The magazine for members of

The **ARM Club**

We celebrate Eureka's 50th issue

Complete souvenir reprint of issue 1

club A3000

Issue Number 1   February 1991

Second thoughts on the optical mouse

Join a group to write a game

Issue 50 — Summer 2004

50 — Not Out

Welcome to the 50th issue of Eureka. The magazine has been appearing regularly now for more than 13 years, with every issue filled with contributions for and by members of The ARM Club.

We are commemorating the occasion by publishing a CD which contains all 50 issues of Eureka, with a complete index, the contents of all the magazine discs which once came with it and some extra free software.

So, even if you have not been with us since the early days of *Club A3000,* the users' club for all Archimedes owners, as we were then, you can still look nostalgically back and follow all the developments we have recorded over the years with the added attraction of seeing most of the illustrations in colour for the first time.

You can find fuller details of the CD, which is being offered at the bargain price of £5, on page 10. It will be available at the Wakefield Show or direct from the Club, post free.

As already announced, this will be my last issue as Editor. I have previously recounted how I joined the Club to get the magazine — not to take it over but just as a reader. Now, after eight years and 32 issues as Editor, I am looking forward to rejoining the readership once again.

I will miss all the friendly, interesting, and often witty emails and letters I have had from our contributors and I would like to express my sincere thanks to all those who have written for Eureka over the years for making it possible to keep the magazine so well filled for so long.

From the next issue onwards, Andrew Wyver will be using his long experience editing a musicians' magazine to become Eureka's new Editor. I hope he enjoys the job as much as I have and he has my very best wishes as he begins Eureka's next 50 issues.

Peter Jennings

All opinions expressed in Eureka are those of the authors and not necessarily those of the Club or its Committee members and officers.

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First issue of the Club's magazine

Join a games writing group

Are you interested in games? If so, would you like to join a proposed group to co-operate in writing some?

Barry Aulton, our Winning Games With Logic expert, would like to contact any members of the Club who would be interested in taking part. You would be free to contribute to the project, as and when you wished, with any aspect of it, including being a tester, helping with design or just offering advice. Barry, for example, can do his bit designing and programming but says he is not so great with graphics.Our ARM Arena contributor, Andrew Weston, will also be lending his expertise.

It may even be possible to set up an advisory team, perhaps to work with the Club's Technical Help Service, to offer queries on games development.

If you are interested, you can email Barry at barry.aulton@bigwig.net

How It All Began

It all began about 14 years ago, when I invested almost all of my savings and bought myself — a BBC B computer. This was somewhere in the year 1988-89 and was my first experience with a home computer.

Together we worked to realise our dreams. We had a go and the result is what The ARM Club (originally Club A3000) is today: I believe a great story of *success!*

The Club's Founders, Rene and Maria Barreto, recall how The ARM Club began life, as Club A3000, and brought out the first issues of its new magazine.

Going through the computer manuals got me nowhere and, in the process, all that the computer was being used for was for games by my children Reuben and Deborah.

Having read about modems, I thought I'd buy one as the idea of buying and selling on the Internet fascinated me. I thought I'd impress my wife, Maria, but it was not to be. Maria did not receive her flowers that I believed I had ordered for her birthday and I did better with the local flower seller!

Despite that, Maria continued to support me in making my dreams of building a computer club for the BBC computer users in the UK.

Why we formed the Club?

Frustration at not making progress on my computer led me to believe that I needed to find a solution. I thought the best way forward was to form a club — believing that clubs brought people together.

I dreamt that bringing people together would be beneficial to all members of the club. Those who knew would share their knowledge with those less able to understand the ins or outs of the computer.

I believed that all members would gain in some way or another and I was right, as I can see by the results today.

club A3000

The ARM Club in its original form

How I went about it

I have never shied away from approaching anyone to support my idea of forming a computer club.

I read all the computer magazines that I could lay my hands on that were associated with the BBC computers. While reading one of the magazines, I got an idea. I thought I would share my thoughts with the Editor of *Archimedes World* and I asked him if I could have a small announcement inviting people owning BBC computers to write to me if they were interested in joining a BBC Computer club. To my surprise, I received over 156 replies.

I then had to compile a list of coordinators for the UK and these names were then published in Archimedes World (March 1991) on a full page, calling them local contacts (coordinators).

I also had a few who wrote to me from outside the UK; places as far as New Zealand and South Africa.

Invitation

One early morning, I was pleasantly surprised by a call from Geoff Potter, the Organiser of the BBC Acorn Users Show, inviting Club A3000 to exhibit at the world famous Wembley Exhibition Halls. I accepted the invitation without any hesitation and, 12 years on from then, we now have a team that runs its own exhibitions.

At the BBC Acorn Users Show, we recruited as many as 600 new members. It was hard work, but it was worth all the effort.

I approached the then Managing Director of Acorn Computers, asking for his support. His polite reply to me was: "I have seen and met many like you. We have many coming for support but have seen no concrete

results from any of those who have approached us."

He asked me to come back next year and let him know about the progress of the club. I did just that. He was impressed and promised his support for us.

Open days

One of our first open days was held at Bishop Douglas School, in Hamilton Road, East Finchley, Lodon, where my children went to school. This was well attended and was the beginning of many more open days which we held from time to time.

But the success does not belong just to us (Maria and me) as there were many others who played a part in it. Some of the names that come to my failing mind are: John Bancroft, Bruce Dickson, Mark Smith, Steve Arnold, Andrew Thacker, Mark Watts, Toby Smith, Ralph Sillett, and Tom Hughes, many of them still active members. I do apologise for the names I have left out.

Public Domain

The Public Domain Library was very popular and Nick Evans was responsible for setting it up and running it. I believe that this library had a great part to play in making the Club successful.

Computer classes

A great attraction were our computer study classes and workshops held at Mill Hill School under the guidance of Bruce Dickson. Later, Steve Arnold took over the running of these classes.

The magazine

Those were the days when some of our members would travel for hours and spend days putting the magazine together.

I remember when we met at our place in Finchley and worked round the clock to bring out our first issues. Simon Burrows travelling from Leicester, Andrew Thacker from Croydon, John Bancroft from Northamptonshire and Nick Evans who lived not too far from where we lived. There were others too.

Maria fed the hungry ones, by serving them with Goan curries. I am sure they enjoyed them as we always had a good turn out for the next production of the magazine.

Issue 5:
Summer 1992

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The Magazine for members of the ARM Club
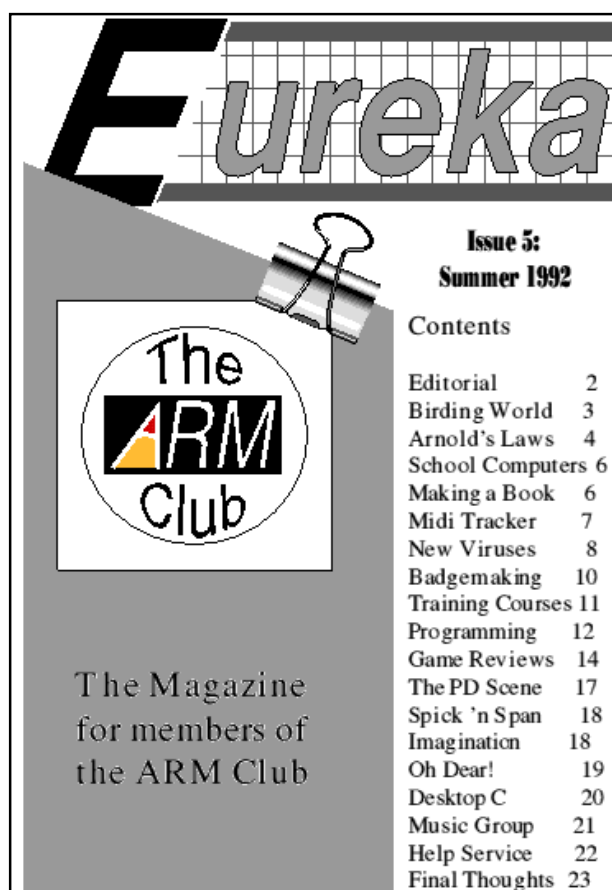
New names for Club and magazine

Support

Computer Concepts was one of the first companies that gave us their support, by way of the loan of their laser printers for the production of the first few issues of the magazine.

I had to travel to their offices, collect and return the machines, all for the love of the Club!

It was not an easy ride but perseverance from our dedicated members helped us to make a success.

Name change

The biggest change came in 1992, when it was decided that the club should be renamed from Club A3000 to The ARM Club to reflect its wider aims and membership. This had by now become international and we had members from Africa to America, from Australia to Argentina. The magazine also got its new name and became Eureka.

Change of Editor

We cannot compare our early magazines with the Eureka we have today. We had to make a start and I am proud to be a part of the magazine which we produce today under the editorship of Peter Jennings. I am sorry to see him go but I am sure he will always be with us. I am glad that Andrew Wyver has agreed to be our new Editor and I am sure he will bring in some new ideas and that he will get all the support he needs from everyone in our Club.

We wish him all the best.

Rene and Maria Barreto
Founders of The ARM Club
(Formerly known as Club A3000)

The Chairman Remembers

So Eureka hits the 50th issue. Such a long time, yet it seems like yesterday.

As I started writing this article, I read back through all the articles I've written for the magazine before —a

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Our Chairman, Toby Smith, looks nostalgically back to the early days of the Club and the events, exciting or sometimes sad, recorded in Eureka over the years.

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pleasure you'll all be able to share soon with our new Eureka CD, should you wish. There were quite a lot; some technical, some emotional, some reviews of long standing packages, some comments on the very cutting edge of development. Some covered exciting new announcements like the Risc PC launch; some dealt with bad times, like the non launch of Phoebe. We've come a long way since the Club started and it's all been documented in the pages of these 50 issues.

The ARM Club was started early in the life of the RISC OS computer (or Archimedes as it was then) as an

enthusiasts' club. A club of enthusiasts, for enthusiasts, run by enthusiasts, with the aims of enthusiasts. We've done many things over the years, run local open days, boosted them from small school-hall events to increasing large regional shows and gone from strength to strength in membership. Eureka, in its many forms and layouts, has been one of the mainstays of that enthusiasm right from the beginning of the Club. It provides a vibrant way of keeping the membership in touch with the wider RISC OS scene and vice versa.

Steering the helm of Eureka recently has been our third editor, Peter Jennings. Over his years of tenure he has put in a lot of effort to Eureka and the Club, both in terms of time spent on the detail of the magazine pages, article commissioning and such like, and also in providing a pair of guiding hands to the overall development of

Eureka's place. His commitment and skill have been evident throughout and I'm sure you'll all join with me in giving Peter our heartfelt thanks.

Joining the committee to fill Peter's shoes is our new Editor, Andrew Wyver. As briefly mentioned in the last issue Andrew has been using RISC OS for many years and editing a similar musicians magazine for the past eight years. He joins us excited at the prospects for Eureka and full of ideas for "the next 50 issues". Again I'm sure you'll all join me in welcoming him to the Editorship and wish him luck.

We hope that Eureka will continue to fill an important part of the wide range of RISC OS information available to you. We try to position the content as different from other magazines, concentrating on the Club's strengths. We aim for in-depth analysis in our reviews, building on the available time for a quarterly publication and the advanced technical knowledge that we can draw on.

We also aim for accessibility, with information provided at the level that we hope all interested members can take on board and learn from. We also aim for uniqueness, providing some of the stories and information that no one else can. All in, we hope it makes a good read.

If there is ever any topic you'd like covered in Eureka, do write in to Andrew (see Club Contacts, at the end of the magazine) with your suggestions. Better still, if you have something you'd like to cover, offer us an article!

While I may wax lyrical through this history and beyond, the point is that The ARM Club is and always has been an enthusiasts club. By grouping together, we enthusiasts can provide help, support and assistance to each other and also have a notable voice in the important discussions.

While there are still enthusiasts willing to give a little of their time to this organisation, there will still be an enthusiasts Club and an enthusiasts' magazine.

Toby Smith
Chairman

Eureka CD Offer...

£5

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(Post free)*

On the CD you get:

• *Every issue of Eureka to date.*

• *With illustrations in full colour...*

...as you've never seen them before.

• *A complete index to help you find anything you want.*

• *Plus the contents of all the magazine discs.*

• *And a bonus of extra software previously sold by the Club.*

**Order now, post free, from:
CD Offer, The ARM Club, Merton Court, 38 Knoll Road,
Sidcup, Kent DA14 4QU**

Or buy at our stall at the Wakefield Show

Free For All

!AntiSpam

As mentioned in our last issue, I am using AntiSpam with Argonet's !Voyager internet suite of programs —and not without having some problems. First I forgot to turn off the mail and news download was on to. As I was pushed for time (I had to get to work) I disconnected Voyager. AntiSpam seemed to hang as did the A7000. As I really couldn't worry about this at the time, I switched off my A7000, to get back to pick up the pieces later.

Andrew Burgess spends more time getting his AntiSpam software to work with Voyager and changes to a free program to link his RiscPC and Psion.

(*Preferences-User-Disable Mail Usage* and *Preferences-User-Disable News Usage*) and so Voyager was downloading the stuff itself. On starting AntiSpam, it moaned that the internet connection was in use and so it couldn't do what it wanted. I disconnected. This time I successfully disabled mail and news (news is probably extraneous to disable), connected with !AntiSpam displaying *Idle* on the task bar. Nothing happened. I then opened the menu on AntiSpam, and selected *Connect-Argonet* which is what I set up in my config file. AntiSpam then started doing the business, telling me what emails it had deleted and which one it

!Swipe

Swipe is a simple application that allows one to 'swipe' text from any outline-font represented text on a RISC OS window. It apparently cannot copy text from StrongEd or anything using ZapRedraw (whatever that is) or pre RISC OS 5 desktop fonts provided by !FinalLook, or from ANT Marcel.

It works by checking for the pressing of a combination of keys on the keyboard that alter the way that Select and Adjust mouse buttons respond.

Although the instructions suggest using the left control and left shift

keys together, I couldn't get this to work. The text does mention that pressing left control and left shift replaces the 'old' method of left shift and left Alt, which is the combination I got to work on my A7000+ running RISC OS 4 (and is included in the usual blurb on the website). The instructions do tell you how to reassign your keys. In use, !Swipe is very, very simple, though I did not find the instructions so good:

Double-click the icon. No icon appears on the task bar, but it does appear in the task manager.

This example uses !Swipe to copy the title bar (say) from an active window and copy the text into an open !Edit window (it has to be open beforehand).

• Hold down left Alt (or left Control if that works for you) and Left Shift. Double click to select a single word (a la Windoze), or select-click-drag the text you want. There doesn't seem to be a way of selecting the whole text.
• Still holding down the keyboard keys, move the mouse to your destination: the !Edit window and click Adjust to paste it into the text

window. If you get '(Adjust to Paste)' in the paste window or in the text copied, then you've either released the keyboard keys too early, or !Swipe cannot copy this particular text.

This is something that I don't think Windoze can do, unless there's a piece of shareware out there, but as I've said before I'm not interested in looking for that! It's a piece of software that I'd definitely be adding to my boot sequence!

Psion connectivity

I had previously bought the commercial !PsiRisc to link my Risc PC to my Psion 5. I had experienced no trouble with this software, until I dug out my Psion after two years of inactivity. PsiRisc copied previously backed up files from my A7000 (RISC OS 4) to the Psi 5 no problem. I wrote a document and attempted to transfer it back to the A7000. PsiRisc crashed with 'No stack for trap handler' every time I tried copying a file onto the A7000. I remembered just *after* I'd bought !PsiRisc someone asked me "Why didn't you get !PsiFS, it's free?". I thought of this when PsiRisc crashed and looked up !PsiFS on the Internet.

Www.drobe.co.uk gave me loads of links to it, most of which were broken! I then did a www.google.co.uk search and it gave me a site owned by a Greek who called himself 'Thouky' (an abbreviation of his surname). Reviews of the software on Thouky's site indicated an excellent piece of software. The first link returned by Google proved to be the best. I selected the download option and stored the 587K Zipped file while I cooked our bangers and mash dinner downstairs!

Sausages eaten, I returned upstairs to copy the files from the Psion through PsiFS. It took longer to connect to the Psion than through PsiRisc but I managed to copy my files, which PsiRisc had refused to do. I noted only one real drawback in that it seemed to keep the Psion switched on even when idle. If I'd been on batteries, I could have worn them down a bit.

I also tried installing PsiFS on my Acorn A4 laptop running RISC OS 3.10. It ran straightaway, but moaned that I didn't have the 'Message extend' module installed and told me

what version it needed, so I couldn't get it to work on that machine.

See you next time, when there will be more on !Organizer, which I wrote about last issue.

Sources:

!Swipe
Web: http://astubbs.webspace.fish.co.uk/swipe.html
Download: http://astubbs.webspace.fish.co.uk/swipe.arc

!AntiSpam
Web: www.apts04.dsl.pipex.com/Progs/Antispam.htm
Download:
www.apts04.dsl.pipex.com/Progs/AnSpam122.zip

!PsiFS
Web: http://homepage.ntlworld.com/thouky/software/psifs/
Download: http://homepage.ntlworld.com/thouky/download/psifs.zip
Download with source: http://homepage.ntlworld.com/thouky/download/psifssrc.zip
AlexLib (needed to recompile !PSiFS): http://homepage.ntlworld.com/thouky/download/alexlib.zip

ARM Arena

This issue's column coincides with the 50th edition of Eureka magazine, a milestone in the history of The ARM Club, originally intended as a user group for A3000 owners.

Andrew Weston looks back at some of the old favourite games from earlier machines now being updated to play on modern RISC OS 4 or 5 computers.

Since this time The ARM Club has released games-related software (such as StrongGuard and GameOn!), supported major Acorn/RISC OS shows where new games have been showcased and published numerous games reviews and this column in Eureka. So it's fair to say, The ARM Club has done its share for gaming.

The main area of interest with regards to gaming at the moment is in running older games on RISC OS 5 (that is, on the Iyonix from Castle) and to a lesser extent on RISC OS 4 machines. Therefore at the upcoming Wakefield Show it is expected that the commercial package Aemulor Pro, that aims to bring 26bit compatibility to the 32bit Iyonix, will be a significant attraction for many users. Along with this application, however, there are several other developments to report this time around which should appeal to retro-gamers.

Aemulor Pro

Aemulor was released shortly after the Iyonix and was seen as a crucial piece of software as it aimed to allow programs written for those ARM-based machines prior to the Iyonix to run on the Iyonix. In other words, to allow programs designed to run on 26bit ARM chips to work on the 32bit ARM-based chip that the Iyonix uses.

While older machines were always referred to as 32bit, as machine code instructions were sent to the processor as a 32bit long 'word', the 32bit is now generally taken to mean strictly the instruction itself and not auxiliary information that used to be passed to the processor in the same stretch of binary.

The release was seen as essential as many applications were waiting to be converted to the new hardware and many others are unlikely to be converted and have no equivalent counterpart that will work on the Iyonix. This urgency therefore opened up the possibility of playing older games on the latest, most advanced, RISC OS machine as an added bonus.

Along with pre-RISC OS 5 compatibility, however, comes considerable complexity in that much of the hardware along with the central processor has changed. Examples included the sound and video systems and consequently many games didn't work properly or didn't permit sound. Such issues have been addressed in the latest version of Aemulor, Aemulor Pro, which has already been hailed as working with the classic game Elite (the Archimedes version)!

Of course there may be a lot of other reasons why a game won't work on RISC OS 5, aside from the machine code that the game may contain. For example, the game may have been updated to work under RISC OS 4. As far as I can gather in relation to areas which are important to games, such as screen memory access, RISC OS 4 has diverged more profoundly beyond RISC OS 3 than has RISC OS 5, despite both originating from Acorn's RISC OS 3.8 development version of the operating system. Other updates to the operating system in the Iyonix could further confuse the situation.

Nevertheless, Aemulor and Aemulor Pro are significant steps in the right direction for allowing backwards compatibility for many of the major game releases for RISC OS which Iyonix owners may possess, or even wish to purchase, to play on their latest machine.

Updates are planned for Aemulor and Aemulor Pro which are priced at £50 and £99 respectively, available from the Aemulor company itself (see at end) or Acorn/RISC OS dealers.

A310em

On the subject of games compatibility, many RiscPC owners, especially those with RISC OS 4, have been frustrated with the inability to play games released during the RISC OS 3 era. Most of the RISC OS 3 games tended to work on most
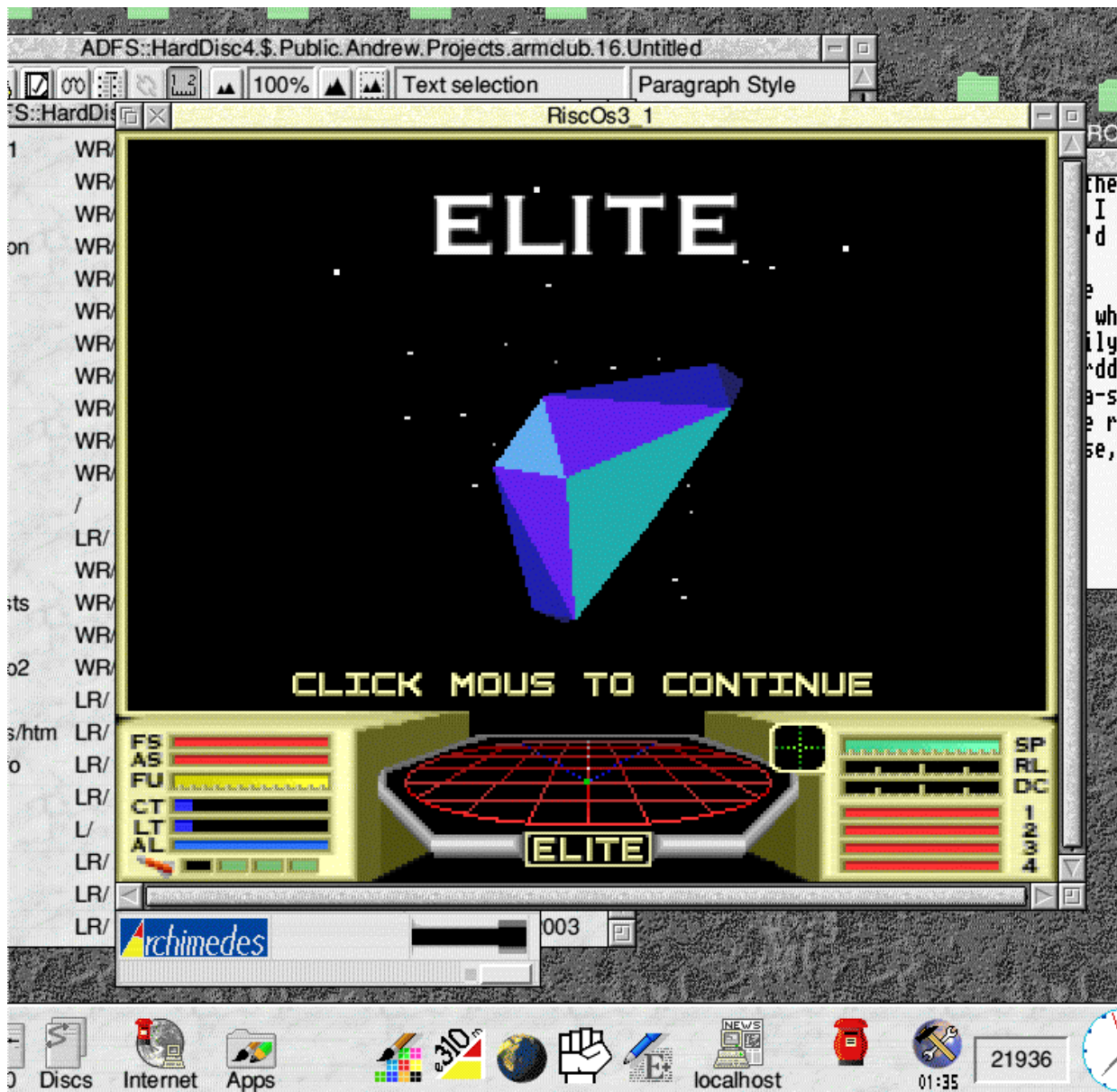
A favourite Archimedes game gets a new life on new machines

RISC OS 3 computers, with the issue of speed occasionally needing to be redressed on ARM 6/7 computers with utilities such as The ARM Club's GameOn! Also most RISC OS 2 games worked on RISC OS 3 while some were updated. However, the combination of the StrongARM and RISC OS 4 proved a lethal combination to many older games.

While some have been updated, notably those from the 4th Dimension, and individual patches have been made available by the likes of Theo Boogaert and Alex

Macfarlane Smith, there remain many popular games which won't run on this specification of machine.

With this in mind, the ongoing development of Jan de Boer's A310em is almost a God-send to games fans. A310em aims to emulate all computer operating systems up to and including RISC OS 3.11. This also includes release 1 of the operating system (known as Arthur), the interim user interface while the multi-tasking RISC OS 2 was being finalised. Since the first 32bit Acorn machines to be released, the A305 and the A310 were capable of being updated right up until RISC OS 3.11, the name of the application is technically correct!

A310em works within the RISC OS desktop and is remarkably fast, providing hard-disc support in the form of virtual discs that in reality use the hard-disc of your own machine and floppy disc support in a similar way.

Despite this, transferring programs across can be a problem as the floppy disc is read in its entirety into the emulator making the process slow.

This can be alleviated, however, by using an accompanying program which allows files stored on the user's actual hard-disc to be dragged onto a filer directory display in the emulator window.

One issue here is that many games require an original floppy disc to be placed into the drive before a game, installed on the hard-disc, is run. My attempt at reading in such a disc for a certain RISC OS 3 game before running the game installed into the emulator's hard-disc has so far been unsuccessful.

Jan is aware of these technicalities however but for now wants to improve the performance and accuracy of the emulation.

Improvements

Examples of such improvements that Jan has in mind are quite impressive and include allowing a single-tasking mode to enable the emulator to run much faster. The emulator as it stands is quite capable though of running a wide range of old games some which date right back to the beginning of the 32bit machines' history.

With some improvements to the documentation, to allow users to get started in the minimal time while including information on the wide range of features and detailed status displays, A310em could potentially become the definitive means of backwards games compatibility.

A further possibility which Jan has raised is the conversion of A310em to RISC OS 5 which is highly significant as this would very likely be a preferable option to the commercial Aemulor, for games at least.

Should this happen it would be a commendable achievement indeed.

One aspect which may concern some readers is the availability of ROMs that A310em requires.

 Jan has kindly provided the following information for those who wish to extract the ROM from an Archimedes or other Acorn machine that they own for use within the emulator.

I hope that is some use and many thanks to Jan de Boer for the detailed help.

OS	Extraction
Arthur (A310, A410, A440, A3000)	To get the factory settings hold down the R key and turn the computer on. While in the desktop, format one floppy, then click Exit. At the asterisk prompt, type: *save :0.RO110 3800000 +80000 and hit Return. Now wait until the saving is finished. You can return to the desktop with *Desktop. Take out the floppy,bring it to a RiscPC or Iyonix and copy the RO110 to the OS directory of !A310Emu.
RISC OS 2 (above)	Leave the desktop by hitting F12, at the asterisk prompt, type: *save RO200 3800000 +80000 and hit the Return key; to return to the desktop, once more hit the return key when the saving is finished.

OS	Extraction
RISC OS 3 (above and A3010, A4000, A5000, etc)	The only little problem is that the OS is too big to fit on one floppy; if you compress it it fits on a 1600K floppy in newer models but that will nothelp if you have an old model [drive hardware]. You can save it to a harddisc with (F12) *save :4.RO310 3800000 +200000 and split this 2Mb file with !Split, transfer it on 3 floppies and restore it on the RiscPC side;alternatively, you can save it in 4 parts, after each save transfer the file to the Riscpc/Iyonix harddisc, delete the file and fetch the next part. To save the 4 parts: *save :0.RO310pt0 3800000 +80000 (+transfer file to RPC/Iyonix harddisc,delete it from floppy) *save :0.RO310pt1 3880000 +80000 (+transfer&delete) *save :0.RO310pt2 3900000 +80000 (+transfer&delete) *save :0.RO310pt3 3980000 +80000 (+transfer) Now you have 4 files, presumably in the root directory of your harddisc :4. To join them in the RiscPC you need a small program: 10 END=HIMEM+&200000:REM This is because we need space for a big array 20 DIM space% &200000 30 OSCLI”load :4.RO310pt0 “+STR$~space% 40 OSCLI”load :4.RO310pt1 “+STR$~(space%+&80000) 50 OSCLI”load :4.RO310pt2 “+STR$~(space%+&100000) 60 OSCLI”load :4.RO310pt3 “+STR$~(space%+&180000) 70 OSCLI”save :4.RO310 “+STR$~space%+” +200000” 80 END After running this program, the file called RO310 can now be copied to the OS directory of !A310Emu.

Classic re-issues

A name which may ring a bell for long-time users of 32bit Acorn machines is Tom Cooper who was responsible for a range of high-quality games in the early 1990s. Some of these games were published independently under the Software 42 label and eventually bought by the former games division, Eclipse, of the company that is now Argonet (the internet service provider). Others were written for Eclipse themselves.

In any event, the situation now is that a sister-company to Argonet called Imparo now owns the copyright and following negotiations with their personnel there they have decided to release the games as freeware. Consequently the games are now available to download in the free games area of the Acorn Arcade website.

Ixion

The games now regarded as freeware include an early but immersive virtual-reality type game called Ixion, some graphical adventures (such as Darkwood) and shoot'em ups and the world-management simulation strategy game Worldscape. Please note that a copy of Worldscape is still being sought by Acorn Arcade though.

At the time of writing, I am aware of only Ixion having been updated to run on OSs up to RISC OS Select and StrongARM.

If anyone is unable to download these games, for example through not having internet access, and really wants to play them again then please get in touch with me, through the Editor of Eureka, as if necessary, I would be prepared to return any blank discs sent with a stamped, self-addressed envelope with any of the games on.

65link

A piece of software that gets a regular mention here is 65link by John Kortink, the RISC OS machine-based file-server for 8bit BBC Micros. Version 1.35 has been released which, in addition to its existing functions, allows the BBC Micro to access disc images downloaded from the internet, or created by the user, from the RISC OS hard-disc. 65link allows transfer of files back to the RISC OS machine which can then be made into a disc

image using a program such as !BBCfiles (available separately). John has recently announced the closure of his Windfall Engineering company that supplied the Viewfinder graphics enhancement expansion card but informs me that he has no present plans to cease development of 65link.

As usual, the software requires a special cable to link the two machines and a special ROM to insert into a spare slot in the BBC Micro which can be provided at a cost. Payment details are provided on the website (see at the end). Note that 65link is not yet compatible with RISC OS 5.

Updates

The ongoing development and goal of universal compatibility for Starfighter 3000 continues with Chris Bazley releasing the latest patch for the Iyonix-'neutral' version of the game on his website (see end). When run on Iyonix machines the game could not switch from desktop to full screen mode without an error being reported and the latest patch should fix this, applying to version 3.00 of the game.

One computerised board game which hasn't been featured here before is the RISC OS implementation of the world-conquest war game RISK. This has recently been updated with new maps and enhancements which can be downloaded from Mac Andanna's RISK website together with an old BBC Micro game which some may remember of the same genre.

8bit conversions

Some further nostalgia for emulation fans is the availability of two games originally programmed for the BBC Micro that have been re-coded to work on RISC OS. These are Tutenkamen, a platformer converted by Chris and Harriet Bazley, and Feud, a two player combat game by Justin Fletcher. Both may appeal to younger users with Tutenkamen coming with a level editor and Feud being a game written by Justin in the early days of 8bit computing.

Enjoy the show

I hope that this month's offerings give scope for enjoying existing games and perhaps open up the possibility of buying a few older titles that should be on sale at the Wakefield Show.

Most of the software reported here is web-based but breaking news is that

the Unix Porting Project that converts Unix projects to RISC OS has just released a PC emulator with wide-ranging emulation of early PC features.

It may be worth looking out for the project at the Show as CDs are made regularly containing the range of software (including games such as Civilisation and Ultima 4) that has been released for low-bandwidth internet users.

At the time of writing, their attendance has not been confirmed however. Nevertheless, I will look into this release in more detail for next time but a wide range of PC games are reported to be playable and the software is said to be particularly suitable (and thus compatible) for the Iyonix.

Contacts

Aemulor
Web: www.aemulor.com

A310em
Web:
http://home-1.worldonline.nl/~jandboer/

Acorn Arcade
Web: www.acornarcade.com
(Features section)

65link
Web:
http://web.inter.nl.net/users/J.Kortink/home/software/index.htm

*3000*Web:
http://starfighter.acornarcade.com

RISK
Web:
www.maxandanna.pwp.blueyonder.co.uk/index.htm

Feud
Web:
http://homepage.ntlworld.com/justin.fletcher/Usenet/Feud/

Tutenkamen
Web:
www.starfighter.acornarcade.com/mysite/

DOS box (PC emulator)
Web:
www.chocky.org/unix/downloads.html#dosbox

Site Seeing: Museums Of Life & War

You don't have to be a student of history to enjoy visiting museums and much the same applies to visiting museums online.

The British Museum is a fascinating place to visit if you are interested in

at the time of writing. These range from *Buried Treasure*, revealing some of the things learned from archaeological finds made in England and Wales, to *Queen of Sheba: Treasures from Ancient Yemen.* Helpfully, all of the tours, both adult's

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Sue Clamp finds that stories of life during peace and war, from history to the present day, make fascinating browsing on the museum websites devoted to them.

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world cultures. The main site at www.thebritishmuseum.ac.uk/ gives a broad picture of what the museum offers but clicking on their Compass link takes you to their online collection. There are two versions of this; one for adults and Children's Compass. In the adult site there are fifty-three tours that can be followed,

and children's can be accessed through a text-only version, with links to fetch the images.

The tours on the children's site also feature some for younger children and families. Mostly text and images, there are a few links to some Flash games, which sadly don't work here

Africa | Americas | Asia | Britain | Egypt | Europe | Greece | Japan | Near East | Pacific | Rome

the Museum exists to illuminate the histories of cultures, for the benefit of present and future generations

The British Museum's world-wide offerings

IWM COLLECTIONS ON-LINE

Search | Please choose a collection

WAR ON LAND | WAR AT SEA | WAR IN THE AIR | WAR & PEACE | PRISONERS | CIVILIANS | COMMONWEALTH | TRUTH & PROPAGANDA | BURIAL & REMEMBRANCE

| Kindertransport | War Workers | Rationing | War & Social Change | Civil Defence | Under Fire | Occupation / Resistance

CIVILIANS

In the era of 'Total War', distinctions between formal military forces and non-combatant civilians have become increasingly, and often deliberately, blurred. The collections illustrate the experiences of civilians; refugees, the victims of repression and ethnic cleansing, resistance, and those on the Home Front. Their experiences are documented, and their sacrifices given worthy prominence, in the museum's displays and collections.

You can explore aspects of this theme through the collection highlights, or read the *Civilians overview*.

Collection Highlights:

Under Fire
Civilians and total war.

Kindertransport
Für das Kind

War And Social Change
War as a catalyst for change.

VIEW MY LIST   SEND MY LIST

> Support IWM Collections > Contacts > Site Map > Terms & Conditions > Help > Acknowledgements > Database Overview > Home

The role of civilians in wartime, at the Imperial War Museum site.

in Oregano 1. The topics covered by the children's tours, such as *Sport in Ancient Greece*, connect with some of areas of the history curriculum, while others, such as *Horses and Riders*, may appeal to children's interests outside of school.

Another impressive online museum is the site of the Imperial War Museum at www.iwm.org.uk/. It is actually a collection of sites, each one dedicated to a different aspect or branch of the museum. The most interesting, in my opinion, is the Collections On-line site at www.iwmcollections.org.uk/ through which you can access their catalogues. This contains short essays on major historical themes which are illustrated with small images and downloadable mp3 files. These include eye witness accounts, recollections of events and extracts from radio broadcasts. There is also a

searchable database of almost 60,000 records held by the museum.

Staying with the theme of war, my next site of choice is The Second World War Experience Centre at www.war-experience.org/. Their stated mission is: 'To collect, document, preserve, exhibit and encourage access to the surviving material evidence and associated information of the men and women who participated in the war in whatever their capacity whether military, civilian or conscientious objector.' The site already holds an interesting collection of personal accounts and images of donated artefacts, which they will hopefully continue to build up.

The First World War gets extensive multimedia coverage at www.firstworldwar.com/index.htm. There is so much here that only a visit to the site's statistics page reveals: 3,900 pages, 3,100 photographs, 2,200 encyclopedia entries, and the list goes on! There is a large collection of propaganda posters (250), a collection of poetry, battle summaries, diary entries and memoirs.

Unfortunately, the video collection of 100 files is inaccessible on RISC OS, being in WMV (Windows Media) format, although the site's Editor is looking into the feasibility of making them available in MPEG format. On the other hand, the 150 audio files are in MP3 or WAV format and range from songs by the likes of Gus Harris and Marie Lloyd, to recordings of the last emperor of Austria-Hungary, Karl I. The site can also be purchased as a CD ROM at a very modest price. This is very useful if you intend to explore it fully and wish to limit your time online.

The National Maritime Museum at www.nmm.ac.uk/ has also made a huge effort to make its online presence interesting to all age groups and accessible to those with slow Internet connections, with the provision of a low graphics version.

As well as providing information to visitors of the offline museum, the online visitor can explore a number of collections online. These present you with good quality images alongside brief descriptions of the artefacts. Prints of the images can be purchased for non-commercial or personal use.

Kerenski in Defence of the Revolution

Read Russian Justice Minister Alexander Kerenski's plea for civil and military unity following the revolution.
▶ War Minister Alexander Guchkov's Appeal for Calm
▶ Tsar Nicholas II's Abdication

The Taxis of the Marne

View vintage film footage of the Parisian taxi cabs which rushed fresh troops to the front at the Marne.
▶ The First Battle of the Marne
▶ Who's Who - French Commander-in-Chief Joseph Joffre

Samuel Gompers

Read a biographical sketch of the prominent U.S. trade union pacifist who came to support the war.
▶ Samuel Gomper's Speech Supporting Conscription
▶ President Wilson's Conscription Proclamation

Life in the Trenches

Read a description of what it is was like to spend much of the First World War in front-line trenches.
▶ Encyclopedia - No Man's Land
▶ Encyclopedia - Trench Foot

Sagittarius Rising

Read a biography of the British airman who survived to write one of the war's classic service memoirs.
▶ Air Aces of the First World War
▶ Who's Who - The Red Baron, Manfred von Richthofen

Glimpses of the First World War from its own museum

The site also has a super section for children, with projects to help them make sea monster masks, a model of the Victory, a globe or a quadrant — very useful resources for bored youngsters at wet weekends!A section on Tudor Exploration contains some interesting and well-presented information and activities. The main pages use Flash, which don't work on RISC OS, but again they have provided a low graphics HTML version of the site.

This part of the site is closely linked to the Key Stage 2 National

Curriculum and the QCA scheme of work.

Not quite a museum, but scraping into this article because it does have an offline site that can be visited, and because I like it so much, is the Public Records Office's Learning Curve site at http://learningcurve.pro.gov.uk/.

There are three different types of resource here: in-depth topic investigations in *Exhibitions*, interactive investigations in *Focus on...* and lesson-sized activities in *Snapshots*.

Sticking with the war theme of this article I decided to explore the Home Front exhibition. This is divided into sections which include *Women At War* and *Evacuation*, and each page has a short introductory text with links to sources which the reader needs to examine closely in order to answer questions.

Each exhibition has a Flash activity, a set of worksheets in Word format, a timeline and a glossary. You can also download the sources in pdf format to print out.

There are currently ten exhibitions in this part of the site covering periods of history from medieval times to the 20th century. *Focus on...* has just four investigations at the moment. There are activities here in Flash and non-Flash formats, although, for once, the Flash version worked fine in my browser!

There is a long list of *Snapshots*, educational features and activities based on visual sources from the National Archive, covering work from Key Stage 2 - 4. These useful tasks are usually accompanied by teacher's notes and linked to units from the QCA scheme of work.

I took a closer look at the Assassinate Hitler Snapshot, which explores the Special Operations Executive's plans to assassinate Hitler in 1944. The documents shown here detail two of the proposed plans that formed part of Operation Foxley. The task is to decide which of the two ways of killing Hitler should be given the go-ahead.

I wish that learning about history had been so interesting when I was at school!

Optical Mouse Long Term Test

The motoring magazines all have long term test articles when they come back to what they thought was the latest and greatest at the time to

David Ruck gives a long-term report on his optical mouse and compares it with the same manufacturer's cordless ball version.

see if it was as good to live with in everyday use for an extended period.

It's now 18 months since I bought a Logitech Pilot optical mouse *(see Eureka 43)* and I was very impressed with the smoothness and low maintenance.

However, after a few weeks of use I noticed what I thought was an annoying fault. I would be dragging a file around and find that the mouse pointer would shoot off to the top left of the screen and in my surprise I'd take my finger off the button and dump the file in the wrong directory viewer or the pin board.

This wasn't normally too much of a problem but once it was quite

embarrassing as I dropped a large source file on a telnet window hosting a technical talker (grown up version of online chat room) and everyone got swamped with several thousand lines of code scrolling past —oops!

It took a quite a while to discover this wasn't a fault in the mouse but rather a small flaw due to the way it works.

With a ball mouse, you are used to moving it to the edge of the mat, then picking it up and putting down again in the middle to continue to move further in the intended direction.

However, with an optical mouse if you only lift it very slightly it can still sense movement but it is greatly amplified which cause the mouse pointer to shoot off. If you lift it a little bit more the problem doesn't occur, which is why it didn't happen all the time.

I found the easiest solution was to ensure I didn't need to keep repositioning the mouse, by increasing the mouse step value, so less mouse movement is needed to traverse the screen. This can be done from the mouse section of !Configure which is run by double clicking on !Boot. However, if you use too large a value, you'll find you may not be able to hit every pixel on the screen, which can be important for graphics work.

An alternative is to use a mouse accelerator, which allows precise pixel accuracy when moving the mouse slowly but faster movement causes it to travel much further, allowing a quick flick to cover most of the screen.

!Mouse utility

I've made a 32 bit version of Nick Jarman & Roger Spooner's *!Mouse* scale utility available at www.quantumsoft.co.uk/druck/ which will work on both the Risc PC and Iyonix.

After solving this problem I did still find the pointer moved erratically occasionally and examining the

At first, I was very impressed with the ball version, as it was just about as smooth and responsive as the optical mouse. I could also run it directly on my white Formica desk without a mouse matt, which is one of the few surfaces the optical mouse doesn't like.

underneath, I found it was due to a small hair getting caught in a recess which houses the LED and sensor. This can easily be hooked out with a finger but be careful not to point the LED directly at yourself, as movement of your finger will cause it to switch in to high power, which is exceedingly bright and will leave you seeing a blue spot for several minutes.

Pilot mouse

When I bought my Iyonix, I found that it came with the standard Logitech Pilot mouse, which is otherwise identical except that it contains a ball instead of optics. I was then able to see how the two technologies compared.

However after a week the mouse was more difficult to move and less precise. Opening it up showed the same old story, a thick coating of crud on the rollers, requiring a fiddly fingernail scraping session to restore it to its previous smoothness.

Swapped

Suffice to say as soon as I started using the Iyonix as my main machine, the optical mouse went with it and I swapped the ball one on to the Risc PC, which is now used far less often. So if you are still using what now must be quite a grotty ball mouse on your Risc PC, or you want something with less maintenance on your Iyonix, I'd still strongly recommend an optical mouse as a replacement.

club A3000
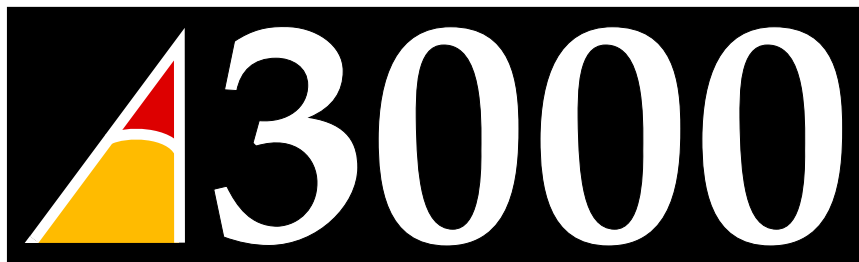
Issue Number 1   February 1991

Introduction

Welcome to Club A3000, the user club for all Archimedes users, and our very first newsletter. Over the past few months, since before the BBC Acorn User Show, we have been busy setting up the Club so that it can provide all sorts of useful services to Archimedes users.

• Our primary aim is to put Archimedes users in touch with each other, so that we can all share each others' experience and equipment, and benefit in other ways, such as by the exchange of Public Domain software. So often, computer users can feel isolated as far as their machines are concerned, and we want to try to help. You will see that a Club hands-on Archimedes workshop day has been organised for those in the London area, and we hope that this will be the first of many successful events.

• To encourage users to get in touch with each other, you will find enclosed with this newsletter a printout of the names and addresses of some fellow Club members who live fairly near to you, and we would encourage you to get in touch with them by letter. Find out a bit about them, and see what interests you share. If our experience is anything to go by, you will soon notice the many benefits of being in touch with other users.

• If you have any good ideas for the Club, of any sort, please send them to us. Your input is vital if we are to make Club A3000 a true user club for all Archimedes owners, so please help if you can.

• Club A3000 already has quite a large number of members in the UK and in Europe. However it is our belief that the more members we can get in each area, the better the service that we can provide putting users in touch and organising local events.

If you know anyone who owns or is thinking of buying an Archimedes and might like to join, please ask them to send an SAE to the Club address and we will send them a complete information pack.

Coordinator . . . .
. . . . Rene Barreto
Editor . . Simon Burrows
Graphic Designer . . . .
. . . . Andrew Thacker

1

Beebug High Density Discs

The Retail Catalogue published by Beebug Ltd contains a large advertisement as follows: "High Density Discs for the Archimedes... We are now able to offer high density (1.6Mb) 3.5" discs for extra reliability" priced at £22.45 for ten including p&p. Do not be fooled by this; no more data can be stored on these discs than ones costing 50p each or less, and the reliability point is dubious. "Proper" Beebug Archimedes blank discs are mentioned in the small print at £12.94 inc. p&p for ten, which is still rather expensive! This advertisement is deliberately misleading/ambiguous and should not be published. If you have been mislead then perhaps you should moan to Beebug.

When buying blank discs, you should be aware that the discs fall into two categories, branded discs and unbranded ones. Generally within each of these categories there is little to choose between the various discs. The only requirement is that they would be double sided and double density. Branded discs generally cost the most, but often there is little difference between these and the cheaper unbranded discs. It is not recommended that you buy very cheap unbranded discs (less than 30p each), but perfectly adequate discs for general use can be bought for round about 40 - 50p each.
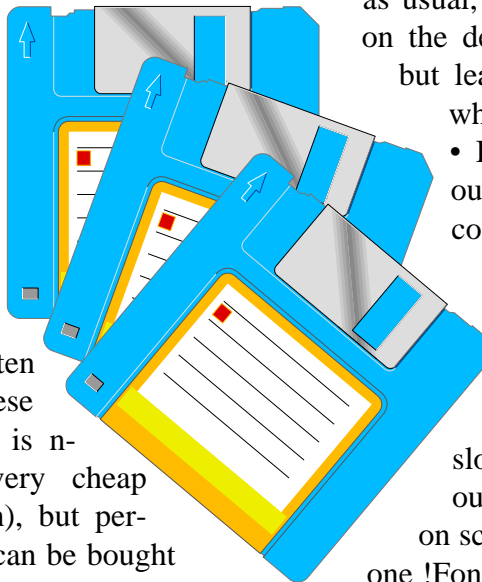
RISC OS Hints and Tips

• Clicking on menu options with the adjust button causes the menu to remain on screen.
• Closing a directory window by clicking on the close icon with the adjust button causes the window of the parent directory to be opened if possible.
• Dragging a window using the adjust button does not bring the window to the front - you can slide it behind other windows.
• To format floppies in E format, it is not necessary to go to the format sub-menu; just click on format in the ADFS menu.
• On an A3000, pressing SHIFT, TAB, Q, Numlock carries out a Control Break (very useful!?).
• Holding down * on the numeric keypad whilst pressing reset causes the machine to start up in supervisor (*command) mode.
• When a window has a vertical scroll bar, clicking on a vertical arrow with the select button causes the window to scroll in the direction indicated, whilst using adjust causes it to scroll the opposite way.
• To completely wipe a disc quickly, keep a blank disc handy and just backup this disc onto the one to be blanked. This is much quicker than selecting all and deleting items one by one.
• Holding down CTRL and SHIFT and pressing F12 causes the desktop and all application tasks to be quitted.
• Spaces can be included in file names if you hold down the ALT key when you press space.
• When you need a printer driver but memory is tight, load the printer driver and set it up as usual, and then quit the printer icon on the desktop. This frees almost 100k but leaves the printer driver module, which is all that is needed to print.
• If you have a large number of outline fonts, you will soon discover the problems this can cause. Some applications (such as !Edit) crash immediately if you have too many, and even well behaved packages such as !FontFX and Ovation are slowed down. Long menus of outline fonts are often unwieldy on screen. A good solution is to keep one !Fonts folder containing a core set of regularly used outline fonts, and then have several other folders containing small groups of related outline fonts (each folder having a different name). You must then alter the !Run files of the auxiliary !Font folders so that when you click on one of these, the system does not forget the outline fonts already seen. Alter the "Set Font$Prefix" line to:

Set Font$Prefix <Obey$Dir>,<Font$Prefix>

By this method, you can keep one core set of fonts plus several smaller sets to be called up only when you need them. Remember though that most applications only recognise the fonts which the system knows about when they are first loaded.

Please send in any hints and tips which may be of interest to other users.

2

Public Domain

If you obtain your Public Domain software from one of the commercial PD libraries which are currently springing up, run by individuals or companies, remember that the authors of this software have written it for free, and yet some of these libraries are making money for themselves by distributing this free software at high prices. With a disc of software costing as much as £3.59 inc p&p a large profit is clearly being made considering that the cost (excluding advertising) of producing and distributing each disc is no more that 80p.

Most PD authors state that no charge may be made for their software except the cost of media and postage, and so what some of the libraries are doing see-rath-imm-Muc-the soft-shou-be distributed by these libraries, since they would ms er oral. h of best ware ld not be breaking the terms and conditions, and because the authors sometimes disapprove, do not keep them up to date with the latest versions.

"It is not necessary to pay large amounts to get hold of the best PD software."

Norwich Computer Service's excellent Archive Shareware / Careware discs, and discs from Diamond Public Domain Library not not suffer in this way, because the profits from the sale of the discs go to charity.

• It is not necessary to pay large amounts to get hold of the best PD software. There are several libraries / user groups which distribute PD for free, in return for blank discs and return postage, and they often let you choose exactly what items are on the discs, so that you can be sure that the discs will be full. The monthly disc which accompanies the Micro User magazine contains some good PD software.

Another effective and satisfying way is to build up a network of Archimedes contacts, and swap PD software with each other. Speaking for myself, I have amassed a very large collection of PD software but without paying out large sums of money,

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PUBLIC DOMAIN

One of the intended functions of the club will be as a means of distributing Public Domain software between club members. Therefore, if you have a large public domain base and would be willing to give up a bit of spare time during the week to copy software for club members, then inform the club as soon as possible. There will be a nominal charge per disk (probably about £1) to cover such expenses as postage & packaging as well as to finance other club administration costs (such as the production of the newsletter), but this is still a lot cheaper than any dedicated P.D. house. Please note, however, that Club A3000 was not created just as a means of getting lots of Public Domain software cheaply. In the next issue we'll look at some of the best P.D. around.

Archive magazine published by Norwich Computer Services is the least known of the Archimedes magazines, but in the opinion of most who have read it, the best. Below are given a few comparisons between Archive and the other A5 format, subscription-only magazine, RISC User published by Beebug Ltd., and the support behind them, to allow readers to make a more informed choice between the two. Please remember that these are personal views and do not necessarily reflect the opinions of the Club organisers.

• Archive is published twelve times a year, and an annual subscription costs £17; an annual subscription to RISC User costs £19.90, which is for ten issues. In each issue of Risc User, there are approximately 70 pages, of which just under half are advertisements. Each issue of Archive consists of roughly 60 pages, of which about 15 pages are advertisements.

• The contents of RISC User are only written by a handful of people, whilst Archive consists virtually entirely of material (hints, reviews, news, programs etc) produced by readers; the NCS team only edit the material into a coherent entity. RISC User often has some good programs and applications to type in, and also contains excellent articles on programming techniques, such as a series on programming the WIMP, programming in C, and on using popular software packages such as Pipedream and Impression.

• The RISC User magazine discs are better (but more expensive) than the Archive discs.

• Beebug seem to have recently stopped calling RISC User an "independent user group", and so according to the adverts, people are no longer members; instead they are now just "magazine subscribers". They have stopped members' discounts (without consulting members), and changed their technical help service so that it will now only help with products bought from them (which any dealer will do!), unlike NCS who will help (free) with any prob-

lems by post.
• No discounts are available for RISC User subscribers, except for occasional special discounts on major items of software and small discounts on Beebug's own software. All Archive members receive a members' price list each month, with prices including VAT and prompt delivery, and the prices are very well discounted (frequently 15%+). The Beebug prices are generally not very competitive (with a few exceptions), and prices are often given ex VAT only, meaning that you have to get a calculator out to work out the true price!

• RISC User suffers from the problem that Beebug produce their own software and hardware, which makes it difficult for them to be impartial towards similar products from other companies. The magazine frequently refers to Beebug's own products without mention of alternative products, and often praises Beebug's own products. NCS do not produce hardware / software of their own, and so do not suffer from this problem. Beebug have a strange policy of copying other companies' product ideas, rather than on producing original hardware and software (examples include DTP, SCSI, VIDC, ARM3, External Disc drive buffer, Scanners, Extra RAM, C Compiler, Public Domain Library).

• Sadly Archive is not as well known or appreciated as RISC User (only a few thousand members). Ideally, I would recommend you to subscribe to both magazines, since as magazines, each has its own strengths and weaknesses and both are certainly worth reading. However I would say that the support from NCS is significantly better than that from Beebug, and for what you get, an Archive subscription is better value for money If you do join Archive and do not like it, you can cancel your membership at any time and receive a refund on issues not yet published. Give it a try, and send in your thoughts on paper!

If you have differing views then we'd love to hear from you.

4

IMPRESSION

Computer Concepts' Impression II document processor is now available, and having received the upgrade recently, I have to say that I am extremely impressed with it. Impression has made it really easy to design this newsletter, and is suitable for anyone from a DTP beginner to a convert from Macintosh DTP packages, with many powerful yet well thought out facilities.

Whilst using the alternative packages on a one Megabyte machine is a tight squeeze, Impression II will fit easily with room for a decent font cache. The cacheing of fonts requires a lot of disc accessing, but use on a floppy disc only system is perfectly acceptable, and special screen fonts are supplied for use on a non-multiscan monitor.

There are far too many features to describe them all here, but if you are interested, take a look at the recent adverts for Impression II in the glossy magazines and the comments in the same. One of the nicest things about buying Impression is the excellent support provided by Computer Concepts.

A regular newsletter is sent out to customers, with news and hints on using their products. You can upgrade to the latest version at any time free of charge by sending in your program disc, and a telephone helpline is run to help with any problems. In particular, Computer Concepts listens to its customers and acts on suggestions and criticisms.

• Providing you can afford the asking price (make sure that you shop around) I believe Impression to be the best buy of all the DTP packages (and I've used them all). Since it sadly has to be protected with a dongle, Impression II comes with a no quibble money-back guarantee.

If you do buy Impression II, please let us know what you think of it!

Impression II Hint

There is a bug in Impression in that whenever you drop a graphic into a frame or FIT TO FRAME, the very edges of it will get 'clipped off' when you print it out (try printing out a thin rectangle that has been 'fitted to frame'). The solution is to set the Horizontal and Vertical inserts to 0.01 inches, then FIT TO FRAME, then set these inserts back to 0.00 inches.

Electronic Science Support Material (ESSM)

Club member Nicholas Horn runs a very worthwhile service to Science teachers , with the support of Computer Concepts, providing public domain material for the Archimedes to help schools in the teaching of the sciences at the Secondary School level. At the moment several discs are available for next to nothing, containing information and work sheets, a large poster to be printed out, and a database listing science and technology education broadcasts, all for the Archimedes. The minimum of technical expertise is required to use the discs, and full instructions are included. All material may be freely copied and duplicated. It is available completely free in return for discs and postage, or these can be paid for at very reasonable prices. For more information please send a SAE to:
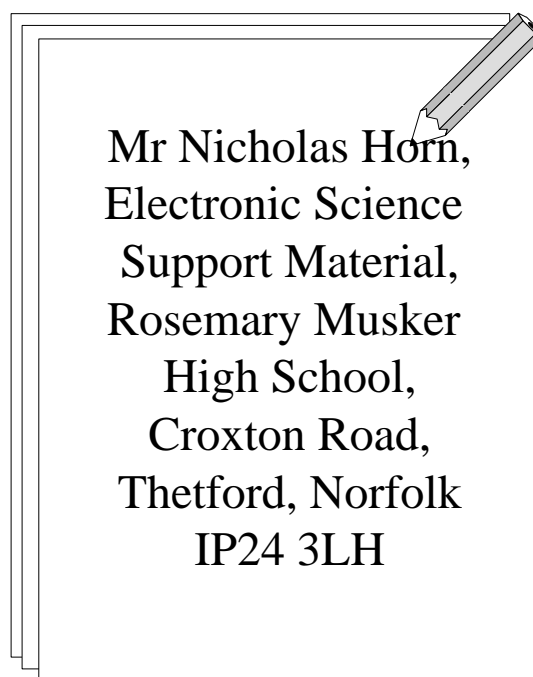
Mr Nicholas Horn,
Electronic Science
Support Material,
Rosemary Musker
High School,
Croxton Road,
Thetford, Norfolk
IP24 3LH

Reference Manuals

If you have shuddered at the massive price of these essential manuals (currently £79), yet desperately need them for, well, reference I suppose, then why not get your library to buy them for you. They will usually charge a nominal sum of 50p or so to order them, yet it is cheaper than £79, and they will be as good as yours.

Why Atelier is best

The first time I'd ever seen this package was at the B.A.U. show after some designer said it was brill and did *everything.* I already had Art Nouveau and ProArtisan, and between the two I got the effects that I needed, so what made this one so special? Simply, that it offers 99% of the features that the forementioned two offer, and a hell of a lot more added in for good measure.

As with every Art package, it's got stacks of simple—yet essential—routines, and I won't bore you detailing these (anyone can program the Arc to draw a line!), but what makes it stand out is the sheer number of features that you never really get to grips with (i.e. the more advanced effects!), and even one or two (like *Average Area*) that you never really find any use for.

It installs itself on the icon bar and uses a limited form of multi-tasking. It waits there on the icon bar until clicked on—then it takes over as a single-tasking application until F8 is pressed and you return to the multi-tasking desktop where you left off. Very clever! This method makes memory re-allocation whilst using the program (e.g. to increase sprite memory) simple.

At any time, a special magnifying glass/help text can be displayed (like !Help and !Magnify in one!). Not only does it show where the pointer is for accurate lining up, but it gives details such as pointer coordinates, the radius if drawing a circle etc. as well as step-by-step instructions on every tool (if the tool is a multi-stage option (e.g. drawing a rectangle means selecting the start and end coordinates) you can even go back step by step as a form of undo by pressing adjust).

The colour menu is very advanced—even daunting. It features palettes, sliders and priority colours (i.e. making some colours 'unremoveable' so that you can draw 'behind' them).

Copying has many options. You can stretch, rotate and distort a shape using many different options (e.g. logarith-mic mapping!) Indeed, for plain filling, Atelier boasts over 340 different combinations to fill, including plain fill, sprite fill, graduated fill using 4 differing finenesses of dither ranging from no dithering (like Art Nouveau) to super-smooth so that you can't really see the graduations. To chose a colour graduation scale, simply select the first and last colours (e.g. matt black and brilliant white) and Atelier will actually work out the colours inbetween. Although time-saving, this presents a problem if you want to create a multi-coloured (e.g. rainbow) graduated fill).

All sorts of editors are provided, including Pattern and Brush e-ditors and the magnifier is smooth and quick, and there's even a sprite editor which is good, but not a patch on !Paint. There are many different anti-aliases and smoothing effects (including Anti-Alias squash and an option to convert (by brushing) all shades of one colour to shades of another).

There are 3 undos. The first (F1) is a simple undo-screen. The second (F2) undoes a specified rectangle, and the third (F3) lets you brush the screen and undoes the area under-neath. Very clever, but it's a pity you can't undo the undo should you need to.

Every last detail is covered. The pointer reflects the current colour. It changes to reflect certain operations (e.g. magnify, print, disk access, filling etc.) Left-handed and Apple Mac style options are provided as well, and little points that really bug you about other art packages have FINALLY been included (like being able to plot a sprite half off the screen.....AT LAST!)

Its wrapping features are breathtaking. You can design a complex vase or bottle and Atelier will wrap a shape round it and can even include shadows - WOW. However, the speed (or lack of it) reminded me of the days of Quest Paint on the BBC Master!

Also included is an animator, but it doesn't use Delta Animation, rendering it practically useless for serious animations and this part of the package represents more of an afterthought on Minerva's part. It lacks polish. Stick with the excellent RISC User movie maker (plug plug!) for animation work.

On the whole, the manual is excellent and the tutorial guides you step by step through most options by showing you their uses by getting you to finish off half-started pictures supplied on the disk. The manual even tells you how to achieve special effects such as smoke, textures, metallic surfaces etc.

So, is it perfect? No. It has a few niggles. All routines, even simple ones like drawing curves, are slow (note there are no proper bezier options). Make sure you have a big enough font cache whilst entering in text (it uses the outline font system giving great flexibility as well as great text!) or it will crash. You also can't rotate text without resizing it rendering this feature almost useless. The supplied printer drivers are not needed because they are not as good as the RISC OS ones (laser printers are not covered). Removing this option would have provided more free memory which is tight on a 1mb machine. Even with all these features, its still not as good as some I've seen on the Amiga, but it does make the likes of ProArtisan look a little stoneage in comparison.

6

By Andrew Thacker of APT grafix

Of course, the really good thing about Andrew Thacker is that he doesn't take advantage of the fact that he is designing this newsletter to 'slip in' a shameless plug for his business!!!

Some benefits of Club A3000 membership have already been mentioned, and we hope to expand the services which the Club can offer as quickly as possible.

Unfortunately this does cost money, the major expense being the duplication and postage costs for Club literature.

You will find accompanying this newletter a sheet giving details of how we intend the Club to be financed.

However before you hold up your hands in horror at the thought of the massive expense, we should point out this is really only a contribution towards the running costs, and certainly no-one is making money out of the Club.

We hope that you feel it worthwhile to support the Club, so that the membership will continue to grow, increasing the support available.

The overall coordinator of Club A3000 is Rene Barreto, and all Club correspondence should be addressed to him at the Club address:

48 Michleham Down, London, N12 7JN

This newsletter is published quarterly, and the editor is Simon Burrows. Contributions, comments and criticisms will be warmly welcomed. We hope to set up a letters page, so please write in to us. Limited advertising may be permitted in later newsletters. Please send all material to the Club address. If you send in (named) discs, they will be returned!

This newsletter was created using Impression II and Poster and all page layout and graphic design was done by Andrew Thacker of APT grafix.

The views expressed in this newsletter are those of the contributors and do not necessarily represent the views of the club. This newsletter is for the exclusive use of club members only.

The user club for the Archimedes

club A3000

I wish to enrol as a member of club A3000: The Archimedes owners' club

Name . . . .   First Name(s). . . . .

Address . . . .

 . . . .

Post Code. . . . .   Telephone Number . . . .

Which model of Archimedes do you own?   A3000/A300 series/A400 series/ A500 series . . . .

What are your Archimedes interests? Please tick as many as you like

Education (which field?) . . . .   Music . . . .

Games . . . .   Midi . . . .

DTP . . . .   Graphics . . . .

WP . . . .   Research . . . .

Programming . . . .   Databases. . . . .

Spreadsheets . . . .   Other (specify) . . . .

The Archimedes programs with which I am most familiar are . . . .

 . . . .

 . . . .

Extra hardware that I own and use are . . . .

 . . . .

Please tick the following as appropriate —

I would be interested in a Public Domain service   . . . .

I would be prepared to offer some of my hardware for the purposes of club member (e.g. if you have a scanner, would you be prepared to scan pictures for club members?) . . . .

I would be willing to be a contact for my area . . . .

I do not mind having my 'phone number given to other members . . . .

I enclose herewith a donation (minimum of £6) towards the club. I understand that the club does not make money in any way, and the donation is used to pay for administrative costs (such as postage, printing of the newsletters, etc.). Please sign. . . . .

Return this form (or a photocopy of this form is you wish to preserve the newsletter), together with your cheque (payable to Rene Barreto) or 1st class stamps (to the value of the donation) to —

Rene Barreto, 48 Michelham Down, London, N12 7JN

DOUBLE CROSS

WORD PUZZLE

By Roger King
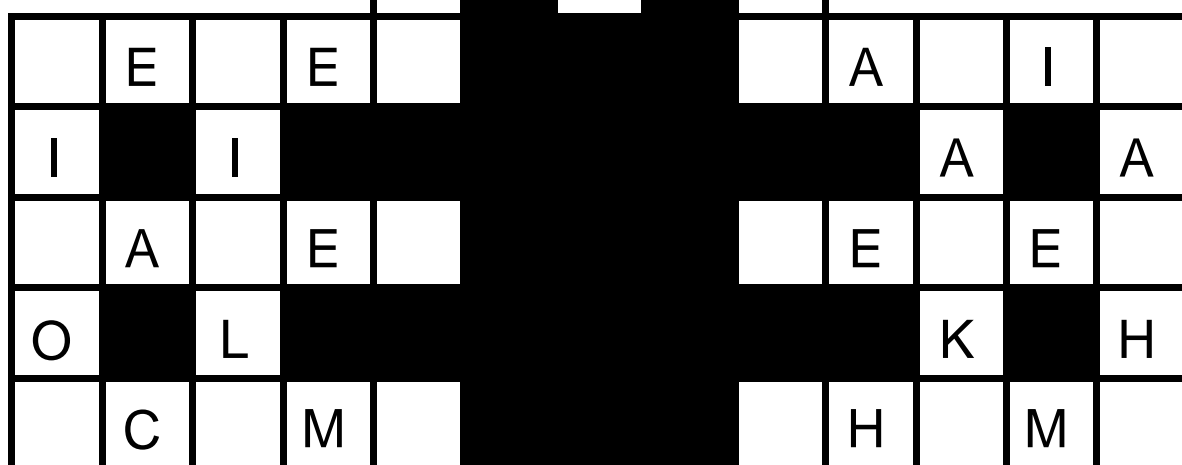
Place the 36 letters shown below into the grid to make valid words

A	E	L	S
A	E	M	S
A	E	N	T
B	E	N	T
B	H	O	T
B	H	O	T
B	K	O	V
C	L	P	Y
D	L	Q	Z

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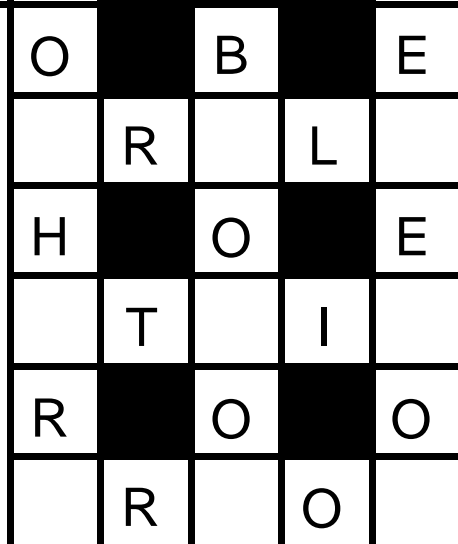
The solution is on page 66

All About RISCWorld*

I keep getting politely asked if I would like to write an article for Eureka to explain what RISCWorld is so, for those that don't know, RISCWorld is a bi-monthly subscription magazine published by APDL. But we will come back to that.

Eureka has, in the past, invited the Editors of all the RISC OS magazines to describe what their publication offers. Now Aaron Timbrell tells us about RISCWorld.

So why, after coming up with even more flimsy excuses every time, have I finally managed to get round to writing something. Well it's down to a cunning threat by your tenacious Editor. Since I can't seem to manage to write an article myself perhaps Dave Bradforth (who contributes to RISCWorld on a regular basis, and helped me out a great deal when I first started editing the magazine) could help. Ahhh, err...right.

Well the thing is, although I have the greatest respect for Dave as an author I can't actually write with anyone

else. Yes I can edit things written by others, mess up the grammar and generally make a dog's dinner of a well written article, but I can't write in conjunction with anyone else. Why? Well I work in my own way...er...like to get things correct...em...spend ages agonising over the correct phraseology...Oh look, I'm an awkward bugger and I do things my way. If it helps you out you could think of this article as being co-authored; I wrote the words and Dave Bradforth wrote the gaps in between. Does that help?

Now, back to RISCWorld. As I said earlier (think of this as a sort of "previously in this article" voice over) it's a bi-monthly magazine published by APDL. I have been editing it since volume 1 issue 4 and at the moment I am working on volume 4 issue 6. The original Editor, David Matthewman, felt unable to

---

* **and beer.**

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of RISC OS computers

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continue after a couple of issues and, due to a big mouth and an underdeveloped sense of danger, I said that editing a magazine would be easy and offered to do an issue to prove my point. The fact that I am still editing it would tend to demonstrate that I have so far been totally unable to prove this point.

Anyway, back to RISCWorld. Unlike most other magazines, RISCWorld is published on CD, rather than printed. This has a number of advantages such as:

• We can print articles of any length.
• We can 'cover mount' the software we talk about without having a cover.
• We can tightly control production costs to keep the subscription price low (see details at end).

However, producing a magazine on CD does have one disadvantage: you can't read it on the toilet. Actually, having just written that sentence, I appreciate that it isn't entirely true. If you had a laptop you could put it on your lap (watch out for burns) and read while on the loo. Also if you had

a strong microscope and could read the pits in the CD and convert that data into words in your head, you could also read RISCWorld on the loo. Actually, you could also just sit there and read the printing on the CD but that wouldn't take very long and after a few issues would get a bit repetitive. So let's just say that RISCWorld isn't as easy to read on the loo as other magazines.

Anyway, back to the main thrust of the article. RISCWorld usually has around 22 to 25 articles per issue. We have a number of regular columns covering Games, Public Domain Software etc. We have a number of regular columnists, some of whom are allowed their own columns. We also commission articles from all sorts of RISC OS users. We also pay money for articles as well, which is quite unusual these days. Actually I wonder if I am getting paid for this? I doubt it. *(You're right there. I don't get paid, either. -Ed)* Still it's 10:30 at night, there's nothing on telly, Hayley's gone to bed, so I might as well sit down and write this.

To make it even more pleasurable I am also sitting here with a Bitter and Twisted. Now for those of you who misread that sentence please go back and try again, I didn't say I was sitting here bitter and twisted but that I was siting here with a Bitter and Twisted. For those that don't know, this is a very fine bottled bitter, which in it's cask conditioned form was voted as the Champion Beer of Britain 2003. Well that's what the label says anyway. The reason I mention the beer is in homage to The ARM Club presence at RISCOS Southwest 2004. If there had been a show award for synchronised staggering then I think I could guess the winners.

Ah, I seem to have gone off the subject again. Something else we do in RISCWorld is publish full versions of software, not demos, not shareware, but full on, complete with HTML manuals, software. Since APDL now owns the rights to its own software, as well as iSV Products, Clares, Topologika, Beebug and countless others, we have quite a large back catalogue to pick from. Over the last few issues we have given away Recycler, DrawWorks Millennium, TableCalc, Sleuth 1, Rhapsody and Menubar.

On the issue I am working on now we will be cover-mounting ProArtisan. We also feature as much of the software as possible that is covered in our other columns, including the latest PD/Freeware/Shareware as covered in the PD column and any other software that our authors think the readers would be interested in. We also commission software just for the magazine, as well as publish software written by myself and Dave Holden for our own use. Now readers who are paying attention may have noticed a pause of two minutes after the last sentence, this was caused by a faulty beer glass (it was empty). The glass has now been re-booted and normal service will be resumed.

For those that would like to take a look at a sample issue of RISCWorld we have a website cunningly hidden from prying eyes at www.riscworld.co.uk. This contains a sample issue made up from articles mainly from the first couple of volumes but with a few newer ones thrown in for good measure. You can also find out the latest subscription rates and also see the contents pages from each back issue.

RISCWorld is a bit different from other magazines. I know this because I get told it by our readers. Its difference is one of the main reasons we have such a dedicated subscription base. What that difference is I don't quite know. I approach the magazine from a simple point of view: would I like to read each issue. I work out the contents based on what I would like to read myself and on what our authors want to read, then do my best to get someone to write it. We do get offered articles 'on-spec' and this can sometimes prove very interesting, with one article that I wasn't expecting having a knock on effect on the entire issue. Sometimes this can result in large sections being re-written, but it's all good fun.

So I enjoy editing RISCWorld, it means I keep abreast of what's going on in the RISC OS world and it means I get a chance to write for money, which is nice. Actually, I could make an advert out of that: "Want to write for money? Then talk to one of our RISCWorld advisors...*today*!"

So so far I have mentioned two of lives essentials, beer and money. What I haven't mentioned is cars.

These are another essential, as regular RISCWorld readers will no doubt know. Still I will leave my latest motoring mishaps to my editorial pages. In the coming issue you will be able to read all about my fun and games trying to insure a Shogun; whereas anyone with back issues can pick up on the long running saga of my VW Camper.

Anyway I seem to have gone off the point once again. So, to finish up, what's the perfect RISCWorld article? Well it should be interesting, different and not featured in any other magazines. Since so many RISC OS users subscribe to a number of magazines they shouldn't see the same things again and again in different publications. Anyway, the key to writing the ideal RISCWorld article is keep it to the point, start with a punchy title, introduce your subject, get sidetracked, waffle on about something that isn't strictly relevant. Then try and get the article back on track, succeed for a paragraph or so and then lose the plot again. Continue until you reach the end where you explain the whole thing nice and neatly.

RISCWorld: it's on CD, it's a good read, we give away lots of software and back issues make an ideal frisbee for rabbits.

About the Author

Aaron Timbrell was born at an early age. He continued this early success, first coming into contact with Acorn computers shortly after the Atom was launched. He wrote a number of woefully unsuccessful shareware programs before working at EFF in the early nineties. He started ISV Products in 1994. In 2001 he sold ISV to APDL and launched VirtualAcorn. Since then he has never looked back (mainly due to a niggling neck injury). He lives in constant dread that one day he might have to get a proper job. The VW Camper still isn't finished.

RISC OS Rhymes

Alan Wickham writes: *I have found something that was written by an old DOS machine where I used to work It seems to be a parody on 'The Hunting of the Snark' by Lewis Carol and is concerned with a Rel(iability) Man.*

The Hunting Of The Snag: A Reliability Study In N Fits

Fit: This can mean a group of stanzas or a term used in reliability analysis.
Rel-Man: Reliability analyst
PM: Project Manager
TBD: To Be Determined specs — Specifications
PET: Early desktop computer loom — Bundle of wires

Just the place for a SNAG the Rel-Man cried,
Filling his team with shame.
Telling them no matter how hard they tried,
They still would get all the blame.

Just the place for a SNAG —I've said it twice;
That alone should make you terrified.
Just the place for a SNAG —I've said it thrice;
What I tell you three times is verified.

His team was complete and included a 'Maths',
A tester of counters and RAMs,
A PM to give them critical paths,
An Engineer to get them out of the jams.

There was also a Programmer, who would pound his keyboard
Or sit gazing into his screen,
And had often, the Rel-Man said, saved them from fraud.
To believe that they weren't very keen. ***Continued..***

There was one who was famed for the number of things
TBD when he came to the 'mob'.
All his tolerances, limits and digital strings,
And the password to enter the job.

He had fourtytwo Specs, all carefully typed,
With requirements there, so to speak.
But as he omitted to state what they were,
All might well have been written in Greek.

He had brought them a circuit representing the Gear,
Without the least vestige of wires.
And the team were much pleased when they found it to be:
A drawing that really inspires.

What's the use of Transistors, Diodes and Resistors
Generators, sources and Sinks,
So the Rel-Man would would cry, and the team would reply:
They are merely a waste of good inks.

He would answer to "Mac" or "Waste Paper Sack",
Or any such technical term,
But what he preferred, when it came to a word,
Was "Statistical Isotherm".

He came as a Manager and gravely declared,
When the job had been running a year,
He could only sack Programmers —the Rel-Man looked scared
And almost wept into his beer.

At last he admitted with faltering tone,
That only one programmer was nigh,

And that was a PET one he had of this own,
Who's loss he would sorely decry.

The Programmer, who happened to hear of this brag,
Put it round, with electronic gear,
That not even the pleasure of hunting the SNAG,
Could allay this terrible fear.

But ever after that sorrowful day,
Whenever the Manager appeared,
The Programmer looked the opposite way,
And mumbled into his beard.

There was one was famed for the number of things
She could gossip about on the phone;
Marriages, Pregnancies, Eternity Rings,
How to interpret the Manager's tone.

She came as a Stripper, and quietly said,
When the job had been running a day.
She could only strip wires. The Rel-Man turned red,
And promised to double her pay.

At last he admitted, though not very hard,
There were not many wires to be had,
And they were expensive ones, ten pounds a yard.
To strip them you'd have to be mad.

But ever after that hour of doom,
Whenever the stripper got keen,
The wires would form themselves into a loom
And pretend that they could not be seen.

Winning Games With Logic

If any of you still watch Robot Wars you may have noticed that hardly any have any degree of autonomy. (There were a few with automatically firing weapons mounted on robots with bumpers to detect another robot

falling leaves and shadows. (Being a grayling butterfly must be a frustrating business!).

OK, all we have to do is net lots of grayling butterflies, shove them in

---

Free will for robots? Barry Aulton looks at how they can be allowed to make their own decisions in game or even at work, with the aid of some careful programming.

---

but these got creamed). OK they are robots but hardly autonomous. What happened to emotions, desires etc or even free will?

Animals have free will and can even use tools. Chimpanzees in Tanzania select long twigs, strip off leaves, dip them into ants' nests and pull out edible ants. Others in the Ivory Coast build anvils from stumps and rocks, then use a wooden or rock hammer to break open nuts. Many animals appear to be 'hard-wired' for some behaviours. For example, a male grayling butterfly flies up to mate rather large, dark, close, dancing objects. These can include not only female graylings but also birds,

our RiscPCs and, well, we can make use of the idea.

Behaviours called fixed-action patterns occur in animals. For example, the greylag goose is a bit dim but is an Einstein compared to your average Flipper wielding robot. These birds nest on the ground. When an egg has been displaced a short distance from the nest, the incubating bird tries to roll it back with its beak. If the egg rolls slightly to one side, it moves its bill to correct for this, (that is, it makes small adjustments to suit the circumstances). However, if the bird loses contact with its egg it completes its retrieval movement. It extends its head to reach the egg and

then moves the bill along the ground to a position between its legs, whether or not the bill is still in contact with the egg.

 Again you can't ask the goose what it is doing and its response if you did probably wouldn't help!

How can we apply animal observations to robots or computer controlled characters? Let's abstract the idea. What we have here is a stereotyped behaviour. Are there robots that do this? One such robot is a car washing machine. Some of these have sensors that decide when the car is in the right position and then trigger the wash cycle. (Say: spray soap, wash/brush front, wash/brush back, wash/brush top and sides, blow dry). Some can adjust to the cars' dimensions. Such behaviour progresses by changes of 'state' in the sense that the 'state' of having done one activity leads to another. For example, the car-washing machine does not attempt to dry the car before having washed it.

 In the same way, all CCC's in a computer game can be thought of being in a particular 'state' at any one

A grayling's life is so frustrating

time. For example for a computer-controlled tank, the states may be: attacking, fleeing, under attack, being repaired. What we must do is have some way of enabling the tank to change its state from one state to another in a way that will help it win the battle! Easy peasy!
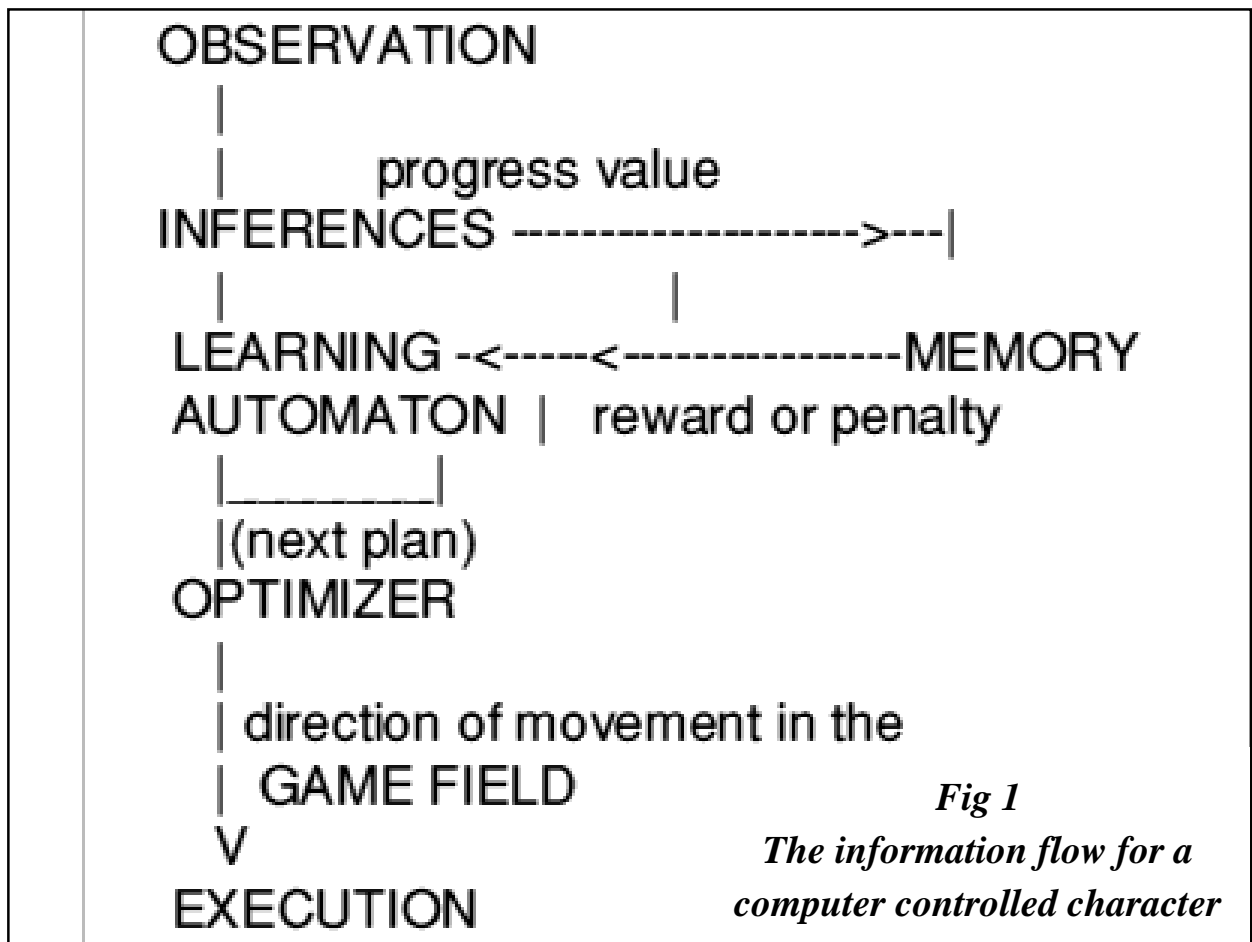
At this point you may have spotted a snag. Who said there was just one tank in the game? You can give each tank commander fixed orders from on high. ('Roll off that cliff'—'Why?' —'Orders!') Or you give each tank some degree of autonomy. You now have a communication problem that you didn't have before. Just what does   each   tank   commander

communicate? This is the 'information overload' problem such agents face in a highly dynamic environment. It has resulted in many techniques relying on minimal information, to increase decision time, execution time and re-planning speed.

These techniques reduce the complex highly dynamic geometry and detail in the 'situations' each agent must face to simple (ad hoc) formulae, that is a few magic numbers (see issue 49).

For each possible action we make up some ad hoc formula to decide how good an idea it is for the agent to perform that action.

The more modern AI-LIFE ideas of a top level decision maker is essentially a simple arbiter rather than a complex decision process in itself. This frees the lower level decisions from complex interactions with upper levels, (see issue 49). An algorithm that implements and extends this method to deal with multiple agents (CCC's) is shown below in fig 1:

```
OBSERVATION
    |
    |         progress value
INFERENCES ------------------->---|
    |                     |
    |                     |
LEARNING -<-----<---------------MEMORY
AUTOMATON  |  reward or penalty
    |_____|
    |(next plan)
OPTIMIZER
    |
    | direction of movement in the
    | GAME FIELD
    V
EXECUTION
```

Fig 1
The information flow for a
computer controlled character

Now, providing more detail, the steps of tactical control in a computer game are respectively:-

1) *Observation*: Extract from the geometry of the game the tactical information each CCC must have for all situations. Keep this to a minimum.

2) *Inference*: Convert this information into a few magic numbers, each one infering something critical about your game. Use these inference numbers and the CCC's current action to decide:
  A) A unique situation your CCC is in.
  B) A number indicating how well this CCC is performing at this point in the game.

3) *Mapping:* Form an action-map, mapping each situation to all possible actions that the CCC could perform (in that situation). Its entries being numbers representing the relative 'usefulness' of carrying out an action when in a given input situation.

4) Select a 'new' action (plan) to perform given the current situation.

5) *Optimisation:* From the geometry of the situation choose an optimal way of carring out this action plan. (A search technique may be used here

since this information does not now depend on dynamics).

6) *Execution:* Carry out the detailed plan execution.

The technique I will explain here extends the technique I discussed in the last issue. Suppose now we have several CCCs to control. How much communication between characters is needed? To minimise complexity this is kept as simple as possible. Each CCC broadcasts only to all other CCCs on the same side that it is carrying out a particular action (behaviour).

The method relies on just two timers. One builds up impatience if a job is not getting done. The other tells an agent to stop if it has taken too long. Such simple algorithms seem ideal for a tactical decision maker, being essentially just an arbiter which chooses a suitable task for each CCC. This is consistent with AI-LIFE techniques which attempt to minimise top down complexity for fast reaction. There are two kinds of action: those that are mutually exclusive and those (if any) that can all be performed simultaneously. The method has been tested using real

robots in several situations; for example, collecting and emptying garbage cans.

This is an extract from a typical run: "Upon hearing that robot 2 is also heading towards the same garbage can robot 1 selects another can to empty. After emptying its can, robot 2 then heads towards a third can, bypassing the can that robot 1 has emptied. Robot 1 is then satisfied that all garbage cans will be emptied, even though robot 2 has not yet reached its third can. Robot 1 then selects another action , that of dusting the furniture."

```
procedure change_motivation()
{   // This routine is just an example
    if  an action is required?
    {
        if( have sufficient other CCC's performing this action
        {
          motivation_increase =  SLOW_INCREASE ;
        }
        else
        { // need more CCC's to perform this action
          motivation_increase =  FAST_INCREASE;
        }
    } // if


  increase CCC's current motivation if it is reqd.


 if we have an 'opportunity' to perform this action?
    { // This is decided externally
      boost the motivation to perform this action
    }
    return;
 }


procedure reinitialise()
```

```
  {
    set CCC's current action to NOACTION
    reset CCC's busy threshold (to not busy)
    reset timers
    loop round all actions
    {
      if this action is not reqd ?
       {
         reinitialise its motivation
       }
    } // end loop

    return;
  }

  procedure do_thresholding()
  { // here we are deciding how busy our CCC (see last article)
    is it time to change CCC's threshold ?
    {
      change CCC's threshold
      limit threshold to minimum or maximum for current action
      reset timer
    }

    has CCC motivation for the action it is considering
    reached the threshold to perform the action ?
    {
        limit the motivation to maximum for that action
        has CCC motivation for this action also reached its
            'busy' threshold ?
      {
        are we starting a new exclusive action?
        {
```

```
            start new action
            set CCC's action timer to current time
            set CCC's action index to new action
          }
      } // has
  } // has
  return;
}


procedure motivate_a_CCC()
{
  loop round all actions CCC can perform
  {
    if CCC is reqd to perform this action ? // This is decided externally
    {
      store this required action index
    }
    else
    {
      clear units motivation to perform this action
      if CCC is still performing this action ?
      {
        reinitialise(); // action no longer required
      }
    } // end if
  } // end loop
  if CCC is not required to perform any action ?
    { // reinitialise coz no actions are reqd
      reinitialise();
      set_threshold();
      return 0;
    } // if
    loop round required actions
```

```
    {
      get index of required action to consider
      if CCC is performing another valid exclusive action?
      {
        clear motivation for this required action
      }

      is it time to stop doing current action?
       {
          CCC will cease doing action
          if action no longer required
          {
            clear motivation for this required action
            reset CCC's threshold
            set current action to NO_ACTION
          }
       } // if time
      change_motivation();
    } // loop
   do_thresholding();
  return;
}
```

We now have one simple method of selecting an action for a computer controlled character to perform. When there is only a choice of a few actions, such as controlling tanks in a battle game most methods will work. (This one works well when there are many CCC's to control.) However, a virtual creature may have many choices of actions and have to perform some actions sequentially to stay 'alive'.

We will look at methods of achieving this next time.

What happened to the robot dog? We are getting there!

Questions Answered

ArcFS error message

Question:

I have a Risc PC running Select 3 and find that ArcFS isn't functioning correctly. It loads on the icon bar but will not open any of the ArcFS archives but states that ArcFS is in

RISC OS 4096 ERROR:USE *DESKTOP TO START TASK MANAGER (ERROR NUMBER &4) *

Do you have any idea how what I need to do to get this to boot up with

---

Some of the recent problems sent to the Club's Technical Help Service and the answers that the team, co-ordinated by David Ruck, provided.

---

use, in an error window. I don't know if anyone else has the same problem but would be much obliged of some input from you. It is a read only version number 0.73, dated 27th July 1996 SA aware.

Joseph J Robson

Answer:

You need to get 0.75 from our web site. That should work fine with Select 3.

Acorn A4

Question:

I have just acquired an AcornA4 but when I boot it up it says:

RISC OS? I have typed '*desktop' and it says:

ERROR: SWI &400F2 NOT KNOWN (EROOR NUMBER &I1E6)

I am not familiar with the computers commands or anything. I did have an A3020 Archimedes that wouldn't boot up and I had to hold down 'S' or something when booting to reset it all to default settings.

Is there anything like this I need to do?

Mark Davies

Answer:

Yes, I suspect that the CMOS memory which stores settings when the computer is switched off has become corrupted due to the battery running down when not used. Turning on the machine with the Delete key held down, will set the CMOS back to default. Power on plus 'R' can be used for a more thorough reset to factory defaults.

Buffer overflow

Question:

I'm having problems loading several of the older educational programs on my Risc PC 600. I am using RISC OS 3.7, have 4GBytes of hard drive and 37MB Ram. When trying to access programs such as Impression Style, PenDown, and Full Phases, I keep getting the error message 'Buffer overflow'.

I have solved the problem with PenDown as I am able to load existing data into PenDown DTP but cannot do the same with either of the other two programs. I know they are old programs but I am more concerned at being able to access existing data rather than using them, as I generally use Textease now. However it would still be useful to use Phases with my little grandson.

The problems seemed to start when I loaded in an upgrade of the internet program Oregano, as things were OK till then. Can you help me please?

Val Leeman

Answer:

This problem is caused by having too many fonts installed, which causes some older programs to exceed the memory they have set aside for font names. It can also happen with individual fonts that have very long names.

The first thing to do is to remove fonts which you don't use regularly from !Boot.Resources.!Fonts until the programs will run again. You can then use a font manager utility to select a subset of your total collection that will be seen by programs at any one time, to allow you to use the fonts you want without problems.

The are serveral such font manager programs available.

A free one is !FontMgr2 from

http://users.argonet.co.uk/users/tteht
ann/Programmes/

CD Drive not found

Question:
I am new to RISC OS, a complete novice. I have StrongARM and it's running RISC OS 4.

I seem to have lost the use of my CD. It is sitting there on the icon bar but if I try to use it I get '"CD ROM Drive not found'.

Where is it? How do I get it back in use? What did I do to lose it in the first place?

Peter Linley

Answer:
Is this a sudden failure; when did it last work?

Assuming it hasn't physically broken down, it will probably have stopped working either due to becoming unplugged, or a change to the machine preventing its driver software from loading.

First, check that the drive's power or data cables have not become loose.

Unplug them and reinsert again.

Second, check if the driver modules are active.

Press Ctrl+F12 and type:
*Unplug

Check if there are any module names beginning with CDFS in the list, especially any called CDFSSoft.

If you see any type:
*RMReinit module_name
(where module_name is the name of the module).
Reboot and see if the CDROM can be accessed.

If this doesn't work, did the CDROM drive come supplied with any additional driver software?

If so could it have been removed from your boot sequence after an OS upgrade for example?

Error C63

Question:
I have a Risc PC 600 Mk1 upgraded to StrongARM running RISC OS 4.02.

I get the Error message C63 when I click on the bookmark tab in Oregano One and Oregano Two (trial copy). I can continue by pressing 'Continue' in Oregano One but the error message locks up the PC in Two and it has to be rebooted.

This is an old problem that I have lived with but cannot upgrade to Oregano two.

Do you know the error message relates to and how it can be fixed?

Paul Millard

Answer:
It means your Shared C Library is out of date. Clicking on the bookmark button is probably running the !Bookmark program, which requires the new 32bit Shared C Library. You can download it from:
www.iyonix.com/32bit/download/TBo x.zip

Make sure you install it by running the !SysMerge obey file in the archive, rather than any other method such as !Configures System Merge, or it won't be run automatically at startup.

Risc PC changes

Question:
The problem is a change in the behaviour of my StrongARM Risc PC.

I noticed the change shortly after installing a network card in the Risc PC together with loading and using !LanMan98 and !SMBserver (Samba) although I have since realised that Samba is not needed so I no longer load it.

The effects are present whether or not the network software is active.

The changes noticed affect the handling of large JPEG files, such as satellite photos downloaded from the internet, and have included various effects with files of 0.8MB to 2.5MB. I have previously downloaded and processed files of this size and larger for over a year without problem.

Previously, a large JPEG would download within Fresco in one of two ways:

(a) It would appear on the screen progressively from top to bottom.

(b) The Fresco window would remain blank until the download was complete when the picture would display. The downloaded pictures could be displayed by !Megumi or !Thump. 'Progressive JPEGs' needed processing by !CleanJPEG as did EXIF files from digital cameras, but could then be displayed.

Now I have found three differences in behaviour:

(1) A very large file downloaded by Fresco does not display on completion. Instead a small 'Question Mark' icon appears at the bottom of the otherwise blank Fresco page. This file can however be saved and a further copy is in Fresco's cache. These, which are both JPEGs, both display perfectly in the Windows environment.

(2) !Thump is unable to display these pictures, apparently going into an endless loop.

(3) !CleanJPEG fails to process these files on an "Insufficient memory (case 4)" error - the Risc PC reports 32MB of free memory. Other memory errors have occurred and my

ScrapFile gains some apparently enormous datafiles containing only zeros.

Roger Dye

Answer:
I suspect it is nothing to do with the network card at all and is the result of other changes made to the system at around the same time. You could always try taking the network card out and seeing if the problems still occur.

The only influence the network card could have is if additional modules had been placed in its flash ROM. Press Ctrl+F12 and type:

*ROMModules

Check which modules are listed under Podule 9 which is the network card.

If it proves not to be the network card, try to track the problem down by removing any third party programs and modules which have been added to the Boot sequence via !Configures Look At/Run at Boot options, and anything you have placed in !Boot.Choices.Boot PreDesk and Tasks directories. Then reboot.

Try the operations on JPEGs which failed and see if they still occur.

If they work correctly, add the things you have removed from the boot sequence one by one, rebooting and checking each time, until you find the culprit.

If you do find it please let us know, as it may help other users. If you don't have any luck, get in touch again.

Select problem

Question:
I am experiencing a problem with RO4 select 3.

I used softload to boot into RISC OS 4 so that I could run !PCconfig (which I have never got to run under Select). In the event I changed nothing although I might have pressed 'OK' rather than 'Cancel' when closing the windows.

However, when I tried to rerun Sofload to go back to RO4 Select I got the following error message from Softload Setup: 'The gadget flags have reserved bits set (gadget type 0x4018)'.

I have since updated RISC OS 4 to the new C Library and the latest toobox modules which came with Select 3.

The CLib enabled me to use the internet again but the toolbox modules have had no effect on the problem.

I have tried emailing RO Ltd but have had no reply after a week and I am at a loss what other action to try.

Doug Thompson

Answer:
I suspect that the copy of !SoftSetup in !Boot.RO400Hook.Res has been updated to use the new toolbox modules, and while you might have installed them under Select, when you change back to RISC OS 4 it actually uses a different !Boot (!Boot.OldBoot becomes !Boot, !Boot becomes !Boot.NewBoot), which has not got them installed.

The solution should be to install the new toolbox modules while in RISC OS 4. So they are then available in both the boot sequences.

If At First You Don't Succeed - Sulk

In my last article I told you of my successful use of cunning plans to get hold of the latest hardware and software available. But, a word of warning just like Baldric my plans sometimes go amiss. For instance:

A too vigorous bit of sulking wrecked Ron Briscoe's cunning little plan to buy a new monitor and nearly cost him a happy day out at the SouthWest Show.

Shortly after I had purchased my Iyonix I decided that a new monitor was required to really use its capabilities fully but, no. my financial adviser would not on this occasion give way. I decide to *sulk*.

Theatrically I throw myself down into Christine' s favourite armchair and go straight through it, so far that only the carpet is supporting my posterior.

Now Christine has the loveliest of grey eyes but when she is angry flecks of green permeate said orbs. In this instance there is so much green, her eyes resemble Druck' s favourite traffic light colour.

I beat a hasty retreat to the brown pop shop via a detour to my friendly Newsagent where a large box of chocolates is purchased and along with a free bunch of flowers donated by him is delivered back home by his nephew. (Strange how some peoples troubles are funny to others.)

After a suitable period of time I go home and, although vastly reduced, as are the chocolate box contents, there is still enough green to signal that trouble is in store.

'Look at my chair!" says Christine.

I can' t bear to look so consign debris to the garden. 'I want a new chair and your computer fund is going towards it" says hard hearted Christine.

"What am I going to spend at Weston?".

"Nothing because we are not going".*

I decide that I must accept my punishment with good grace and so while the rest of you were enjoying yourselves I was still watching Christine try out every chair in every furniture showroom in the West Midlands. So remember good people, be careful in the use of cunning plans.

Sulking can damage your seating
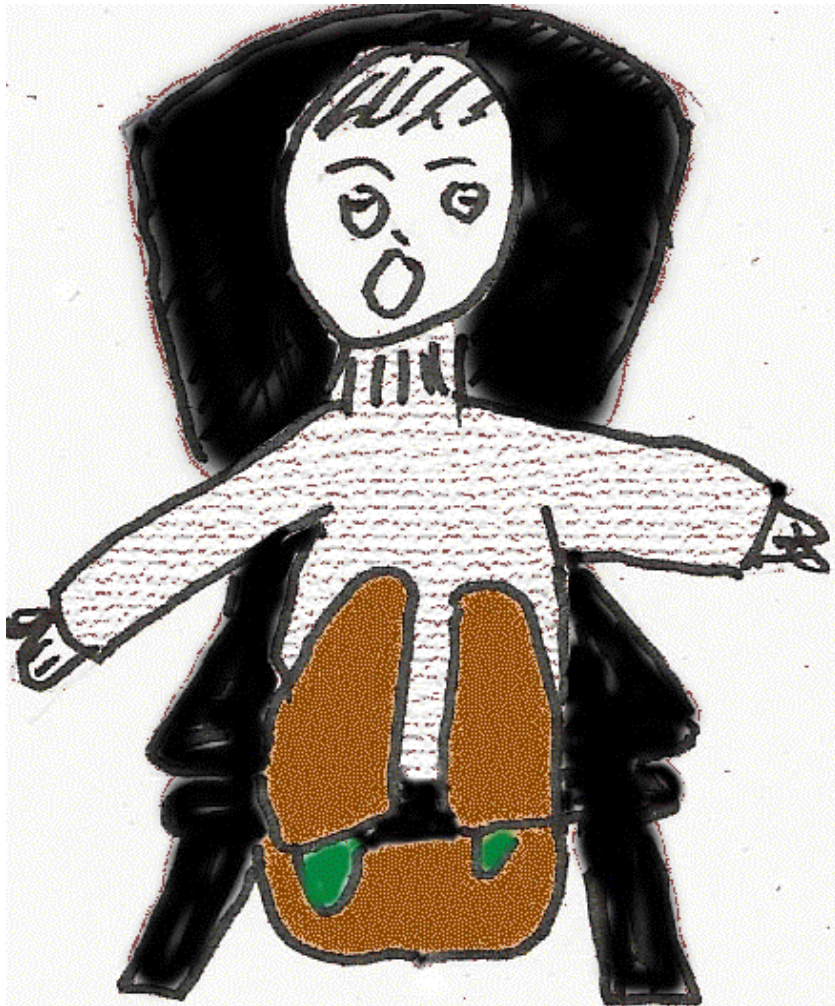
Apart from that little set back my cunning

* Although I am allowed to go to the Birmingham show on my own Christine accompanies me to the towns where the other shows are being held.

She builds sand castles at Weston and goes sightseeing in Wakefield while I spend money at the shows and we meet later for a meal before the journey home.

plans have on the whole been successful, like for instance subscribing to Peter Naull's 'UNIX Porting Project'.

I think it is a good idea, the financial adviser is dubious. I quickly give a verbal sketch of Peter starving in a garret with only an overclocked X86 box to keep him warm. This, although Christine does not really believe me, does the trick and so another amount

of money is put to the good of RISC OS.

Justify the cost

Now I have seen several comments along the lines of "The Iyonix looks nice but I can' t afford/justify the cost". This is bad thinking!

Take, for instance, including time owning the machine. if like me the said people had purchased an Iyonix in November 2002 they would have possessed it for fifteen months by now.

Hmm!; £1399 divided by 65 $(15Month = 52Week+13Weeks)$ = about £21.50 per week and the cost is falling all the time.

If your partner would rather waste the money on such frivolities as furniture, excluding of course replacing broken chairs, a good ploy is to discover an hitherto unknown environmentalist streak and ask if it is really a good idea to replace something that is not worn out.

Of course if you wish to use this argument you must find that 'program' that produces strange noises and does funny things to the monitor display and run it at judiciously judged intervals.

Hand painted packing cases

However do not in any circumstances try the 'hand painted packing cases are the new thing in seating' ploy as I know that one is doomed to failure.

Another thing to remember is that by purchasing an Iyonix you are encouraging the software developers, think of all the happy hours software writers have spent 32-bitting. Doesn' t it send a warm feeling coursing through your body to have been of such good service to them?

Seriously people complain that our platform is falling further behind the others but we are not going to progress unless we support the efforts being made on our behalf.

Of course, during all of this drivel you notice that I speak not of the fabled Omega or of the various RPC on a 'Windross' box solutions and that is because in the case of the Omega it came too late for me and from what I have heard is still not up to the specifications that first excited me.

But that of course could change. As for RISC OS emulated on various flavours of 'Windups', I personally prefer the real thing.

Although the new monitor has had to take a back seat, further cunning plans have been hatched. For instance, due to politician style mathematics I am near to convincing my financial adviser that having a Blueyonder; Broadband, television and phone package will result in financial savings. I have of course neglected to tell her that the number of receivable TV channels will be reduced.

Digital camera

For my birthday, I am to receive a digital camera. Naturally I have had to try it out so as to see if it is compatible with my Iyonix — and it is. Reluctantly I have to allow it to be put away till my birthday.

This in turn has led to further cunning plans. "Of course this means that I will have to get a new USB printer so that I can print out anything you want to keep", sayeth I.

"What is wrong with the one you have got?"

"It is a parallel type printer and it only works with the RPC and it is a real pain swapping all the leads over and you wouldn' t let me buy a switch box from Stuart Tyrrel".

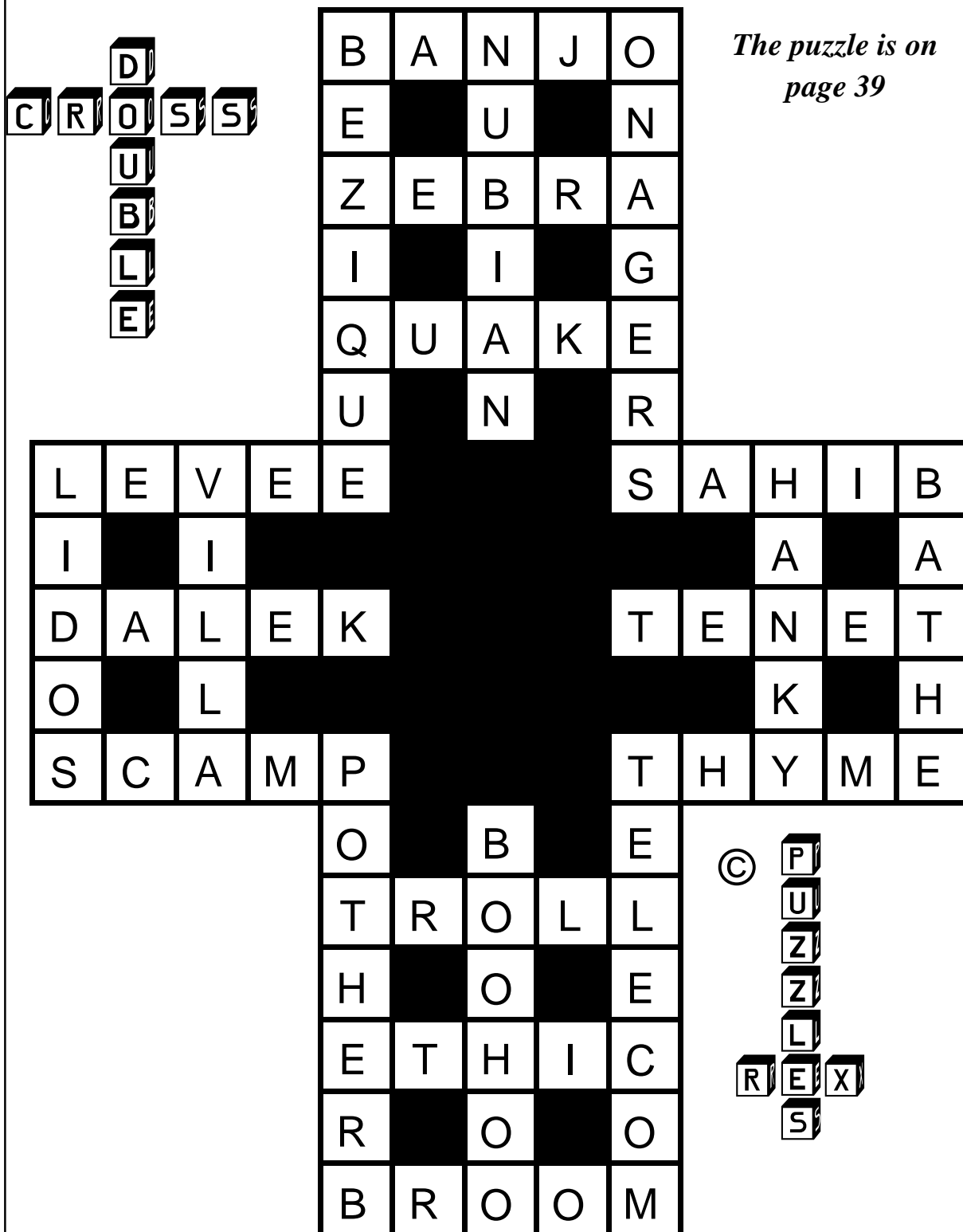This without mentioning that USB to parallel leads are available for not much money.

"Besides I need a new printer to put GimpPrint through its paces".

Meanwhile, tucked away for easy reference is an RO Printers mailing list message from Martin Wuerthner stating that in certain circumstances some print outs require 100MB of memory. Ha! I feel a memory upgrade plan is on the way.

Happy day

By the time you read this —that is if you have got this far without giving up in disgust and consigning your copy of Eureka to the recycle bin — we and my Iyonix will have been to Weston and hopefully spent a happy day out, the Iyonix having various little fixes, me spending money and Christine will have spent a few happy hours by the sea.

WORD PUZZLE SOLUTION

The puzzle is on page 39

B	A	N	J	O
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H		O		E
E	T	H	I	C
R		O		O
B	R	O	O	M

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No Bugs From Bill

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