

# TIFF Images as Part of PCL

## Introducing PCL Compression Method 10

The PCL Compression Method command (<ESC>\*b#M) determines how raster data is interpreted for the Transfer Raster Data by Row/Block command (<ESC>\*b#W). The selected compression method stays in effect until explicitly changed by another PCL Compression Method command (<ESC>\*b#M) or until it is reset by an End Raster Data command (<ESC>\*rC).

See table below for a list of compression methods.

**Table 10 List of Compression Methods**

0	Uncompressed (row-based)
1	Run-length encoding (row-based)
2	TIFF rev 4.0 "PackBits" encoding (row-based)
3	Delta row encoding (row-based)
4	Unencoded (block-based)
5	Adaptive encoding (block-based)
6	CCITT G3 one-dimensional encoding (block-based)
7	CCITT G3 two-dimensional encoding (block-based)
8	CCITT G4 encoding (block-based)
10	Tagged Image File Format (TIFF) rev 6.0 (block-based)

PCL Compression Method 10 is useful when you have a monochrome graphic you want to include as an illustration on a page with PCL text. The actual format of accepted data is described in "TIFF Structure and Fields" on page 25.

To include an illustration, transfer the entire TIFF file as a block, including the header. For example, if the TIFF file is 23,476 bytes in size, the raster transfer command would be <ESC>\*b23476W.

The TIFF file can be little-endian (from a PC) or big-endian (from HP-UX).

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**Note**

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Only the first image from the TIFF data is printed, any others will be ignored.


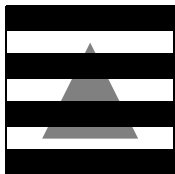

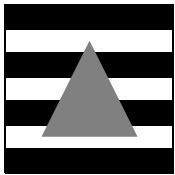
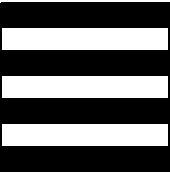
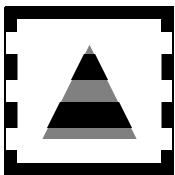
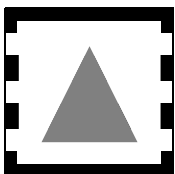
The image is rendered as the TIFF file describes it, and then the image is clipped (not scaled) to the boundaries specified by the PCL commands for raster width and height. Further, the image will be treated just as any other PCL raster image when used with the Transparency Modes.

## Transparency mode with TIFF




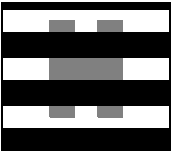
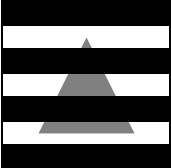

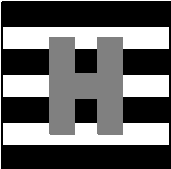
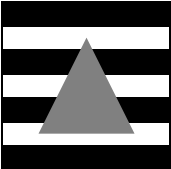
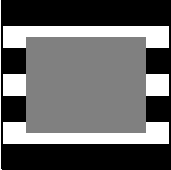
The D640 printer enables you to fill images and characters with any of the printer's predefined (or user-defined) shading or cross-hatch patterns and apply them to a destination TIFF image.

The following illustrations shows the effects of the source and pattern transparency modes on the final image.


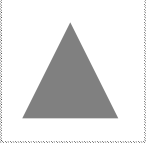

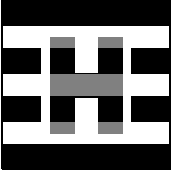
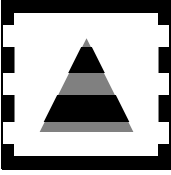
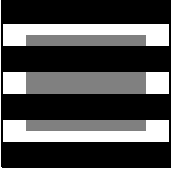
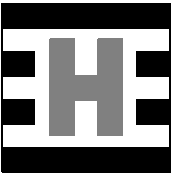
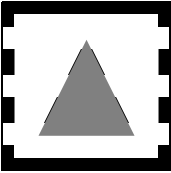
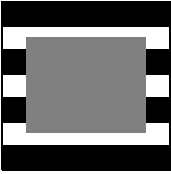
**Table 11 Effect of transparency mode on images**

Images and patterns	Transparency mode settings	Results
 <p>Pattern</p>	Source Transparency Mode = 0 (transparent) Pattern Transparency Mode = 0 (transparent)	
 <p>Source</p>	Source Transparency Mode = 0 (transparent) Pattern Transparency Mode = 1 (opaque)	
 <p>Destination</p>	Source Transparency Mode = 1 (opaque) Pattern Transparency Mode = 0 (transparent)	
	Source Transparency Mode = 1 (opaque) Pattern Transparency Mode = 1 (opaque)	

**Table 12 Effect of transparency mode on text, raster images, and area fill**

Source images	Transparency mode settings	Results
 <p>Scaled Text</p>  <p>Raster</p>  <p>Area fill</p>	<p>Source Transparency Mode = 0 (transparent)            Pattern Transparency Mode = 0 (transparent)</p>	  
	<p>Source Transparency Mode = 0 (transparent)            Pattern Transparency Mode = 1 (opaque)</p>	  

**Table 12 Effect of transparency mode on text, raster images, and area fill**

Source images	Transparency mode settings	Results
 <p>Scaled Text</p>  <p>Raster</p>  <p>Area fill</p>	<p>Source Transparency Mode = 1 (opaque)            Pattern Transparency Mode = 0 (transparent)</p>	  
	<p>Source Transparency Mode = 1 (opaque)            Pattern Transparency Mode = 1 (opaque)</p>	  

## Example of PCL compression method 10

Step 1 To fill an image, use the following commands to output the destination TIFF data.

<ESC>&f0S	Push cursor (optional)
<ESC>*v0T	Current pattern is black
<ESC>*r#F	Raster graphics presentation mode 0 = print direction 3 = along width of page
<ESC>*t#R	Raster graphics resolution in dots per inch (75, 100, 150, 200, 300, or 600)
<ESC>*r#T	TIFF height in raster dots. Dot size is derived from the <ESC>*r#R command. # = number of units
<ESC>*r#S	TIFF width in raster units # = number of units
<ESC>*b10M	Compression method 10 (entire TIFF data follows, TIFF header and all data)
<ESC>*r#A	Start raster graphics # = mode
<ESC>*b#W	Transfer TIFF data by block <i>Important:</i> # = the size of the TIFF file in bytes
<copy TIFF data>	Fill in with TIFF data
<ESC>*rC	Exit raster mode
<ESC>&f1S	Pop cursor (optional, use with push cursor)

Step 2 Set the source transparency mode.

<ESC>\*v#N

Step 3 Output the source raster data or text.

<ESC>\*v#T Sets the current pattern (optional)

<include user raster\_data or text>

Step 4 Reset the cursor and pattern.

<ESC>\*v0T Sets the current pattern to  
Black (optional)

<ESC>&f1S Pop cursor (optional)