

Archimedeian

issue no. 6

NEW

**THE BJ200
INKJET PRINTING**



**DEVELOPMENT
CONTINUES...**



**MORE COLOURS
MORE RESOLUTION
MORE SPEED
LESS FLICKER**



CLIP ART

**COMPETITION
DETAILS INSIDE**



Computer Concepts Ltd

SOFTWARE AND HARDWARE UPDATE FOR 1993

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Here's a list of all the major products and their current prices. See our special offer for Impression Junior users to upgrade to Impression 2.

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Competition

Computer Concepts launch a new competition to find the best clip-art designed with ArtWorks. There are some excellent major prizes and hundreds of runner-up prizes. The winning entries may be published in a future clip-art collection.

ColourCard 10 - 11 More speed, more colours, and higher resolution

The ColourCard is a revolutionary new Archimedes add-on card which allows you to have a much wider choice of screen modes. You can have more colours at higher resolutions, and the machine's speed is improved too.

Computer Concepts 12 Expansion

No, not a new product, but great news nonetheless. Despite the recession we're pleased to be expanding our staff and working on even more new products and improved versions. (See our vacancy advert on page 5).

News • News • News

Comment !

Kodak are carrying out extensive advertising of their new PhotoCD system. I'm not convinced that people will spend hundreds of pounds to be able to view their holiday snaps on TV. However I am convinced that PhotoCD could revolutionise colour desk-top-publishing.

For those of you who don't know, the PhotoCD system allows you to have traditional 35mm film scanned and stored on a special CD ROM. The amazing thing is that each CD can hold around 100 super high quality images, and that the service costs very little. A blank disc is just five pounds and each image costs about 50p. So for less than £20 you can get a 24 exposure film developed, scanned and stored on a CD. With a suitable CD ROM reader and software you can read the images into a computer.

Each image is stored at five different resolutions from 192x128 to 3072x2048 pixels at 24-bits per pixel. This staggering resolution would require 18Mbytes of memory, and would allow the image to be typeset at very high quality at almost full A4 page size.

But there are two main problems. Firstly Kodak PhotoCD ROMs store the image in an encrypted format. In order to read the format each computer manufacturer has to buy a licence from Kodak, and code has to be licensed from Kodak to perform the

actual reading. The other problem is that there is no support for 24-bit images yet under RISC OS, although this problem is actively being worked on by Acorn and software houses.

Apple, IBM and Microsoft have all licensed the PhotoCD system from Kodak. In fact Apple are actively supporting the system by building the ability to read the PhotoCD discs into the operating system. All Mac applications can have access to PhotoCD images, even if they don't support the format directly.

For those who have seen our ColourCard in action you will probably have seen some sample images. These have been obtained from PhotoCD and when shown in the ColourCard's 32,000 colour screen modes they look astounding - full colour photographic quality. Unfortunately to get the pictures onto the Archimedes we have had to go a very roundabout way: The images were read on a PC with PhotoCD reading software, saved in 24-bit TIFF format on the 1.44 MByte PC disc, read into an Archimedes and converted to a compatible format.

Clearly we'd like to be able to read PhotoCD discs directly into an Archimedes. Lack of this could hold back the Archimedes from entering the low-cost colour revolution, so we must all hope that Acorn and Kodak can find a solution.

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

Production

This issue of The Archimedeian 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. Monochrome photographs were scanned using ScanLight 256 or ScanLight Professional and placed in their required positions.

BETT Show

Is the next major show for us. January Wednesday 20th to Saturday 23rd, National hall, Olympia, London. No one under 18 admitted.

Come and see the ColourCard, Art-Works, the new BJ200 printer. Our stand has a small demonstration theatre where we will be showing these and our other product

Acorn user show heads North

The October London Acorn User Show was the best show we've ever been to. Now there is another being organised for the spring, and for the first time in years it's located north of London, in Harrogate (near Leeds).

This exhibition is being presented by Safesell Exhibitions in association with Redwood Publishing (the publishers of BBC Acorn User Magazine). It will be held over the easter period, April 15th-17th.

Few details are available at this stage, but we expect to be there one way or another. Look out for further details which will no doubt appear in BBC Acorn User Magazine in the coming months.

Hawk V9 mark II

Wild Vision have released a new version of their popular Hawk full colour, real time digitiser. This version is now a single width podule and incorporates a programmable gate array (as used on the ColourCard, LaserDirect, etc). This is used to advantage to offer unique features such as hardware colour dithering for 256 colour screen modes, which dramatically improves on-screen quality and, because the dithering is done in hardware, it's lightning fast. The board itself has a 16bpp frame store and so can also output super quality 16bpp true colour sprites (in the new Acorn 16bpp sprite format). The fastest and the best colour digitiser available.

Now available from Computer Concepts or Wild Vision for £269 + £6 P&P + VAT (£323.12 inc). For further details please contact Wild Vision on 091 519 1455.

New ScanLight 256 and software.

It seems that innovation in scanner technology runs faster than ever. We are now supplying a new more advanced version of the ScanLight 256 hand-held greyscale scanner. This latest model offers 100 to 400 dpi true grey-scale scanning, providing 256 grey-levels for photographic quality results. This model is now faster and includes an audio buzzer to indicate overscan. The two tone buzzer indicates when you are scanning near, or over, the maximum scanning speed, which means you no longer have to keep an eye on the overscan light on the scanner. In addition the package includes a sliding scanner guide. This sits under the scanner and guides it in a perfectly straight line, making accurate scans a real breeze.

The latest software, version 2.01, is quite an improvement over the earlier 1.xx versions. For example the grey-map is now controlled by a curve in addition to simple brightness and contrast controls. The new software also provides easier control over image rotation and a large range of image enhancement options. Combine these with the existing ScanLight software features such as instant image rotation by any angle, instant on-screen dithering for the best screen image, and you have the best scanning software there is. A recent Acorn User review voted this latest ScanLight software the best available (contrary to claims in a certain other company's adverts!) So with the new faster scanner we feel this is the best hand-held scanning package you can connect to an Archimedes.

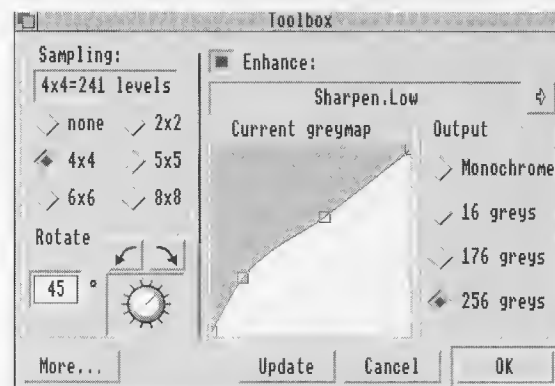
For existing customers wishing to upgrade their existing ScanLight models based on either the Mitsubishi or Marstek scanners we can offer an upgrade to the new scanner, interface

board, and software for £149 + vat. For those just wanting the new software this is available free to those who have version 2.00 and at £10 + vat for those who have earlier versions.

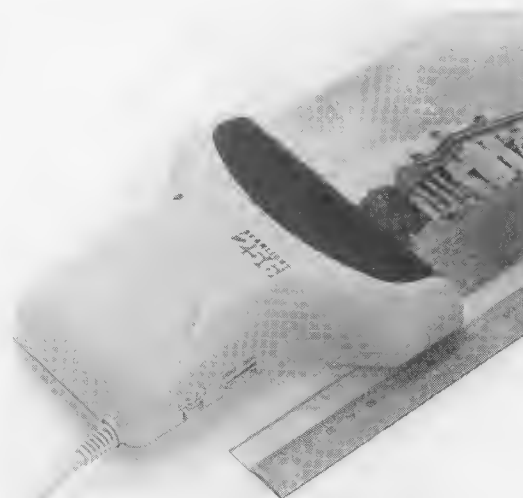
To obtain a software upgrade just return you old disc, quoting your serial number and payment if appropriate.

To obtain a hardware upgrade, please return the whole package, including scanner and interface board along with payment for £149 + vat (£175.07 inc)

3



Latest ScanLight tool box, showing greymap curve, rotation knob and various other options.



New ScanLight 256 scanner, showing guide ruler.

New BJ200 Printer from Canon

A brand new high resolution black & white printer has just been released by Canon, called the BJ200. This is a mid-range printer that is more expensive than the BJ10, but very much faster, and at about 1/3rd the cost of a laser printer.

At 360 dpi this printer can produce near laser printer quality output. Indeed you have to examine a print very carefully indeed to distinguish it from a laser print.

The Archimedes printer driver system expects to print pages as a graphic bit-map. This has the disadvantage that the printer has to be able to print a full page of graphics quickly, but has the advantage that in so doing you can guarantee that what you see on screen will be reproduced exactly on the page. By printing the page graphically you are free to use any of the large range of outline fonts available, at any size.

Computer Concepts will supply the BJ200 with TurboDrivers, a cable, a sample of top quality A4 paper (the printer will however print on any reasonable plain A4 paper), 12 outline fonts and the outline font manager. The total cost is £299+£10 Carriage + VAT (£100 less than the MRRP).

The printer has a very small footprint and so it occupies minimal desk space. It includes an A4 sheet feeder and built-in power supply. Neither is built into the BJ10e.

The BJ200 prints a full page of graphics in about a minute - around three times faster than the BJ10e, and much faster than the DeskJet 500.

The TurboDrivers are the fastest printer drivers available for the Archimedes. With TurboDrivers' background printing you can carry on using the computer while it prints.

When printing pages of plain text the printer can manage around three pages a minute - nearly as fast as a laser printer. The speed of the TurboDrivers combined with the speed and quality of the BJ200 makes this printer the ideal desktop printer for Archimedes owners who can't justify the cost of a laser printer.

In fact we are so confident about this printer that we will guarantee that this combination of TurboDrivers and printer is the fastest, highest quality printer available for under £800 - or your money back.

Sample A4 prints are available free, on receipt of a stamped addressed envelope.



ScanLight Professional

Since the last Archimedeian was published we have introduced a new model of our high quality flatbed grey-scale scanner, ScanLight Professional. It's more compact, better quality, and cheaper too.

The new model offers higher resolution grey-scale scanning and has had a dramatic price reduction - down from £899 to £595 +vat. The new model can scan at 600 dpi with 256 grey-levels and an incredible 1200 dpi at 16 grey-levels. It's also physically smaller and lighter than the previous model (but can still scan a full A4 page). Since it can scan at such high resolutions we recommend its use with at least 4Mbytes of RAM, preferably 8Mbytes.

RISC OS 3

The latest RISC OS 3 operating system (version 3.10) is now readily available from Acorn dealers (we cannot supply). This upgrade is well worth getting - it offers numerous new features over RISC OS 2 and fixes some problems in RISC OS 3.0. While our software will work with RISC OS 2 into the foreseeable future most, if not all, benefits from having RISC OS 3.1 present. For example, outline font rendering is now much faster, and Paint, Draw and Edit are now in ROM, along with some outline fonts.

The upgrade costs less than £50 for RISC OS 2 owners (if you shop around). If you are an A5000 owner with RISC OS 3.0 then it costs only £15 so there should be no reason for not upgrading. (We can no longer support RISC OS 3 version 3.00)



RISC OS 3 Compliant Printer Drivers

Contrary to certain speculation, all our printer drivers work with and are compatible with RISC OS 3. However, they don't take advantage of certain RISC OS 3.1 features such as rotated text. We have been working on upgrading all our printer drivers to take advantage of these RISC OS 3 specific features, but this is taking rather longer than we anticipated. When new versions are finished a free upgrade will be made available to all users who have already registered. In the meantime here are some points that may help.

Warning from Impression

If when you print you see the warning from Impression saying you are using RISC OS 2 printer drivers on RISC OS 3 - DON'T PANIC. This is just a polite warning and not an error. You can still print perfectly. Impression detects the RISC OS 2 printer driver and rotates images itself rather than relying on the printer driver.

Printing rotated text

Very few applications can rotate text - ArtWorks and the very latest !Draw are about the only things that can. To print rotated text from Draw, convert the text to paths first (it has a menu option for this). From ArtWorks you don't have to do anything as it will automatically detect RISC OS 2 printer drivers and print text correctly anyway. If you export ArtWorks files to Draw files and they contain rotated text, make sure you have the 'Convert text to paths' option selected in the Choices dialogue before saving them.

Homerton.Oblique not found

If you see this error while printing it's because the QuickText printing routines are trying to access the oblique version of this font in ROM. This can be overcome in two ways. Either use disc versions of the Homerton font (as supplied with the original application discs) or turn the QuickText option off, as the error dialogue suggests.

New Acorn machines

The new A3010, A3020 and A4000 computers are now available. These are far better than the previous A3000 model - quite a lot faster, better screen modes, a 1.6 Mbyte floppy drive. However, in one respect they are poorer than the A3000 - they have less expansion capability. The only expansion available is one internal mini expansion board - there is no external expansion connector as on the original A3000. This means you can't connect a standard expansion board such as our LaserDirect to the outside.

We are hoping to do a mini expansion board for LaserDirect for these new machines, but it's quite difficult to squeeze all the circuitry on the board. However we do sell a suitable mini expansion card version of our ScanLight 256.

The A3020 and A4000 have room for an internal hard disc, 4Mbytes of RAM and the one mini expansion slot. Combine this with Impression, ScanLight 256 and our new BJ200 inkjet printer and you have a super, low cost, publishing system.

No dongles

One of the most common questions, from owners of the A4 portable computer in particular, is about the dongle on Impression and ArtWorks. So here is our official answer.

We WILL be producing dongle-less versions of Impression II and ArtWorks. As an alternative to the dongle we will produce a version that will run only on a specific computer, and will not require a dongle. This version can be freely copied for back-up purposes but will only run on the designated computer and no other.

For those who want two copies of the program (and so keep the dongle) we will charge £60 incl. VAT for this second non-dongled version. For those who do not want a second copy they can return the dongle to us along with £10+VAT and we will send a new customised version to them. Since we need to uniquely identify your computer the procedure is quite complicated. Firstly those interested need to contact us and obtain an appropriate form. Actually this is a program we supply on disc. When this runs it asks you for certain information and identifies your particular computer. This disc should then be returned to us, with the dongle if necessary, so we can create a personalised version of the program to run only on your computer.

This service is only available to registered customers who have an A5000, A4 Portable, A3010, A3020 or A4000 computer. This service will be offered from January 4th 1993 onwards. If you are interested in obtaining non-dongle versions then please contact us after that date and we will handle the procedure.

JOB VACANCIES

Copywriter

To be involved in the preparation of advertising and promotional literature. Experience with DTP software and layout techniques will be necessary, and marketing knowledge desirable. It is hoped such a person could also help in the preparation and production of this Archimedean magazine.

Programmers

In line with our continued expansion we are seeking additional full-time programming staff to join the company. Ideally applicants will have an appropriate university degree in programming and have the ability to program in either high or low level languages (C or assembler).

For details, write with CV to: Kate Moir, Computer Concepts, Gaddesden Place, Hemel Hempstead, Hertfordshire, HP2 6EX.

Making a good

With all the excitement leading up to the highly successful launch of ArtWorks, Impression may appear to have assumed a back-seat position, but development is actually continuing at even greater speed...

Rob Pickering investigates the work underway.

The Impression development group

Mark Goodall heads the growing Impression development group at Computer Concepts and has some firm views about the future innovations he's working towards. He and his team of five programmers, soon to be six, are working on Impression 2.18 and on the next major release, version 2.5.

Since it's now been about six months since the last upgrade, I asked Mark Goodall to tell me about the current work underway on Impression version 2.18. He explained "2.18 has a few enhancements which look pretty minor on the surface, but have taken an incredible amount of work internally. Really what we've been doing is adding important support for ArtWorks. At the moment it's a bit tedious to use illustrations created in ArtWorks within Impression. You have to export them in !Draw format which is slow to display and print. Impression just doesn't understand how to interpret and draw ArtWorks files in Impression graphics frames.

We've taken a piece of the ArtWorks program and integrated it into Impression, so that it takes over the screen drawing and printing when an ArtWorks file is encountered. There was so much knowledge of ArtWorks required that we had to get Jim to work with us, and he wasn't available until ArtWorks was finished. (Jim - James Lynn, is one of the main programmers and managers of the ArtWorks development group.)

Another internal change we had to make was also, in a way, linked to the release of ArtWorks. The Art-

Works package includes over 200 outline fonts and some people have decided it's a good idea to install them all, and more besides! And who am I to argue? But when we created Impression we thought that a maximum limit of 255 fonts installed in the machine was generous. Given that there were hardly any fonts for the Archimedes at that time, we could hardly imagine anyone having 255 fonts, let alone installing them all. Impression doesn't crash or anything serious, it just doesn't let you choose from the full installed range. Consequently we've had to increase the number it can cope with.

There are a few other little changes in 2.18 - an improvement in the way underlining is drawn, the ability to include foreign alphabet characters when spell-checking, and so forth.

Before you ask, I'm not 100% certain when 2.18 will be released, but it should definitely be by the end of December '92. There will be a small upgrade charge of £10+VAT to cover our costs, but that's all. Registered owners who ALSO have ArtWorks can quote their serial numbers and receive the upgrade free."

PROGRAMMER'S SCHEDULE

8.30	START TIME
9.15	ARRIVE AT WORK
9.30	TEA BREAK
10.30	WORK BREAK
11.30	PREPARE FOR LUNCH
12.00	LUNCH BREAK
2.30	SECOND WORK BREAK
3.00	COFFEE BREAK
4.00	PREPARE FOR HOME
4.30	GO HOME
5.30	LEAVING TIME

While at Computer Concepts I think I may have found a clue as to why products take a long time to develop!

What are the future plans for Impression?

"We have a huge list of features we'd like to add to Impression, but we have to try and be realistic about what can be added in a given period of time. Ideally we'd like to release a version 2.5 early in '93, with some of our more ambitious aims following later. That doesn't stop us from working on ambitious ideas, if they don't make the deadline they go forward to the next release. We've already been working for a few months on features for 2.5.

I'd like to add a floating information bar like the one in ArtWorks. But there are internal reorganisations we have to implement relating to dialogue boxes before we can do that. We may get some of this done for 2.5, but it would probably be asking too much to expect the information bar to be ready in time. However, I do intend to have a more flexible tabulation and formatting ruler in version 2.5.

Printing, especially the handling of colour, needs improving to stay at the leading edge of colour publishing in the Archimedes market. The first step will be to provide for manual selection of items to overprint. This seems to be the main thing our professional users are asking for most often. In the long-term we need to be handling full colour continuous tone images, right down to colour separation. Photo-CD is something that really interests us. As soon as it was publicly available we rushed out and had a film developed and put on CD. At the moment we have to use a PC to read the images! Displayed in 16-bit colour using our ColourCard the images look stunning. We want to be able to read images, import them into Impression, and either print in full colour directly or send colour separations out through an imagesetter. This will really bring the Archimedes into colour publishing, but that's more than a couple of months away!"

Impression...

Automatic kerning

Along with RISC OS 3 came an improved font format which can include automatic kerning pairs. Kerning pairs are specific spacing requirements for pairs of characters in a font. For example, if you position a letter 'A' next to a letter 'W' the standard spacing will look too wide. Instead, the creators of a font can specify a smaller space to be used between this pair of characters, as demonstrated briefly in figure 1.

Although Impression 2 supports manual kerning, it requires some knowledgeable intervention for each pair of characters that looks poor. So I wanted to know when automatic kerning would be supported in Impression?

Mark explained "It's always been our intention to support automatic kerning. We nearly added it to version 2.0, but Acorn assured us that they were creating a new standardised font format and that it would cause confusion if we created an alternative. As I understand it, EFF have been creating fonts with kerning information for quite some time and their file format has been adopted by Acorn as the basis for the standard.

Now that the format is established and fonts with automatic

kerning are available, there's nothing to stop us. I definitely expect to see this feature in version 2.5. Documents created with Impression will look better as a result, especially in large headline sizes where the problems are most apparent.

The list of new features we want to put in Impression is endless. There's no problem thinking of new things to add - prioritising what we do first is the difficult part - aside from implementation of course!"

*I wish
Impression
could...*

The wish list

The Impression Development Group keep a 'wish list' of the features they would like to add. It was only by looking down this extensive list and having some of them explained that I could understand why Impression development is a never-ending task.

To conclude this look into Impression's future I decided to reproduce an extract from the wish-list. I've expanded on the descriptions in some instances where it seemed necessary. Any of these might appear in version 2.5, but not all. The rest will follow in future versions. I was asked to omit a few of the more unusual items from publication just in case it was read with more than a passing interest by any competitors out there!

Impression Wish List

Box round text as part of a style, draw an outline box surrounding the styled region. As the text is edited, the box automatically re-sizes to fit.

Multi-column frames rather than needing separate frames to achieve multiple columns, provide for multi-columns within one text frame.

Rule drawing rudimentary drawing of straight lines without having to use a separate drawing package.

Keyboard region selection rather than having to use the mouse.

Grouped embedding allow grouped frames to be embedded in the text.

Graphic runaround: make text flow around arbitrary graphic shapes.

Multi-frame adjustment allow multiple selected frames to be modified simultaneously - border, background, etc.

Load master pages by dragging for improved user interface.

Tables automatic layout of tabulated columns with definable widths, styles, backgrounds, etc.

Improved toolbar with bold, italic, insert frame buttons etc.

Info bar with current style, text size, frame dimensions, background colour, border style, etc.

Print tiling to allow large images to be printed in smaller tiles for large posters etc.

Master page dialogue to allow numeric editing of master page size, borders, etc.

Irregular-shaped frames with text or graphics inside, no longer constrained to rectangles.

Automatic numbering of paragraphs, updated as entries are added or deleted.

OPI interface Open Pre-press Interface compatibility for handling very large colour images.

Keep lines together widow and orphan control to prevent awkward paragraph splits across columns and pages.

DRAWING

*Standard spacing with no kerning.
When seen within the word 'drawing'
the 'A' and 'W' seem to be split.*

DRAWING

*With kerning the characters look more
evenly spaced and no visual break
occurs in the word.*

Figure 1. Kerning

Computer Concepts Price List

Product	Price (excl.VAT)	Price (inc. VAT)	Availability
Impression 2	£169.00	£198.57	In stock
Impression Junior	£89.95	£105.69	In stock
Impression Business Supplement	£49.00	£57.57	In stock
ColourCard	£249.00	£292.57	In stock
Fax-Pack	£299.00	£351.32	In stock
ScanLight A4 with sheet-feeder (A3000 v. available)	£399.00	£468.83	In stock
ScanLight II A4 (A3000 version available)	£299.00	£351.33	In stock
ScanLight 256 (A3000 version available)	£199.00	£233.82	In stock
ScanLight Professional	£595.00	£699.13	In stock
ScanLight Professional + SCSI Interface	£745.00	£875.38	In stock
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
BJ10ex Printer with TurboDriver & Lead (NEW PRICE!)	£229.00	£269.07	In stock
BJ10ex SheetFeeder	£48.00	£56.40	In stock
BJ10ex & BJ200 TurboDriver & Lead	£49.00	£57.57	In stock
BJ200 Printer with TurboDriver & Lead (NEW!)	£299.00	£351.33	In stock
BJC800 Printer, TurboDriver & Lead (NEW PRICE!)	£1599.00	1878.82	In stock
BJC800 TurboDriver & Lead	£99.00	£116.32	In stock
Compression	£39.00	£45.83	In stock
Impression II Borders Disc	£12.77	£15.00	In stock
Equasor - Equation editor program	£49.00	£57.57	In stock
AvantG font pack	£20.00	£23.50	In stock
BookM font pack	£20.00	£23.50	In stock
Hawk V9 MkII	£269.00	£316.07	Wild Vision
A3000 Expansion box	£139.00	£163.32	Wild Vision

Note: some hardware products are subject to P&P.
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



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 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 and we'll send back the latest version to you*

Impression	2.17
Impression Junior	1.17
Equasor	1.02
Scan-Light Plus software	2.01
LaserDirect	2.05
Artworks	1.00
Compression	1.15
Fax-Pack	1.02
Business Supplement	2.11

* Upgrades are supplied to registered customers only. Computer Concepts Ltd. reserves the right to refuse supply of free upgrades.

Special Offer

Upgrade from Impression Junior to Impression II and save £47

Save **£47**

IMPRESSION
Junior

For a limited period we're offering the chance to upgrade from Impression Junior to the full version of Impression II for just £60+VAT! That's a saving of £47 on our usual price of £100+VAT, and there's no catch.

With Impression II you'll find a whole new set of features in a very familiar setting. Among the new facilities you'll have are: Comprehensive style sheets, multiple document views, long document handling, abbreviation expansion, improved type and graphic control and much more...

To upgrade, please send us your whole Impression Junior package together with payment for £60+VAT (£70.50). Full details of the advantages you'll have with Impression are only a phone call away, but hurry, because this special offer ends on the 31st January '93.

Call us on 0442 63933 if you need further tempting and we'll send you the full Impression II specification. (note: Impression requires at least a 2MB machine configuration).

Offer ends January 31st 1993

IMPRESSION II



GREAT PRIZES TO BE WON!

Enter the Computer Concepts Clip Art Competition to win one of the superb prizes.

All entries must be original work, created with ArtWorks. Call or write for an entry form.

1st Prize

BJC800 Colour Printer

This superb printer is worth over £1500

Many Runner-up prizes

**TEN runner-up prizes of £100 vouchers
for Computer Concepts products**

HURRY!
COMPETITION CLOSES 31st MAR 1993



ColourCard

More Speed

More Colours

Higher Resolution

The Archimedes used to be noted for its colour graphics facilities, but by current standards it seems to be falling behind...

On a PC clone it's common to have resolutions of around 800x600 at 256 colours, or even 1024x768 at 16 colours. By comparison the Archimedes only manages 640x512 at 256 colours and 800x600 at 16 colours.

The advantage of higher resolution is that the image on the screen looks cleaner, crisper, and text is easier to read at much smaller sizes. Ideally it should be possible to read small text with ease, while showing a full page without scrolling.

For users of Artworks or any drawing program it's easy to understand the advantages of more colours on the screen. At present it's necessary to work at a rather poor resolution in order to have 256 colours on-screen, which means you can't see much of the page. Having more colours and more resolution would be ideal. Even for users of monochrome screens there are problems. Whether you have colour or monochrome, it isn't possible to show accurate greyscales for scanned photographs.

Unfortunately the existing Archimedes hardware alone can't provide anything better than it already does. Even now, the machine runs very slowly in high screen modes, so even assuming that better modes were available, everything would grind to a halt. Add-on cards to address these problems have only been discussed as a possibility, until now...

Cue The ColourCard...

ColourCard has been designed to address the need for higher resolu-

tions, more colours and to ease the speed problem. What it offers can be summarised as:

- Higher resolutions
- More colours on-screen
- Accurate grey-scales
- Increased speed
- Reduced screen flicker
- Compatibility with current software

The ColourCard was developed as a joint venture between Computer Concepts and Wild Vision. It is a conventional half-width expansion board which is suitable for A300*, A400*, A540 and A5000 series machines. It is easily fitted by experienced users in a few minutes, (no soldering).

To better understand what the ColourCard offers and the way it appears in operation, each of the features is described below in detail.

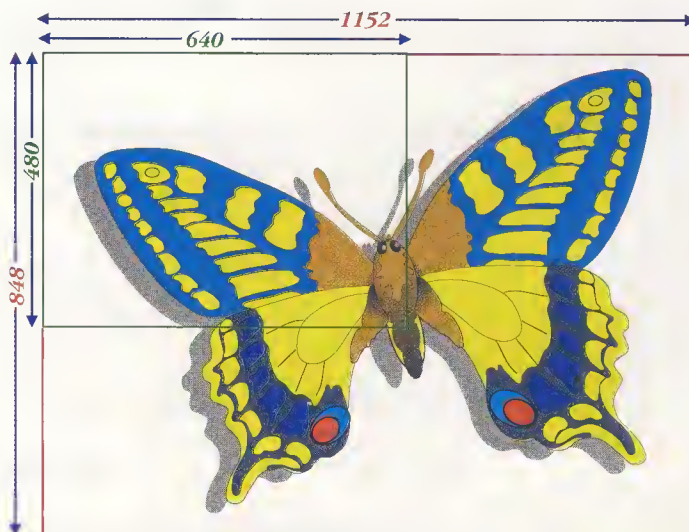
Higher resolutions

The card offers a selection of new screen modes at resolutions up to 1152 by 848 in 16 colours. Many other modes are available, all completely compatible with existing desktop software. A summary of some modes is shown in Table 1.

Higher resolutions give more detailed, higher quality screen displays. Particularly suitable for graphics and DTP work, these higher resolutions now also make 17" or even 20" monitors both practical and extremely effective.

More colours

The ColourCard supports a 24-bit fully programmable palette. This means that in 16 and 256 colour modes all colours are selectable from 16 million possible hues. Also a new 256 colour palette allows ArtWorks to offer improved screen dithering. Finally, the board supports medium resolution 15 bits per pixel, true



The new maximum mode contains a pixel area three times larger than the standard VGA mode 27

colour, screen modes offering 32,000 colours on screen at once. These 15-bit modes are ideal for showing full-colour photographs, can be accessed specifically by BASIC programs, and a version of Artworks that will operate in the new modes is shortly to be released. However, the 32000 colour modes are not yet compatible with the desktop, but we and Acorn are working on it.

High resolution	
16 colours	1600x600 1152x848 1024x768
256 colours	800x600 1152x424 640x480
Medium resolution modes	
32000 colours	576x400 800x300 640x256

Table 1: sample of new screen modes

Accurate grey-scales

An alternative greyscale palette offering true 256 grey levels has been provided for accurate greyscale work. This is ideal for applications involving scanned black and white photographs.

Increased speed

The ColourCard uses an off-board video frame store so that the main Archimedes processor slowed down by continual memory access from the video controller. This means that the speed penalty for running higher resolution screen modes is a thing of the past.

Reduced screen flicker

The ColourCard can display the picture at 60Hz or more at all resolutions; in some cases, such as 1024x768, at over 70Hz. This completely eliminates visible screen flicker, producing a steady and restful display.

Full compatibility

The ColourCard is completely compatible with existing software. All

correctly written desktop software can take advantage of the new screen modes possible. The ColourCard also offers the unique ability to pass Acorn video modes through the card. The video pass-through means that all existing Acorn modes are not affected at all - and so even those programs that access the Acorn VIDC video controller will still work. Without the video pass-through you would have to disconnect the monitor from the ColourCard and re-connect to the Archimedes to run such programs.

For the technically minded

The ColourCard contains 512K of dual ported video memory on board. This is indirectly mapped into the conventional Acorn video memory - this is one way it guarantees compatibility - programs and the operating system can write to the Acorn video memory as normal.

An Immos video controller then re-displays the image from the ColourCard frame store and also contains the 24-bit fully programmable palette and hardware cursor that replaces the Acorn hardware cursor. The Immos controller can support a variety of different screen depths including the common 16 and 256 colours modes but also 15 bits-per-pixel modes where each screen pixel is made from 15 bits of memory - five bits for each primary colour red, green and blue. This means that each pixel can be set to any one of over 32,000 colours.

The card also uses a programmable gate array (as we use on the ScanLight and LaserDirect boards) that allows us to change the circuit design purely under software control. Given the differences we found in the timing of the Acorn video circuitry on different machines we found it necessary to be able to adapt the circuit to suit different machines - this is the only way we could get a single design to be fully compatible with all machines.

Free utilities

!Clearly is a utility which allows 24-bit images to be previewed in the

32,000 colour screen modes. It loads ClearFile format images and dithers a 24 bit image so the 15 bit modes will produce pictures that are indistinguishable from a true 24-bit display. A high quality sample image is included with the package. This is the utility we've been using to display Photo-CD images after conversion.

FlipTop is a simple screen mode changing utility. With the proliferation of screen modes it is becoming increasingly difficult to remember and keep track of the different mode numbers. FlipTop shows the modes graphically in a window - you can select a new mode simply by clicking on the point on the grid. It also makes it very easy to switch up and down the number of colours while maintaining the same resolution.

Dimensions X x Y	Number of colours 2 4 16 256 K M
1440x1080	
1280x1024	
1152x 896	
1152x 848	
1600x 600	
1024x 768	
1440x 544	
1280x 512	
1152x 424	
800 x 600	
800 x 600	
640 x 512	
640 x 512	
896 x 352	
640 x 480	
640 x 480	

FlipTop shows the different resolution screen modes available in a table. You can change mode simply by clicking on the required resolution.

*A300 and some A400 models may need to have a genlock connector fitted by a qualified dealer.

Note: ColourCard requires RISC OS 3.1. A multi scanning monitor is required to take full advantage of the new screen resolutions possible.

The package contains:

Expansion board with software on ROM, fitting instructions, all necessary video cables, and utility software for selecting new screen modes and alternative screen palettes.

Price : £249 + £6 p&p +VAT
(299.62 incl.)

Computer Concepts Expands Despite the Recession

At a time when many companies throughout the UK are considering mere survival and many are shedding jobs, Computer Concepts is still expanding.

Charles Moir, Managing Director of Computer Concepts commented that "Turnover and profits are up considerably on this time last year, and it's a steadily increasing trend. It would appear that while companies are unwilling to make major capital investments they show no such reluctance in buying software. However, most of the market strength is probably with the spending power of home and educational users. The Acorn User Show was a clear signal that there was no shortage of customers willing to purchase."

The home of Computer Concepts is Gaddesden Place, a large country house in rural Hertfordshire. The house, built in 1768, was the first to be designed by the famous James Wyatt. In the past few decades it saw steady decay until purchased for Computer Concepts as the new headquarters in 1984. With planning permission granted, restoration of the house and sympathetic integration of offices in the basement began and has never completely ceased.

With the successes of Archimedes products has come the necessary funding to start the next major stage of restoration. The house originally had two large wings, each of about 9,000sqft, but these were demolished when dry rot took hold about 40 years ago. Early in 1992 work started



on the ground floor development of one wing, designed such that the next floors can be added at a later stage. When complete, it will be as similar as possible to the original 1768 design.

The 3,000sqft ground floor wing was completed and occupied in November 1992, providing a more suitable packing and delivery area. "We used to have to carry everything up and down a flight of stairs" said Mr Moir. "You can imagine how popular we were with the couriers when we started selling laser printers - if you've ever felt the weight of one you'll know what I mean. Now we just load and unload at the entrance to the new wing."

The additional offices in the new wing have made room for new programming staff, and several new people have joined the team. "We used to be limited by the available

space" said Charles. "Now we've been able to take on a significant number of new people, and we're still looking for others."

Finding good programmers has always been a difficult and time-consuming task. Once potential employees see the surroundings they soon warm to the prospect, as Charles explains. "There aren't many places a programmer can work where there's a heated indoor pool, a tennis court, full-size snooker table, and excellent offices set in pleasant countryside. Staff can use the facilities anytime during the week. The annual tennis tournament is great fun and a welcome break from staring at computer screens all day."

With the sales of ArtWorks really taking off, and equally interesting products already under development, the future for Computer Concepts looks particularly bright.



Computer Concepts Ltd

Gaddesden Place, Hemel Hempstead, Herts. HP2 6EX
Tel 0442 63933 Fax 0442 231632