



# Tech Info Library

## LaserWriter Select 360f: Fax Imaging Information (4/94)

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TOPIC -----

I have a LaserWriter Select 360 with the Fax option and want to know:

- \* If the images are stored as bitmaps, or if it buffers the Postscript code itself?
- \* If they are bitmaps, what resolution (fax resolution or full 600dpi)?
- \* How does broadcasting affect the RAM usage?
- \* What is the "faxopsexec" that is on the sample cover page that is used to access the fax features?

DISCUSSION -----

There are two types of PostScript Fax jobs. You can able to select between transmission of PostScript Language data and raster data. Subsequently, PostScript Fax printers may send faxes as raster data, or when communicating with another PostScript fax printer they may send PostScript language data. Either way a PostScript job is sent from the client to the printer to be either transmitted or rasterized then transmitted.

Single destination  
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A fax transmission in raster form to a single destination will be made in a single call if there is sufficient storage to hold all of the raster pages of the job. However, the transmission may be broken into multiple calls if there is not sufficient storage. If the storage of the raster pages is exhausted, then a call will be made before rasterization is complete. Transmission and rasterization will then take place simultaneously. If transmission succeeds in sending all prepared pages before rasterization of the job is finished, the call will end. A subsequent call will be made either when all of the rasterization is done or when storage is again exhausted. Thus, a transmission may be broken up into multiple calls. It is also possible that when transmission and rasterization are taking place simultaneously, rasterization keeps up with transmission. In this case, this transmission will be the last call for the job. If the storage in use is a disk, there will typically be sufficient storage for all of the raster pages of a job and the fax will be transmitted in a single call.

It is possible to request that a transmission take place at a particular time. These delayed transmissions, of course, are made with a single call. Since the pages of a raster job are prepared when the job is submitted, all of the pages of a delayed raster transmission must fit in storage, otherwise, the job will fail.

#### Multiple destinations

For a raster fax, the common body is rasterized and compressed only once. For a PostScript language file transmission, the out-bound file is assembled only once. Then, in either case, the previously prepared material is transmitted multiple times - one copy to each different recipient specified. Thus, one requirement for a broadcast job to succeed is there must be sufficient storage (RAM or disk) to hold all outgoing files that form the fax. Broadcast transmissions are not broken into multiple calls.

#### Resolution

Raster data - the specification for CCITT fax resolution is approximately, but not precisely, 200 dots per inch (dpi). A non-integral resolution would drastically decrease the efficiency of the PostScript interpreter. More importantly, the precise scaling generates moiré patterns in halftone rasters, that may be prevented by rounding. Therefore, a rounded scaling to 200 dpi is performed.

PostScript data - PostScript file transmission to another PostScript compatible faxsimile is output at printer resolution (300 dpi or better).

#### faxopsexec

faxopsexec is an exec, that pushes the Fax Options dictionary onto the stack, in order to execute the PostScript operand that precedes it.

Adobe uses faxopsexec to access predefined PostScript procedures implemented in an invisible, inaccessible dictionary. These ProcSets (dictionaries containing procedures) are not documented as they are either confidential, likely to change, reserved, have functionality useful only to Adobe, etc.

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