

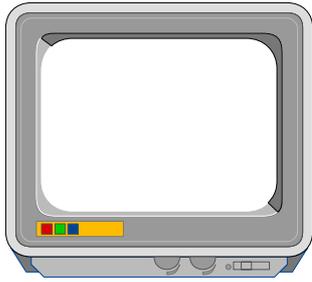
Eureka

**Issue 10
Winter 1993/4**



**New Year's
Resolutions?**

*The Magazine for Members of
The ARM Club*



THE ARM CLUB MAGAZINE

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Editorial

New Year's Resolutions? Who made them? Who broke them? Who has kept them? Who needs them? Lots of people pledge each year to do all sorts of things in the New Year, but often within days or weeks slip back into their bad old ways.

I guess that some of you will have made computer-related Resolutions, such as to use your Archimedes less or more frequently, depending on how much you have used it in the past. You may have decided to learn a new skill with the computer, such as programming, desktop publishing or music making. If you have any illegally copied software you may have decided to buy all software in future.

If I had to choose one Resolution which I hope every Archimedes user has made, it is that they will share their computer, skills and experience with other people. That is one of the things which marks the Acorn world out from the mass market of PCs, that users do give each other so much support.

A computer can be regarded as just a box of electronics sitting on a table. It can be regarded as a productivity tool. Computers have the reputation in some quarters of causing anti-social behaviour among their users, but this need not be the case. The best way to get the most out of your computer experiences are to share them.

If you feel strongly about this, and do not know any other Archimedes users, why not try making contact with some, or even set up a local meeting of users? I'm confident that you will find it worthwhile.

Simon Burrows, Editor

Navigator

Toby Smith investigates whether the latest educational package can stop users getting lost in the classroom..

Navigator has been produced by Topologika as an educational package. Its aim is to teach use of several different navigational systems, and develop the users understanding of mapping. In this context, it is of equal use in Geography and Maths as well as Computing. It does not, as some people believe, plan car trips for you, which is what AUTOROUTE on the PC does.

The principle of Navigator is that it is a “content free” package. This does not mean that you buy an empty box, it means that Navigator is a tool for moving about a map, but what that map represents is completely up to the designer of the exercise. This movement can be done by any one of several different navigation systems. Essentially each system moves a “Dart”, rather like the turtle in Logo, around the screen, drawing an (optional) line after it.

Navigator implements several different navigation systems, all of which have particular relevance to a different kind of scenario:

Rubber Banding

This is basically like drawing lines in !Draw. A faint line follows the mouse pointer around, and the Navigator dart follows whenever you click.

Turtling

Logo style navigation is implemented at two levels, hearkening after previous Topologika programs. Tiny Turtle uses simple turn buttons, and a selectable set of distances, whereas “Proper” turtling allows the user more variable control over distance, and uses the normal ‘degrees left or right’ format for turning. This system is of good use for low level map navigation, such as driving a car dart round a

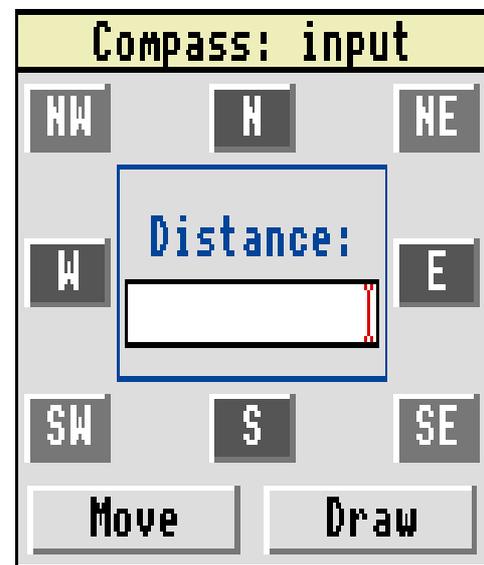
town, walking through parks, and so on. Tiny Turtle is very suitable for following streets, either by car or by foot.

Latitude & Longitude

Navigation by position in the globe, in degrees, minutes and hundredths of minutes (what happened to seconds? I hear you ask). This is very useful for larger based maps, in activities such as flying aircraft, or navigating ships.

Compass points

Move using 4, 8 or 16 compass points, and a variable distance. Useful for orienteering exercises, or as an introduction to bearings.



Intuitive Dialogue Boxes

Ordnance survey

Input Eastings & Northings in 4 or 6 figure accuracy. The grid will automatically switch to show OS references, rather than normal distances.

Bearings

Navigator implements bearings from true North, which is always the top of the screen.

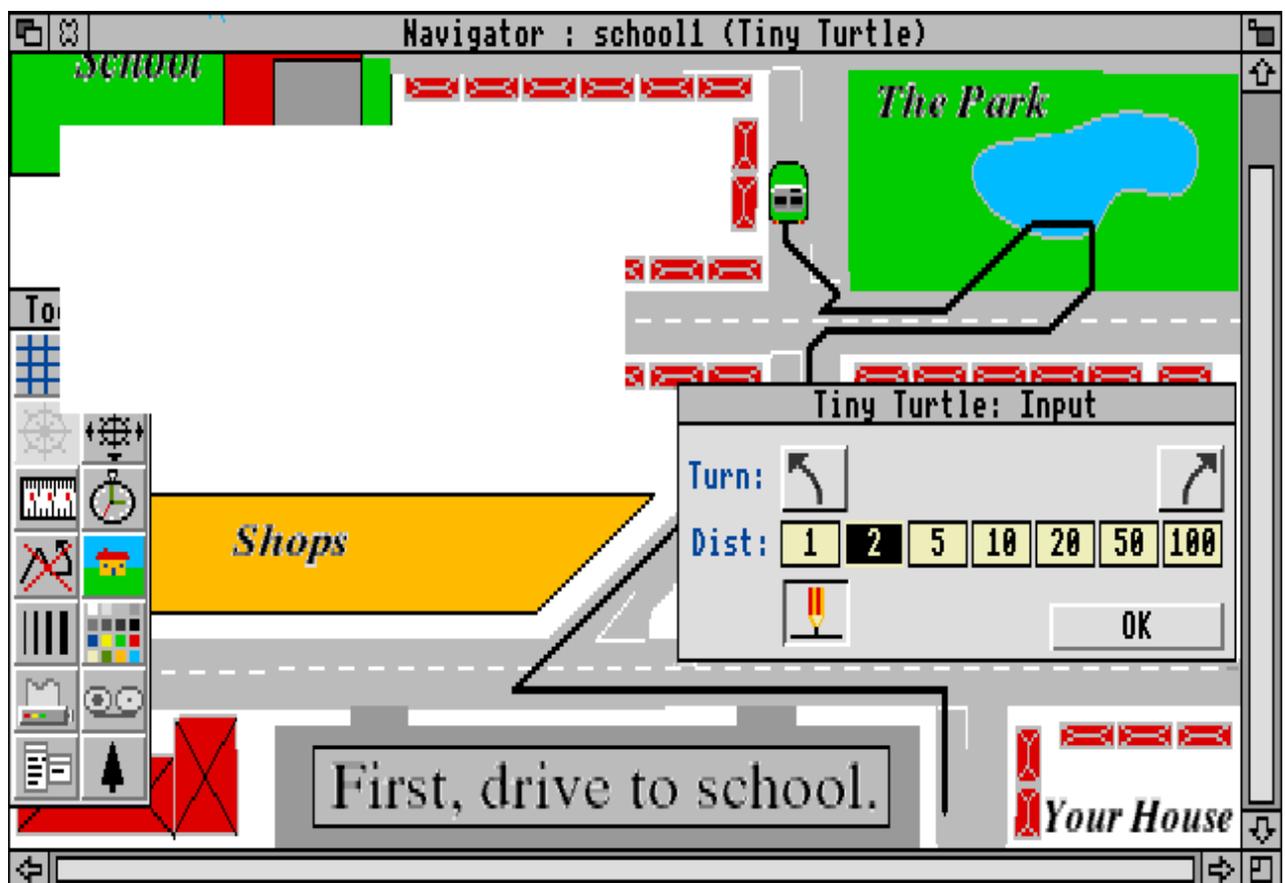
Vectors

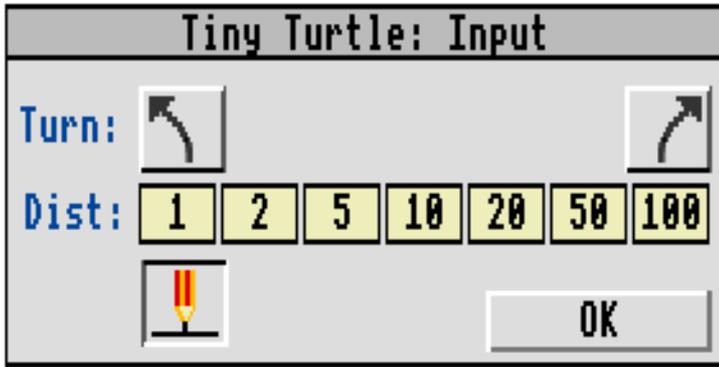
Move by normal 2 directional mathematical vectors. Not much of a navigation system and probably put in for the mathematicians, but switching from one of the other systems, particularly turtling, to vectors can provide a startling comparison.

As well as the different navigation systems, Navigator also provides a set of related and surprisingly useful functions, including a measuring device, a stopwatch, a compass rose and a grid, with optional lock. You can print out the screen at any point, and there is also a movement recorder which lets you store and replay up to 20 movements. A selection of different 'darts' can be used to make the exercise more suited to the context of the map, ranging from ships through cars, trains, planes, helicopters to a pair of feet, a

hanglider, and a generic circular blob! You can even create your own (in !Paint) if you wish.

Navigator works around different exercises, which can be selected from the discs included with the package, or easily constructed yourself. Each map is generated from a source drawfile, which you can draw yourself, or get from any number of suppliers of maps, which Topologika kindly list for you. Having loaded the drawfile map into a Navigator folder (which holds it and other data) you then "Calibrate" the map, using what Topologika refer to as a Very Big Dialogue Box. This allows you to set the grid origin and spacing (so that you can use proper Ordnance Survey reference numbers for example), as well as more mundane features such as the "home" dart position, which dart to pick and the default navigation system to be used. You can also set an area of the map to be a link point, so that when the user reaches his destination on one map, you can display a message, and start up the next map. This allows longer exercises to





Even Eureka's Editor could use Navigator!

be created, such as navigating across an ocean to an island, then rowing ashore, then walking to a house, and then searching the inside of the house for a treasure chest. Unfortunately only one link point can be set up on each map, which limits the exercise to a rather limited single path. I would have liked to see several links, leading off in different directions, so that more complex 'adventures' could be developed.

Not my normal driving style!

Being an educational package, Topologika also thoughtfully provide a comprehensive configuration option, allowing practically all of the various functions to be switched off, allowing you to cut out any navigation systems that your pupils do not know about, or to remove the measurer to stop them cheating on a bearings exercise! This configuration system is password protected, to keep prying fingers out

In use, the package is incredibly intuitive. I could immediately move about the screen in all of the different navigation systems, and had quite a lot of fun using the example exercises, which really do help you to get the idea and possibilities of the program. At this point it should be mentioned that not all the dialogue boxes for the navigation systems work in the same way, (some retain your last data, some don't, and others use buttons rather than writable fields). However the Style Guide purists amongst you can stop moaning as these actions have been developed from extensive testing by children, and each dialogue box is



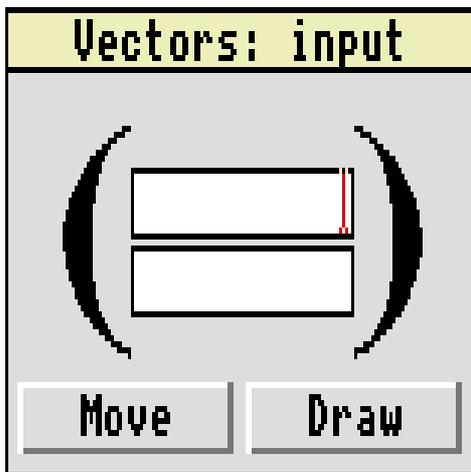
easy for children to use in practice rather than having inapplicable standards get in the way. Actual use of the assorted tools such as measure, grids and so on can be via a menu, or a toolbox, whichever you prefer. The icon bar menu provides access to all the set up features like the configuration and calibration dialogue boxes.

The manual that comes with the package is aimed very well. It is written in Topologika's nice jovial style, describing each of the functions in very simple, but surprisingly unpatronising language. This is ideal for teachers, who often have to use packages with manuals that basically aren't on their level, as they don't necessarily understand even the minimal jargon used. If you are confident in knowing your way about the computer, or have an IQ of over 100, then you will hardly need the manual at all. Navigator also supports interactive help (such as !Help from the applications suite). Also included in the literature are a set of worksheets based on the example files, to point you in the right direction when creating your own, a list of suppliers of suitable computerised maps, and a guide to "Navigator in the Classroom" that actually only describes the example activities, but in such an enthusiastic manner that you can't help but dive on the computer and create your own!

— “ —
...you can't help but dive on the computer and create your own files...
 — ” —

In the classroom, children should find the program very easy to use. They will probably think it was a fun lesson, failing to notice that they were actually learning something, but this depends on how much thought is put into designing the exercise. Most children,

particularly the older ones should work out that the grid provides a suitable way of estimating distances and rough bearings, whilst the really smart ones will use the measure feature to accurately work out the required bearings and distances in more complex exercises. (If this gets to be a problem, you can always configure them off in the preferences section!) Some children will even discover that you can actually sail the ship over land, hence making navigating up winding creeks easier!



Vectors? Navigator makes them simple!

In summary, Navigator provides a simple way of creating navigational exercises from a set of resource or self-created maps (as drawfiles). These maps can be taken from any commercial source, either drawn yourself, or scanned in. It is very easy to use throughout, from the viewpoints of both the child, and the teacher. However, whilst being a nice modern method of teaching navigation type skills, I must admit that the old methods of pencils, paper maps and rulers will probably be easier to teach, as it isn't everybody who can whisk an entire class off to a computer room all the time.

Toby Smith
Archimedes Help Service

DATAFILE

Navigator costs £44 from Topologika, PO Box 39, Stilton, Peterborough, Cambridgeshire, PE7 3RL. A 10% Club Discount is available if bought direct from Topologika.

Schools are allowed to make up to 5 copies for use on one site. Over this, or if you want to put it on a network, you must purchase an extended site licence from Topologika.

It works under all versions of RISC OS, but has extra features (such as rotating darts, and 3D look dialogue boxes) under RISC OS 3.

Topologika quote the following parts of the National Curriculum, but as this is famous in teaching circles for changing from day to day, these references should be taken with the proverbial pinch of salt:

Geography AT1 Skills
 Geography AT4 Human Geography
 Maths AT3 Algebra
 Maths AT4 Shape and Space
 Information Technology Strand IV Computer control.



Acorn User Spring Show

This year's Acorn User Spring Show is taking place at the Harrogate International Centre from 22nd–24th April, and looks set to be an exciting and interesting event.

The ARM Club will be exhibiting at the Show, and we are currently looking for one or two members with a good knowledge of the Archimedes who would be willing to lend a hand on our stand. If you would be interested, please drop a line to the Club Secretary, including a bit of information about yourself.

ARM Club News

The Club's Annual General Meeting took place on 5th December, after our Christmas Open Day, and we were delighted that two new faces were elected to the Club Committee. Ralph Sillett and Geoff Stilwell will bring much expertise to the Committee, and could possibly stop Nick Evans from eating all of the doughnuts at Committee Meetings!

There are two aspects of the Club which we are keen to improve that the moment – the first of these is advertising, attracting new members through the large Acorn related magazines. In the past the Club has largely relied on word of mouth, and our stands at the Acorn User and Acorn World Shows, but these can only do so much. Secondly the Club will be expanding its work developing software and hardware, as described elsewhere in this issue of Eureka. There is so much talent within the Club and its members that it seems a great pity not to have tapped this in the past. The Committee has asked it be stressed that the Club has no intention of becoming a commercial organisation, all proceeds are reinvested in the Club and providing more services for members.

Our stand at the Acorn World Show in October was very successful, as those of you who came along will have seen. Indeed the Club stand was busy throughout the Show, and at times it was impossible to get near to it! A large team of volunteer helpers manned the stand throughout the Show. Special mention must go to Nick Evans who spent most of the Show ensuring that the PD Library ran smoothly.

The Club will be exhibiting at both the Acorn User and Acorn World Shows this year, and is greatly looking forward to them both. After the success of the first Spring Show last year in Harrogate, this year's Show looks set to be very

continued overleaf...

Christmas Open Day

A Report by Simon Burrows

Sunday 5th December saw the Club's Christmas Open Day in North London. The new venue was Belmont School in Mill Hill, and the Open Day took over the School Hall and several classrooms.

A number of well-known companies were present to show off their wares, including several of our traditional supporters such as TMJ Software, Le Computer and Software 42. Some new companies came along for the first time, including GamesWare, Davyn Computer Services, The Serial Port, David Pilling Software and Wyddfa Software. Also present were Editorial representatives of Archimedes World Magazine and Illusions Disk Magazine.

The Club's PD Library did a roaring trade, thanks to Nick Evans, and the 2nd hand hardware stand was also very popular, with some exceptional bargains to be had! The Technical Advice Stand was busy throughout the day, and the Membership Secretary had a busy time signing up new and renewing members! The entry prize draw was won by Mrs D Malcolm from Hertfordshire.

One problem did raise its head, in that Acorn Computing Magazine was holding an Open Day on the same date in Manchester. This meant that several planned companies were unable to be with us.

Overall the day was a great success, and most importantly provided an invaluable social occasion for meeting other Archimedes users. The AGM took place afterwards, and at least one large group of visitors went off for a meal together in the evening. Special thanks must go to Bruce Dickson & Andrew Flower, to all the

exciting, and we particularly enjoy meeting members for whom a trip to London is too far. The Harrogate Show has a significantly different feel to the London Shows, and we would highly recommend a visit. (Advance tickets to the Acorn User Spring Show are available to credit card holders by telephoning 0737 814713).



One function of The ARM Club is to provide help and advice with solving Archimedes related problems. Often the best way to overcome difficulties is to discuss them with somebody else who uses an Acorn machine, but the Club also offers a choice of different ways of obtaining support.

An independent help service, the Archimedes Help Service is run by Club member Toby Smith, and we are happy to support it, although we cannot accept responsibility should any difficulties arise. Queries can be sent by letter or telephone.

The Archimedes Help Service
7 St Catharine's Way
Houghton on the Hill
Leicestershire
LE7 9HE
Tel 0533 413850
(out of office hours)

Naturally advice on any computer related matter is also available directly from the Club, and our Technical Help Service is available by telephone, letter or fax.

If you choose to telephone with a query, please think beforehand how to phrase your query so as to avoid any confusion, and if

relevant have the software or hardware set up when you make the call. Fax is a particularly good way of sending complicated enquiries which need a quick reply.

Technical Help Service
The ARM Club
FREEPOST ND6573
London
N12 0BR

Tel 081 446 3020 Fax 081 446 3020
(Answering machine at unusual times)

Finally, there is one last contact address. Long standing Club member Andrew Ferguson works as a PC Consultant, and is happy to answer any PC related queries which you may have. Andrew's address is:

Mr A Ferguson
Flat 7
528 West Green Road
Turnpike Lane
London
N15 3BU

Logo Competition

In Issue 9 of Eureka we announced a competition to design a new logo for The ARM Club, to replace our existing one which was designed by Club Treasurer Mark Watts. Unfortunately there are problems with the shape and colour of this existing logo, so we threw open the design of a new logo to you.

We've been very pleased with the response to the competition, many of you must have spent hours designing your entries, and it has proven difficult to choose a winner. The competition is now closed, and the winner will be announced in Issue 11 of Eureka. Thanks to all of you who submitted entries, whether the winner or not.

Floating Point Accelerator

Review written by Martin Ebourne

What is an FPA?

The FPA (Floating Point Accelerator) is a small chip which can be plugged into certain Acorn 32 bit computers to speed up arithmetic operations on non-whole numbers. The reason for wanting to do this is because ARM processors (in common with nearly all other processors) can only perform arithmetic on whole (integer) numbers. Thus if you want to deal with fractional numbers, it has to be implemented in software and hence runs quite slowly. Fortunately, fractional numbers are rarely needed so this is usually not important, but for some applications they are used intensively; examples include spreadsheets, CAD, fractals and particularly ray-tracing.

Suitability

The FPA can only be used in an ARM 3 machine clocked at no more than 26MHz, and then only if there is a socket for it. In practice, this means it will work with all but the most recent (33MHz) A5000s, most A540s, and any other upgraded machines with an FPA socket.

If you have a very recent A5000 (since about September of last year), you may have a 33MHz ARM 3. If this is the case, you will have to wait for the promised faster FPA to be released some time this year.

If you have an early A540 then you can still fit an FPA, but the processor card will have to be replaced for a more recent one free of charge. Be warned, though, that these newer cards use 26MHz ARM 3s rather than 30MHz so the whole computer will slow down slightly.

As to ARM 3 upgrades, check with your supplier to see if yours is compatible.

One last point – if you use RISC iX (an alternative operating system to RISC OS) it will be necessary to contact Acorn for a copy of the RISC iX drivers.

Installation

This is easiest for A540 owners, since they simply need to plug it into the socket provided on the processor card. A5000 owners will have to remove the entire floppy/hard disk/backplane assembly (and possibly even any RAM expansions) since it is located under these. This is not very hard though, and easy to follow instructions are included. If you really do not want to dismantle your computer, however, your local dealer should be able to fit it for a charge.

Once the hardware is in place, you then need to modify your !Boot file to load the newer version of the FPEmulator which is supplied. That is all there is to it, and the only way you'll know if it is working is if the FPEmulator loads correctly.

How it works

The FPA follows the same RISC philosophy that the ARM processor uses. This means it only implements the simple functions, and the FPEmulator is still needed to implement the rest. However, since all the complex functions are just a sequence of simpler functions, these too will speed up. Since the FPA concentrates only on the simple functions, those can be made to run a lot faster, so the overall result is a faster system.

Any programs which use the FPEmulator will automatically be speeded up – they need not do anything special. Indeed, they will most probably not even know that there is an FPA

fitted.

The FPA conforms to the IEEE 754-1985 standard which is designed to help improve compatibility between computers. This is unlikely to matter to most people, though if you are interested, further details can be found in the FPA data sheet available from Acorn Direct. There is a slight deviation from the standard caused by a hardware bug, but this is unlikely to cause problems.

In use

What, of course, you really want to know is what will go faster, and by how much. Firstly the desktop itself will not go any faster at all. Neither will any programs running from BASIC V (the one in ROM). The reason for the latter is because BASIC V uses its own floating point routines rather than the FPEmulator. These are compatible with the original BBC Micro BASIC and hence operate at a lower precision (10 digits rather than 17) to the FPA. Thus they run faster normally, but are not speeded up when an FPA is fitted. In anticipation of this, however, Acorn released BASIC VI with RISC OS 3. This is practically identical to BASIC V, except it uses the FPEmulator (and hence FPA) giving a greater precision and generally faster speed when the hardware is present. BASIC VI is provided as a module on the disks which come with RISC OS 3, and if used instead of BASIC V you will get a speed increase, though not as much as with non-BASIC programs.

As to the actual increase gained, this is going to vary. Though benchmarks can be quoted until you're blue in the face, they don't really mean anything. The best test is to run the programs you use and see how much faster they go. Below is a sample of the timings of a few programs run with and without the FPA. They are by no means accurate tests,

but merely indications of what is to be expected. I have included one benchmark though – it is the Mflops (mega floating point operations per second) which is the number of a sample of functions which can be completed in 1 second, by the million. This is quite standard and handy for comparisons.

† No FPA
‡ FPA fitted
* Speed increase

Mflops rating (using !ArmSI)

0.085† 2.50‡ 29.4*

Mandelbrot using !Fractal

348sect† 16.1sect‡ 21.6*

Raytrace using POV

14hr 12min† 1hr 5min‡ 13.1*

Conclusion

For most users, the FPA is of little or no use, but if you have cause to use CAD or fractal programs much, then it could be very useful. If you are at all interested in raytracing, it is almost essential. I doubt if many spreadsheet users will find it an advantage, although perhaps anyone using it for more scientific purposes and handling large amounts of data may benefit. Of course, you must ensure that the program you are using it for will take advantage of the hardware.

Compared with PC prices, the FPA at £99 + VAT is very reasonably priced. Compared with PC speed, a raytrace on POV which took 1 hour 1 min on the Acorn, took practically 2 hours using the PC version on a 33MHz DX.

Martin Ebourne

The FPA is available from all Acorn dealers, priced at £99 + VAT (Product Code FPA10). The datasheet is available from Acorn Direct, priced at £10 (no VAT). FPA for 33MHz A5000 expected later this year.

WordWorks

Mark Watts admits a soft spot for Computer Concepts' WordWorks!

At last after a short wait and loads of rumours, WordWorks the latest offering from those fantabulous guys and girls at Computer Concepts has arrived.

WordWorks is a combined thesaurus and dictionary designed mainly for use with Impression but it can also be used with other DTP packages and word processors or even on its own as a stand alone program.

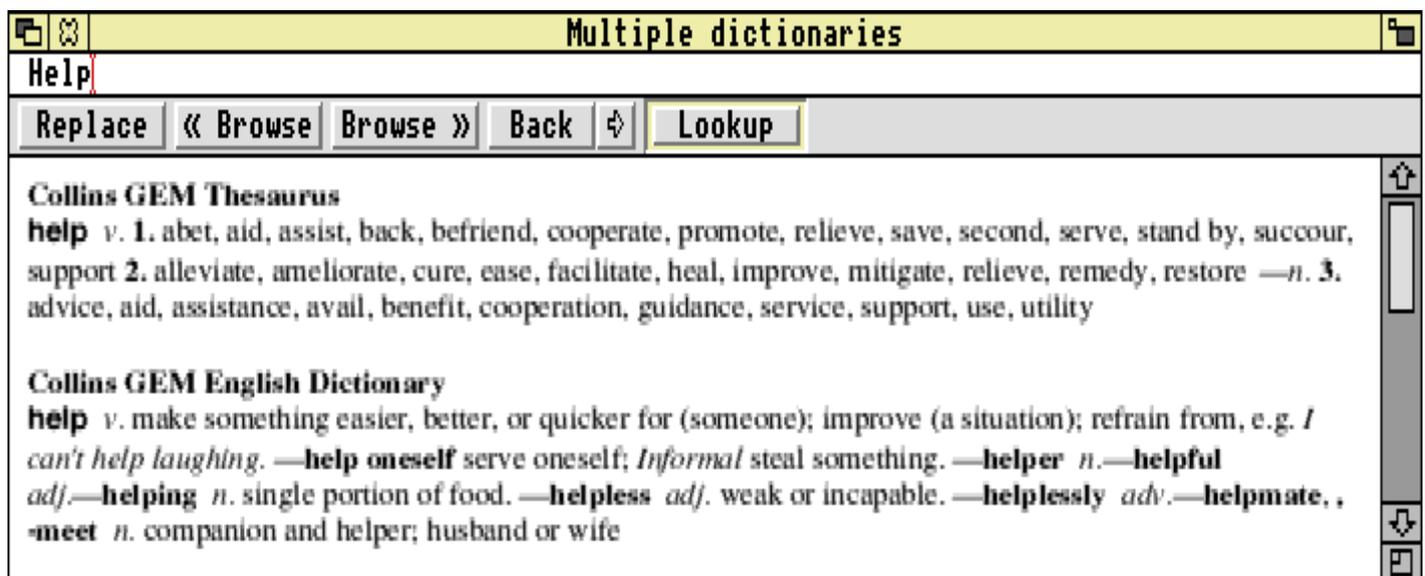
The dictionary and thesaurus have been licensed from Collins, one of the main producers of language text books in the world. It is a computerised reproduction of their respected GEM series.

The one (and only!) problem that I found with the program was the manual. It could have been punched and presented so that it fitted in with the Impression manual. This is a minor detail I know, but I think that the majority of people using this program will be Impression users.

Anyway with the program's bad point out of the way on to the crux of the matter. As I said before I could only find one minor bad point with the program so what about the good ones. Well where do I start there are so many, abundant, copious, countless, frequent, manifold, myriad, numerous, profuse, sundry, varied, various.

Seriously I am probably a little biased as I mainly use Computer Concepts software and am very used to its operating style. This program though is very easy to use I mean, even my mother can use it without any prompting, and that's saying something.

WordWorks is directly linked to Impression, just by opening an Impression document and the Word Works (WW) window and double-clicking on the work to be checked, the word is looked up in WW application and any matches are displayed. Any or all of the text found by WW can then be selected and inserted into Impression.



The main WordWorks window uses outline fonts

WW can also be customised to suite personal needs i.e. text size and font type for either the main 'word' or the body (description) text.

The amount of memory that WW uses can be set as can the amount of memory used to hold the dictionary and thesaurus text. Entries can be saved in whole or in part for use in another application.

WW also contains Interactive help although I don't think anybody will need to use it.

All in all I give Computer Concepts 10 out of 10 for superb presentation of a very useful package. Even better it is included as a "freebie" with Impression Style and Impression Publisher, including the upgrades to those packages from previous versions.

Mark Watts

WordWorks costs £39+VAT, but is included free of charge with Impression Style and Publisher, including upgrade versions.



Discounts Scheme

Many of you will no doubt already know about and may have used the Discounts Scheme operated by The ARM Club for the benefit of members. This article is a brief update on the Scheme and will be updated whenever new information is available. Please ALWAYS quote your membership number when ordering. Please remember that these discounts may be subject to change without notice, and the companies concerned reserve the right to refuse a discount.

Topologika

10% off all software products.

Stallion Software

Title	RRP	Club members.
Almanac	£85.00	£80.00
StrongEd	£30.20	£25.00
Asm_Help	£15.00	£10.00
Lexicon	£39.00	£30.00

Members' Prices include VAT and P&P

Spacetech

10% discount on all software products.

Superior Software

Superior Software offer a 25% discount on all of their software products.

Minerva Software

15% discount on all software products.

The Fourth Dimension

£3.00 discount on all software products.

The Serial Port

10% off Phaethon, discounts on other products by negotiation.

Colton Software

Colton Software now offer a 10% discount on all of their software products.

Atomwide

Atomwide offer 10% discount on all of their
continued on page 15..



SuperGram II

Andrew Hersee gets his words in a twist with SuperGram II.

I expect most of you are familiar with anagrams where you rearrange the letters of a word to make another. Supergram II, takes anagrams a stage further and tries to make sentences by rearranging the letters in a phrase.

What Supergram tries to do is considerably harder than finding single word anagrams. There will usually be several thousand possible phrases which would take a while to read through! Supergram analyses each solution and gives it a score keeping the top 500 (configurable) for your inspection. In order to do this the computer needs to understand English. Supergram uses several Artificial Intelligence algorithms to do this.

Stage 1 - Input

There are several stages to creating a list of anagrams, each help the computer pick anagrams best suited to the original text. The first stage tells the computer a little about the original text, eg is it male, female or Inanimate. You can then ask for a touch of flattery or satire in the resulting anagrams and finally say if the text is Political, Business like or to do with Computers.

You can restrict the dictionary search to certain words by selecting categories that you do not wish to be used. A small application comes with the package which allows you to permanently set some of the options for use in the classroom. For example you could switch the 'vulgar words' option off and the pupils would not be able to switch it on.

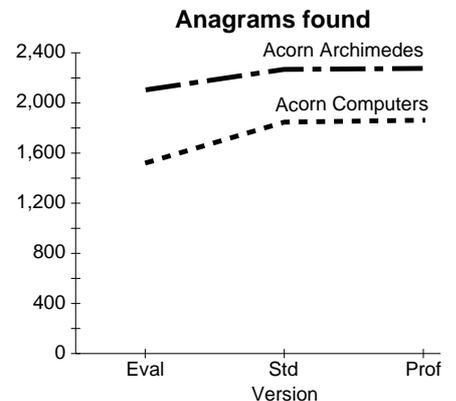
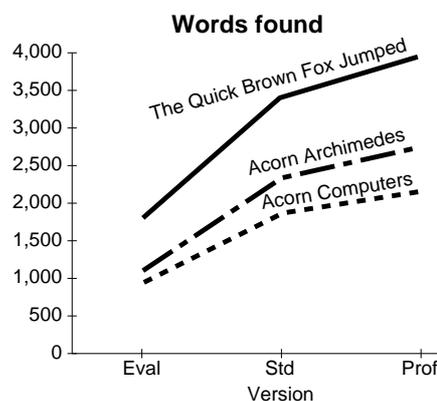
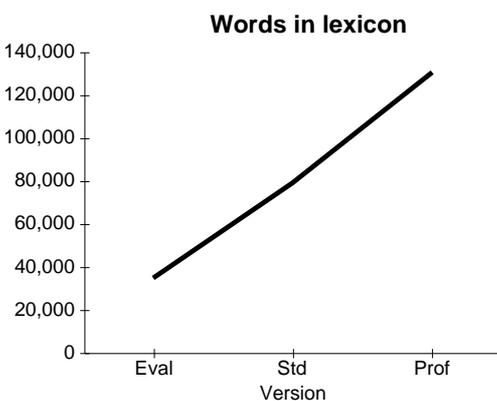
The last part of stage 1 allows you to specify how long the search can take, how many anagrams to store etc.

Stage 2 - Scan

In this stage the computer scans through it's dictionary for words which can be produced from letters in the original phrase. It gives each word a score depending on the description of the text you set in stage 1. After it has searched the dictionary you are given the opportunity to hand tune the list, if you spot a word that you would like to use you can increase it's score likewise you could reduce the score of a word you dislike.

Stage 3 - Search

This is the time consuming stage when the computer searches for anagrams giving them a percentage score as it goes. Fortunately it multitasks so you can get on with other things,



although short phrases only take a minute or two. If you are short of time you can reduce the amount of time available and it will try to find the best anagrams within that time, as a result it may miss some out. During the search the expected time of completion and whether it's ahead or behind schedule are displayed along with a host of other statistics.

Final stage - Weed

This stage is completely manual you are presented with a list of the best 500 anagrams. Double clicking on one allows you to rearrange the order of the words if you so desire and then adds it to a separate list of 'chosen' anagrams. After this you may save the chosen anagrams along with the longest words found in the phrase as a text file. You may also save the complete list of anagrams.

Versions

The software comes in three versions all of which use the same software but each have a different size lexicon which affects the power of the program. Firstly there is an evaluation copy available from most PD libraries, then there is the Standard edition which costs £12 and finally the Professional edition costing £34.95. The size of the lexicons are 35000, 80000 and 130000 words respectively. To give some idea of how this affects the final results I tried all three versions on three phrases, the results are shown by the graphs on the previous page. Note that the number of anagrams does not include anagrams that scored below 40% which explains why it found no anagrams of "The quick brown fox jumped".

Examples

Acorn Computers = Concepts' armour
Andrew Hersee = Answered here
Simon Burrows is Eureka's editor = Semi-

serious workarounds tribe.

Michael Heseltine = Elect him, he's alien

Saddam Hussein = Human's sad side.

Sean Connery = On any screen

There are many other good examples which are unfortunately unprintable.

Conclusion

A little like a morphing package this, it's great fun to play with but do you really need it? It may help if you have to think up newspaper titles or write crosswords and the manual suggests it could be used as an educational tool. If you do need it then it is a clever piece of software with a well thought out interface.

Whilst many of the anagrams make little if any sense, I doubt a human could do better even with a far superior understanding of English. It tackles a difficult problem reasonably well.

I suggest you get hold of the evaluation version and if you use it buy the standard version. There is a noticeable improvement over the evaluation version and the included manual is well presented and includes several tips and good anagrams. The professional version, whilst it found more words, it only found a few extra anagrams when compared to the standard version. This is mainly because the extra words in the lexicon are long words and the phrases I used were short.

Andrew Hersee

Supergram II is available from W. Tunstall-Pedoe, PO Box 395, Cambridge, CB3 9PJ.

The Evaluation version of SuperGram II has been included on the Eureka Disc accompanying this issue.

William Tunstall-Pedoe is also the author of Cyber Chess, available from The Fourth Dimension, as well as other software.

Monotype Font Collection 1

Nick Evans tries out some quality outline fonts from LOOKsystems..

LOOKsystems of Norwich have released 100 fonts for £95.00. These are licensed from Monotype and are converted to Acorn outline font format. They are supplied in a plastic wallet on six discs and a nicely produced A5 booklet giving the full character set for each font in 16 point, the letters Aa at 80 point and the usual lazy dog story in 10, 12 and 14 point. (Remember that a point is 1/72nd of an inch). There are a few fancy fonts which don't include the full Acorn RISC OS 2 Latin1 character set - Matura, Mercurius, Neographic, Onyx, Pepita and Perpetua which are missing characters such as < and >. Also no font includes the full RISC OS 3 Latin1 character set

The installation procedure is easy but for some reason the instructions are on a separate loose piece of paper and not in the manual. On running the Install program you have to enter your password, which is to be found on a visiting card in the wallet somewhere. Then you can pick which fonts you wish to install on your working disc and also whether you want RISC OS 2 or 3 format for these fonts. RISC OS 2 users will not be able to use RISC OS 3 fonts which have extra information in the IntMetrics file. Since you can use the Install program as often as you want then you can reprocess the fonts to RISC OS 3 format at a later date if you don't have it yet (but you should have it by now).

In the wallet is also your registration card with a number on it which is included within the IntMetrics file and apparently there is also an encoded version of the number within each font to discourage fonts finding their way onto inappropriate discs or machines.

Included on disc 1 is a small directory with the font names and encoding information that you need to use the files in a PostScript printer.

Although there are 100 fonts in all these are arranged in 26 different groupings. For example there are 11 fonts within the Gill Sans group - including Gill Sans itself and light, light italic, italic, bold, bold italic, extra bold, ultra bold, condensed, condensed bold and condensed ultra bold. Also included are 4 faces of the Plantin expert group which contain non standard characters, such as ligatures, for special applications.

The fonts are a varied selection and the pack should contain some that you will find useful. Some of the monthly magazines have been featuring full-page adverts for these fonts with

This is 20th Century Ultrabold

This is Arial Black Italic

This is Baskervill SemiBold

This is CenturyOld Bold

This is Dante Medium Italic

This is Garamond Italic

This is Goudy ExtraBold

This is Headline Bold

This is Janson Italic

This is Matura

This is Mecurius Script Bold

This is Neographic

This is NewsGothic Italic

This is Pepita

This is Plantin Bold

This is Poliphilus

This is Rockwell Condensed Bold

This is Swing Bold

Some examples from the Monotype collection

a complete display of fonts in the form of a list and so I won't provide a complete one here. There are fonts with serifs (curly bits) and without, joined-up writing or old fashioned fonts and a few fancy fonts.

The fonts are conversions from the Monotype library and not drawn anew for RISC OS as were most of the Electronic Font Foundry fonts. I feel that this is a more satisfactory approach as small idiosyncrasies have not been introduced, allowing the displayed and printed material a uniform look whether produced on a Mac, PC or Acorn machine in PostScript format. Due to the difference between the way in which Acorn have decided that their outline fonts should be scaffolded and the PostScript method of scaffolding this does not happen when using bit-mapped page printers such as the RISC OS dot matrix or LaserJet printer drivers. These fonts, however, have been converted well and are able to be printed out at a very small size – I found them readable at 4 points.

With the large number of fonts available in this pack I feel that it is a pity that LOOKsystems' Font Directory, a very useful font management program, could not have been included in the package, even if the price was increased slightly, or perhaps a discount voucher. [*Font Directory was reviewed by Peter Greenham in Issue 9 –Ed*]

I can thoroughly recommend Pack One of the Monotype fonts as being excellent value for money for those who wish to use more fonts than are given with the Acorn machines. I can't fault buying these at 95 pence per font.

Nick Evans

*LOOKsystems can be contacted at 47
Goodhale Road, Bowthorpe, Norwich
NR5 9AY. Tel 0603 764114*

Discounts Scheme

continued from page 11

Archimedes products.

Design Concept

Design Concept offer 20% discount on all of their products.

GamesWare

Regular special offers. See enclosed leaflet for details. Orders must be placed using a special order form, extra copies available on request.

Ground Control

10% discount on all Archimedes products.

IFEL

IFEL offer 10% discount on all products.

Morley Electronics

Morley Electronics offer 10% discount on : SCSI Hard Discs, Memory Upgrades, 3.5 and 5.25 disc drives.

Palette Studio

Palette Studio offer 10% discount on ALL of their products.

TBA Software

AXIS : RRP £24.99 Members £15.00
ProPad : RRP £24.99 Members £20.00

The DATA Store

The DATA Store offer 10% discount on all of their software products and 5% discount on all of their hardware products.

ARNOLD'S OBSERVATIONS

Steve Arnold makes some New Year Suggestions...

Well, like a lot of people launching headlong into a New Year, I'm a lot poorer! (It is amazing what a long month January seems to be). I'm out of sorts – too much food, drink and Christmas television. Still beats being at work any day!! Christmas is a time for Children, or those who are young at heart. My children have had a wonderful time... Have you noticed how children under the age of one or two prefer the wrapping paper and the packaging instead of the presents you've spent all that time at work trying to afford? – Later in their lives I'm going to remind them of a time when a piece of coloured paper amused them for hours – Hey! Come to think of it – It's still the same for me, especially when I get my monthly pay slip!

Into 1994

Anyway, on with the first article of '94. I have decided to start the year with a simple list of tips for 1994. I've taken one or two of them onboard as New Year Resolutions for myself (along with the one about writing my articles on time!). I hope you find the tips useful.

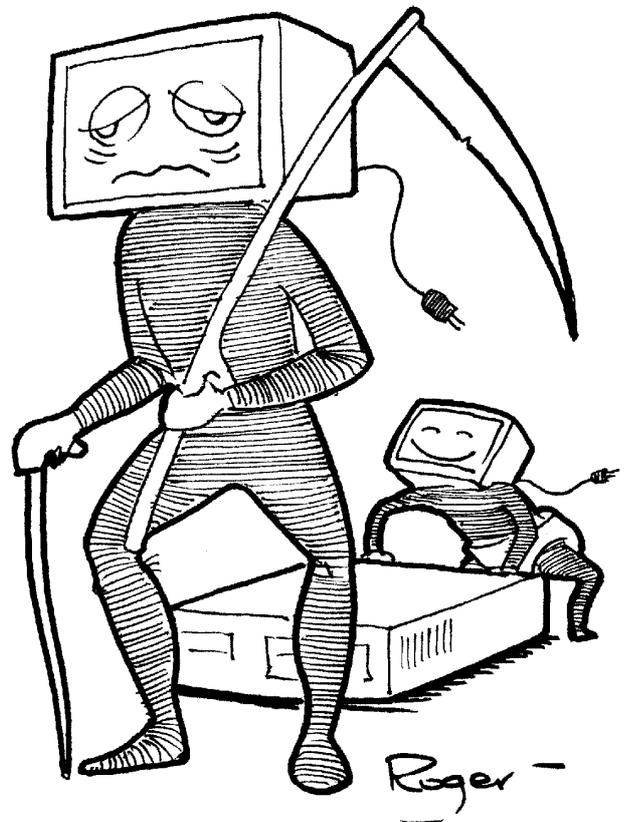
Ten Helpful Tips for '94

1. **Backups:** Make regular backups of all important data, it can take days to create your masterpiece and only a second to lose it. I wish I had penny for every sad story I heard about lost data, why I've even told a few stories myself!

2. **Preparation:** Take some time to prepare your activity on your computer. It is like anything in life, take a little time to plan it and it will save hours in completing it. Remember you can plan something and be with your loved ones at the same time. It helps you get away

from your machine for a while and back with family or friends.

3. **Viruses:** Beware what you put into your machine. Always ask yourself "Am I sure this disc hasn't got a virus?" Some of these nasty little things can cause no end of trouble. They can cause a loss of data/programs and in extreme cases cause damage to you hardware. Don't take chances.



Father Time: Out with the Old, in with the New

4. **Security:** Keep your system safe and don't forget to mark it! Simple, buy one of those clever UV pens and postcode your system. It doesn't stop it from being stolen, but will help in getting it back.

5. **Keep it Clean:** Always try keep your computer clean – buy it some Dust Covers!

Don't eat or drink over it; this has a number of benefits – you don't gum up your keyboard, you don't blow it up and it'll still look great when you need to sell it in favour of the latest mega machine.

6. **Blank Discs:** Always have a least 10 blank formatted disc available. I know this sounds silly, but I've lost count of the number of times I've cursed myself for not having some blank discs around – I reckon that it takes longer to format when you need them.

7. **Analyse your Requirements:** If you're looking to buy some magic piece of hardware or software, there are several questions you should ask yourself: Why do you need it? Does it fulfil your current and future needs? Is there anything better? Can I afford it? Can I wait until I can afford it or until something better comes along? Remember I am not trying to stop you buying, I'm just asking you to analyse the reasons for it. If you think about it, most of the time (if you are honest with yourself) it is because you just WANT it!

8. **Be more creative:** Use your computer for more than just amusing yourself, pack away the games and use your system to create something. Use your imagination and make the computer become a tool for your creations.

9. **Share & Enjoy:** If you have discovered some new feature or option in some software or you've found a neat way of doing something, don't keep it to yourself – pass it on to another user [*or send it to the Club! – Ed*]. You never know they may pass some useful information back – Exchange is no Robbery!!!

10. **Be aware of the future:** Keep aware of

what your computer is capable of. You never know what's around the corner. Don't close your mind to new ideas and new ways to do things. And finally don't become another computer bore! Variety is the spice of life.

I hope you find some of these tips useful. If you have any others to add to the list, write in and share them with us. Time for me to close once again.

I'll leave you with this thought:

Common Sense: If it is so common – why are there so many people with a lack of it?!

Have Fun, and A Belated Happy New Year to you all!

Steve Arnold

Introduction to Sprite Handling

The first part in a new series on Sprite Handling has been included on the Eureka Magazine Disc, written by Atle Mjelde Bårdholt. The series is planned to give an insight into the writing of graphics demo programs (both fun and serious).

As an experiment, the article has been included on the disc so that it is easy to refer to the programs on disc. What do you think to the idea of including more articles on the Eureka disc? Please write in and let us know.

BETT '94 Show

The annual BETT Education Show took place at Olympia from 12th-15th January. News arrived to late to appear in Eureka, but a full roundup is included on the Eureka Disc.

Rephorm

John Bancroft experiments with another morphing package to see how he can mutilate the Eureka Editor's face...

In the last issue of *Eureka*, I reviewed a morphing package, **Morpheus**, produced by Oregon Developments. Another technology hot house, Oak Solutions, has just released more of the same, a package called **Rephorm**. To refresh your memory, morphing is a technique where one image can be gradually transformed into another. This is achieved by stretching an image and fading the colour. As this is a special effect used in advertising, music videos and popular films, it is hardly surprising that it has filtered down to the computer market. Morphing can achieve stunning animation sequences or simply just entertain by distorting scanned images of friend and foe! (*Ahem – Ed*)

Both **Morpheus** and **Rephorm** provide a competent software package, but each have advantages over the rival. The first consideration must be ease of use, and **Rephorm** uses a simpler system. Control points can be set up by clicking on a selected area. **Morpheus** uses a grid system, where points have to be manually pulled to fit the image contours. This is rather a fiddle (like tying a bow while wearing boxing gloves) and is also very time consuming.

Each package uses windows to display the starting and finished images, with another for the intermediary stages. **Morpheus** is able to accommodate windows of any size, so a



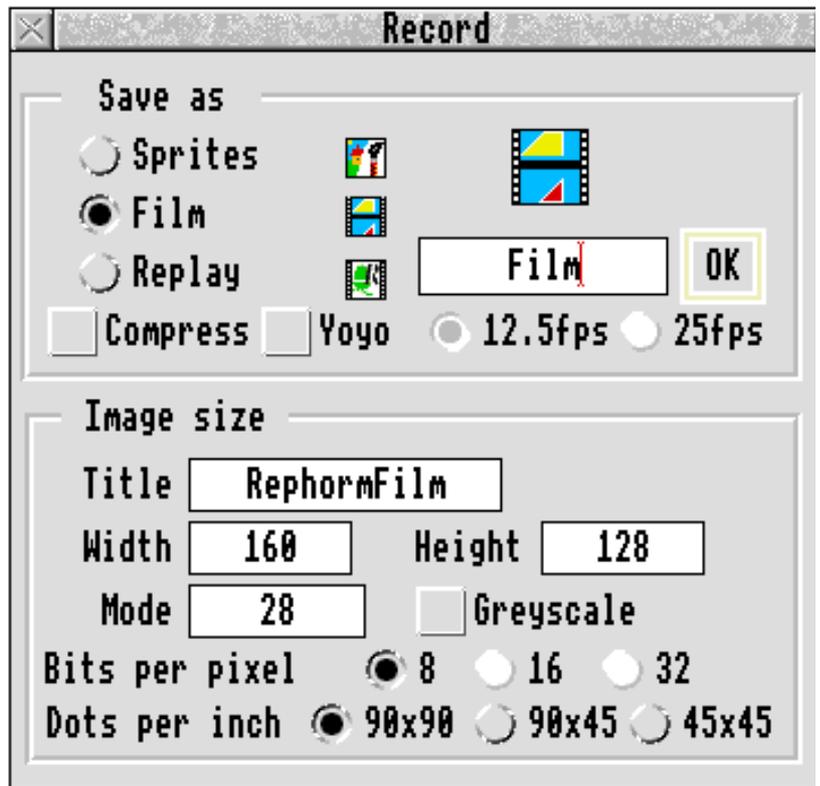
The main Rephorm Window. Thankfully the Editor's face isn't being worked on here.

complete image can be viewed at the right magnification. **Rephorm** uses a fixed size window, and although images can be enlarged within it, this is a more complicated process. However, there is a "thumb nail" size window, which automatically displays the image as it is being sequenced. Another unique facility is the provision of 2 graphs, to measure the speed of colour and image change. This gives a fine control to precisely adjust individual frames.

Morpheus is able to use 24bit clear files, as well as the standard sprite files. There are a wide range of software packages (!Translator, !PDSview, !ChangeFSI, CC Colourcard users !Clearly etc) that can utilise this file format. **Rephorm** uses standard sprite files, and the new Acorn 16 and 32bpp formats. At present, not many packages are written to use this format. This disadvantage should be rectified with any future generation of Acorn machines.

Both packages can output animated files. **Morpheus** has its own format which is mode independent and can produce very impressive high resolution animations. **Rephorm** has the capability to produce 2 types of animated files – (i) Ace films which can be played by !Projector and can be understood by a number of packages, such as Genesis, and (ii) Acorn Replay films which supports uncompressed (ie potentially large) 8-bit and 16-bit animations. These can be played by !ARPlayer or can be made into a compressed Acorn replay file. I found there were limitations in the actual pixel size. The Replay films that I produced would not run if the file size exceeded the machine's memory.

There are differences in saving sprite files.



Rephorm has many recording options

Morpheus saves individual sprite files that make up an animated sequence in a separate directory. This allows an easy access to any given image. **Rephorm** saves all the images within a single sprite file. Again, if this exceeds the machine's memory, then the images cannot be accessed.

And how to choose between these two packages? There is a price difference with **Morpheus** the cheaper at £34.95 and **Rephorm** at £50.00 plus VAT inc P&P. Essentially they both produce high quality results, but both have their own fine refinements. **Morpheus** has the larger window and a separate directory for each sprite file for easy access. **Rephorm** benefits from a control point grid for ease of use, with a "thumb nail" window to view results as they are sequenced. If speed is of the essence for you, then this package has the advantage.

John Bancroft

*Oak Solutions' new address is: Dial House,
12 Chapel Street, Halton, Leeds LS15 7RN.
Tel 0532 326992 Fax 0532 326993*

Easiwriter Range Update

Updates for Icon Technology's popular range of word processing software packages are now available. Upgrades from existing versions cost about £20 + P&P +VAT (£24.68). Special offers for upgrading to the next one in the series are also being offered.

New features include a Toolbar allowing immediate access to all the structure commands, along with buttons for Save, Print, Spell Check, Find & Replace, and all the style buttons (Font selectors and so on).

Background printing has been implemented. This quickly outputs the file to be printed (into the scrap directory) and then allows your printer driver to print at its own will while multitasking. However, this really does require a hard disc to work easily, as the space taken up by even a small file is rather large. (Not in StartWrite).

Also new is OLE (Object linking and embedding). If you double click on a Sprite or Drawfile included in the EasiWriter document, it will send the sprite / drawfile to !Paint / !Draw to be edited, and then save it directly back into the document. This is a really useful feature, and one that I have used several times already. Only works under RISC OS 3.

Drag & Drop editing has been implemented. Instead of using Cut, Copy & Paste commands, you can simply pick up selections and drag them to new positions within the document (or other documents, or other applications!) rather like copying and moving files in from disc to disc.

Bold and Italic functions have been added. In line with suggestions in the new Style Guide. They perform roughly the same job as selecting a piece of text, and converting it to the bold /

italic variant of the existing font, but the difference is that these functions are base font sensitive: If the font for the paragraph / document is changed, then areas selected under the bold & italic functions will change to the bold & italic variants of the new font. Bold & Italic variants are intelligently searched for, so variants such as Book and Oblique will be used.

Subscript and Superscript have been "downgraded" from TechWriter and now also appear in EasiWriter & StartWrite. As is the Footnote function, which can use symbols (*†‡§¶) instead of numbers, and has numerous positions for the footnote text (bottom of page, end of chapter, end of document).

Improved save commands. Improvements to the menu structure in line with the RISC OS 3 style guide. TechWriter also now includes a Save As Postscript option. You can also set up the program to automatically create blank documents from a given Stationary file, rather than using the internal one.

A direct hotlink to Desktop Thesaurus (by RISC Developments) has also been included. A simple keyboard shortcut (or menu option) will look up alternatives for the selected word. (Not in StartWrite).

The new Global Clipboard is supported, allowing text to be copied and pasted between applications supporting the Global Clipboard. Amongst the list of these are DataPower and Advance.

Toby Smith

Ed's Note: these packages all come highly recommended. For more information give Icon Technology a ring on 0533 546225

The second major Acorn event of the year has now passed and I have to say that I thought it was pretty impressive. There were several major features to the show including the Acorn Gallery, the Games arcade (with laser light show), the Acorn Publishing Feature, Education Features and an Abseiling area!

The ARM Club stand was placed strategically at a T-junction of two of the causeways which were much wider this year than last. The stand itself proved to be extremely successful and appeared to be popular with all comers from first thing on the Friday morning. For much of the show the stand was packed and the members running the stand were rushed off their feet.

The Acorn Gallery was probably one of the most interesting areas of the show. It had several theme based areas including Graphics and Music. It also had a central showcase displaying some interesting black cases that are "a number of possible images for high technology in the not so distant future ...". The cases were designed by Cambridge Product Design Limited who were partnered with Acorn as far back as the days of the BBC Micro. Apparently the display shown on the "monitor for the future" was being generated by an A4 hidden below the stand.

The Graphics area showed off the old

technology that drove the BBC's simple graphics processes and went on to display the latest in 24 bit image processing. The music area was based on much the same idea, going from the simple beep of the old BBC right up to the 16 bit CD quality that we can now produce using computers. Also shown were areas relating to communications and the miniaturisation of computer hardware.

For the first time, the power behind Acorn, was at the show. ARM Limited were showing off their new 3DO, the Apple Newton and the Sharp Expert Pad. The 3DO looked very impressive and was being shown off with a new racing game, which gives the thumbs down to most other consoles on the market, showing the real raw power supplied by the ARM chip at its heart. ARM has now also released information on the new series of ARM 7 RISC based processors that it has developed.

Among the companies at the show was a name that many people were unfamiliar with, a new company called GamesWare. Run by Simon Lovesey (Acorn's former Consumer Marketing Manager) this new software company has had a very good beginning. It has already released the smash hit Xenon 2 and is looking forward to its second, imminent major release, Simon The Sorcerer (Ed - in a game?!). GamesWare have also announced several other new games to be released on their label. Rome AD, Global Effect, Daughters of Serpents, striker and Dune II are all new release which can be looked

forward to.

The Fourth Dimension were at the show in full force, crashing back into the Acorn market with a plethora of new titles on sale. Stunt Racer 2000, Birds of War, Carnage Inc., Haunted House, The Exotic adventures of Sylvia Layne and Dungeon were just some of the titles available on their stand. With all of these new titles and their special show price of only £20 per game I am sure that they will continue to be a force to be reckoned with in the games market on the Acorn.

TBA Software were displaying both their smash hit AXIS and a new game which is still under development. If you thought that AXIS looked good then you ain't seen nothing yet! The new game is on a very similar line to StarWing on the Super Nintendo (Bleugh!) but looks to be even more impressive with many texture mapped surfaces and VERY high speed graphics. If this wasn't enough then you could always have managed to pick up a copy of AXIS on Sunday for only £10, yes £10 ! What's more, AXIS is available to Club Members at the discounted price of only £15.

As many of you may know the BBC Acorn User magazine has been bought out by Europress. This has caused some worrying with regard to one of the major Acorn magazine titles disappearing, but this is not to happen. Both Acorn User and Acorn Computing will continue their support of the Acorn World.

Colton software released their new Fireworkz software suite at the show, reviewed in this issue of Eureka. This is a new integrated Word Processor and Spreadsheet which follows much the same path as the Wordz and Resultz packages but is all active within one program.

Computer Concepts had its biggest ever launch of new products at the Acorn World show this

year. Among the hardware releases was the new Pioneer Quad speed (6 disc) CD ROM drive which is capable of 600K / second data transfer.

Also, on the hardware front, CC had the BJC600 printer available, demonstrations of which were very impressive. The Club's Membership Secretary owns one of these, and is very impressed with it.

On the software side of development CC had three new packages, updated versions of ArtWorks (on both disc and CD formats) and the new ArtWorks ClipArt collection. The three new packages were WordWorks, Impression Style and AudioWorks. WordWorks actually comes bundled with Impression Style and together they make a very impressive combination (not to mention the rest of the software bundled with Style). For those of you who would like a little more power in your desktop publishing package you simply need to wait a while until Impression Publisher is released. It was previewed at the recent BETT Show, and should be available before too long.

State Machine were selling their ColourBurst 24bit colour card and their A5000 cluster card. The cluster card allows up to 12Mb of RAM and a graphics accelerator module to be added to your A5000! They also had the latest in removable hard disc technology which is the 3.5 inch, 105 Mb Syquest cartridge drive. This new piece of equipment allows users to have, effectively, infinite storage space and seems to have pushed very quickly into the Acorn market.

Another new company at the show was Neurotron software who have developed a new OCR system for the Acorn. There are two versions of the software available, Optical and Optical Professional. The difference being that

continued on page 28..

RISC OS 3

Programmer's Reference Manual

Most of you will probably have heard of the RISC OS 3 Programmer's Reference Manual published by Acorn a few months ago, but may well be wondering what it contains and whether it would be worth investing £99 in a copy for yourself.

To start with, the title of this set of books gives information over its intended readership. If you are a user of your Archimedes, and do not do any programming, then the PRM (as it is called for short) is not for you. If you know nothing about programming the Archimedes but are interested in learning, it is probably not for you either. There are many other books available which are specifically written to introduce beginners to programming – they are also much cheaper than the PRM, if you decide that programming is not for you then you won't have wasted nearly £100.

These alternative books are published by companies such as Dabs Press, RISC Developments and Sigma Press. In some cases there may be more than one title which would fit your needs (for example, an introductory text on programming the WIMP). If this is the case, it is worth comparing the books side-by-side if at all possible. You may be able to do this at an Acorn dealer, or a computer show – a good tip is to pay a visit to a branch of a bookstore chain such as Dillons, Blackwells or Heffers. Their shelves filled with computer books usually include a range of Archimedes titles.

Back to the RISC OS 3 PRM, it can only be described as the most comprehensive guide to programming all RISC OS based

computers. This is not surprising since it was written by Acorn itself, however unlike the reference manuals for many other computers, Acorn has gone to great lengths to make these manuals easy to read, even for people with little programming knowledge or experience.

The PRM is supplied in four hefty volumes, complete with a separate index, and a separate volume called the Style Guide. They are all perfect bound, rather than spiral bound, which can make the manuals somewhat unwieldy, the largest volume contains nearly 1000 pages. The Style Guide supplied contains recommendations from Acorn on the *Look and Feel* of applications, which it hopes programmers will bear in mind when developing their own software.

I won't go into a lot of detail about the specific content of the PRM, since different programmers have different interests. Needless to say, almost every snippet of information which a programmer is likely to need is contained somewhere within it. There are a few errors in the text, but they are few and far between considering the total number of pages!

Overall, the RISC OS 3 PRM has been acclaimed as being very well produced, and I would agree with this. A version is now available on CD-ROM, published by Emerald Publishing, but that does take up screen space, and is rather difficult bedside reading! At £99 (no VAT), the PRM represents extremely good value. Owners of the old RISC OS 2 PRM can upgrade for only £59 (+£4 postage and packing) from Acorn Direct in Wellingborough. This is extremely good value,

continued on page 28

Colton Software's latest package reviewed by Simon Burrows...

fireworkz



Colton Software built its reputation on the PipeDream series of integrated spreadsheet packages, which included a spreadsheet, word processor and database.

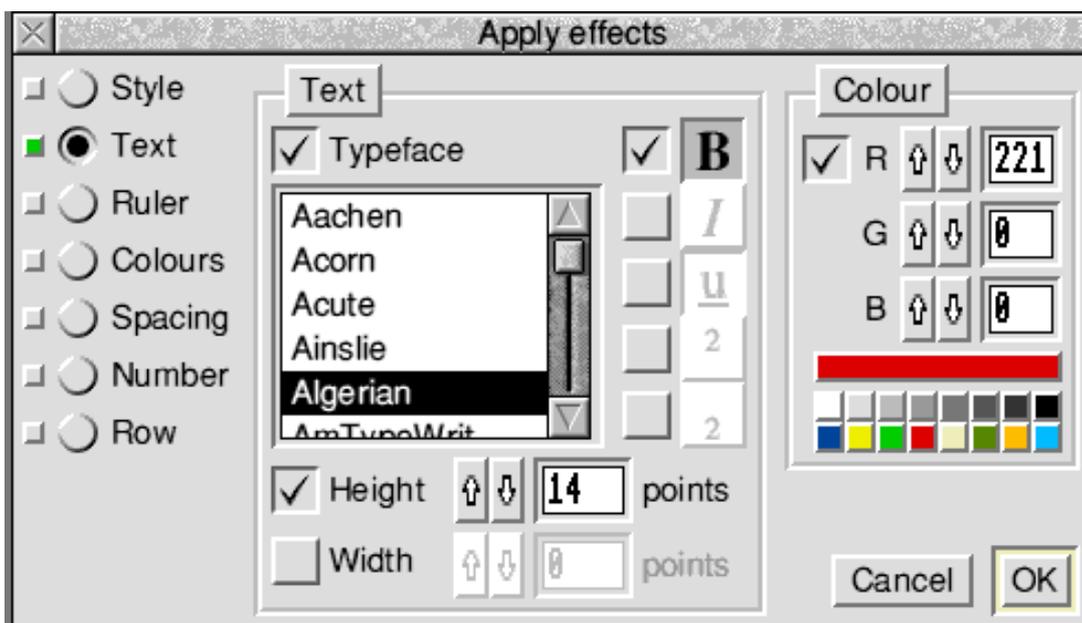
PipeDream went through many revisions, but over a year ago, Colton decided that the time was right to release a new range of packages using the latest in RISC OS and programming technology.

Two packages appeared in relatively quick succession, *Wordz*, a fully featured word-processor and *Resultz*, a comprehensive spreadsheet package. Both of these have been reviewed in Eureka, and I would refer you back to these issues (back copies can be obtained from the Club office).

Both *Wordz* and *Resultz* are extremely capable and user friendly programs, with a lot of work put into their design. The conclusion of the reviews was that if you needed a word-processor or spreadsheet package, these separate packages should feature near the top of your list of contenders.

The similarities in the user interfaces of *Wordz* and *Resultz* are obvious, so much so that at a cursory glance, they can easily be mixed up.

Colton promised integration between the two packages, and indeed they can load each other's files, and edit them to differing degrees. Now Colton has released *Fireworkz*, the single integrated package comprising the functionality of both *Wordz* and *Resultz*. For the future, Colton is developing a



One of the fundamental windows to the operation of Fireworkz

database package called *Recordz*, which in due course will be integrated into Fireworkz.

Fireworkz is supplied in a large glossy box, containing the Program and Data discs, as well as the separate manuals supplied with Wordz and Resultz, along with a new manual which describes the new facilities and techniques of Fireworkz. In all this means that six manuals are supplied (2+3+1), which can make it difficult to pinpoint information. The manuals are well indexed however, and tutorial coverage is extensive.

The natural question when considering Fireworkz is whether the “total is greater than the sum of the parts”, and whether this is achieved without compromising flexibility, intuitiveness and user-friendliness.

The first point to note about Fireworkz is that one part does not get in the way of another – if you want to use Fireworkz as a word processor, the spreadsheet facilities need not get in the way, and it can be used just like Wordz. The same is true for the spreadsheet facilities, it is possible to disregard the word processing facilities. As described in my previous reviews, these applications have an important concept called “template files” which are used to define sizes, styles and layouts of documents which you will use on a regular basis. Some of the supplied templates are for simple text documents, and others are for spreadsheet files.

Of course if you only ever use Fireworkz as just a spreadsheet or just a word processor, you are missing out on the benefits of the integrated approach. For starters Fireworkz uses less memory than two separate packages loaded simultaneously, due to its modular structure. Often it is desirable to

include a spreadsheet in a printed document containing text, and this is where Fireworkz comes into its own. Spreadsheets of any size can be included in a document, with live updating if required. As described in the review of Resultz, comprehensive graph plotting facilities are available, and these can be used in text documents, with the spreadsheet driving them hidden if so desired. A vital concept for using Fireworkz is to appreciate that paragraphs containing text and cells containing numbers or text are treated in much the same way for display purposes. Tables are easy to create in Fireworkz, and the flexibility offered in handling them is striking.

Another benefit of integration is shown by the Mail Merge facilities of Fireworkz, using one file containing the text document, and another one containing names and addresses in a tabular spreadsheet format which can easily be created from scratch or from a CSV file.

In such a limited amount of space, it is impossible to do justice to such major pieces of software as Fireworkz. I have only scratched the surface in this review. For general information and comment on the functionality of Fireworkz, I would refer you to reviews of Wordz, Resultz and Fireworkz in back issues of both this and other magazines. Colton also produced some excellent demonstration versions of its software, available direct or even from the Club PD Library. I would thoroughly recommend that you obtain copies.

At the recent BETT Show, Colton launched a version of Fireworkz for the Windows™ environment. This is totally file compatible with the RISC OS version, and shares very similar dialogue boxes and menu structures.

One point which must never be overlooked when buying software is the amount of support

continued on page 34...

ARM Coding - Part 3

by Mark Smith

Mark Smith continues his series on learning to program in ARM Assembly Language. Back issues are available from the Club Secretary!

Passing variables from BASIC to ARM Code routines

When your ARM code routine is called from BASIC using the CALL statement, BASIC will first copy the contents of variables A% through H% into registers R0 to R7.

Using Memory - Load and Store

Since there are only a limited number of ARM registers, it is necessary for more complex programs to make use of memory for data storage. It is also sometimes necessary for data to be passed to RISC OS SWI calls in memory.

In their most basic forms the load and store instructions are as follows:

LDR Rd,[Rn] - Loads a 32 bit number from the address contained in Rn into Rd

STR Rs,[Rn] - Stores the contents of Rs at the address in Rn

Both of the above instructions transfer 32 bit numbers or "words". Rn should contain an address which is exactly divisible by four, that is it should point to a "word aligned" address.

It is also possible to transfer bytes (8 bit numbers) between memory and registers:

LDRB Rd,[Rn] - Loads a byte from the address in Rn into Rd

STRB Rs,[Rn] - Stores the bottom (least significant) byte of Rs at address Rn

In these cases, Rn need not contain a word aligned address.

Pre-Indexed addressing

It is possible to add the contents of an other register or a constant to Rn before a load or store.

Possible instructions include:

LDRB Rd,[Rn,#exp] - Loads a byte from address Rn+exp into Rd

STR Rs,[Rn,Rm] - Store Rs at address Rn+Rm

LDR Rd,[Rn,-Rm] - Loads a word from address Rn-Rm

It is also possible to write back the result of the sum back to Rn by suffixing the instruction with a !

STRB Rs,[Rn,#exp]! - Store least significant byte of Rs at address Rn+exp. Add exp to Rn

Post-Indexed addressing

It is also possible to add an constant or register to Rn after a load or store. In this case the result is always written back to Rn, there would be little point in adding them otherwise.

LDR Rd,[Rn],#exp - Loads a word from address Rn into Rd. Add exp to Rn

Program A - An ARM code Adder

The first example program ARMCode3a will input a list of numbers, which are stored in memory.

An ARM code routine is then used to add them up and the answer is then stored back in memory.

Two areas of memory are reserved. One is reserved to hold the program, the other for the list of numbers. The latter is filled with numbers, input by the user. The list can be terminated by the user entering 0 in response to the request for the next number. The user must enter at least one number, and can only enter as many numbers as there is room for in the reserved memory. Before the ARM code program is called to add up the number, a pointer to the list memory is placed in A% and the number of items to add up is placed in B%. When the ARM code routine is called these will be held in R0 and R1 respectively.

The ARM code routine adds up all the items in the list and places the result at the start of the list memory.

Multiple register loading and storing

The ARM has the capability for doing multiple register loads and stores using a single instruction. The multiple load and store instructions take the following form:

LDM<type> Rn,{rlist } – Load multiple registers

STM<type> Rn,{rlist } – Store multiple registers

In each case Rn is the “base address” for the transfer. The memory locations that each individual register is transferred to or from also depends on a two letter code, denoted above by <type>. In both cases <type> refers to the method by which Rn is modified to get the address for each load / store:

DA – Decrement Rn After each load or store
DB – Decrement Rn Before each load or

store

IA – Increment Rn After each load or store

IB – Increment Rn Before each load or store

In all cases the increment / decrement will be four bytes, one 32 bit word and all transfers between registers and memory will be 32 bit word transfers.

The lowest numbered register is always loaded / stored first, the order in which the registers are specified in the instruction is irrelevant.

So, for example, if we wish to load R1 from a memory location pointed to by R10 and load R2 and R3 from the following two words in memory we could use:

```
LDMIA R10,{r1-r3 }
```

We can also get the ARM to write back the modified base address to Rn after the transfer by suffixing Rn with !. If we wanted to do this in the above example we could use:

```
LDMIA R10!,{r1-r3 }
```

This time, the instruction will load registers R1 to R3 and will also increment R10 by 12 so that it is pointing to the next word in memory following the one that R3 was loaded from.

Program B – A fast memory copier

Program ARMCode3b is a fast memory copier. As an example it will take the top half of a mode 15 screen and copy it into the bottom half.

It works by using LDMIA and STMIA instructions to transfer memory 8 words at a time from the source area (pointed to by R0 on entry) to the destination area (pointed to by R1 on entry). It will then use LDR and STR instructions to transfer up to 7 ‘odd’ words at the end of the transfer. The length of the blocks

in bytes is contained in R2 on entry.

N.B. R0 and R1 must be word aligned and R2 must be a multiple of four, i.e. a whole number of words.

And finally

Here is something to think about which will be covered in Part 4 of my ARM Coding series.

Last in, first out stacks are often used in computer programming for temporary storage of data. Pieces of data written onto the stack, and are then read back in the reverse order when required. As an analogy, if I piled some Eureka magazines on the floor, and I then picked up a magazine off of the pile, the first one I picked up would be the last one that I had put down.

How could the ARM's multiple register load and store instructions be used to implement a stack for 32 bit words, with one of the ARM's registers being used as a stack pointer, i.e. a pointer to where the next word to be placed on the stack will go?

Mark Smith



RISC OS 3 PRM

continued from page 23

and if you regularly refer to the RISC OS 2 version, but actually use RISC OS 3, you should seriously consider the upgrade.

I do wonder if Acorn could have saved a few hundred trees by publishing a supplement to the RISC OS 2 PRM instead of a complete new volume, but overall it is an excellent manual at a sensible price. I couldn't be without it!

James Pearce

Acorn World Show Report

continued from page 22..

the Professional version has more options and is more versatile.

RISC Developments released several new products at the show. One of the most important being their High Density disc controller interface which has now been released and allows owners of the older series machines, with only 800K floppy disc drive, to access new 1.6Mb format discs. Also new on the RISC Developments stand were the low-price Tape Streamer and several software products including Easy C and Sleuth. [*Easy C will be reviewed in the next issue – Ed*].

Cumana released their new 300 Series, Double speed CD ROM drive and were also showing off their EMU board which allows expansion on an A3000 series or A4000 machine to things such as MIDI, scanners, digitisers etc.

Holdfast is another new company on the Acorn scene and has started its move into the market with a specially designed Joypad. The Joypad is designed to be bright and chunky for use by younger age groups and is also very robust to put up with the sort of trials and tribulations that any normal mouse could not stand!

During the weekend both Zool and James Pond (Robocod) could be seen around the show hall (Robocod even braved the abseiling wall, along with Sam Wauchope, Acorn's Managing Director!).

If Acorn manages to improve on this show for 1994 then we really do have something to look forward to.

Art Works

ClipArt CD

Review by Simon Burrows

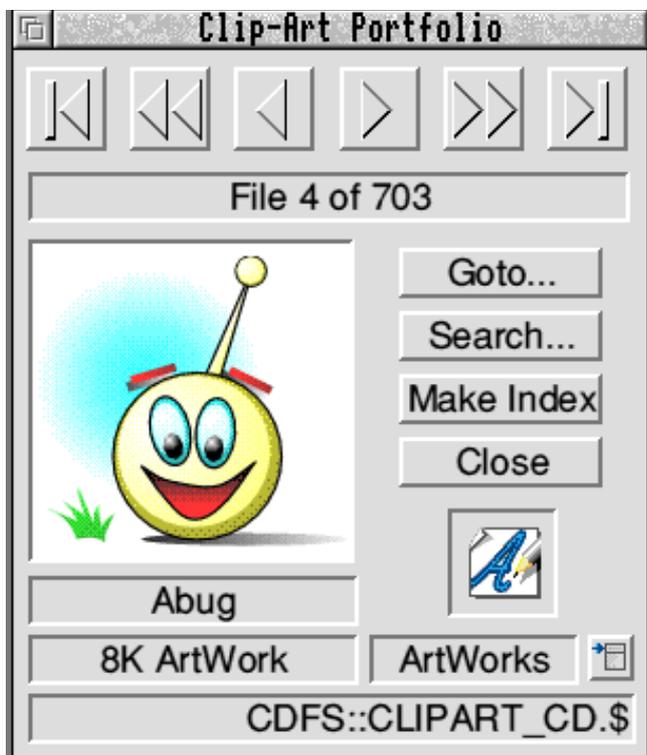
Last year Computer Concepts organised a major competition to find artistic talent among Archimedes users, by challenging people to produce pictures using their highly acclaimed ArtWorks package.

At the Acorn World Show, CC launched its first ever product on CD-ROM, the ArtWorks Clipart CD, which contains over

supplied. Although it seems incredible that so much data can be stored on such a small-looking disc, these files only fill part of the CD-ROM. The disc also includes over 100 24-bit colour images, stored in Acorn sprite format and TIFF. These look stunning on machines equipped to display such colourful pictures.

The CD-ROM includes a demonstration version of CC's new AudioWorks package, along with a number of high quality sound samples. Also included are demonstrations of ArtWorks and the ColourCard, as well as some Matt Black Clipart.

All in all this CD comes highly recommended, at only £19.00 + VAT. If you own ArtWorks, it is better to buy the new CD version of ArtWorks 1.5, which includes all of the above plus ArtWorks itself and all of the outline fonts. The upgrade to this costs £29.00 + VAT.



700 example ArtWorks files, all on a single 5.25" silver disc. These files include most of the entries to the Clipart competition, the clipart supplied with the disc version of ArtWorks, as well as a number of other items. There is a wide variety of images on the disc, and permission is given for them to be reproduced by the purchaser in any printed document. A utility called !PortFolio is supplied (shown above), which allows the user to browse through all of the pictures

Who's got all the ACES?



My money's on
 Computer Concepts Ltd

The New Year Games Zone

REVIEW GAMES

Demons Lair

Reviewed by Andi Flower

Demons Lair is one of the very large batch of software that The Fourth Dimension has released over recent months. Having seen some of these other titles I was expecting rather a lot of the game and I am sad to say that I was a little disappointed. The first thing that I found was that the manual is so brief at points that it becomes confusing and there are even several grammatical errors. This may not seem like a big deal but

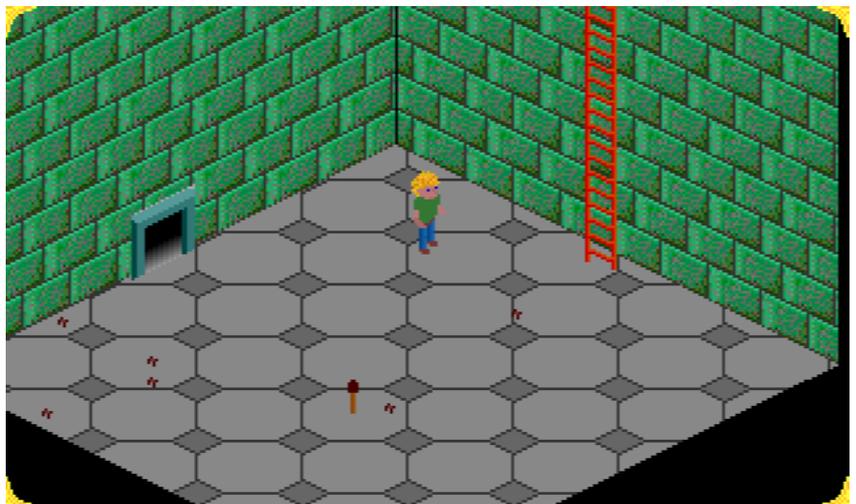
The Christmas Season is always a peak time for selling computer games as people fill up their stockings or else spend some Christmas money on games to play during the long dark evenings. Few games are released in the New Year, but it provides a good time to catch up on the Christmas offerings!

Many new games were promised to us at the Acorn World Show, and indeed some were available. However many were only previewed at the Show, and have since appeared, in many cases with less hype than might normally be expected. The Games Scene is looking bright at the moment, with Acorn really pushing the software houses to produce both original games and conversions for the Archimedes. The problem is generally that games do not sell in sufficiently large quantities to satisfy the large games companies. We can do our bit by supporting good games.

Many companies now release demo versions of their games, sometimes playable versions, many months before the games are actually released. These are inevitably based on pre-release versions, and sometimes don't show off games in their best light. What do you think about this?

Finally, Eureka is looking for somebody to become Games Editor on a regular basis. If you are interested, please contact Simon Burrows, the Editor, at the address below.

• The Games Zone • FREEPOST ND6573 •
• London • N12 0BR •



Lost in the Demon's Lair?

for a game marketed commercially at £25.95 I expect a good quality and correctly written manual.

confusing after the usual up, down, left, right style of movement.



What should happen next?

Moving on to the game itself, I was pleased to see that when loaded it conforms to Acorn's RISC OS 3 Style Guide by placing an icon on the icon bar before taking over the screen, when you click on it, to play the game.

Apparently your village used to be protected by a kind dragon who has been captured and imprisoned in chains (must be pretty strong chains then!). The village's greatest warrior has been sent to release the dragon and stop the terror plaguing the village folk. You are not this warrior though (and you thought you stood a fighting chance, huh!) because he has already fallen foul of the enemies that he has dared to face. You are just another member of the village community and have, unfortunately for you, drawn the short straw to go and free the dragon.

The first problem that I encountered when playing the game was that the control method differs from that of most other games. There are, in my opinion, too many keys to master and the rotational way in which the character is manipulated is slightly

The graphics are quite impressive and there are some very nice little touches like a cute white rabbit running around, a hedgehog which curls up when you get near him and then there is the "Peekaboo". Don't ask! The only problem with the graphics comes when you walk behind a relatively large building. The screen goes blank for a second or two and is then redrawn.

This can prove to be irritating, especially if you are in the process of being chased down by one of the "bad guys" in the game.

Having played the game for a short while I managed to ascertain that there was a building in which I could find a cloning machine and that, as long as I had made a clone of myself, when I died, I was brought back to life within this clone (very useful!).

The puzzles incorporated into the game are much like those in many other puzzle games of this type and are wide ranging and varied in their structure with generally logical links between objects (for example, using a matchbox to light a torch. Well, the matches inside anyway!)

One of the best things that I found during playing the game is that you are able to walk to the bottom of the playing area and fall off. That's right, you can fall off of the cliff that you come to and you end up in the sea. There is only one problem with doing this, you soon find yourself being chased by a shark which does its best to chew on you for lunch! If you

continued on page 37...

THE CRYSTAL MAZE

The cult TV series has seen its first computer version on the Archimedes. Mike Johnson seeks to enter the Crystal Dome...

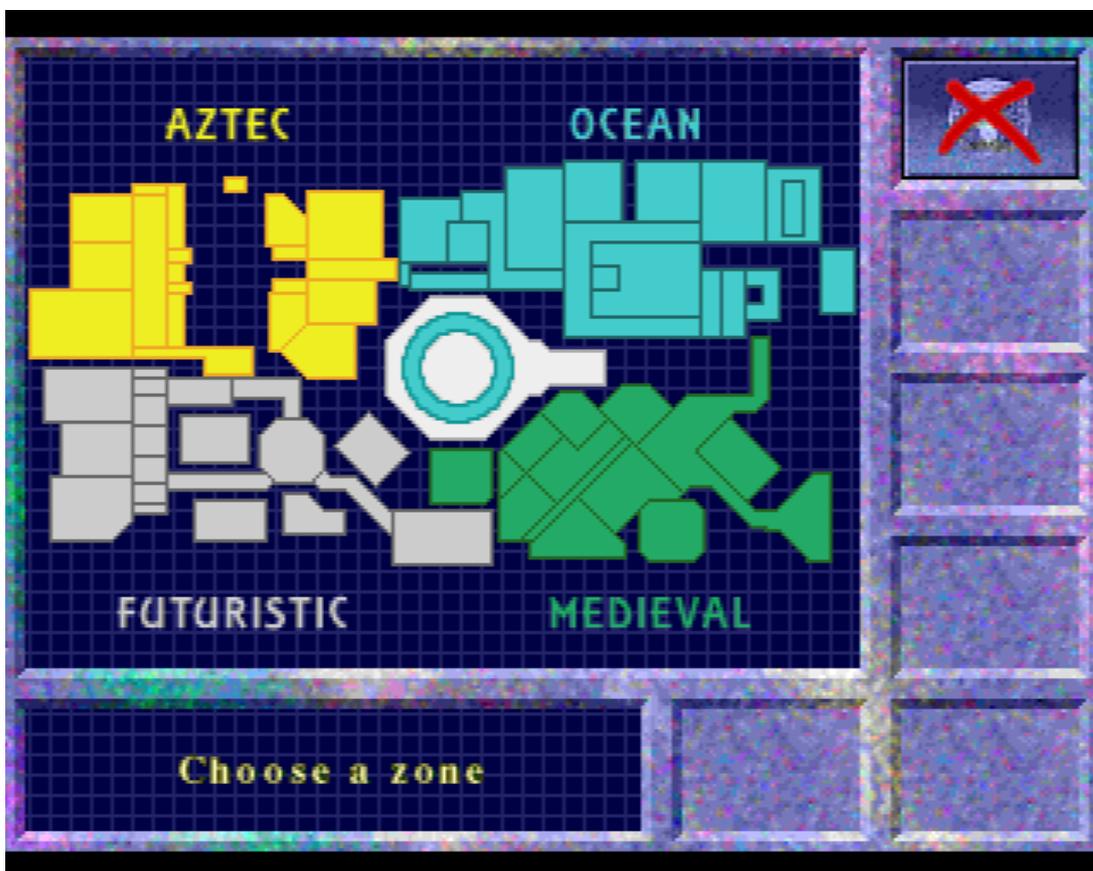
It's difficult to decide just how to approach reviewing something that most people will have either seen reviewed elsewhere, played at Acorn World, or played the demo version from the Acorn Computing cover disc. However, there are some points the reviews I've read so far have missed which I'll try to bring out here.

To understand how The Crystal Maze game is played you really should have watched the television series The Crystal Maze on Channel 4 which it is based upon. There are many elements that make it a successful TV quiz show – Richard O' Brien's personality, the atmospheric theme music, and above all the feeling shared with the rest of the team playing as they all watch one of the team trying to solve a mental, physical, skill or mystery game.

To keep this review short, I'm going to

assume from now on that you've watched the TV programme and that this is probably not the first review you've read.

The game comes on three discs, and may be installed on a hard disc. Protection is by means of a colour key involving the manual and the box lid. Note though that although the box lid tells you to place the manual in one orientation, the game will ask you to use one chosen at random. However, you get two tries before the game quits.



Choosing where to begin



That's one crystal, but more are needed

A team consists of six characters, which you can choose from twelve available. Different characters excel at different kinds of game, but you are left to find out for yourself just which kinds of game a character excels at. Some have obvious brain or brawn appearances, but others are less obvious.

Before starting you can also choose the difficulty level for the games, and whether you go around the zones clockwise or anti-clockwise. There is also a Learner setting to allow practice (though you are not allowed to enter the Crystal Dome whilst practising). You can also choose whether to choose keyboard, joystick or mouse for games. I found that the default choice (which uses the mouse in most cases) to be the easiest to play.

There are four zones, each with six games available. However, you will only play three per zone (so the maximum time in the Crystal Dome is 60 seconds – in the TV programme there is an overall time limit, and four games per zone are possible). As with

the TV programme all games are time limited, and some are an automatic lock-in for failure. However, you are not warned before starting the game about this.

The games, subdivided into the categories Skill, Physical, Mental and Mystery vary in complexity and skills required. There are some I find easy – a guaranteed Crystal, and others where they are equally certain failures (...at the moment!). Which of the games this applies to

will probably be different for everyone (though choosing the best character to play the game can help).

A number of the games have been specially designed for the computer version. Some draw on familiar ideas such as Pelmanism (picking out pairs from a number of hidden items) and Centipede (guiding around a 'centipede' which gets longer with each successful contact).

After playing through twelve games you get the chance to enter the Crystal Dome, with five seconds per crystal won. Compared with the games in the zones, I found this part of the game to be very difficult – you change your aspect within the dome with the mouse and must click on gold pieces to collect them. You have the choice of placing each character in the Dome on their own, or putting several people in together. Where several are in the Dome the number of Gold pieces collected is multiplied by the number collecting them – so it is better to put each character in the Dome separately so that one bad run doesn't ruin everyone's chances.

The game is well-behaved, to the extent that when discussing the mouse speed the manual suggests that you use !Configure to change settings yourself rather than changing them itself. In its own right it is a well presented and very playable game – I have suffered profusely from the the ‘one more game’ syndrome in getting my thoughts together for this review ... I originally planned to write this several days ago (... sorry Ed!).

However, it is also intended to be a computer game based on a TV game show. In this department there are some things lacking. There’s no reference at all to Richard O’Brien (though not everyone would be disappointed about that!). However, I think that it does fall down in not using the show’s theme to proper effect. The theme is a very atmospheric tune, full of urgency – at Acorn World it was being played every few minutes from the Sherston stand.

Unfortunately the theme is not played in full anywhere in the game – the closest is the excerpt used for commercial breaks which begins the game after it has been loaded. Where I find the music missing most is in the transit from one zone to another - in the TV show the players scramble from one zone to the next against the clock with the music to maintain the tempo. In this game changing zone is an anti-climax – no music at all.

Although I’ve reviewed it from the point of one person playing the game alone, you could just as easily invite some friends round and play with different people playing the characters in the team. I haven’t had an opportunity to try this though I think this is potentially one of the most social games for some time. It is certainly the kind of game where everyone who isn’t playing has an opinion to offer – just like the TV show.

So, purists might be slightly disappointed, but nevertheless it is one of the best conversions of a TV game to computer format and stands up in its own right as a very playable game. Having seen some absolute turkeys in the name of converting a successful TV format game to a computer you may rest assured that this is that rare exception; a playable game that stands in its own right whilst maintaining much of the atmosphere of its TV parent.

Mike Johnson

The Crystal Maze costs £39.95 from Sherston Software or your usual games supplier.

Fireworkz Review (cont)..

which the company can provide, and Colton excels in this area. Technical and other queries are answered promptly and efficiently by letter, phone, fax and Email. There is also the independent ZLine user group for Fireworkz users, run by Gerald Fitton. Most upgrades to Colton’s packages are free, except where there is a major improvement in functionality, where the charges for upgrades are generally very reasonable.

All in all, I would thoroughly recommend the Fireworkz (Z-Line) range of products from Colton. The cost of the various components and upgrades can easily mount up, but for what you get are extremely good value; by PC standards they are a bargain. If you have an ARM2 based machine, or no hard disc, or 1Mb RAM, you really ought to upgrade before considering Fireworkz (in fact 2Mb is essential). Provided you have these upgrades, it is an excellent program.

Simon Burrows

The RRP of Fireworkz is £149 + VAT. Various discounts are available for upgrades, details can be found on the Eureka Disc. A 10% Club discount is available on all Colton products.



PHAETHON



Nick Evans removes his gloves to play this first game from System Interrupt..

Phaethon was supplied on 2 discs with a manual consisting of two double sided A4 sheets of paper folded over to make an 8 page A5 manual. The writing was bigger than that in oversized print books at the library and is definitely for the hard of seeing. All this was in a box which could probably hold the complete works of Shakespeare and was coming unstuck on arrival. The two discs were easily transferred to the hard disc, there being no protection.

Thankfully there was no attempt at a story-line for this abstract game which is a cross between a race game and a puzzle game. I won't write a long section on Phaethon himself, as any book on Greek mythology will do that for you.

Loading up the program was easy and after quitting the game it was still available on the icon bar. I could find no instructions for quitting the game in the manual but pressing Escape a few times appeared to do the trick by getting me back to the Options screen where a more elegant method was available.

The Options screen enables you to set some options before playing eg a choice of engines, brakes, thrusters jets, gears etc. allowing the whole game to have slight variations each time it is played,

and there are 140 levels as it is. You can choose keyboard, mouse or joystick. I was disappointed that there was no support for the Vertical Twist / Serial Port joystick interface which I own. After choosing the joystick option with the Serial Port's joystick plugged in I was unable to move out of the set-up screen and the joystick icon disintegrated into a few random colours. I had to change to either mouse or keyboard option to get any further. Apparently the support is for Acorn's joystick.

A track editor is also present for when you have run out of levels.

The idea of the game is that you race a ball along a track which has various bends, corners, gaps and other obstacles, until you reach the end. The obstacles include reversing or teleporter squares, ice, sand, magnets etc. The track, which is cambered with shading, is graphically very pleasing.



The main track in Phaethon. Falling off the edge is lethal.

Hard Disc Comment

The background screens including a planet is very good with the perspective of the track excellent. The control panel is a little small but has a couple of nice touches in a real-time clock and a speedometer. Another nice touch is the small car inside the sphere.

Playing the game was a dream. There is a preview of each track before you play which I found very helpful. I did think that the keys were slightly too responsive - I could see no other reason why I kept falling off the track. I found that reverse was essential. I must say that I found the game very addictive - does anyone want all the passwords?

The high-score table is annoying because you have to keep typing your name into it by using a very fiddly process, so in the end I used any letter on which I could manage to get the sphere to land. As one would expect from the Serial Port, the music is excellent.

There will undoubtedly be a comparison between Phaethon and Fervour, a very similar game which was published by Clares about a year ago. I find that Fervour has poor ahead vision and very annoying music. The sphere (now a droid) is too big and the graphics are not as good. There is no preview of the track whose graphics are not as good - the road is made up of blocks.

There can be no doubt as to the winner between the two games, although Phaethon has had a year in which to improve. It perhaps would have been more fair to call it Fervour 2 as it has been improved in every respect.

Nick Evans

Phaethon costs £25.99 from all good Acorn dealers, or direct from The Serial Port, Burcott Manor, Wells, Somerset XYZ. Special Club Discount direct from The Serial Port: 10%.

Nick Evans reveals that he is a closet collector of Syquest cartridges...

One thing about the Acorn market that makes me a little uneasy is the premium that we, as users, pay for extra bits and pieces that are also used on PC's and/or Mac's in an identical form. A pet hobby of mine is collecting Syquest removable drives and all Acorn retailers seem to add a minimum of 25% to the price that you would pay if you bought them from a Mac dealer. Of course we are told that this is to pay for the knowledge that these pieces of equipment will work without any compatibility problems, that the turnover is small, that it is a specialised market or even that we get a much better after sales service. These all may have some minor validity, but why is there such a mark-up on the consumables - 44 or 88 Mb discs?

In order for us to be able to advantage of some of the equipment that is used by the major desktop computers I feel that there is a place for a database in the Club where information on the compatibility of different pieces of equipment is held. This could include information about what drive doesn't work with what interface eg has anyone been successful in using Quantum drives with an HCCS SCSI interface? or what could be added to a compatibility table any information will be gratefully received and passed on to members.

Associated with the same line of thought is the role of APDL, which is more than a public domain/shareware library. David Holden also sells hard discs and interfaces for the Acorn machines. The supply of secondhand 20, 40 and 80 Mb ex PC IDE and ST506 drives

obtained in the past has reduced to a trickle although he still occasionally obtain one. He tells me that because of the interest shown there's obviously a demand for hard discs and interfaces for the Archimedes at uninflated (ie. non Acorn dealer) prices. He can also offer NEW drives and interfaces at low prices.

All bare uncased drives are suitable for internal fitting in A300, A400 or A5000. If you buy a drive and interface for an A300/400 he can supply a pair of inelegant but functional plastic brackets to mount the drive in the drive bay. If you have a second floppy or an ST505 drive you will need an external case and PSU. If you have an A3000 or A3010 the drives should work OK but you will need an external case and PSU. With an A4000 there is room to fit a drive internally but he doesn't have fixing kits for these machines.

If you order a drive and interface the drive is supplied formatted and ready to go. If you order an IDE drive on its own then it's up to you to ensure it works with an interface you already have. Some makes and models of IDE drive are mutually exclusive and won't operate together and some interfaces will not work with certain drives. If you have problems he will normally offer a refund (less carriage) if you return the drive in perfect condition with his prior agreement. An example price is £240 inclusive 170Mb IDE drive with interface to fit A310/A400 .

David may be able to accept your old drive in part exchange. If you have an A5000 and want a bigger drive it's cheaper to fit a single 170Mb or 250Mb with part-exchange than an extra drive.

He is also offering an Ian Copestake internal

IDE interfaces for A300/400 for £70 including P&P or £65 if ordered with a drive. For further information phone him on 081 778 2659.

Nick Evans

Please contact Nick Evans at the Club Office if you can offer any information. David Holden's address is: 39 Knighton Park Road, Sydenham, London SE26 5RN. Tel 081 778 2659.



Demons Lair Review

continued from page 31

can avoid him for long enough then you may be able to find the cave in the cliff wall, at which point you will find your way into another section of underground caverns.

Another of the points that I really enjoyed (call me a masochist if you like) was the point at which I mistakenly stayed too close to the witch for too long. Well, the character (whose name, incidentally, is Bob) is turned into a frog. Painful, you might say, but believe me it is useful in certain situations.

The animation of the character is good at most angles except for the front and back views when the arms and legs simply look like pneumatic rams moving up and down. This is disappointing because it spoils the otherwise good graphics which this game contains.

All in all this game is pretty darn good and is definitely worth buying but, bearing in mind some of the other (excellent) recent releases from the 4th Dimension I would consider carefully which one you are going to buy first.

Andi Flower

THE PD SCENE

The Eureka Magazine Disc

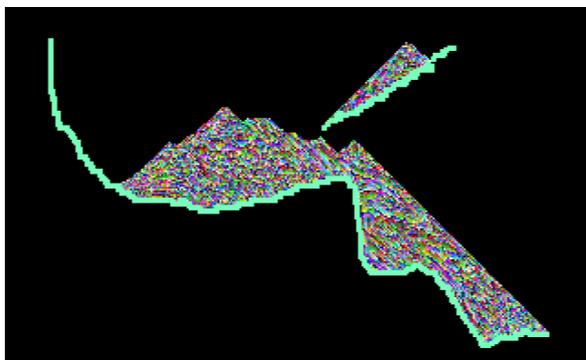
Eureka's Disc Editor

Nick Evans looks at the contents of the latest disc

Most of the programs on this Magazine Disc have been produced by Club Members, but as an experiment we have included some general PD programs. This is to try to give you as varied a selection of programs as possible and is not a reflection on any lack of work produced by you, the members.

AWViewer from Computer Concepts is included because you will need to use it to display two ArtWorks files from Chris Kecun.

There is a drawfile of a personal organiser sized "Year on one Sheet" from Peter Cullis which I hope is not too late for you to use.



Make pretty pictures out of sand and water!

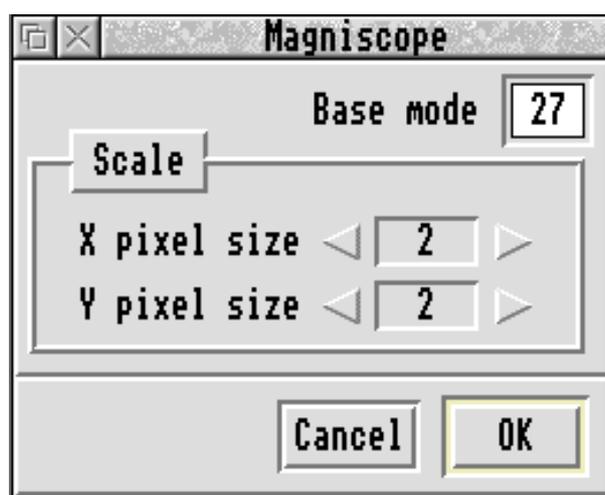
At the Acorn World Show last October the program that aroused most interest on our stand was *TurboCopy* from John Reed of Illusions Magazine fame, and so I included it on this disc, although due to pressure of work John has not had time to complete all of the options – indeed, even the TurboCopy option is not yet implemented, but the program does work well. Its value is in making lots of copies of a disc, especially when the discs you are copying onto are not formatted. It will NOT copy any form of protected disc and is not intended to.

Spr_Artic by Atle Bårdholt contains the first couple of articles in a series in which he shows the use of sprites in the RISC OS non-WIMP environment so you can start to produce your own graphics demos. This has been put on the disc instead of in the magazine because it has an accompanying, but this can be altered next time if you prefer it.

Wowpix by Tim Brown will introduce you to the world of *autostereograms*, those pictures which contain a hidden 3D image when viewed correctly (I can only see them by going cross-eyed).

BootPass from Spiro Harvey in New Zealand works on a system of passwords. Each password can load a different !Boot file if you wish. The benefits to a school network are obvious.

In *Hatris*, the game from Joeri de Winter, you have to try to stack the dropping hats onto matching hats. Making a stack of five hats of the same type lets the stack disappear. Having done this twenty times you proceed to the next stage where the hats drop ever faster.



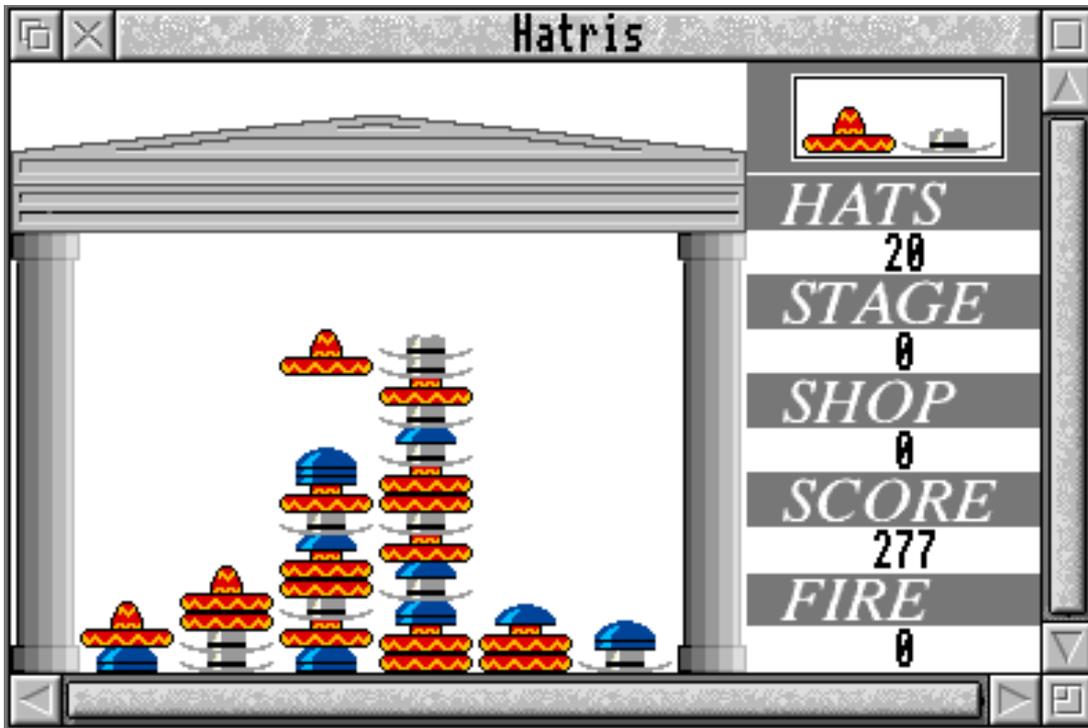
Magniscope lets you create modes

MacHFS v0.1 from Paul Gee is a very basic utility which allows you to read Apple Macintosh high density disks. It will allow you

to list the contents of a directory, change directory and transfer files from the Mac disk to a RISC OS filing system or disc. You obviously need a high density disc set-up in your Archimedes for this to work.

one of water.

Also included are the BASIC programs to accompany Mark Smith's article on programming in ARM Assembly Language.



Hatris – pile up the hats in this unusual Tetris variant

Don't forget that all of these programs are archived using Mark Smith's *ArcFS* utility, and although most will run in an archive, it is recommended that you de-archive them to another disc (by dragging the files to a blank disc) and make backup copies of those programs which you use.

Magniscope from Colin McEwan lets you zoom in and out of your desktop, alter the aspect ratio and various other facilities. It should be very useful for display purposes and Colin says that he uses it for template editing. It should be very useful for classroom demonstrations (showing pupils what to do before letting them loose on the machines).

Please note that some of these programs are ShareWare, in which case you should abide by the conditions in the accompanying documentation, which normally means registering with the author and sometimes paying a small fee.

Nick Evans, Disc Editor

Porting from Dirk-Willem van Gulik is a desktop silly which introduces you to black holes.

If you discover any defects on your Eureka Disc, or it produces any disc errors, please return it to the Club Office where it will be replaced immediately. If you have difficulties using the ArcFS program, please telephone the Club Help Line or the Archimedes Help Service run by Toby Smith on 0533 413850. If you have programs which could be included in the future, please send them to Nick Evans.

Psion by S.Godfrey converts a Psion 3/ Pocket Book PIC file or a Psion 3a black/grey PIC file to a mode 13 spritefile.

The *Particle* directory contains a couple of simple particle simulations – one of sand and

Letterbox



Some useful hints and a suggestion...

I would like to put forward a few helpful hints that I have picked up whilst playing (is that the right word?) with my A3000. I do appreciate that they may have been printed before I joined the Club, but computing is a growing interest and any information is useful.

Hint Number 1 – BASIC Programming

When working with BASIC outside the desktop, it is often an advantage to be able to refer to other BASIC programs for various reasons, and it is possible to have a number of separate BASIC programs in memory at once, switching between them as necessary. When entering BASIC the PAGE address is set to &8F00 on all current machines; by resetting PAGE you can have any number of locations to LOAD, EDIT, RUN or SAVE programs. To do this, you must decide on various addresses, for example &9F00, &AF00, &BF00, &CF00 etc. By increasing the fourth digit by one you would be moving the memory by 4096 bytes; if your programs are large then increase the fourth digit by two or three. Then all you have to do is type PAGE = *chosen address*, press RETURN, then type NEW and press RETURN. Do this any number of times with different addresses. To switch between locations all you have to do is type PAGE = *chosen address*, press RETURN and hey presto! A different program. The RISC OS 2 BASICedit Module if installed works at all memory locations.

Bearing in mind that the Archimedes has over half a million bytes of memory within BASIC there is scope for quite a few memory locations within the range &8F00 to &A8000, which is HIMEM, the highest memory location.

Hint Number 2 – !Draw

!Draw itself is an excellent program, but I have often found difficulty with accuracy when drawing lines or shapes. I have solved this problem and have copied some very involved drawings from originals on graph paper by displaying the GRID (I found 1x10 inches useful, and also transparent graph paper) and using the ARROW keys for accurate positioning; the mouse is used in the usual way to start or finish a line or shape, but instead of moving the mouse, use the ARROW keys to position your next location. This also works when entering the EDIT facility from within drawfiles, but the mouse ADJUST button has to be kept pressed while using the ARROW keys.

Hint Number 3 – Genesis

If you are trying to use the excellent Genesis program on a machine with only a single floppy drive, this hint may reduce the number of disc swaps which you need to perform.

First create a RAM disc approximately 100K large using the Task Manager, insert a disc containing the application you wish to work on (PLANETS, EUROPE or your own existing application) and open the window on this disc and also on the RAM disc. Using the mouse pointer drag your chosen application from the disc window onto the RAM disc window; this copies it onto the RAM disc, now insert the Genesis disc (this is the one containing GENESIS, BROWSER and GENFILER) and double-click on your application in the RAM window.

You should now be able to work freely without the need to change discs. If you make any changes, these will obviously have to be saved to disc. This is done by dragging your application files back from the RAM disc onto

your applications disc. This will overwrite the original file unless it was locked in some way.

I hope that this will be of use to some readers as GENESIS is a very useful program but on a single floppy drive machine can be infuriating. This technique can also be applied to other applications which need to access files on both the program disc and another disc containing your files.

Geoff Lane

Thanks to Geoff for his hints and tips. Would anybody be interested in regularly compiling a page for Eureka containing similar tips on the use of your Archimedes?

Dear Editor,

When I was about 13 years old, I discovered a computer club in Witham called NAMEBUG, catering for Acorn users, particularly during the BBC heyday (good old time!). I became a member of this club, and made many BBC owning friends. It held regular fortnightly meetings in the Witham Library. Once every few months, seminars were held by various companies, who liked to demonstrate aspects of the progressive technology. It was a very stable, well organised club which I enjoyed being a member of. I was an active member until the age of 24 when I bought a flat in South Wimbledon to attend Imperial College London.

I joined the Archimedes Club in South London, which turned out to be really a PD Library with a membership system. Unlike NAMEBUG, they have not arranged any meetings and do not have a committee structure.

I feel it is now time that The ARM Club must try and setup a fortnightly meeting somewhere within Zones 1 and 2 of the London Underground System. The Christmas Open Day at Mill Hill was too far for South London members to attend. In my view the Club Committee should encourage meetings so that we can learn from each other's experience of Acorn computing and technology. This would also benefit small companies who could hold seminars. I believe that many members would like to take part in seminars every few months. I experienced many benefits through NAMEBUG, and since The ARM Club was started I have hoped that you will set up regular local meetings. This has not happened.

By the way, I did enjoy your Christmas Open Day at Mill Hill.

Richard Payne BA

It has always been our primary aim in The ARM Club to encourage Archimedes users to get together and learn from the experiences of each other. That is why we have organised meetings, training courses and open days in various parts of England and Wales (to date).

However our members are far more widespread than that – for example the Club has members in countries as far afield as Canada, South Africa and Australia, as well as many European countries. There is a limit to how much we can do centrally from here in London. That is why we support local user groups, and attend as many shows and other events as we possibly can.

The ball is in your court to a certain extent, if members wish to establish meetings in their locality for Archimedes users, we will do everything we can to support you. Please keep us informed of what you are doing, that way we can help your efforts to be successful.



TMJ Digital Masterpieces



Mark Smith plugs in his amplifier and annoys the neighbours courtesy of TMJ...

I'm sure that many of you will have heard of TMJ, a Northamptonshire Acorn dealer and discount software supplier who exhibited at our Christmas Open Day in London. They have recently released two volumes of music, entitled "Digital Masterpieces", of which I was asked to review the second volume. So how well do the discs live up to this title?

The package contains four 800K discs which can be used on all 32 bit Acorn machines. There are no printed instructions with the package, but furthermore, there is no documentation on the discs either. The first disc contains a music playing application. Double clicking on the application puts an icon on the icon bar. Clicking on this icon displays two windows, one showing a list of the music on the first disk, and the other giving standard control functions (pause, stop, backward, play, forward) as well as three mode icons (repeat track, play sequentially through the list and play random tracks) any one which is selected at any one time. On the right hand side of the window there is a slider for controlling the volume. The title of the track playing and current pattern and event numbers are also shown.

The sequential and random play facilities are potentially useful, except for the fact that the supplied track "Hunger for Destruction" gets stuck in a continuous loop and hence never finishes.

To load tracks from the other three disks you need to drag them into the list window, click on them and then click on the play button when they've loaded. Double clicking on the tracks

simply causes another copy of the player to be loaded. If you are installing the player on a hard disc, it is possible to copy the tracks from discs 2,3 and 4 inside the application, and have them all available when it is loaded. However, like everything else, this is not documented and it is left to the user to work out what to do.

The software is not very robust and contains a number of bugs. For example, one of the supplied tunes will not load at all, causing the player to quit rather messily with an invalid tune error, followed by a C postmortem quite meaningless to the average user. I also managed to make the application crash in a similar manner a number of times whilst I was testing it. Also, every time you click on the icon bar icon to display the windows, the volume is reset to half.

Some machines (i.e. the A3010, A3020, A4000, A5000 and A540 and older machines fitted with a VIDC enhancer) have a 36 MHz clock crystal that can be used as an alternative to the usual 24 MHz VIDC clock crystal. In modes that use this crystal, the rate at which sound is output has to be adjusted to account for the faster clock. Although most recent tracker players allow for this, either automatically or manually through a * command, I could not find any means of correcting for the faster clock with TMJ's application. Hence you cannot use it in screen modes such as Mode 31.

The supplied tracks are generally of a high quality, although only one of them is eight track, the other 15 are four track. Whether or not you like the tracks is purely down to personal preference. To my mind some are on a par with the better PD tracker tunes that I've heard – I like the version of Phil Collins's

Another Day in Paradise, although others I found very repetitive.

To be perfectly honest you are probably better off getting a good Public Domain tracker player such as !*Protrack* and a selection of tracker tunes from a PD library. I'm sorry, TMJ, but I really don't feel that I can recommend this package.

Mark Smith

TMJ Digital Masterpieces Collections 1 and 2 are available for £12 each including VAT and P&P from TMJ Computer Software, 39A Station Road, Desborough, Northants NN14 2RL. TMJ can supply virtually any Archimedes software at special low prices.

Classified Ads

If you have any surplus computer hardware or software, and would like a free advertisement here, please send details to the Club Office. Remember that Eureka is only published quarterly, so there may be some delay if you send in details just after it has been published.

Acorn Pocket Book computer, boxed with manual. Light use only, less than 6 months old. Price: £100. Telephone Andrew on 0753 593403 after 6pm.

HCCS TV Modulator for A3000 computer. Allows use of TV set instead of monitor. New and unused, with connecting lead and instructions. Price: £20. Telephone Simon on 0533 712030.

Spellmaster ROM for CC ROM/RAM board. New and unregistered, boxed with manual. Price: £12. Also ROM/RAM board available price £12. Tel 0533 712030.

Software & Hardware Development

As was indicated in the last issue of Eureka, the Club has several items of software under development. These will be on sale at all the major Acorn shows as well as by mail order to the Club's Freepost address.

For the future, we are also looking into developing some hardware items, and preliminary work has already started,.

What we would like from you are your ideas for software or hardware that you would like to see available for Acorn's range of 32 bit machines. I'm sure that you've thought on a number of occasions "I wish I had something that could do..."! Well, this is your chance to suggest those needs and ideas to us and perhaps see your idea turned into a software package or hardware upgrade. There is also a prize for the idea that the Club Committee judges to be the best new idea!

If you have some programming experience and are interested in writing for the Club, or you have some experience in electronics design and would like to be involved then please contact me at the usual Club address.

I must stress that the Club is to remain a non-commercial organisation in that no-one on the Committee will make any money from products (unless they have written the software, or designed the hardware product in question). This allows us to pay generous royalties, whilst keeping products at a reasonable price. Any remaining money will then be paid into the Club account and used for your benefit, for example, by keeping the cost of membership to a minimum.

Mark Smith



Acorn News

It has to be said that Acorn has gone very quiet on the front of releasing new products, with few significant items launched at the Acorn World or BETT Shows. Hopefully this means that the company is working hard developing major products for release in the not too distant future.

Acorn World saw the launch of the new SVGA Multiscan Monitor, product code AKF50. This is a significantly better monitor than the ordinary AKF18 Multiscan Monitor which has been available since the A5000 was launched. (Indeed, my personal AKF18 monitor recently went wrong in dramatic style, with clouds of acrid smoke filling the room, and sparks flying!). The AKF50 monitor is built in the UK, designed by Microvitec, and can be purchased on its own for £375 or with any Acorn computer system at reduced prices.

At the Acorn World Show, Acorn announced its new *Peer to Peer* Networking System based on Ethernet technology, and this was demonstrated at the recent BETT Show. Acorn's Econet system was developed for its Atom computer, which is why it is no longer adequate for today's 32 bit computer systems. At the BETT Show, Acorn also launched its PIMS package, developed in collaboration with Longman Logotron. This is designed to handle information relating to the management of Primary Schools, and is available on its own or bundled with special computer systems.

Acorn's special offer on RISC OS 3 upgrades has now ended, and they have gone up to the full retail price of £89 inc VAT. Although Acorn gave a lot of warning that this would happen, many people have been caught out by the substantial price rise.

In the meantime, Acorn has extended the special offer on the Pocket Book computer and software. Until 31st March, the Pocket Book will retail for £169.95 ex VAT instead of the normal £212.72 ex VAT. Similarly the price of class packs of Pocket Books is reduced. Acorn's *Schedule* software for the Pocket Book is also still available at the introductory price of £16.98 ex VAT, instead of £42.51 ex VAT. The special offer on the Pocket Book including a copy of Acorn Advance and other items is no longer available.

As was widely reported, Acorn hit trouble before Christmas with its *Home Computer Minefield* video which was discussed in the last issue of Eureka. Commodore took issue with the fact that the video blew up an Amiga computer without proper discussion of the software available for it, and court proceedings were begun against Acorn. A voluntary decision was taken by Acorn to withdraw the video, and a letter was sent out to all recipients explaining that software is available for the Amiga. Acorn quickly started phase two of its Christmas Campaign, bringing out a replacement video entitled "Computers in Education – A Guide for Parents". This video is informative and well produced. Also sent out with the video are a demonstration disc of Acorn Advance plus a copy of Acorn User Magazine's Games Review Supplement.

The German market is currently being targeted by Acorn with a special advertising campaign and other promotions. Only time will tell if this is successful, but it is certainly exciting to see Acorn expanding into a new and potentially huge market.

Simon Burrows

Final Thoughts

What will 1994 bring for the Acorn market? Stories abound of powerful new computers which Acorn is alleged to have under development, some of which may be true and others of which can only be fiction.

At least as important as technical developments are marketing developments – how is Acorn going to tackle new markets while retaining existing customers? Will any new machines have an impact? Will Acorn succeed in tackling the International Markets? We'll have to wait and see.

In the meantime, the Club needs YOUR help to continue growing. Could you help in some way? This might take the form of arranging a local meeting for Archimedes users living near to you, helping on our stand at a Show, or even writing articles for Eureka.

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