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- Impression Style
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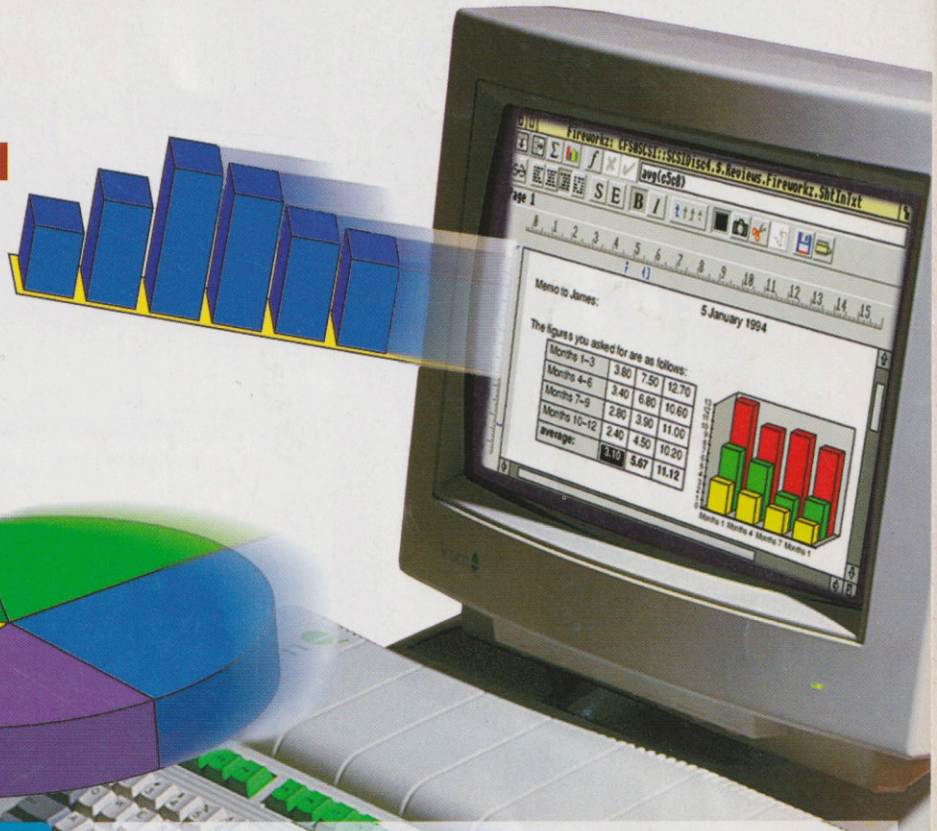

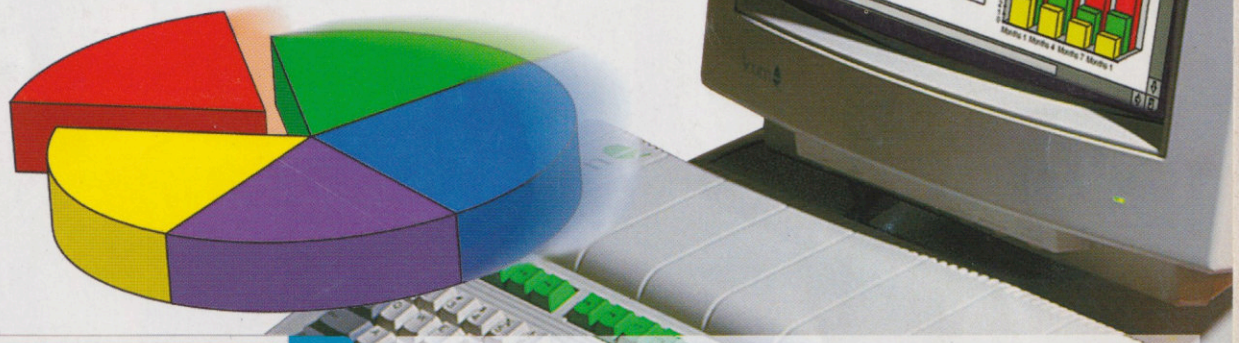

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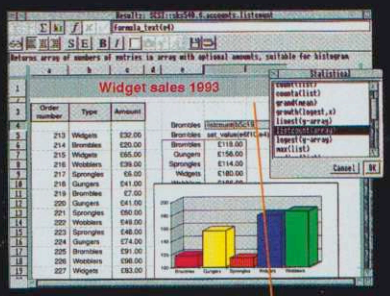

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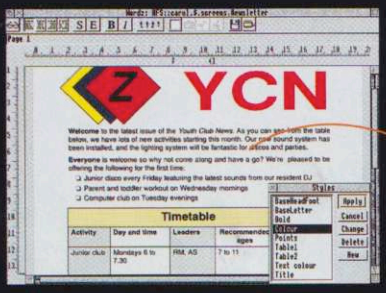

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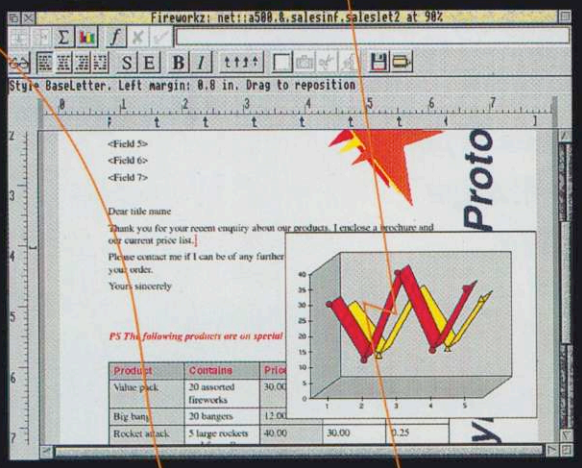

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March issue – on sale 7 March 1994

SOHO

SMALL Office/Home Office, the new computer buzzword for the Nineties, we find out what new programs you can use to help you run your business from your own Acorn computer with a look at Impression Style, Fireworkz and Payroll Manager. Starting on Page 28.

REGULARS

Comment 17
The concept of the desktop was designed to help users but has it become just another hindrance? Steve Turnbull looks at the wall of words.

News 19
All the latest news of products and events taking place in the fast changing world of the Acorn computer.

Public Domain 51
Teri Paul is back again with her pick of public domain and shareware programs to enhance your computer.

TechForum 63
Are you an expert programmer? This new hints and tips series is just for you with ideas and algorithms to help you work.

Problem Solved 69
Our technical editor opens his mail and shares the secrets behind some of those tricky hardware problems.

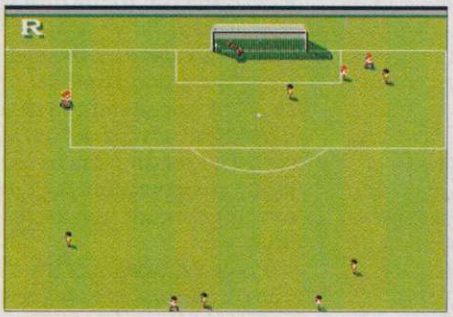
Databay 78
Game gossip and up-to-the-minute news picked up by HAL, our electronic ear to the ground.

Body Building 95
Mike Cook finishes off his computer-monitored telescope with a look at the boxes, connections and possible enhancements.

Letters 104
This is your opportunity to voice your news, ideas and views on everything in the Acorn world from viruses to joysticks.

FEATURES

MegaDisk 4
Check out what's in store for you this month on the best cover disk available for the Acorn 32-bit RISC OS range.



32-bit Subscribers 8
Our special extra subscriber's disk is jam packed full of goodies so find out what's on it this month.

BBC Disk 10
Full details on what's on the subscription disk for the 8-bit BBC Micro this month, and how to use it.

The Font Manager 65
Another in our occasional programming series on how you can use the capabilities of RISC OS in your own programs.

Graphics 88
Mike Goldberg turns himself inside-out with another look at morphing and his new improved version.

REVIEWS

Impression Style 28
The first of the two new Computer Concepts' word processing/desktop publishing releases are here. We take a look at what the Style can give you astakes the price point from Impression Junior.

Learning Curve 33
We survey the latest in educational software for the Acorn computers:
- Swimming
- The Spoken Word
- Music Box
- Dinosaurs

Fireworkz 43
The new package from Colton Software is a truly integrated package, we see what it can do and how easy it is to use.

Payroll Manager 46
The weekly or monthly payroll is the bane of any small business but this new package should make it easy, we check it out.

Short Reviews 54
We check another selection of utilities including:
- Vigil
- ASM_Help
- KleinFS
- Notes
- Larger

Rhapsody 3 59
We discover whether the extra facilities of this new version are worth an upgrade or are they just gilding the lily?

Screenplay 72
All systems go as we look at the latest for 32-bit Acorn machines:
- Sensible Soccer
- Heimdall
- Creator II

Draw Aid 2 91
Produce complex drawfiles even more easily with the new version of this impressive package.

Impact Pro 93
We explore the ins and outs of this latest update of this easy-to-use and low cost database system.

ColourCard Gold 101
Check out the power and the colours that this expansion card can supply.

THE MEGADISK

Britain's best Acorn cover disk contains hours of fun and a host of useful utilities linked to our editorial features to make the magazine come alive on your desktop!

Full details about the packed Megadisk – see Page 4.

- **Sensible Soccer**
  It's a funny old game
- **Bodywise**
  Top to toe with the body parts
- **Databay**
  More cheats than you can shake a stick at
- **Font Manager**
  Example programs for using Fonts
- **Reader's programs**
  Excellent ideas made into great programs

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See Page 31 for details of this unbeatable offer.

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To subscribe turn to Page 31.

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The MegaDisk

What's on this month

- Bodywise
- DataBay
- Font Manager
- Miscellany
- Review Index
- Sensible Soccer
- TechForum

Sensible Soccer: Man Utd vs Liverpool

This special version of Renegade's (071-481 9214) Sensible Soccer pits Manchester United against Liverpool. As soon as you load the game the two teams will run on to the pitch and prepare to do battle as the crowd cheers.

This version is for one player and can be played with keyboard or joystick. You are in control of Manchester United and the relevant player to move will be the one with his number above his head. Play continues until the first goal is scored, then the game ends. You can experiment with different techniques all of which are available to you in this version.

Try pressing the fire button and then re-directing the ball with the directions controls or try directing the player and tapping fire quickly to pass the ball to the nearest player in that area.

You can also kick the ball along the ground or lob it into the air. Why not attempt to head a lobbed ball as it passes over a player by pressing fire or slide tackle an opposition player by running towards him and pressing fire?

However, beware of the Yellow Card or you might give Liverpool a penalty kick at your goal ...

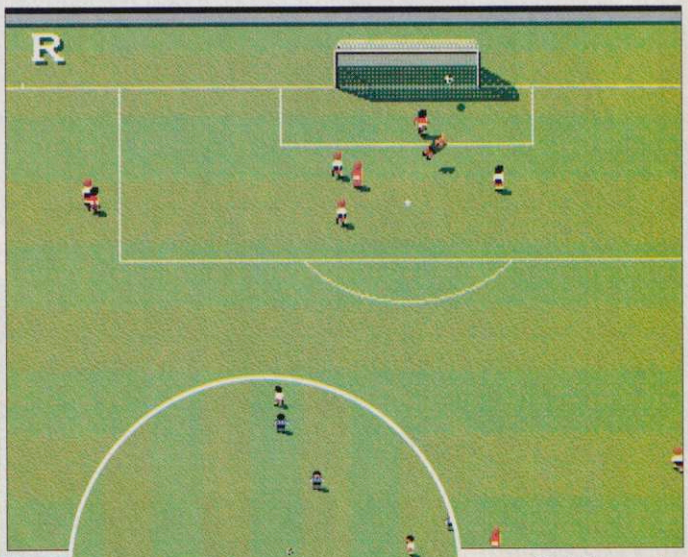
When a goal is scored there is an automatic replay, the teams go back to the centre and the score and scorer are shown. Press R during the replay and you'll get a slow motion version. The game then restarts. If you fail to score any goals you'll go the full 90 minutes. You can bring on the Manager's Bench whenever the ball is out of play.

The full version of Sensible Soccer costs £25.99 and you can read the review on page 73 of this issue. In the complete game you can edit team formations, exchange members and alter team colours for home and away matches.

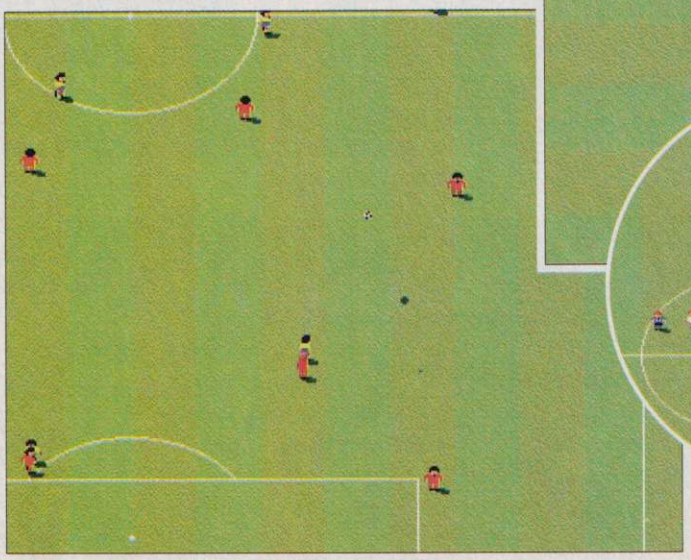
There are 172 teams in all including 40 national, 64 international club teams and 64 custom teams – players or computer-controlled. You can set up a 64-team League or Cup Competition with two legs per round and six rounds per competition. But if you prefer you can just play *friendly* matches on a one-to-one basis.

Controls	
Left	Z
Right	X
Up	"
Down	?
Fire	Return

Options	
Replay last few seconds	R
Pause on/off	P
Leave match and start again	Esc
Bring on Manager benches	Up/down arrow keys
Return to desktop	Control+Escape



● *Action replay for complete detail*



● *On the head, John*

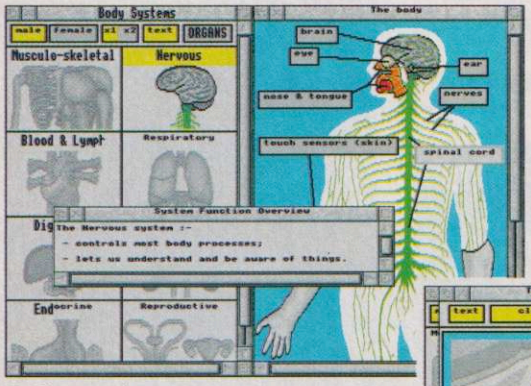
● *Attack is the best form of defence*

Bodywise: Explore the nervous system

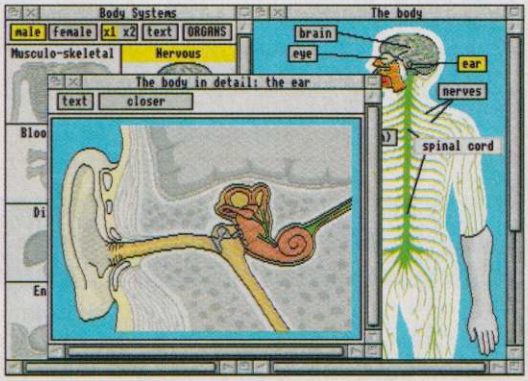
Award-winning Sherston Software (0666 840433) have prepared a special edition of their new package BodyWise just for you. This is an animated database of the human body aimed at top primary and lower secondary school aged children.

By clicking on the part of the body – in this version the nervous system – you can see how it works, look at a closer view, cross-section and animation of certain features. You can probe deeper and deeper into Bodywise accessing accurate illustrations, instructive animations and informative text.

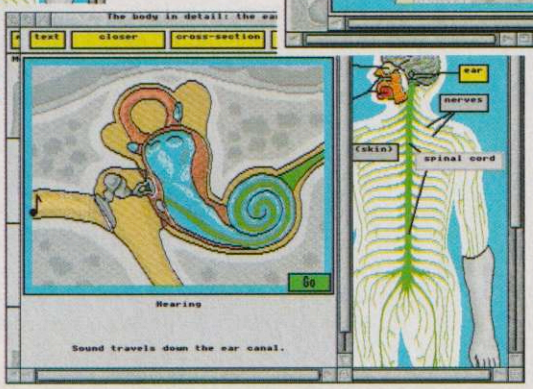
The full package covers all the major body systems with a setup option to allow teachers to choose from systems that are available. With the program comes a booklet of classroom ideas, two sets of Body Search cards and a set of study sheets. The price is £39.95.



● *Discover the nervous system for yourself*



● *You can delve into deeper...*



● *...and deeper detail*

Crypt: Lock it or lose it

This is a powerful desktop encryption utility. To start a session, load it up and click with select or adjust on the icon to input a password. The Default is *Default* and remember that the password is case sensitive.

Now drag a file on to crypt and after a short pause, it will offer you the opportunity to name the encrypted version in usual RISC OS style. When you want to decode it, simply drag the encoded version on to the icon, and the original file will be recovered as long as the password used during encryption is the same as the one you put in.

Remember too that once a file is encoded it will not compress very well, so archive your data before using Crypt on the single archive file.

If the passwords are different, an error will be generated – different CRCs – but even if some hacker removed this error, the resulting file would be garbage.

I will not go into detail about the encryption used, suffice to say that no pattern will be revealed if the original file contained large blank sections, and decoding of a file without knowing the password is an *extremely* difficult task. My computer would take a trillion (10^12) years (maximum) to blindly try all possibilities on a 300k file.

Paul Carpenter

Getting started with the MegaDisk

THE programs on this disk are stored in a highly compressed format which sometimes enables as much as 1.6Mb of programs and data to be stored on a 800k floppy disk

The procedure for running the programs is very straightforward and does not require learning any special methods or techniques.

Switch on your Acorn micro, put the disk in the drive and click the drive icon. Now double-click !ACmenu – there's a short pause while it scans the archive then it displays a window of the contents. You can treat this new window like any other one for viewing disk contents, and run programs and open directories by double-clicking them.

Large programs must be unpacked by dragging on to a separate disk before being run. Some may have an !Install program that will do it for you.

We recommend that you always read the !ReadMe files or access the help information via the Help button.

FAULTY DISK?

If your cover disk has a physical fault – doughnut won't rotate in the sleeve, disk errors and so on – please return it for replacement to:

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If there seems to be a fault with one of the programs please contact us by post describing your machine set- up and exactly what happens when you run the program.

Next Month

Here's a taster of what to expect on the March *Acorn Computing* MegaDisk – on sale 7 March:

- **Simon the Sorcerer** Sample of fantastic adventure from Gamesware
- **The Spoken Word** Early reading package from Wyddfa

PLUS much much more

Make Font: BBC font converter

The program !mkBBCfont converts files of type FF7 (BBC font) to sprite files containing one 8x8 mode 0 sprite per defined character, named according to character code.

For example, A becomes a sprite with the name 65. It also does the reverse, so once you have edited the font as a set of sprites, !mkBBCfont can convert it back to a BBC font file.

To do this click Select on the application icon to generate sprites from the current system font definition, or drag a BBC font file or Sprite file on to the application icon. Next drag the converted file to where you want it.

The example font FatASCII was produced in this way. It's a little strange, but quite readable in !Edit windows with a line spacing of two pixels.

Peter Harris

To/From BMP: PC graphical interchange

BMP is the format mainly used for graphical interchange in Microsoft Windows environments. Since RISC OS users may also use PCs on a regular basis, it's handy to be able to convert between the native formats on RISC OS (Sprite and Clear) and BMP.

The ToBMP application will convert Sprites and certain types of Clear files (8 and 24bpp) to the BMP format. The resulting file can then be placed on a DOS format disk and used on a PC running Windows and associated applications. This application is complemented by the FromBMP converter.

David Thomas

Add_Sprite: Increasing your sprite pool

This simple utility sits on the iconbar, ready to accept sprite files to add to the wimp sprite pool. For example, it's useful when designing a set of sprites for an application or customised desktop where you want to see consecutive versions of your creations.

If the file being transferred is an application, its !Sprites (or !Sprites22 file where appropriate) is used instead. Also, files may be transferred directly as long as a scrap directory is set – floppy users may have to insert a different disk to do so though.

Of course, its only function is to perform *IconSprites <Filename>, but where the filename is long or the fingers not adept Add_Sprite is useful. Enterprising programmers could change the OSCLI command to perform some other functions, for example making CSD or loading toolsprites, to name two.

Paul Carpenter

Lemmings 2 Demo

The instructions to run Lemmings 2 from the January floppy disk were a little vague. If you have had problems, carry out the following on your dearchived version:

- Hold down SHIFT and double-click on the Lem2Demo icon
- Shift + drag Disk 3 inside the window which has appeared
- Double-click on Lem2Demo in the usual way to run

PathMerge

PathMerge is a utility for combining the individual paths (lines, curves and moves) in a Draw file to make a single path containing all the elements of the individual paths. So, for example, if you were to create two separate curves in Draw and then run the resulting file through PathMerge, you would end up with a single object containing two curves separated by a move.

Although it doesn't sound particularly amazing it's highly useful for creating unusual objects. One such object is a mask – a shape with a bit cut out – which is hard to create by hand in Draw.

PathMerge is also useful for saving space on drawfiles – at least ones which don't need to be coloured. Take a look at the supplied demo files Demo3a and b.

When you have a file you want to process drag it to the PathMerge icon on the iconbar and a save box will pop up. Drag the file icon to a directory viewer or type in a filename and after a short-ish delay the file will appear in that directory. Clicking with Adjust on the iconbar will open the last save box, if there was one.

The output file from PathMerge will be stripped of all non-path objects and will contain a single path object made up of every path object from the input file. This object will inherit all its characteristics from the first path PathMerge finds in the file.

David Thomas

Programs from the magazine

- **Databay**: This month there are Hacker cheat modules for: Air Supremacy, Aldebaran, Blowpipe, Elite, Grievous Bodily 'Arm, Guile and Lost Temple. Plus a program, !SRKeys for Stunt Racer 2000.
- **FontManager**: Example programs showing you how to use the Font manager. This accompanies Ben Summers' article on page 65.
- **TechForum**: An updated version of the Watford Electronics Graphic Tablet fix program for all versions of the Tablet module.

'The Crystal Maze is fantastic. The graphics and sound are stunning, the puzzles and games are very playable and challenging, and the presentation and packaging are of the highest standard. What's more, it provides all the excitement and entertainment of the TV show.'

RISC User, December 1993

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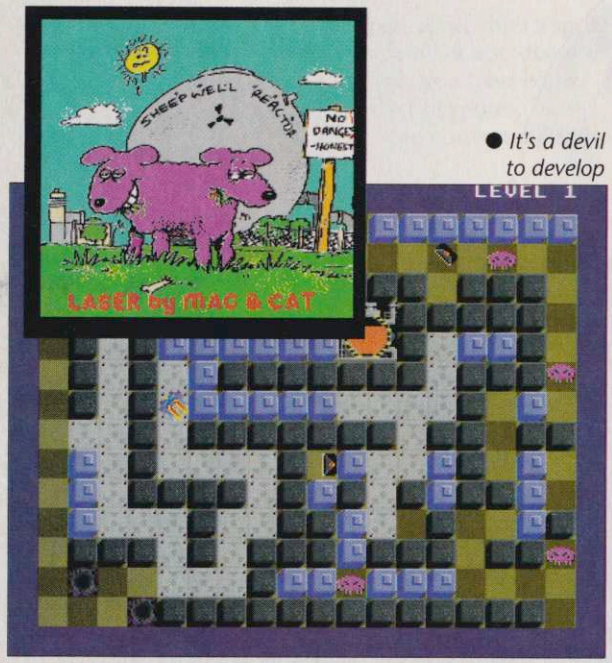
This month

- 8-bit listings
- Laser Game
- Laser Editor
- PD Bonanza

Laser brain

There appears to be a problem with the Sheepwell reactor – it keeps going critical and in hot weather melts down. Now you can play the role of *Chin-up* Bill in his Laserdrive. He is the only man who can stop a potential catastrophe by firing a laser bolt directly into the heart of the reactor thus causing a controlled (!) destruction of the whole plant.



● *It's a devil to develop*

Of course it's not as easy as that because the reactor is protected by concrete blocks – some immovable, others you can destroy with your laser. You'll have to deflect the laser round the blocks by the strategic placing of mirrors which are not only portable but rotatable.

Naturally, as there is no threat to life around reactors, you will find an abundance of sheep which for some completely unconnected reason glow phosphorescent green when the reactor begins to go critical.

As the heat and radiation builds up the sheep then turn day-glow pink and grow two heads – government experts agree that this is probably due to the nitrogen in the soil or excessive high spirits. This indicates imminent meltdown so you'd better hurry or that's mutant mutton off the menu for a few weeks.

If you fail to destroy the reactor in time it obliges by self-destructing, but takes you with it. Don't worry if your hair falls out and your gums turn blue, it just reflects a poor northern diet. However, if you can destroy it the authorities then sneak away and build an even more ingeniously protected reactor just as reassuringly safe as the last one.

So once again you take your half-life in your hands to save the planet from a disaster totally unlikely to occur – or if it does you'll never hear about it anyway.

NB: This game runs much too fast if you have an ARM 3 machine so you'll need to switch off the cache. To do this press F12 and type:

```
*Cache off
```

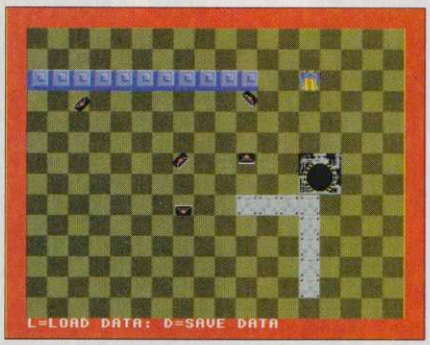
Press Return again to get back to the desktop.

Controls	
Left	Z
Right	X
Up	"
Down	?
Fire	Return
Pick up/Drop mirror	Alt
Rotate mirror anti-clockwise	A
Rotate mirror clockwise	S

Mike Goldberg (and cat)

Laser: The editor

Should you find that you have had enough of the set screens, why not try your hand at editing a few of your own. Load the editor by doubling-clicking on !EDITlaser icon to load the program.



● *Zap the core before it blows*

When loaded an empty background screen will appear and you'll be asked if you want to load a screen or not. Type in a number from 1 to 8 if you wish to edit existing screens. You can load or save screens any time.

The game !Laser is set to accommodate eight screens but you can have as many as the memory will allow. You will only have to alter *one* figure in *one* line in !RunImage in the !Laser directory. But first save a copy of !RunImage with a different name so if you make a mistake you've got a backup to use. Alter line 50:

```
50 all_screens% = 8
```

to the number of screens you have. Then save it as !RunImage in the !Laser directory.

Mike Goldberg

Controls	
Z,X,",?	Movement keys – or use arrow keys
A,S	Rotate laser/mirror
0 to 7	Mirrors in their 8 orientations – although any number will do as you can rotate the mirrors later with the laser
8	Dangerzone
9	The reactor – you can only have one of these. If you press 9 once a reactor is drawn you will move to the new location. Background squares are drawn at the old location
Q	Wall – indestructible grey colour
W	Wall – destructible blue colour
Spacebar	Erase square
L	Load a saved screen – it has to be a number and nothing else
D	Save a screen

Public domain: Teri's choice

● ArchieMan	Classic arcade game in the desktop
● Backdrops	Customise your desktop
● Display	Shows your drawfiles
● Memorizer	Keeps a record of opened directories
● ModulInfo	Learn about modules without loading them
● Reflect	A thought for the day, hour, minute
● Sunny	Desktop silly – brings some sunshine to your iconbar
● TidyDisc	Uncompresses and standardises
● WinScreen	Emulates HP's VuSession
● ArmSi	Speed indexer for RISC machines

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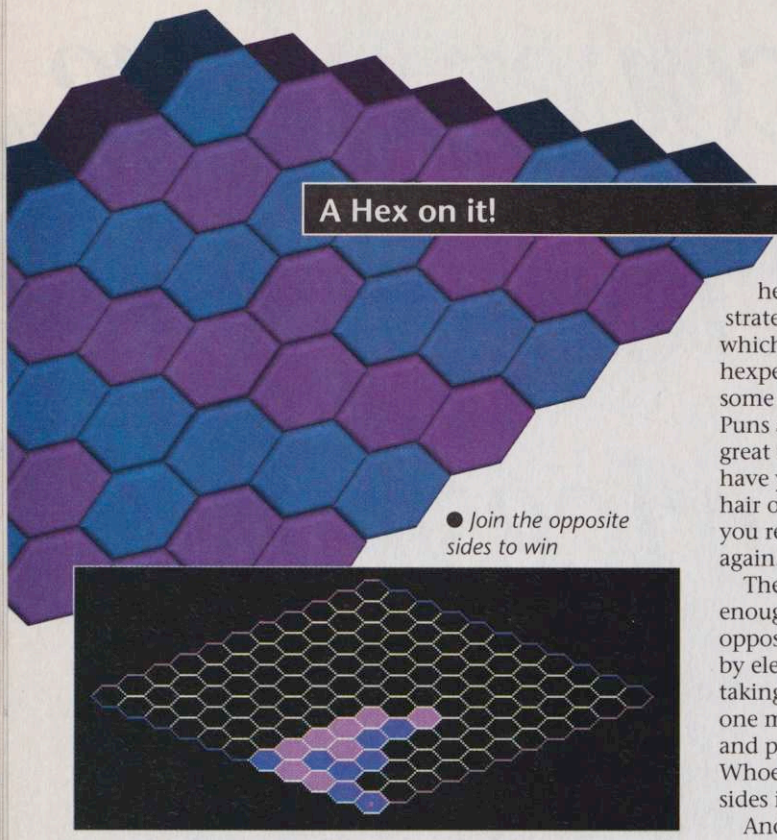
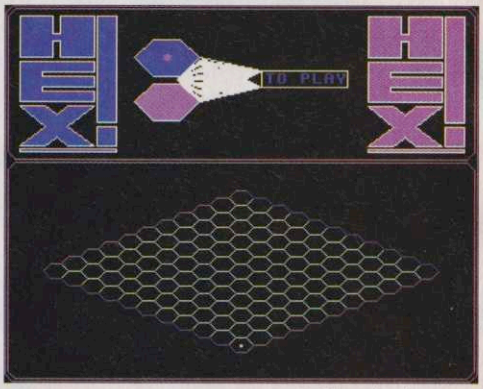


● *Join the opposite sides to win*

THIS is a fun and hexciting game of strategy for two players which requires skill, hexperience and some degree of hexpertise. Puns aside, HEX! is really great fun, and will probably have you tearing your hair out in frustration as you realise you've lost yet again.

The rules are simple enough – connect two opposite sides of an eleven by eleven grid of hexagons, by taking turns to fill them in. Player one must connect the blue edges, and player two the pink ones. Whoever is first to link their two sides is the winner

And that's all there is to it.



● *The playing area*

Controls

A	Up/left
*	Up/right
Z	Down/right
?	Down/left

Adrian Jackson

Sumvaders: Blast those aliens

THIS is a simple educational program based on space invaders. Get the sums right and the grinning tomato-like aliens will bite the dust, wrong and you lose one of your three lives. If you clear a wave you get more aliens and harder sums.

By holding down the keys ACEHT simultaneously you get the chance to change the difficulty level – the letters spell CHEAT or TEACH, depending on how you look at it. You get access to a screen that lets you set the largest numbers used and whether you want addition or subtraction sums.

Adrian Jackson

● *Oops, I got that one wrong*

● *Another alien bites the dust*

● *Get the question right to survive*

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Lots more music

COURTESY of James Coates of Different Ideas Music we have another selection of compositions which all run on the Hybrid Music 5000 system – we hope you enjoy them.

Match: Sun, sea and smiles

THERE she was, in the middle of the Sahara desert. The sun was at its highest. Kelly and her fellow travellers had to shelter until the evening before their journey could continue. To fill the time, games proved very popular, each member having their favourite.

Kelly's was Match, the game that involves laying out cards and trying to find pairs. A pack of cards would have been easy to transport, but as the rest of the team weren't sportsmen and thought it hilarious to completely bury the winner for half an hour after every game, an alternative was a necessity.

Carrying her BBC Master, double plinth disk drive, monitor and diesel generator, was preferable to being regularly immersed in sand, and besides, unlike any of the team, it was a decent opponent.

Computerised Match is a game for one to six players, each of which could be either human or the computer, playing one of ten levels, ranging from zero, which has no memory at all, to nine which would easily annihilate anyone that didn't possess a perfect memory.

The number of cards in a game could be varied. The sizes available were: Small – 16 cards, medium – 32, large – 48, and extra large – 64.

Each player took it in turn to pick two cards. The computer would do this in a flash, mere mortals had to use the cursor and return keys. If a pair was found, the player's score would be increased by one, and they got another go.

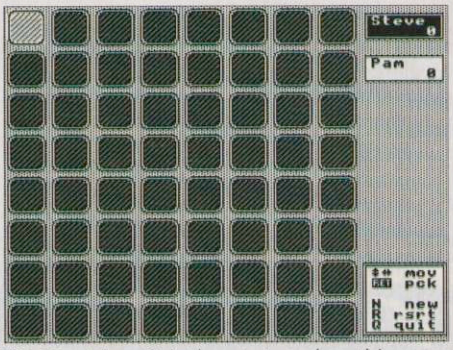
At any time, the keys N, R and Q, could be pressed. These started a new game with the same players, restarted from the title screen, and quit, respectively.

The winner was the player with the most pairs after all the cards had been matched.

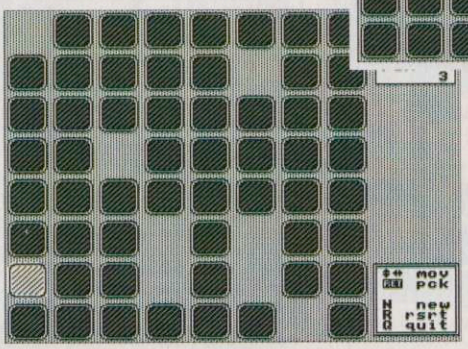
It was so much fun, playing Match made the hours fly past, and when evening approached Kelly could go out with a contented smile on her face and dig up the computer.

Andrew Bennett

● *Choose your partners*



● *Let's get started on this game*



● *Somebody's doing well and I know it isn't me*

Dog Fight: The truth behind a myth

NUCLEAR fission has long been misunderstood. Despite all attempts by eminent scientists, the truth behind the phenomenon remained unresolved. Now, for the first time, I can reveal the intricate process that leads to an atom split.

Atoms are intelligent lifeforms, have evolved a complex communication system, developed a sophisticated public transport network and have game shows.

Fission occurs during the deciding game of ABC's (Atomic Broadcasting Corporation) rave success game show, *Atomic Antics*. Called *Dog Fight*, it involves two contestant atoms that battle in a long cuboid arena. Each can fire sub-atomic particles which will damage a shield on contact. Without a shield an atom cannot contain itself and explodes, releasing energy and lots of bits.

To make the procedure easily understandable, I have constructed a simulation.

Dog Fight is a game for two players and the aim is to destroy your opponent. The screen consists of two 3D views, the left is player one, on the right, player two. Below each view is a shield indicator, and when this becomes empty the atom is destroyed.

Each atom is controlled by moving in one of six directions, firing or performing an instantaneous 180 degree spin. The control keys default to those shown here but can be changed from the title screen.

Good luck, and may the truth always be with you.

Action	Player one	Player two
Left	Z	<
Right	X	>
Up	F	*
Down	C	?
Forward	G	}
Backward	V	Shift
Fire	H	Return
180 Spin	B	Delete

Andrew Bennett

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What's in a name?

Steve Turnbull takes a look at what it all means

ONE thing that seems to be missed about our so-called easy-to-use computer systems nowadays is the *metaphor*. What's a metaphor? Well it's like an analogy, only different. I'll show you what I mean:

People who are new to computers often have difficulty with the difference between *ram* and *hard disk*. Of course to the expert it's obvious because the expert understands the concepts behind the words, but when you don't understand what the words mean confusion results.

Between us Pam and I have developed an *analogy* which helps to make the differences clear and provides a way of getting a grip on the concepts – it goes like this:

Imagine that *you* are the computer and your hands are the *ram*. You can only hold, and work with, a certain amount (of whatever) at any given moment. That's ram, it's what you have to work with.

If you only had one hand you'd have less to work with, and doing some jobs would be harder. If you had four hands you could do more and with eight hands even more. And it's just the same with ram, the more you've got the more you can work on at any moment and the easier many jobs become.

So what's a hard disk? It's a bag or sack hanging on your belt, that you can use for storing things when you're not actually using them. However, it's a highly organised bag with separate compartments that you can label, and you can also add compartments within compartments – but there is a limit to how much it can hold.

A floppy disk is a similar sort of bag but it can't hold as much, and a CD-rom is a very very big bag which is supplied with lots of interesting things in the compartments, but you can only take things out to look at them – you can't put things into it.

Anyway that's an analogy, a thing which has similarities to something else and can be compared to show and explain those similarities.

Now a metaphor is different. According to Collins it's a *figure of speech in which a term is applied to something it does not literally denote, in order to imply a resemblance.*

In software the idea is that a *metaphor* is used to make it easier to understand what a particular program is all about. For example, in a database each record may be called a card so that you think of it as a card in cardfile box. Where you have a graphical interface you might even see a picture of a card.

When window systems were designed it was with the intention of making computers easier to control. To this end the metaphor of a desktop was used.

It works like this, the screen is the top of the desk and you can have documents overlapping on it. You can pick out a document, bring it to the top and work on it, then decide you need to look at a different one, bring that to the top, perhaps get some information off it then go back to the previous document.

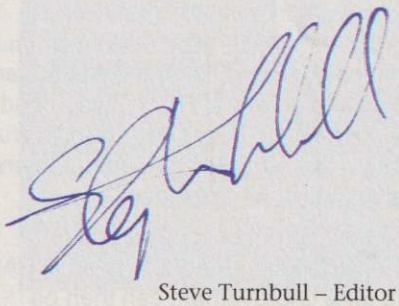
If you're working on a Draw *document* you have a number of drawing tools – usually shown in the box on the side. These are metaphors as well, they imply a real world concept, like drawing a straight line – you pick a tool and use it.

However the original purpose of these concepts has been lost and, because it is no longer explained, the metaphor has just become more jargon. To a novice a desktop is that thing on the screen, but *why* is it called a desktop? No one explains, so it's jargon.

In the Acorn market even the system designers seem to have lost touch, and become confused, with *why* a metaphor is used. Because instead of storing documents in folders we have *directories* and that's the wrong word because it implies the wrong concept.

A directory is a place where you look something up to find where it is – and that's a programming concept. The right metaphor is a *folder* which you look inside to see if the thing you want is there. And Acorn are clearly confused because what is named as a directory is shown on-screen as a folder.

So my advice is this: If you're a programmer get your metaphor's straight and if you're a user ...good luck.



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ICS WIZZO (it's magic)

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ICS was the first company to offer IDE products for Acorns back in 1990; now they are the standard choice for new Acorn computers. Building on three years' experience we have continually improved our IDE filing system. It now offers the highest level of RISC OS compliance, and compatibility with at least 45 different hard discs tested by us. Can any other supplier make this claim?

Our IDEFS abolishes the RISC OS limit of 512 Mb, and offers extra features such as password protection, background operation, disc partitioning, and power saving (which allows some discs to stop spinning when idle).

Partitions can have different levels of protection. Family or pupils can access some of your files while you keep others safely out of their reach. Or you can simply protect the whole disc (reformatting is not required for this).

Our hard disc upgrade kits are based around two internal interfaces at present: IDEA3IN for the A3000 Series, and IDEARCIN for the A300/A400/A500 Series. All kits are designed to a high standard and include all the parts you will need.

IDEA3IN upgrade kits include an I²C expansion socket as standard. They come with a 2½" disc already attached, and are easy to fit once you have opened up your computer. You may safely take no notice of rumours still being spread that internal upgrades might not be safe in an A3000. We have adhered carefully to the guidelines in Acorn's technical specifications, and in three years have never come across a problem.

IDEARCIN upgrade kits provide a fast 16-bit link all the way from the computer to the hard disc. They can even be fitted to an A310 without a backplane – quite a cost saving. A second hard disc can easily be added later if required.

Interfaces and hard discs can also be bought separately. By shopping around you may even save a few pounds. But beware: not all IDE hard discs work with all interfaces, and if you have a problem it may be difficult to decide who should put it right. We recommend buying a complete kit from one source.

WIZZO is the name given to our IDE filing system when it is supplied as a single rom chip. Wizzo5 is for the A5000, and Wizzo4 is for the A4. You should buy a Wizzo if you need password protection or wish to use larger hard discs. (Wizzo4 has been delayed slightly – we are adding a feature to ensure compatibility with possible future A4 upgrades).

A Wizzo rom by itself will only produce a slight speed improvement. If you need speed in an A5000, fit an IDEARCIN interface instead. Up to 60% improvement can then be achieved, but this does depend which hard disc you use so do check with us first.

How to read our ideA product references

A number at the end is the nominal hard disc capacity in megabytes. We usually round this down, so the actual formatted capacity may be higher. All discs have auto-parking. Average access times vary but all are below 20 ms.

All prices shown exclude VAT and are subject to change without notice. The cost to us for hard discs can vary enormously from week to week – not always downwards! Your local dealer can obtain *ideA* products from us or from a distributor.

◗ Archimedes A300/A400/A500 Series Internal Upgrades

Package includes formatted hard disc, ideA interface card, hard disc cradle and fittings, fan kit, replacement multi-purpose LED (power and drive status), manual with fitting instructions. Can be fitted to an A310 without a backplane. If a backplane is used it must be a 4-layer type. Easily fitted by most users.

IDEARCIN 40*	£175	IDEARCIN 330	£399
IDEARCIN 80*	£205	IDEARCIN 420	£499
IDEARCIN 170	£275	IDEARCIN 540	£650
IDEARCIN 240	£325	IDEARCIN 1000	£925

◗ A3000 Series Fully Internal Upgrades

Package includes formatted hard disc mounted on ideA interface card, manual with fitting instructions. Fully internal, using internal expansion slot. Co-exists with floppy drive and memory upgrades. Fits the new 1992 computers. Easily fitted subject to Acorn warranty stipulations.

IDEA3IN 40	£175
IDEA3IN 80	£250
IDEA3IN 120	£299
A3000 FAN KIT (not usually required*)	£19

**Only required if the computer has been fully upgraded, e.g. with maximum memory AND Econet AND an external podule.*

◗ Separates for hard disc upgrades

We can only guarantee the performance of ideA interface cards with hard discs we have tested ourselves, so please check if in doubt. If you are buying a hard disc for an A5000 please say so. If you intend to fit the disc in addition to an existing one we need to know the make and model of the existing disc. Acorn's interface does not support all makes of disc, and some models will work as a second disc but not on their own.

Hard discs on their own are listed as, for example, IDEA 80. An S at the end indicates a 2½" disc.

IDEARCIN (Archimedes Interface for Internal disc(s))	£60
IDEA3IN (A3000 Interface for Internal disc)	£75
ARCHIMEDES INTERNAL CRADLE KIT	£15
ARCHIMEDES A300 / A400 SERIES FAN KIT	£15
4-SLOT 4-LAYER BACKPLANE	£52
POWER CABLE FOR SECOND HARD DISC	£5
A5000 SECOND HARD DISC FITTING KIT	£15

IDEA40*	£125	IDEA330	£349
IDEA80*	£155	IDEA420	£449
IDEA170	£225	IDEA540	£600
IDEA240	£275	IDEA1000	£875

IDEA40S	£115
IDEA80S	£190
IDEA120S	£239

◗ WIZZO IDE Filing System on rom

Package includes rom, manual and fitting instructions. Compatible with RISC OS 3.0 and 3.1. Allows up to four logical partitions over two physical drives. Each partition appears separately on the icon bar and can have different password protection. Makes use of existing Acorn hardware for maximum compatibility, but works with a wider range of hard discs. Security breaches using ADFS can be prevented. Can be fitted easily by a competent user.

Available now: WIZZO5 for A5000	£39
Available soon: WIZZO4 for A4	POA

Quantity discounts available • Dealer enquiries welcome

** Lower-capacity 3½" discs are now very hard to obtain. Please check availability before ordering.*

ICS (Ian Copestake Limited), Dept AC16, 1 Kington road, WIRRAL, Merseyside, England, L48 5ET

BETT '94 REPORT

New records

SOLENT Computer Products (0954 789701) are now manufacturing and distributing the Oak Recorder II sound sampling system. Solent have been involved in the Acorn market for many years and were responsible for authoring the Archimedes Basic Compiler. The price of the Oak Recorder II system remains unchanged at £39.95.

Kerning power

A SECOND solution to kerning RISC OS 3 font data comes with PTW Software's (0329 281930) KernPlus. This gives an easy to use graphical interface to let you edit data as well as providing an automatic algorithm for the quick conversion of old RISC OS 2 fonts.

EverKern also comes with the package which forces the use of kern fonts throughout the desktop. The price is £15 – including VAT – and will be available at the end of the month.

Oops

IN the January issue a typographical error implied that Longman Logotron had released, SIMS which is not correct. To set the record straight Longman Logotron launched *PIMS* in January, not *SIMS* which is a PC program.

Wise words

A NEW version of the Desktop Thesaurus has been released by RISC Developments (0727 843600). This supports antonyms and recognises over 17,450 keywords and contains around 200,000 carefully chosen alternative words.

The cost is £19 but existing users can take advantage of a free upgrade by returning their original disk with an SAE and £2 for carriage.

THE MAJOR occasion at this year's show was the launch of the CD-Rom Group by the show's sponsors and the trade association for the educational supply industry BESA – the British Educational Suppliers Association (071-244 9232). The initial group consists of 15 leading UK CD-Rom publishers to promote and enhance CD-Rom value to education.

The BESA group aims to raise teacher awareness as well as encouraging CD-Rom publishers to produce appropriate and high quality material which is consistent and easy to use. They also aim to work for additional funding for this medium.

BESA research shows that over the whole of primary and secondary education there are an estimated 9,277 CD-Rom drives with more than 3,700 of these in secondary schools. However, while there are, on average, two CD-Rom drives in these schools, the primary sector is not as well catered for with 2,000 schools having access to, on average, one drive per school.

BETT also saw the launch of Acorn Access – a quick and simple way to network machines and share resources. Also known as peer-to-peer networking this entry-level network solution was previewed at Acorn World last year. It offers schools and small businesses a simple and cost-effective way to connect machines.

Installation is a matter of plugging in a card and connecting the cables. Access to remote disks and peripherals is done via the usual RISC OS menus and at the core is speedy and efficient Ethernet technology.

The product is *future proofed* by being part of AUN (*A*corn *U*niversal *N*etworking) so can be expanded/upgraded when you want. However, access is only available to RISC OS 3 users with at least 2Mb of ram.

Acorn have also released new versions of Level 4 Fileserver and TCP/IP Protocol Suite, offering industry standard connectivity. The Acorn stand also revealed a prototype PC link with access from the Acorn RISC OS environment to a PC-Novell NetWare server via a PC card. However, according to Acorn there are no firm plans to release this development as a product.

There were a number of control software and hardware developments on show, such as Commotion's (0908 218880) new serial control interface called The Command Centre, with eight bi-directional outputs at 6, 9 or 12 volts at up to 3 amps. It also has eight digital and four analogue inputs with an additional BBC analogue port where a further sensor box can be plugged.

Working with this is the Commander software, based on the earlier CoCo. It provides an accessible front-end and

➤

● *The busy Acorn stand at Bett'94*

Inbound mission

Part of the international contingent at BETT '94 was a group of Acorn education dealers, educational consultants and software developers from Australia and New Zealand. This *Inbound Mission* was sponsored by the DTI with BESA as hosts.

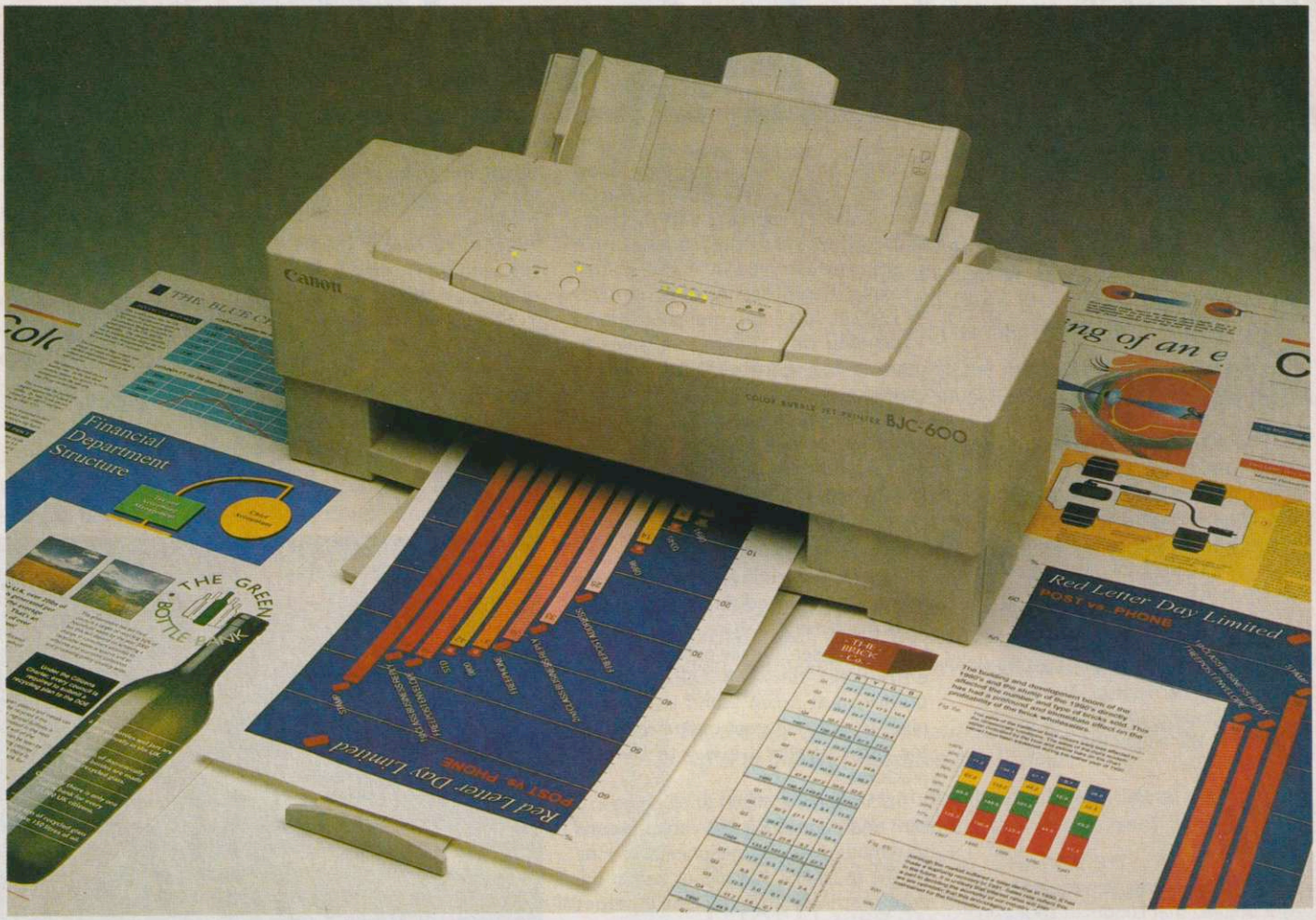
Acorn Computing interviewed the dealers from both countries and despite the differences in education systems their situations are very similar to ours.

Of particular note was that in Australia Acorn machines are coming into their own as education discovers that support is important and that machines aimed at business, with hardware and software changes every year, are not cost effective for schools.

The best selling machine in both countries is the A4000 which initially surprised New Zealand dealers but retrospectively they realised that the three box solution made buyers think they were getting a *real* computer (!). The PocketBook has also proved very successful, with CD-Rom about to take off there as in England.

Asked what impressed them most about the Acorn machines, they said that Acorn and third party suppliers were willing to listen to comments and change the hardware/software accordingly. Sometimes this involved changing elements of programs to make them more suitable to the Australian and New Zealand markets.

AFFORDABLE, HIGH QUALITY COLOUR PRINTING



The BJC-600 and RISC OS Turbo DRIVERS

The brand new BJC-600 A4 plain paper printer from Canon, combined with Computer Concepts' 24-bit TurboDriver software, provides a key component in the full colour revolution that is occurring in the Acorn world.

RRP: £529.00 + £10.00 carriage + VAT (£633.32)
Min 4Mbytes RAM recommended.
Requires RISC OS 3.1

Some of its key features:

- Four colour CMYK inks for the best full spectrum of colours including real black.
- Separate ink cartridges for each of the colours - saves ink and money. It's even possible to change the ink cartridge part way through a page being printed.
- Ultra fast drying inks designed specially to prevent ink spread on plain paper - no other colour ink-jet printer can even come close to the quality obtainable from this printer.
- 360 dpi provides 40% more dots per square inch than 300 dpi printers - visibly better resolution.
- The high quality of print on plain paper means lower running costs than other colour inkjet printers.

The package comes bundled with the latest colour TurboDriver software (and printer cable). This provides the fastest possible print times and full control over half-tones. The software includes advanced grey component replacements and black generation algorithms to ensure accurate colour reproduction and good greyscales - it also avoids 'black flooding' that can occur with other printers.

Computer Concepts Ltd

E&OE Prices & descriptions are subject to change.

GADDESDEN PLACE HEMEL HEMPSTEAD HERTS HP2 6EX TEL.: 0442 63933 FAX. 0442 231632
EMAIL: Info@CConcepts.co.uk

BETT '94 REPORT

operating language with the option of a flow-diagram mode. There is also full Boolean consistency, a learn command, an interrupt function, and it also accepts the use of variables. The starter pack of hardware and software costs £269.95.

LEGO Dacta (0978 296272) were very much in evidence with their new Control Lab software for Key Stages 3 and 4. The software is based on LCSI Logo and is a multi-tasking package with graphs, pictures, buttons and a simple word processor.

● *LEGO Dacta in control*

Publishing featured strongly this year with *Newshounds* from St Bede's Comprehensive Church School in Cambridge. They were creating professional daily newsletters from events at the show using ESM's (0223 357744) award-winning DTP package Desktop Folio. This was then printed from an A5000 using an offset printing press on the Acorn stand.

Also of interest to anyone involved in DTP is Irlam's colour hand scanner on show for the first time. Irlam (0895 811401) have developed interface cards and software to drive a range of colour hand scanners which until now have been restricted to the Apple Mac and PC machines. The first package is Image II with a 24-bit scan head costing £359.

Irlam are also developing a *stitching* utility to enable you to automatically join-up images scanned in strips. This will be available in April costing £15. Timed to coincide with the imminent launch of a new set of printer drivers from Acorn, Oak Solutions (0532 326992) are launching Repro. This is a professional tool which allows you to manipulate the exact translation of colours from screen to paper. For the best possible results Repro gives control over screen size, angles, gamma correction, grey balance and black removal and is priced at £50.

Longman Logotron (0223 425558) were demonstrating the PIMS (*P*rimary *I*nformation *M*anagement *S*ystem) management tool for primary schools and a series of data files for Pinpoint. In addition, they were showing Advantage, a simple spreadsheet and FirstPage, a DTP package with a range of easy to use tools to create pages easily.

Iota (0223 421542) have also expanded the use of their DataPower database to school administration purposes. With the help of Netherhall School in Cambridge they have developed an OMR (*O*ptical *M*ark *R*ecognition) module which will be on general release this Spring.

Using a reader such as a DRS CD200 series, papers can be marked automatically, and data matched and merged as required with information restricted via passwords. In addition SATs (*S*tandardised *A*ssessment *T*asks) can be assessed and personalised reports written, saving time.

Glimpses of work under development on the 4Mation (0271 25353) stand showed the Guardians of the Greenwood. This is a new adventure with a *green* theme which successfully matches photographic images with animation, adding to the atmosphere of a mix of fact and fiction.

Two other new heroes were to be seen too, Jenny the dog looking for a good home in Tudor England and the Dutch adventures of a Mouse in Holland.

Award-winning Topologika (0733 244682) were displaying Number Tiles for early Key Stages, developing arithmetic skills such as visual discrimination, understanding number progression, logic and problem solving. Due for release in about a month it's priced at £30.

However, their next release will be Talking Rhymes which has been delayed since its initial launch date of late last year. Worth watching out for is MiniSheet due around September. A very simple spreadsheet package, it teaches the basics of construction and graphing without entering into formulae, staying with simple addition and averages.

● *Neil Souch and Mike Matson of 4Mation*

● *Award-winning Sherston launched Talking Stories*

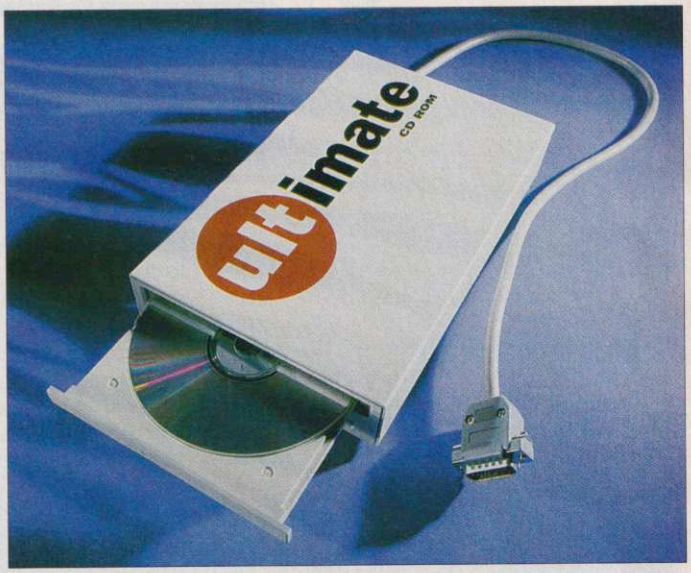
Acorn BETT Awards 1994

Primary Gold	ArcVenture III – The Vikings	Sherston Software
Primary Silver	Navigator	Topologika
Primary Bronze	First Logo	Longman Logotron
Secondary Bronze	Science1: Elements	ILP

CD-Rom drives slashed

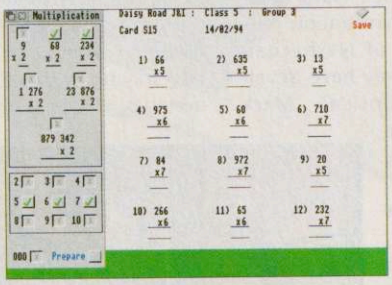
MITSUMI drives caused the fall in price and increase in popularity of CD-Rom technology in the PC market and they look set to do the same for the Acorn platform thanks to HCCS (091-487 0760). Their Ultimate CD-Rom range uses the Mitsumi single and dual-speed drives priced at £229 an £289 respectively – including interface.

The drives come with an Ultimate CD-Rom MicroPodule which plugs into the Ultimate Expansion System. They are Acorn Replay, multi-session and PhotoCD compatible and are available to every model of Acorn 32-bit machine except the A4.



● *HCCS' CD-Rom Solution*

● *Resources and information are instantly available*



● *Create numerous MathsCards for a range of abilities*

New boys

CREATIVE Curriculum Software (0422 340524) is a new education publisher who has immediately launched four products: Maths Card, Report Writer, Conjuguez and Langdale CD.

Maths Card is a tool aimed at those teaching mathematics at Key Stage 1 and 2. It allows you to quickly and easily produce unlimited numbers of maths worksheets for all levels and costs £49.

Also for teachers is Report Writer to help produce individual pupil reports and assessments based on Statements of Attainment and Support Statements. The single user version for Key Stages 1/2 or 3/4 is priced at £49 with site licences for four users for £89.

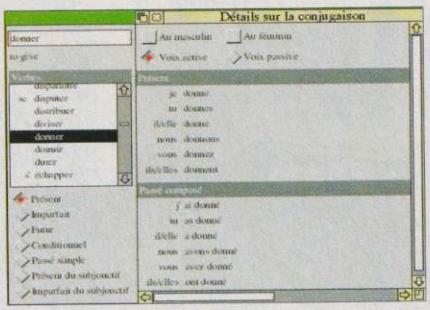
Conjuguez! – costing £25.49 – is aimed at students of all ages studying French. It contains a database of over 3,500 French verbs and their conjugations. This is the first commercial package written by 16-year-old Neil Coffey from North Halifax Grammar.

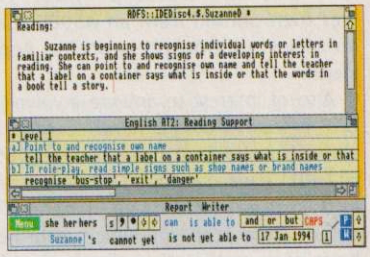
Finally there is Langdale, a CD-Rom package based on the Langdale valley in the Lake District. As well as a comprehensive resource with OS maps, statistics, transcripts, diagrams, charts and sounds there are over 800 aerial and ground photographs.

A massive resource for Key Stage 3 explored through eight applications where pupils can take the walks and see the views as well as venturing behind the scenes of human, physical and environmental geography.

Langdale uses 250 *hot spots* which you can visit in the valley and on the surrounding hills. The CD costs £99 for a single user or £149 for a networkable multi-user version though you can buy the floppy disk based Stickle and River Projects separately for £89 each.

● *Help for French students of all ages*





● *ReportWriter – a time saving and consistent aid for teachers*

● *CD-Rom packs*

Two-stage roms

FOUR new special price CD-Rom packs have been launched by Cumana (0483 503121) for secondary and primary education. This includes a CD-Rom drive and a selection of software chosen for both enjoyment and education – the Family Fun Packs 1 and 3 for the younger group with 2 and 4 for secondary school ages.

Packs 1 and 2 contain Cumana's latest 300 Series CD-Rom drive and interface. This is a multi-session PhotoCD-compatible drive which can also be use to play standard audio CDs. The others feature the 600 Series drive and SCSI card.

Software titles in the bundles include: Dictionary of the Living World, Creepy Crawlies, Image Warehouse, Grooves, Who Stole the Decimal Point?, Hutchinson's Electronic Encyclopaedia and the Times and Sunday Times Sampler disk.

Following TALKING PENDOWN

the software that speaks for itself . . .

The Somerset Talking Computer Project Learning Materials . . .

Up to 37 months increase in reading age in just 6 hours work

. . . A phonic-based pack of materials to be used in conjunction with *Talking Pendown* - a wordprocessor complemented with "Speech" software - to help children with reading difficulties.

The book describes how *The Somerset Talking Computer Project* developed and used phonic-based materials to investigate the potential of the talking wordprocessor.

In little more than six hours tuition over a period of four weeks, a structured programme of work produced some remarkable results in pupils from a variety of schools across all phases of education.

Initial piloting results indicate:

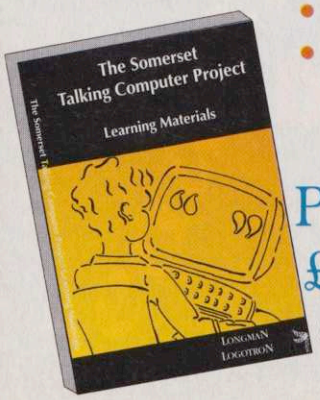
- an average increase in reading age of 8.3 months;
- best result achieved an increase of 37 months;
- an average short-term memory improvement of 16 months;
- recognised improvement in spelling;
- observed increases in concentration span and time spent on-task;
- enhanced self-esteem;
- subsequent transfer of skills to other curriculum areas.

The book includes:

- a résumé of the work undertaken in Somerset;
- the photocopiable phonic-based materials;
- advice about how to prepare, begin and proceed with the work;
- suggestions for monitoring progress;
- ideas for extending the work with pupils.

"Struggling readers in Somerset have recorded a year-and-a-half's progress in only four weeks as part of a new research project into the benefits of 'talking' computers"

Times Educational Supplement 19.2.93

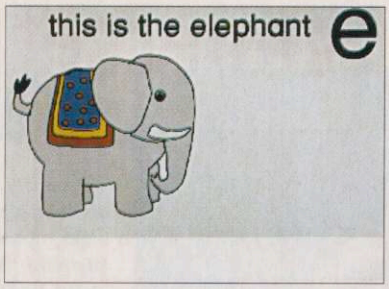


Price:
£29.00
(+ p&p £3.53)

Longman Logotron
124 Cambridge Science Park
Milton Road
Cambridge, CB4 4ZS

Tel: (0223) 425558
Fax: (0223) 425349

Expanding world

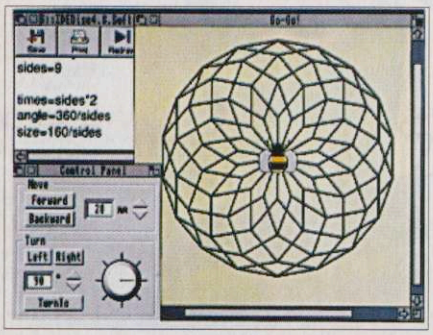


● *MyWord 2+2*

THIS year's Special Needs Village at BETT'94 was organised by NW Semerc (061-627 4469) who also released My World 2+2. The pack includes four disks, on the first is a simple jigsaw based on the alphabet, an easy writing screen, sentence building with words and building blocks and bricks. There are also simple picture building activities dressing Teddy and recreating the story of Goldilocks.

The second disk features some of the best samples from the My World 2 support packs where you can plan your own kitchen, make patterns from shapes and design your own gift tags. Activities from the Dinosaurs support disk is on the third disk giving children the ability to build their own prehistoric heroes as well as creating a board game.

● *Ready, steady, GoGo!*



The final disk comprises games such as solitaire and draughts plus town planning activities and pattern making. There are also resource materials such as weather maps and charts. The cost is £39.

Also making its debut is Go-Go! a simple turtle graphics program for teaching numbers, geometry and logic to primary and secondary, special needs pupils. The program costs £40 and comes with a variety of ready-made pointers. You can also add your own drawfiles and sounds.

There is also a selection of ordnance survey symbols, on-screen ruler and protractor as well as resources and activities for the teacher.

PhotoCD for all

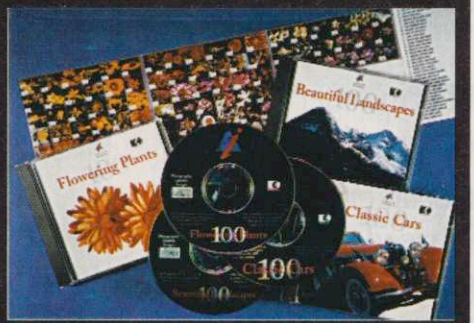
ACORN were showing off the finished version of their PhotoCD software at BETT. You can expect to see this bundled with all Acorn and third party SCSI cards or CD-Rom systems with CDFS 2.20, though you can buy an Acorn CDFS 2.20 upgrade kit.

The Acorn version of PhotoCD access software has been developed under licence from Kodak and will be on general release in February.

Hot off the mark with royalty free PhotoCD clip-art comes Andromeda (0235 529595). Each disk costs £37.50 and two are available now. *100 Classic Cars* shows 100 images from the National Motor Museum at Bealieu of pioneering vehicles from the 1894 Peugeot to the more sporty Ferrari F40 and Jaguar E-Type.

***100 Beautiful Landscapes* features views from all over the world from rolling British countryside to the Thai island used in the James Bond film Goldfinger. The *100 Flowering Plants* disk features the vibrant colours of flowers.**

Andromeda are also about to release *100 Classic Space Shots* and *100 Graphic Backgrounds*. All are saved to Kodak's PhotoCD specification and can be manipulated or loaded into programs such as Clares' ProArtisan II.



● *High quality images at your fingertips*

Holding on

ACORN are extending their special promotions on PocketBook and Schedule until 31 March. The PocketBook normally costs £212.72, the special offer puts this at £169.95. Schedule provides a combined diary, personal organiser and timetable and is available for the introductory price of £16.98 – the normal price is £42.51.

Existing PocketBook owners should take a look at Acorn Plotter, a graphic plotting application which comes on a solid state disk available from Acorn dealers for £29.95. Plotter has been designed to meet curriculum needs for Maths and Science in Key Stages 3 and 4.

It plots mathematical functions such as Cartesian and polar functions, inequality graphics and coordinate pairs. You can also use it with the PocketBook's Calc as a specialist graphical calculator.

In addition it allows tracing and dynamic recalculation of functions, zooming in or out or moving around graphs and saving, loading and merging of files.

Also for the PocketBook is PocketFS2 providing improved and enhanced software for the A-link, connecting the PocketBook to a desktop Acorn machine.

Computer aid

A NEW book has been published by the Dyslexia Computer Research Centre at the University of Hull (0482 465589) called Computers and Dyslexia. Edited by Chris Singleton it's priced at £10.95 and originated from a national conference organised in conjunction with the British Dyslexia Association in 1993.

The book aims to give an overview of the best in current technology and educational practice and previews developments in computer applications for dyslexia and Special Needs.

Too many games

RESEARCH conducted by BMRM for Acorn has highlighted parent fears about the potential long-term damage done to children by extensive playing of computer games. Of 593 people interviewed, 75 per cent thought children were spending too much time playing computer games with 60 per cent thinking games could be harmful.

Acorn see the perceived hazards as stimulating parents to make the computer a family affair with 75 per cent stating that home computing should be an activity for the whole family.

Acorn's Richard Percy commented, "Acorn commissioned the survey to examine the needs and concerns of computer users. The research clearly shows that families are worried about the effects of games-only machines in the home. People actually want a computer all the family can use which is capable of running video, animation, graphics, music, word processing, home accounts and much more."

leading products from Digital Services

Squirrel – the relational database for RISC OS

We believe this to be the finest database available for the RISC OS platform, and a match for many more expensive products on the PC and MAC.
Squirrel offers unprecedented ease of use, yet has awesome power. Tables can be created in minutes by novice users, whilst those experienced in its use never cease to be amazed by its depth of functionality.

Squirrel Single User	*£ 139.00*
Squirrel Multi User	*£ 556.00*
Squirrel 'C' Developers Toolkit	*£ 99.00*

Armlock – hard disk security system

Armlock is a software only utility preventing unauthorised access to CMOS RAM or to designated files/directories on the hard disk of any RISC OS 3 computer. Unlike other security systems, Armlock does not require the hard disk to be partitioned into read-only and writeable areas.

ARMLOCK

Armlock Single User	*£ 35.00*
Armlock Ten User Licence	*£ 139.00*

Netgain – high speed application loader

Netgain is a real breakthrough in Econet technology which reduces the frustration of slow load times for applications.
With Netgain, applications installed on the network server are available to any Netgain configured client, who can load them at hard disk speed simply by clicking on the icon.
Compatible with Level 4 fileserver software.

NETGAIN NETGAIN

Server Pack, including 10 user packs £ 200.00

Additional 10 User Packs £ 100.00

Waiter – The RISC OS menu system

Waiter is a complete menu-building system for risc os. Powerful, easy to use, hierarchical menus may be created, complete with icons and descriptions, enabling novice users to locate, run and move between programs. Passwords can be attached to applications or entire menus. The system is ideally suited for use with hard disks or networks.

Waiter Single User £ 35.00

Waiter Site/Network Licence £ 139.00

Netgain for Ethernet – high speed file transfer

NETGAIN FOR ETHERNET FOR ETHERNET NETGAIN

Server Pack, including 10 user packs £ 200.00

Additional 10 User Packs £ 100.00

Netgain for Ethernet provides the fastest transfer rates of any network currently available on the RISC OS platform. Typical transfer rate from a standard Ethernet system is approximately 200K/sec but Netgain achieves up to 900K/sec. In addition to this transport throughput increase, intelligent caching and a general reduction in bottlenecks result in staggering reductions in load times for typical applications.
No more then 64k of RAM is taken from any workstation.

Ethernet Card – high speed networking

The Digital Services AUN compatible ethernet card has been designed to provide maximum possible bandwidth on thin ethernet systems. It also incorporates two unique features: the computer's CMOS RAM may be password protected, thus preventing unauthorised personnel from tampering with the configuration, and secondly the Netgain for Ethernet client software is included in the ROM.

Mini expansion card for A3000/3020/4000 £139.00

Digistore – tape streamer

Digistore is fast, flexible and TOTALLY reliable in operation. Friendly RISC OS software allows selective backup and restore. Backup commands may be included in your own programs.
Digistore can be connected to any RISC OS computer via a SCSI interface, and uses industry standard 1/4" tape cartridges.

250Mb £799.00 525Mb £899.00 1.64Gb £1249.00

All prices shown are ex-VAT, which is chargeable at 17.5% on all items for UK residents. No VAT is due on foreign orders.
An extra charge will be made for postage and packing on all items ordered from Digital Services.

digital services
9 Wayte Street, Cosham, Portsmouth
Hampshire PO6 3BS Tel 0705 210600

Moving on

RESOURCE are moving to: 51 High Street, Kegworth, Derbyshire DE7 2DA. Tel: 0509 672222. This is a move of county for Resource but they will continue to run the Resource IT Conference and Exhibition – 25 November 1994 – at Doncaster Racecourse.

First release from the new base will be Supermarket which teaches coin recognition, addition, subtraction and multiplication of money. You can use Concept Keyboard, Touch Window or mouse, and as the program is for use with a variety of abilities each child can have his/her own setting, with the levels and parameters being set by the teacher.

You can choose between pictures of 40 different products and you can add your own drawfiles as you want – Supermarket will automatically scale them to fit. You can export the pictures too. Digitised speech is also used for atmosphere and positive reinforcement.

Also changing address are Oak Solutions who are moving to Dial House, 12 Chapel Street, Halton, Leeds LS15 7RN. Tel: 0532 326992. For the last nine months they have been operating from two sites in Leeds and Cambridge and this move brings the company together under one roof.

Picture it

● *PictureBase modules cover a range of topics...*

● *...with an intuitive and versatile interface*

AVP (0291 625439) have been compiling a series of multimedia resources under the all-encompassing title of PictureBase. Simply, this is a growing collection of text, graphics, photographs, sound and video on specific subjects.

The approach uses modules which *clip* together on a hard disk to build a visual database of your choice. You can customise databases adding your own text, keywords and so on.

Each module consists of about 20-50 images grouped by themes with accompanying descriptive text. All information can be printed or imported into other packages. Easy and sophisticated search facilities are also included.

You will need RISC OS 3 to access the PictureBase resources, at least 2Mb of ram and a hard disk. Alternatively the resources are available on CD-Rom and AVP will also put your selection of PictureBase modules on to a CD-Rom for you.

Subject areas covered include various Key Stages in: Geography, French, Physical Geography, Art, Science and History with such topics as Domestic Life in Victorian Britain to China 1911 to 1966. The average cost is £59 for a site licence.

DIY barcoding

KANG Software (071-637 7766) have launched !Barcodes, a fully RISC OS 3 compliant program producing EAN-8 and EAN-13 barcodes in drawfile format. These can then be dragged into Draw or into a DTP package.

EAN-8 and EAN-13 barcodes are used in package design and retailing. EAN-13 barcodes may have two or five digit add-on codes for magazines and books. Under the barcode is a number in OCR-B or A font. Barcodes are printed at the recommended EAN sizes or you can set a percentage enlargement or reduction or set your own size.

Printing uses the standard RISC OS printer drivers and is to EAN specification which has been fully tested using industry standard barcode readers. The cost is £85 – a saving on conventional barcodes suppliers where an individual barcode costs around £15.

Diary Dates

Acorn User Show
Date: 22-24 April 1994
Venue: Harrogate International Centre
Contact: Safesel Exhibitions (0737 814713)

MEMS'94 – Midi, Electronic Music and Recording Show
Date: 22-24 April 1994
Venue: Wembley Conference Centre, London
Contact: Westminster Exhibitions (0222 512128)

Spanish edition

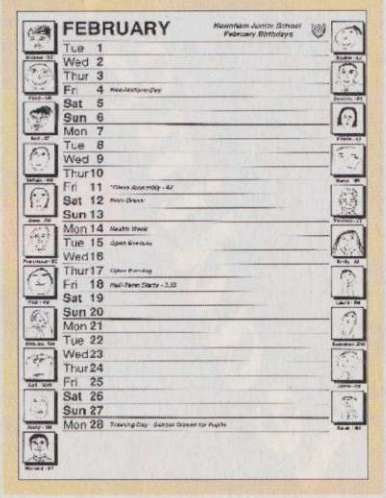
FOLLOWING the release of ILP's (0532 461528) Directions 2000: French, comes, ¡En marcha for Spanish learners. It is very similar to the French title but feedback from users has meant some enhancements including a longer recording time for your speech and the ability to return to the main menu at any time.

RF design

STEVE Hunt (0604 858090) has developed a number of applications which will be of interest to both professional and amateur RF design engineers. They include a filter designer, a receiver noise figure/intercept point analysis tool, inductance *ready reckoner* and a comprehensive Smith Chart design aid.

A day for it

NEWNHAM Junior School in Ruislip have produced a calendar for 1994 using RISC Developments' Ovation. Each of the children have created *pen portraits* of themselves which have been scanned. The finished calendars were sold to parents and friends.



Revolution.
The new CD-ROM.
At only £299 + VAT
its pedigree may surprise you!

The Morley **Revolution** is the ultimate plug-in-and-go CD-ROM drive solution for Acorn 32bit computers.

This Revolutionary new system is the result of a unique Morley Electronics development, based around the latest CD-ROM drive from Sony. Developed specifically for the Acorn market, it is suitable for all Acorn 32bit desktop computers from the A3000 right up to the A540. There are no complicated setups or *commands. Merely plug in the interface and drive, switch on and you are ready to go. Simple and quick, the Morley **Revolution** offers an exciting solution for requirements in education, the home, industry and office environments. Current applications include encyclopaedias, dictionaries, newspapers, digitised video and sound, clip art and a host of other programs offering exciting learning possibilities that would not be feasible without CD-ROM.

The **Revolution** matches the capabilities of far more expensive drives. It is Replay, multisession and Kodak Photo CD compatible, operates via Acorn's CDFS and is compatible with existing hardware running RISC OS 3. It can also use all available RISC OS based CD-ROMs, as well as access DOS based discs and run them through emulation. It even plays audio CDs!

Contact us for more details about the Morley **Revolution** CD-ROM or place your order and join the **Revolution** now.

Sony is the registered trademark of the Sony Corporation of Japan.

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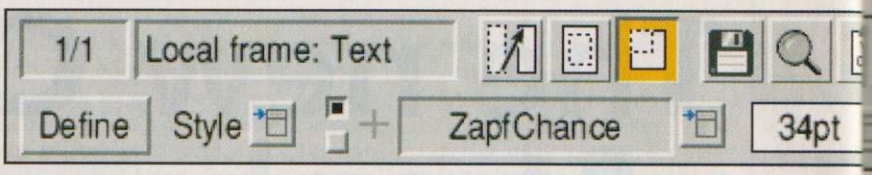


Putting on

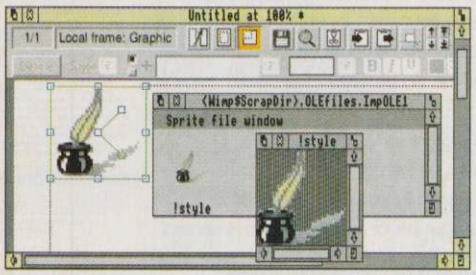
Bruce Goatly looks over the first of Impression's next generation

WHEN Impression and Impression Junior were launched several years ago they became Computer Concepts' big success story in the word processing and desktop publishing field. After several minor upgrades the first of their successors, Impression Style, has now appeared.

Inside the box we find, under assorted leaflets, no fewer than four manuals and a very useful quick reference card, as well as the six disks themselves – but, like Junior, no dongle. If you buy the program rather than upgrading from an earlier version you also receive a copy of *DTP at a Glance*, the beginners' guide to desktop publishing.

For your money you get not only Style itself but also Equasor (an equation editor), TableMate (a table editor) and WordWorks (an online help and dictionary/thesaurus application). Putting all this on your hard disk is made easy by an installation program – it's necessary too, because the software is supplied in a compressed form.

The installation process has a touch of Windows about it, telling you how much disk space – 4.2Mb – the complete package requires, letting you choose which items you want to install and informing you of progress. Installing all except the fonts takes only about seven minutes – not a bit like Windows.



● *With OLE you can edit a graphic direct from a Style document*

Screen and page layout

When you click in a Style window you immediately see the most obvious improvement over its predecessors – the toolbar. This gives you easy access to many of the features that you could only reach before through menus or key shortcuts. Even experienced users can benefit as it simplifies operations that don't have a short cut, such as applying a new text font.

The page layout facilities are almost identical to Impression II's, though master pages can now be given names and their format can be redefined at any time. The toolbar helpfully tells you the current chapter and page number and there's a new, snazzy zoom function based around Shift+Control, letting you expand your view on any selected area of the page.

For all those who felt that, in Impression, storing documents as applications was a waste of disk space and sprite memory, Style offers an alternative single-file document format, which also saves time on opening directories containing lots of documents. The Acorn standard shortcut of Control+F2 for closing a window is now supported, so experienced Impressionists have to be careful to use the new shortcut (Shift+Control+F2) to view the master pages.

Text handling

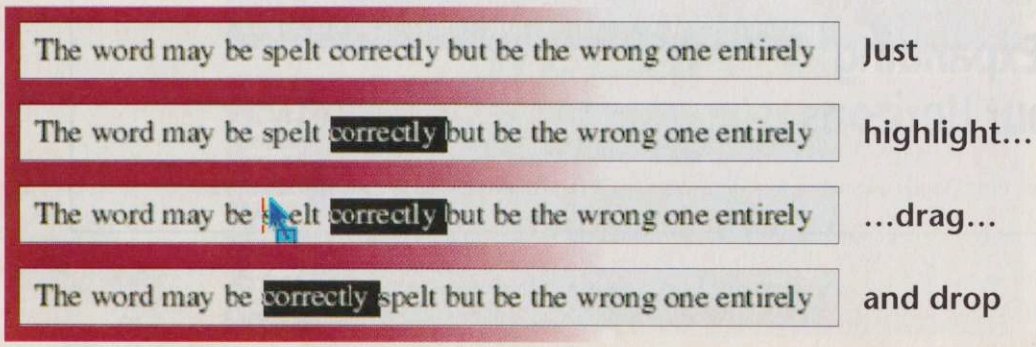
Impression's text handling has been improved in Style. Not only are effects and styles supported but defining and applying them has been made much simpler. The style editing dialogue has been effectively split up into five areas, conveniently replacing the long scrolling window.

A new style can be defined by way of the ruler, simply by applying the desired effects to some text and clicking on the Define button – nice. Another plus point is that styles can be defined to apply at the paragraph level, saving the need to select a whole heading, for instance.

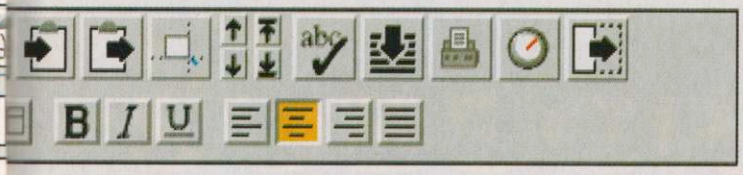
Auto-kerning under RISC OS 3 is supported, and tracking can be applied as an effect. Mail merging is also included as part of the package – this is easier to use than the earlier Business Pack version was, but still not quite as intuitive as, say, EasiWriter's.

You can apply italic and bold effects without having to choose them categorically from a list of fonts. The Insert submenu now has more entries, allowing automatic numbering of paragraphs.

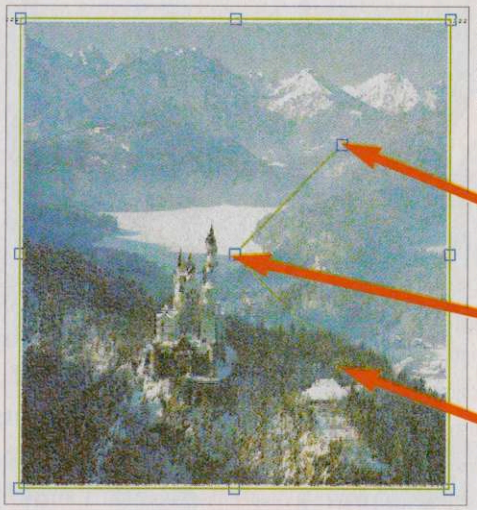
The key shortcuts are extensive, even though those accustomed to the old ones will have to forget some of them or suffer surprises. On the whole the changes are for the better



● *Text editing made ridiculously simple*



● *Style's extensive new toolbar*



● *The three handles inside a Style graphic frame*

the Style

– for example, Control+B for bold and Control+I for italic, which is an *industry standard* – but the one that took me aback was the use of Shift with the cursor keys.

In most applications from Edit upwards this moves the cursor a word at a time, but Style uses it for selecting text areas. I concede its usefulness but I'll miss the convenience of the old ways.

Drag and drop text editing is now fully supported within a document, which makes editing very easy. It would be nice to be able to export text in this way from Style to other applications, as DataPower as the EasiWriter family can.

Graphics

Graphics handling in Style is much neater than in Impression II now that the active area of the frame is concentrated in three handles dedicated to rotating, panning and resizing the contained graphic. This eliminates the annoyance of accidentally panning a graphic around in its frame, which I always found frustrating.

With the new Quality submenu you can define how Draw and ArtWorks will be rendered, from outline to full anti-aliasing. Style can handle all kinds of Acorn sprites, drawfiles and ArtWorks files, and TIFF files can be imported for those wanting to transfer illustrations from PCs or Macintoshes.

A new buzzword in Acorn circles is OLE – Object Linking and Embedding – which in Style's case means that Control+double-click on a graphic starts up the appropriate application and transfers the graphic into it ready for editing. When you've finished making changes, saving the graphic transfers it back into the Style document.

Finding an AudioWorks sample among the tutorial files I couldn't resist dropping it into a frame in a Style document – which happily accepted it. Even in the absence of AudioWorks on my system, a Shift+double-click on the frame played the sample back – possibly a pointer to the future of OLE?

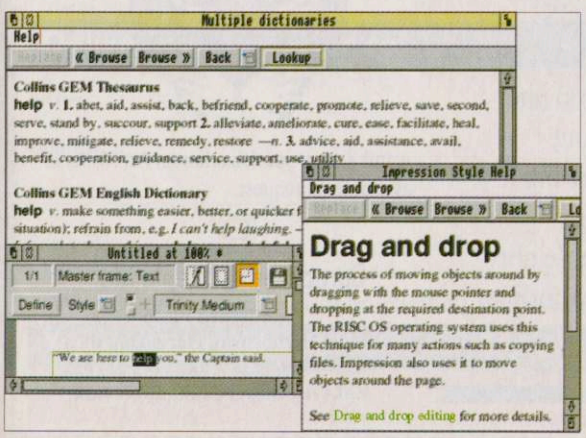
Bundle of joy

The other software that comes with Style adds to the value of the package substantially. Equasor is an equation editor that lets you build up mathematical expressions ready for importation into Style as a graphic. It can generate both drawfiles and Equasor-format files, the advantage of the latter being that they can be re-edited in Equasor at a later time.

The program calls for a fair amount of patience to achieve high-quality results, and there is no sense of integration with Style in the way that TechWriter achieves. But it's certainly better than doing maths without any such help.

TableMate is a simple but effective application that takes a lot of the fuss out of making tables for use in Style. You can either set up a complete table and import it as a graphic – it can always be re-exported via OLE for further editing – or generate just the text and the necessary styles ready for use in Style.

The last and most valuable addition is WordWorks, which uses the data from the Collins Gem Dictionary and Thesaurus to provide an extensive and integrated word-aid system. But it also provides on-line help for Style itself, making the package even more accessible.



● *WordWorks provides dictionary, thesaurus and online help all in one*

PRODUCT SPOTLIGHT

Product: Impression Style
Price: £99 (upgrade from Impression II or Junior: £29)
Supplier: Computer Concepts, Gaddesden Place, Hemel Hempstead, Herts HP2 6EX.
Tel: 0442 63933

Summing up

With its completely re-written manual and new features such as the toolbar and the hypertext help system, Impression Style feels almost like completely new software, even though the underlying differences from Impression II aren't enormous.

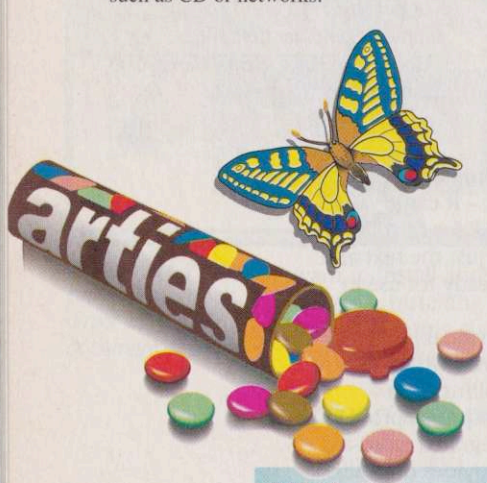
For the former price of Junior you can now buy a package with all the power of Impression II – and more – and one that is much friendlier as a wordprocessor. Add in the three extra packages, and you end up with unbeatable value.

Art Works

Version 1.5

The latest version now includes full support for 24-bit sprites, making it the first Acorn graphics package to support full colour sprites. It is also compatible with the new graphics filter system used by Impression and includes a filter for TIFF files (the industry standard format). ArtWorks now includes the ability to print and separate these full colour images. Finally 1.5 is also a new 'fast load' version of ArtWorks - this is an advantage to all users but particularly useful for relatively slow filing systems such as CD or networks.

" ArtWorks is quite simply the best vector drawing software on the Arch"
Computer Shopper



"It's the best ever art program to hit the Archimedes".
Archimedes World.

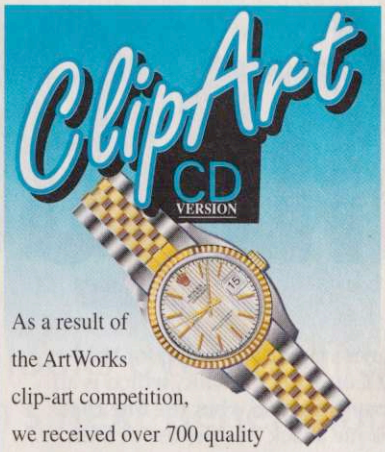
Upgrade to 1.5 from earlier versions
£10.00 + VAT (£11.75 incl.)

RRP for normal 1.5 full package
£169.00 + VAT (£198.57 incl.)
RRP for the CD version of 1.5 (includes everything on the clip-art disc)
£169.00 + VAT (£198.57 incl.)
Upgrade from the floppy disc version to CD version £29.00 + VAT (£34.07 incl.)

To mark the release of ArtWorks version 1.5 we thought we would take the opportunity to remind you of some of ArtWorks most outstanding features:

• Full anti-aliasing of drawings to give superb on screen quality • infinite undo, so no mistake is final • ultra fast screen re-draw • an easy to use toolbox • fast and easy to use graduated colour fills • a blend tool for tweening or morphing • an envelope tool for all sorts of distortions • a perspective tool to rotate in 3 dimensions • a text tool to enter text in any font, any angle any size - and the text remains editable on the page even after graduated fills • text around a curve • a freehand line drawing tool • the ability to break complex drawings into a number of layers • read and write file compatibility with CorelDraw, Illustrator, Freehand and various Acorn formats • ArtWorks files can be dropped straight into Impression and other major Acorn WP/DTP packages • print tiling allows poster sized prints • compatibility with all RISC OS printer drivers (including Computer Concepts 24bit colour drivers) and PostScript printers • zoom in and out • multiple window views of any drawing • interactive object dragging, scaling, rotating • a large collection of sample clip art included free • 220 high quality outline fonts included free.

"In short, it is amazing"
Archive



As a result of the ArtWorks clip-art competition, we received over 700 quality entries - this CD contains the best of them and many more ArtWorks examples (and the ArtWorks Viewer so that non-ArtWorks owners can view them). The illustrations can be used by anyone for incorporation into a growing range of Acorn applications that can take ArtWorks files. The disc also contains dozens of 24-bit high quality photographs (ideal for use with the 24bpp version of Impression and ArtWorks 1.5) and a demonstration version of AudioWorks with example audio files.
RRP £19.00 + VAT (£22.32 incl.)

A full 8 page specification on ArtWorks is available on request.

Computer Concepts Ltd
Gaddesden Place
Hemel Hempstead, Herts HP2 6EX
Tel.: 0442 63933 Fax: 0442 231632
EMAIL: Info@CConcepts.co.uk

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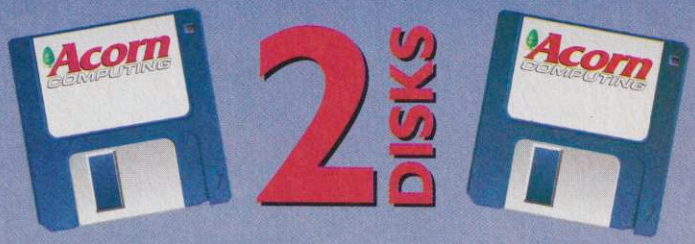

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Date .....

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Ref No. .....

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- I instruct you to pay direct debits from my account at the request of Europress Enterprise Ltd.
- The amounts are variable and may be debited on various dates.
- No acknowledgement required.
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- I will inform the bank/building society in writing if I wish to cancel this instruction.
- I understand that if any direct debit is paid which breaks the terms of the instruction, the bank/ building society will make a refund.

Bank/building society may decline to accept instructions to pay direct debit from some types of accounts.

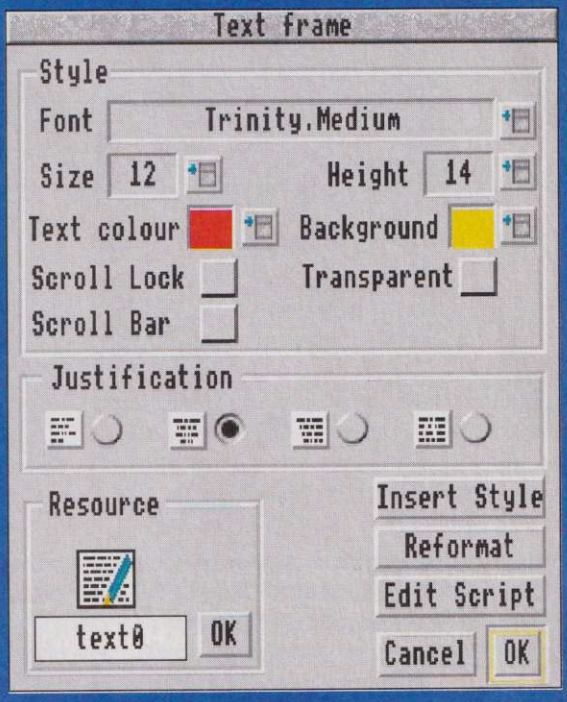
genesis™

the future of multimedia

Genesis, which for many years has been the leading multimedia authoring package on the Archimedes, has taken a large step forwards with the announcement of two new versions: Genesis Project and Genesis Professional. Both new versions include a completely revised user interface designed to be both easy to master for the novice user, yet quick and powerful for the Genesis expert.

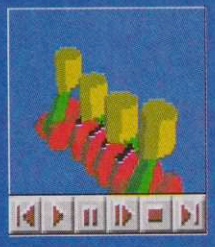
The Genesis menu structure has been simplified by using dialogue boxes to alter the style of frames and pages. Application creation and editing has been eased by the introduction of 'Object Linking and Embedding'. 'OLE' allows data to be transferred quickly and smoothly between Genesis and editors such as Draw, Euclid and Artworks.

Genesis now supports Artworks, Replay, Windows .BMP and .WAV files. Control buttons can be added automatically to Euclid, Film, Replay and Sound frames. It now incorporates a 24 bit colour model and can handle the new 15 and 24 bit Sprites. A turbo loading system significantly increases the speed at which pages open.



genesis Project

Genesis Project is the replacement for Genesis Plus. It is aimed at the user who wishes to create multimedia applications in a simple straightforward manner by clicking and dragging with the mouse. New features include 3D frame borders and automatic frame snap. Users of Genesis and Genesis Plus will appreciate the ease with which applications can now be created and the extra facilities that the new user interface brings.



genesis Professional

Genesis Professional is the replacement for Genesis II. It is ideal for the Genesis power user who requires the very best in multimedia authoring tools. Many features, previously only available via the script language, can be accessed using the mouse. Master pages can now be created and added to a library. Support is provided for Laservision players and for CD (including control for CD audio). The powerful Genesis Script language has been extended with a host of new keywords and now supports global variables which can be accessed by all pages. Scripting can now be done externally in Edit using the OLE facility.

Genesis Project	£50
Genesis Project (Site)	£200
Genesis Professional	£120
Genesis Professional (Site)	£480
Upgrade Genesis/G+ to Genesis Project	£35
Upgrade Genesis/G+ to Genesis Professional	£90
Upgrade Genesis II to Genesis Professional	£60

Site licence upgrades X 2 Prices inc. P&P but exc. VAT

genesis™

interactive multimedia authoring

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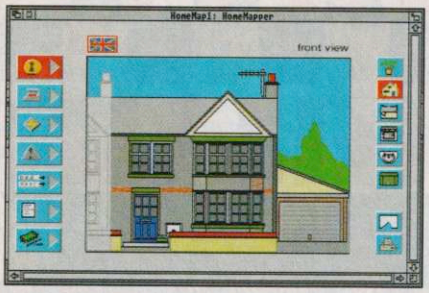


● *Your home, ready and waiting*

Home is where the heart is

Rog Frost takes part in some home making

HOMEMAPPER looks at different aspects of the homes we live in. The first section of the program lets us roam about the house. We can go to the kitchen, bathroom, lounge, garden and bedroom.

Each location can be viewed normally or as a plan. Once in a location there are several options. You can focus in on tools, materials, services and safety aspects. Each presents a new picture, so in the garden selecting tools takes you to the shed, in the lounge choosing safety shows some rather terrifying fire hazards.

At any point you can call up labels for the picture being viewed and you can add your own labels to it, though these don't appear to be saved by the program. However, there is a print option at all times so alterations made can be printed out. Explanatory text is available at each stage and this can be configured at two levels of difficulty, broadening the age range to which the package applies.

Having looked around the house you can move on to the database. This is based on bedrooms and can be set up so that all members of the class have their own file. The first part is a pictorial representation with doors, windows, desks and various bits of clutter can be placed in the room.

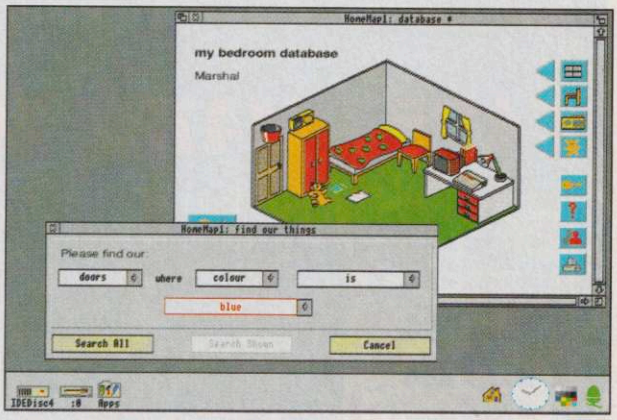
This is fairly straightforward, though there is occasional confusion in the program about just which item you are selecting. Each has a file attached to it so you can detail colour, size, material and function. Having done that you can interrogate the database on these fields for one or all members of the class.

Some of the items in the bedroom have further activities attached to them. You can read a book and use the calculator for simple arithmetic. The lamp leads you to an electricity meter that shows the effects of switching on different devices and the cassette player will play Maestro files or samples and, if you have the Oak Recorder installed, will record anything you like.

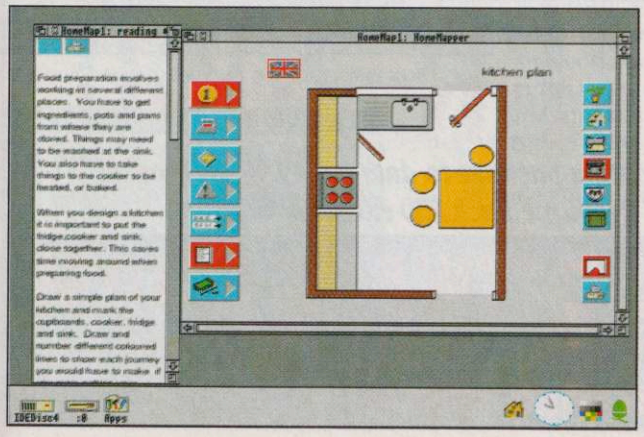
The letter writing activity is very nice. You can write a letter and tell Homemapper to post it to other children in the class. When they access their own files they will find the letter awaiting them.

There's no doubt that technically this is a nice piece of software but you will want to think carefully before adding it to your library. The whole thing shoots rather vaguely at various learning targets and in the first section at least, does little that a good quality picture book could not accomplish.

The bedroom database is a nice idea but sets up expectations beyond the software – you can choose from many colours, for instance, of the door to your bedroom, but only two are available in the picture. The database is very limiting and provides no graphs, though data can be exported.



● *A bedroom ready to use and customise*



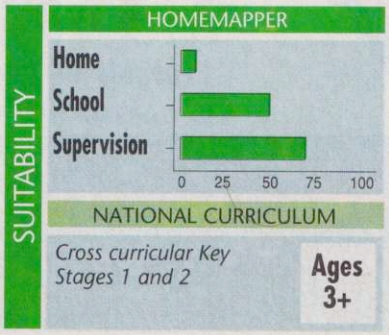
● *Information can be read or printed as you explore*

Summing up

Homemapper perhaps tries to cover too wide an area and fails to address any concept in any depth, though the projected availability of other languages holds promise. Having said that, there's no doubt that it could be used in the classroom as the launching point for a project on homes, but its use would have to be very carefully managed by the teacher.

PRODUCT SPOTLIGHT

Product: Homemapper
Price: £44.95
Supplier: TAG Developments, 19 High Street, Gravesend, Kent DA11 0BA.
Tel: 0474 357350
Requirements: 2Mb ram



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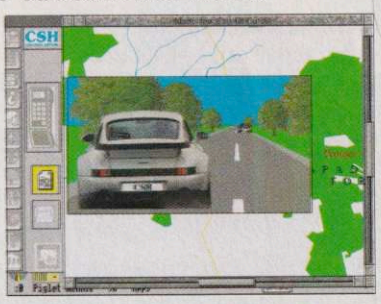
Awarded 1993 Gulbenkien special commendation for most imaginative educational work



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Taking the plunge

Frank Jukes keeps his feet dry with this sporting simulation

SOFTWARE to support swimming? Well, I suppose I've seen it all now. Swimming comes on eight disks complete with an eight page manual and recommendations from aquatic luminaries such as Adrian Moorhouse.

Using Oak Solutions' Genesis as a shell, an extensive series of simple yet surprisingly effective animations provide clear illustrations of basic swimming strokes and techniques.

Crawl, backstroke, breaststroke and butterfly are all catered for along with gliding and floating. To make the package complete, survival skills are covered and there is a water safety game which can be played by up to four players.

Working, as I too often do, on the basis of *read the manual only if you have to* it was some time before I discovered that the eight page manual had some fairly detailed and vital advice to offer.

By changing to a 256 colour mode such as Mode 15 the swimmers changed from various shades of grey to the more natural pinks and browns of boys and girls.

Following instructions to turn off the cache on my A5000 also improved matters. The animations were slowed down and the swimmers moved less as though Jaws was only a bubble or too behind.

I must admit that having to make alterations at that kind of level isn't much to my liking. I prefer applications to take care of things for themselves and to exit tidily later on.

Setting anti-aliasing to 24 points and cached bitmaps to 48 points is a little over the top in the classroom, especially when the process may well be observed by inventive young minds.

Once set up, however, the animations conveyed the feeling of motion better than I could reasonably have anticipated. They are mainly side-on, full length views of swimmers with some partial views to look more closely at areas such as the movement of legs.

In some situations I felt that a view from above might have been useful as would some illustrations of common problems. Trying to explain a screw kick to an eight year old takes a lot of words and leg waving and is far from easy. An animation would be wonderful as well as being much cheaper than buying a video camera. To emphasise important teaching points, and to help with the review pages dotted along the way, sampled comments are provided in a clear although very quiet voice.

From personal experience, and following advice in the manual, I think it would be a good idea to use headphones in the classroom if nothing is to be missed.

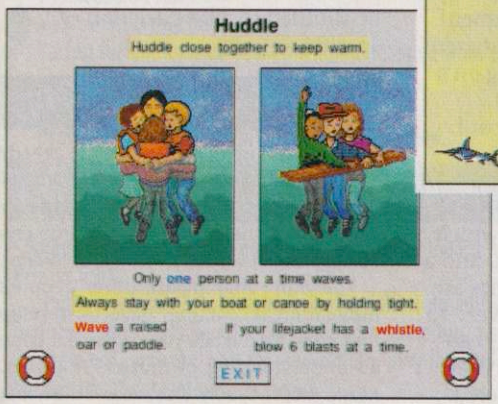
Some of the samples are quite long and detailed. As well as comments and advice they also include some fairly wild cheering and clapping to reinforce correct answers on the quiz pages. A gentle *try again* usually accompanies a wrong choice.

One of my initial doubts concerned the ease with which support provided in the classroom would be remembered and transferred into progress at the pool.

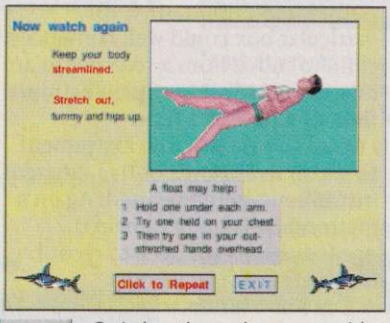
There appeared to be few problems. The images are so simple and uncomplicated that they can easily be brought to mind when the occasion demands.

One aspect of the package which is particularly welcome is the section on water safety. Children learning how to swim are not always taught how to stay safe. The emphasis is too often solely on building a good stroke.

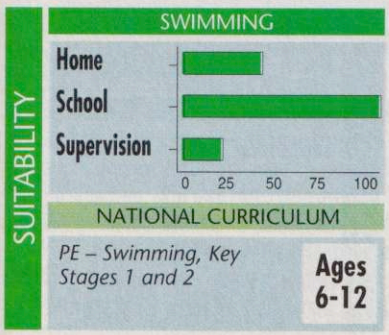
Swimming refers to staying safe in several areas and includes a screen-based counters and board game. Although the game is a little inflexible it nevertheless requires children to think about options for avoiding danger.

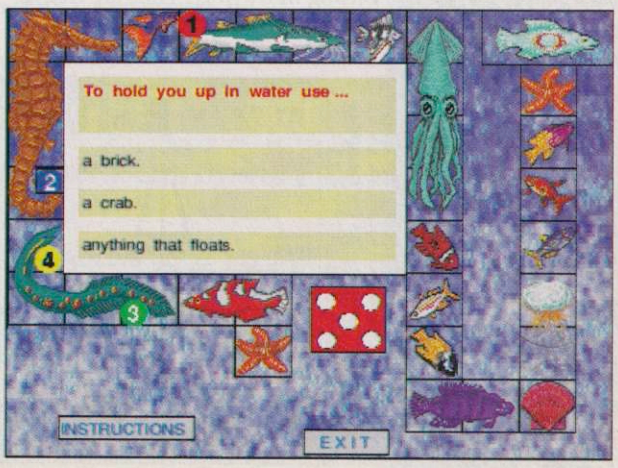


● *Good presentation puts the safety message across*



● *Animations give you an idea of what you should be doing*





● *Questions and answers test what's been learnt*

PRODUCT SPOTLIGHT

Product: Swimming
Price: £35.95
Supplier: CD Sports, 4 Wirral Business Centre, Dock Road, Birkenhead, Wirral L4 1JW.
Tel: 051-691 0893

Summing up

Swimming provided me with a pleasant surprise. It is well thought out and executed and, above all, it works. My class of nine and ten year olds will certainly benefit from it.

Tuning the ear

Graham Keeling looks at a new way of making music

Graham Keeling is a primary school teacher in Lincolnshire. He has worked extensively with computers for the last 10 years and frequently writes for the educational press.

MUSIC Box is a multi-tasking, creative music-making package for the entire primary age range. Once loaded from the iconbar you are simply presented with four boxes – Sound Box, Chord Box, Tune Box and Beat Box. A mouse then allows you to enter four totally creative musical worlds.

Sound box gives a rectangular grid of 77 squares. Seven instruments, each with 11 notes, can be played simply by moving the mouse over them with select held down. Menu allows a new choice of instruments to be loaded but no more than seven at any one time.

A metronome gives a steady beat which can be altered for speed or turned off completely while a volume control and tape deck complete this screen.

Once instruments have been chosen and a few ideas developed the tape deck allows a *tape* to be made which can be played forwards or backwards, faster or slower. Within this box children can experiment with no hang ups about musical conventions or forms getting in the way. They are free to simply have fun with sounds.

Chord Box has a similar layout of tape deck and metronome but has only five instruments available. Here we can develop harmony. Each of the notes can be turned on by the mouse and then the whole chord heard. To help the children explore more varied chords, semi-tones are available at the side of the normal 11 note stave.

Just listening to the wonderful textures available must be of tremendous educational value for any child not blessed with musical skills. More importantly, this particular box could well convince a child to move from a recorder to an instrument capable of playing more than one note at a time.

You can use just one instrument to set up five chords or five different instruments could be used. Again a metronome is there to help if needed and a tape deck to record the results of your labours.

Tune Box brings together much of the first two sections. We now have seven instruments available, which can be placed in any position, and a grid of 11 notes. These 11 notes are of course the notes of the stave.

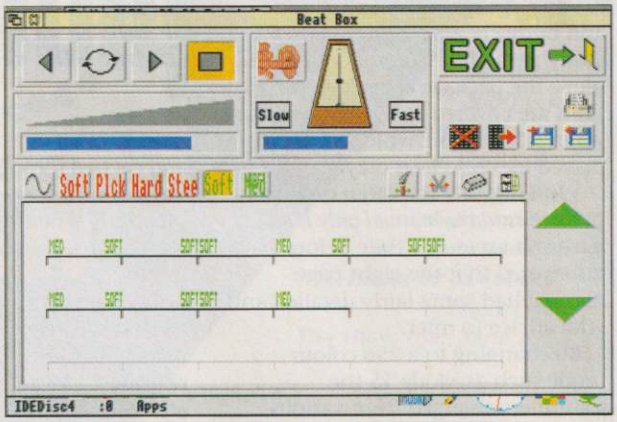
Rhythms, tunes and chords can quickly be developed while whole passages can be copied or deleted. Single columns can be inserted or cut out and the whole tune played through forwards, backwards, looped or saved to disk.

You can also tie notes to produce longer notes within the tune while a little rubber allows any mistakes to be removed easily.

Scissor and paint brush icons allow whole bands of music to be cut or pasted in while a configure option allows the note value to be set and the key signature to be altered. All the normal options outlined above can be switched off if necessary.

Beat Box can be used in two ways: Rhythms can be built up in much the same way as Tune box – placing the sound within a cell on the screen. However, Beat Box has much smaller divisions than Tune Box so more complex rhythms can be explored.

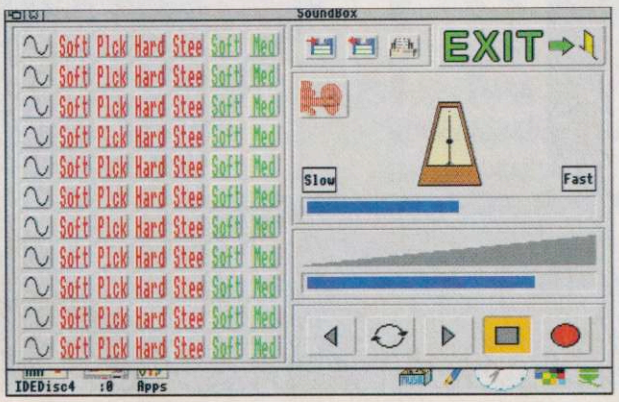
The alternative is to use it as a drum machine, tapping in rhythms directly from the space bar or mouse. More than one sound can be played at the same time so they can be shuffled to allow deletion of specific sounds.



● *Set the beat in the BeatBox*

PRODUCT SPOTLIGHT

Product: Music Box
Price: £35
Supplier: Topologika, PO Box 39, Stilton, Peterborough PE7 3RL.
Tel: 0733 244682

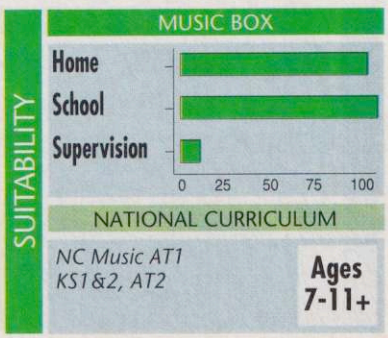


● *Intuitive icons make MusicBox easy to access*

Summing up

This is a very useful addition to the already excellent software available in the area of primary music making. What I find really impressive is the ease of use and true creative nature of working with the software.

You don't manipulate other people's musical ideas, children have to develop their own. Neither are you dependent upon an understanding of musical notation. Music Box is a truly creative package that fills a gap in the market very well indeed.



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QD Bug £69.00

"....a must for assembler programmers, and comes very highly recommended" Archimedes World May '93. (overall rating 95%).

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Learning to read is fun

Listening, reading and painting. Pat Janes investigates

THE Spoken Word is a program where you can just click and explore and was an instant favourite with pre- and early readers. The multi-tasking package uses the Acorn 32-bit machine to produce sound samples of a library of words and colours to complete a picture and compose short phrases.

A picture appears alongside the list of words relating to it. Underneath is an artist's palette. Click on this and the clearly spoken sampled colours ring out.

Two other icons provide options to add your own words to the picture or a rubber which allows the last change, text or colour, to be undone – again the voice tells you what is going on. Simple. When you have selected a colour with the mouse, its name is spoken – for instance dark green – you then click over the item you have chosen in the list – for example grass – and the word is spoken.

The relevant part of the picture is coloured and the phrase, *dark green grass* is spoken. When the picture is coloured to your satisfaction you may save it as a sprite file.

It is necessary to use a 256 colour mode when running this program – Mode 15 or 28 for instance. The Spoken Word will run in other modes although the word does not exactly match the visible colour.

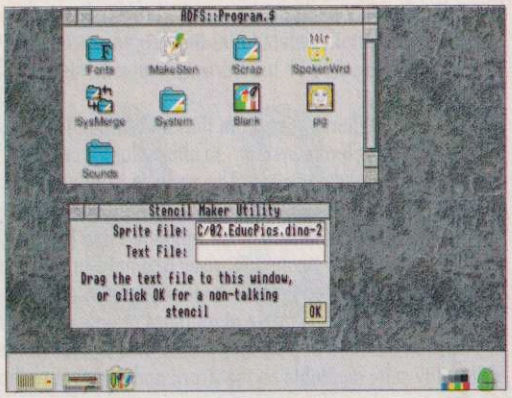
However, as this is a multi-tasking program, Acorn guidelines request that other applications mustn't be affected. So if you want the true colour you'll have to change mode manually.

By installing Paint or Draw your picture can be dropped into either or both applications and edited with the usual facilities. You could opt for putting it into a DTP package or just print it.

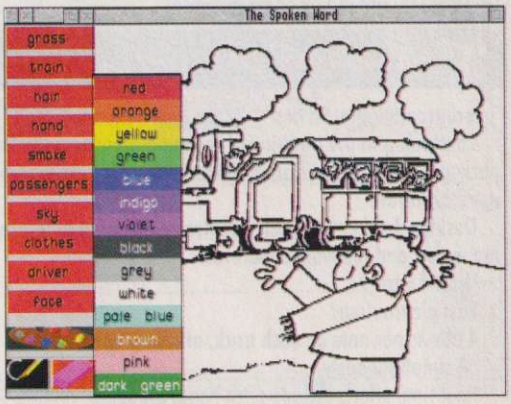
I spent a most enjoyable time working through this program. The pre-school children being taught colours certainly found it a very good way to reinforce their lessons.

However, the ability to add your own pictures, words and themes extends the life and versatility of the program. So much so that the Spoken Word would be useful for any age of person learning to read.

I would have welcomed such a program when I was teaching EFL students, whose mother tongue was not English. I can also see this program being valuable for children whose parents communicate by sign language, as this would enable them to hear the colours and items spoken.



● *Creating your own is easy once you know how*



● *The colours vary in hue and concept*

Summing up

This is not a program which can be unsupervised, although it is possible to choose the Fixed Window option which will prevent a child from closing or adjusting the window and will disable the function keys. But as the iconbar is still visible the child operating the machine can access the hard disk and any other application or facility.

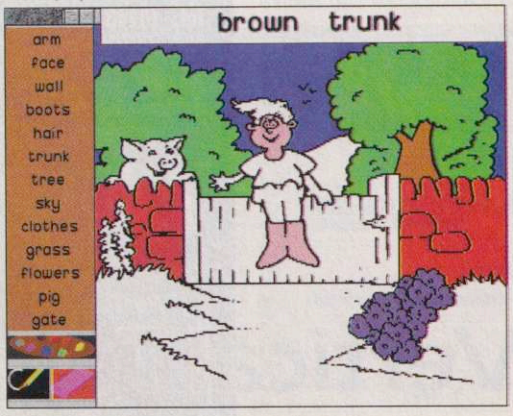
The manual is quite detailed and easy to follow. For the more adventurous you are also taken through how to produce your own stencils, words and sounds.

Don't be put off by sound sampling. Packages such as the Oak Recorder are very cost effective and open a whole new avenue to explore. Also, if you object to someone else's regional pronunciations here is where you can change them.

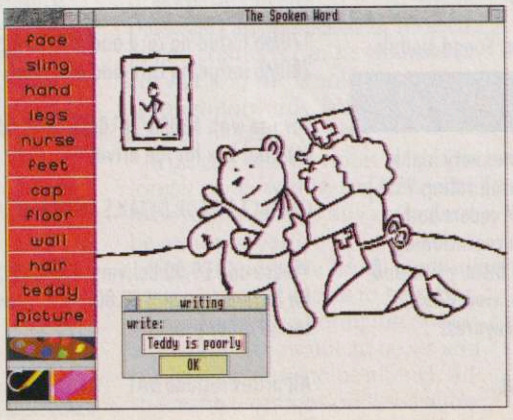
Perhaps teachers and parents who master adding Spoken Word files could make their creations available to the more cautious users?

PRODUCT SPOTLIGHT

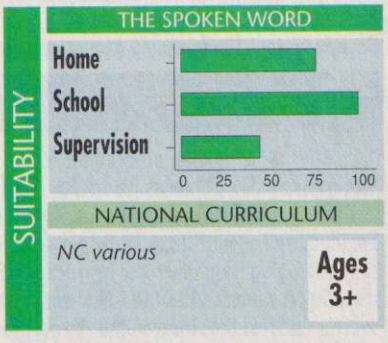
Product: The Spoken Word
Price: £22 (inc VAT)
Supplier: Wydffa Software, 3 Preswylfa, Llanberis, Gwynedd LL55 4LF.
Tel: 0286 870101
Requirements: 2Mb ram



● *Words and phrases are clearly spoken*



● *Add you own captions and print out the results*



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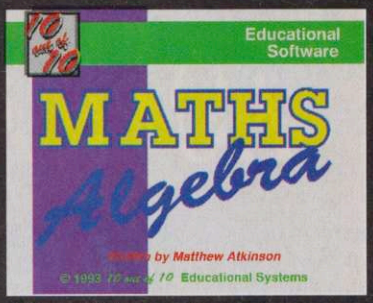

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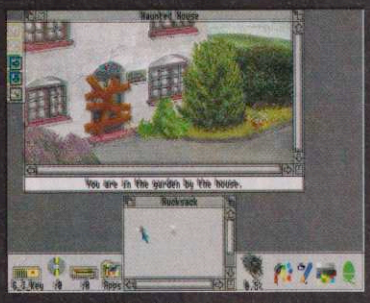

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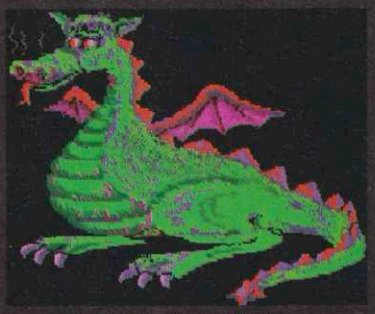

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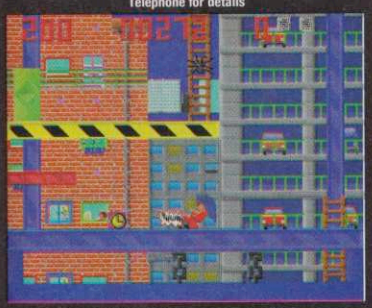

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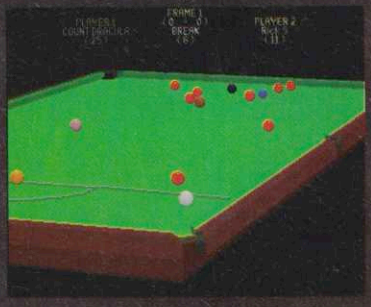


Break 147 & Superpool – £34.95

Pets with a difference

Pat Janes discovers all you wanted to know about dinosaurs

DINOSAURS are perennial favourites with schools and Spielberg has done nothing to detract from their popularity with either teachers or pupils. 10/10 Software have added Dinosaurs to their series of programs, aimed at both school and home use.

I've always found the children more knowledgeable about dinosaurs than I am and the way the names trip off the tongues of my 11 year olds never ceases to amaze me. But what makes this package different, if anything?

PRODUCT SPOTLIGHT

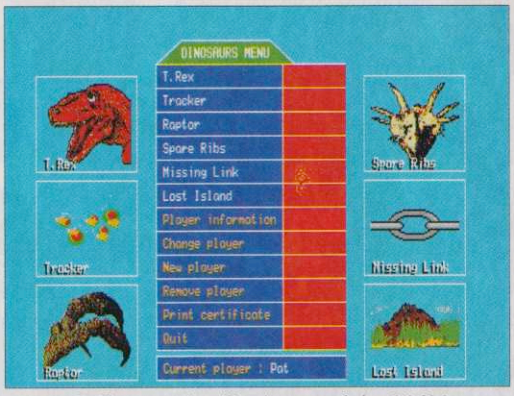
Product: Dinosaurs
Price: £25.95
Supplier: 10/10 Software, 1 Percy Street, Sheffield S3 8AU.
Tel: 0742 780370

The format is very similar to 10/10 Maths, English and so on. The program is mouse-based and the package contains the basic loading instructions and two guides, one for the player and the other for the teacher or parent.

The main menu asks for your name and you are then entered in the Player Information which will show you your achievement record. As more than one person can play, each name and achievement is recorded.

As you play through the six grades – and are successful – you'll change the colours in the Achievement Chart. Success is proven by the right to print out your own certificate. You are able to set a timer if you wish but I suggest you do this only when you have played the games and know what to expect.

There are six games each of which has six grades and once you have succeeded in changing the colour you are moved on to the next grade.



● *The now familiar layout of the 10/10 range*

These games cover all you could possibly want to know about dinosaurs. Making brief excursions into classification, mobility and anatomy allows you to find their correct names and spellings, their vital statistics and preferred foods.

You can play the games in any order and set the difficulty level according to your knowledge. First comes T.Rex where you select between carnivores and herbivores while in Tracker you are given a clue and you need to select which animal fits.

Next comes Raptor and here you have to give the answer or find the missing item. This may sound easy but the answers and items move round the screen so you need to be quick.

Spare Ribs is a quiz game and Missing Link is a game of matching. Finally Lost Island is a fast-action driving game – by steering your jeep you select the correct answer to the question at the foot of the screen.

In each game you can achieve higher scores by decreasing the length of time you allow yourself or by increasing the speed, either of which means you must move more quickly.

Summing up

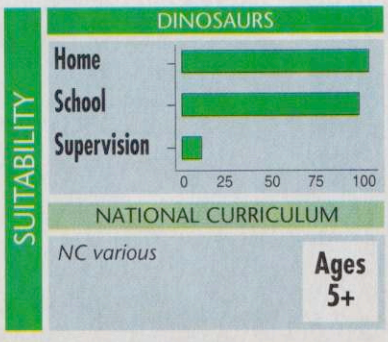
This program would be a great addition to the school's library of software and would prove to be a valuable asset to the learning disk box at home. There might be an argument that it should be in the Games box.

Personally, I'd need to raid the library or buy myself a good but easy to follow book on the subject. I would use this program across most of the age ranges. Five to seven year olds could manage some of the work particularly if there were posters of the various dinosaurs on the walls of the classroom.

I suspect that some of the older Secondary/High School students would look affronted at being given this work to do but, like me, they would have to revise their ideas, admit to lack of knowledge and then determine to learn more about the subject.

It would not take long for them to get hooked. The incentive to do better than last time is part of the appeal this has for me.

● *I hope you've been paying attention*



● *I don't think I'd like to pick on a dinosaur larger than I*

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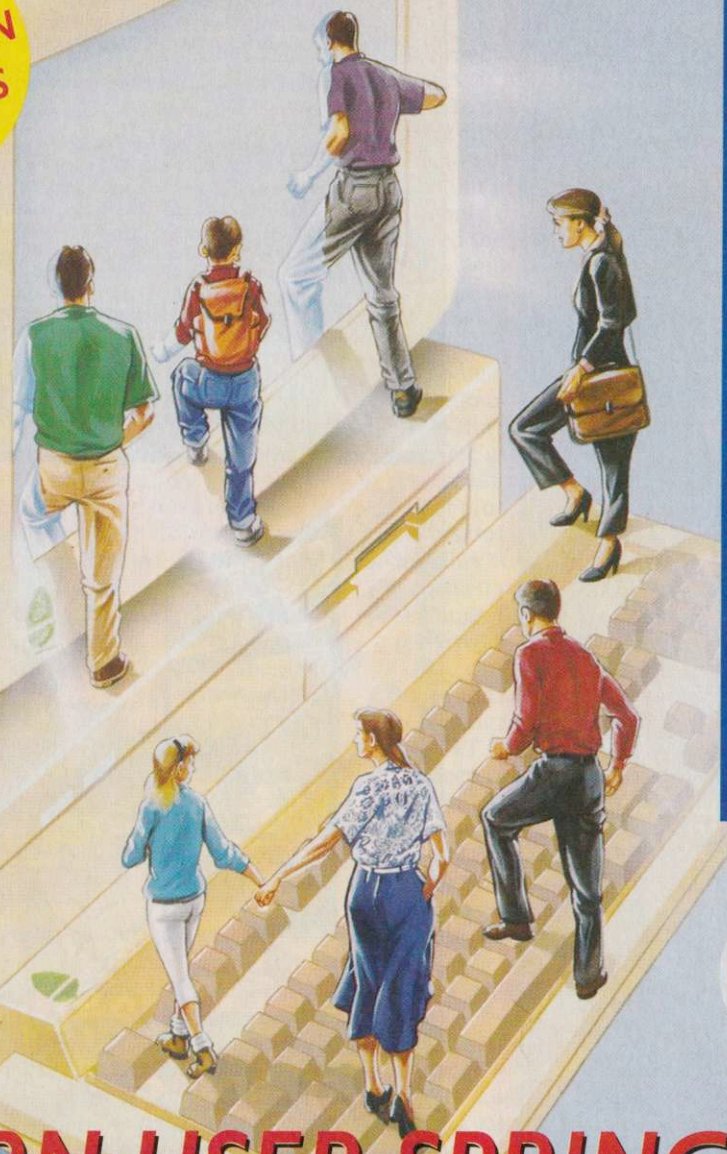

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The sum of its partz

Bruce Goatly evaluates Colton's integrated package

COLTON Software are best known for developing Pipedream, a multi-purpose spreadsheet/word processor/database/charting package. The problem with it – and I speak as an inveterate user – is that it's somewhat quirky and has to compromise across its facilities.

But now Colton have come up with a set of separate applications to cover different functions with the intention of tying them together later on. Thus, Wordz, the word processor, appeared some time ago – reviewed in Acorn Computing in July 1993 – and a while later the spreadsheet, Resultz, was produced and was reviewed in the December 1993 issue.

Now we have the connection between the two with the arrival of Fireworkz. This gives the flexibility of a word processor to create and alter text and apply styles, as well as the data manipulation power of a spreadsheet. Its achievement over even the later versions of Pipedream are shown in that it can be used just as a word processor or a spreadsheet – there's no element of having to strike a balance between them.

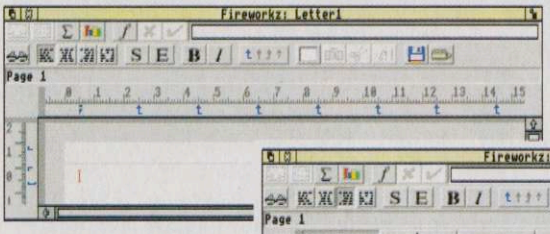
But you're not restricted to using the two components separately – in Fireworkz they are integrated into one application. It's possible to import a complete spreadsheet into a wysiwyg word processed document as a table, complete with live, editable data, formulae and charts.

You can also include fully editable text and illustrations within a spreadsheet and apply varying word processing facilities to them. A more extreme example appears alongside, showing how letters or reports can contain live figures from a separate spreadsheet file and be used in a mail merge, with personal data taken from a third file.

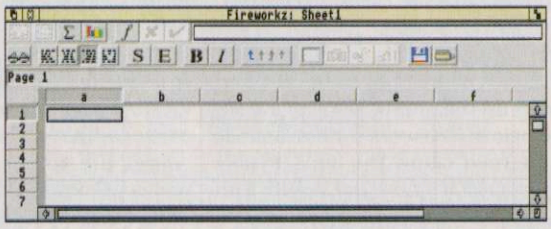
If you already have Pipedream, Wordz or Resultz, Colton offer an upgrade to Fireworkz at a discount. If you have both Wordz and Resultz, the upgrade – and it is an upgrade after all – is free. While on the subject of upgrades, Fireworkz handles the conversion of Pipedream files with ease, though a small amount of manipulation may be needed afterwards to make them run faster.

The tutorial files supplied on disk give abundant illustrations of how to do calculations using the application's built-in functions, and one example provides a most ingeniously devised minesweeper game – I'm still trying to work out how it was done.

The Fireworkz box shows its ancestry in what it contains – two disks and a Wordz manual, two Resultz manuals and one Fireworkz manual. In fact this is my main criticism, because although Fireworkz is promoted as an



● *Starting Fireworkz in letter format...*



● *...and as a spreadsheet*

PRODUCT SPOTLIGHT

Product: Fireworkz
Price: £169
Supplier: Colton Software, 2 Signet Court, Swanns Road, Cambridge CB5 8LA.
Tel: 0223 311881
Requirements: 2Mb ram

Wordz and Resultz – a quick look

One component of the package, Wordz, is a complete word processor in its own right, with spell checking, search and replace, word counting and full editing functions. It also has the ability to import sprites and drawfiles as illustrations.

Tabulation control is extensive and tables can extend width-ways over more than one page. Styles and effects allow easy control over the appearance of text and mail merging is supported. The whole is rounded off with a wide variety of printing options.

Resultz resembles – but surpasses – the spreadsheet parts of its predecessor, Pipedream, and is a page-based spreadsheet. This means that the on-screen display shows how the spreadsheet falls on the page making it unique on any computer. The software makes an intelligent guess at a cell's data type as you enter it, but a wrong guess is easily corrected.

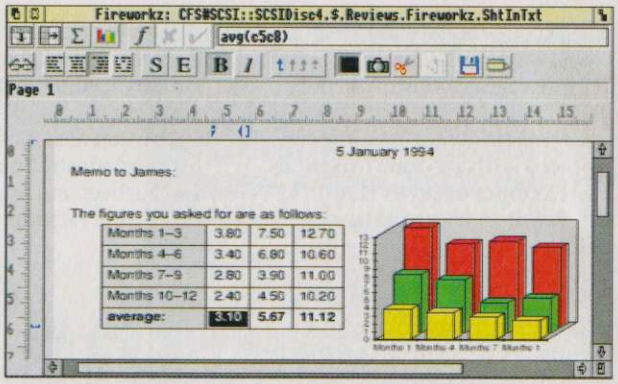
The 189 built-in functions are quickly called up from the button bar and filling them in is so easy that even I – who never cottoned on to functions in Pipedream – found myself using them. The interface is, scarcely surprisingly, similar to Wordz's, including the buttons for styles and effects which can be used on letters or words rather than on whole cells.

The charting facilities allow you to plot graphs of your data in many different ways – bars, pies and scatters – and once plotted the graphs remain live, meaning that if you change the data the graphs change too.

integrated system its documentation gives it a fragmented feel.

The Fireworkz user guide introduces the broad outlines of the package and points out places where the other guides have been superceded, but you still have to read those outdated earlier volumes for details on the word processing and spreadsheeting sides. A more unified approach would be preferable.

My other niggle is about the charting, which although powerful and flexible has no means of adjusting the size of charts other than by eye. This is surely inadequate if several diagrams are to be presented together – some means of scaling them is needed.



● *Text documents can contain spreadsheets and live charts*

Summing up

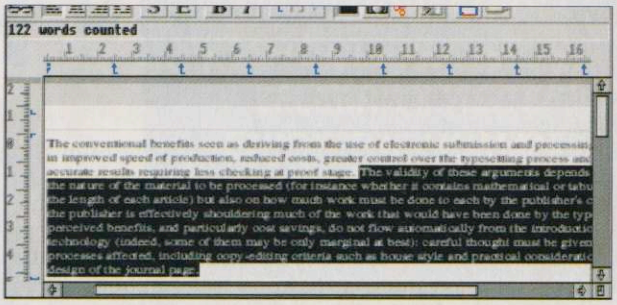
Fireworkz is one of those packages that is difficult to treat in isolation. It simply begs for comparison with Pipedream, though to limit it in that way is possibly unfair. Be that as it may, it has all of Pipedream's strengths without its obvious weaknesses.

Is it worth upgrading from Pipedream? If you'd like to use more of Pipedream's facilities but have been deterred because it seems complicated, then it's worth taking the plunge. If you only use a little of what it can do and are happy with that, then probably not.

I've already converted my Pipedream files to Fireworkz format, which I think says more about the software than me. I certainly find it much easier to visualise what's going on in Fireworkz.

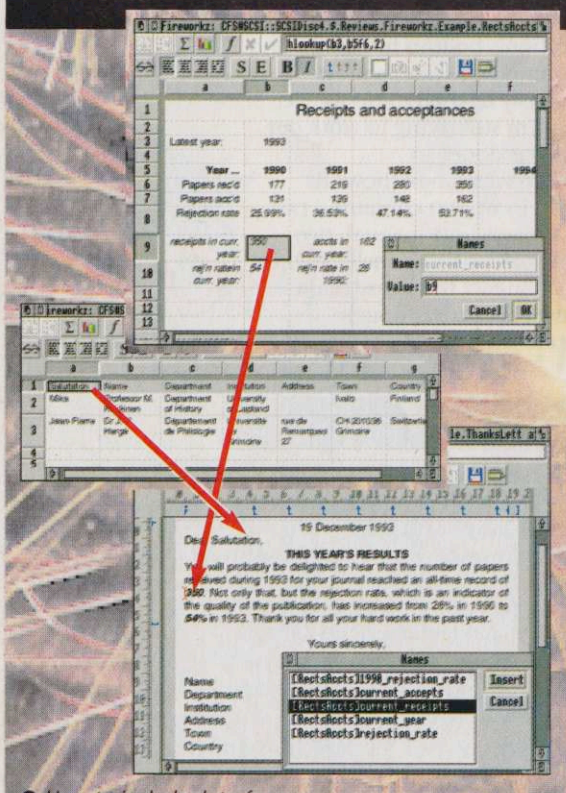
Looking ahead, once Recordz – the database part of the Z series – is available, that too will be able to be incorporated into the Fireworkz expansion strategy. That should further widen its appeal.

So is Fireworkz more than just the sum of its parts? In my view, yes it is.



● *Counting words in selected text – very useful*

Live data in reports



● *How to include data from a spreadsheet and an address file into a mail-merged letter*

Let's invent a fairly simple example, a letter to some people connected with a journal telling them about some statistics from the previous year. The data comes from a file called RectsAccts, shown in the top figure.

The first piece of data is called Latest year and this is all that has to be changed to summon up the appropriate data from the table below. The work is done in italic type in the rows below the table, mainly with the HLOOKUP function which uses the Latest year value to pick out the appropriate column of figures. Incidentally, if I hadn't wanted the calculations to be visible I could have made the text white rather than italic.

The next step is to give names to the cells that you want to link across to the letter because only names, not cell references, can be inserted into a separate text file in this way. The five names shown in the bottom figure are the ones used, and that completes the work on the basic data.

The names and addresses are simply held in a spreadsheet containing the various fields in appropriate cells. A CSV file would do just as well.

The first row holds the column titles and will show as the field names in the merge letter. The letter contains a live date which is updated every time the file is opened – a useful feature. Next comes a salutation line with the first inserted field from the address file, and then the text of the letter.

Cell names from a separate spreadsheet are automatically available as long as it is loaded, and once inserted they contain a reference to the spreadsheet file so the documents become linked. Once the spreadsheet of receipts and acceptances has been filled in, any change to the Latest year figure will insert the appropriate numbers in the letter.

The address fields are similarly defined by reference to the address file, which is also linked to the letter file. The names and addresses themselves are filled in from the rows in the address file as the letters are printed.

This arrangement is in fact far less complicated than it sounds, and is very powerful. Lastly, notice that individual cells in a spreadsheet can have different text styles – these are easily defined with the buttons on the button bar – and so can the values inserted into the text of the letter. This is a distinct improvement on Pipedream.

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Paying

Andrea Cook makes the computer bear the brunt of the pay day blues

AT TIMES it is hard trying to justify to PC-owning colleagues why I stay with the Acorn for business as well as education and DTP purposes. I can mention the superb usability or the way my non-computer literate staff can access programs, but they look knowingly and point out my traditional paper-based accounts system.

Computerised accounting up to now has left me cold. The idea of transferring everything on to a computer is something I keep putting off to the next financial year. However, the task of calculating wages can be extremely time consuming and confusing and when Payroll Manager arrived I happily delegated.

Even a business with a mere three or four employees can result in a good hour or so of calculating and recording – and errors. This is why it was such a relief to find a program both simple to use and adequate for my company's present and future needs.

I use a standard 2Mb A4000 with 80Mb hard disk and an elderly A310 and RISC OS 2, but Payroll Manager will happily work from floppies storing information for 48 employees on one 800k disk. The only limit is your disk space. For collectors of trivia, according to Silicon Vision, I could fit up to 4800 entries on my 80Mb hard disk.

Payroll Manager is the answer to the prayers of any non-accountant faced with wage calculation. The manual is easy to read and understand and it takes a matter of minutes to get the package up and running. All operations are simple to use and the program is almost self explanatory.

Once details of employees have been entered, all that needs to be done each pay day is input the gross amount earned – and this can be divided to show overtime and the like – along with the employee's current tax code and the pay date.

Everything is then instantly calculated for you, including all *to date* totals. Monthly or weekly wages are equally quick and easy to deal with.

Payslips can be printed out, as can a list of all employees wage details with descriptions of cash requirements to make up pay packets, individual P11s and virtually any other proforma the Inland Revenue ask for.

With over 20 full-time employees now on the payroll, it has made calculating monthly wages a two hour job instead of virtually a whole day's task.

The program can be installed on your hard disk which makes it fairly quick to run. At the end of each section, users are advised to use the *tidy up* routine, however, this takes a surprising amount of time as it goes through every period for every employee.

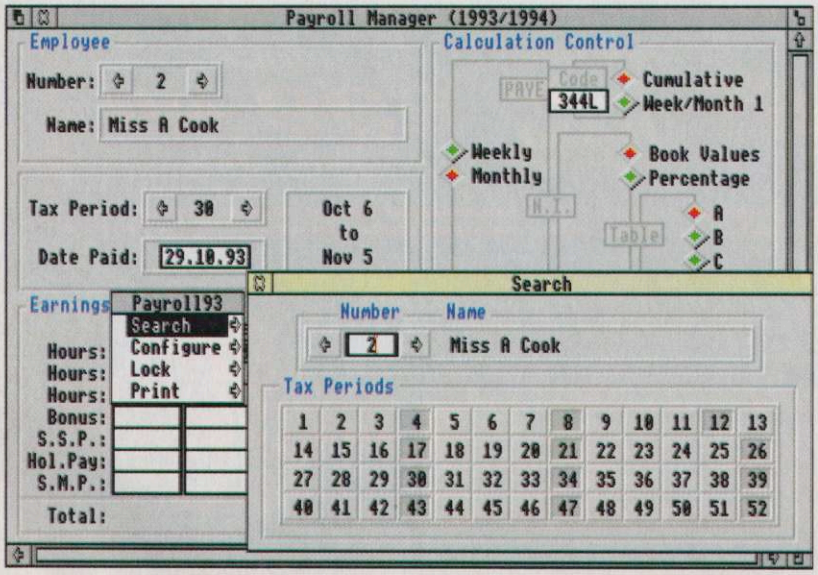
Any change in Tax or National Insurance legislation and rates will obviously render the program obsolete, but all buyers are sent updated versions as necessary.

The employees' details section contains all relevant details: Name, address, date of birth, telephone number, date employment commenced and finished, National Insurance number and so on. Obviously the keeping of such information does necessitate registering under the Data Protection Act but it's a small price to pay for the time saved.

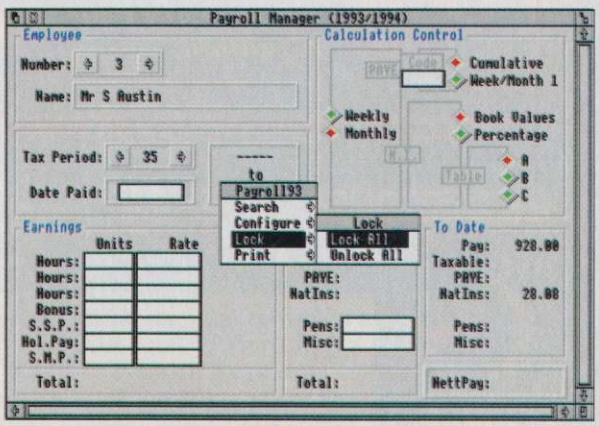
Employees cannot be called up by simply typing in their

PRODUCT SPOTLIGHT

PRODUCT: Payroll Manager
Price: £99.95 inc vat (annual update fee 25% of RRP ie £25)
Supplier: Silicon Vision, Signal House, Lyon Road, Harrow, Middlesex HA1 2AG.
Tel: 081-422 3556



● *Searching via employee number and time period*



● *Though you can lock entries there is no password protection*

number, it is necessary to scroll through the entire list of employees. However, through the search sub-menu options you can access a pop-up menu and dialogue box where you can call up any employee by number and/or period.

Standard set–up options are required as new employees are added but these are very versatile and can be adjusted to suit individual businesses - they mainly deal with frequency of pay and N.I. tables used. How to do this is explained in the manual and is very straightforward.

All information contained on a new employee's P45 is transferred into the employee details section and automatically included in calculations. When I first used the program it uncovered a mistake I had made using the lower rate tables in several of my employees taxation.

However, as they were all *new* employees the program adjusted their tax accordingly and got everything sorted out and up to date for me. This showed differences in amounts of tax due when compared to those I had calculated manually.

At first I assumed, naturally, that I had been correct in my calculations and it had to be the program that was wrong. But after a phone call to the publishers, who were amazingly helpful and friendly, it transpired that I was to blame. Rather embarrassing but very useful.

I spoke to the Technical Manager on several occasions and he was extremely obliging and patient, even when I contacted him three times in one day over the same point.

its way

On each payslip displayed on screen there is room for several varying rates of pay. It is possible to input both a basic total salary and periodic rates of pay. Holiday pay is also provided for as are bonuses. All the other facets of National Insurance are included such as Statutory Sick and Maternity pay and allowances, although it is necessary to refer to your printed tables for the rates.

Directors renumerations are also dealt with as are commission payments, royalties and sub-contractors payments. A nice point is that an employee can have an earning configuration file avoiding repeated data entry for each period.

There is a space for pension deductions and other after tax deductions such as employer loans or earnings attachment orders. Most potential problem areas can be overcome by checking the manual, for instance for tax rebates from a previous tax year.

Employees are called up in turn to have the current periods wages put in. Any who have a start date after, or a finish date before, the pay date are omitted. Any employees on emergency tax code are shown as month one basis and, when a permanent tax code is notified, all deductions are amended accordingly.

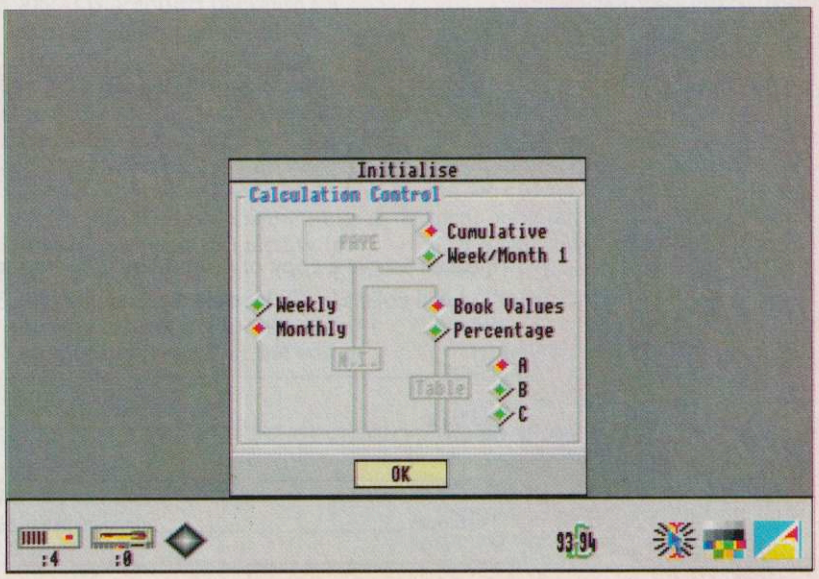
Printing

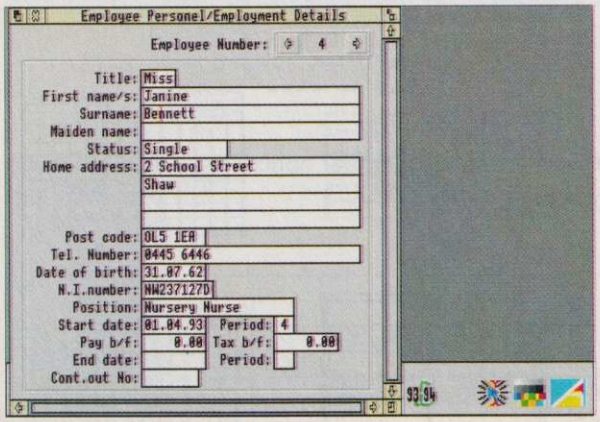
A major drawback of this package came to light when the time came to print out the pay slips - Payroll Manager does not use the Acorn standard printer drivers. Now this is where I show my ignorance of other payroll packages which, so I'm told, make money by forcing you to buy their particular type of stationery.

Because I use Acorn machines I'm used to creating my own stationery so I assumed that the payroll software would create its own forms as and when needed – but it doesn't. You buy standard stationery or print out your own using supplied drawfiles then print

Andrea Cook is the Officer in Charge of a private day nursery in Tameside with over 30 permanent and part-time staff.

● *With a new employee you decide which calculations are needed*

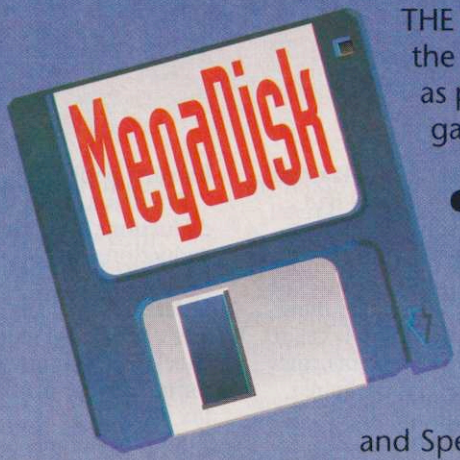




● *Adding or amending details saves them straight into the main program*

NEXT MONTH

WHAT'S COMING IN THE NEXT ISSUE OF *ACORN COMPUTING*



THE March issue of *Acorn Computing* will be in the shops on 7 March and the MegaDisk will be as packed full of exciting quality applications, games and utilities as we can make it.

- **SIMON THE SORCERER** – the long-awaited adventure game should be making its appearance in an exclusive demonstration form.
- **SPOKEN WORD** – Wyddfa's early reading program for Key Stage 1 and Special Needs
- Plus much much more, including:
- The programs from the magazine and the best Public Domain utilities around

Reading between the lines

We look at the tantalising world of OCR – Optical Character Recognition – and compare the packages that are currently available. Do they work and what would you use them for?

Regulars

In addition to the best informed views, comprehensive coverage of new education products and the latest in art and music products, next month's *Acorn Computing* includes:

- Problem Solved: Get those computer difficulties handled fast
- TechForum: The ins and outs as well as the whys and wherefores
- News: the latest and the greatest up to date and in print just for you

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Acorn COMPUTING

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on to them from the program.

If your printer allows IBM ProPrinter emulation you can do the whole print process in one go by switching on the *outlines* feature – the program then uses the IBM character set to create the various boxes on the pay slip.

I prefer this option, despite having to reset my printer, as it is more cost effective. Sheet feeding on my laser printer under ProPrinter emulation was a problem as three and a bit pay slips fitted on one A4 sheet resulting in part slips on the top and bottom of pages.

I could have reconfigured the number of lines on my printer each time but opted for a very small Basic program (VDU2,1, 12,3) to throw a page after three payslips.

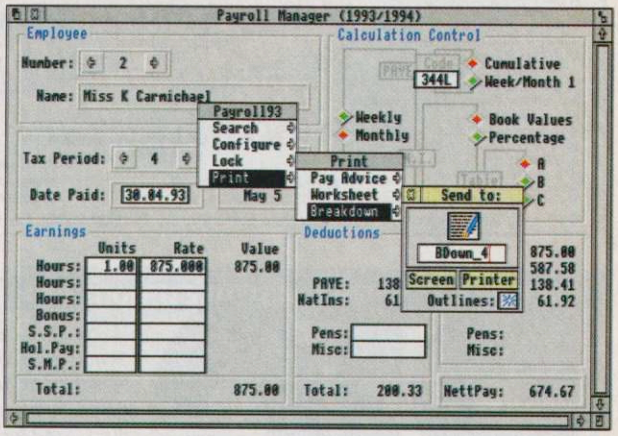
The finished pay slips look professional, although the staff found them confusing at first due to the way basic pay and overtime were shown, as they were used to only total amounts being shown rather than calculation rates as well.

Another print option is to use the drawfile templates and place them on the master pages of a DTP package like Impression. You can then export the file to Impression and print everything in one go using standard printer drivers.

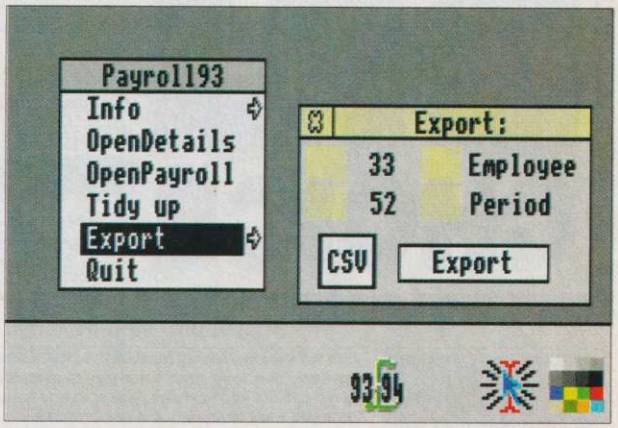
I particularly like the CSV export facility for current or all data. Details can be imported into spreadsheets and/or graphing packages for analysis. It also *future proofs* the product to some extent giving compatibility with other RISC OS accounts packages for direct updating of payroll accounts. Silicon Vision have built-in the links if other software houses want to take advantage of them.

The one thing I would have liked to see is some form of security device, even something as simple as a password facility to keep prying eyes away from other peoples' wage details. It will also be very interesting to see just how much time is saved at the end of the tax year when P60s are issued and all details sent off to the tax office.

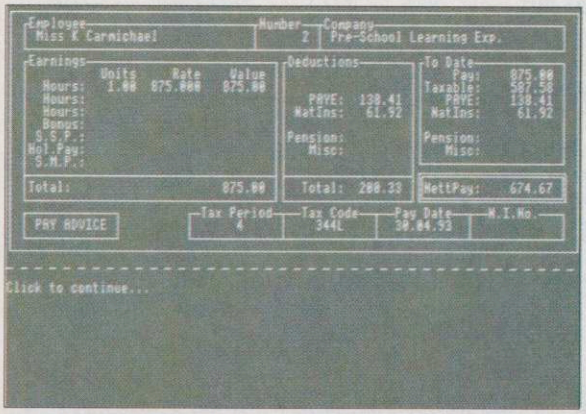
Additionally, I wonder how easy it will be to update the program when required due to changes announced in the Budgets. However, since the introduction of the unified budget in November 1993 there is plenty of time to get the software adapted ready for the new financial year in April.



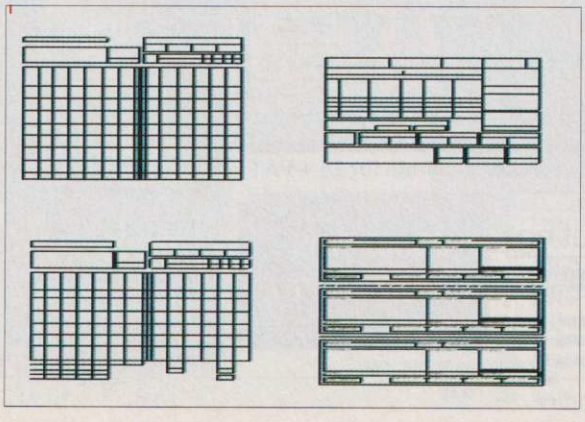
● *The breakdown is very useful – especially if you pay in cash*



● *The export options allow further work in other packages*



● *A payslip printed to screen*



● *The templates for worksheets, payslips and P60s*

Summing up

Payroll Manager represents excellent value for money. It is realistically priced and soon pays for itself with saved man-hours. It is simplicity itself to set up and use, and does everything you need it to do.

It is also refreshing to find a manual which has not decimated a rainforest in its production and is written in plain English.

The few problems I have described are niggles which are more than balanced by the fact that references to virtually all tax and N.I. tables become obsolete. I would recommend this package to any small business who finds wage calculations a time-consuming nightmare.

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as featured on this month's MegaDisk

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Click on Memphis in the Easy Font window.

This is the font menu directly after the above operation, and as you can see, Memphis is now available.

Text font
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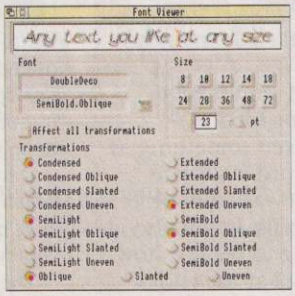
Homerton
Memphis
Trinity



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Roses are red...

Teri Paul takes a dip in the pool of public domain

ONE of the topics you can't get away from in the PD world is music. There are hundreds of trackers, samples and effects and a few players. Would it be blasphemous to ask just how many are needed? Are they used or just listened to once then the disks reformatted?

The type of music you like will determine which trackers you'll keep, but your interest in the nuts and bolts will decide which playback software you use. Over the next few issues I'll be covering this type of software.

First comes a new utility from David J. Seery called **PlayTrack** – version 1.06 Mk II. PlayTrack is aimed at the more experienced user who wants analysis of, and details on, the Tracker module being played. However, the less demanding are able to use the program to play their trackers in a simple and straightforward manner.

The controls are cassette/video recorder-like with fast forward, rewind, pause, stop, play and a basic volume controller. However, there are a host of options and facilities at your disposal: Pattern position counter, internal speaker toggle, mute button, module and tune statistics, eight channel playback and stereo positioning, independent stereo, detailed samples list, user controlled tune buffer, machine code re-drawn eight channel vu-meter, display sample waveform and hear sample, oscilloscope display, tune monitor and the ability to save the tune as Relocatable Module.

The main menu is accessed from the iconbar and holds the usual options such as save, load and quit. Open leads to a menu of 10 entries from which you can open any of PlayTrack's windows – keyboard shortcuts are available throughout and the detailed textfile manual gives the details.

Load a tune and the Control Window and Tune Information Window appear. The Control Window holds five icons to control the tune, plus a position counter showing the current and total positions.

The internal speaker and mute buttons can be toggled on and off. The default sets the internal speaker to off – irritating but solvable, as a red bar at the bottom of the window controls the volume. From David's comments he is not happy with this and is working on it, so check the version number you order.

The Tune Information Window details the filename, size in bytes and kilobytes, number of voices, patterns and speed as well as the tune's name and author. You'll also be told the instruments and the format of the piece.

To control the stereo positioning you'll need the Stereo Positioning Window – understandably enough. PlayTrack allows full 8-channel independent stereo when needed, with channels 1 to 4 displayed along the top and 5 to 8 at the bottom.

Each channel can have seven positions in its predetermined range – alter this by clicking on the left or right arrows.

Yet another window – The Samples Window – shows all the samples a tune uses with its number, name, volume, and length.

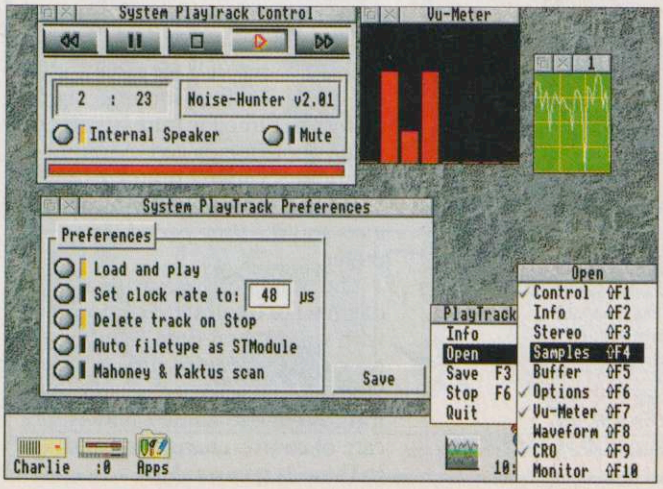
PlayTrack maintains a buffer in the Relocatable Module Area where it loads tunes to be played – this means you always have enough workspace to play a tune. However, the workspace has to be as large as your largest tune so rather than setting it for you this buffer is *dynamic* so it can be altered.

Just type the number you want into the writeable icon at the top of the window and either press return or click on the Initialise Buffer bar. This bar will slab in and the size of the buffer will be adjusted.

To help you with this is a *used* and *free* section so you can see how full the buffer is. This can be saved permanently from the Preferences Window where you can also load and play options, set the sound system DMA clock and opt for track deletion when it has finished playing, among others.

Effects are provided by the Vu-Meter and the Sample Waveform Window. The latter is good to play around with though you can also use it to type a sample number into the writeable icon so drawing its waveform. You can also hear the sample by clicking on the *hear* button.

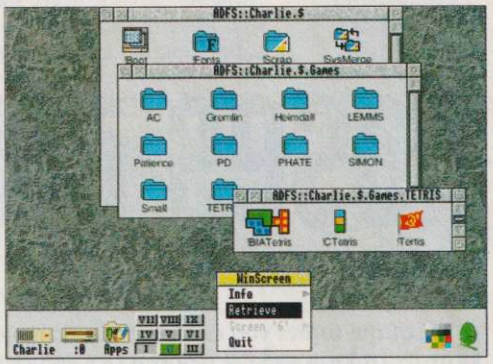
The Oscilloscope Window displays the output from the channel shown in the title bar. You can increase the channel number by pressing Select



● *See, hear, examine and organise your favourite tunes*

This month's featured PD

Program	Library
!ModulInfo	Five Star Marketing
!PlayTrack	David Seery (Subscription disk)
!Reflect	Digital Phenomena
!WinScreen	Five Star Marketing



● *How about a spot of reglazing?*

➤

over the window or decrease it with Adjust. Last but not least is a directory called !Music where you can keep your Tracker files.

All in all a nice piece of software but it can be a little unstable and refused to play a couple of trackers. It also makes a few too many assumptions for my taste. However, it does give you a lot and I'll certainly be keeping a look out for future versions.

Use it or lose it

Are removable modules the bane of your life? Does !Merge leave you cold? Enter **!ModulInfo** from Erik van de Pol. You no longer have to load Edit to find out the version, or load it into RMA to use Help modules.

If space is a consideration – and when isn't it – ModulInfo is a boon as this utility gives you easy access to the version number and lists the embedded commands and SWI names without having to resort to any other utility.

ModulInfo loads itself on to the iconbar. To discover the intimate details of a module drag it from the filer window to the iconbar – and that's all there is to it. ModulInfo does expect modules that are legally written and who can blame it.

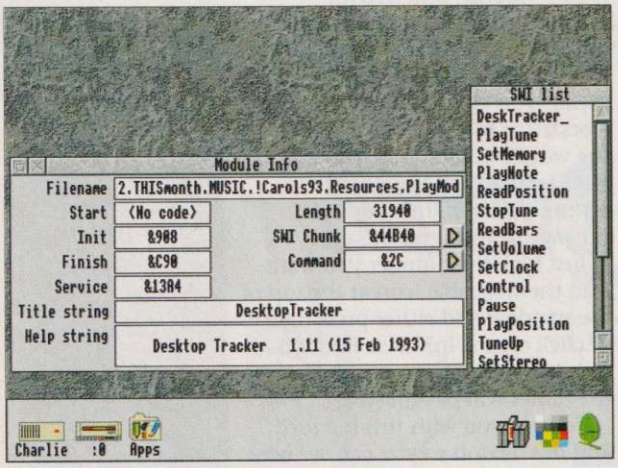
Norwegian based Bjorne Malmanger has a RISC OS 3 application based on a Windows idea to make it possible to have numerous *screens* on your 32-bit Acorn. Called **!WinScreen** you click on the icon to change screen and as you do so the windows are stored so that they'll return when reselected.

If you prefer you can control this via the keyboard using left Shift and left Control keys with keys 1 to 9 on the keypad.

The dark xor field on the icon shows you where the window can be moved. This can be changed by using Adjust – you can't move it to the current screen.

Using Shift and Adjust and the window dragbar moves you to another screen. Retrieve will return all the windows and you don't have to do this before quitting the program as it does it for you.

● *All you wanted to know about modules but were afraid to ask*



Mirror, mirror

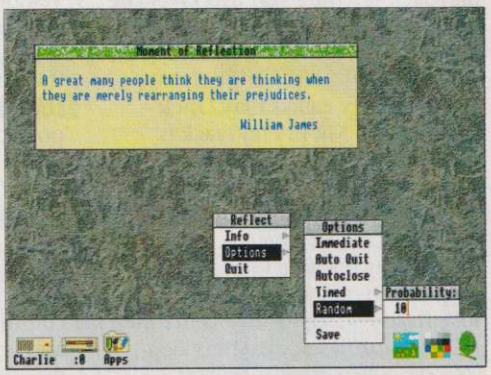
Digital Phenomena and Paul Vigay have come up with **Reflect** to add a certain touch of humour, culture or spiritual enlightenment to your day. Simply click on the icon for a short quote or *thought for the day*.

Clicking Select gives a random quote from the database. If you click on this quote window you can access another quote while Adjust closes the window. There are a couple of options available to you to set up Reflect to your liking.

The Immediate option gives you a quote as soon as Reflect is loaded while AutoQuit doesn't load the program on the iconbar but closes the program as soon as the first quote has appeared. I found opting for both ideal if you want a little inspiration each time you boot up your machine. Just add the program to your !Boot file.

The addition of the Autoclose option is a nice one, automatically closing the window after a certain time – two seconds for each line of the quote. To drive someone mad go for the Timed feature which gives you a quote after a certain number of minutes varying from 1 to 60. You could randomise both the *bon mots* and the time period if you prefer.

The program comes with a database of quotes in Text format with words of wisdom from the New and Old Testaments, Shakespeare, Michaelangelo and John Wesley to name a few. You can, of course, change and add to these as you want.



● *A thought for the day – every day*

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Different Ideas, Eyton House, Eyton, Leominster, Herefordshire HR6 0AG.
Digital Phenomena, 104 Manners Road, Southsea, Portsmouth, Hampshire PO4 0BG.
DigiTech, 20 Downing Crescent, Bottesford, Scunthorpe, South Humberside DN16 3LS.
Eureka PD, 78 Rawlinson Road, Southport, Merseyside PR9 9NE.
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Individually packs cost £6 each, or £24 for any 5 packs.

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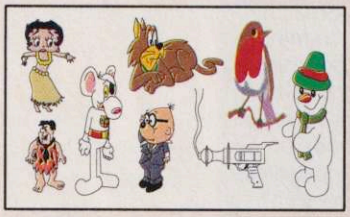
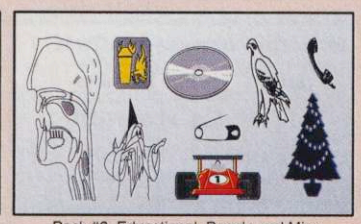
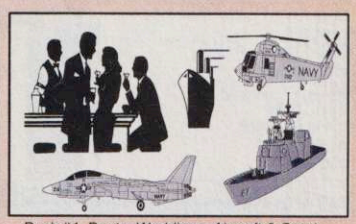


Pack #1. Fun Cartoons and Christmas.

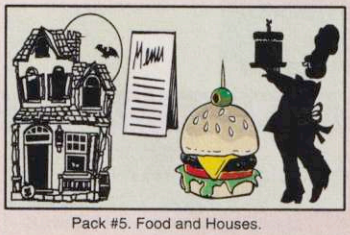
Pack #2. Cartoons, Weapons and Misc.



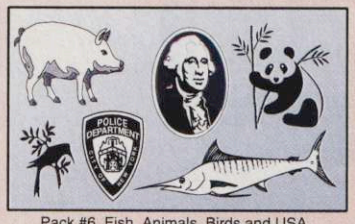
Pack #3. Educational, People and Misc.



Pack #4. Boats, Weddings, Aircraft & Sport.



Pack #5. Food and Houses.

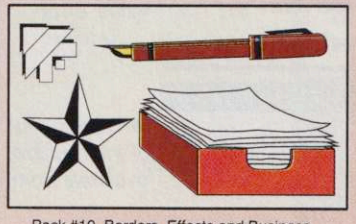


Pack #6. Fish, Animals, Birds and USA.

Pack #7. Males & Females and Misc.

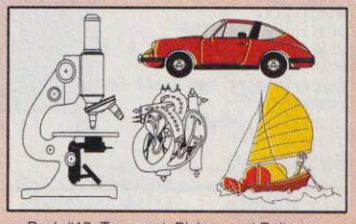
Pack #8. Computers, Characters & Sport.

Pack #9. Household, Maps and Military.



Pack #10. Borders, Effects and Business.

Pack #11. Cartoon Art, Food and Animals.



Pack #12. Transport, Biology and Religon.

The short list

Steve Turnbull and Clem Vogler take a quick look at an interesting selection of programs

Vigil: Observing the not-so-obvious

RISC OS ONLY 3

ONE of the hardest parts of programming in a multitasking environment is finding out what your program is doing deep in its wimp slot – especially when it goes wrong. If you have Acorn's C or ARM Assembler you'll also have a copy of DDT – Desktop Debugging Tool – which allows you to stop, examine, single-step and alter any multitasking program either at the machine code level or source code level, while it runs.

But if it's out of your price range, or you prefer to program in Basic, you could do a lot worse than buy Vigil. It's a very nice programmers aid which let's you examine what's going on with multitasking programs while they're running. You can examine or modify workspace and code, dump variables if it's in Basic and monitoring displays can be updated on a centisecond basis as the program runs.

There are utilities to display the names of all the modules currently loaded in a window – a lot handier than typing *modules. Clicking on one brings up an info window from which you can display all SWIs, commands and the code itself – which can be saved out too. One missed opportunity was access to the help and error text on commands but that would be simple to add.

A utility to display pointer position in terms of absolute screen position, relative screen position, position on the current window's workspace plus the current window and icon's handles, all in either decimal or hex.

When you want to examine a multitasking program it has to be registered with Vigil first, this is done either by including a SWI within the machine code, but more simply by dragging the Filer icon on to Vigil's iconbar icon, the application is then run and automatically registered.

For a registered application you can display its wimp slot in byte, word or mnemonic format and from there you can carry out, search or modify actions on the memory itself. Another option is available to keep track of what Wimp messages are sent to the application, with the ability to mask out the ones you don't want recorded – like the null reason code.

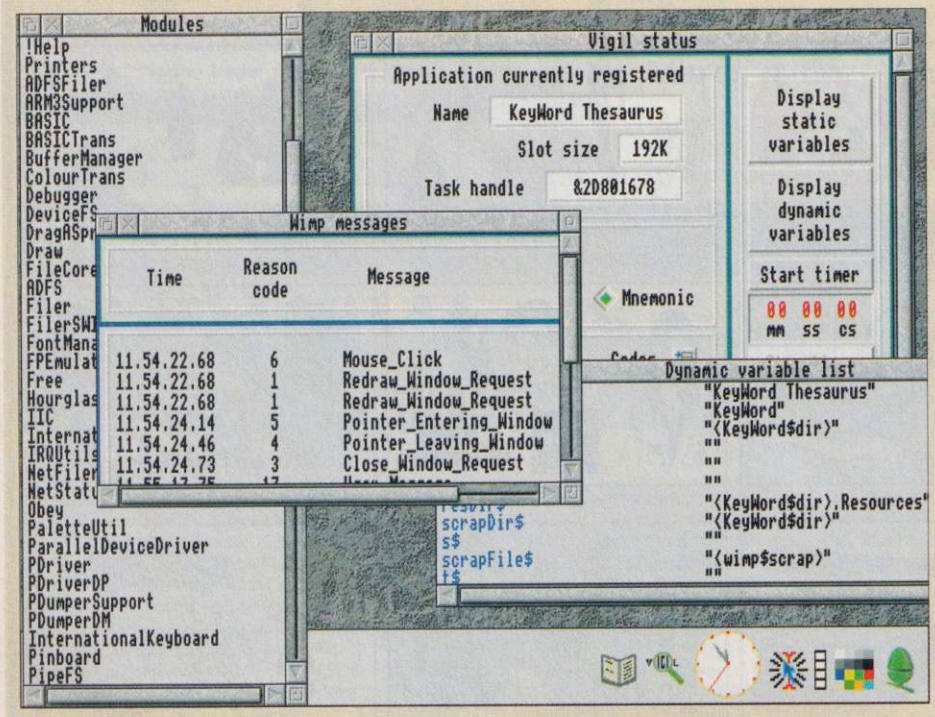
If the application is in Basic you can display all variables in integer, floating point and string sections, although due to the way Basic stores them it's not always easy to find the one you want. Vigil also provides some useful SWIs that, with a single instruction, cause a dump of registers r0 to r7, or can compare them with the values at the last dump – very handy.

I liked it and it will join my set of programming tools.

Steve Turnbull

PRODUCT SPOTLIGHT

Product: Vigil
Price: £24.95
Supplier: Rheingold Enterprises, 7 Waterbridge Court, Appleton, Warrington WA4 3BJ
Tel: 0925 210657



● *There's a lot of information available from Vigil*

First Steps in PROGRAMMING ACORN RISC OS COMPUTERS

THIS is a beginner's book. It covers programming in BBC Basic V–the structured version of Basic supplied in rom as standard on Acorn machines. There is a brief excursion into ARM Assembler programming which includes some tuition on memory addressing.

Despite its slimness the essential ground is covered and the book achieves its object of teaching you to write non-trivial Basic applications. It even manages an appendix describing all Basic keywords.

All the information in this book has been widely available for years in the BBC Basic Guide and elsewhere. What justification is there for rehashing such common fare?

Fox uses a brisk, informal style aimed at keeping things simple. When, for example, he describes how a function returns a parameter he simply introduces a piece of relevant code and convinces you that it works. Only then does he explain what a function is and why it has a particular syntax and argument. This is the reverse of the academic approach, which bemuses you with formal definitions of things before you are allowed to use them.

I thought Fox's approach really did minimise the difficulties. Spend three hours a day at the keyboard with this book and you'll end up a competent Basic programmer–well, better than me, anyhow.

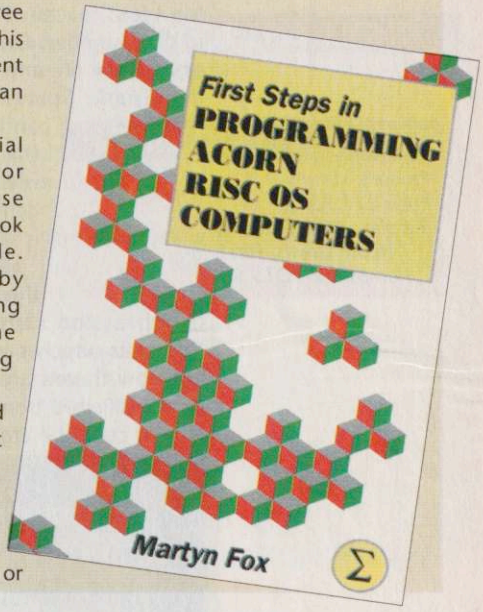
The book is marred by editorial slips which have allowed minor errors to go uncorrected. These would be less troublesome in a book intended for the knowledgeable. Beginners will be confused by references to "myprog" changing unannounced to "myfile", or the abbreviation for *CAT being promised, but omitted.

If you can't write Basic and would like to, this book will meet your needs. There is an old argument as to whether Basic is a good beginner's language or whether you should learn something more formal, like Pascal, or more practical, like C. In its favour, BBC Basic is easy to learn, vastly better than early, unstructured Basics and, crucially, it's already present in your micro.

Clem Vogler

PRODUCT SPOTLIGHT

Product: First Steps in PROGRAMMING ACORN RISC OS COMPUTERS by Martyn Fox (ISBN 1 85058 521 0)
Price: £14.95
Supplier: Sigma Press, 1 South Oak Lane, Wilmslow, Cheshire SK9 6AR
Tel: 0625 531035



ASM_Help: Data at your fingertips

THUMBING through manuals on ARM assembly can be tedious especially if it's only that you've forgotten if the *Compare Negative* command is CMN or CNP. And that's where ASM_Help comes in.

It uses, and comes with, the extremely versatile StrongHelp application where help information is displayed in windows and keywords in the text can be clicked on to take you to another more explanatory page.

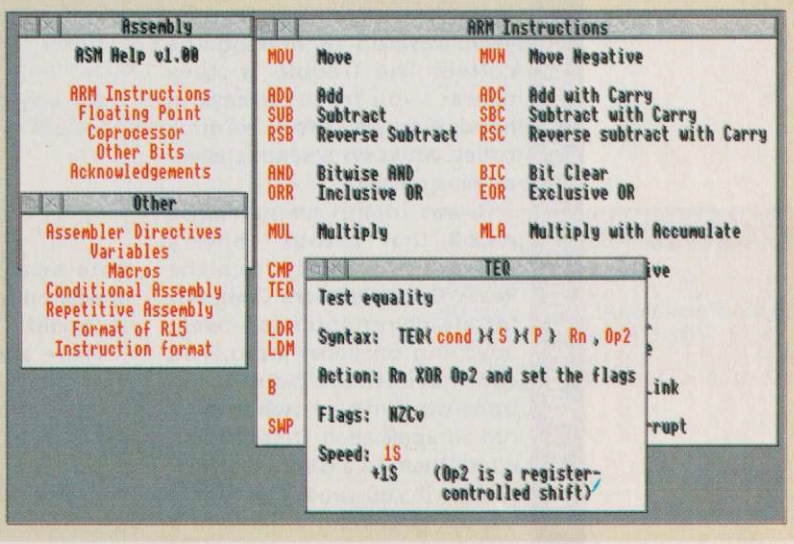
The system is very easy to use and compact, allowing multiple StrongHelp files to be loaded and accessed simultaneously. Another feature of StrongHelp is that it provides an interactive help window just like !Help – except that the window can be configured to either slide away from the pointer, revealing what's beneath it, or jump away to the top or bottom of the screen.

To run the program you launch StrongHelp and then double-click on the !ASM_Help icon to load the help information – unfortunately you can't just double-click on ASM_Help to start. Having said that it *is* possible to install the ASM_Help inside the StrongHelp application so that it loads in when StrongHelp is run, if you'll always want it. The data itself is fine and seems accurate. There's not a great deal to it – but then that's the nature of the beast. What it does have, apart from listing all the ARM code mnemonics, is detail on the syntax for the Acorn Desktop Assembler and also the Basic Assembler which will be invaluable for someone working on either system.

Steve Turnbull

PRODUCT SPOTLIGHT

Product: ASM_Help
Price: £15.00 (£10 for StrongEd users)
Product: Stallion Software Ltd., Arundel House, Arundel Road, Camden, Bath, Avon BA1 5JX
Tel: 0225 339090



● *The red text accesses further information*

KleinFS: Packing them in tight

RISC OS ONLY 3

THE idea of cramming more data into less disk space is very attractive – it saves money and, for big files, it can give faster loading times. There are a number of compression utilities for Acorn machines and they come in two varieties: Ones that create a single new file and cram data into it – Spark, SparkFS and ArcFS – and those that use the standard Acorn file structure and compress data as it is saved.

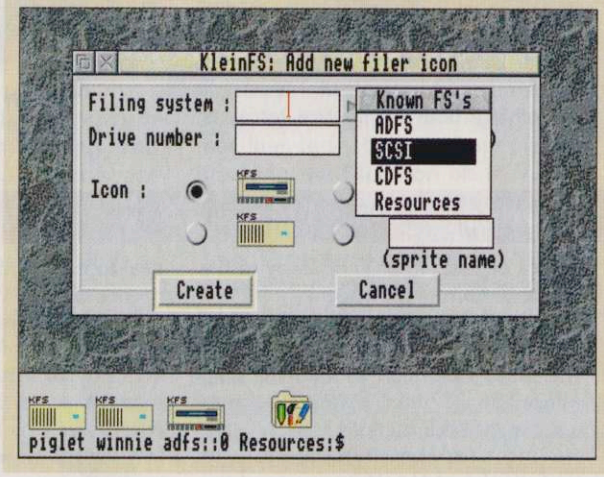
PRODUCT SPOTLIGHT

Product: KleinFS
Price: £17.95
Supplier: PTW Software, 7 Heath Lawns, Fareham, Hampshire, PO15 5QB

Of the latter type there has only been Compression from Computer Concepts which provided the CFS, but now there's a contender in the form of KleinFS from PTW Software. Now it could be argued that there's no need for two, but KleinFS has some big advantages.

Instead of providing its own compression capability KleinFS uses the standard Acorn Squash module provided with all Acorn RISC OS 3 machines, the upshot of which is that any compressed files can be accessed by anyone with Squash, regardless of whether they have KleinFS or not. And if someone uses Squash to send something to you it's possible to use the, much simpler, KleinFS to unpack the data.

When running a filing system replacement like CFS or KleinFS you create additional device icons on the bottom left of the icon bar. So, for instance, initially you get a new KFS floppy disk icon – in addition to the original one – then if you want to compress to the hard disk as well you create a new KFS hard disk icon, likewise with any other one SCSI, RAMFS and so on.



So you can easily double the number of icons and it can get very confusing. With CFS all its icons appear in a block together, with KleinFS each icon appears to the left of the icon it is compressing for. But in addition you can get KleinFS to remove all the other device icons, and put them back too.

Because of the way it works, CFS requires a special directory location to be set to hold temporary files – KleinFS does too, but it uses the !Scrap directory without needing it to be set specifically. Finally KFS will continue to operate even if its front-end is removed – which will save 64k of space, but it also puts itself (compressed) into the ResourceFS where you can restart it quickly from the Apps icon.

On a typical collection of code and sprite files CFS reduced it to 57% of its original size while KFS managed 61%, and CFS was quicker. So you must weigh the compression advantages against ease of use – and KleinFS will get better if and when Acorn improve their Squash module.

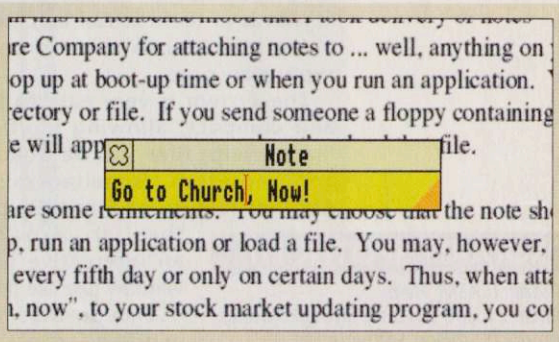
I was sceptical at first but KleinFS is very good indeed.

Steve Turnbull

Notes: Send a message to yourself

HANDY utilities are two-edged swords. They promise to slick up your act by archiving your files, loading your desktop or making the coffee. The trouble is, they distract you from the task in hand. Can you afford to drink coffee while on a serious alien-zapping mission?

It was in this no nonsense mood that I took delivery of Notes – a utility from the Really Good Software Company for attaching notes to ...well, anything on your micro. You can have them pop up at boot-up time or when you run an application. You can also attach them to a disk, a directory or file. If you send someone a floppy containing a file with a note attached, the note will appear on screen when they look at the disk.



● *Notes can be attached to documents*

There are some refinements. You may choose that the note should appear every time you boot-up, run an application or load a file. You may, however, require that the note only appear every fifth day or only on certain days. Thus, when attaching the note," Go to Church, now", to your stock market updating program, you could ordain that it should appear if today is Sunday.

As only the weekday newspapers carry the share prices with which you update

Larger: Making molehills out of mountains

LARGER is not just another backdrop program, it takes the whole concept of dropping icons on the back of the desktop and refines it. With Larger the backdrop icons are stacked on plinths (which are optional – just about everything is) in the order you put them there, but when you change mode they're rearranged to stay visible on screen.

Applications and files are dropped to the right and directories are put to the left. However, that's also optional because they can be independently pushed left, right, up or down, or left where they're dropped where you can then create *hierarchical* backdrops.

For example you can have a top-level one where you may put a basic selection of applications, but from there you can create a sub-backdrop which appears as a special icon.

Double-clicking opens a new backdrop which can have its own selection of applications, files and directories. You can have a backdrop for programming, one for letter-writing, another for business and so on. Or you could break them down by person – of course each of these backdrops can have further sub-backdrops and so on. Another problem solved by Larger is the one you get when you start to save something and find you've forgotten to open the Filer window of the place it's supposed to be going. Now you can just drop it on to the Larger backdrop which accepts it, saves it into its own application directory and puts the appropriate icon on the backdrop. You can then open the Filer window and drag it into there.

The feature of Larger that gives it its name is the ability to have a huge virtual desktop with windows off the screen. Larger also provides you with a map window showing the position of all windows in relation to the current visible area.

You can scroll the visible screen across the virtual desktop or move directly by clicking on the map.

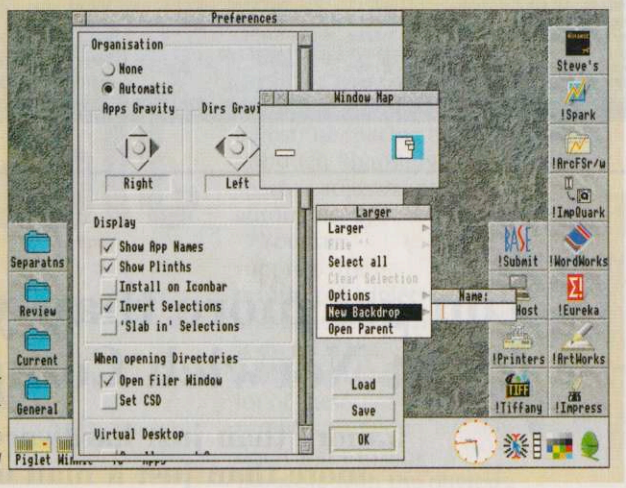
The idea is that you can have different task windows in separate areas of the desktop and move to them when you need them, hence giving you more space. Larger also lets you hide all the windows related to a specific application which then become a single iconised icon on the backdrop.

A very competent utility – which uses 128k – now permanently installed on my machine.

Steve Turnbull

PRODUCT SPOTLIGHT

Product: Larger
Price: £10
Supplier: Warm Silence Software, St Catharine's College, Manor Road, Oxford OX1 3UJ
Tel: 0865 54382



● *In Larger just about everything is optional*

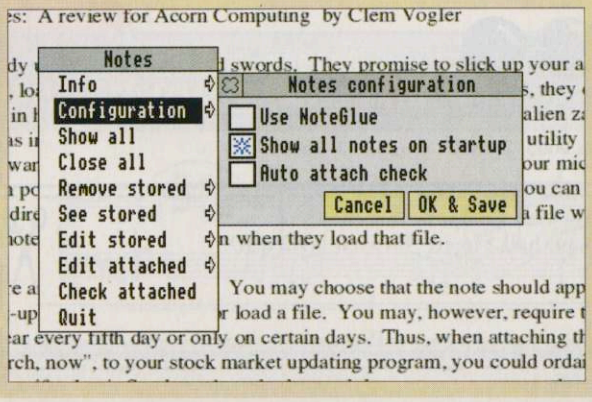
your stock market program, you are unlikely to be troubled by the appearance of this particular note. God's work and mammon's may proceed without mutual interference. Computer freaks will realise that, in this sense, notes is a parallel processing aid. Much of what you can do with Notes can be achieved with Acorn's Alarm or with any wp package or text editor. The main benefit conferred by Notes is the glue facility, whereby you attach your note to a particular directory object. Much embarrassment can be saved by sticking a reminder: *lines 60–600 pinched from someone else's space invader game–remember to disguise them before publishing* to your latest version of Alien Adventure.

There are various style options for making your notes more attractive, but a note being something rough and quick, I doubt if you'll want to waste time using these. Not an essential utility but at £9.95 probably worth pinning to your iconbar.

Clem Vogler

PRODUCT SPOTLIGHT

Product: Notes
Price: £9.95
Supplier: RGSC, 39 Carisbrooke Road, Harpenden, Herts AL5 5QS
Tel/Fax: 0582 761395



● *Glueing notes to objects is easy*

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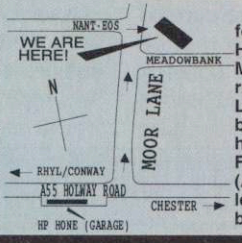

From Chester follow old A55 past Holywell until you see Moor Lane on your right, turn down Moor Lane, we are at the bottom on the right hand side (Big White Farm Gate) From Rhyl (As Above) but turn left into Moor Lane before Holywell.

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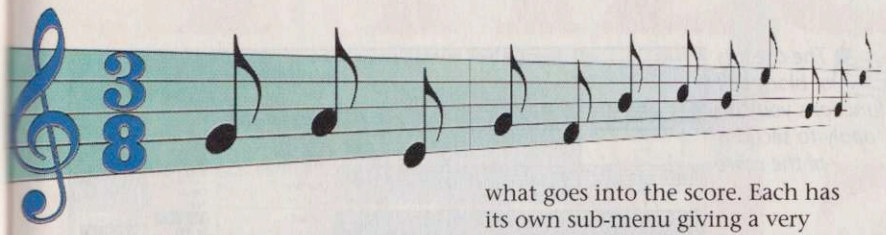


Making music

Ian Waugh looks at the latest version of Rhapsody

RHAPSODY is one of the most popular music programs for the Archimedes. It has been around since 1990 and has proved a firm favourite both in the home and in education.

This latest version has many new features and additions, mostly of an advanced nature, but before we get to those we'll take a quick look at the program's basic functions.

In control

Rhapsody is essentially a notation program. You write notes on to the stave and play it back using the Arc's built-in sounds or over Midi. The two Control Panels from earlier versions have been combined, sensibly, into one. The arrows on the left of the Panel control the position of the cursor and the placement of the notes.

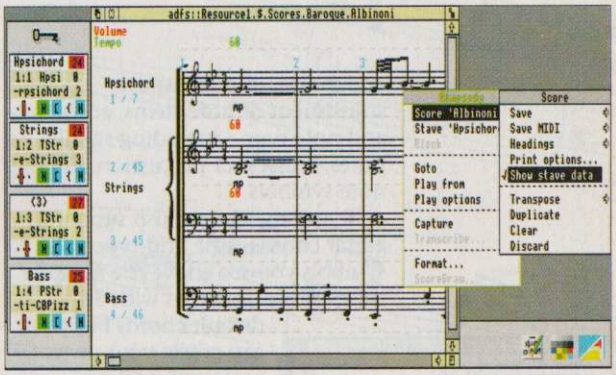
Seven selection icons – notes, rests, accidentals, ties, bar lines and special symbols – determine exactly what goes into the score. Each has its own sub-menu giving a very large range of notes and symbols.

The cursor is a very important part of Rhapsody and shows where you are in the score. You can enter notes to the left, to the right or at the cursor position. Items are placed by clicking on the position arrows. It may seem a bit odd at first but you soon get used to it.

However, you can also drag symbols from the Panel to the score and this can be much quicker and more intuitive. Notes can be altered too by dragging them across the stave which makes for very fast editing. In spite of the third update, there are still a few areas which could be improved. Although the program checks the bars as you enter notes, it can't automatically adjust them later on.

For example, the program warns if you enter a note which is too long for the bar instead of having the sense to split it in two and tie it. You can add and delete notes in an existing bar, so altering the sum of the durations, and the program doesn't complain.

In other words the program doesn't check the bars once they've been entered. It will check the vertical alignment of the notes and warn you if they are out of step and will also automatically correct simple errors but only up to a point.



● *The new Show Stave Data option gives you precise information about each stave in a score*

Edit it

There are a host of edit functions. Among these you are able to flip stems, beam and de-beam notes and adjust the spacing between notes, although Rhapsody makes some spacing adjustments automatically.

You can suppress the printing of triplets and accents which is useful if the music contains a lot of these symbols and you don't want to clog the score with the obvious.

By inserting dynamic markings you can enable Rhapsody to provide 15 different levels of velocity when playing over Midi. You can also create crescendos, decrescendos and gradual changes in tempo.

There are 1st and 2nd time bar markers, DS, DC and Coda signs, rehearsal marks, and you can enter lyrics beneath the music. An auto-space option adjusts the notes to accommodate the text which saves a lot of time.

One of Rhapsody's most interesting features, which it has had since version one, is the ability to define ornaments such as trills. Another characteristic is support for grace notes, both acciaccaturas and appoggiaturas, and spread chords which let you specify the speed and the direction of the notes. There are global edit functions such as copy

➤

PRODUCT SPOTLIGHT

Product: Rhapsody 3
Price: £85.06 (upgrade £40.85)
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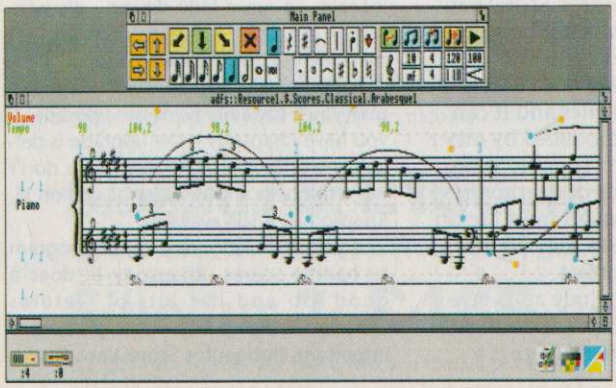
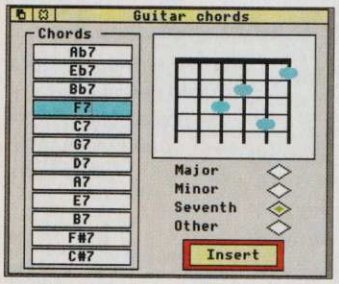


● *Rhapsody III now supports more music symbols than ever*

and merge, plus transpose, adjustment of note stems, accent, and note type – including small notes, crosses for percussion and old note symbols.

Rhapsody III now also supports guitar chords – the grid-type symbols you see above the notes in sheet music. It comes with 36 default chords but you can create your own preferred versions if you wish. These chords are strummed during playback. Cute.

Actually, the chord symbols are placed on a *blank* stave which you must create. You can use this for text – say, lyrics consisting of several verses – and Rhapsody also supports small, percussion and so-fa staves.



● *The Guitar Chords feature contains 36 default chord types and lets you create your own*

Note capture

As well as entering a score with the mouse, you can also play it in from a Midi keyboard using one of three methods of entry.

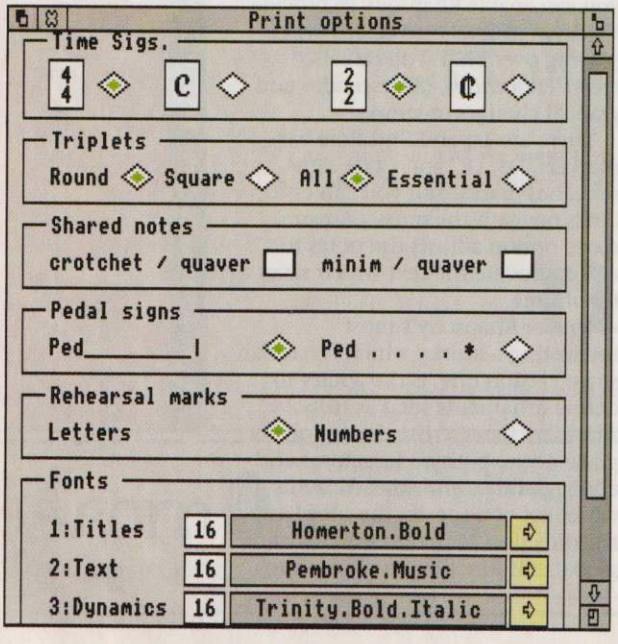
In step-time you select the note durations from the Panel and play the note pitches from the keyboard. In semi-real-time you hear a metronome beat and the note durations are determined by how long you hold the notes.

Real-time capture involves two operations – recording notes and transcribing them. The transcription process involves a sort of on-the-spot quantisation. The routine is not happy with anything very complicated and you'll get best results if you play at a slow tempo.

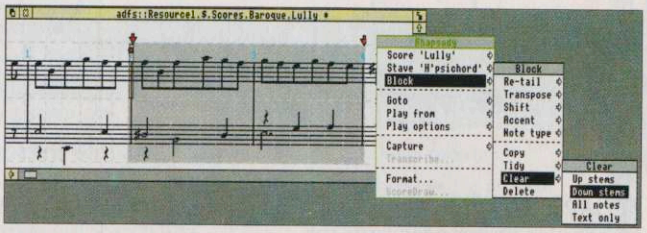
However, all systems work and some sort of real-time note entry will radically speed up the entry of a score. And you can always go back and edit it later.

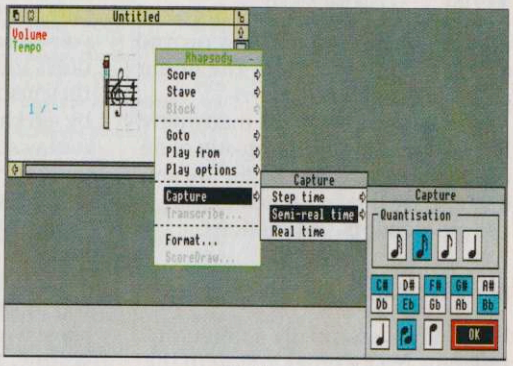
One of Rhapsody's main attractions has always been the ability to print out scores. You can adjust the amount of space above and below the staves. Vocal scores, for example, won't need as much space as piano scores. You can bracket staves together and use Pack to reduce the width of the bars, so squeezing more notes on to the page.

● *The Printing options now support fonts to a greater degree*



● *The are lots of block edit functions you can apply to sections of the score*





● *There are three methods of entering notes from a Midi keyboard*

Print option

Rhapsody III has more font options than its predecessor and you can select different fonts for text, titles, dynamics and so on. There are lots of print options, too, such as scale which alters the size from 50 to 150 per cent, compress which reduces the horizontal scale and pack which is similar to the pack function in the block edit routine.

However, Rhapsody III still uses sprites and the result is a chunky printout with some symbols out of alignment. For better quality output it interfaces with Clares' ScoreDraw program which converts the scores into Draw images.

Rhapsody can read both Maestro and Standard Midi Files and it can be used with files produced by other Arc programs which support SMFs. There are thousands of third-party Midi files and although most are on Atari ST and PC disks they are easily converted to Arc format.

Other features include auto-save and a preferences box for setting various default values. There is a !Config program which lets you alter settings such as the default Midi channel for the click and the printer formatting margins. You can also create your own voice lists using !Edit so you can select Midi sounds by name rather than number.

Rhapsody III comes with a completely new manual, unlike the separate booklet supplied with Rhapsody II, and takes you through the basic stages of entering a three-part score on two staves. It has a good index plus a collection of hints and tips.

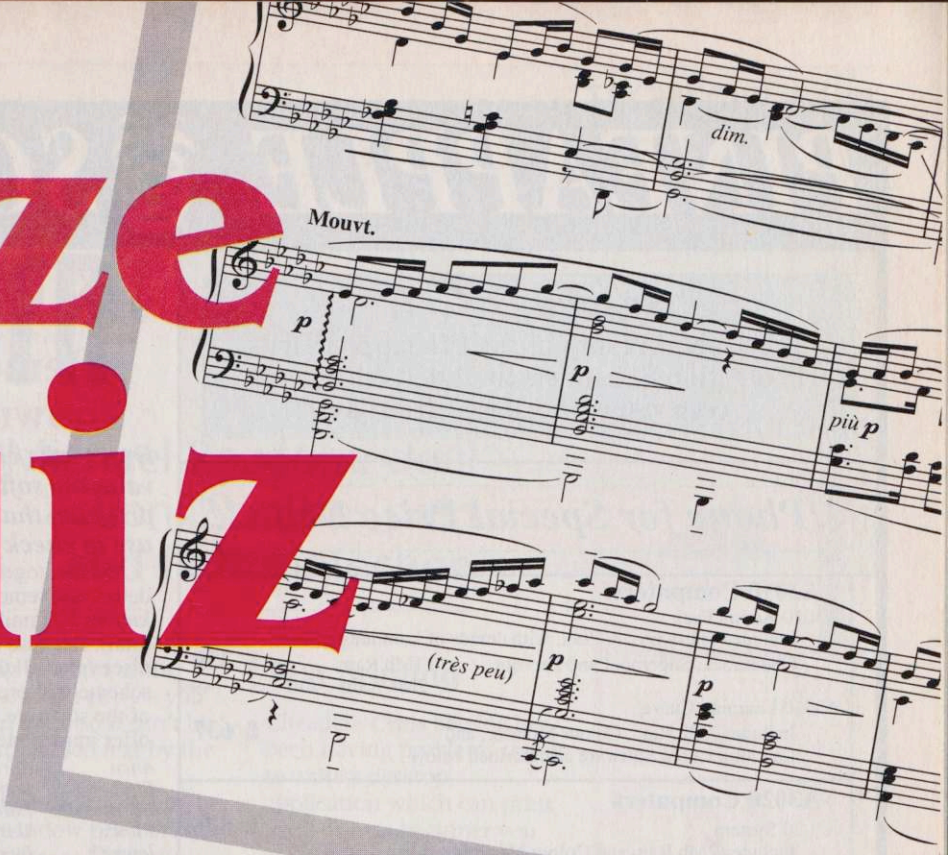
Summing up

Rhapsody III now has many of the features Rhapsody I users would have liked and, in fact, many of the enhancements were suggested by users.

The new features make scores easier to enter and edit, give you more music symbols and more control over the printing and layout. The trade-off is that it seems to run a little slower – it's written in compiled Basic – and a fast machine is a definite advantage.

If you're already an avid Rhapsody user you'll certainly want the upgrade. If you have Rhapsody I, the upgrade is definitely worthwhile although if you don't want the bells and whistles of version III, Rhapsody II is still available.

If you're looking for a music program to handle scores, Rhapsody III does a good job and has lots of features although if the quality of the printout is important, budget for ScoreDraw, too.

Prize Quiz

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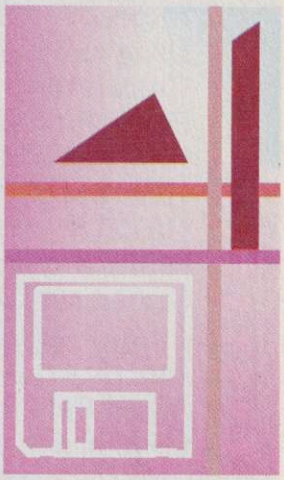

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Alternatively, if you can't find a life in your local supermarket, try putting finger to keyboard and participating in this forum. You know it makes sense.

Task handles

Back in the first TechForum of last December I mentioned a problem with task handles: When read from different sources – one being a WIMP filter – they can't be relied upon to have a constant value for any given task. Oops indeed.

Acorn have responded to this and confirm that only the bottom 16 bits are relevant and should be used. These will then give a unique constant handle. So if you have encountered this problem, get masking with &FFFF and all will be well.

Graphic tablets

If you use Watford Electronic's graphic tablet and it has been incapacitated since you upgraded to RISC OS 3, help is finally at hand, permanently I hope. In the December issue I provided a program to patch Watford's module which was causing the trouble.

Unfortunately, this only worked with one version of their module. Prompted by B. C. Southwell, I've modified this so that it should now work with several, if not all variants. You'll find the new !OS3_Fix on the subscription disk. Read its !Help file for instructions on how to use it.

Anti-aliased text and titles

Richard Blythe of New Quay asks about the use of anti-aliased text in window and menu title bars.

Although you can specify menu title data as for an indirected text icon – by setting bit eight of the data for the first menu entry – you can't set its icon flags, so it can't be made to use anti-aliased text by the Wimp.

Anti-aliased text can, however, be put into other window title bars but a problem can arise, as Richard points out, if a set of tool sprites are in use, such as those from Acorn's !NewLook. And it goes like this: When a window gets the input focus its title bar is usually highlighted in cream.

If a tool sprite is being used in the title bar, to permit highlighting it must contain some transparent pixels, so that when the background colour of the title bar changes to cream, this shines through the title tool sprite.

Here's where the trouble starts. If a window uses anti-aliased text in its title bar and it's rendered a bug in the Wimp it results in the background not being cleared before the tool sprite is plotted, followed by the text.

The result is that whatever is behind the window can be seen through the transparent pixels in the title bar and it looks horrible. This can be experienced in programs such as Frontier 2000.

Taking into account the additional facts that anti-aliased text can look poor on a standard monitor and that different applications use different fonts and font sizes, it all goes to spoil the consistent of the desktop appearance.

Richard also asked whether some clever person could write a module to avoid these problems. Well, someone already has, and they're called Acorn.

Subsequent versions of RISC OS will permit the user to have all uses of system font text – from icons to menus – to be replaced with a single fancy font, but we'll have to wait for it. In the mean time I'd recommend that programmers *don't* use outline fonts so that Acorn can provide the standard look and feel.

Text printing

Cheadle's Chris Beesley has been having problems trying to write a desktop application which can print text – is he a beginner you ask? Well no, he can't get it to work when the printer is turned off.

More precisely, if he tries to print when the printer is off, the whole desktop locks up and has to be reset.

Chris is using VDU 1,n and PRINT with a *FX3,10 to dump the text.

I've had similar problems myself when trying to print text by opening a file to the device Printer: and then writing to it, using commands like

```
P%=OPENOUT("Printer:")
BPUT#P%,E$;
```

However, unlike Chris's problem, this works okay until you try to stop the printing using

```
CLOSE#P%
```

which then results in the lock up.

Can anyone explain what's happening and how it can be avoided? A free banana skin will be awarded to the sender of the first solution received.

Paint and true colour palettes

RISC OS 3 gives direct support for 256 entry sprite palettes, this should include Paint which at first seems to work with these sprites. Alas, there are numerous bugs.

Expanding sprite size, using copy or move with export, and some other operations all fail to work correctly. More details next month.

Stop me, buy one!

Don't forget, 42 may be the answer, but we have yet to discover the questions. If you have a question, it is your duty to society to write in, so do it NOW.

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Font-u-like

Ben Summers explores how to go it alone with the Outline Font Manager

ONE of the most striking features of RISC OS programs is the anti-aliased text that they use. It's clear, easy to read, fast to draw and looks good in any size – no other operating system on any machine offers such good font handling. What you may not have realised is that they are incredibly easy to use in your own programs thanks to the Outline Font Manager.

The font manager is located in rom on RISC OS 3 machines, and on disk under RISC OS 2. Although they can do similar things, the RISC OS 3 program has several new features, a new font format and an improved application interface.

This article describes how to use the new font manager, as the advantages of using its features outweigh the disadvantage of incompatibility with the old one.

In common with the rest of RISC OS, the font manager has been written to minimise the amount of work the programmer has to do to perform this common function. It can handle most of the text functions – change font, colour or size at any position within a string, and even justify it – all you have to do is tell it what to do.

Control is via a comprehensive set of SWIs. The interface is quite complex if you want to do anything fancy, but simple things are easy to achieve. I'll go through those first, and then explore some of the more interesting effects.

The fonts are stored as *outlines*, which is a description of what each character looks like, and the font manager renders them as bitmaps to be drawn on the screen.

To speed up the drawing process, it keeps outlines and bitmaps in the *font cache*, an area of memory. You're probably familiar with the effect small and large font caches have on the speed of redraw.

Checking

The first thing you need to do when writing a program is to check the version of the Font manager, and complain with an error message if it is too old. You use the code:

```
SYS "Font_CacheAddr" TO version%
IF version% < 300 THEN ERROR 0,
"Font Manager too old"
```

Fonts are a bit like files – you open and use them, and then close them when you have finished This process helps the font manager maintain the font cache so that it won't throw away a font which is in use when the cache becomes full. To open, or find, a font, you would use code like:

```
fontid$ = "Homerton.Medium"
size = 16
SYS "Font_FindFont",,fontid$,size
*16,size*16,0,0 TO handle%
```

The font identifier (fontid$) is the directory name of the font without the font path. It's probably the name the user sees as well – though under RISC OS 3 it *may* be different. However, the directory name of the font will always work.

Once you have found your font, you need to set its colour. I recommend you use ColourTrans to do this as it simplifies colour selection considerably. The call is:

```
SYS "ColourTrans_SetFontColour",
handle%,fore%,back%,14
```

fore% and *back%* are the foreground and background colours respectively. They are defined as &BBGGRR00 (blue * 16777216 + green * 65536 + red * 256, each colour ranges from 0 to 255). The 14 at the end tells ColourTrans the maximum number of anti-alias colours you want it to use – 14 is the maximum to get the best rendition of text.

If writing a single-tasking program you can set the palette for use with fonts, as the default doesn't allow anti-aliasing in 16-colour or less modes. Use a line like:

```
SYS "Font_SetPalette",,bcol%,fcol%,
offset%,back%,fore%,&65757254
```

The first three parameters specify which logical colours are programmed. *bcol%* is the first one, set to the background colour, and *fcol%* the first of the graduated colours. Both are in the same format as the ColourTrans colour.

The magic number at the end identifies the two colours as true 24-bit colours to maintaincompatibility with future hardware. *offset%* is the number of colours above *fcol%* ➤

● *What anyone can do with RISC OS 3 fonts*

➤

to program.

Both *back%* and *fore%* are the colours as in the ColourTrans call. After using this call, use ColourTrans to set a font to use the colours. In 256 colour modes, you must never change the palette, but always use ColourTrans.

After setting the colour, you can then paint the text on to the screen with:

```
text$ = "Hello World!"
SYS "Font_Paint",handle%,text$,
784,x%,y%
```

This paints the text held in *text$* on to the screen at *x%,y%*. The magic number, 784, is the plot type. This particular number tells the font manager that the position is specified in OS units, and to automatically kern the text. It also ensures that other, more complex features are not used. I'll describe some of them later on.

When you have finished with the font, you close, or lose, it with the line:

```
SYS "Font_LoseFont",handle%
```

Example1, on the MegaDisk, demonstrates the use of fonts by painting a few on to the screen and Example 2 shows the different colours of fonts which are available in 256 colour modes. Go into Mode 15 or 21 before running this program.

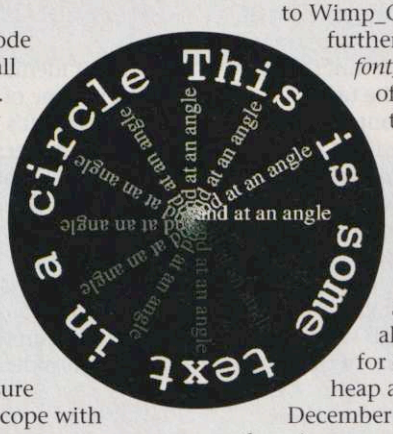
There a two strategies about when to find and lose fonts. The first is probably the easiest by simply finding it when you want to use it, and lose it directly after the Font_Paint call, but this doesn't allow the font manager to make the most effective use of the font cache.

A better way is to find the font when you first need it, and then lose it when you finally finish with it. However, this strategy complicates the programming, and you have to write error handling routines to lose all the fonts when you get an error and the program terminates.

Listing fonts

If your program allows you to select fonts, you will need to provide a menu of them to choose from. The font manager provides a call to scan the list of available fonts. Under RISC OS 3 it is cached in memory and quick to access but under RISC OS 2 it is read from disk each time it is requested.

The following code will print a list of all the available fonts. You will obviously need to change the *PRINT fontid$* line to one which stores the string somewhere, perhaps in an array. There is no limit to the number of fonts allowed, so make sure your program can cope with large quantities.




```
DIM fontid 256
c% = 0
REPEAT
SYS  Font_ListFonts ,,fontid,c%,256
TO ,fontid$,c%
PRINT fontid$
UNTIL c% = -1
```

The program ListFonts shows this code in action.

If you are writing a multi-tasking program, you will just create a menu structure out of this list – but if you are running under RISC OS 3 the font manager will construct a font menu with submenus for each font, and then decode the menu into a font identifier when a selection is made from it.

The same call, Font_ListFonts, is used. It is called twice, first to find the amount of memory needed, and secondly to create the font menu. It's recommended that you recreate the font menu every time you want to display it – which you will need to do if you want entries to be ticked.

You should create it when the WIMP returns the mouse click to create the window, and then free the memory used when the menu is closed. Message_MenusDeleted (&400C9) is sent to your task whenever a menu you created is closed but not when a menu selection is returned.

```
SYS  Font_ListFonts ,,0,&80000,0,0,
0 TO ,,,font_menu_size%,,font_menu_
indirected_size%
DIM font_menu% font_menu_size%,
font_menu_indirected% font_menu_
indirected_size%
SYS  Font_ListFonts ,,font_menu%,&2
80000,font_menu_size%,font_menu_
indirected%,font_menu_indirected_
size%,font_tick$
```

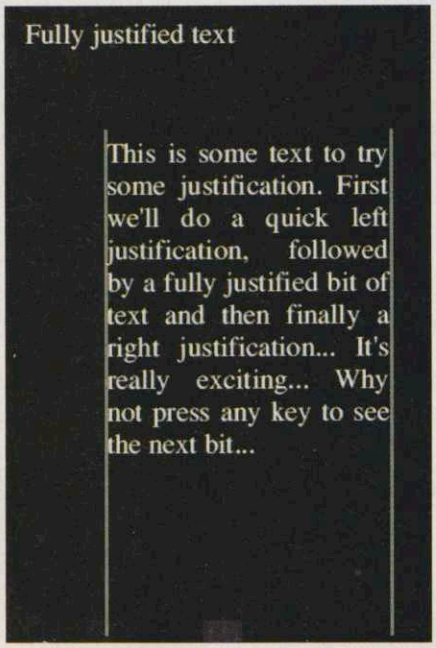
The menu definition is then at *font_menu%*, and this can be passed to Wimp_CreateMenu without further modification. *font_tick$* is the fontid of the font to tick in the menu. If you don't want any font ticked, pass an empty string.

You should replace the DIM statements with another method of allocating memory, for example using a heap as described in the December 1993 issue, otherwise you can't free the memory claimed to create the menu. The memory should be freed when a selection is made or the menu closed.

The font manager also provides a SWI to decode the menu structure it has created when a font is chosen from it. However, it returns a font identifier rather than a font name, and as such contains rather more information than is actually required. To find the name to present to the user, you should use Wimp_DecodeMenu:

```
DIM fontid% 256, fontname% 256
SYS  Font_DecodeMenu ,0,font_menu%,
selection%,fontid%,256 TO ,,,fontid
$
SYS  Wimp_DecodeMenu ,,font_menu%,s
election%,fontname%
fontname$ = $fontname%
```

The DIMs should be performed at initialisation of the program, *selection%* is the menu selection



● *You don't have to worry about justifying the text*

returned by the WIMP, but only for the font menu. For example, if the font menu is a sub-menu off the root menu, you should pass the second word onwards to these two calls.

You should use *fontid$* to find fonts, and *fontname$* to tell the user which font you are using as they could be very different when a machine is being used in non-English speaking countries.

Rotated text

Perhaps the most exciting addition to the new font manager is the ability to display rotated or transformed text. Using a standard transformation matrix and a pair of translation coordinates, it can distort text by changing the axis – either skewing, rotating or doing both to the text. However, the most useful is rotation, and only this is covered here.

For information on other transformations, see any good textbook on matrix mathematics. To paint text at *x%,y%* rotating it by an angle theta (in degrees) anticlockwise, use:

```
DIM matrix% 24
matrix%!0 = COSRAD(theta) * 65536
matrix%!4 = -SINRAD(theta) * 65536

matrix%!8 = SINRAD(theta) * 65536
matrix%!12 = COSRAD(theta) * 65536

matrix%!16 = 0
matrix%!20 = 0
SYS  Font_Paint ,font%,text$,848,
x%,y%,,matrix%
```

matrix% should be dimensioned at initialisation of the program.

Text size

When you are using fonts, you often need to know how big a piece of text is, for example, when centering a piece of text. To find the x and y size of the text in *text$*, use:

```
DIM coords% 64
coords%!0 = 0
coords%!4 = 0
coords%!8 = 0
coords%!12 = 0
coords%!16 = -1
SYS  Font_ScanString ,handle%,text$
,&40320,-1,-1,coords%
SYS  Font_ConverttoOS ,,coords%!28
- coords%!20, coords%!32 - coords%!
24 TO ,x_size%,y_size%
```

The coordinate box is first initialised to ensure that the correct answer is returned and then the length of the string is found. This is returned in the coordinate block as a bounding box, specified in millipoints, and is finally converted to OS units to give the final result in *x_size%* and *y_size%*.

Justification

When you want to print a paragraph of text in a font, the font manager will help by working out where to split the text, and will fully justify it. I'll run through the separate parts of this process. Example 4 shows how to put the bits together.

First, you must place the text into a block of memory so that the font manager can easily work on the text, then find its length.

```
DIM text% 256
$text% = text$
length% = LEN(text$)
```

At the start of the following code, *x%* and *y%* are the coordinates of the top left of the block of text, *width%* is the width of the column and *spacing%* is the size of each line in OS coordinates. In the code, *cy%* is the current y coordinate of the text to be plotted, *split%* is the number of characters to be plotted in the line and *loc%* is the location within the text of the first character of the line.

```
DIM cb% 64
loc% = 0
cy% = y%
REPEAT
cb%!0 = 0
cb%!4 = 0
cb%!8 = 0
cb%!12 = 0
cb%!16 = 32
SYS  Font_Converttopoints ,,width%,
1024 TO ,jx%,jy%
SYS  Font_ScanString ,font%,text%+
loc%,&40320,jx%,jy%,cb% TO ,split%
split% -= text% + loc%
SYS  Font_ConverttoOS ,,cb%!28 - cb
%!20,cb%!32 - cb%!24 TO ,text_x%,
text_y%
REM plot text here
loc%+=split% + 1
cy% += spacing%
UNTIL loc% >= length%
```

The line *REM plot text here* should be replaced by the command to plot the text. The text to be plotted is given by *MID$(text$,loc%+1, split%)*. The size of the text line is given by *text_x%* and *text_y%* in OS units, and using this you can justify it as you require. The simplest form of justification is left justified text. The plot command in this case is:

● *Easy font colour control*

```
SYS  Font_Paint ,font%,MID$(text$,
loc%+1,split%),784,x%,cy%
```

Fully justified text is a little more complex as you have to first move the graphics cursor to the right hand side of the column of text to tell the font manager where the edge of the frame is. You also have to remember not to use fully justified text for the last line of text. The code is:

```
MOVE x%+width%,cy%
IF (loc%+split%+1) <= length% THEN

SYS  Font_Paint ,font%,MID$(text$,
loc%+1,split%),785,x%,cy%
ELSE
SYS  Font_Paint ,font%,MID$(text$,
loc%+1,split%),784,x%,cy%
ENDIF
```

Right justification is quite simple, and just plots the text as in the left justification but indenting it so that the end touches the right hand side of the frame.

```
SYS  Font_Paint ,font%,MID$(text$,
loc%+1,split%),784,x% + width% -
text_x%,cy%
```

You can leave out the Font_ConverttoOS call if you don't need to know how big the text is. Example4 uses the minimum code necessary for each type of justification.

illustration from
Explore with Flossy the Frog

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AGENDA

- Printing speeds and results
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Q I HAVE an expanded A310 with ARM 3, RISC OS 3.1, 1Mb of ram and a floppy disk – until the other day when the disk drive broke. Having a look inside the Sony drive I found that the heads were not moving properly and were also slightly out of line.

I realise that I will probably need a new disk drive but as the heads are easily removable do you know if Sony – or anyone else – make heads separately? If I must buy a new drive can I use one of the several PC 1.44Mb drives? These cost around £40 while the only Acorn floppy drive I've seen is 800k and costs £150.

Also how do I copyright my own programs, music and so on. – **Matthew Newton, Stowmarket, Suffolk**

A *It is very difficult to fit a new head to a disk drive even if they were readily available. However, all is not lost. I had the same problem last year and found a company that would repair disk drives – FRC Electronics (0734 479550) – and they offered a quick and economical service.*

The drive came back with a computer generated report on the drive's performance and it has worked well ever since. They replaced the heads and charged £25 and with carriage and VAT the total was just under £40. I considered this much better than getting a low quality PC drive as a replacement and for people in the Reading area they can save on the postage.

As to your second point everything you write is initially copyright to you unless someone else is employing you to write it. There is no need to send it anywhere or register it with anyone. You can always reinforce your claim by adding a copyright notice to your work or – as in the case of some software – you can relinquish it and make it public domain.

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Rodent news

Q I HAVE got Quest Paint and ConQuest for my old BBC B and was wondering how to use the mouse in one of my Basic programs.

The manual for Quest Paint has a section *Reading the Mouse from Basic* where it says that the mouse driver code must first be enabled by typing *MOUSEON. This was simple enough but it goes on to say issue an OSWORD call, with the accumulator set to 64 and the X and Y registers pointing to a parameter block and that it will result with the following:

```
A=64
X & Y point to parameter block
CALL &FFF1
```

Returns:

```
XY + 0 LSB of X coordinate
XY + 1 MSB of X coordinate
XY + 2 LSB of Y coordinate
XY + 3 MSB of Y coordinate
XY + 4 Text X position
XY + 5 Text Y position
XY + 6 Mouse button status
```

The mouse button status byte is RML00000, where R is the right button, M the middle and L the left

➤

Speed and resolution

Q I HAVE just bought a Star LC-200 colour printer to go with my A3000. I am pleased with its speed and colour by comparison to my previous mono printer, but I am disappointed that it appears to have no facility for printing colour at resolutions above 120x72.

I am using the printer driver supplied with RISC OS 3.1. If I got another driver would this problem be overcome or is this the highest resolution possible with this model when printing in colour?

I can print in mono to a resolution of 240x216 with very professional results. I would have thought that if I can get high resolution mono I should be able to get high resolution colour too.

My other question is how can I buffer printing from Impression Junior? I have tried *Configure PrinterBufferSize 64k but this does not seem to work, but instead gives a 64k buffer that the program does not seem to see. – **A.J. Williams, Chudleigh, Newton Abbot**

A *The problem here is that although the printer can be run in different resolution modes it is really only producing one fixed resolution. Let me explain; the print head mechanism will produce dots of a fixed size and nothing can change this.*

However, the software inside the printer might choose to print these dots so close together that they overlap. This can look quite good, especially on characters and graphics consisting of straight edges, but not if you are attempting to produce a grey scale or shades of colours.

When you are doing this you need to have the dots separate and not overlapping. If they do overlap the results are dark, muddy and very unsatisfactory. In order to prevent that there is no provision for so-called high resolution output using colour.

When a manufacturer advertises a printer – or in fact anything – he wants to describe it using the best possible numbers. That's why resolution figures can be so misleading.

For example, there is a trend to advertise laser printers as having 600dpi (dots per inch) when really it is just a 300dpi mechanism with overlapping dots.

If you want to speed up your printing from Impression Junior you'll need to change your printer driver to one of Computer Concepts TurboDrivers. With this you can speed up the rendering time – the time taken to draw the picture in the system sprite memory. By making a 64k printer buffer you have created less memory for the printer driver to render the image so you are slowing down, not speeding up, the printing.

➤

button. If the corresponding bit is a 1 the button is up and if it is a 0 the button is down.

Could you tell me how I can read the mouse from Basic and get the X and Y co-ordinates of the mouse position in graphics modes, and if possible in text modes, and also what the button status is? – **Simon Wilson, Wellingborough, Northamptonshire**

A *A parameter block is simply an area of memory where you are going to store the results, so you first need to define a space especially for this. This use of the DIM statement at the start of the program will do this for you so use something like:*

```
DIM SP%8
```

Note that there are no brackets here, this reserves 8 bytes of memory at an address returned by the variable SP%.

To read the values you have to get the processors X and Y registers to point to this address space. When you have made a machine code call the registers are set up with the values of the variables A%, X% and Y%.

So Y% has to contain the least eight significant bits of the address of your reserved space with X% containing the most significant bits. This is done by:

```
Y% = SP% AND 255
X% = SP% DIV 256
```

Now you have to set up the accumulator and call the routine:

```
A% = 64
CALL &FFF1
```

This places the results in the space you want. Now you have to extract them from this space by using the indirection operator pling. This gets four memory bytes and places them in a variable.

However, as you have the X coordinate stored in only two bytes you have to mask off the top two bytes. So get X and Y mouse position by using:

```
MX% = SP%!0 AND &FFFF
MY% = SP%!2 AND &FFFF
```

The button status is a binary number formed by the three buttons. You can obtain it by using:

```
S% = SP%?6
```

Now if this is equal to seven none of the buttons are pressed. If the right button is down one will be subtracted from this number. If the middle is down two is subtracted and finally if the left button is down then four is subtracted. Note that this can show you any combination of buttons being held down.

You can write to Mike Cook c/o Acorn Computing, Europa House, Adlington Park, Macclesfield SK10 4NP.

He will answer any questions about difficulties you may be having with your machines, mainly those to do with hardware. If you want a personal reply ensure that you enclose an SAE with your letter.

Loose ram

Q IN THE December issue you published a letter from Chris James of Ticknall, Derby who had upgraded his 420/1 to a 4Mb and began to experience intermittent problems. I had exactly the same problem with my machine.

I had mine upgraded when I bought it and suffered over a year of problems. It went back to the supplier three times and came back with the response that they could find no problem or had solved it. This included replacing the extra 2Mb with new ram chips. It was only when I took the machine gingerly to a local Acorn dealer that I was able to show the fault in action.

Acorn then extended my guarantee and the machine was sent for a thorough inspection. My local dealer had said that he thought there was a loose ram socket in the area where the additional 2Mb of ram was inserted and that the bumping around to and from the supplier by courier could have hidden the problem.

Granada took out all the ram sockets, soldered them in and then soldered in all the ram. I have had no problems since.

In return, can you help with the following query. My 420/10 is upgraded to 4Mb with RISC OS 3.1 and ARM2. I run in Mode 102 using Ovation and Eureka 2 in the office on a continuous basis. I find the system can be quite slow and I sometimes cannot print spreadsheets for lack of memory.

I have a HiRes LPB8 laser printer but very seldom can I use 600dpi. I have only so much cash to spend on a upgrade. Should I go for extra memory, an ARM3 or a graphics card?

I believe the graphics cards could give me extra speed and help over the memory. Is this correct? – **John Waddell, Langbank, Renfrewshire**

A *Thanks for your help. And I would like to emphasise that removing and re-soldering sockets is definitely a job for skilled engineers only. You can do a lot of damage if you attack a board with too large an iron and too high a confidence level.*

As to your problem, if it were me the order of priority I would choose would be more memory, ARM3 processor and then a graphics card. The reason is that memory is stopping you from doing something therefore expenditure on that will give you more functionality. Speed is nice to have but life is not that short that an extra few minutes will be vital.

Next the ARM3 processor will give you extra speed especially where heavy loading graphics modes are involved. Finally the graphics card, although producing impressive results, has a limited amount of software that can take advantage of it – although the latest Computer Concepts card has modified software so you can have all the colours on the desktop.

This is my personal opinion and others are free to disagree.

Monitoring the problem

Q I WRITE with what I hope is some more useful information for Peter MacDonald from Wincanton who was having problems with his AKF11 Monitor.

His problem sounds very similar to mine and a common fault with the AKF11 if the discussions on the Acorn newsgroups of Usenet are anything to go by.

I asked a friend who is an electrical engineer to help me try and trace the fault. When we removed the cover I have to say that neither of us was very impressed with the quality of the flow soldering on the circuit boards.

Due to this these monitors are susceptible to dry joints after some time and this is where the solder joint breaks down. The give-away sign is that the monitor makes a high-pitched noise when the screen is working, which disappears when it goes blank only to return when the screen starts working again.

I too, like Mr MacDonald, found a good shake or a thump on the side got the monitor working.

The most likely place for the dry joint is the power supply board which is where the HT lead from the tube is connected. Due to the high voltages involved you should only try this repair if you are competent to do so. Alternatively, anyone with experience of repairing TVs should be able to carry out this job.

Since I re-soldered some joints on my monitor about four months ago, it has worked fine and the annoying high-pitched whine has gone. – **Justin Ayres, Ilford, Essex**

A *Thanks for your help with the monitor. It is always informative to know about common faults on Acorn equipment. As I am an electronics engineer as opposed to a service engineer I often have to work out these problems from first principles.*

What can be an obscure theoretical fault can often have a simple cause like this one.

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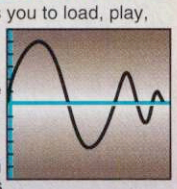

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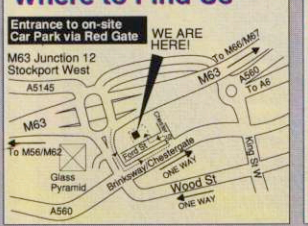

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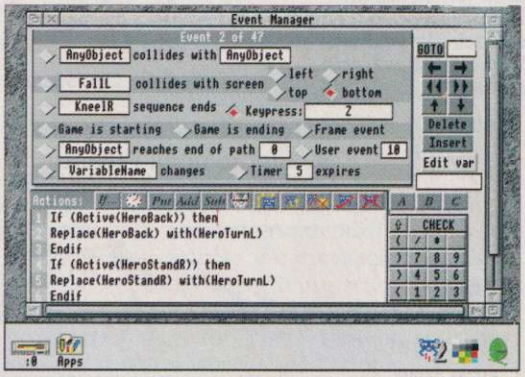
Creator II

...the programmers' dream?



● *The event handler – the backbone of any game*

● *Keep that scroll text simple for best effect*

GETTING a computer to do something is quite easy. Persuading it to do what you want it to do is somewhat harder. Writing a game – well, that's another matter altogether. There's nothing quite like watching a scroll text bury its way through the screen into sensitive areas of memory or wondering where the large, beautifully-detailed mothership has got to.

To ease the burdens of would-be games programmers, Alpine have upgraded their original Arcade Games Creator package and released Creator II. Its job is to take responsibility for the technical scaffolding that props up a game and allow the author to concentrate on gameplay, graphics and music.

Creator is now supplied on three disks, two of which are filled with music, sound effects and example games. The best performance would be achieved on a hard disk system with lashings of memory, but once the program had been set up it ran smoothly from a high density floppy, avoiding any maddening disk-swapping sessions.

As with most things in life, there are advantages and disadvantages – Creator makes it simple to lay down the framework for a game but it does place restrictions on the directions you can take. Its style is well suited for shoot-'em-ups or platformers, but it would be an arduous task to code say, a three-dimensional maze game.

Creator II is easier to use than its predecessor. A program is supplied to create the basic game shell and you can get down to the business of coding straight away as Creator is quicker when refreshing the screen. However, there is still a language of sorts to learn, so be prepared to study the manual.

PRODUCT SPOTLIGHT

Price: £49
Supplier: Alpine Software, PO Box 25, Portadown, Craigavon BT63 5UT.
Tel: 0762 342510

The heart of the program is the event handler – this is a routine that takes the raw mechanisms hidden away in the game and translates them into a format that is easier to understand.

For instance, if your character had walked over a diamond and you wanted to pick it up, instead of having to worry about their respective positions on the screen, you would just tell the computer to call the appropriate routine when that collision occurred.

Due to this feature, the programmer does not have to continually check the states of objects – the computer will carry out the responses by itself.

There have been some useful additions to Creator since the previous version, including a scroll text utility, tiled backgrounds and a method of simplifying references to multiple objects that behave in the same way, such as bullets.

The tiled backgrounds allow large platform or maze games to be developed easily, and this is probably the simplest game to start from as it is covered in the manual's tutorial with detailed files supplied on the disks.

The scroll text routine produces satisfactory results but can be difficult to control – and if my experiences are anything to go by, it pays to keep things simple.

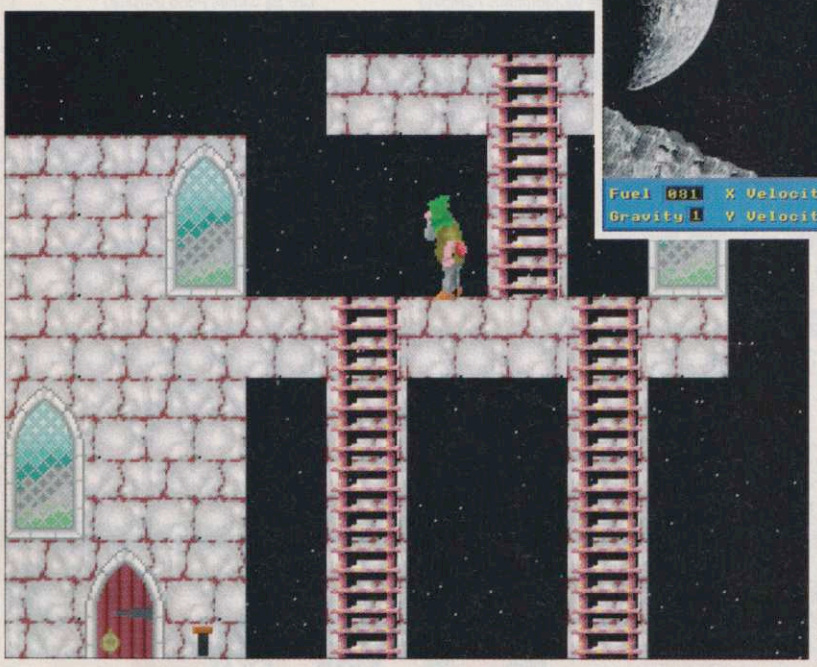
It is important to remember that although Creator II will effectively take care of the technical side of producing a game, several areas remain – graphics, music and gameplay. Unless equal care is taken with each, the quality of your game will suffer as a result.

Sadly, games written with Creator are unlikely to be as smooth or as fast as those written in pure machine code, but the results can be very pleasing all the same.

If the idea of coding is the only factor holding you back from writing a game, then Creator II could be your missing link. If you plan out your game carefully and follow the numerous tips given in the manual, you should end up with a result you can be proud of.

Hal

● *Easy does it...*



● *It's simple to produce platform games with Creator II*

Sensible Soccer

...a game of two halves

I WANT to make it absolutely clear from the outset that I've been to one match in my entire life and I don't like football – but I *love* Sensible Soccer. It's brilliant. From start to finish it smacks of professionalism with extreme attention to detail, the graphics are excellent, the music superb and, unlike just about every other soccer game I've ever tried, with this one you really feel you're playing.

Need I say more? Well, I have to so let's see what you get: In the box you get the manual (in four languages) which includes a simple description of the rules, a correction sheet and an Archimedes addendum sheet.

Any number can play – although only two players at a time take part in a match. It comes on two disks and you can run it from floppy or install it on your hard disk, it uses key disk protection so you need disk one handy to play.

You can play a league and select the number of teams you want, number of times they play each other, which ones are computer-controlled and which are run by humans – then away you go. League positions can be saved and re-loaded later.

Or you can play in a knockout cup and select teams as before plus the number of legs in each round. There are also some preset cup and league competitions which you can select such as Cup Winners Cup, UEFA Cup, European Superleague and so on.

When you first run it you get a selection of National teams but you can switch to Club teams if you prefer. The team files can be edited so you can create your own selection, change the players within a team or invent your own custom teams. You can also edit the team colours for both home and away matches as well as their hair colour and complexion.

So much for the peripheral aspects, what about playing the game? The first point to note is that you can set a match to last three, five, seven or ten real minutes although all information is provided as if a full 90 minutes is being played out.

When the match starts the players all jog on and take up their positions on the field and the whistle blows for kick-off. The number of the player you're controlling appears over his head, the others are computer-controlled and play sensibly.

Players move in eight directions, the fire button (or equivalent key) is used – off the ball – for headers and sliding tackles depending on where the ball is in relation to the player.

If you have possession a tap on fire passes the ball to the nearest player on your team who is in an appropriate position – assuming there is one – otherwise the ball is booted straight ahead.

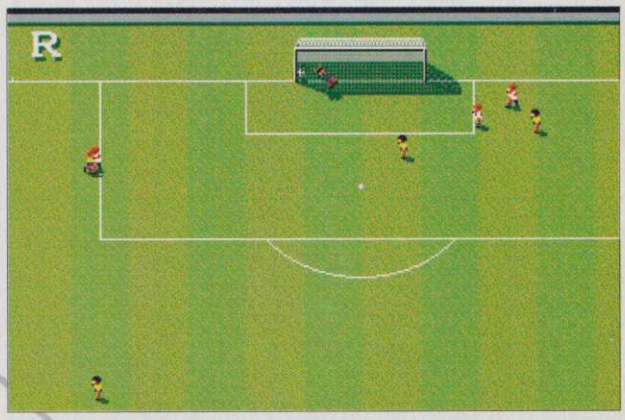
This is where the skill comes in because if you can master the knack – and I'm beginning to get it – changing the direction of the player after the kick causes the ball to swing in the appropriate direction. This takes practice but it's essential if you want to win.

Sliding tackles into players' legs works, but the Referee always sees and you're likely to get your player the yellow card or even sent off. All normal rules apply except there's no offside. Drawn games can result in penalty shoot-outs.

The final part of Sensible Soccer that really adds to the atmosphere is the crowd noises, including chants – it's amazing. The polish of this program extends to the crowd starting to boo when the ball is kicked out of play for the second time in quick succession.

I have no hesitation in recommending this game even if you don't like football – after all, the team that scores the most goals wins, unless they're 3-0 down on aggregate.

Steve Turnbull



● *It's a goal!*

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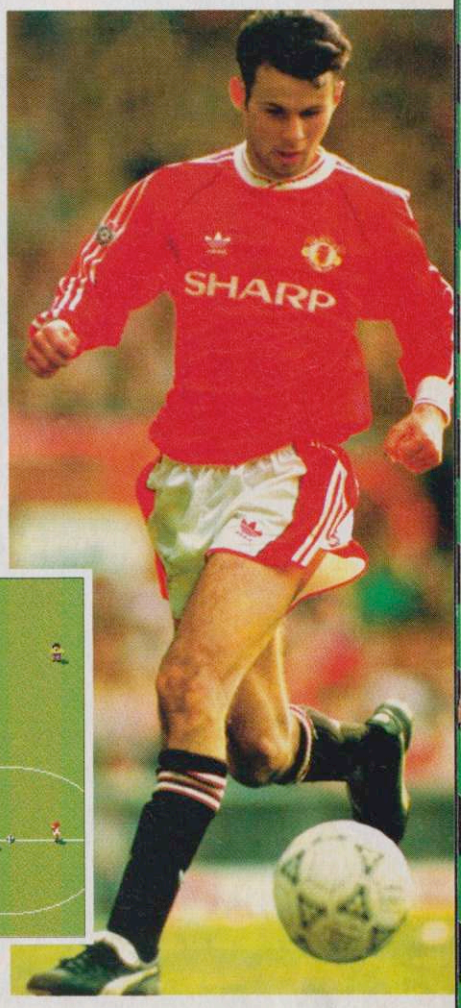
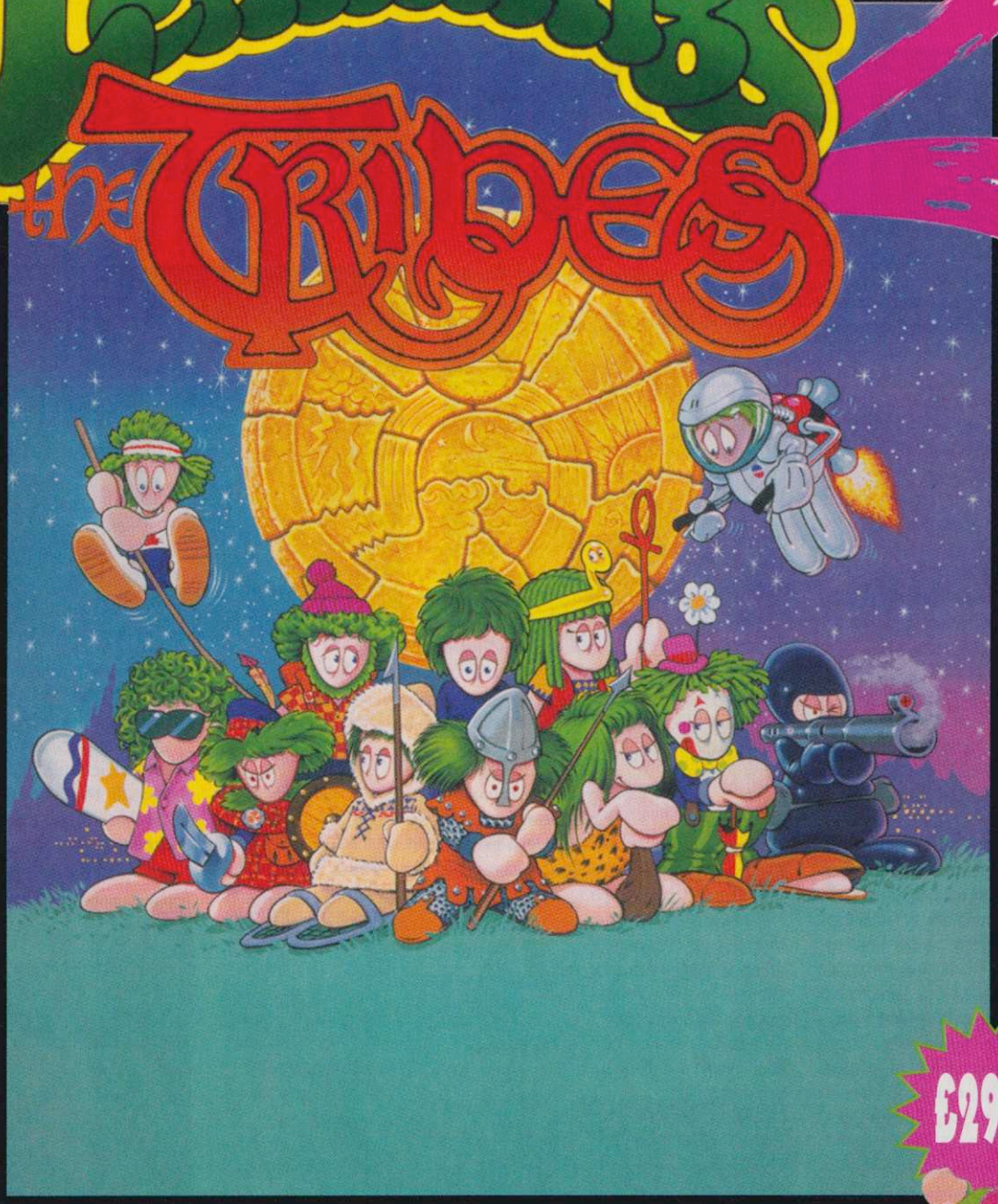


● *Bring on the sub and let's see some action*

● *Time to rethink our strategy*

Lemmings 2 the Tribes

TM



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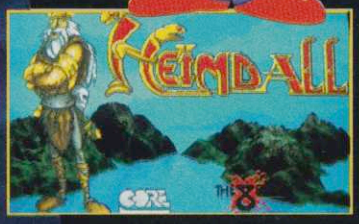

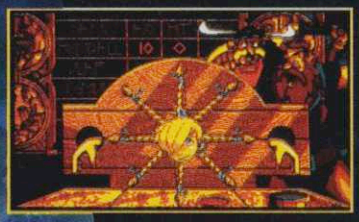

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Heimdall

...working for the gods

HEIMDALL has been some time in making it on to the shelves but has the wait been worthwhile?

To set the scene – which the beautifully drawn introductory screens do very well indeed – you are the prodigy of the Viking pantheon and it is your life's task to recover the weapons evilly stolen and hidden by the maverick Loki.

Okay so those knowledgeable about Norse legend may throw up their hands in horror, but come on guys it's just a game...

This is essentially a role-playing game – RPG to the initiated – and you have a choice of team members with varying skills in magic/lore or specialising in the more physical attributes of heroes of legend.

Heimdall is the leader and a good all-rounder but he must choose five companions. This is done by playing the attributes section, the better you do the better your choice of men at arms.

This stage consists of three sub-games. The first – which may look familiar as it was on a previous *Acorn Computing* subscription disk – has you chucking axes at a poor unfortunate lass who has her pigtails pinned to a board. Don't hit the girl, it's considered bad form.

Next you must catch a pig within a time limit, but he does insist on running around in the mud. The last attribute game consists of jumping along a longboat and hitting opponents while avoiding being hit yourself.

You can now choose between the crew members at your disposal. A word of advice here, you can only have two people accompanying you to the island and they are the first two you choose. Compare their attributes before you decide and set the order so you have all areas well covered.

All the characters start off with basic equipment and food – which replenishes lost energy better than level one cure spells. The interface is quite straightforward to use but explore a bit before you cast off in your longboat for a bit of island hopping.

The map shows all the islands you can visit. You can go where you want as you don't have to disembark at one island before continuing your journey to another. This is where paper and pen come into play as each island may hold its solution in itself but it's more likely that you'll need something from another island to help.

What can you expect to find on these northern outcrops? Well the usual: Guards with bad attitudes, traps, pits, secret doors and some nasty monsters for which you'll need extra strength, swords or axes and scrolls and runes to help with some of the problem solving and fighting.

The fight screens are a little cumbersome until you find the right rhythm. Also, be careful which weapons you give away or leave on the boat. For maximum effect you want your main weapon third on your weapons inventory – then it's not so far to move the mouse.

Does this smack of desperation? Well, when fighting on some islands it most definitely is, especially as you can only save when on the boat – plus you can only have one saved position too. I didn't like this so resorted to a little program which I'll be passing on to Hal for his column.

I did get a bit irritated by the map screen. You choose to sail and are told every time to click on an island, but you can only do that after you have closed the message window.

In addition the load and save options are on the character display screen but they'd be more appropriate on the map screen. The movement controls are a little awkward too but I soon got the feel for them.

The puzzles are nicely set and it was with relief I found the shop so I could sell my hard earned geld and restock on food, spells and the like.

This is a game to explore and one in which to remember that discretion is sometimes the better part of valour – I mean how are you going to explain to the rest of the crew that you lost Heimdall to a spider?

I thoroughly enjoyed Heimdall, though it isn't perfect, but being a lover of this type of game it was worth the wait as it's well crafted as well as frustrating, annoying and addictive. If only I could work out what to do next ...

Pam Turnbull

● *Nice place – just glad I had the disarm traps scroll handy*

● *I knew it. Everybody wants something in this game*

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Price: £29.99
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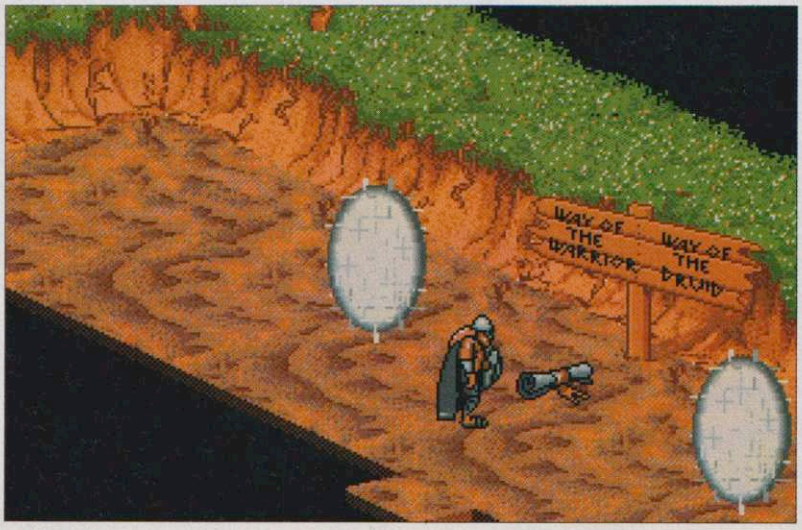
Requirements: 2Mb ram

● *Take that ...and that*

● *Great, another test. Musn't discard the scroll this time*



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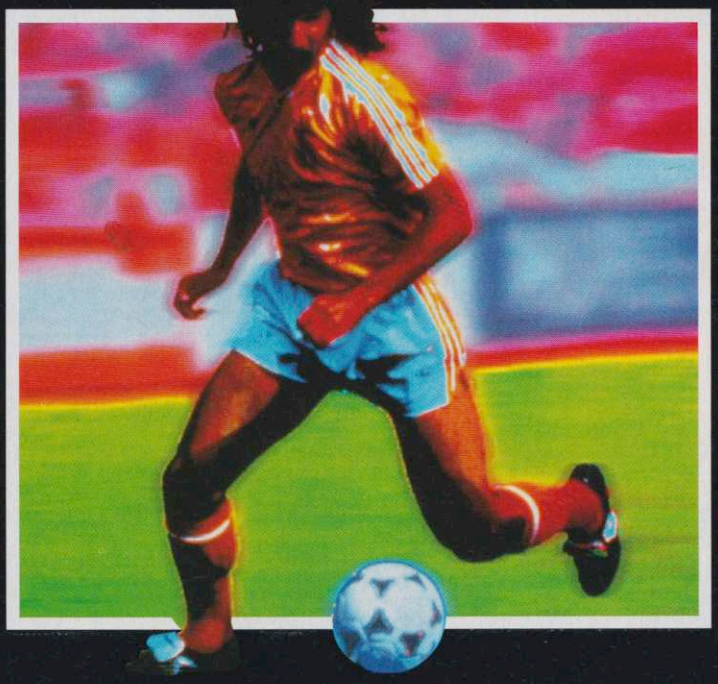

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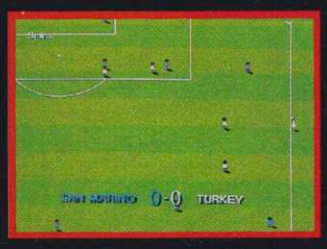

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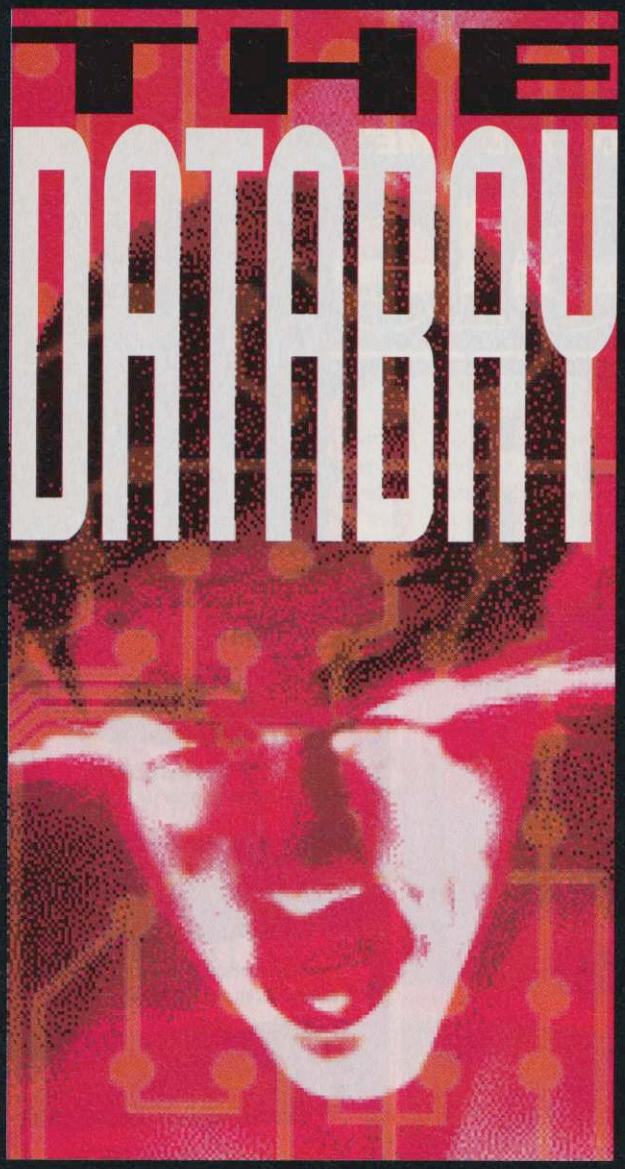
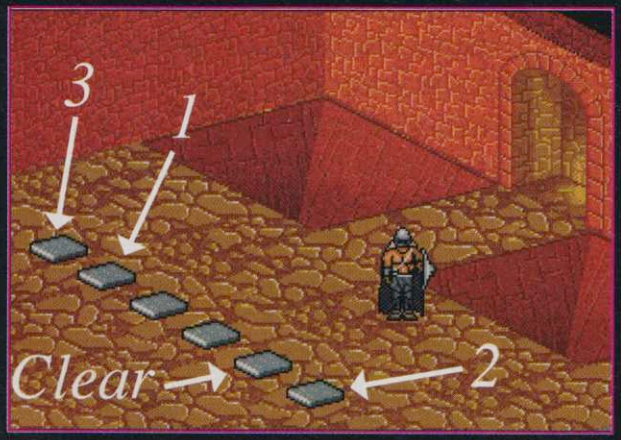
Sensible SOFTWARE

THE DATABAY



Games news, cheats and tips from the circuits of HAL



● *Success in Heimdall lies just a step to the left...*

WELCOME to the first Databay of 1994 – a year that promises to bring more fresh games to demanding players everywhere. Who knows what will happen in the next year? There's only one way to find out, and you're reading it.

Games news

After a quiet spell at the end of '93 Krisalis are determined to start 1994 with a bang – or could that be a pop – a game release every month. Having begun with Lemmings II they will follow with Powermonger, Speedball II and Soccer Kid in February, March and April respectively.

Powermonger sees you controlling armies in an attempt to create a new kingdom for your deposed king. Speedball II follows a slightly different tack – you control armies of athletes battling it out on a stainless steel football pitch. Why stainless? Play it and see.

Soccer Kid shows the gentler side of sport. In this game, your character is only attacked by man-eating clams, uncouth skateboarders and coconut-wielding monkeys while trying to recover pieces of a shattered trophy. Much more peaceful.

Not to be outdone, GamesWare are due to release two blockbusting titles, hurrying on behind the magical, if not a little cynical, Simon the Sorcerer – these are the football game Striker and the epic adventure game Dune II.

Phaethon passwords

Although this game looks similar to Fervour, there is a lot more to it than twisting, narrow, devious tracks – add a few monsters, switches, keys and locked doors, and you're getting closer.

The first thing to remember is that you will need a different setup for each type of level – don't be afraid to chop and change. The reverse gear also acts as an effective brake – you can save a bit of cash in this way.

If you want to wander aimlessly round the levels, Andrew Clover has provided me with a comprehensive list of codes – he also knows the editor codes, so I might just reveal those some time.

One password that I just can't understand is *STEMULATOR* – it seems to remove screen buffering and makes the game flicker hideously. Personally, I can't see any correlation to the ST there at all.

Stunt redefiner 2000

The problem with multi-player games is that you frequently end up with several people clustered round one end of the keyboard, normally because the bookcase gets in the way of the numeric keypad.

Because of this, it's always nice to be able to redefine the keys to suit your own personal needs. Unfortunately, in Stunt Racer 2000, this wasn't possible – until now.

SRKeys has been designed to intercept and alter the normal keys so that you can decide on the perfect arrangement beforehand and produce a module to do the conversions. There's more information on the MegaDisk.

Hint helpline

Heimdall is quite a mixture of styles – humorous at the start, then straight into the serious nitty-gritty of a fantasy adventure. The key to the whole thing rests in the three animated preludes which decide Heimdall's statistics. It makes sense to spend some time on these, otherwise your

Learning	Scenic	Standard
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MYBIRTHDAY	DECOMPRESS	LISTOFTHEM
WHATALAUGH	WHILEUWAIT	INMAGAZINE
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		INTHEINTRO

That's enough for now – more next time.

● *Pick a key, any key*

● *Whoops, there goes another airship*

● *Blowpipe gets the Hal treatment on the MegaDisk*

adventure will suffer. If you can't get past the switch room on the nearest island, try pressing the switches in the following order – walk over the second on the left, the one on the far right, then the one on the far left.

After you have completed that, you should find that the bridge is complete. If you have problems, walk over the second switch on the right – this clears the bridge and you can start afresh.

Most cheats for games require you to type in a password or to hold down a sequence of letters – however, the cheat modes for James Pond II are quite unusual and deserve a mention.

After you start playing, walk to the first building and look up above it to find five objects – a cake, a hammer, the Earth, an apple and a tap. It's no coincidence that the first letters of those bonuses spell *CHEAT* and if you collect them in that order, that's precisely what you will be doing – you will have a shield that will keep you from harm for most of the game.

The same technique can be used in the first sports level. Grapple your way across the second spiked pit and then collect the objects in the correct order to spell the word *LIVES* – sure enough, from that moment on, you will have an infinite number of them.

If you need assistance with Boogie Buggy, pause the game and hold down the letters G, O and D to receive infinite lives.

To access the cheat mode in the 3D adventure game Ixion, find a computer with the log-on instruction and type *LOG-ON SKELETON*. Follow this with *WOW WHAT A GREAT GAME!* and you should now be able to cheat all you want. Typing *HELLO* or *CREDITS* will display a few secret messages as well. One last nugget to remember – get into the car on April Fools' Day for a little joke.

I think we've covered all of the cheat modes for Zool, but as a final piece of information, try typing in some of these names to see messages from the authors – Ade, Tony, James, George, Greggs, Pat, Siz, Syd, Casson, Shortie, Donkin, Mick, Paul, Ritchie, Ash, Mark, Berni or Hiley.

If you have been searching diligently for secret rooms in Network 23's platform-based shoot-'em-up Warlocks, I think it's time I released a couple of secrets. To skip the first level and receive a fistful of bonuses at the same time, walk off the first cliff you come to, then turn round and walk left through what appears to be a solid wall – you will find a few nice items to collect.

However, the goodies don't end there. Leap bravely on to the far left of the waterfall, over the spring and on to the chest – don't open it yet. From there you will be able to move left again, into another room packed to the rafters with bonuses.

It is there that you will find the warp to the second level. If that hasn't satisfied you, try leaping into the third pit in the graveyard level for even more lives and bonuses.

● *Ever got this far? No? Then check out the passwords*

Access violation

That's it for another Databay – please keep sending in your cheats, ideas, tips and comments. I'm off to study all those new titles, so keep bashing the aliens and I'll see you again next time.

● *A quick tip – follow the advice*

● *Heimdall having a quick chat with his boss*

Passcode Corner

If you're struggling with Bambuzle, here's a list of passwords you might be interested in.

2) INNUENDO
3) ACTUALLY
4) CANNIBAL
5) SHADOWS
6) THUNDER
7) JOURNEY
8) REVENGE
9) HEADLONG
10) HITCHER
11) ANIMALS
12) FREEDOM
13) DIAMONDS
14) PRESSURE
15) SULTANS
16) SUICIDE
17) ALCHEMY
18) PARTYMAN
19) EMPEROR
20) KITTYKAT
21) DENSITY
22) QUALITY
23) COUNTACH
24) BLUEBIRD
25) SUNBEAM
26) DISASTER
27) CHARIOT
28) LAMBDA
29) ZEPPELIN
30) HEINKEL
31) FIREWALL
32) TYPHOON
33) WARHAWK
34) MIRAGE
35) INTRUDE

If you're having difficulties with Air Supremacy, try these passwords courtesy of Nathan Atkinson.

2) SCRAMBLE
3) STACCATO
4) EQUANIMITY

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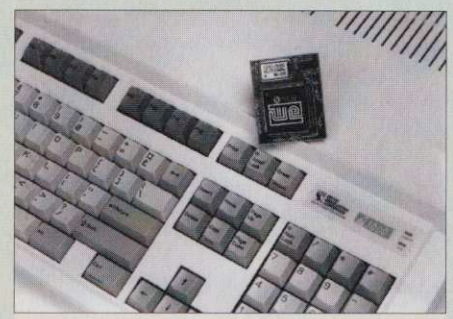

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- 16-bit SCSI Card (Lingenuity) £149
- 16-bit SCSI Card (Acorn) £249
- ST506 Hard Disc Podule (WE) £69
- Scanlight 256 for A300/400 (CC) £188
- Scanlight 256 for A3000/4000 (CC) £198
- Scanlight Professional (CC) £549
- Chroma 500 Genlock Card (Wild Vis) £419
- Chroma 150 PAL Encoder (Wild Vis) £170
- Chroma Genlock Card (Wild Vis) £209
- Scanlight Video 256 (Wild Vis) £199
- Hawk V9 MKII Digitiser (Wild Vis) £189
- Eagle M2 Multimedia Card (Wild Vis) £275
- HiVision Colour Digitiser (HCCS) £149
- Ultimate Expansion – A5000 (HCCS) £39
- Ultimate Expansion – A3000 (HCCS) £39
- Ultimate Expansion – A3010 (HCCS) £41
- Ultimate Expansion – A3020 (HCCS) £38
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- Ultimate uPodule – Analogue (HCCS) £29
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- Ultimate uPodule – MIDI (HCCS) £49
- Ultimate uPodule – Scanlight 256 (CC) £229
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- External 5.25" Disc Drive for Arc (WE) £89
- Econet Module for Archimedes (Acorn) £42
- Econet Module for A3020/A4000 (Acorn) £49
- Econet Module for A4 Notebook (Acorn) £49
- Ethernet Card III for Archi (Acorn) £149
- PowerPad single Joypad (Gamesware) £25
- PowerPad dual Joypad (Gamesware) £34

Multimedia & CD-ROM

- Cumana 300 CD-ROM Drive/Controller £339
- Cumana 300 CD-ROM Pack 1 £424
- Cumana 300 CD-ROM Pack 2 £509
- Cumana 600 CD-ROM Drive only £424
- Cumana 600 CD-ROM Drive/Controller £509
- Cumana 600 CD-ROM Pack 3 £594
- Cumana 600 CD-ROM Pack 4 £680

(Cumana packs include Drive, Interface, Cables, Stereo Speakers and a selection of CDs)

- Multimedia Expansion Unit £485
- Multimedia Expansion & 8-bit SCSI £585
- Multimedia Expansion & 16-bit SCSI £585
- Toshiba External CD-ROM Drive £385

(See software page for CD titles)

LaserDirect Printers

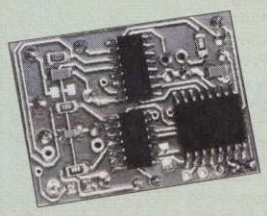
Print at high speed up to 600 dpi resolution with Computer Concepts' LaserDirect printers.

- LaserDirect Card for LBP-4+ £379
- LaserDirect Hi Res printer (4ppm) £799
- LaserDirect Hi Res printer (8ppm) £1099

Archi Accessories

- A3000 Dustcover – micro only £5
- A3000 Dustcover – micro & monitor £9
- A3010/3020 Dustcover – micro only £5
- A300/400 Dustcover – micro & monitor £9
- A300/400 Keyboard Dustcover £5
- A5000 Dustcover – micro & monitor £9
- 14" Monitor Dustcover £6
- Perspex Keyboard Cover £8
- A3000 Monitor Stand (WE) £15
- A3000 Monitor Stand (Acorn) £29
- A3000 Shoulder Bag £10
- A3000 External Podule Case £15
- A4 Notebook Carry Case £35
- A4 Notebook Battery Pack £49
- A4 Notebook Mains Adaptor £59
- Archimedes Keyboard Extension Lead £8
- Archimedes Replacement Mouse (WE) £29
- Quest Tracerball for Archi (WE) £26
- Marconi Trackerball for Archi £69
- Archi Mouse Port Splitter £10

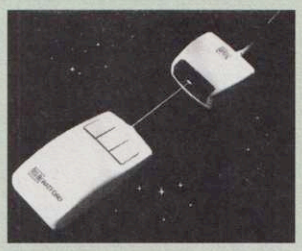
VIDC Enhancer



The Watford VIDC Enhancer for the Archimedes 300/400 and A3000 computers, caters for all types of Multiscan and VGA monitors.
A disc of utilities is supplied to allow you to define your own modes, and change existing ones. A desktop mode selector is also supplied.
The Multiscan enhancer is for use with monitors with composite sync inputs, whereas the VGA enhancer is used with VGA, SVGA monitors with separate sync inputs. (A300 series models may require modification for VGA enhancer).

- Multiscan VIDC Enhancer £19
- VGA VIDC Enhancer £35

Archi Cordless Mouse



Features
- Infra-red signal transmission
- High resolution 200dpi
- Anti-static silicon rubber coated ball
- Auto standby mode after 5 seconds inactivity
- Auto power-off after 20 minutes inactivity

£26

Concept Keyboards

- A4 Standard £89
- A4 Primary £94
- A4 Designer £104
- A3 Standard £95
- A3 Primary £99
- A3 Designer £104
- Universal 2010 Keyboard A4 £104
- Universal 2010 Keyboard A3 £107
- User Port cable for 2010 Keyboard £9
- Arc Serial cable for 2010 Keyboard £9
- Concept Designer software for Arc £22

Scan256 Hand Scanner

If you need a 256 grey scale hand scanner for your Archimedes then look no further.
Scan256 gives you up to 256 grey levels at a maximum resolution of 400dpi and is supported by state-of-the-art software. This makes it the only sensible scanning and image processing solution for the Acorn 32-bit range of machines.

Features include:
- More than one copy of an image in memory at once.
- Highly advanced image processing tools.
- Convolution digital filtering with over 100 filters.
- Adjustable scale and size during scan.
- Save images in industry standard formats.
- True brightness, contrast and gamma controls.
- Selectable scanning modes.
- 105mm scanning width.
- Ability to shear and rotate the image.

only £159

- Scan256 for A3000 (external) £169
  (ring for availability)

Note: Scan256 is not suitable for A3010/A3020 or A4000 computers.

Archi MKII Hand Scanner

Watford's Midi hand scanner for the Archimedes and A3000 has a maximum resolution of 400dpi, and a scan width of 4". As you scan the image the results are displayed on screen in real time. You can then save the image at full resolution to get the best quality output or at screen resolution to save on memory. The software is supplied on ROM, so there are no discs to load. Features include: cropping and scaling images, X flip and Y flip, and edge detection allows you to transform solid images into outlines.

- A300/400/A5000 version £89
- A3000 external version £99
- v1.10 ROM Upgrade for RISC OS 3 £20

Archi A4 Scanner

The 216mm scanning width can cope with both desktop scanning of single sheets, photographs, etc, with its detachable sheet feeder, or used as an A4 wide hand scanner. 64 grey levels are produced from the scanner at resolutions up to 400dpi. The software included on ROM allows you to adjust contrast and brightness of the scanned image, rotate, shear and cut out sections of the image. The scanner uses a green light source which gives improved contrast on images over conventional red light scanners.

- A4 Scanner for A300/A400/A5000 £189
- A4 Scanner for A3000 (external) £199
- Sheet Feeder for A4 Scanner £69

Educational Software

10 out of 10 Early Essentials	£18
10 out of 10 Junior Essentials	£18
10 out of 10 Maths - Number	£18
10 out of 10 Maths - Algebra	£18
10 out of 10 Maths - Statistics	£18
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10 out of 10 French	£18
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10 out of 10 Driving Test	£18
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④ Sensible Soccer	£22
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Impression Style	**£89**
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Font Pack - Avant Garde	£23
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Acorn Education Directory	£29
Artworks	£165
Artworks Clip Art	£19
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SPECIAL OFFER
Pace Microlin pocket FAX/Modem, supplied with ArcFax and ArcTerm7 software. Complete with connecting cables, etc.
only £199

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• First Word Plus	£20
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• Pacmania	£9
• Impression Junior	£35
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On-Site Warranties

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1yr - all A5000 models	£34
3yr - A3010 and A3020 FD	£42
3yr - A3020 HD and A4000	£51
3yr - all A5000 models	£68

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Armadeus	£58
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Investigator 3	£49
Font Pack 1	£10
Font Pack 2	£10
Font Pack 3	£10
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Notate	£57
Vox Box	£45
Score Draw	£45

Software Bundles

- **Arcventure** £65
  Romans, Egyptians, Vikings
- **Linkword** £87
  French, German, Spanish
- **Lemmings &** £27
  Oh No! More Lemmings
- **Crystal Maze &** £44
  Games Wizard
- **Artworks &** £119
  Clip Art CD
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- **PC Emulator &** £155
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- **Ovation & Thesaurus** £69

Books

!Help 3 - RISC OS 3	£10
!Help - RISC OS 2	£10
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Advanced BBC User Guide	£10
Archimedes Assembly Lang.	£15
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A4 Technical Manual	£65
A4 Welcome Guide	£10
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Home Office

Includes Pipedream 4, PC Soft with DR DOS 6, Easiwriter, Datapower, plus demonstration software.
only £85

Learning Curve

Includes Acorn Advance - integrated software package, PC Soft with DR DOS v6, plus some demonstration software.
only £42

Buy any two titles from this page and select one game at half normal retail price.
(excludes Software Offers)

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Standard Low Cost Sharers

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Professional Sharers

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2 to 1	£12	£13
3 to 1	£15	£17
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- 2 in / 2 out Parallel £29
- 2 in / 2 out Serial £28
- 3 in / 2 out Serial £36

Auto Printer Sharers

	Serial	Parallel
2 to 1	£27	£29
3 to 1	£44	£45
4 to 1	–	£75

256K Multi Spoolers

These parallel auto printer sharer switches have built-in 256K buffers.

- 2 in / 2 out £99
- 4 in / 2 out £115
- 8 in / 1 out £149

Please note that cables are not supplied with the printer sharers, but are available from £5 each. Check when ordering which are required.

Laser Printers

Brother HL4-PS	4ppm	£965
Brother HL6	6ppm	£427
Brother HL10-PS	10ppm	£1265
Brother HL10-DV	10ppm	£1016
Brother HL10-DPS	10ppm	£1435
Canon LBP4 Lite	4ppm	£478
Canon LBP4 Plus	4ppm	£639
Canon LBP4 U	4ppm	£359
Canon LBP8 Plus IIIR	8ppm	£1420
Canon LBP8 IV 600dpi	8ppm	£932
Epson EPL4300	4ppm	£520
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Epson EPL5200	6ppm	£489
Epson EPL7500PS	6ppm	£1135
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HP LaserJet 4MP	4ppm	£1047
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NEC Silentwriter S102	6ppm	£914
NEC Silentwriter 290	8ppm	£1125
NEC Silentwriter 290P	8ppm	£1449
OKI OL410ex	4ppm	£585
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Panasonic KX-P4410	5ppm	£445
Panasonic KX-P4430	5ppm	£579
Panasonic KX-P4440	11ppm	£535
Panasonic KX-P4455 PS	11ppm	£1249
Star LP4 Postscript	4ppm	£759
Star LS5	5ppm	£449
Star LS5 EX	5ppm	£548
Star LS5 TT	5ppm	£739
Star LP8 III Postscript	8ppm	£1125

Laser Consumables

Toners, Drums, Developers

- Canon LBP4 / Star LP4 Toner £52
- Canon LBP8 III / Star LP8 Toner £59
- Canon LBP8 IV Toner £75
- Epson EPL4000/4100/4300 Toner £55
- Epson EPL4100 Photoconductor Unit £89
- Epson EPL5000/5200 Toner £89
- Fujitsu VM600 Toner £89
- Fujitsu VM800 Toner £109
- HP LaserJet IIP/IIIP Toner £48
- HP LaserJet III/IIIP Toner £58
- HP LaserJet 4/4M Toner £72
- HP LaserJet 4L/4ML Toner £55
- NEC Silentwriter Toner £84
- Panasonic KX-P4410/4430 Toner £22
- Panasonic KX-P4410/4430 Drum £109
- Panasonic KX-P4410/4430 Developer £79
- Panasonic KX-P4451/4455 Toner £19
- Panasonic KX-P4451/4455 Drum £93
- Panasonic KX-P4451/4455 Developer £80
- OKI OL400/OL800 Toner £18
- OKI OL400e Toner £17
- Qume Crystalprint Toner £84
- Qume Crystalprint Drum £189

Laser Accessories

- HP Adobe Postscript cartridge - III/IIID £359
- JetPage Postscript cartridge - III/IIIP £225
- HP Postcript module - LJ 4 £270
- Lower Paper Cassette Tray - IIIP £115
- Envelope Feeder - LJ4/4M £199
- 500sht Paper Cassette - LJ4/4M £205
- LaserJet font cartridges from £79
- JetDirect cards for LaserJet 4/4M £359
- Ozone filter for Panasonic KX-P4420 £9
- Ozone filter for Panasonic KX-P4450 £20
- Appletalk interface - LaserJet III/IIID £135

Laser RAM Upgrades

Memory Upgrades

Canon LBP4 1Mb RAM		£105
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HP LaserJet II/IID	1Mb RAM	£60
	2Mb RAM	£96
	4Mb RAM	£142
HP LaserJet III/	1Mb RAM	£49
	2Mb RAM	£80
	4Mb RAM	£132
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	2Mb RAM	£75
	4Mb RAM	£159
	8Mb RAM	£299
Panasonic 4420	1Mb RAM	£59
	2Mb RAM	£89
	4Mb RAM	£149
Epson EPL4100	2Mb RAM	£120

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LC15	£186	£135	£5
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LC24-100	£140	£69	£5
LC24-20 MK2	£175	£65	£5
LC24-200C	£205	£65	£12
LC200C	£151	£65	£12
SJ-48	£169	£43	£16
SJ-144	£434	–	£POA
XB24-200C #	£324	£80	£12
XB24-250C #	£389	£139	£12
ZA200 #	£260	£89	£12
ZA250 #	£324	£139	£12
LC24-30	£POA	–	–
LC24-300	£POA	–	–

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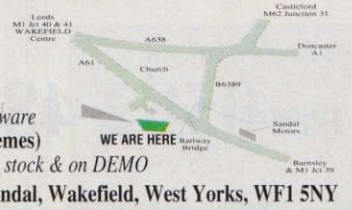

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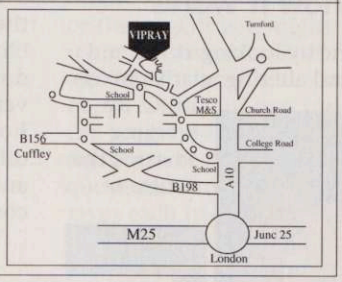

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I, Morph

Mike Goldberg takes another step into the world of DIY morphing

ONCE more it's metamorphing time – they say a change is as good as a rest – only this time, instead of altering outline shapes as in the June '93 issue, I've progressed on to solids.

This month's program shows how to change sprites in a similar way to true morphing but without the very clever directional and colour changes employed in the commercial packages. Anyhow, despite the limitations, the results can be quite satisfying – you're never quite sure how the animation is going to look.

The idea for this came from playing shoot-'em-ups where various power-ups are collected to enhance the fire power of your spacecraft. Instead of bolting on more hardware perhaps the ship could morph into a better equipped one and keep on morphing for each successive upgrade in firepower.

Instead of multi-directional pixel exchanging I have stuck to swapping pixels in just four directions. Figure I shows the start image A and end image B. The third image C – a copy of image A – is the sprite that will be operated on.

Load in the program NewMorph! and run it. First you will be asked if you want to save the sprites; say no for now – it's only something you will want to do when completely happy with the animated sequence. The example below morphs a reasonably happy person into one having a bit of a nightmare. Writing the program had the same effect on me.

Here's how it works

It's all done by looking at the end image B and altering relative pixels on C. By working towards the centre of sprite B from the outside, the program looks for black or background pixels and plots black pixels in the same locations on image C.

At the same time, working from the centre outwards, the program looks at the pixels that are NOT background in image B and plots them in the same place in image C. There you are – clear as mud.

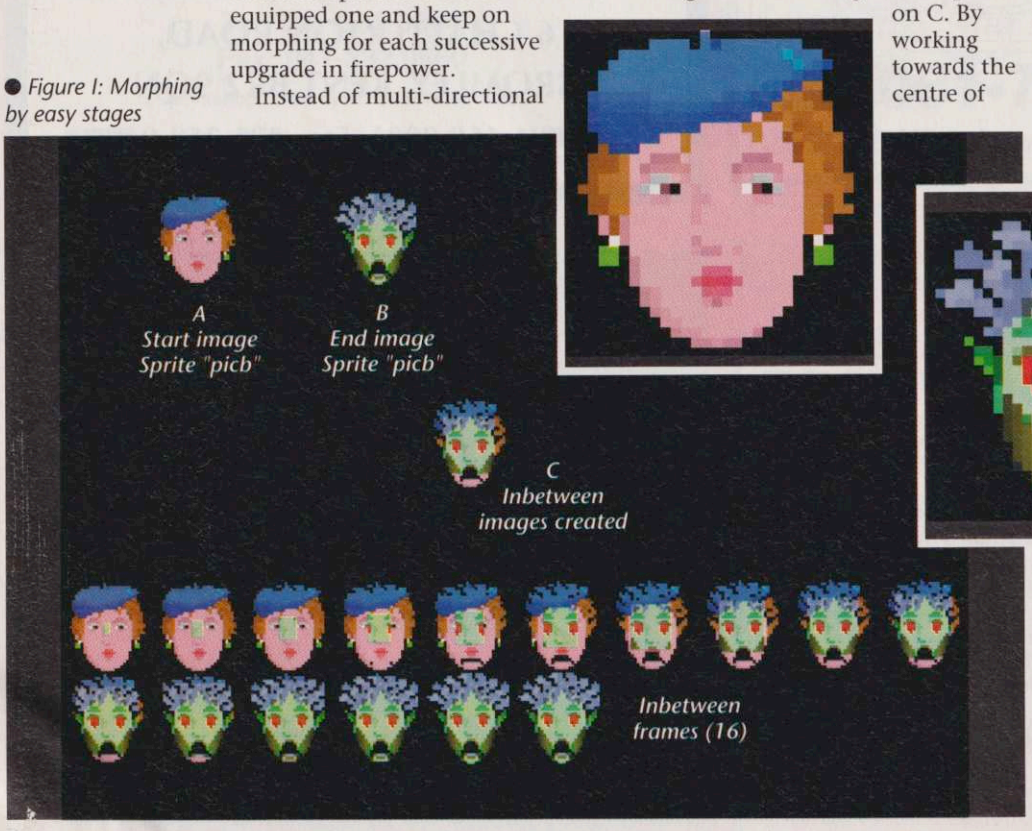
Take a look at Figure II to help clarify what I'm on about. In essence, the background of the end image is plotted over the start image from the border to the centre while the actual end image emerges from the centre outwards.

Due to the rectangular nature of the plotting, sprites with a solid block of pixels in the middle don't morph as magically as very odd shapes – you can see how it's done. But try two very different sprites and the animation looks very liquid and convincing.

This will be true of any kind of morphing program – some images will work better than others, but it's hard to put your finger on quite why.

Altering the speed of the transition has an effect too–too slow and you will always see what you shouldn't. But too fast and you miss the fun (like a lot of things in life, really). Experimenting showed me that it is best to keep a lot of background or black pixels in the sprites for maximum effect.

You can see the result of that day's experiment with the example program provided called



● *Figure I: Morphing by easy stages*

MorfShips. Pilot a spaceship about the screen and when you get the urge press Return to watch it morph into its next incarnation.

In all there are four transitions and a morph back to the original shape. This is followed by a pause as the program inexpertly resets itself, as this is an example of morphing, not programming.

To help matters you can toggle between sizes 1, 2 and 3 for the ship to help see what is going on. This not only illuminates the pixel exchanges but reminds you why shoving scaled sprites around is not an overly impressive thing to do.

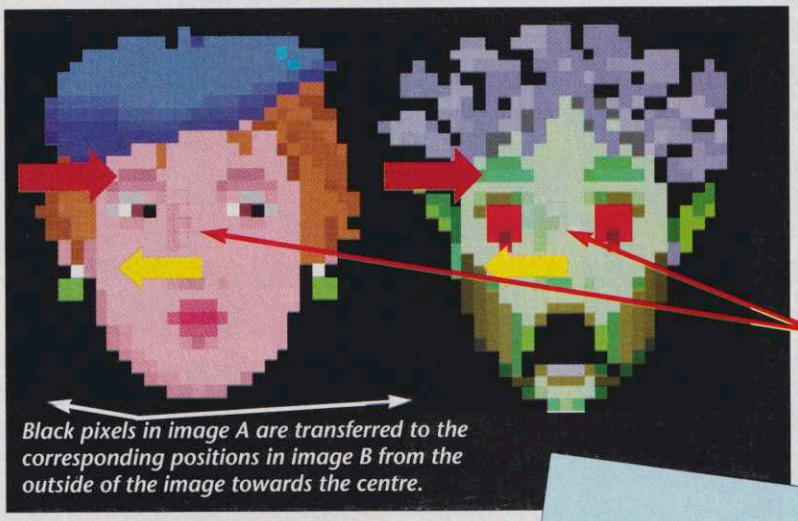
However, be honest, the morphing from one ship to another is fun at the very least and I personally could not help providing my own live, audio accompaniment to the transition each time – easier than sampled sound.

Step by step

So, what can you do with this morphing program? Quite a bit actually and it's simple to use – except one tiny tedious bit – more on that later. Before you start it would be a good idea to save all the morphing programs to a separate disk as otherwise the example spritefile will be copied over when you create your own.

The sprites have to be 32 by 32 pixels, Mode 13 with no mask which translates to 128 by 128 screen coordinates when back in the land of Basic. Create your first image and call it *PicA*. Now the second image and call it *PicB* though sprite names are always lower case so it'll be converted to *pica* and *picb*. When you are happy with the two sprites save the spritefile and call it *MorfFile*.

Now double-click *Here!* and then the program *NewMorph!* again saying no to the prompt to save



● *Figure II: How the simple morphing effect is achieved*

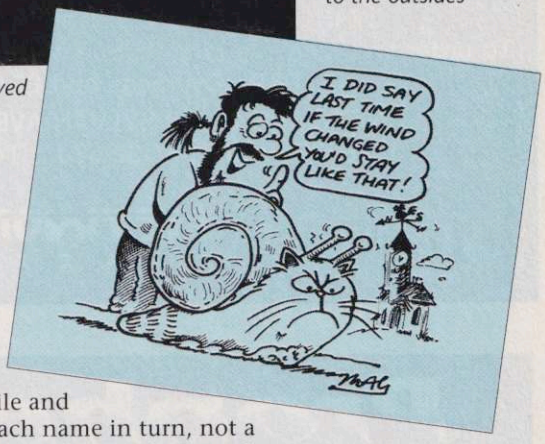
the sprites – you want a chance to see what's going on first. Anyway, the two images morph quite slowly as everything is being worked out.

Meanwhile a snapshot of all the 16 in-between images are placed along the lower half of the screen. This allows for a continuous replay of the animation forwards and reverse in an endless loop. Press any key to speed up a little.

By now you can see what you might wish to alter back in !Paint or then again you might not – it's surprising what is effective and what is not. When finally happy with your two sprites run the program again and this time say yes to the saving sprites question. This automatically saves each in-between image as a sprite file each with the prefix *MORF-* plus a successive number.

Now I am not completely happy about this, the saving bit I mean. What I really wanted to do was save each sprite with an incrementing suffix but to the SAME sprite file!

Each of the sprites saved in the *MORF-n* sprite files are all called Screendump. So to create my example Morfships, I had to laboriously copy each sprite to the



MorfFile and alter each name in turn, not a very clever thing to have to do. But can this be done from Basic?

There now follows an appeal on behalf of the Laborious Party: Now, either I have led a very sheltered life, or yet again this is one of those enormous holes in my knowledge yawning wide. Anyone wishing to fill this void with their expertise and overcome this irksome state of affairs please write in and let me know.

The person with the easiest solution will receive an original cartoon from yours truly. By the way, I once again got out the 10 stone of manuals I have for my A310 but I've put them back propping the door open again where they are of some use.

Wasn't life simpler with the BBC B? No, please, don't answer *that* one.

● *Figure III: Can you change this into this, then this, and this and back again? You won't even see the join!*

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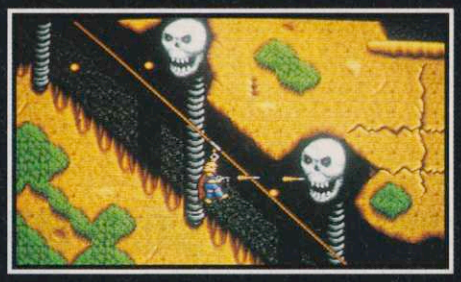

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NETWORK XXIII 23

Prophet 4 ACCOUNTS

'The leader of the pack because of its ease of use, comprehensive nature and high RiscOS factor. A well thought out and well supported program. Recommended' - Arc World, July 1993.

All the other Acorn magazines have also given Prophet top class reviews, but the people who really know how good Prophet is are its users (who are not without a sense of humour!).

The following extract is from a recent letter: 'Just returning Prophet V1.29 for upgrading in due course. Its getting better all the time...if you could get it to go out and take photographs for me while I go windsurfing I think that should probably do it!" - E Williams, Photographer.

Compared to other accounting programs Prophet is a breath of fresh air.

You can use as much or as little of Prophet's extensive features as you need - from simply entering your income and payments - to stock control and invoicing, even calculating your balance sheet and tax liability.

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You can also run as many different sets of accounts on it as you wish and if you're VAT registered Prophet also caters for the Cash Accounting scheme and many of the retail VAT schemes - it is also accepted by HM Customs & Excise for VAT purposes.

Other features include **Automatic Standing Orders**, Multiple Bank/Cash accounts, Stock Control, Invoicing, Statements, Purchase Orders, Credit & Delivery Notes (**all of which** are user-definable in Prophet's own DTP windows), Labels, Mail Merging and exporting of data to all the other popular RiscOS packages.

Prophet is fully multi tasking and compliant with all versions of RiscOS. It will run on any Acorn 32 bit computer with a minimum of 2mb of memory.

Prophet costs £199.75 inc VAT. An entry level version is available for £10. **This includes the save option** - any files created will load directly into the full version and the cost is refundable on full purchase so your work wont be wasted.

The entry level version is now included in Acorn's new Home Office pack.

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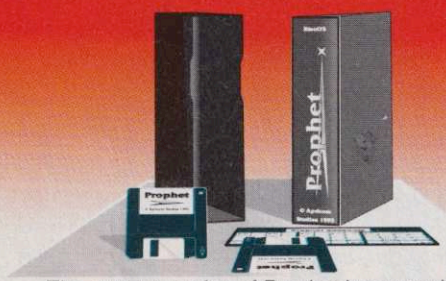

The current version of Prophet has a myriad of extra features based on user feedback and this combined with our policy of **free upgrades** ensure that Prophet will always remain the number one choice for small business accounts software on the Archimedes.There are over 600 Prophet users which include Acorn dealers such as: 4Mation, EFF, Stallion, Spacetech, Davyn, Arm-Tech, Topologika.....

VISA

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Access

Unlimited drawfiles from Basic

Steve Bruntlett looks at improving your production

THE first version of this program was not Wimp-based but showed there were people using Acorn machines as a professional tool, writing their own programs rather than relying on software houses to provide all the answers.

The original version was produced so that engineers, for example, could produce drawfiles directly from Basic programs without needing to understand the inner workings of the Wimp system or the structure of drawfiles.

This second version is faster, includes the use of outline fonts and it multi-tasks. It can produce multiple drawfiles from a single Basic program and also handles sprite and CSV data.

DrawAid2 comes on a single disk with a clearly printed A4 instruction and reference manual. The disk is divided into a number of directories which hold examples of CSV and sprite files, extensive notes for the use of DrawAid2, 52 example programs, an eight section tutorial plus programs to help you work on the desktop.

The manual has clear instructions, an illustrated demonstration program, an explanatory section on the program format, a description of the range of standard objects used by the application, sections on using text, path, user, sprite and CSV objects.

What strikes me is how well cross-referenced the whole thing is to the example programs on the disk so you can see exactly what the author is referring to.

There are many other information sections, not least of which is the tutorial section. This explains and illustrates what procedures are needed to draw a circle, a circle of holes, drilling and bolting a flange to produce a complex drawfile which is not only accurate but infinitely editable without having to produce the thing from scratch in a CAD package.

Bolted flanges don't get everyone excited so there's an example by which a complex piece of shaded text can be produced. The package has many applications for the home user and many aspects of education as well as engineers.

It can be set to work in millimetres or other preferred units and can define any of 16 million colours. It works with RISC OS 2 and 3.1 versions of Draw as well as DrawPlus and with Vector, which I used.

So what does this mean? If, for example, you are producing a drawing which needs a range of cogs with different numbers of teeth, producing these would need some time with a reasonably advanced CAD package. Using DrawAid2 you could produce as many differently sized cogs as you wanted by editing the Basic program provided on the application disk.

The many programs allow you to produce a wide range of airfoils, arrows, axes, wheels, bushes, circles, frames, gears, mirrors, quadrants, rings, sprockets ad infinitum. In other words a massive kit of construction parts. But that's not all.

DrawAid2 can be used to produce barcodes, plaques, graphs, charts, fancy fonts, geometric and abstract designs, compass plates and so on. If you've ever tried to produce accurate tables of information or accurate mathematical curves or sine waves – DrawAid2 can handle them.

Table construction can be speeded up considerably too by using the ability of DrawAid2 to handle CSV files.

What's the catch? Well you have to write a program, but don't let that put you off. You should be able to use the worked examples to understand some of the principles and once you've got your brain thinking in a logical fashion you should be able to move on to more complex drawfile objects.

Alternatively you can edit the wide range of examples provided with the application. Have a look at the Celtic key pattern, it's quite exquisite and something I shall certainly be experimenting with in the future until someone releases a Celtic pattern generator.

Included is an example of a fireplace constructed from Basic using sprites of a Delft tile, also shows some of the application's uses as an art and design tool.

PRODUCT SPOTLIGHT

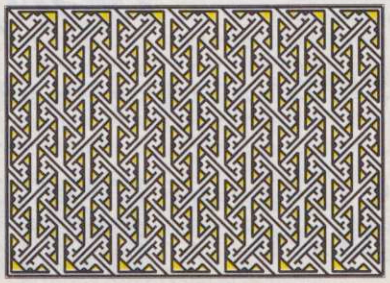
Product: DrawAid2
Price: £12 (upgrade £6) inc VAT
Supplier: CARVIC Manufacturing, Moray Park, Findhorn Road, Forres IV36 0TP.
Tel: 0309 672793

Summing up

The whole package is well thought out and is fascinating to explore and use. It's worth buying just for accurate production of shaded or drop shadow text in a specified font or to be able to generate plaques and labels for books or boxes.

This is an extremely useful package for anyone using drawing applications and if you think it's going to cost an arm and a leg – think again.

● *A car tyre produced from a Basic program...*



● *...or opt for a Celtic key pattern*

DropShadow

● *The drop shadow is one of the available accurate font effects*

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A professional impact

Does the new version if Impact deserve the professional tag? John Allen investigates

IMPACT-PRO is the successor to Circle Software's basic database, Impact, reviewed in the December 1992 issue of *Acorn Computing*. It has a host of new features and, for RISC OS 3 users, looks smarter with 3D icons in its dialogue boxes.

There are four new field types: Large real numbers, stories, calculations and sprites. These are in addition to Impact's date, real number, integer number, money, text and flag field types.

As well as having sprite fields it is also possible to use sprites as a design on each card, for a logo for example. Sprites are loaded by dragging them from an application such as !Paint as Impact-Pro cannot load sprites directly from a file.

All text is displayed in the RISC OS system font though, as outline fonts are not supported.

It seems that these days any self respecting database application must be able to tie a number of databases together. An example of a relational application might be a travel agent having a database of hotels which are related to a second database of resorts and a third one of countries.

Information about the resort, like its size and nearest airport, and currency and language information about the country, can all be shown on the card for the hotel. This saves either duplicating the information in each card or having to refer to three separate databases.

A relational card is set up by dragging fields from the export window of a secondary database into the main card. One of the fields dragged is called the *key field* and is shown in grey on the combined card. This field points to the card that contains the information for the other fields dragged from the secondary database. It is easy to use and works well.

Calculations

The new *calculation* field type allows calculations local to each card. For example a total cost can be deduced from a unit cost and quantity, or a renewal date calculated from the start date of a subscription and its duration.

It is not easy to refer to external constants. This might be required, for example, with the rate of VAT which changes from time to time. The only way to make this variable is to put it in a separate database and create a *rate* field in the main database to relate to it.

It is not possible to perform calculations on more than one card, as might be required for a grand total on a report detailing outstanding debts.

The Report mechanism has been tidied up and it is possible to export data to other applications in a more flexible way, using a field map to change the order of the fields. A new menu option allows labels to be printed directly from Impact-Pro.

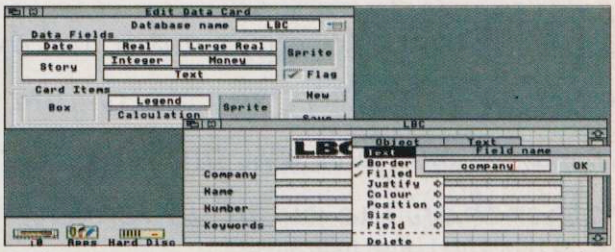
Summing up

Impact-Pro is a useful extension of the facilities of Impact. Using sprites on cards makes them look more attractive and the relational ability is useful and well implemented.

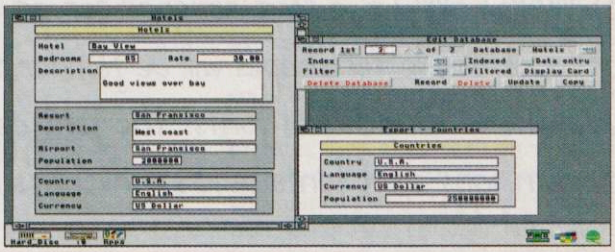
My biggest concern is that it does not close database files when their windows are closed. This means that you must quit Impact-Pro or do a proper shut-down before turning off the computer, otherwise data may be lost or corrupted.

I managed to corrupt a database when another application crashed my machine even with no Impact-Pro windows open. I also found the storage of databases within the !Impact-Pro directory unusual.

Overall this package is still excellent value for money but it does not fully live up to the expectation of its name.



● *The new appearance of Impact-Pro*

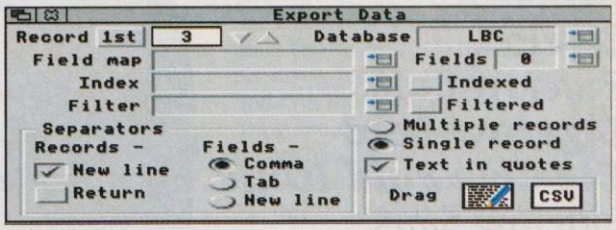


● *Impact-Pro does provide a useful relational database for the money*

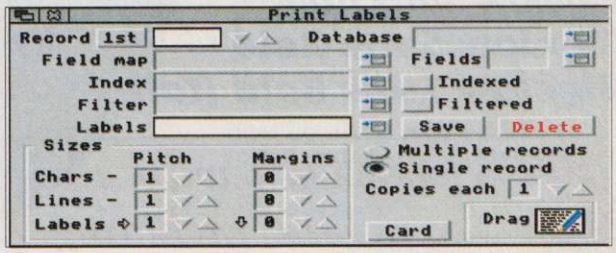
Easy set-up

Impact is an easy to use text database manager and its biggest plus is the ease of setting up a database. Icons representing the different available field types are simply dragged from a tools window to a window representing the card layout.

It uses Computer Concepts' Impulse module to produce reports, but this requires a compatible application like Impression itself.



● *The export options at your disposal ...*



● *... and your label*

PRODUCT SPOTLIGHT

Product: Impact-Pro
Price: £65
Supplier: Circle Software, 33 Restrop View, Purton, Swindon, Wiltshire SN5 9DG
Tel: 0793 770021

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The final frontier

Mike Cook wraps up his computer-guided telescope with the final construction and software

IT always surprises me that the most expensive individual component of most projects is the box you put it in. This project is no exception – closely followed by all the plugs and sockets.

I used a Vero instrument case 180x138mm with two removable aluminium end panels which can accommodate a single Euro-size prototype card. Its slim height, 40mm, makes an unobtrusive unit to use at the telescope.

I fitted a U-shaped hook to the lid to allow it to hang off the telescope tripod with the display pointing up. On the front panel I cut a hole to allow the display to be seen and also fitted the response push-button and overrun LEDs.

The displays were mounted on a small piece of Vero board set vertically to the main board on small brackets. This, along with the red filter and mounting bezel, gives the appearance that it is attached to the front panel. As mentioned last month, the displays were separated by a rectangular red LED to act as the minus sign for the right ascension.

The back panel has rather more flexibility about it. First of all you need to connect this box to the shaft encoders. I used a 6-way coiled lead like the ones you get on telephones. The connectors at each end were also similar (you can't use actual telephone leads as these are mainly 4-way).

A box and socket are mounted underneath the fork on the telescope and a socket fixed on the back of the main board. As this is not on a 0.1in pitch you have to drill some extra holes on the board and fix it on using epoxy resin. Then I cut a square hole in the back panel so that it fitted flush when assembled.

The box needs power, as does the motor drive on my telescope, so I decided to use the same sort of connector. This is the type used for powering many hand-held battery products like radios and games. I fitted two sockets both wired up together, the idea being that the power supply plugs into one and the other has a lead to feed power to the telescope.

We also need to connect the box to the computer's serial port. There was not enough room to use a standard 25 way D-type socket, so as only a few connectors are needed I used a standard 5-way DIN socket.

Finally I fitted a sub-miniature speaker on the back glued over a

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"Repton 4 is challenging, good value for money and well graded. What more can I say?"
...Acorn Computing (Jan. 93)

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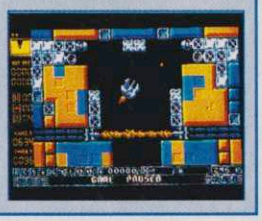

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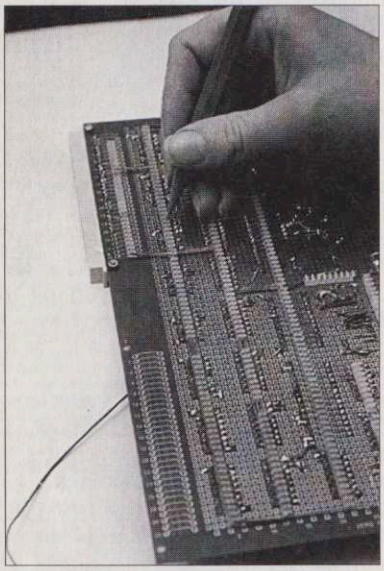
1/16in hole. You can get a better idea of the arrangement by studying the photograph. The wiring for the serial plug is shown in Figure I. Remember, however, this is only the way I made the project – there are many alternative methods.

The number of possible variations do not justify laying out a printed circuit board. Also it would be difficult to fit all the circuitry into such a small space without going to



surface-mounted components and multi-layered board.

While I was surprised and pleased by the interest shown by many people in this project at the Acorn World show I don't think there are enough to justify the cost of such a venture.

So I think that if you are interested in constructing the project your best bet is to use my method. This is using the Verowire wiring system which I have found ideal for making complex prototypes. This system uses a wiring pen with a spool of wire in the back. Wire is wrapped round the IC socket pins and lead round plastic combs to the destination IC.

This wire has a polyurethane coating so that it will not short out other wires it touches. However, when you solder it up the coating melts and a good joint is formed. You need a hot iron to melt the coating and it does release a smell, so a well ventilated room is essential.

The wire is quite thin, 0.15mm, and so is not really suitable to carry heavy currents like the power supply. Therefore I always wire up the power supply to the chips with stranded wire on the component side of the board, or in this case with the copper track on the top of the board.

The board I used is a single Euro size (100x160mm) high density prototyping board. Unfortunately their price has rocketed in recent years and they now cost about £12, however, that's better than the alternative square pad board at £22. As I said, the electronics is the least of your costs.

The secret of using the Verowire wiring system is to be very neat and only solder when you have all the connections wired up. In that way if you make a mistake in connecting up the ICs – and you will – it is relatively easy to unpick it with a fine pair of tweezers.

Work with a layout diagram showing the location of the ICs as seen from the under side of the board. Number each IC on this layout and on the circuit diagram, then follow the diagram. When I do this I mutter phrases to myself like, pin 4 on IC3 to pin 6 on IC7. After completing a connection you can mark it off by drawing a coloured line over the connection on the circuit diagram.

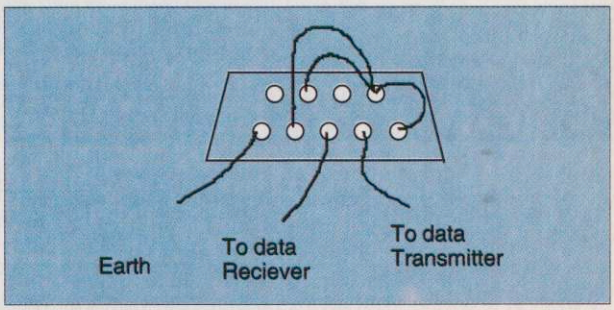
If a connection has to go to more than one place you simply loop the wire round the intermediate pin or pins and go on to the destination and snip the wire with side cutters. There is a finger control on the wiring pen so you can control the tension, producing taut wiring.

The photograph shows the basic idea and how neat you can get it. It's not practical to sell a kit of parts, but I am selling the Vero Wiring pen, board layout and full size circuit diagrams. If you have any problems getting any particular component write in to Musbury Consultants and they can get them for you.

The software

Now let's turn our attention to the software. We can use any make of Acorn computer as all models are fitted with a serial port – in fact we could use any type of computer. However, I have only had time to tackle the 32-bit machines, but those of you with 8-bit ones should be able to convert the program.

To single or multi-task, that is the question. Well in this case I have chosen to single task. True when I demonstrated this at the Acorn World show I was using a multi-tasking version of the program but that was because I didn't mind calibration being lost. You see, if the



● *Figure I: Serial socket wiring*

telescope sends a burst of data and the computer is busy on some other task the serial buffer will overflow and you will lose the relationship between the telescope angle and the numbers in your computer.

There is another point as well, if you are down at the end of the garden with your telescope why do you want the computer to multi-task anyway?

The basic purpose of this project is to provide digital setting circles, but it can also offer other facilities like finding an object, and to do this we need some sort of menu choice. At first sight this seems impossible because all we have to signal back to the computer is a single button that repeats the last code sent.

Therefore, we have no way of knowing if this indicates we want to choose a menu item or we want to move on to see the next. This problem is very neatly solved by using the movement of the telescope itself to scroll through the menu items.

I used the declination axis, as normally it is the one not being driven by a motor. Accompanying each change in menu item is a click from the speaker, which gives good feedback reinforcement. In other words it feels good to use.

The first thing we need to do is to work out how many pulses you receive for one revolution of each axis. This is best performed by fixing some terrestrial object, starting the program, rotating each axis, and seeing the raw angle. This number then has to be entered into the calibration lines at the start of the program.

Now let's get down to the difficult stuff; what calculations do we need to perform? First of all we have to convert the input stream into the numbers corresponding to the movement of each axis. Essentially, we split each received number into two 4-bit numbers. If the most significant bit is zero we

➤

➤

add it to the accumulated total, if not we subtract the ones-complement which, in fact is the same as adding. I do this in machine code as we need to empty the buffer as quickly as possible.

However, there is the trick of converting this angle to an angle in the sky using matrix arithmetic. You can envisage the position of a star as seen by your telescope as being in the telescope's own coordinates. Likewise that same star has a position in celestial coordinates.

Therefore we have to convert between the two sets of coordinates. This can be done using matrix arithmetic and direction cosines. The direction cosine of any star can be expressed in three terms as:

```
l = cos q cos f
m = cos q sin f
n = sin q
```

where *q* and *f* are the angles used to measure the position of the star. The same star's direction cosine in celestial coordinates are:

```
L = cos d cos (a - kt )
M = cos d sin (a - kt )
N = sin d
```

where *a* is the right ascension, *d* is the declination, *t* the elapsed time and *k* a constant to convert our time to star time or sidereal time. A star's position can now be represented as a vector in each system:

$$A = \begin{bmatrix} l \\ m \\ n \end{bmatrix} \qquad B = \begin{bmatrix} L \\ M \\ N \end{bmatrix}$$

If we know the position of three stars in both coordinate systems we can then generate a transformation matrix thus:

$$T = \begin{bmatrix} l_1 & l_2 & l_3 \\ m_1 & m_2 & m_3 \\ n_1 & n_2 & n_3 \end{bmatrix} \begin{bmatrix} L_1 & L_2 & L_3 \\ M_1 & M_2 & M_3 \\ N_1 & N_2 & N_3 \end{bmatrix}^{-1}$$

So we can now convert from one system to the other using this matrix:

```
A = TB
```

or

```
B = T-1A
```

Note that *T-1* means the inverse of the matrix.

Now as luck would have it ,we do not need to know the position of three stars to generate this matrix, but only two. This is because in our coordinate system a star's position is determined by two angles – we don't care how far along the line of sight the star lies.

Therefore, we can form an artificial vector for the third in the transformation matrix by taking the vector product of the other two. Fortunately the Basic in the RISC OS machines supports some vector arithmetic – if you are converting this to the older 8-bit machines you'll have to expand the matrix operations.

The upshot is that we have to sight on two known stars, the computer notes the telescope angles and constructs the transformation matrix. Thereafter we can calculate the telescope's position simply by using this matrix.

It's better if the two reference stars are as far apart as possible in both axes, in that way the errors are minimised. Therefore, the software lets you choose two reference stars to use. I have put the data for several bright stars in the program – they are identified by their constellation and the Greek letter, this being mainly alpha, although there is the occasional beta.

Once these are chosen the calibration mode will ask you to position the telescope on each star in turn. When you have done this press the acknowledge button and you are ready to go.

Other menu options allow you to alter the brightness of the display or give a click every five seconds. I have found this useful when photographing the sky as I can get the timing of long exposures by simply counting the clicks. Looking at your watch is not so easy in the dark.

The final menu option is the find option, I have implemented this for Messier objects. These are a collection of star clusters, galaxies and nebula that the French astronomer Charles Messier recorded so they could be eliminated in his search for comets. They form the backbone of any amateur observer's viewing list and include all the most spectacular deep sky objects in the northern hemisphere.

First of all you enter the Messier number one digit at a time, using the declination movement to select each digit. Note here that Messier 1, the Crab nebula, must be selected as 01 and the first digit can go up to 11 to accommodate Messier 110, a companion galaxy to the great Andromeda galaxy.

Once the object has been selected the display changes, showing how far away this object is. You must then move your telescope so that the display shows zero, and you will then be able to see the object through the telescope. Providing, that is, that the sky is clear, you have a powerful enough telescope and it is above your horizon at the time!

Other objects could be included in this way like NGC (New General Catalogue) numbers. By the way, in this case New refers to the catalogue being composed in 1888, it was new then and the name has stuck.

One refinement I haven't fitted in the software is a planet finder. There is no reason why you can't extend it to provide this information and several public domain programs exist that can perform the calculations.

In the future I would like to tie this project to a large database of stars so that the computer displays a map of where the telescope is pointing. The ultimate surely must be to fit motors on to each drive and have the telescope swing on to a star you click on on your screen. I don't know if I will ever have the time to tackle that one, but it is eminently possible.

● *Well there you have it, thanks for following this marathon project. Next month I think we will return to something a little simpler, or as they say "something completely different".*

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Painting the town

Rob Miller takes a look at the enhanced ColourCard

JUST over a year ago, Computer Concepts released their first product as a result of their partnership with hardware company Wild Vision. The ColourCard was designed to enhance the flagging graphics capability of the Acorn range of 32-bit computers, which, to be perfectly honest, hadn't changed since its launch over six years before.

When the Archimedes was first introduced back in 1987, its graphics capabilities were looked on as something bordering on revolutionary. For the majority of users who had been brought up with machines that could only manage resolutions of 320x256 with eight colours, even the *medium* resolution of Mode 12 (640x512 with 16 colours) seemed a major step forward.

Nowadays, the need for higher resolution is becoming more and more apparent. Advances in both hardware and software means that the more you can get on your screen the better.

If, for example, you're using a desktop publishing package, the necessity for as large a desktop as possible is paramount. Likewise, if you're running a spreadsheet package, being able to view multiple sections of the sheet, clearly and side-by-side is also of great use.

Since its release, the ColourCard has undergone several changes both in terms of hardware and software. A major change in hardware – which actually went unnoticed to the majority of the public – was the replacement of the INMOS chip – the graphics controller used on the card in Figure I – with a more recent version.

This allowed rendering of images in full 24-bit (16,700,000) colour in addition to the existing 16-bit limit.

Installation

The ColourCard Gold is essentially very similar to the first release, but with the addition of extra software – both in rom and on disk – to make use of its increased colour resolution. Also, a larger rom is now present on the expansion card to contain the additional software required to support a number of new 16-bit desktop modes.

Setting up the card is easier than its predecessor and just requires the installation itself. All control software is held in rom and can be configured to start up depending on what sort of monitor you have attached to your computer.

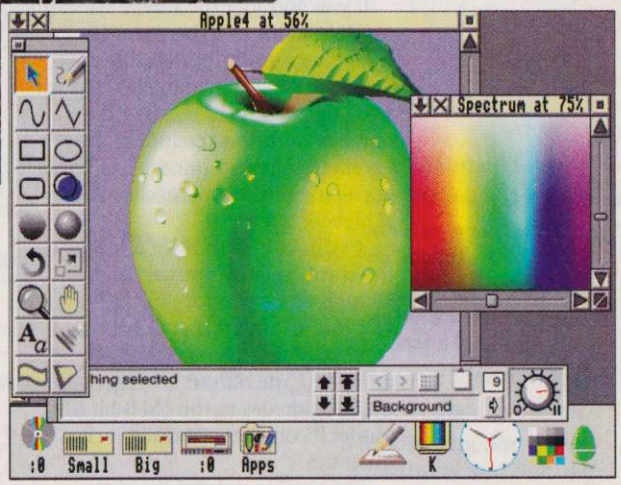
A small amount of the cmos ram is used to ensure that all settings are maintained, even after turning off the computer.

The software

In addition to the control software in rom, a utility disk is provided that includes new versions of !FlipTop and !Clearly. A further disk contains a new version of Acorn's Replay film-player software suitable for the 16-bit desktop modes.

!FlipTop makes selecting modes extremely simple and they can now be chosen by resolution and number of colours, rather than typing in a meaningless number via the palette utility.

The *k* (or thousands) column in !FlipTop now contains four new modes, the highest being 576x412 with 32,000 colours. This is the highest resolution possible as the current implementation of RISC OS imposes a maximum limit of 480k for screen memory.



● *The preview option is no longer required when using ArtWorks in 16 bpp modes*

!Clearly allows you to view Clear-format files and now includes the ability to see pictures in true 24-bit colour. Although !Clearly runs *outside* of the desktop environment, there is still a limit for screen memory – the amount of video ram present on the expansion card.

If the picture you want to view is larger than this, !Clearly attempts to use the computer's memory and/or hard disk space (if available) as a cache.

Watching Replay files on a standard Acorn 32-bit computer is impressive. On the ColourCard, particularly in the one of the new 16-bit desktop modes, it is even more so. When designing the standard for Replay files, Acorn had the foresight to allow films to contain more than the available 256 colours.

The current Replay file format will in fact cater for films with 16-bit (32,000) colour. Although there is no enhancement in resolution, the increase in the number of colours

PRODUCT SPOTLIGHT

Product: ColourCard Gold
Price: £249
Supplier: Computer Concepts, Gaddesden Place, Hemel Hempstead, Herts HP2 6EX.
Tel: 0442 63933

● *Figure I: The INMOS controller chip at the heart of ColourCard Gold*

makes films much clearer and gives them a more *fluid* appearance on screen.

Monitoring the action

Before you start thinking how ColourCard might change your life, it's worth remembering that although it's likely to improve the picture quality whatever setup you have, there won't be a real difference unless you have a good, high resolution monitor.

If you consider the Acorn Multisync (AKF18) monitor to be towards the bottom end of the quality scale, you should be able to judge what will work best. The card was tested on a range of monitors, including the excellent, but very pricey, Eizo T560i and some impressive results were achieved.

It's difficult to show in a magazine the sort of quality you can achieve. Pictures alone cannot do justice to the vast improvement that ColourCard Gold provides. The best way of describing the output is to compare the Archimedes to the old 8-bit BBC Model B computer. It really is that different.

The combination of the extra resolution and number of colours means that the big monitors can be visually pushed to their limit.

What use is the 16-bit desktop?

It's all very well having thousands of colours at your disposal but what, if any, software is there around that will make use of it. Well, as a rule, any application that is vector-based – Draw, ArtWorks, Euclid and so on – should be able to take advantage of the much wider range of colours available in the new 16-bit modes.

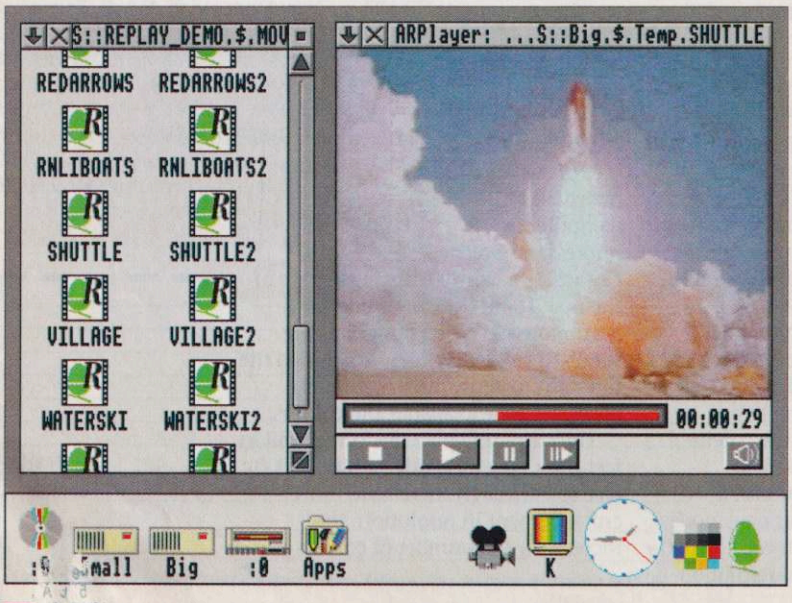
Graded fills appear smoother and previewing such pictures in a 16-bit mode is an ideal way to see how they might come out if printed professionally. ArtWorks version 1.120 onwards has a preview option built in as standard, but with the ColourCard Gold it is virtually redundant as you can now both work on and view pictures with 32,000 colours.

As well as vector-based drawing packages, there are a number of other applications that can use the additional colours. Computer Concepts' two new desktop publishing packages Impression Style and Impression Publisher are both capable of handling and displaying 24-bit vector files – Draw and ArtWorks – as well as TIFF (Tagged Image File Format) files and Acorn 16-bit/24-bit sprites.

There are no bitmap (sprite) editors around at the moment that will use the extended palette in 16-bit modes, but with Acorn's future architecture you can be rest assured that many existing ones will be upgraded.

Both Clares and Longman Logotron acknowledge the fact that new versions of ProArtisan2 and Revelation Image Pro will be vital.

Finally, PhotoCD, which is already attracting much interest on the Acorn platform, will benefit enormously from the larger resolutions and palettes achievable with ColourCard Gold. See the PhotoCD article in the August '93 issue of Acorn Computing for more information.



● *Replay films can be viewed in all their glory using the new 16 bpp modes*

Summing up

Installing the ColourCard Gold in any of the Acorn range of 32-bit computers – as long as they have a backplane fitted – is simple and requires no real expert knowledge. There is a small cable that links the card to the main circuit board but this plugs on to existing pins, so there is no soldering except on some old series 300/400 machines.

All control software is included on rom and configuring it is just a case of issuing a few simple star commands. The other software supplied on disk is both simple and informative to use and I soon found myself using !FlipTop in preference to !Palette when changing modes.

Every piece of software ran with no problems while the card was installed. A video-through option on the card automatically comes into effect when you're using a non-ColourCard Gold mode to ensure full compatibility with software such as games and other 'illegally' written programs that would otherwise have problems.

Like the original card, ColourCard Gold actually improves the performance of your computer by taking some of the workload away from the main processor. This effectively speeds up the machine and actually has a marked effect on the time taken to perform different operations, such as calculating figures in a spreadsheet.

£299 is quite a lot of money to spend on any hardware upgrade but the advantages far outweigh this. If you are a serious user and spend a lot of the time using the desktop, it could be considered an essential purchase. It is also, of course, the only way (at present) that you can get more than 256 colours on the desktop.

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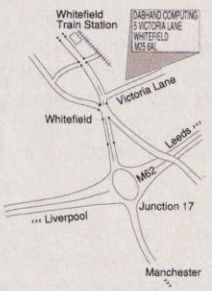

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Looking for faster boots

I USE an A440/1 with OS3.1 which is configured, on start up, to load various modules and utilities. The list of tasks includes running !Fonts and !MoreFonts, loading !Printers for a LBP4 and BJC600, configuring the cache for my ARM3, setting up a ColourCard and loading !Spark, !Menon, !Fliptop, !Executor and an iconbar clock.

I now find that this process takes almost two minutes. Can you suggest a way of speeding up the start-up procedure? – **M. H. Brooke, Berlin**

● *Well, no. If you really require all the programs you've mentioned to be available from the moment you start then that's how long it's going to take. What I do from time to time is review exactly what's being booted and decide if it's absolutely necessary, if not I take it out.*

Masking commands

I'VE just received a copy of Clem Vogler's review of my book *First Steps in Programming Acorn RISC OS Computers*. Mr Vogler mentions that the abbreviation *Cat is promised but omitted.

The minimum abbreviation for *Cat, which is *. of course, was on the bottom line of a page on my camera-ready original. I believe that it may have been inadvertently masked off by the printer. – **Martyn Fox, Windsor.**

Holding shares

PURE chance had it that I saw Clem Vogler's review on Shareholder Professional 3 in the August issue of Acorn Computing. I agree with him that being able to download share prices is an enormous asset to this program and one can only admire the foresight of the programmer for adding a learning facility to recognise the names of shares.

But I fear that the rest of the program does not live up to this high standard. In the second picture the amount invested has suddenly almost doubled to £1104.50 although the amount of shares has not changed. This certainly cannot come from the dividend paid out. And even if I accept that the total amount invested would be correct, there is absolutely no way to explain the loss of £673.42.

The third illustration gave me an insight into the graphical features and here one realises how very limited the graphs of this program are. For any serious share-portfolio handling you must be able to have a year's overview. That means being able to present a graph covering 250 bank working days a year minus some official holidays.

As there are some so-called *cyclic shares* you must be able to view the share price development over a long period – preferably two years.

From correspondence I had with Silicon Vision, the program does not cater for private persons. A shareholder must be capable of choosing what will be the fiscal year and capital and incomes must not be mixed.

In addition you must have the facility to input the tax rate for every single share – it is not always 25 per cent – and in many countries the costs incurred to receive the dividend are deductible, while the calculator and calendar tools leave a lot to be desired. You are also limited in the amounts you can enter.

The basic idea of the program is good but in practice it's only useful to teach children the elementary basics about the stock market. – **Jan van Vredenburch, Luzern, Switzerland**

● *While I am impressed by your diligence and agree that the data in the screen shots is odd, I can assure you that you are wrong in concluding that Shareholder commits arithmetic errors in its calculations.*

As I did not wish the actual parameters of my own portfolio to be published I made random alterations to figures to create junk data. The screen shots are intended as examples of the data handling capabilities.

Shareholder operates rationally and in the second illustration certain fields have been updated from separate records (not shown) relating to the addition and disposal of one extra share.

You may wonder why anyone should want to buy and then sell one extra share at widely differing prices. This is a fictional transaction to achieve the effect of updating the portion when a second tranche payment is made.

Privatisation issues, like PowerGen in the example, are paid for in two or three separate tranches. Shareholder does not provide a satisfactory way of handling such transactions and I have had to use this fix. To apply it correctly

Masterful present

I HAVE recently been given a second-hand BBC Master for my birthday and I would be very grateful if you could tell me if it is possible to use it to (safely) switch on and off a table lamp or cassette player, perhaps using a relay.

Are there any companies selling hardware/software for the 8-bit machine and are there any *support* clubs or groups like the Arm Club for the Archimedes? I am particularly interested in getting a copy of the game *Red Arrows*.

With the computer came a rom holder in one of the cartridge slots which contained Word-Aid. Where can I find information about this and the holder?

The holder has four sockets and two switches on the side. I want to use another rom in it but can't get both roms to register at the same time – I have to change the switches to alter which rom is recognised.

Finally how can I disable the internal speaker? – **Robin Moffatt, Sheffield**

● *As far as using your Master to control a relay is concerned we have passed your letter on to Mike Cook, however your other points are easily answered:*

There are no commercial companies that support the 8-bit machines any more except in the area of education and very few new programs are being written. Support groups do exist and if any would like to write in we'll pass your letters on to Robin.

If you take a look at the PD Pages in this issue you'll find a list of 8-bit PD houses which have big catalogues of software that you can get for very low prices.

*Word-Aid was written specifically to support the word processor Wordwise Plus which may be in the machine in the internal socket – you can check this out by typing *ROMS followed by Return.*

The mention of Red Arrows certainly brings back memories – it was so accurate that only the Red Arrows team themselves were able to fly it properly. If anyone has a copy of it that they're willing to part with we'll pass on a message to Robin.

The rom cartridge doesn't sound familiar so I'm afraid we can't help you on that one. The easiest way to disable the speaker permanently is to open up the machine and unplug it.

the price per share should be updated.

The graphing facilities are also inadequate and said so in my article.

I would disagree with your later points though, as Shareholder does treat costs in the way private clients prefer – as inclusion in the amount invested. There is no provision in Shareholder to enter a fiscal period but you are entitled to run the software over whatever accounting period you choose.

Neither does Shareholder3 confuse capital and interest and it doesn't add dividends to the investment. The use of the term tax credit *is exactly in conformity with UK and Inland Revenue practice. If you enter either the net or gross dividend the software will calculate the other.*

You can also set the tax rate for every share. There is a default but this can be overwritten for a single share – say a foreign holding – or globally if tax rates change.

There are some limitations with Shareholder3, particularly when it comes to handling restructuring, script issues and other arcana of company finance. Earlier versions of Shareholder were unsatisfactory, calculating dealing costs wrongly for instance. If your experience is based on earlier versions I sympathise but Shareholder3 is far better and I stand by my endorsement of it. ***Clem Vogler***

Tele-adaptation

WHERE can I get a Teletext adapter for my A3010? I have looked at the Morley Electronics one, but it doesn't seem to be of good value. Ground Control seem to have disappeared. Any ideas? – **Stephen Ross, Cranleigh, Surrey**

● *According to our investigations Ground Control have indeed disappeared – unless someone can inform us to the contrary – which means that if you want Teletext you have to use Morley. There is alternative software for the Morley adapter from The Really Good Software Company, but that adds to the cost of course.*

Driven to a hard disk

I HOPE you can help me. I want to get a hard disk drive for my computer. I cannot afford a new one as I would have to save for about a year to get a 30Mb one. Do you know of anyone or any place which has a hard disk I could buy?

I have an A3000, 2Mb ram, RISC OS 3.11 machine. I recently purchased Birds of War, and a seven disk game running from floppies is no joke. For one game I have to swap disks about 10-15 times.

Is it possible to get a 120Mb IDE internal hard disk for my A3000 for about £100. If not what about an 80Mb? – **Rob Donaldson, Stockport, Cheshire**

● *In this kind of situation it's best to peruse the adverts, as with hardware it's all much of a muchness. Try calculating Mb/£ for each product and see what comes out best – though I'm afraid you're unlikely to manage anything useful for £100. The companies to take a look at are Ian Copestake Software or RISC Developments. Another alternative is to keep an eye on the Classifieds as sometimes a real bargain will turn up.*

Moving up

COULD you please help me with the problem of upgrading? I currently have a BBC Master together with monitor, printer (Star NL-10) and twin drive. I have reached the limitations of this equipment and would now like to upgrade.

My question is: Should I stick with Acorn equipment and, if so, what machine should I go for? Although I like Acorn machines I am concerned at the lack of support in computer shops for Acorn – I usually get pitying smiles when I say I require Acorn-compatible software.

Although I enjoy playing games my major requirement is for a good database and word processing package, with a lesser need for DTP.

I have a budget of about £1500 and would like to get a decent monitor and printer. I have heard that Acorn are bringing out new machines – should I wait? – **Paul Davies, Reading, Berks**

● *To deal with your last question first, if people always waited for the next computer because it's better no one would ever buy one. The next machine will* always *be superior but you can spend your life waiting for it.*

The second point to remember is that we are biased, however our personal preference for Acorn machines is based on a knowledge of other systems not ignorance of them.

Yes, you should stick with Acorn and, given your requirements and resources, I would recommend the 2Mb A4000 Learning Curve with Super VGA monitor and 80Mb hard disk which is £1174 including VAT, and you can add 2Mb of ram for about £100. Your existing printer will work and you can upgrade at your leisure.

With the Learning Curve pack you get Advance (reviewed in our May 1993 issue) which contains a competent database, word processor, spreadsheet and charting packages as well as PC Soft with DR Dos 6 and some demonstration software.

As for the looks you get in the High Street stores, frankly you're better off working through dealers who understand the machine and will give support after purchase.

A cry for help

I HAVE been a subscriber to *Acorn Computing* for about a year but have only just purchased a 2Mb A3010 with Acorn colour monitor and Canon BubbleJet BJ-10sx printer.

After many hours with the manuals and audio tutorial tape, I realised that there is a lot to learn. It is a lot easier to be shown what to do by someone knowledgeable rather than relying on books. Is there any group, individual or company who could help? – **David F. Royle, Broadheath, Cheshire**

● *The first step would be to contact your local Acorn dealer. Many dealers conduct their own training courses which are usually free of charge if you bought your machine from them in the first place.*

Alternatively the Arm Club have tutorial days on various topics and specific packages but these are usually based around London.

More schools are having evening classes which take into account that not everyone in the universe uses PCs with WordPerfect. Contact your local school and if there is enough interest they can probably be persuaded to start a course.

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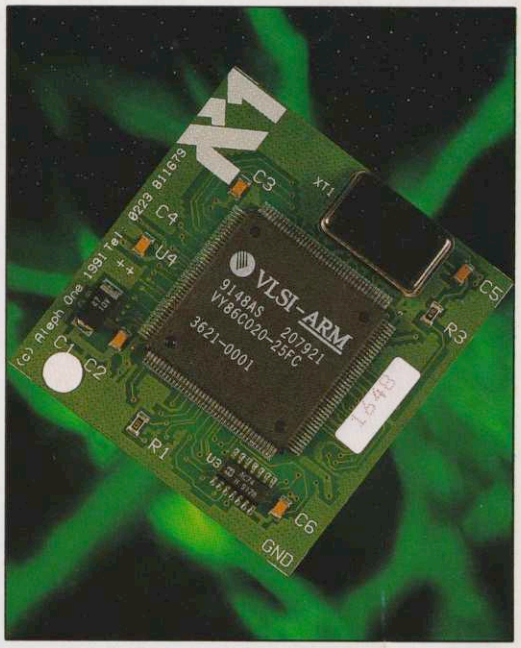

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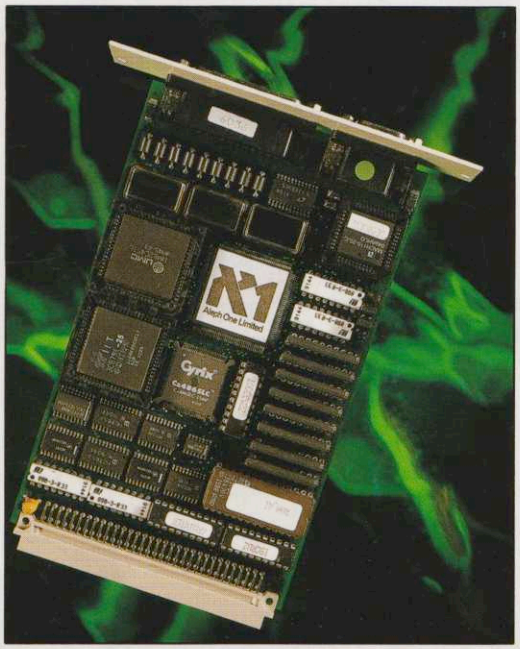

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