

# **Document Production Column**

## **by Gerald Fitton**

Thanks for your letters. So many of them have asked about setting up printers and printing in background that I've decided that, in spite of many other temptations, and as a continuation of my document production theme I shall devote this month's column to that subject.

Before I do just a quick note. You can now buy Fireworkz Pro. This is an upgrade to Fireworkz (new features) which you have to pay for. It includes the long awaited database, Recordz. Although I shall review Fireworkz Pro as soon as possible (next month), my reaction from my first month's use is that it's good and you'll like it!

Also, on the monthly disc I have included a second solution (in Basic—still not a spreadsheet) to the rounding problem by R W Newmark.

### **Foreword**

When I am asked by newcomers to any document production package what they should do first, then whether they have Style, Fireworkz, PipeDream or anything else, I reply that it is most important that they configure their Printers correctly. When they have set up their printing arrangements (complete with all the paper sizes they usually use) they can move on to selecting their 'global' options (usually Choices or Preferences from the icon bar) and 'local' options (usually a template or, with Style, master pages). Finally they should create at least the basic Styles they are going to use with those templates or master pages. My recommendation is that only after these preliminaries (Printers, Options and Styles) have been completed will they be ready to start creating their masterpiece!

This month I shall concentrate on Printing. Sometime in the future (after reviewing Fireworkz Pro?) I shall move on to Options and then to Styles.

### **Introduction**

A question which comes up time and time again is "How can I get my Archimedes to print in background whilst I get on with something else?" A second question, or should I say set of questions, relate to unwanted page feeds and (whatever you try) the printer refusing to print at the right place.

In this article I hope to help you select a suitable RISC OS printer definition for your printer and explain something of the way in which they work. If you can't find a printer definition which is an exact match for yours then, by following the contents of this article you should be able to modify one of the existing files for use with your printer.

I shall tackle the second series of questions before explaining how to print in background!

### **The New RISC OS Printer Drivers**

Acorn have now issued a new printer driver, Version 1.22 which is available from NCS. If

you don't have Printers V 1.22 (or later) then I suggest that you buy a copy from NCS. You can use V 1.22 only if you have RISC OS 3.1 or later. A new version of the [Colours] module (V 1.57 06 Dec 1993) is included with V 1.22 which, in my opinion, improves colour rendering.

To demonstrate what you have to do I have chosen for the monthly disc a popular inkjet, the HP [DJ500C], and, as an example of a laser printer, the [LasJet-III]. Both these PrntDefn are supplied by Acorn. I shall also discuss two other printer definition files called [Int00] and [Int01]—I shall explain how I developed these from the [DJ500C] for use with my Integrex Series 2 Colour Printer. Even if you don't have either of these printers you will still find what I have to say useful and you'll be able to apply the principles to your own printer. If you have the Archive monthly disc then you'll find all the custom files to which I refer on that disc.

### **Loading PrntDefn files into !PrintEdit**

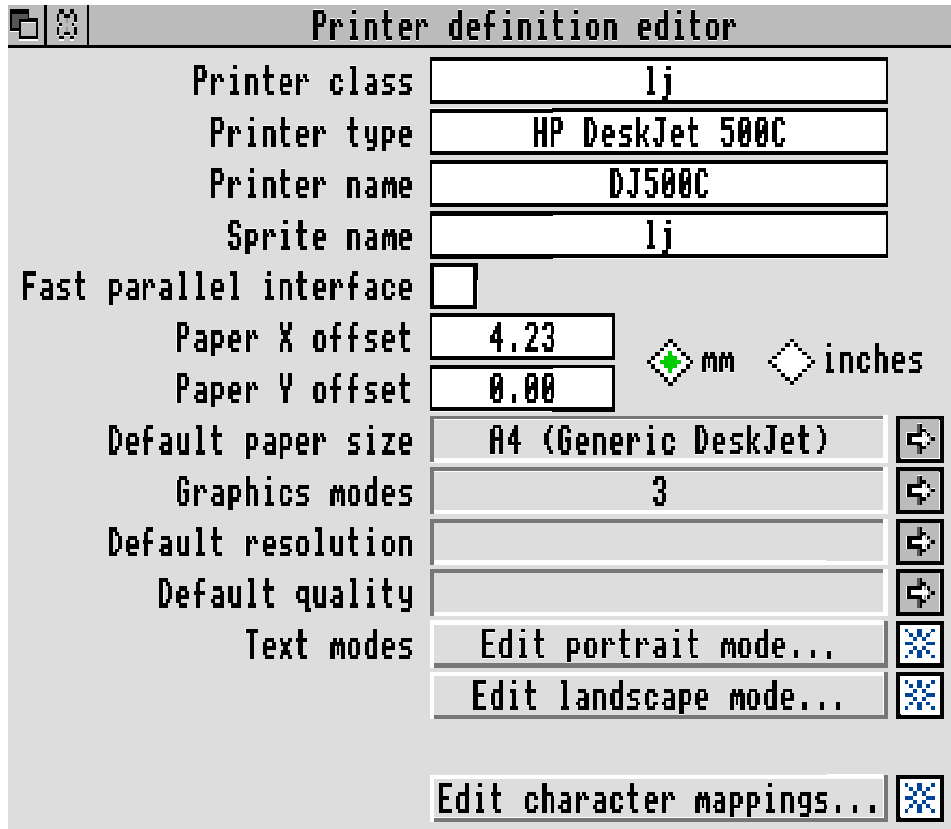
Included with your RISC OS 3.1 on disc you will find the utility !PrintEdit. Make sure that your operating system has seen !PrintEdit and then double click (without holding down <Shift>) on [LasJet-III] and it will load into !PrintEdit. I have two versions of PrintEdit.

My early version is 0.27 (14-May-92); it does not install on the icon bar! If you have the early version then place the pointer somewhere on the left of the Printer definition editor window and click the mouse menu (middle) button, run the pointer through Info and you'll find the Version number. My later version is 0.38 (15-Jun-94) and does install itself on the icon bar. It is available from NCS. You can find the version of any utility or package which installs itself on the icon bar by clicking the menu button on the installed icon and then running the pointer through Info.

### **The Paper Offsets**

When a PrntDefn file is loaded into PrintEdit the current values of the Paper X offset: and Paper Y offset will appear in the dialogue boxes. If you haven't modified the [LasJet-III] file then these are 4.99 mm and 11.17 mm respectively (or 4.83 mm and 11.09 mm if you have a different version of Printers from me). Let me make the point most strongly that these values may be correct if you have bought a genuine HP Laser Jet III (with an HP on it) but they may not be correct if what you have is an HP Laser Jet III clone! If you have a clone then you may have to change these values. My Integrex is an HP DJ 500C clone and the offsets I need for the Integrex are different from the offsets built into the [DJ500C] definition.

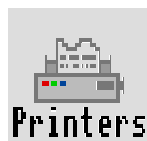
Is a small error in the offsets important? Yes! If you have configured your !Printers so that these offsets are wrong by 0.5 mm or more then you may get a whole host of printing problems out of all proportion to the offset errors. Problems range from printing slightly out of position (not too important) to unwanted form feeds (almost impossible to find out why). Some people have found that printing starts half way down the page when the Paper Y offset is less than a mm out!



I don't know why the offsets are so sensitive but I think it has something to do with the way in which negative numbers are handled by the printer driver. Anyway, you have been warned! Get these offsets right before you do anything else and you won't regret the time, paper and ink you spend!

### Loading a PrntDefn file into !Printers

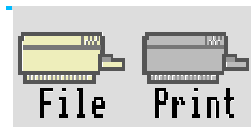
Before you can print anything you will need !Printers on the icon bar and loaded with a suitable printer definition file. The paragraphs below explain how to do this.



When you first load !Printers (double click to load it to the icon bar) it will appear in grey as Printers on the icon bar. Whatever the colour of the icon, click the mouse menu button (the middle button) on the icon and select Printer control. A window called Printer control will appear. Drag your first choice of printer definition file, eg [LasJet-III], into this open window and the name of the icon will change, in the case of [LasJet-III], to LsJet III.

Printer control			
Name	Type	Connection	Status
File	Integrex Series 2	Parallel	Active
Print	Integrex Series 2	Parallel	Active

If you have an inkjet printer with a definition of 300 dpi and don't know which printer definition file to use then try [DJ500C] or my [Int00] printer definition file. Canon bubble jets have a resolution of 360 dpi so that these HP printer type files are unsuitable. I believe that one of the dot matrix PrntDfn files might be a good starting point for the Cannon printers—but look at the [ReadMe] file which comes with Acorn's Printers disc.



Drag in another copy of your printer driver, or even another printer driver, and you will find that an extra printer icon appears on the icon bar! You can add many such printers to the icon bar.

When I was deciding exactly what paper offsets to use I created five printer definition files, each having slightly different paper offsets (and with slightly different names) and then printed out my [Top\_Left2] file (see later) with each of them until I found out how the paper offset parameters worked!

### **Whatever printer you have**

First a general statement, absolutely true, but which might be of no use to you whatsoever. The ideal values for the X and Y offsets correspond exactly to the position of the print head over the paper before printing starts. You measure these offsets from the top left corner of the page to the position of the printhead, X horizontally and Y vertically.

If the Printer control dialogue box is not on screen then click the menu button on any Printer icon on the icon bar and then select Printer control. The Printer control dialogue box will open. Now click the menu button on your chosen printer and select Configure. You can use the dialogue box which opens to choose a paper size for your experiments. One of the choices for paper size is one called "A4 paper size". It is characterised by having all its Graphics margins and Text margins set to zero. Use this paper size for the tests set out below.

Change the Name of the printer. That is what I have done to create my two printers called File and Print. I have chosen these names because the File printer prints to a file and Print prints from the file to my printer. I explain how to achieve this later.

### **Printers which use HP codes**

On the monthly disc you'll find a Test directory containing two Printout files [GreyRect] and [Pointer] which are written in HP code and thus are suitable for use with almost any laser or inkjet HP printer and their clones (such as my Integrex ColourJet Series 2). Use them with your choice of printer definition file. They will print a mark at the top left of the paper. I prefer to use [Pointer] (for which I am indebted to Bruce D Brown—see below) rather than [GreyRect].

Measure the distance between the top left of the printed graphic and the (left and top) edges of the paper. Measure these carefully to the nearest half mm.

By the way, the offsets round up to the next quarter of a point—a quarter of a point is a 1/288th of an inch or 0.088 mm. After saving and reloading, so you'll see some strange values in mm because they are rounded in quarter points.

Make a copy of the printer definition file you used—give it a different name. I started with [DJ500C] and made a copy which I called [Int00]. I loaded [Int00] into PrintEdit, changed its (internal) name and changed the X and Y offsets to 0 mm. Then I saved the file. I used [Int00] with the test file [Top\_Left2] (see below) and found that I needed to change the X offset. The printer definition file, [Int01], is the final version of my PrntDefn file.

Typically ink jet printers will print right up to the top of the paper (ie a Y offset of 0 mm) but they will not print on the bottom 10 mm of the paper. Contrast this with a laser printer which typically loses only 6 mm at the bottom of the page but needs 10 mm or more (as the Y offset) at the top. Different inkjet printers will need slightly different X offsets. A slight error in the X offsets is not as serious as an error in the Y offsets since even small errors in the latter will lead to either unwanted form feeds or printing taking place well down the paper.

If you have problems in setting up a printer which uses HP codes then you might try:

Bruce D Brown  
34 Harlington Road East  
Feltham  
Middlesex  
TW13 5BN

He has volunteered to help (but with HP printers only and not Epson types).

To take advantage of Bruce's offer of help, please create a simple document and print it to a file (see how to do this below). Send the Printout format file to him (on disc) together with a disc copy of your !Printers directory. Please send him a sticky label with your name and address on it together with return postage. If you don't send return postage then you'll get no reply!

## **Dot matrix printers**

If you have a dot matrix printer then you should use either [Top\_Left] (if your printer uses Epson codes) or, if that fails, then my drawfile which is called [Top\_Left2]. Both these are on the monthly disc.

## **Using [Top\_Left2]**

If you have serious difficulties using [Pointer] or [Top\_Left] because your printer won't accept the HP or Epson codes (respectively), then try again using [Top\_Left2]—see below—with a printer definition which has both Paper X and Paper Y offsets of 0.00 mm.

Load the file [Top\_Left2] and print it out from Draw or DrawPlus using a PrntDefn which has both X and Y offsets of 0.00 mm and a paper size (such as the A4 paper size) which has zero left, right bottom and top margins.

Measure the actual printed position of the graphic and use that to determine your X and Y offsets.

Modify a copy of your chosen PrntDefn file so that it uses these offsets.

### **Creating your own paper size**

When you have chosen your offsets then create a paper size which uses the exact same size left and top margins as the X and Y offsets of the Printer Definition! Usually you will find that the right margin should be set equal to the left margin but you may have to experiment with the bottom margin. As a guide to values for the bottom margin, laser printers will need about 6 mm and inkjet printers will need 10 mm to 25 mm! Printing out the file [Grid] from Draw or DrawPlus will probably help you to decide how much of the bottom of the grid is lost.

If you find that, even with your X and Y offsets correct, you still get unwanted form feeds then you may have to slightly alter the length of your page. An A4 page should be exactly 297 mm long but, because of slight variations in the way the rollers in a printer measure the page length, you may find that you have to reduce the length of your A4 page by 0.5 mm or so to 296.5 mm.

### **Removing unwanted printer definitions**

Place the pointer in the Printer control window and click on one of the (many) printer definitions you no longer want. It will be highlighted. Click the menu button and then select the Remove option. The selected printer will be removed from both the Printer control window and from the icon bar.

If you want to print in background using the technique I suggest below then you will need to keep two copies of your final PrntDefn in the Printer control window, one which you will call called File and the other Print. Don't change the names to File and Print using PrintEdit, change them from the Configure option of the Printer control window as I describe in the next paragraph.

### **Changing the Name of the Printer**

You can change the Name, the default paper size, the printing resolution, the quality of print (eg number of colours or shades of grey) and a few other attributes of any printer which appears in the Printer control window. Place the pointer in the Printer control window over the printer you want to modify, click the menu button and select Configure. Change the Name of the first printer to File and click on the OK box. The name of the printer will change in both the Printer control window and on the icon bar. Change the Name of the second to Print in the same way.

I suggest that you change the default paper size for both your printers to your preferred paper size (ie the paper size with left and top paper margins exactly equal to the X and Y offsets), that you use "Grey, large halftone" as your default quality and 300 by 300 dpi as your resolution. I prefer the Paper feed to be Auto even if I'm going to use manual feed.

**LaserJet printer configuration**

Name

Type

Paper

Printer options

Resolution

Paper feed

Quality

Text printing options

Print title

Print line numbers

Page orientation

Control codes

### Printing to File

**Connections**

Print in background

Parallel

Serial

Baud rate

Data bits

Parity

Stop bits

X-On/X-Off

Net

NFS

Server

Printer

Username

Options

File

Append to file

Direct drive

Place the pointer in the Printer control window, highlight the printer called File and select Connection. A window called “Connections” will open. On the left, near the bottom you will see a radio button called File. Click on this to turn it green. Now type in the full path name of the (as yet non-existent) file to which you are going to print. In my case I have created a directory on my hard disc called PrintFiles to hold the Printout file. My full pathname is [scsi::HD4\$.Printfiles.Print]. Click on the OK box. Do not be tempted to click on the “Print in background” radio button!

Now you have two printer icons on the icon bar. Click on the printer icon called File so that it becomes the default leaving the printer called Print greyed out.

When you are satisfied that you have the two printers you want on the icon bar and that they are both configured with suitable Names, Paper, Resolution and Quality then click the menu button on the printer icon (on the icon bar) and select Save choices. If you don't do this then you will lose all the settings you have created.

### **Using the ‘Printing to file’ facility**

Load a suitable document and tap the <Print> button to initiate printing. You will print to the named file (overwriting any earlier version). During the time you are printing to file you will find that you have relinquished control of your machine! So “Where is the advantage?” you might well ask. The answer is that printing to a file is much quicker than printing to the printer. You have lost control for a shorter period of time.

Tests I have carried out with my set up indicate that printing to file is about three times faster than printing to the printer. By the way, often you can speed up this process of printing to file by making the font cache larger; I recommend 512 Kb.

You will regain control of the machine when printing to file is complete. In order to print out your Printout file all you need to do is to drag the file called [Print] (from the directory on your hard disc—or perhaps from a copy you keep on the pinboard) on to the Print printer icon. There is no need to click on the Print printer icon before you do this. Printing from disc to printer is slower than printing to file but still faster than direct printing. The advantage is that printing from file to printer will take place in background so that you may continue to use the keyboard, mouse, etc whilst printing is taking place.

### **Other Paper Sizes**

You may want to use a paper size of A3, A5 or DL (a common size for envelopes). I suggest that you do not keep juggling the paper sizes of your one File printer but that you drag in more copies of your printer definition file (for me this is the file called [Int01] which is in PrntDfn format) and then, using Printer control – Configure, you change the Paper choice for that printer and change the name (from the configuration menu) such as DL File or A5 File. An interesting point is that you don't have to have a separate Print printer for each size of paper; you can drag any Printout file onto the Print icon and it will print.



## **In Conclusion**

Having set up your printing system the next step is to choose your 'global' and 'local' options (ie choices or preferences and then templates or master pages). Those topics will have to wait for another day.

In this article I have referred to many test files. These are included on the Archive monthly disc. I recommend that you buy it from NCS together with Printers V 1.22 and the latest PrintEdit. However, if you do not wish to buy that monthly disc and need these printer test files then send me a disc formatted to 800Kb, sticky label and return postage. Also, please let me know whether you want the [ReadMe] text file in PipeDream, Fireworkz or Style format.

Write to me at the Abacus Training address which you'll find at the back of this magazine and not via the Archive office.