

# Postscript Printing with RISC OS 3

David Spencer shows how to get to grips with PostScript printing under RISC OS 3.

In RISC User 6:2 we looked at the Printer Manager that forms part of RISC OS 3, and showed how to set it up for specific printers. However, as hinted in that article, the rules of the game are somewhat different when dealing with PostScript compatible printers. In this article we will look at driving such printers



FontPrint in action

in detail, but first a word about PostScript.

## WHAT IS POSTSCRIPT?

PostScript is basically a programming language that is very adept at describing the layout of a page. To print a page to a PostScript printer you don't send the raw data for that page, instead the printer driver writes a special PostScript program. This is then executed by the printer, thus generating the required

output. This is very different from dot-matrix and LaserJet type printers where to print in graphics mode you specify the page contents dot by dot.

The idea of a printer with a programming language may seem a bit cock-eyed but it does have one big advantage. Namely, the software generating the PostScript program needs no knowledge of the physical characteristics of the printer, as the PostScript interpreter within the printer can cope with differing resolutions and the like. This means that the same PostScript output file can be printed on a 300dpi laser printer, a 2400dpi photo-typesetter or even on something that isn't even a printer, such as a vinyl cutter. The practical use of this is that you can perfect your masterpiece using a laser printer for drafting, send the same PostScript file to a typesetting house for final output, and be assured that the film you get back will contain what you expect.

Once installed, using a PostScript printer is very similar to any other type of printer, though the installation process is somewhat different. The rest of this article covers this installation in detail.

## INSTALLING THE PRINTER DRIVER

Installing the printer driver definition file is very similar to the method for other printers described in the earlier article, in that you open the Printer control window and drag the definition in. You can then edit the characteristics of the printer using the Configure window. However, with PostScript printers the options available are slightly different. Firstly, there is no control over the resolution, as the printer will always do the best job it can. The only control over quality that you have is a choice between colour and grey output, though if you accidentally set colour for a monochrome printer it will still print OK, as again

PostScript can work things out for itself.

Other options available are Verbose Prologue and Accent Generation. The former is used to produce files equivalent to those under RISC OS 2 and should never be needed, whilst the latter allows accented characters that appear on screen but are not available in the printer to be generated. This is particularly useful for Welsh characters, as there is no ISO8859 standard character set for Welsh. You should only turn this option on if you actually need it, as it can slow things down.

There are also extra options for printing plain text with PostScript. Firstly, you can alter the scale of the text to either fit more on a page or make the print bigger. Secondly, you can choose to print up to five columns across the page. Furthermore, the driver stores the scalings and number of columns for landscape and portrait separately. For example, you can have a single column when in portrait mode, or two columns scaled to 71% in landscape mode - this being very good for long program listings.

#### FONT MAPPING

It was said earlier that PostScript printers print text using the range of fonts built into the printer. This is in stark contrast to other types of printer where RISC OS creates a bitmap, and the printer doesn't know the difference between a line of text and a picture of your mother's aunt when it is printing it. This means that, with PostScript, when RISC OS wants to print some text in a particular font, it must first of all select the corresponding font in the printer, and if there is no matching font, take some action to create one. In fact, in such cases RISC OS will create a PostScript font from the RISC OS font and copy it to the printer - a process known as downloading.

Unfortunately, there are several hundred

RISC OS fonts around, many very similar in appearance, but with different names. A similar situation exists at the PostScript end, where although font names are normally standard, the range of available fonts will change from printer to printer.

It is therefore impossible for the printer driver to map between RISC OS fonts and PostScript fonts automatically. Instead, it works in conjunction with an application called FontPrint to decide what course of action to take for a particular font.

When run, FontPrint will present you with a window similar to that in figure 1, assuming that you have the printer driver loaded already, and the PostScript printer selected. The title shows the name of the printer and the bar below it the printer type (Generic PostScript, Apple LaserWriter etc.). Below this, each line of the scrollable window shows the fate of a particular RISC OS font. By default this will be a list of certain standard Acorn fonts mapped to PostScript fonts. The length of the list will depend on which fonts the printer has as standard.

When printing a RISC OS font, if it is not in this list then it will automatically be downloaded to the printer. If your printer has additional fonts to the default, or you have non-Acorn fonts with different names, you can add them to the mapping list by going to the Add font sub-menu over the list and choosing the appropriate RISC OS font. You then need to select the font by clicking on it in the list and going to the Map to sub-menu. This will allow you to select the name of the corresponding PostScript font, or type it in if it isn't listed. (The font supplier should tell you what the corresponding PostScript name is.) As well as choosing the PostScript font, you can also choose the character mapping between the two fonts via another sub-menu. This should be set to Adobe.Standard for text fonts, and Adobe.Special for symbol-type fonts.

In addition to mapping fonts, FontPrint can be used to permanently download a RISC OS font. This term is rather misleading, as it doesn't mean that the downloaded font is there for ever, rather that it is preserved between different printing jobs. This can save time repeatedly downloading a font that you use frequently. To select a font for permanent download, add it to the list in FontPrint but choose the Download menu option instead of Map to.

Once you have set up all the desired fonts, click on the Save button to store the list within the printer driver. If you have opted for a permanent download, this will be done at this stage, and a box will pop up asking you for the printer's password. This is a number that must be entered before a permanent download can occur, and is by default zero, but may have been changed if the printer is used by many users in a network environment. Either enter the password number to proceed with the

download, or close the window to stop it. The same password will be required each time the Printer Manager is started. Clicking on the Default button will restore the default mapping list for the particular printer, but beware - there is no warning and all of your existing list will be lost. Similarly, if you select another PostScript printer whilst FontPrint is running, it will change the list to reflect the setting of the new printer, but the old list will be lost if it has been updated and not saved.

A final word about downloading is that it doesn't work on some printers. The problem is that Acorn use a new feature of PostScript that was introduced after many PostScript compatible printers were designed. If this happens you should consult the printer manufacturer to see if you have the latest version of the printer firmware.

USING !T1TOFONT



It is also possible to convert PostScript printer fonts into RISC OS fonts, which can be a good way of expanding your font repertoire. To do this you will need a downloadable Adobe type 1 font. These are commonly found on PC and Macintosh systems. The conversion is done using an application called T1ToFont which is supplied on the RISC OS 3 Support disc. Details of how to use this can be found in the RISC OS 3 Applications Guide. Using this method also allows the original PostScript font to be retained, which speeds things up when downloading the font at a later date.

It must be remembered that from a copyright point of view a font is no different from any other piece of software. Therefore, unless a particular font is public domain you must have purchased it in its original format before you can legally convert it to a RISC OS font and use it.



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