

# Archimedeian

I S S U E F O U R

Full colour  
publishing on  
the Archimedes



**The new Acorn A5000**



**New Archimedes products**



**More hints & tips**



Computer Concepts Ltd

# Contents

## News

2 - 3

3D Dialogues, The Acorn User Show, Artworks is coming, new borders disc, current software versions

## Full Colour for the Archimedes ?

4

Charles Moir, Managing Director of Computer Concepts, draws attention to the importance of future support for true 24-bit colour on the Archimedes

## LaserDirect

5

The new LaserDirect uses the Canon LPB-4 engine for great performance at a competitive price

## Grey-scale scanning comes of age

6 - 7

No longer is scanning limited to black and white; Computer Concepts introduce two new scanners handling true 256 grey scales. Choose the scanner to match your needs and your budget

## New Acorn Machines are here...

8

You've heard the rumours, now you can read the facts. Acorn's new A5000 machines revealed

## Double your disc space for £49 !

9

Computer Concepts introduces the best compression utility you could ever hope for

## Hints & Tips

10 - 11

More hints & tips from Computer Concepts' technical support department

## Colour Publishing

12

See for yourself that full colour publishing on the Archimedes is a reality

# News • News • News

Welcome to the fourth issue of the Archimedean – the newsletter for owners of

Computer Concepts' products.

Those of you who've received earlier issues will notice a change in style in this issue, particularly with the move to a full colour cover, thanks to the 4-colour separation capabilities of the Impression Business Supplement.

The Archimedes makes an outstanding publishing machine. As an example of what can be achieved, as well as for sound economic reasons, this entire newsletter was created using the Archimedes, and of course all the text and page layout is done with Impression. In the past we've left the insertion of photographs to professional printers who strip them into the film just before making plates. However, we thought it was time to make use of our own technology, so every picture in this issue has been scanned with Scan-Light Junior 256 or Scan-Light Professional and output directly to a Linotronic Imagesetter as part of the page.

We hope you enjoy reading this newsletter and find it interesting. As a registered owner of our products you'll receive future issues of the Archimedean automatically. If you have any comments - good or bad! - we'd like to hear them. Please address correspondence to The Editor.

Rob Pickering  
Editor

## See us at Wembley for the 1991 Show

The Acorn User Show is always the main event of the year for users of Acorn machines. But this year it looks set to be even better than ever, with Acorn using the show to exhibit their new machines (see page 8) for the first time in public.

The Computer Concepts stand will be a hive of activity as always, giving you the opportunity to see our new products and chat to the people who design and support them.

Among the main attractions will be Compression, the new super-fast compression utility which automatically reduces the size of all your files as you save or load – absolutely transparently! But if you can't make it to the show for our special introductory offer – don't worry, because we're extending the special price to anyone who orders by the end of October. See page 9 for details.

The Acorn User Show will be held at Wembley Conference Centre, London, 11th – 13th October 1991.

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The Archimedean is issued free of charge to registered owners of Computer Concepts' Archimedes products.

## Production

This issue of the Archimedean was created entirely in Impression 2, using an Archimedes 440 with 4MB RAM and a 20MB hard disc. All proofing and layout checks were output through LaserDirect. Final negative film was created from PostScript output files through a Linotronic 300 imagesetter. All colour separations were created with the aid of the Impression Business Supplement. Photographs were scanned using either Scan-Light Junior 256 or Scan-Light Professional and placed in their required positions in each. This is the first edition in which no manual film stripping was performed.



## 3D Dialogues

In the previous issue we printed editorial comment about the attitude to our 3D dialogue boxes. Since then, it's been interesting to see that Apple's new heavily publicised Mac Operating System 7 has now adopted 3D dialogues. It just goes to show, we may be in the minority in the Acorn world, but there are a few million people who share our views!



*The ultimate 3D dialogue*

## Archimedean back-issues available

Back-issues of the Archimedean are available to registered Computer Concepts owners *free* upon request. Please state the issue numbers required and quote a valid Serial Number for one of our products registered in your name.

## First Impression

...is the name of a large and thorough tutorial for Impression. We understand that Archive magazine is reviewing it in the next issue and hope to be selling it at the Acorn User Show. Orders or additional details from: Word Processing, 65 Milldale Crescent, Fordhouses, Wolverhampton, WV10 6LR. The price is £29.95 Inc P&P. Cheque with order please. Official orders accepted. Sorry, credit card facilities not available.

## New Borders disc for Impression

A new disc containing a collection of outstanding border designs for use with Impression is now available. It contains the best of the entries for the competition we ran in issue 2 of the Archimedean, together with others designed specially. £15.00 inc. VAT.

## ArtWorks

For the best part of a year we have been secretly developing the drawing program to top all drawing programs. This will allow DTP to flourish beyond the current restrictions on design content. Although not yet available, we plan to demonstrate ArtWorks at the Acorn User Show.

## Fax-Pack on the way

We had planned to include a feature on our forthcoming Fax-Pack fax card in this issue, but it was cut at the last minute in order to make room for details on the new Acorn A5000 machines, announced two days before we go to press! Fax-Pack will be demonstrated at the AU Show.

## Unfair to Acorn

A few people have complained to us that the comment column in previous issues was overly critical of Acorn. This was certainly not the intention and we're sorry if it read that way. Our criticisms of the Acorn design guidelines were intended to be constructive, pointing out areas that we think could be improved. Our criticisms of Acorn software and machines are insignificant compared to our thoughts on Windows 3 and PC hardware! Perhaps unusually for Archimedes developers, we do know quite a lot about Mac and PC machines. Our philosophy is to openly admit when others get things right and adapt good ideas. Sometimes when people are too deeply involved with their own way of doing things they cease to be objective. We

just want to keep reminding everyone that, although Acorn machines are clearly the best, that's no reason to ignore everything else.

It's only fair to say that Acorn are actually very co-operative with Computer Concepts and other developers. Now that the new machines and operating system have been announced, we can openly say that we have been involved with their development to a degree that would have been unimaginable only a couple of years ago, and this is certainly a step for the better.

## Current Versions

At Computer Concepts we continuously improve our products. Between major upgrades there are frequent minor improvements performed. At any time you can return your original program discs and we'll supply the latest revision, free of charge.

Changes are often very minor, so there's no need to get every update; just check every few months to see if you have the latest version. If you have a specific problem, check your version (by selecting the Info menu option from the program icon on the icon bar) and if it's our latest release, supply us with full details so that we can investigate further. If it's an older version, then upgrade.

Listed below are the current versions on release at the time of printing. If the version you have is significantly earlier, return to us your original master disc (only Program Disc 1 for Impression) and we'll send back the latest version to you\*

Impression.....	2.14
Impression Junior.....	1.14
Equasor .....	1.02
Scan-Light Plus software .....	1.12
LaserDirect .....	2.04
ShowPage.....	1.33
Compression.....	1.10

\* Upgrades are supplied to registered customers only. Computer Concepts Ltd. reserves the right to refuse supply of free upgrades, without in any way affecting your statutory rights.

# 24-bit full colour

Few Archimedes users are aware of the significance of true 24-bit colour capability. Charles Moir of Computer Concepts draws attention to the subject

The Archimedes is a great machine that has a lot going for it. It beats machines like the Apple Macintosh and PC compatibles on performance in almost every respect. However, we can't afford to be complacent; there are a few capabilities which are lacking in current Archimedes hardware and software that we need to think out carefully and work on soon if we want to stay ahead.

Handling full colour scanned images is one area in which the Archimedes is sadly not the best. First, let me explain the basis on which colour capability can be judged. The two main factors are:-

- \* The number of colours which can be shown simultaneously on screen and saved in a standard interchangeable file format

- \* The range of colours (palette) from which those colours can be chosen

The number of colours which the Archimedes can display is represented by 8-bits of information, providing up to 256 colours on screen simultaneously. However, the practical limitation here is that the choice of colours for saved images is limited to a fixed palette of 256 colours. This means, for example, that it is not possible to create an image which represents 256 different shades of red. More importantly, it isn't possible to show 256 shades of grey – as is ideally required for photographic image editing.

Compare this limited ability against, say an Apple Macintosh, used widely in high-end colour applications. The standard Mac II machines are pretty limited in their abilities without an add-on board, but some can display 256 colours from a palette of over sixteen million. With add-on display boards the capability can be increased to display all those sixteen million colours simultaneously, or rather as many as is possible

in the number of pixels on the screen. The displays driven in these modes can be 21" colour, showing two A4 pages side-by-side. The cost would bring an average Archimedes user close to heart failure – about £4,000 just for the monitor and interface !

## What can't we do with the Archimedes at present?

Let's not get too worried, the Archimedes can perform the vast majority of things we currently need it to. One limitation we notice at present is the lack of a 256 greyscale mode for manipulating scanned images. Our Scan-Light software works around it by using the small available range of greys and dithering them to make it appear as if 64 shades can be displayed – but it's not ideal, and the worst problem is the lack of an appropriate 'standard' file format. With two greyscale scanners now on the market, this is a concern for us.

As you will see from this issue, the Archimedes can publish in full colour - but cannot currently handle full colour scanned images. We've thought long and hard about releasing a colour scanner for the Archimedes, but until there is better video hardware, printer drivers

ideally suited – if only it supported full colour standards.

Don't be fooled by anyone claiming to be able to offer 24-bit colour for the Archimedes at present. There *is* one advert I've seen recently claiming just that – but a more accurate description is that it provides 256 colours on screen. The advance on offer is that the 256 colours *can* be from a 24-bit (sixteen million plus) colour palette. Not having tried this particular offering yet I can't comment further. But assuming it lives up to its claims, it's certainly a step in the right direction.

## Standards

So what has to be done to make the Archimedes support better colour? The first task is to define standards, so that Acorn and all the developers pull together in the same direction, rather than going off and creating their own non-standards.

Once standards have been defined, sizeable pieces of program have to be developed for manipulation of the images. It's important that the program code is within a central Operating System module, rather than duplicated in each developer's programs. These routines must include support for display and printing – particularly PostScript printing, since this caters for the majority of colour printers and imagesetters.

## The good news

Acorn are aware of the needs for full colour support. I don't think they consider it as high a priority as I do, but that may be because so many of our products are involved in publishing where the need for full colour is great. For spreadsheets and databases the Archimedes hardware is already more than adequate.

The good news is that Acorn are already working with the major developers to define the necessary standards. So with continued cooperation, the end result should be good.

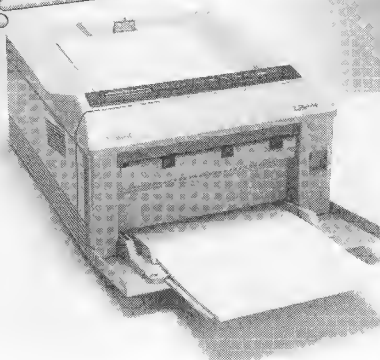
4



and, most important of all, a standard file interchange format, the Archimedes does not provide the necessary support.

There are other areas of computer use in which other computers are thriving, such as multimedia, full colour rendering, animation and drawing, which would all be markets to which the Archimedes would be

# LaserDirect



## LaserDirect HiRes

Technological improvements and a fall in prices has allowed us to introduce a new member of the LaserDirect family of direct-drive printers for the Archimedes.

Until recently we have been offering a LaserDirect expansion board for the standard Canon LBP4 printer, but did not sell the printer itself. Customers had to purchase the printer from elsewhere. But now we are able to supply both printer and interface as a complete system at a lower combined price. In fact we are offering the printer and board for less than the RRP of the printer itself!

Features of the new LaserDirect HiRes4 system are listed in the adjacent summary table.

Now you can have the choice of 600dpi quality when you need it, at the price you would have had to pay for 300dpi. We now offer two high resolution, 600 dpi laser printers for the Archimedes: the LaserDirect HiRes4 and the LaserDirect HiRes8.

So what's the difference between the HiRes4 and the HiRes8? Well basically the HiRes8 offers a maximum of 8 pages per minute throughput whereas the HiRes4 offers four pages a minute maximum. The HiRes8 is based on a variant of the Canon LBP 8 engine which is extremely robust and could be expected to stand a much heavier duty cycle. On the other hand, not

everyone wants to print hundreds of copies on a regular basis.

The HiRes8 is somewhat larger than the HiRes4 engine, making the latter far more attractive as a desktop printer. We see the HiRes4 more as a personal laser printer – small enough to fit on an average desk along with the computer, whereas a HiRes8 would be a little too large for some desks.

In favour of the HiRes8 is its straight paper feed path, able to handle heavier paper and even light card. The HiRes4 feeds the paper through a 'C' bend and is therefore less able to cope with heavy material.

The HiRes4 comes with a convenient front loading paper tray with a capacity of 50 sheets of 80 gsm paper. Optionally an additional lower paper cassette can be fitted that takes 250 sheets of 80 gsm paper.

Finally, in favour of the HiRes4 – in case you still can't decide which model suits your needs – it costs less than the heavy duty HiRes 8.

### Pricing

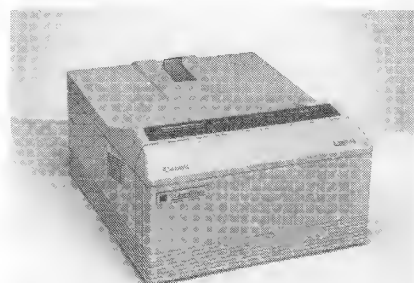
The LaserDirect HiRes4 costs £999 +VAT (£1173.82) RRP or £1099+VAT (£1291.32) RRP with the additional lower paper cassette. For a 600 dpi printer this is now by far the lowest cost of any printer available for any machine. The nearest equivalent we know is over three times the price for Mac and PC owners.

### HiRes4 Summary

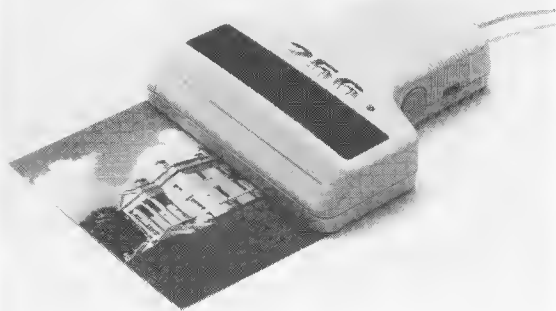
- ☐ Canon LBP4, 4 page per minute laser printer
- ☐ LaserDirect direct drive interface board and cable for Archimedes
- ☐ 300 and 600 dpi printing
- ☐ PC compatibility via Canon parallel and serial interfaces
- ☐ One year on-site maintenance included in the price
- ☐ LaserDirect printer driver software offering:
- ☐ Ultra fast page rendering times - twice as fast at printing text as the nearest competitor. 5 times faster than a typical LaserJet.
- ☐ Background printing
- ☐ Direct printer feedback - messages on-screen tell you exactly what's happening with the printer.
- ☐ New image screening offers 128 grey-level printing twice as good as the best 300 dpi device, four times better than a typical PostScript printer

### LPB 4 Features

Max paper size:	A4
Paper tray capacity	50 sheets
Optional cassette	250 sheets
Max paper weight	105 gsm
Dimensions (mm):	350x405x204
Noise:	43db standby







Scan-Light

Junior 256

Since we produced the previous edition of the Archimedean we have introduced two new greyscale scanners. In fact Scan-Light Junior 256 has been available for over two months and is making a substantial impact – exceeding sales of the standard Scan-Light Junior. At the Acorn User Show we will be introducing Scan-Light Professional, a flatbed greyscale scanner, (opposite).

#### Scan-Light Junior 256

This looks exactly like the old Scan-Light Junior – so much so that the only visible difference is found by examining the part number. But while there may be very little outward difference, the results are very different indeed.

Scan-Light Junior 256, as its name suggests, can scan images at 256 greyscales. 150 levels is the recommended minimum required to achieve printed photographic reproduction quality, as used in magazines. With less than 150 levels, distinct 'stepping' becomes visible in the printed images.

The original Scan-Light Junior, and all other hand scanners currently available for the Archimedes, scan monochrome black and white only. To be specific, each dot scanned is read simply as black or white. When Scan-Light Junior 256 is used, every dot is read as a greyscale with any one of 256 intensities. For existing Scan-Light owners this limitation may not be so important. For scanning line art (solid lines such as text, technical drawings, etc.) greyscales are irrelevant. If photographs do need to be scanned, then the Scan-Light Junior software can use an 8 by 8 sampling technique to create a 64-level image, albeit at a lower resolution. This can be applied to both the Junior and larger Scan-Light A4.

In fact the new scanner offers the choice of monochrome, 16 grey-level or 256 grey-level scanning at up to 400 dpi *without any sampling*. The difference in picture quality can be very dramatic indeed, particularly when the results are to be typeset at high resolution.

There is no doubt that this now offers the best quality scans available for any scanner for the Archimedes (with the exception of the even newer Scan-Light Professional). In our tests there was little difference between a scan from this scanner and our new Scan-Light Professional. Given that it's a quarter of the price of its larger brother, it represents excellent value.

**Price: Scan-Light Junior 256 – £220 + VAT (£258.50 incl.)**

We also offer an upgrade for anyone who already has a Scan-Light Junior. In this case you can use the existing

interface board, so we just sell you the new scanner head and new software, representing a saving of over £80 on the new price.

**Scan-Light Junior 256 upgrade – £149 + VAT (£175.07)**

#### Please note

Because greyscale scans are much more detailed, they require larger amounts of RAM and disc space. Therefore we recommend a minimum of 2Mbytes of RAM for Scan-Light Junior 256.

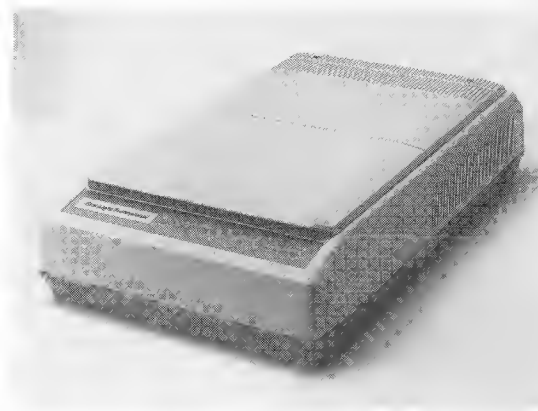
256



Above: an image created by scanning with Scan-Light Professional at 150dpi.

No image enhancement has been applied

# Scan-Light Professional



Scan-Light Professional is our new top of the range scanner, due to be launched at the Acorn User Show.

Unlike our other Scan-Light devices which are hand-held, Scan-Light Professional is a desktop flatbed scanner. Although there are several on the market for the PC, we supply one which works extremely well with the Archimedes.

Scan-Light Professional offers 300dpi resolution and can produce monochrome, 16-level and 256-level greyscale scans, making it suitable for the widest range of applications and is particularly well equipped for dealing with photographs. Its major advantage over Scan-Light Junior 256 is its ability to accept very large originals. In fact its maximum scanning area is an enormous 14 by 8.5 inches, more than accommodating a full A4 page. Scanning full 10x8 photographs is no problem at all. It is ideal for

creating high quality images, whether they are for laser printing or full resolution imagesetting. The scanning unit makes use of a white light source for maximum tonal accuracy (some use green light).

The software we've created is far more advanced than anything else for the Archimedes. It will drive the scanner first to create a low resolution preview of the whole page, then scan just a selected area at the required resolution. This is vital when you consider that an A4 300 dpi scan with 256 greyscale levels would occupy about 8MB of RAM! The software has new image enhancement facilities that provide blurring, edge enhancement and sharpening. As a demonstration, the large scans reproduced below show one prior to enhancement and following. Our printers were convinced that we cheated and just deliberately blurred the original!

Scan-Light Professional is a SCSI device, and so requires a SCSI expansion board to be fitted to the machine. If you have an A540 or one of the many SCSI disc drives in your machine then the same interface will also drive the scanner. However, if you do not have a SCSI board, then we can supply one with the scanner for an additional £100. We even include one of each type of lead you might need for your existing SCSI interface in the package. We haven't yet tested *every* SCSI interface, but it certainly works with those from Acorn, Lingenity, Morley and Oak.

LaserDirect owners can use Scan-Light Professional just like a photocopier. We provide a photocopy menu option that scans and prints a full A4 page in about 30 seconds!

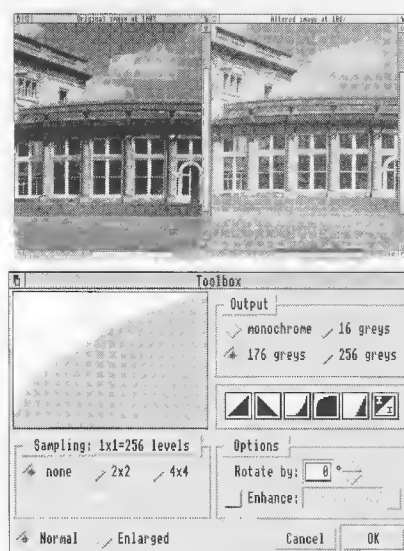
## Prices:

**Scan-Light Professional :-**  
£899 +VAT (£1056.32 inc)

**Scan-Light Professional + SCSI :-**  
£999 +VAT (£1173.82)



*Above: an image scanned with Scan-Light Professional at 150dpi. Image enhancement has been applied using the Scan-Light Professional software*



*The software provides excellent image manipulation facilities*



# The new Archimedes A5000 revealed

## The New Acorn A5000

Our timing with this issue of the Archimedean was fortunate, allowing us, at the last minute, to include details of a major announcement from Acorn. On Friday 27th September they announced a version of the Archimedes to be known as the A5000, and a new version of the Operating System RISC-OS 3. Price cuts will also be applied to existing machines in the range.

The A5000 is based on the ARM3 and faster memory system, similar to the top of the range A540, and is housed in a new case design. The A5000 is a major new machine and offers dramatically better performance than A3000 or 400 series machines. With its faster memory system it is noticeably faster than an ARM3 upgrade, which makes it perfect for heavyweight applications such as DTP. The A5000 will initially be the only machine with RISC-OS 3, with upgrades for other machines expected in the future.

Now with new floppy drives the A5000 can store 1.6MB on a high density floppy, while still maintaining compatibility with existing formats. Along with our Compression utility they should hold about 3-4MB!

The only thing I find disappointing about the machine's specifications is its maximum RAM size of 4MB. We already run up against this limit with publications (this issue is over 4MB!), but maybe Acorn will be able to invent a fix in the future? Otherwise there is no doubt that this is the best all-round machine that Acorn have ever produced.

The A5000 is available in two basic configurations: For £999+VAT you can have a 1MB RAM machine without hard disc or monitor, which makes the alternative look like a real bargain at £1499 for a 2MB RAM machine with 20MB hard disc and colour multiscan monitor. We need some more machines at Computer Concepts and these are definitely the model we'll buy. (I wonder if we'll get extra discount for saying that?)

If you're looking to buy a new machine (well, Christmas is coming...) then you might also like to know that the A540 is reduced by £500 and the A420 and 410 by £200. The A440 is now withdrawn from production.

## RISC-OS 3

Another piece of good news is RISC-OS 3, though it will be a while before it is available as an upgrade for existing machines. Acorn have made the ROMs positively vast in capacity and included several of the standard applications such as !Edit, !Draw and !Paint – all of which have been enhanced in minor ways.

Other improvements include: faster font manager, window iconising which works with existing applications, the ability to leave files on the desktop, proper multi-tasking file operations such as copying, and other improvements apparently totalling about 300 in all.

## Computer Concepts Price List

Product	Price (excl.VAT)	Price (inc. VAT)	Availability
Impression 2.1 .....	£169.00	£198.57	In stock
Impression 1 to 2 full upgrade .....	£20.00	£23.50	In stock
Impression Junior .....	£89.95	£105.69	In stock
Impression Business Supplement .....	£49.00	£57.57	In stock
Scan-Light A4 with sheet-feeder (A3000 v. available) .....	£499.00	£586.32	November
Scan-Light A4 (A3000 version available) .....	£399.00	£468.82	In stock
Scan-Light Junior (A3000 version available) .....	£189.00	£220.07	In stock
Scan-Light Junior 256 (A3000 version available) .....	£220.00	£258.50	In Stock
Scan-Light Professional .....	£899.00	£1056.32	AU Show □
Scan-Light Professional + SCSI Interface .....	£999.00	£1173.82	AU Show □
LaserDirect HiRes4 .....	£999.00	£1173.82	In stock □
LaserDirect HiRes8 .....	£1495.00	£1756.62	In stock
LaserDirect LBP4 board .....	£399.00	£468.82	In stock
AvantG font pack .....	£20.00	£23.50	In stock □
BookM font pack .....	£20.00	£23.50	In stock □
Compression .....	£49.00	57.57	AU Show □
Impression II Borders Disc .....	12.77	15.00	AU Show □
Equasor .....	£49.00	£57.57	In stock
ShowPage .....	£149.00	£175.07	December

□ = new product or new pricing

All products are available by mail order from Computer Concepts or from all good Acorn Dealers throughout the country and overseas. Computer Concepts: 0442 63933





File compression is a technique which reduces the actual space occupied by files on disc by storing them into a highly condensed form. Massive savings can be gained in disc storage, regularly allowing two or three times as much to be stored in the same space – and it's so quick and easy with the new utility from Computer Concepts – Compression.

In use, Compression looks and behaves like a replica of your normal filing system, named CFS. It works with all RISC OS applications directly, exactly as they do with ADFS or other filing systems. It intercepts all file read and write operations, compressing data as it's written, and decompressing when it's read back. It does this so fast that you really won't know it's happening – hard to believe, but true!

Compression uses a technique called LZW compression which is a form of self adapting data compression. This means it adapts itself to the type of data being compressed and results in most types of data being compressed to between half and one third of the normal size.

You may already be aware of utilities which offer file compression. But you have to use them manually on each file to compress or decompress, and they're about five times slower. They're useful, but they aren't

*On the left is the Compressed Filing System (CFS) directory with the normal ADFS version on its right. As you can see, compression works well with all types of data files. What you can't tell is that the Impression document (JunSpec1) is 697K long and that using Compression this requires only 174K of disc space.*

in the same league as Compression. With Compression, you install it – and forget it. What reminds you it's there is the huge increase in files you can save on whatever storage you use, from a humble floppy disc to a network file server.

When Compression is installed it creates additional icons which substitute for existing disc icons. They work exactly like their usual counterparts except that files dropped on their directories are compressed as they are saved, and decompressed when loaded. In fact they even show the correct (decompressed) file length. You might wonder, in that case, how you can tell that Compression is working at all. Well, if you display a directory view from the normal disc icon it will show the true file length.

Compression includes a public domain decompressing only version, so you can use it to distribute compressed files to others.

*See it at the Acorn User Show...*

adfs::Floppy1.s				CFSHADFS::Floppy1.s			
	Application				Application		
JunSpec1	NR/	29K	CFS1zw	JunSpec1	NR/	59K	Text
RTxtFile	NR/	69K	CFS1zw	RTxtFile	NR/	121K	Sprite
DRAWING	NR/	51K	CFS1zw	DRAWING	NR/	166K	BASIC
GPB	NR/	6584	CFS1zw	GPB	NR/	24K	DrawFile
GradTint1	NR/	53K	CFS1zw	GradTint1	NR/	121K	Sprite
HERLEY	NR/	3896	CFS1zw	HERLEY	NR/	9K	Sheet
HomeCont	NR/	42K	CFS1zw	HomeCont	NR/	165K	2nr Data
Inventions	NR/	74K	CFS1zw	Inventions	NR/	121K	Sprite
LESLEY	NR/	24K	CFS1zw	LESLEY	NR/	154K	Sprite
screen	NR/	28K	CFS1zw	screen	NR/	35K	DrawFile
Spitfire	NR/	78K	CFS1zw	Spitfire	NR/	142K	BASIC
Style	NR/	41K	CFS1zw	Style	NR/	68K	DrawFile
Title	NR/	12K	CFS1zw	Title	NR/	28K	Sheet
Tutor	NR/	41K	CFS1zw	Tutor	NR/	168K	Sprite
View2	NR/			View2	NR/		

**RRP £57.57 inc. VAT**

**Special introductory offer :**

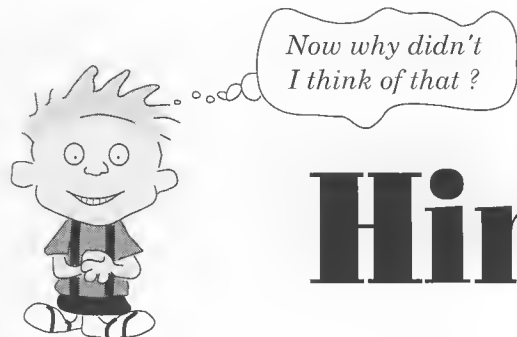
**£49.00 inc. VAT**

*We will be offering Compression at a special introductory price of just £49 including VAT at the Acorn User Show, October 11th - 13th. But as one of our valued customers we're extending this offer to you whether you're able to attend the Show or not.*

*Enclosed with this issue is a voucher. Return this to us by the offer closing date with payment by cheque or quoting credit card details and we will supply Compression at the special offer price.*

# Compression

*The file compression utility for the Archimedes*



# Hints & Tips

If you have a good hint on using one of our products, or even for using the Archimedes in general, why not send it in and share it with the rest of our readers? Send your ideas to our usual address and please mark them "The Archimedean".

## Equasor

### Disappearing characters

Sometimes characters may disappear from the screen. An example of this might be when trying to change the limits of an integral sign to be above/below instead of super/subscript. If the integral sign is selected, followed by an effects menu change from sub/superscript to above/below – the limits are liable to disappear if they consist of special characters such as infinity or omega. This happens if the font has also been changed as a side-effect. For example, Trinity.Medium does not contain these characters so they would disappear or reappear as other characters. To avoid this situation, make sure that the effect does not change the font, i.e. the font button is off. You might get a similar effect if the point size button is on, causing the size to exceed that which will display. Once again, check the button before applying the effect.

If you ensure that the integral sign is selected by double clicking on it, the font button will be off by default when the effects menu is entered, but you should still check that the size button is off.

ences. This is because the lower limit is vertically below the upper limit. But it can easily be changed by kerning the lower limit into the desired position.

### Paste option greyed

A few people have been confused by the Paste option remaining greyed when they come to use it. This occurs if a region is still selected, because it is only possible to paste at the current cursor position – not on top of a selection. Simply click to place the cursor at the required paste position and the option will no longer be greyed.

### Fonts not found

If fonts are not found even though they have been copied into the !Fonts directory, it usually just requires a double-click on the directory to establish them.

## Impression Junior

### Unwanted pages

Impression Junior uses different rules to create pages than those used by Impression II. This can sometimes result in a large number of pages on the end of a document when least expected. Typically it happens if you drop a text file onto a small frame on the page. If the text file is too large to fit into the frame it creates a new page below, which is an exact copy of the

first, with another copy of the small frame. The text then flows into this corresponding frame on the new page and the process continues until all the text has been placed! If the frame is very small or the text file is large, this can easily create dozens of pages.

Contrary to what you might initially think, using the Delete Page menu option does not help here. Deleting one or more pages in this way simply causes the text to re-flow, thereby instantly re-creating the new pages, with the result that nothing seems to have happened.

The easiest way to remove all the superfluous pages is to select the whole text story that occupies these frames (do this by clicking in any of the offending frames and use the menu option Select Text Story, or simply press Ctrl-T), then delete the text by pressing the delete key. Instantly you should see all the unwanted pages vanish as Impression automatically removes them since they're now blank.

## Impression

### Automatic bullet points

Create an indent style which has a return margin at the 1cm mark, a tab and the left margin at the 1.5cm mark. Also set up the leadering character to be a bullet (ALT 143), followed by three spaces. (NOTE: the bullet point might not show up correctly on the style editor but instead display as an underlined 's'. This is due to it being in the system font).

When the style is used and a tab character inserted to position the

### Limits not in the correct place

The lower limit of, say, an integral sign may not be in the correct place according to some people's prefer-



caret for the main paragraph, an automatic bullet point is inserted. An example of this is shown below:-

- This is the main paragraph of the text showing the automatic bullet point and the indent so that the text wraps around to the correct place.

If the distance between the left margin and the return margin is too large corresponding to the font size, you may find that more than one bullet point appears. In this case, just insert as many spaces after the bullet as necessary in the style definition.

## Sprites will not rotate

If Draw files rotate but sprites will not, then this invariably means that the 'Enhanced graphics' preference option is off. Turn it on and sprites will then rotate. Note that this only applies to Impression II.

## Styles by example

Did you know there's a shortcut to create styles in Impression II? Rather than creating a new style and setting each of the individual attributes in the style editor, you can get Impression to use the effects on at the cursor as the basis for a new style.

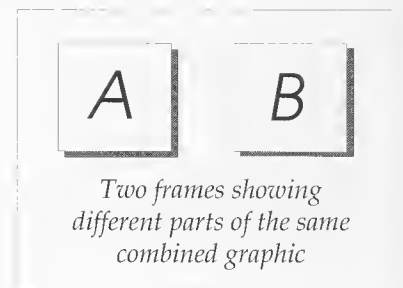
For example, imagine you have some text set to a particular font and size, underlined, and you then decide you want to use this combination of effects in different places in the document. Simply place the cursor in the text, select New Style from the menu then click the Merge button. The top item is labelled 'From Cursor'. Selecting this will set all the attributes in this new style to those currently on at the cursor. Pressing OK will create the new style, initially called "From Cursor", but you can rename it by altering the name field.

## Graphic limits

Because Impression stores its graphics as separate files within the document directory there is a limit to the number of graphics that can be stored in one chapter. In fact this corresponds to the maximum number of files that can be held in one directory, rather than being a limitation imposed by Impression. This number varies depending on the filing system being used, but is normally 77 files per directory. Impression uses one file for the text of the chapter so this means that it can hold 76 separate graphics per chapter. Normally this is more than adequate, but a couple of people have found it to be a limitation. But there is a way, albeit rather fiddly, to overcome the problem.

By combining the graphics into one Draw file you can use the Impression trick of allowing different frames to view the same picture to reduce the number of graphic files. You can combine different graphic files very easily with !Draw (you just drop them on different parts of the page). You then drop this combined Draw file into one Impression frame. Then for each time you want to view another part of the combined drawing you create a new frame. DO NOT DROP the graphic file onto this new frame. Instead click Select in a frame that contains the combined graphic and click Adjust in the new blank frame. This technique is exactly the same as for making text flow from

one frame to another. Then you just use the hand to push the graphic around in the frame until all that is visible is the required piece.



## Anatomy of a BUG

Impression version 2.12 has a rather unpleasant bug! If you paste multiple frames, (ie there are multiple frames on the clipboard) whilst snap to guides is switched on, it crashes.

This arose when a small change was made to the snap routines to improve their accuracy. The bug is simply an unforeseen consequence, and one not found in our testing procedures.

Therefore if you have version 2.12 - we strongly suggest that you upgrade it. Send back disc 1 and we will change it over to the latest version without charge.

Oh well, there's another £1000 + spent being honest about bugs. It's easy to see why other software houses just keep quiet about them...

## Please inform us of problems and errors

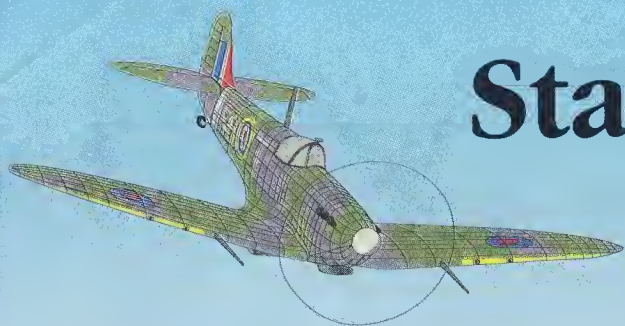
Sometimes we hear of problems in software or errors in documentation with the comment "I thought someone would have told you about it..."

But if everyone assumes that - we may never know!

If you encounter a problem, no matter how 'obvious' it may seem, please do tell us about it, preferably in writing. We don't just ignore problems, we try to put them right as soon as possible. The sooner we know about them, the sooner they can be fixed.

# Hints & Tips





# State of the art : Full colour publishing with the Acorn Archimedes

If you've ever heard people refer to full colour printing as four colour printing you might have been tempted to think you didn't quite hear them straight, and they actually said full colour. Well, it's just like calling full colour television three colour TV, since it uses only red, green and blue. Full colour printing utilises just four colour inks – cyan, magenta, yellow and black.

The reasons why printing cannot use the same colours as TV screen is rather complicated and related to the fact that TV emits light, (you can see it in the dark) whereas printed material reflects light (you can't see it in the dark). In theory, colour printing should just require the three colours cyan, magenta and yellow, but because the ink colours are not perfect they cannot produce very convincing blacks, and so there is nearly always a fourth colour, black. Rather confusingly the black component gets referred to by the letter K

(for Key), rather than B when used with the others, hence the set of colours, CMYK, cyan, magenta, yellow and black.

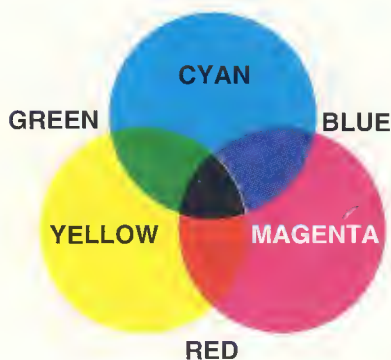
The full colour printing process requires that the paper is fed over four printing plates, one for each of the CMYK colours. Each lays the appropriate regions of one of the colours, and only when all four colours have been applied does the full colour print emerge.

So how does a full colour Impression document become the four separate colours? Well the word 'separate' is the key, and the process is called colour separation. Using one of the utilities in the Impression Business Supplement it is possible to create the four separations that are required by the printer to make the four separate printing plates. Since all professional quality colour work requires the highest possible resolutions (usually greater than 2000 dpi) only imagesetting (typesetting) machines are used for printing the separations. The Impression Business Supplement can in fact only produce colour separations for PostScript printers and so it can't be used with other RISC OS printer drivers – not that there's much reason to, other than for testing or demonstration.



The actual process of producing colour separations is a lot more complicated than you might think and involves processes such as under colour removal, setting the screening of the four separations to exactly the correct angles, and putting registration marks on each separation. Thankfully however, the Impression Business Supplement handles all these processes for you.

Producing high quality colour work is not cheap – one colour page, producing the four colour separations from the PostScript imagesetter will probably cost £30. Getting a colour proof will cost another £70. So you've probably spent £100 before the printing has started. However, compared with traditional methods it's very cheap. Also because colour leaflets or brochures are usually printed thousands at a time, the cost spread across this number is not so significant.



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