

### Overview

The printer offers a variety of image processing options which control image orientation, sizing, and grouping. To control these processing options, the printer uses “Logical Devices”. Logical Devices are user selectable and specify how the printer will process images and command files it receives. Logical Devices control features such as Image Scaling, Fixed Multiformatting (FMF), Variable Multiformatting (VMF), and general printer configuration options.

### Summary of Logical Devices

The printer supports over 100 different Logical Devices. Some devices, such as Fixed Multiformatting (FMF), use a wide range of device numbers. Logical Devices are usually specified as an integer number. Each number has a specific function associated with it. The following table is a summary of the different Logical Devices and the corresponding number that selects the function:

| Device | Description                             |
|--------|---|
| 0      | Printer & User Configuration            |
| 1      | Print Image Unscaled (1:1)              |
| 2      | Print Image Scaled (Fit to Page)        |
| 8      | Medical Color Matching (MCM) Bracketing |
| 9      | Gamma, Contrast, & TCR Bracketing       |
| 10     | Variable Multiformatting (VMF)          |
| 11-99  | Fixed Multiformatting (FMF)             |
| 100    | Remove All Captions                     |
| 101    | Install Caption, Top of Page            |
| 102    | Install Caption, Bottom of Page         |
| 103    | Install Caption, Left Side of Page      |
| 104    | Install Caption, Right Side of Page     |
| 135    | 35mm SlideMaker                         |

### Specifying Logical Devices

Images can be sent to the printer using a variety of methods. Most methods allow you to specify the Logical Device that is to process the image. The primary methods of transferring images to the printer are: FTP, LPR, EtherTalk and the parallel port. With the exception of EtherTalk, all other techniques allow the user to specify the Logical Device. *Note:* EtherTalk uses only PostScript images and processes images using the Unscaled Logical Device.

Each method of transferring files to the printer has a unique way in which the Logical Device is specified. The [Technical](#)

[Briefs](#) for FTP, LPR, and Parallel Interface provide detailed information on proper use and how the Logical Devices is specified. A short summary of how to select the Logical Device is documented in the following sections.

### Specifying Logical Devices from FTP

FTP accepts the Logical Device number as the password entry during the login procedure. A user will typically login to the printer with an FTP client program, enter their user-name, then enter the Logical Device number when prompted for a password.

### Specifying Logical Devices from LPR

LPR specifies the Logical Device as the remote printer queue name. A typical LPR program requires the **hostname** (or IP Address) of the remote printer and the remote printer queue name to be configured. The remote printer **hostname** is the IP Address or symbolic network name of the printer. The remote printer queue name (sometimes called the remote printer name) is the number of the Logical Device on the printer.

### Specifying Logical Devices from the Parallel Port

The printer parallel port allows the Logical Device to be specified two ways. The first and easiest method is to set the Logical Device from the front panel. This will be the default Logical Device that all images received from the parallel port are processed by. To set the Logical Device from the front panel, proceed through the following menus:

SETUP → PARALLEL → DEVICE → *Logical\_Device\_Number*

The second method is to set up the printer for parallel port Command Mode and send a command to the printer which changes the Logical Device. The [Parallel Interface Technical Brief](#) covers this subject in more detail.

### Using the Scaled Logical Device

The Scaled Logical Device is the most useful device for general printing of raster images. This device will proportionally scale and/or rotate one image to maximize the size of the image on the final printed page. The Scaled Device is recommended for raster images such as TIFF, GIF, PCX, BMP, Sun Raster, XWD, etc.

The Scaled Device uses the printer default, or user settings for the scaling algorithm and rotation. These values are set

through the front panel or via a user configuration file.

In addition to automatically fitting the image to the page, the Scaled Device will take into account features such as Captions, to provide the best fit of the composite image created. The Scaled Device will center the image on the printable area of the page.

PostScript files are handled different than raster image files. PostScript files sent to the Scaled Device are processed in a way that fits the image, that would normally appear on the entire page, within the printable area of the page. This allows the entire page to be viewed at a reduced size.

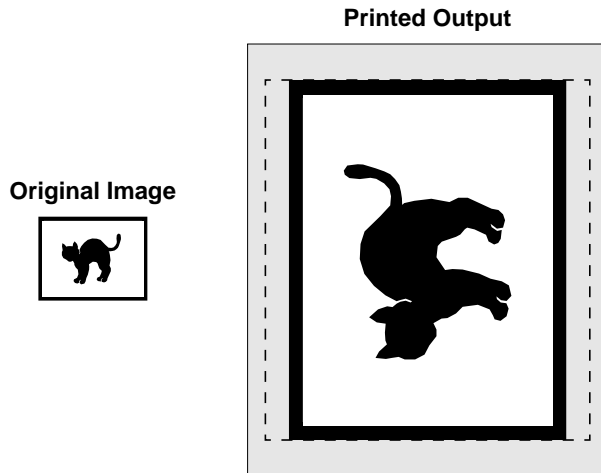


Figure 1: Scaled Device Example (Raster Images)

### Using the Unscaled Logical Device

The Unscaled Logical Device prints images 1 to 1. For raster images, this means that one dot from the image maps to one dot on the paper. No scaling is performed on images. Rotation of the image is not performed unless the printer default setting for ROTATE is set to **ALWAYS**.

The Unscaled Device is used most commonly for PostScript files. PostScript files allow exact sizing of objects to guaran-

tee the dimensions of the image on the final printed page. When a PostScript file is printed to the Unscaled Device, the printer will position the image to the correct offset on the page and print the image at the proper size. Portions of the image falling outside the printable area of the page will be cropped.

The Unscaled Device can also be used to print raster images at exact sizes. Since the Unscaled Device prints raster images 1:1 and the resolution of the printer is known (300 dpi), the final size of the image can be controlled. For example, a standard business card is 3.5 x 2.0 inches. To produce a raster image which prints at this size, the image would need to be:

$$(3.5 \text{ inches} \times 300 \text{ dpi}) = 1050 \text{ dots wide}$$

$$(2.0 \text{ inches} \times 300 \text{ dpi}) = 600 \text{ dots high}$$

The Unscaled Device will crop raster and PostScript images which are too large for the printable area of the page. Raster images which are too large will have the right and bottom portions of the image cropped.

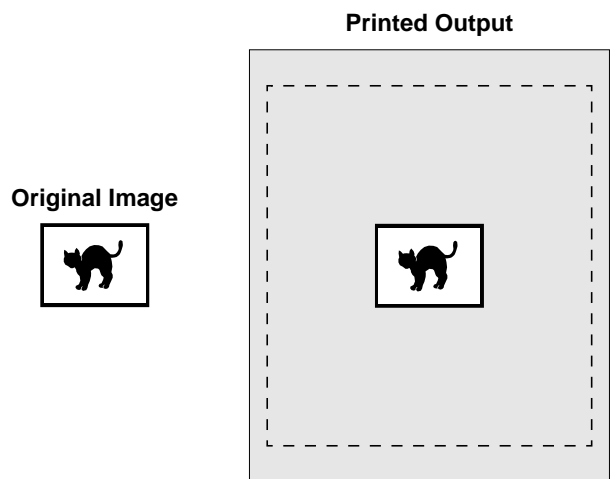


Figure 2: Unscaled Device Example (Raster Images)

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