YES = Movement by percent is based on size of image
NO  = Movement by percent is based on size of region

X,Y: Coordinate or offset for movement, Dimension Unit format
```

S_MRECT – Make a Region Selection Rectangular

Syntax:

```
S_MRECT
```

S_NONE – Remove the Active Region

Syntax:

```
S_NONE
```

S_PASTE – Add the Temporary Region to the Current One

Syntax:

```
S_PASTE <Mode> <Anchor>

Mode:   SET = Replace existing region
        ADD = Add to existing region
        SUB = Subtract from existing region
        INT = Intersection with existing region
Anchor: ANCHOR = Defined anchor point
        UL = Upper left corner of image
        SAVED = Position that it was originally located when saved
```

S_REDO – Restore the Prior Region Selection

Syntax:

```
S_REDO
```

S_SAVE – Save the Region Outline or Image Area

Syntax 1: Save to Image File

```
S_SAVE FILE <Format> <Bits> <Quality> <Passes> <Name>

Format:  Image File Format type (See Parameter Units section)
Bits:    1,4,8,24 or 32 bits per pixel, use 0 for image's bit depth
Quality: Compression quality, a value dependent on image format, else 0
Passes:  For JPEG format that supports progressive scan, else 0
Name:    The file name, in File Reference format (defaults to Temp folder)
```

Syntax 2: Save to New Image Window

```
S_SAVE IMAGE <Name>

Name: The name of the image, can not be same as any other open image
```

Syntax 3: Save to Brush

```
S_SAVE BRUSH <Tool> <Desc> <R> <C> <CoreW> <CoreH> <Spacing>

Tool:    A painting tool name (See Parameter Units section)
Desc:    Description of the brush (up to 63 characters)
R, C:    The row and column in the brush file to replace
CoreW:   The core width of the brush, in pixels
CoreH:   The core height of the brush, in pixels
Spacing: The spacing of the brush, 1 to 1000 percent of core size
```

Syntax 4: Save to Pattern

```
S_SAVE PATTERN <Name>

Name: The name of the pattern file, no extension or path name
```

Pattern files are saved as Windows Bitmap format in the Patterns folder.

Syntax 5: Save Region Outline Only

```
S_SAVE REGION <Name>

Name: The name of the region outline file, no extension or path name
```

Region outline files are saved in .EZR format in the Regions folder.

S_TEMPCLEAR – Clear the Memory for a Temporary Region Outline

Syntax:

```
S_TEMPCLEAR
```

SAVE – Save Active Image to File

Syntax:

```
SAVE <Name> <Format> <Bits> <Quality> <Passes> [Overwrite]

Name:    The file name, in File Reference format (defaults to Temp folder)
Format:  Image File Format type (See Parameter Units section)
Bits:    1,4,8,24 or 32 bits per pixel, use 0 for image's bit depth
Quality: Compression quality, a value dependent on image format, else 0
Passes:  For JPEG format that supports progressive scan, else 0
Overwrite: Optional, YES = overwrite, NO = don't overwrite if file exists
```

SAVEW – Save Active Window to a Workspace File

Syntax:

```
SAVEW <Name>

Name: File name in File Reference format (defaults to Work folder)
```

SETBACK – Set Current Background Color

Syntax:

```
SETBACK <Color>

Color: A color unit value.
```

SETCLONE – Set the Cloning Source Point

Syntax:

```
SETCLONE <Window> <X> <Y>

Window: Name of the image as it appears in the window title bar
X, Y:   Coordinate pair of sample point, in Dimension Unit format
```

SETFORE – Set the Current Foreground Color

Syntax:

```
SETFORE <Color>

Color: A color unit value.
```

SHEAR – Shear an Image

Syntax:

```
SHEAR <Angle> <Direction> <Mode> <Fill>

Angle:     An angle from 0.00 to 360.00
Direction: CW = Clockwise, CCW = Counter-clockwise
Mode:      HORIZONTAL or VERTICAL
Fill:      Fill color for new areas created by the effect
```

STOP – Stop Script Playback

Syntax:

```
STOP
```

Use this command to insert a break point when testing scripts. If you want to insert pause events that allow a script to continue, use the MESSAGE command instead.

STRETCH – Increase the Contrast in an Image by Stretching Intensity Levels

Syntax:

```
STRETCH
```

SWAPFB – Swap Foreground and Background Colors

Syntax:

```
SWAPFB
```

TEMPCLEAR – Clear Temporary Image File

Syntax:

```
TEMPCLEAR
```

TEMPLOAD – Restore the Image from a Temporary File

Syntax:

```
TEMPLOAD
```

TEMPSAVE – Save the Image Window to a Temporary File

Syntax:

```
TEMPSAVE
```

THRESHOLD – Convert to Black and White Using an Intensity Threshold

Syntax:

```
THRESHOLD <Cutoff>

Cutoff: Intensity cutoff level (0-255)
```

VIEWALL – View All Color Channels

Syntax:

```
VIEWALL
```

VIEWALPHA – View the Alpha Channel

Syntax:

```
VIEWALPHA
```

VIEWBLUE – View the Blue Channel

Syntax:

```
VIEWBLUE
```

VIEWGREEN – View the Green Channel

Syntax:

```
VIEWGREEN
```

VIEWRED – View the Red Channel

Syntax:

```
VIEWRED
```

WIN2IMG – Fit the Window to the Image

Syntax:

```
WIN2IMG
```

Note: This command can not be recorded within EzImage.

WINDOW – Set the Active Image Window

Syntax:

```
WINDOW <Name>
```

```
Name: The name of an image as it appears in the title bar
```

WINPOS – Set Window Position and Size

Syntax:

```
WINPOS <Mode> <X> <Y> <W> <H>

Mode: BOTH = Set position and size
      POS = Set position only (W and H ignored)
      SIZE = Set size only (X and Y ignored)

X, Y: Window position, in pixels
W, H: Window size, in pixels
```

Note: This command can not be recorded within EzImage. It can be used to override the default window size and position when opening or creating images in new windows.

ZOOM – Set the magnification level for the active window

Syntax:

```
ZOOM <Level>

Level: A value from 5.000 to 1600.000 percent
```

Note: This command can not be recorded within EzImage.