



**Printers
and
Draft printing**

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General notes

There is a vast range of printers that can work with the Archimedes. In many cases you get satisfactory results even if the Archimedes printer drivers are not set up exactly. Because Impression prints an exact copy of what is on the screen, printer set-up can be more important. This supplement details some of the common problems encountered and their solution.

Also included are details of draft mode printing. This method of printing lets you use the inbuilt character set of the printer to speed up the printing of text.

Setting-up your printer driver

Each of the Acorn printer drivers supplied with Impression is set up for a default printer type. This may not give the best results for your own printer. To change the printer type:

1. Load the printer driver in the usual way.
2. Click **Select** (the left-hand mouse button) on the printer icon. This opens the printer selection window.
3. Click **Select** on the printer type in this window to cycle through the various printer types.

For some printer types you have a choice of resolution (180×180 dpi, 360×180 dpi, etc). Choose the one that gives the best compromise between quality and printing speed.

You can save the printer type by choosing **Save choices** on the printer driver menu. To display this menu, click **Menu** (the centre mouse button) on the printer icon on the icon bar.

Creating a custom set-up for your own printer

Inside each printer driver, accessed by holding down the *Shift* key and double clicking on the printer driver application, is a file called *PrData*. This contains details such as default paper sizes and can be examined or changed by loading it into a text editor such as *!Edit*.

The file also contains two sequences called *job_epilogue* and *job_prologue* which enable commands to be sent automatically to the printer before and after printing. By editing the file, you can create your own customised actions. One example of its use is to set the printer's form length for the size of paper in use. The codes for this and many other settings can usually be found in your printer's manual.

Page size

Some users are confused about the page size when printing. The page size in Impression is set quite independently of the paper size used in the printer. The printer driver should be set up to have the correct size of paper to match the paper which is being used in the printer. Usually this is the same as the page size defined in Impression but in some cases they may be different. The best example of this is an A5 document in Impression and printing this out on A4 paper as two A5 sheets side by side.

By default Impression starts with an A4 page. For laser printers and inkjets this is the most commonly used paper size, so there is no problem. Fanfold A4 paper suitable for dot-matrix printers is available and becoming increasingly common. However the traditional dot-matrix fanfold paper is generally shorter than A4, being only 11 inches deep.

If you want to print correctly on 11 inch paper, check the following points:

1. The dip-switches in the printer are set for 11 inch paper, with no perforation skip.
2. The printer driver (*PrinterDM*) has the correct page size set. This can either be set with the **Page Setup** menu option of the printer driver and then saved using the **Save Options**, or by editing the *PrData* text file that is held within the printer driver directory.
3. Impression is set to use 11 inch paper. To do this you will need to create a new master page of the correct dimensions. Use the **Alter Chapter** dialogue box to change to this new master page.

Few printers can print right up to the paper edge, and so it is sometimes useful to see the extent of the available print area. One option in the **Preferences** dialogue (selected from the Impression icon) allows the print borders to be shown. Once selected, Impression draws a light grey border around the edge of the page on screen to indicate the print margins. If any objects on the page extend into this grey area, they are unlikely to be printed.

Note the print borders can only be shown if the printer driver has been loaded. The print borders are shown on screen for pages printed upright at 100%. Therefore they do not indicate anything useful if printing sideways or at a different scale.

Print Borders

The print borders shown as grey areas on the Impression page may not correspond to the actual borders set up in the printer driver. This is because Impression outputs its page centered between the margins and hence the margins shown are the average size i.e. the top one shown is the size of the average of the top and bottom margins.

The option **Ignore page border** can be used to overcome this problem. With this option set, pages are printed relative to the top left-hand corner of the paper. This is useful if your printer has markedly eccentric borders.

Laser printers

Part of the laser printing process involves briefly exposing the paper to a high temperature. This causes the paper to wrinkle slightly. Because of this, many manufacturers of laser printers say you should not print on both sides of the paper as this requires a second pass through the printer. (Technically, this is called *double-sided printing*.)

We have used laser printers for double-sided printing, generally without problems. However, the paper does tend to jam or misfeed occasionally. Our advice is that double-sided printing is possible but you should expect some problems.

Draft mode printing

Unlike more traditional word processors, Impression is a highly graphical program – everything you see on an Impression page is shown exactly as it should appear when it is printed out. So that Impression can print an accurate image of the page it holds in memory, it prints using the 'graphics mode' of your printer. This guarantees that whatever Impression shows on screen, it is able to print on the printer. The price you pay for this accuracy is speed – even the best dot-matrix printer can take six or seven minutes to print one page. This is acceptable when you are printing pages containing graphics or lots of different fonts and font sizes, but it would be nice if pages containing only simple text could be printed out using the much faster 'text mode' of your printer.

This is what draft printing allows you to do. It looks at each page that you want to print, finds out where the text is, and then prints that text on your printer, trying to match the font size in Impression with the font sizes that your printer can print. Obviously, this can never match the accuracy that the normal 'graphics mode' printing can manage. However, so long as you restrict yourself to those fonts and sizes you know match up, draft printing can give excellent results.

Printer modules

These modules attempt to emulate an ordinary word processor, such that the character mode of the printer is used. This means that graphics frames will be ignored when printing, and there are a limited number of combinations of effects that correspond to the styles available on the printer. Unfortunately these are necessary limitations when using printers in character mode.

The printer modules supplied suffice for the majority of printers. However, further drivers may be developed in the future. Contact Computer Concepts if your type of printer is not on this list.

Page size

The default page size is standard A4 (210 × 297 mm). This is suitable for Deskjet equivalent printers.

For the Epson LX and LQ printers and equivalents you should use either A4 or US Letter (8.5 × 11 inch) sized pages, dependent on the paper size used in your printer. For US Letter sized paper you will need to create a new master page that uses this paper size.

Using the printer modules

Note that these printer modules are different to the standard RISC OS printer drivers.

To load these printer modules you can double-click on their icon in a directory window. Remember to do this before displaying the Print dialogue box. Alternatively, you can copy the module suitable for your printer into the Auto directory. This is described in *Customising Impression* in the main Impression manual.

You may have to load the standard RISC OS printer driver for your printer to set up parameters such as serial or parallel connection, baud rate and so on. Once these parameters have been set, you can remove the printer driver from the icon bar.

On the **Print** dialogue box in the **document** section of Main Menu there is a section called **Draft**. If the switch to the left of the name is **off**, click on it to set it **on**. Click on the arrow on the right to display the available printer modules. The top option (**NLQ**) is ticked when the **near-letter-quality** option is **on**. If your printer does not have NLQ, ensure this option is **off**. (If the name is ticked, click on it to clear the tick and switch NLQ off.)

Click on the name of the module you require and its name appears in the **Draft** box. Set up any other parameters needed (like the number of copies). If you now click the **Print** button on the dialogue box, the document is sent to the printer in a suitable format.

Font matching

When the fonts used match those in the printer, the printed result should be a close match for what appears on the screen:

The printed text fits if you choose the right font.

If the font size is slightly too small, text will either be truncated at the end of the line like this:

The printed text fits if you choose the right fo
or run onto the next line,

The printed text fits if you choose the right fo
nt sizes.

If this happens, increase the font size slightly. It is more likely with left-justified text because Impression does not change the word spacing. With other forms of justification, the space between words is adjusted for best match.

Unknown fonts

Text in any unrecognised font is sent to the printer in
basic monospaced font for all printer drivers which only have a
monospaced font (such as PrintLX)
or proportional font for those printers with a proportional font
(such as PrintLQ).

This means that any text that uses Greek or a symbols font is converted into conventional characters.

Stopping printing

Although the print information box is displayed whilst draft mode printing, the buttons on it have no effect. If you want to stop the printer before all the pages have been printed, press the *Esc* key on the keyboard. This stops the printer module at the end of the current line, but does not flush the printer's buffer. Depending on the size of the buffer, the printer may continue printing for several pages after you press *Esc*.

Dot Matrix printers

For high-quality printing use *PrinterDM*.

Using 24-pin printers

You may find a problem if you have an Epson-compatible 24-Pin printer. The default setting of the printer driver is to treat the printer as 9-pin FX-compatible. When a 24-pin printer is driven in this mode, the resultant document can produce pages that are over-length.

The solution is to set the printer driver to *Epson LQ compatible*. See *Setting-up your printer driver* for details of changing the printer type.

Unexpected page throws

You may sometimes get page throws at the end of certain pages when printing your document. This problem is probably caused by the master page being larger than the actual size of your printer paper. To solve this:

1. create a new master page that matches the size of the paper you are using, then
2. use the **Alter chapter** option to change to the new master page.

Draft printing modules

Epson LX80

- Printer module: *PrintLX*
- Default paper size: US letter (8.5" by 11") or A4.
- For Epson RX, FX, LX and compatible 9 pin dot matrix printers.
- Font styles available: monospaced only
- Font sizes available: Enlarged (5 cpi), Pica (10 cpi), Elite (12 cpi), and Condensed (17cpi)

These fonts provide the best match in our experience:

<i>Character font</i>	<i>Corpus font</i>	<i>printer equivalent</i>
30pt	24pt	enlarged (5 cpi)
16pt	12pt	pica (10 cpi)
14pt	9pt	elite (12 cpi)
10pt	7pt	condensed (17 cpi)

Many of the smaller text sizes do not print properly in NLQ (Near Letter Quality) mode, so NLQ mode is temporarily switched off when text is printed in such styles. Not all printers exactly emulate the Epson LX and you may find that some text styles (such as subscript and superscript) do not print properly in NLQ mode. We have tested only a

few of the vast range of printers that follow the Epson protocol and so cannot give details of all Epson-compatible printers.

For fastest printing use **left-aligned, 12pt Corpus** text. Fully-justified text will take noticeably longer to print because it tries to position the start of each word correctly.

European characters may not be printed correctly because they do not match those available in the printer's character set. Characters that should be printed include

à á â ã ä å æ ç è é Ä Å Ç È Û ß

Kaga Taxan KP810 & Canon PW1080A

Printer module: *PrintKAGA*

This module is identical to *PrintLX* except that it sends different codes to the printer to control NLQ.

Star LC10

Printer module: *PrintLC10*

Identical to *PrintLX* except that it supports NLQ printing in condensed, elite, and enlarged. It cannot print bold NLQ and so this is represented by double-strike. Like *PrintLX*, it has limited foreign character matching.

Epson LQ800

Printer module: *PrintLQ*

Default paper size: US letter (8.5" by 11") or A4.

For Epson LQ and compatible 24 pin dot matrix printers.

Font styles available: monospaced and proportional

Font sizes available: Enlarged (5cpi), Pica (10cpi), Elite, (12cpi), 15cpi and Condensed (17cpi). In proportional mode it only allows condensed normal and enlarged printing.

There is a wide range of different font sizes available on the LQ. Those that match best are:

<i>font name</i>	<i>size</i>	<i>printer equivalent</i>
Corpus	24pt	10-pitch expanded (5 cpi)
	20pt	12-pitch expanded (6 cpi)
	18pt	15-pitch expanded (7.5 cpi)
	16pt	10-pitch condensed/expanded
	14pt	10-pitch
	12pt	12-pitch
	10pt	15-pitch

Character	8pt	10-pitch condensed (20 cpi)
	7pt	12-pitch condensed (24 cpi)
	6pt	15-pitch condensed (30 cpi)
	30pt	10-pitch expanded (5 cpi)
	26pt	12-pitch expanded (6 cpi)
	23pt	15-pitch expanded (7.5 cpi)
	19pt	10-pitch condensed/expanded
	16pt	10-pitch
	14pt	12-pitch
	12pt	15-pitch
	10pt	10-pitch condensed (20 cpi)
Other fonts	8pt	12-pitch condensed (24 cpi)
	7pt	15-pitch condensed (30 cpi)
	28pt	10-pitch proportional enlarged
	14pt	10-pitch proportional
	8pt	10-pitch proportional condensed

Some European characters may not be printed correctly; for a list of those that should, see PrintLX.

Panasonic KXP1124 & Citizen Swift 24

Printer module: *PrintKX*

This is similar to PrintLQ except the extra fonts are available:

Trinity font matches to the printer's Bold PS font (Times on the Swift).

Homerton font matches to the printer's sans-serif font (Helvetica on the Swift).

Corpus font matches to the printer's Courier font.

Pembroke font matches to the printer's Prestige font.

Also in proportional spacing mode all pitches are available.

The IBM character set is used – this gives a wide range of foreign characters.

The printer must be placed onto its programmable font and pitch settings from the control panel on the printer. See manual.

Hewlett Packard DeskJet and LaserJet printers

For high-quality printing use *PrinterLJ*.

Altering the LaserJet driver for use by the DeskJet

The **LaserJet** driver can be set up to print on **DeskJet** or **DeskJet Plus** printers by changing the printable margins on the printer driver's page size option to:-

Top	2.0mm
Bottom	10mm
Left	3.0mm
Right	4.2mm

Please note that on the DeskJet the landscape printing option for text printing cannot be used as no character mode landscape fonts are available. These are available on the DeskJet Plus and most LaserJet compatibles. This landscape option only applies if text files are dropped onto the printer driver.

Also, the DeskJet cannot print multiple copies of the same page. This is because the printer driver assumes that a copy of the page is kept in the printer's internal memory. This is not the case with the DeskJet. If you want to print several copies, set **Collated** in the Print Setup dialogue box; this prints a document as pages 1,2,3...1,2,3...

Draft Printing modules

Hewlett Packard Deskjet

Printer module: *PrintDJ*

Default paper size: A4.

For Deskjet compatibles (except DJ500).

Font styles available: Monospaced courier font.

Font sizes available: 6 and 12 point at 5, 10, 16.67 and 20 cpi.

The ISO character set is used and so European characters should be printed correctly.

Font matching:

<i>Character font</i>	<i>Corpus font</i>	<i>printer equivalent</i>
32pt	24pt	enlarged (5 cpi)
16pt	12pt	normal (10 cpi)
14pt	10pt	elite (12 cpi)
10pt	8pt	condensed (16.67 cpi)
8pt	7pt	condensed15 (20 cpi)

Hewlett Packard Deskjet DJ500

Printer module: *PrintDJ500*

Font styles available: Monospaced Courier font and proportional CG Times font.

Font sizes available: Monospaced 6 and 12 point at 5, 10, 16.67 and 20 cpi. Proportional at 6 and 12 point only.

Identical to *PrintDJ* except that Trinity font matches to the printer's Times-Roman font:

<i>Trinity font</i>	<i>printer equivalent</i>
14.5pt	normal (10 cpi)

Hewlett Packard Laserjet

Printer module: *PrintLJ*

Default paper size: A4.

For LaserJet compatibles.

Similar to *PrintDJ* except that no NLQ codes are sent to the printer.

Integrex colour printers

Use printer module *PrinterIx*.

There is no advantage in using draft mode printing with these printers.

PostScript printers

Use printer module *PrinterPS*.

There is no advantage in using draft mode printing with these printers. It can take some time to print graphics and where a quick print-out is required (for example, when checking a document), you may find it useful to choose **No illustrations**. (This is in the Print set-up dialogue box.)

Extra fonts on PostScript printers

To use the Greek font on PostScript printers, insert the following line at the end of the 'PSProlog' file:-

```
/Greek /Symbol /Symbol findfont /Encoding get FF
```

The file can be found by holding down Shift and double-clicking on the *!PrinterPS* printer driver icon. The file can be edited by using a text editor such as *!Edit*.

Any other additional fonts are usually added to the end of this file with a line similar to:

```
/Pembroke.Medium /Palatino-Roman Latin1Enc FF
```

In this case *Pembroke.Medium* is the RISC OS font name and *Palatino-Roman* is the name of the Postscript equivalent.

Font matching can be a complicated chore. Supplied as part of the Impression Business Supplement is *ExpressionPS*. This has been especially developed to simplify connecting PostScript printers to the Archimedes. (*ExpressionPS* is also invaluable if you want to produce PostScript output for a photo-typesetter. The Acorn PostScript printer driver sets a maximum paper size of A4; this is useless when you want space for crop marks around A4 artwork. *ExpressionPS* removes this limitation.)

Qume CrystalPrint Printer

This PostScript compatible printer is one of the cheapest and fastest on the market. However, we have found certain problems when trying to use it with the Archimedes.

Parallel printer port

Some earlier versions of the Qume could not work via the parallel printer port. If you have problems with making a parallel connection, use the serial port as described below.

Connecting the serial port

The following connections are necessary when connecting the Qume to the Archimedes via the serial port:

<i>Archimedes</i>	<i>Qume</i>
Pin 2	Pin 2
Pin 3	Pin 3
Pin 5	Pin 7
Pin 8	Pin 20

Also, on the Archimedes socket, pins 1, 4 and 6 should be connected together, as should 7 and 8. These connections also work with the Apple LaserWriter II.

Make sure you use the **XON/XOFF** software protocols on the Qume, **not** hardware handshaking.

Problems with !PrinterPS

There appears to be a bug, either with the Qume or with the Acorn Postscript printer driver, which can prevent you from printing. Fortunately, it is possible, with a small change to one of the printer driver files, to fix the problem. The offending file in the *!PrinterPS* application is *psprolog2*. Load that file into an editor (such as *!Edit*) and locate the offending line, which reads:

```
def /Copies {3 -1 roll def showpage /#copies exch def}bind
```

This line should appear about ten lines down. Change it to:

```
def /Copies {exch def showpage}bind
```

If this line is substituted for the existing line, the PostScript printer driver should operate correctly with the Qume.

Canon bubble jet

None of the standard printer drivers supplied by Acorn is suitable for this excellent little printer. However printer drivers are now available from several Companies.

Draft printing module

Printer module: *PrintBJ*

Default paper size: A4.

Font styles available: Monospaced and proportional.

Font sizes available: Enlarged (5cpi), Pica (10cpi), Elite, (12cpi) and Condensed (17cpi). In proportional mode only Pica and Enlarged.

Use 14.5 point Trinity or 14 point Homerton font to match to the proportional font in the printer. This is only available in pica size (that is, not in elite or condensed). There is no italic font available. Therefore if a small proportional font is used, e.g. condensed, and is printed left justified, the text wraps onto the next page as no smaller font can be selected.

Do not try to fully justify proportional text – the character widths are not a good match. The printed result will be disappointing.

On the printer set switch 9 **on**. This then gives a good range of European characters.

Computer Concepts' LaserDirect and LaserDirect HiRes printers

Use the printer drivers supplied with the LaserDirect package.

There is no advantage in using draft mode printing with these printers.

Printing in pamphlet mode - Qume engine

When the first side has finished printing, replace the paper in the paper tray without turning it in any way.

Printing in pamphlet mode - Canon engine (LaserDirect HiRes)

- If the printer is set for **facedown print delivery** (see the printers manual for details of this), do **not** turn the paper in any way.
- If the printer is set for **faceup print delivery**, turn the paper over from left-to-right (or right-to-left) so that the printed side now faces down. Do **not** turn the paper top-to-bottom.

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Remember, this manual is yours – feel free to make margin notes, add tabs to the page edges, or anything else that assists you to use and understand Impression. We've provided these blank pages for comments or noting extra page references where you think it helps you.

Notes

Notes
