

# **Gerald's Column**

## **by Gerald Fitton**

The real problem with Standards is that everybody, including our current editor, knows they can do better! So what do they do? They 'improve' on the 'standard' and, next thing you know, they no longer comply with this 'standard'!

### **What's the problem?**

Standards tend to be the 'lowest common denominator' (to use a mathematical term) of everything available rather than something which uses to best effect all those wonderful new features available in the latest version of 'the product' - whatever it is.

Many of us have a DVD writer which conforms to a 'standard' - and then improves upon it in order to allow us to do all those fancy edits and insert those extra chapter marks and thumbnails. Then we discover that our home made DVD won't play on anything except the machine we used to create it! The golden rule when writing a DVD to send to a friend is KISS - don't try anything 'fancy' or it may not work!

Many people take the same attitude to the inclusion of fonts within the articles they create. When using RISC OS they stick to the safe choice of Trinity, Homerton, Corpus and Selwyn. But not the editor of Archive; he chooses something much more elegant!

### **How are standards created?**

Whatever it is, a video tape format (VHS or Betamax?) or a format for TV transmissions (PAL or NTSC?) or anything else (including fonts for computer generated documents), it is usual for one manufacturer to become a market leader. Regardless of the technical merits of the product, it is aggressive marketing which creates the standard!

### **Is Archive non standard?**

The use by our esteemed editor of the Plantin and Gill typefaces for the Archive magazine undoubtedly makes it look much better than if he had used the 'RISC OS Standard' Trinity and Homerton; but not everyone has these fonts. Worse than that. If you want to port an Archive magazine file into Ovation Pro for Windows then you will find yourself with - well - a mess! This is because Archive uses the 'non standard' typefaces, Plantin and Gill!

### **Are there any standards for Fonts?**

The short answer is "Not exactly!".

The longer answer is that about 25 years ago in the days when the Apple Mackintosh ruled the document production world, a company called Adobe was the market leader.

The set of fonts they promoted long ago for their equipment have become a 'de facto' standard known as the 'Post Script Standard Set'.

They built into their printers a set of vector (drawn) fonts which they called Post Script Fonts (these could be 'drawn' by the printer at any point size) when everyone else (including the influential company, IBM) was using bit mapped fonts of fixed point sizes.

Adobe created a set of eleven typefaces, eight of which can be in bold, italic and bold italic so that there are thirty-five fonts in all. This set, originally fiercely protected by Adobe against piracy, has become a 'de facto' set of standard fonts. The original copyright names of these eleven typefaces are AvantGarde, Bookman, Courier, Helvetica, HelveticaNarrow, NewCenturySchbk, Palatino, Symbol, Times, ZapfChancery and ZapfDingbats.

Whether you have Windows, Mac, Linux, Unix, etc as your operating system, you will have a set of fonts which are the equivalents of these Adobe Post Script ones.

### **Why have standard fonts?**

Perhaps, as our editor does with his Archive magazine, you have very carefully crafted an Impression document in such a way that the line wraps at the word where you want it to wrap. You have laid it out so that the words flow around the pictures exactly as you want them to. You have carefully chosen a template in which the line spacing and point size ensures that the risers (characters such as "b", "d" and "t") don't hit the descenders (characters such as "g", "j" and "y") of the next line. You have reworded and re-phrased sentences so that you have avoided any 'widows and orphans' at the paragraph and page breaks. Like Paul with his final edition of the Archive magazine, you are really proud of your creation.

However, again like our esteemed editor, you have chosen a RISC OS typeface which is not equivalent to any of the eleven Adobe Post Script typefaces. By choosing, say, Plantin, you have defied the 'de facto' standard. Why did you do this? You did so because the fonts you are using look so much better than the old, dull, horribly boring Trinity and Homerton!

You send your Impression format file to a friend who uses Ovation Pro for Windows. You know that that they can load Impression files into Ovation Pro! So there is no problem! Or is there?

Will the text flow around the pictures as they did before? Will the 'widows and orphans' (at the page breaks) you have carefully avoided come back and mess up your carefully crafted layout?

The quick answer is, "There is a real problem for the recipient of your masterpiece".

You should have used a RISC OS typeface which has a Windows equivalent! If you had used a 'standard' font then you wouldn't have the mess your friend sees!

### **Changing typefaces**

Let's try a different scenario. You have your Impression masterpiece in front of you and you decide that you want to use a different typeface. Will you have to go through the whole document delicately changing the size of all the graphic frames and re-phrasing to avoid 'widows and orphans'?

If you had used a 'standard' font then you do stand a chance of avoiding all this work.

## **How can you preserve your layout?**

It is not so much the detailed shapes of the individual characters but their individual widths and kerning (eg "VA" is a kerned pair) which affects the page layout.

These characteristics of a font are called the 'metric' of the font.

What you 'need' in your replacement font, whether this is on a RISC OS machine, on your new Mac, or (dare I say it) your friend's Windows machine, is a typeface which has an identical metric to the font you are using.

The common use of the phrase 'Post Script Standard' says little about the actual shapes of the characters (the glyphs) but it does imply that the 'metric' complies with this 'standard'!

## **The lowest common denominator**

When Acorn released their Outline Font Manager (with RISC OS 2) with it they supplied a basic set of four typefaces, Trinity, Homerton, Corpus and Selwyn. One of the least publicised features of this set is that their metrics are identical to the Post Script typefaces Times, Helvetica, Courier and ZapfDingbats! This is 'good news'; it means that if you use only these typefaces then your documents can be ported more easily to other platforms.

Consequently some people might regard this 'Basic Acorn Set' as the only possible 'lowest common denominator' for use with RISC OS machines.

My opinion is that this is short sighted; it is causing us, the RISC OS community, problems. In my opinion what we need to do is to choose another 'higher' standard of which this 'Basic Acorn Set' is a subset.

My strong recommendation is that we should raise our sights and regard the 'Standard PostScript Set' as our minimum standard for all RISC OS applications.

## **Ovation Pro**

Let's have a short digression.

Ovation Pro for RISC OS and Ovation Pro for Windows are distributed with a standard set of typefaces with the names Vogue, Bookmark, Curator, SwissB, Paladin, SymbolB, Chaucer, etc. These fonts were created by Tonnie Demarteau and all of them use the 'Standard PostScript Metrics'.

Documents created with them will have an identical layout if they are ported to a different DTP package which can access the equivalent PS font. If you create an Ovation Pro (or !Calibre) document and want to port it for use on a different platform then, provided that the only fonts you have used are chosen from the PS 'standard' set, on your new platform it will be relatively easy to ensure that it has the same layout.

If you choose a PS font (such as these created by Tonnie) for your RISC OS Impression document then you will be able to port it into Ovation Pro for Windows very easily.

If, for your Impression document you do as our editor has done and choose a font such as Plantin, which is not to the Post Script 'standard' (let me repeat that it is the metric which is of crucial importance) then you will have a lot of heart ache when you come to port it to Ovation Pro for Windows.

### **Where can we go from here?**

Let me try to underline my key point.

The 'Acorn Basic Set' of four typefaces is a bit 'dated' and people (such as Paul Beverley) don't like using them for the magazines they publish using RISC OS machinery. The 'right' thing to do is not to choose 'any old font' which looks beautiful (eg Plantin) but to choose one with a metric which complies with the 'Post Script Standard'.

Writers of applications (programs) for RISC OS should encourage the use of fonts which comply with the PS metrics. This can be done by using the PS name within the application. In order to allow the user to choose which actual font he or she uses, the application must include a 'mapping' (a user configured file) which (within the application) maps the user's choice of typeface to the corresponding PS name.

### **Fireworkz**

Of course I am totally prejudiced when I write what I am about to write next.

Nevertheless, I would like you to think of it as an example rather than something applicable only to Fireworkz.

Let us suppose that the Fireworkz document was created using Fireworkz for Windows and that one of the Styles used is the Windows font "Times New Roman".

If someone sends you a Fireworkz file (created using either Fireworkz for RISC OS or Fireworkz for Windows) then you can load this file into a text editor such as !Edit and look at the fonts which have been used. When you look at that document using !Edit you will find no reference whatsoever to "Times New Roman". What you will see in the document is the word "Times". This "Times" is a reference to the PS 'standard' typeface, Times.

When you look at the Styles of the Fireworkz document using a RISC OS machine you will not see "Times New Roman" (the typeface named in the Style on the Windows machine when the file was created) but "Trinity" (the equivalent RISC OS typeface).

Fireworkz uses the PS name "Times" as an intermediary to map the Windows typeface "Times New Roman" to the RISC OS typeface "Trinity".

Whilst I have used "Times" as an example (and I have used Fireworkz as an example) any of the 35 PS fonts (11 typefaces) can be used as an intermediary to map RISC OS fonts to Windows fonts (and Windows fonts to RISC OS fonts).

## **Fireworkz to PDF**

Other RISC OS applications (programs) can easily be configured to use the same technique of mapping via the PS font as an intermediary. Also, whilst I have used as my example mapping from Fireworkz for Windows to Fireworkz for RISC OS the use of PS fonts in this way can be used to map from Fireworkz to a Post Script file and to a PDF format file.

Using the Acorn PostScript Printer driver you can convert Fireworkz files to a PostScript file. This PS file can be converted into a PDF. If your Fireworkz file contains only typeface names from the eleven 'standard' ones and the utility you are using for conversion is suitable then you will find that the PDF file contains only references to the PS name and includes neither bit mapped nor vector details of the actual font used.

The PDF format is becoming increasingly popular for sending documents to other people who might not have a RISC OS machine. Also, they might not have a Windows machine; they might have a Mac or Linux - or, in the future, something else entirely!

At present the 'preferred' Windows typeface which corresponds to the PS typeface "Times" is called "Times New Roman". This wasn't always the case!

Consider what happens when someone comes up with a new 'super duper fancy version' of, let us say, "Times" (either on a RISC OS or Windows or Mac or even a Linux or, at present unknown platform) then the PDF generated from Fireworkz (containing the 'Standard Post Script Name') can be viewed and printed with this 'super duper fancy version' of "Times" rather than the 'rather outmoded Times New Roman' (Windows) or 'Trinity' (RISC OS).

The shapes of the glyphs might be different in the new 'super duper' version of "Times" but, because the metric (character widths and kerning) is identical, the layout of the document will be the same.

## **In summary**

We (the RISC OS Community) need to get away from using the 'lowest common denominator' fonts (the four typefaces of the basic Acorn set) and expand our horizons to include the full 'standard set of 35 PS fonts'.

If we do this then we will make our documents more portable and they will have a longer life. One way of doing this is to use the technique of Fireworkz (and Adobe PDF - and other programs), a user configurable mapping of the available fonts to the PS set.