Apple II
Technical Notes

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Developer Technical Support

Apple IIGS
#67:   LaserWriter Font Mapping

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            November 1989
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            September 1989

This Technical Note discusses the methods used by the Apple IIGS Print Manager to map IIGS fonts to the PostScript® fonts available with an Apple LaserWriter printer.

Changes since September 1989:   Moved the registered trademark symbols from Table 2 to the list of trademarks at the end of this Note to avoid confusion about font name spelling.

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Version 2.2 and earlier of the Apple IIGS LaserWriter driver depend solely upon font family numbers as unique font identifiers. There is a table built into the driver which maps the known font family numbers to the built-in LaserWriter family fonts. Any fonts which are not built-in are created in the printer from its bitmap font strike. Under this implementation, all font family numbers not known at the time the driver was written print using bitmap fonts. This driver knows nothing of any other fonts which may reside in the printer.

There have been many requests for the driver to take advantage of other available PostScript fonts to get high quality output from the LaserWriter. PostScript fonts from Adobe's font library, or from other PostScript font manufacturers, can be downloaded to the printer from a Macintosh and

remain in the printer for use until power off. Currently there is no means to download a PostScript font with an Apple IIGS.

The Apple IIGS LaserWriter driver version 3.0 makes use of most resident PostScript fonts in the LaserWriter when requested. If the font is not available, then the bitmap font is used. The driver queries the printer at the start of a job for the font directory listing. The listing consists of names of all the fonts in the printer, built-in or downloaded. This information is kept locally for look up using the name of the requested font.

Issues

All Apple IIGS fonts contain a family name and a family number. The Apple IIGS currently identifies fonts using the family number; however, this identification method may change in the future, due to the complexity of tracking unique matches between font family names and font family numbers.

PostScript identifies its fonts by name (case sensitive) and knows nothing of any font family numbering system, Macintosh or Apple IIGS, which might be attached to a particular font. Most PostScript font families include plain, bold, italic and bold italic fonts. Some fonts families may also have serif and sans serif fonts or fonts of different weights (line thickness). These fonts are generally named by adding a style suffix to the base family name. Unfortunately, there is no uniform method for naming fonts, since most fonts were named by their designers and many of the names have historical significance.

The three examples shown in Table 1 show three variations of the plain font, two variations of the bold style, three variations of the italic style, and three variations of the bold italic style. There are others such as ZapfChancery-MediumItalic, Korinna-KursivRegular, and LetterGothic-Slanted which all denote the italic style of the respective font family.

Style	Font names		
plain	Helvetica	Times-Roman	AvantGarde-Book
bold	Helvetica-Bold	Times-Bold	AvantGarde-Demi
italic	Helvetica-Oblique	Times-Italic	AvantGarde-BookOblique
bold italic	Helvetica-BoldOblique	Times-BoldItalic	AvantGarde-DemiOblique

Table 1–Example Font Names

The Macintosh LaserWriter driver uses a mapping scheme to compose a full PostScript font name. It relies on the Font Family Definition Record `'FOND'` resource to provide a style mapping table containing the appropriate suffixes.

Since there are no similar resource on the Apple IIGS, the Apple IIGS LaserWriter driver adopts the following approach. The driver has full knowledge of all LaserWriter family built-in fonts (see Table 2 for a list of these built-in fonts) and uses the correct name for all style variations of the fonts. For all other fonts, the driver uses a standard set of suffixes for the style modifications. These suffixes are -Bold, -Italics, and -BoldItalics. The appropriate suffix is appended to the family name of the font, and this name is used to search the font directory table obtained from querying the printer. If a match is found, the document is printed using the corresponding PostScript font. If no match is found, then the driver tries to find the plain form of the font and creates the style modification in PostScript. A bitmap of the font is downloaded to the printer if these two searches fail.

If you are shipping your application with the intention of taking advantage of PostScript fonts when printing to a LaserWriter, please be sure to provide an Apple IIGS font whose family name is identical to the PostScript font family name.

LaserWriter	LaserWriter Plus and LaserWriter II	
Courier	AvantGarde	Palatino
Helvetica	Bookman	Symbol
Symbol	Courier	Times
Times	Helvetica	ZapfChancery
	Helvetica-Narrow	ZapfDingbats
	NewCenturySchlbk	

Table 2–Built-in LaserWriter Fonts

Further Reference

- *Apple IIGS Toolbox Reference*, Volumes 1 & 2
- *Apple LaserWriter Reference*

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