

# **Gerald's Column**

## **by Gerald Fitton**

This month I shall continue to discuss how to transfer files created on a RISC OS machine to a Windows machine. My article last month was about file names. This month's article is about typefaces. Some of the points I make are relevant to all those programs such as Ovation Pro which are available on both platforms but, because I am more familiar with it, I shall use Fireworkz as my example.

### **Fireworkz for Windows**

I believe it has been the release of the 32 bit version of Fireworkz for Windows (previously available only as a 16 bit version) which has triggered all the questions I am receiving about the transfer of Fireworkz files from RISC OS to Windows. I don't think that the process of changing platforms has become any more difficult so I can only believe that the increase in this correspondence is because a lot more people are now using both platforms.

### **Fonts**

Mapping fonts from RISC OS to Windows is a huge subject and I would like to see authors with a broader experience than I have, producing a definitive set of articles in Archive. However, perhaps to get you going, mistakes included (!) here we go!

One solution favoured by many of the people with whom I've had correspondence favour the creation of a Windows version of their favourite set of fonts. I know that a very talented lady called Tonnie Demarteau has done this for many of the Beebug fonts.

The route which we have taken for Fireworkz is to ensure that the 'standard set' of 35 PostScript fonts are mapped from RISC OS to Windows. In this article I shall describe how this mapping works.

### **PostScript Fonts**

All the earlier dot matrix printers contained sets of embedded fonts. Using a PipeDream Printer Driver, any text document could be printed very quickly by sending just the ASCII codes to the printer. PostScript Printing is an extension of this concept.

PostScript is really a computer language rather like BASIC. It was developed in the early 1980s for driving laser printers. It revolutionised printing because it combined the best features of a plotter (which draws lines) with those of a printer (which prints bitmaps). I don't want to go into too much detail; for this discussion I shall concentrate only on the fact that a set of fonts called PostScript fonts were built into many laser printers including the LaserWriter series. These fonts could be printed on a PS printer at any scale by sending a few simple codes (similar to ASCII codes) rather than sending a bitmap of the character at the correct scale to the printer. This set of PS fonts became a 'standard' which could be used from many computer platforms including the Mac, Windows and RISC OS. Printing a document which consisted only of these fonts on a PS printer was as easy and as simple as PipeDream Printing using a PipeDream Printer Driver.

These PS typefaces (font families) have the eleven names: AvantGarde, Bookman, Courier, Helvetica, HelveticaNarrow, NewCenturySchlbk, Palatino, Symbol, Times, ZapfChancery and ZapfDingbats. Eight of them come in Bold and Italic varieties so that the full set is thirty five fonts in all.

## Fireworkz for Windows

If you have installed Fireworkz for Windows in the default folder then I suggest that you look at the file found at: [C:\Program Files\Colton Fireworkz\System\UK\Config.txt]. In it you will find the following lines:

```
{Fontmap:AvantGarde;swiss;;Century Gothic}
{Fontmap:Bookman;roman;;Bookman Old Style}
{Fontmap:Courier;modern;1;Courier New}
{Fontmap:Helvetica;swiss;1;Arial}
{Fontmap:HelveticaNarrow;swiss;;Arial Narrow}
{Fontmap:NewCenturySchlbk;roman;;Century Schoolbook}
{Fontmap:Palatino;roman;;Book Antiqua}
{Fontmap:Symbol;tech;1;Symbol}
{Fontmap:Times;roman;1;Times New Roman}
{Fontmap:ZapfChancery;modern;;Monotype Corsiva}
{Fontmap:ZapfDingbats;decor;1;Monotype Sorts}
```

I shall explain exactly what this mapping does.

However, first you must understand that AvantGuard is the PS name of a font with exactly the same metric (character spacings) as the Windows font Century Gothic. The shapes of the letters in AvantGuard are very similar to those of Century Gothic. You would have to be an expert to see the difference. All the PS typefaces in the list above have a Windows equivalent with exactly the same metric (character spacings) and very similar shapes.

Let us suppose that you have used the Windows typeface Arial in your Fireworkz document. After you have Saved the Fireworkz document (as a Fireworkz type file) you can look at it in a text editor and discover what typefaces are being used. Because you have used Arial then you might expect to see Arial in the list of typefaces. You do not!

If you use Arial (a genuine Windows typeface) then what you will see in the textual version of the Fireworkz document is Helvetica. Your use of Arial is stored in the Fireworkz document under the name Helvetica.

Similarly, if you use the Windows typeface Book Antiqua then this will be stored under the name Palatino. Similarly, any of the thirty five Windows fonts which have a PostScript name will be stored in the Fireworkz document under their equivalent (mapped) PostScript name and not their Windows name.

If, at some time in the future, the Windows typefaces are upgraded so that, for example, Arial is improved to, say, New Arial then the Fireworkz Fontmap list can be upgraded to display and print New Arial rather than the old Arial when Helvetica appears in the Fireworkz document. It is important that you realise that the metric is more important than the character shape when it comes to the format and appearance of the document.

## **Fireworkz for RISC OS**

If you have Fireworkz for RISC OS installed then I suggest that you look in the file found at: [!Firewkz32.Resource.Config].

I am not going to include the relevant lines of this file here (in the Archive magazine) because the length of the lines will make the information almost unreadable. I shall quote just part of one of the lines so you can see what they look like.

```
{Fontmap:Helvetica; ... Homerton ...}
```

If you have followed me this far then you will realise this means that the RISC OS typeface Homerton appears in the Fireworkz file under the PS typeface name, Helvetica.

When Acorn designed Homerton they ensured that the metrics (the character spacing) were exactly those of the PS typeface Helvetica. Not only the character spacing but everything else relating to the format on the page such as kerning pairs (eg when "AV" appears on a page the characters overlap) have an identical metric to the PS equivalent typeface.

The shapes of the characters in the Acorn version of Homerton are not exactly the same as the shapes of the characters of the Windows typeface Arial, but, if you have been following me (?), then you will realise that this is not as important as the metrics so far as mapping is concerned. The differences in the shapes of the characters are small enough for you not to notice unless you are an expert on fonts such as Tonnie Demartean (see below).

## **From RISC OS to Windows**

Let us suppose that you have created a Fireworkz document containing the Homerton typeface. The mapping in the RISC OS [Config] file will translate this typeface to the PS typeface Helvetica.

When you load this Fireworkz file into Fireworkz for Windows the Windows [Config.txt] file will translate the name of the typeface from the PS typeface Helvetica to the Windows typeface Arial.

This two stage process uses the PS typeface Helvetica as the intermediary between the RISC OS Homerton and the Windows Arial typefaces.

## **Metrics**

I know I keep 'going on' about the metrics but it is the thing which makes this mapping work. All three typefaces, Homerton, Helvetica and Arial have identical metrics. The metric information includes not only the spacing of the characters (eg "i" is much narrower than "M") but also kerning pairs (such as the classic "AV" pair).

What is of much less importance than the metrics is the actual shape of the characters. What you do want is for the "g" in RISC OS to look like the "g" in Windows. Let me repeat that they are not the same but you'd have to be an expert to notice the difference.

## Summary

Fireworkz is available as Fireworkz for RISC OS and Fireworkz for Windows.

Documents created using either of these programs can be run using the other program on the other platform. These documents will look the same on the screen and will look the same when printed if the RISC OS typeface which you used is mapped to a Windows typeface having the same metrics and having character shapes which are similar.

If you choose as your typefaces those which are 'standard' PostScript typefaces then the typefaces used on one platform will be mapped to a suitable typeface on the other platform.

If you choose a RISC OS typeface which is outside this range of thirty five fonts then the typeface is unlikely to be mapped to a suitable Windows typeface.

Consequently, study the list in the RISC OS [Config] file and use these in preference to any of the more unusual typefaces. This RISC OS list includes: Clare, Robinson, Corpus, Homerton, Homerton Narrow, NewHall, Pembroke, Sidney, Trinity, Churchill and Selwyn.

If you are creating documents using Fireworkz for Windows then use the typefaces: Century Gothic, Bookman Old Style, Courier New, Arial, Arial Narrow, Century Schoolbook, Antiqua, Symbol, Times New Roman, Corsiva, and Sorts.

In these last two paragraphs I have listed the typefaces in the same order. The order I have used is the alphabetical order of the PS name of the typeface. In the same order these are: AvantGarde, Bookman, Courier, Helvetica, HelveticaNarrow, NewCenturySchlbk, Palatino, Symbol, Times, ZapfChancery and ZapfDingbats.

Finally, and repeating myself, if you want your Fireworkz documents to transfer smoothly from RISC OS to Windows use a typeface which has a PostScript equivalent.

## Communications

You can email me at [archive@abacusline.co.uk](mailto:archive@abacusline.co.uk) with comments, criticism or to ask for advice about porting Fireworkz files from RISC OS to Windows.