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LaserWriter Driver: Laser Prep and PostScript

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The Apple LaserWriter driver is a program that takes a print record created by an application and the Macintosh Print Manager and converts this print record into a format appropriate for a LaserWriter. The driver captures all QuickDraw calls and converts them into equivalent PostScript calls and commands.

Until System 7, abbreviations for long PostScript commands and routines for repetitive and common tasks went into a dictionary of definitions called Laser Prep, created for two reasons:

- Unlike printer software that requires commands of a single byte, PostScript accepts commands that are a series of ASCII characters.
- There are some common tasks that needed to be done repeatedly by virtually all documents sent the LaserWriter.

Once Laser Prep downloaded itself into the LaserWriter when the LaserWriter was initialized, the LaserWriter driver didn't have to generate and send redundant and unnecessary information with each printing. Translating, sending, and printing a document was much quicker with a LaserPrep file than without one. However, each time a Macintosh using a different version of Laser Prep or of the LaserWriter driver sent a print job, Laser Prep was forced to download again and reinitialize the printer. Under System 7, the prep information is downloaded to the printer with each print job.

If you look at a PostScript text file generated from the Macintosh, you'll see that almost all the PostScript commands sent by the driver are not abbreviated commands. These abbreviations were sent to the LaserWriter, which (using Laser Prep with pre-System 7 versions of the driver) had the prep file resident from the first printer session after startup. The prep file took these abbreviated commands and, through its dictionary, which is actually almost the entire prep file, provided full PostScript commands to the LaserWriter.

The requirements do not differ from application to application, because they all (all that use the Apple LaserWriter driver) generate the

abbreviated PostScript commands. Applications - PageMaker for example - use their own prep and driver files, especially if they perform their function differently than the Apple drivers. The end result is that all full PostScript commands are common to all PostScript printers.

The Laser Prep header file is found at the beginning of the PostScript text file that can be generated by the LaserWriter driver instead of printing. You can create this file under System 7 simply by clicking "PostScript File" instead of "Printer" in the Destination option of the Print dialog box. Under System 6.x, click Okay in the Print dialog box and then hold down Command-K until the Print Status dialog tells you it is creating a PostScript file. This will create a PostScript file with the Laser Prep header (hold down Command-F instead to generate a PostScript text file without the header under System 6.x or earlier; this does not work under System 7).

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