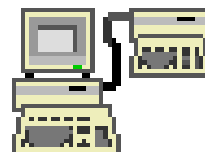
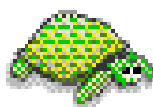
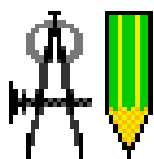
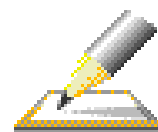
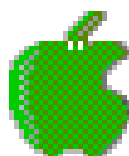
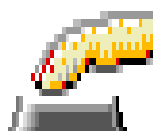
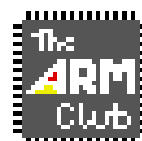
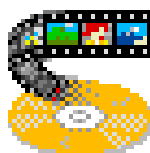
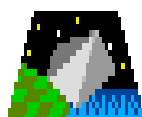


THE  
**ARM**  
**CLUB**



# ***Eureka***

**The Magazine for Members of The ARM Club**  
*Issue 13 — October 1994*

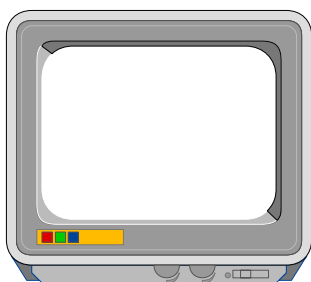


---

**Acorn World '94 Edition**

---

*The ARM Club, FREEPOST ND6573, London, N12 0BR*  
*Tel 0171 624 9918 Fax 0181 446 3020*



## **THE ARM CLUB MAGAZINE**

### **PUBLISHED BY**

The ARM Club  
FREEPOST ND6573  
London  
N12 0BR

Tel 0171 624 9918  
Fax 0181 446 3020

### **EDITOR**

Simon Burrows

### **SECRETARY**

Geoff Stilwell

### **COVER DESIGN**

Simon Burrows

### **PRINTED BY**

Speedprint

An



**Club Production**

© 1994 The ARM Club  
All rights reserved

# CONTENTS

Editorial	2
Impressions of the Risc PC	3
MacFS Review	6
Club Corner	8
Acorn World '94	13
Arnold's Observations	14
Club Training Courses	16
ImageFS Review	17
Lego's Control Lab	19
Public Domain -- PD-CD	22
Aleph One 486 PC Cards	25
Security -- ARM lock	30
UK School Internet Primer	31
Technical Clipart Collection	34
Pocket Book Corner	36
Equate Review	38
Hints & Tips	40
Penfriend & Clicker	42
Education Column -- KIT Show	47
The Eureka Magazine Disc	49
3D O Multiplayer	50
The Games Zone	52

Don't miss Issue 14 of Eureka, with details  
of the BETT Education Show, Acorn's  
Enthusiast Scheme and some surprises!

## THE FUTURE?

*Knock knock. Who's there?  
Acorn. Acorn who...?*

A common criticism levelled at Acorn is that it doesn't do enough marketing, and also that it doesn't stand up for itself, for example when dubious claims were made by Apple in connection with the PowerPC technology.

In comparison to its main competitors, Acorn is a tiny company, with under 300 staff mostly based on one site near Cambridge, and its resources are very small compared with the competition. Despite this fact, Acorn still produces 50% of all computers sold to schools in the UK and has a number of other markets, several of which are healthy and look set to grow in the future.

People complain that the Risc PC isn't promoted on television, in newspapers and non-Acorn magazines, but the truth is that these new computers are selling far faster than Acorn can manufacture them, and besides the 486PC card is not yet available.

Personal recommendations and demonstrations are far more significant in persuading people to buy Acorn machines than any marketing exercise. Do you know anybody who could benefit from an Acorn computer?



**Simon Burrows**  
**Editor, Eureka**

# Editorial

## THE PRESENT

Welcome to Issue 13 of Eureka. Unlucky for some? We hope not. If you bought this magazine as part of a Club sample pack at Wembley, a particular hello to you — we hope that you find Eureka interesting and useful for keeping in contact with other Acorn users and events in the Acorn world.

What is the difference between a club and a subscription magazine? This is a question which we get asked from time-to-time, one of many answers being that you will only get full benefit from joining a club if you get involved in some way. That involvement does not need to be very great, just remember that everyone else in the Club is a member in the same way that you are; the Club is a democracy.

Opportunities exist to get involved with The ARM Club at all levels, whether simply visiting a Club Open Day, writing a magazine article or even getting elected onto our committee! The Club's software development team is currently very active with products such as *Game On!* for the Risc PC which are selling very well. The Club is non-profit making, all proceeds from the sale of Club products go towards improving what the Club can offer to its members. If you ever have any comments, suggestions or complaints about the Club, do get in touch!

# Impressions of the Risc PC

*A variety of brief personal viewpoints on Acorn's latest range of computers*

• As a housewife with one eye on the family budget, my first question about the Risc PC was why was it more important than new wardrobes for the spare bedroom when we already had an Archimedes A440 anyway?

I'm not sure why my vote came last in consideration, but as my two daughters and my husband were convinced that we needed a new computer, it eventually arrived.

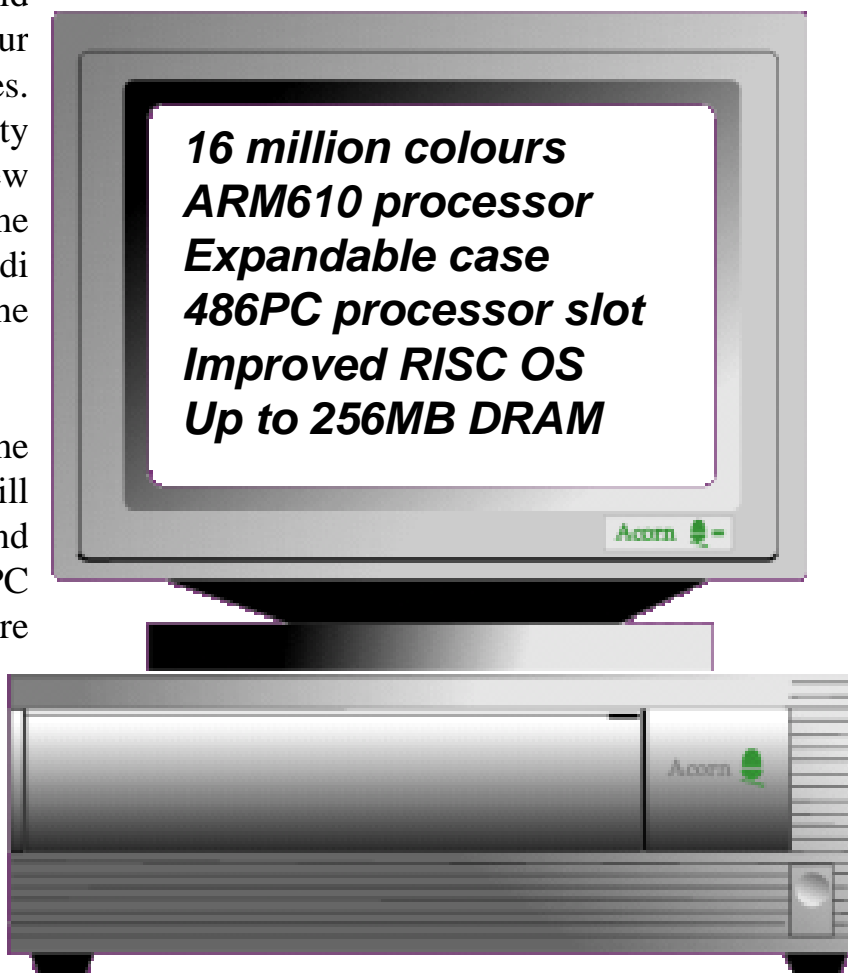
My first impression was of a very smart looking machine which had a very touch friendly keyboard, speed and monitor clarity so good that we all queued up to use it. There was a lot of swearing as we found that some very familiar but old software wouldn't work on the new machine, and we did invest a little time in upgrading our knowledge to newer DTP packages. The problem of games compatibility has been mostly solved with a new piece of software called "Game On!" from Mark Smith and Andi Flower, so we can still use the games we all like so much.

We are all looking forward to the release of the 486PC card which will enable both myself and my husband to transfer work from home to "PC only" work environments more easily than has been possible with the emulator. The wardrobes will arrive eventually, and I'll screw them together when I can tear myself away from this wonderful machine.

**Hilary Reed**

• In my view, the most important question is "What can I do with my Risc PC that I couldn't do with my A5000?". Well, my Risc PC is connected to an AKF85 monitor, so one of things I find invaluable is the use of 1600x1200 screen modes for DTP work. The fact that I can display two full A4 pages next to each other at 100% scale has been particularly useful in writing the manuals for The ARM Club's software releases. Also, on the graphics side, I like be able to display most screen modes at high (75Hz) refresh rates which are so much easier on the eye.

Another useful feature is the abundance of memory you can have fitted without the need to pay for expensive >4MB RAM upgrades as





on the Archimedes machines. I'm looking forward to having the option to use PC software via the 486PC card at a much faster speed than the PC Emulator can manage as well as having the ability to run *Windows 3.1* so that I can use PC software packages where there is no RISC OS alternative.

### Mark "ArcFS" Smith

- The Risc PC has had an enormous impact on the teaching and learning of computing and information technology skills at Leicester High School. Until this Summer we had a network of the original Archimedes A310s — bought when first released and although they had been upgraded and expanded as time passed by, their lack of speed in Desk Top Publishing and Graphics in particular was beginning to be distinctly frustrating! Luckily, a generous Governing Body and Parents' Association have enabled us to purchase 18 Risc PCs (5M 210HD AKF65).

As a small, independent school for girls,

committed to small classes, we feel very well equipped and able to cope with the high demand for places on compulsory and examination courses. Our initial impressions are all good — the graphics capability of these machines coupled with CD-ROM drives, Acorn Replay and Pro-Artisan 2 have provided an incredible visual stimulus to the learning process whilst the speed of processing and ease of use has every user, from ten years old to the ancient ones on the Staff, eager to explore and improve their skills in all areas.

The ability to plug LEGO Dacta kits into the serial ports has improved our teaching of control technology, and private study with an audio CD playing gently in the background has impressed the Sixth Form! We have had some problems with software compatibility, but overall the advantages far outweigh the problems. The Risc PC is definitely the machine for us.

### Leicester High School

- My first impression of the Risc PC was probably the same as most people's, very impressive but how much will it cost to get my hands on one of these? After thinking about it for a while I realised that it didn't really matter how much it was going to cost, I would get one of these new machines! My A4000 was looking decidedly dated in comparison to the new Risc PC and I knew that if I didn't upgrade reasonably quickly, I would be left behind.

I was lucky enough to find a particularly good deal on a Risc PC, I went to collect the machine and took it back to its new home. It didn't take too long to fill up half of the

420MB hard disc but I still haven't managed to fill it all yet! The one problem that I did have, however, was that of lack of memory (which was soon fixed by another good deal). If I was put in the same situation again, I would still buy the machine even though I know that the next year will, to say the least, be a financial challenge. However I used my Risc PC to develop Game On! and, with any luck, this will carry some of the financial burden of buying the Risc PC.

### Andi Flower



- It's fairly hard to quantify why I like my Risc PC. On a practical side it's a lot easier to fit on a desk than an A3000 with expansion card — the tower configuration of the Risc PC is one of its most unsung but highly useful features.

I like the way that Acorn have marketed it at enthusiasts (like me) rather than the previous launches aimed at publishing, education and so on. The impoverished student side of me likes the ability to upgrade almost limitlessly without having to get a new base machine. I appreciate having a good screen display on a well-built monitor — I know everybody says this, but I used to use an AKF12 TV resolution screen and the difference is vast. I like the speed of printing, as I can now get a full page in 40 seconds (and that is about as fast as my printer head will move). On the down side, I don't like having to pay lots of money to upgrade my expansion cards, particularly when I won't use some of the new features I get, for example the upgrade to my Morley SCSI card costs £35, mainly for an upgrade to CDFS which I don't use.

### Toby Smith

My overriding impression of the Risc PC is the way in which its launch and marketing have been handled differently by Acorn from the past. Gone are the days when people said "great technical work, pity about the marketing" — in a few respects it could even be said that the roles have reversed.

The Risc PC undoubtedly has some limitations: lack of 486PC card at the present time, no support for multiple floppy disc drives, 512MB limit on hard disc partitions and lack of a really credible software development environment to name a few examples which spring to mind. However to balance these are all the good points mentioned elsewhere.

The use of a Risc PC with 17" monitor and Computer Concepts' *Impression Publisher* software has made a huge improvement in the time and effort required to create Eureka. Shortage of RAM, poor screen redraw and lack of screen size & resolution are things of the past. Support for 32bpp colour is also very worthwhile, although it is not entirely relevant to the production of this magazine.

An equally important development, from my point of view, is that the Risc PC marks Acorn's increasing adoption of so-called industry standards where this is of benefit to the user. Interconnectivity is becoming more and more important. I am not just thinking of the 486PC card being developed by Acorn, although I am looking forward to using one of these having used an Aleph One PC card.

I believe that the Risc PC is an important step towards Acorn's future — equally important, however, is how Acorn as a company decides to manage the future.

### Simon Burrows



*Tom Hughes tests this long  
awaited software release  
from Computer Concepts*

# MacFS

When Acorn launched RISC OS 3, they included the facility to use DOS discs from IBM PCs transparently — they just open a filer window on the desktop, the same as any other disc. What is perhaps less well known is that the system which enables this also allows the facility to be extended for other foreign disc formats.

To date this system has not been used for the intended purpose, although it has been used for some other ingenious applications, mainly the transparent integration of archives into the RISC OS desktop. Several times in recent years, rumours have surfaced that a package to support Macintosh discs was being developed. Until now, however, all these plans have failed, probably due to the technical difficulties with the Mac disc format which is, to say the least, a little esoteric.

These difficulties, and the consequent effort required to produce such a program probably account for the fairly high price of MacFS, which appears to be aimed squarely at those with a need to need Mac discs on a regular basis, particularly in the publishing and printing arena — a market being targeted vigorously by both Acorn and Computer Concepts at the moment.

Technically, the program is very impressive

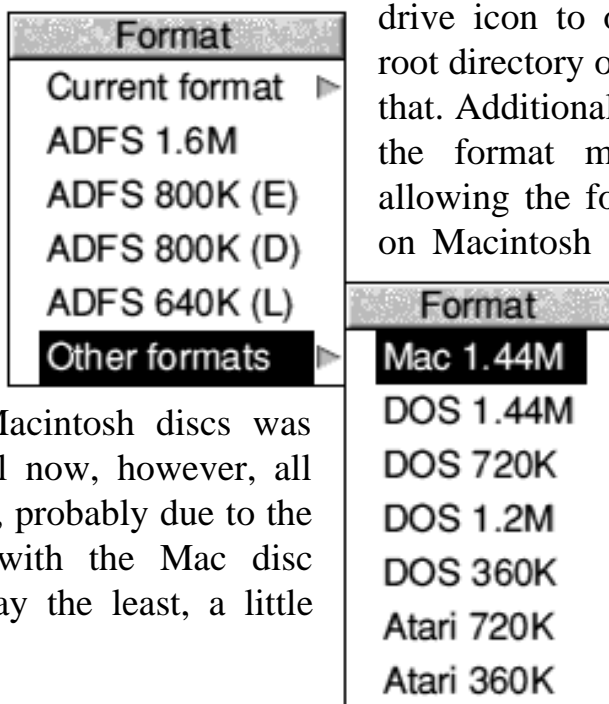
indeed. In exchange for about 40K of your RMA space, you get totally transparent access to both 1.44MB high density Mac floppies and also to Mac-formatted Syquest cartridges, hard discs and magneto-optical cartridges.

Once the module is loaded, simply insert a Mac floppy in the drive and click on the drive icon to open a filer window on the root directory of the disc — it's as simple as that. Additionally, an extra entry is added to the format menu of any floppy drive allowing the formatting of floppies for use on Macintosh systems. The command line formatting system is also extended in the same way.

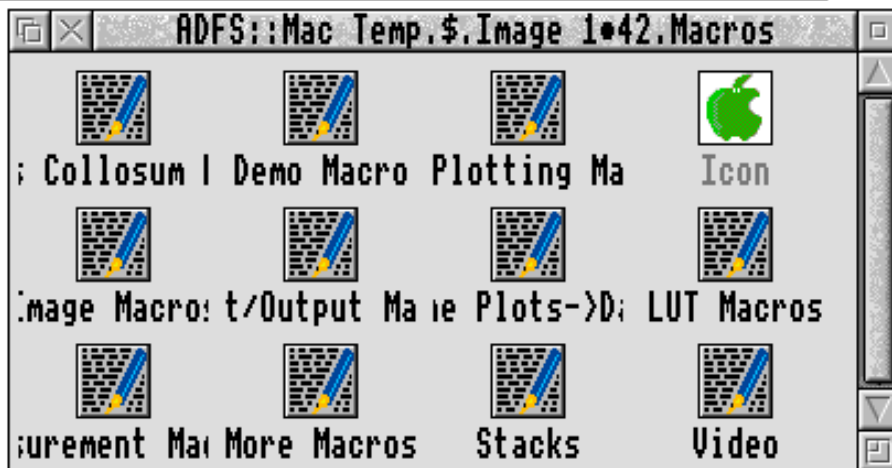
Because a Mac file is really two files — the *resource* fork and the *data* fork — MacFS shows each file (other than directories) as a file of type *MacForks*, with an icon showing a picture of an apple. Double-clicking on this file opens a filer window showing two icons, one for the resource fork, and one for the data fork.

In reality though, most Mac files only actually have data in one of the forks. Applications usually use only the resource fork for example, while document files for a word processor normally store everything in the data fork. To make access to these files

The ARM Club Magazine page 6







Mac discs on a regular basis I would recommend this program. If you only need to transfer files to a Mac on an occasional basis, it is probably easier (or at least cheaper) to use DOS discs, especially as the next version of the Mac operating system has transparent DOS disc access built in.

**Tom Hughes**

*MacFS costs £99 +VAT from Computer Concepts, Gaddesden Place, Hemel Hempstead, Herts, HP2 6EX. Tel 01442 63933.*

*MacFS gives transparent access to files on Mac-formatted discs*

easier, MacFS allows you to specify type mappings which specify which fork a particular Mac filetype uses, and which RISC OS filetype it should be displayed as.

Using this system, a file whose Mac filetype is TEXT can be made to appear in the filer window as a normal text file instead of a MacForks file. You won't of course be able to read its resource fork, but then it is empty so you don't need to!

As either or both parts of the Mac filetype (the *type* and the *creator*) can be wildcarded, it is easy to set up default mappings. As an example you could say that any file created by a text editor was a text file, or that any file of type JPEG was a JPEG file, regardless of who created it.

Overall, this is a well written program which performs its job admirably. There appear to be no significant bugs and if you need to use

Text1 \* (Taskwindow)

*macmap				
Mac filetype	D/R	RISC	OS	type
EPSF	*	D	PoScript	FF5
TEXT	*	D	Text	FFF
TIFF	*	D	TIFF	FF0
EPS	*	D	DOS	FE4
FDB	*	D	Data	FFD
LWK3	*	D	CSV	DFE
TCD	*	D	&BE8	BE8
PICT	*	D	&FD5	FD5
ILBM	*	D	&693	693
GIff	*	D	&695	695
TPic	*	D	&69D	69D
JPEG	*	D	&C85	C85
*	TTXT	D	Text	FFF

*Filetype mapping improves file handling*



# Club Corner

*A roundup of Club News and details of recent events*

Club activities seem to come and go with increasing frequency, either an indication that we are all getting older or else they are taking place more often! The following pages contain reports on several recent events.

Acorn World is the most significant event in our diary as a Club as it provides an opportunity for members to get together and see the latest that the Acorn world has to offer, as well as catch up with the Club itself.

You may have noticed advertisements for the Club appearing in various magazines recently, both Acorn and non-Acorn related publications, and the response has been very encouraging. Acorn World provides a great opportunity to promote the Club, attracting new members, selling Club products and helping visitors with any technical problems they may have.

The Club's stand is number 25, situated near to the Games Arcade, Visitors' Lounge and Show Theatre. Do come along and see us, ask any questions you wish to, and see the range of software products which we are selling on behalf of Club members (all profits to Club funds). The entire range of Public Domain Software from the Club's library will also be available at the Show.

Finally the Club annual membership fee has remained at £10.00 for several years, but due to rising costs it has become necessary to increase the charge to £12.00 per year with effect from 1st November 1994. If you would like to renew at the current rate then please do so at or before the Acorn World Show.

## **South Wales Area Group**

When The ARM Club was founded, one of our objectives was to encourage the formation of local user groups for Acorn users. The South Wales Area Group is one of the longest established and is also a very active group. The following is a summary of South Wales activities by Derek Rowlands:

We meet every other Wednesday at the Roath Park Community Hall in Cardiff starting at 7.00pm and all Archimedes users are welcome including non-members. More details can be obtained from Derek Rowlands on 01222 868635.

We all enjoy a wide range of different interests including music, desktop publishing, PhotoCD, games etc, and many people make use of equipment owned by other people such as scanners, digitisers and the like.

At the moment we are planning an open day for November / December (confirmation of dates can be obtained from the number above) with invitations going out to various software companies. Earlier this year, Mr



Gordon Taylor of Computer Concepts took our Impression / ArtWorks tutorial course which was a great success due mainly to Mr Taylor's professional approach and his extensive knowledge of the product, as well as excellent support from Mr John Pugh and Tony Rigden.

In the near future we will be assisting Mr Paul Middleton of Uniqueway at his open day which will be supported by Acorn and other developers from the Acorn world. We also attend any All Format Computer Fairs that come to this area and have found that the organisers are very happy to provide a free stand for clubs or user groups.

*The following is a report of a recent evening meeting held in Cardiff, written by Mrs Freda Gibbs. Freda is a freelance Vision Mixer working in television, and is an ardent Archimedes fan and enthusiastic Club member.*

It was one of those oppressively hot evenings in July and even though the windows were fully open, the air remained hot and humid.

The room was full of chairs, fuller than I had ever seen it. What on earth could persuade otherwise intelligent people to come here and sit and swelter in this heat? What else but the Acorn Risc PC...

Our local committee here in Cardiff had let it be known to the membership

that Tim Beeby of Acorn would be in attendance at the Club evening to give a demonstration and talk about the Risc PC. The members really took advantage of this chance to get in close and ask all the questions they had been saving up. Tim was ably assisted by Paul Middleton of Uniqueway in Cardiff.

Many of us had already taken the opportunity to see the Risc PC at various venues since its launch, but there were a lot of enthusiasts who had, up until then, not had the pleasure. In any case it was great to have another drool over it.

The evening started with the showing of a taped version of the official launch that had taken place at a London hotel in April. It had obviously been an exotic show with the top brass of Acorn giving a speech, a professional presenter guiding the guests visually around the displays, all accompanied by dramatic music, dancing girls and laser messages.



*The Risc PC was the star attraction of the Open Day*

Tim Beeby then talked through the unique points of the machine, demonstrating the ease with which parts could be removed and replaced when updating or adding new features. He also demonstrated just how easy it is to take the Risc PC apart in order to add more “slices” should you need to have more room for your added facilities. The members were delighted to see the quality of the pictures to be seen on the monitors and were shown how the screen mode could be varied in order to take advantage of the sixteen million colours available.



*There are always people to talk to at Club Open Days*

## **Kent Area Open Day**

*A report by Geoff Stilwell*

The showing of a *Windows* screen generated a number of questions and much lively discussion. Various amusing tales giving examples of the speed of the Risc PC were recounted, and members present who were experienced with PCs could see for themselves how fast it was. The 32 members present were asked if they had any questions and most took advantage of this opportunity to get an authoritative answer to their particular queries.

We scarcely had time to get hands on either of the machines on the table when we realised that time had beaten us and that we should have been out of the room “five minutes ago”! The feeling was that it would be useful and productive to repeat the exercise. The membership would particularly like to see the set-up when the official 486 PC card has been released for the Risc PC.

We thanked our visitors, who also seemed to have enjoyed themselves.

In Eureka 11 I wrote that I’d been provoked by a member to start an educational column. That member was Chris Price. In subsequent months I was able to “get my own back” on Chris by writing back to him and asking if he would like to host an ARM Club Open Day at the school his family run in Sidcup, Kent.

The Open Day actually took place on Sunday 10th July. It started early for me. I’d offered a lift to John Ward, a Club member in Morden, Surrey. Packing all our computer equipment plus John, myself and my brother, who’d decided to come along at the last minute, was a bit of a squeeze but we managed. The car puffed and panted all the way from Morden to Sidcup but we made it.

Slowly but surely people started arriving; committee members and members from the south east, like John, whom I’d recruited to come along and “show off” their computing expertise. Setting up all the equipment which people were bringing and getting ready for

the start was a frantic race against time; finding power points and extension leads, humping tables around, putting up signs inside the school and in the roads outside to direct visitors to the car park around the back.

At about 10.00am the visitors started arriving and things began to settle down. We had planned a programme of presentations where exhibitors could “show off” or explain their particular expertise to a small group in a classroom off the main hall. Steve Arnold, our Acting Club Chairman, welcomed the early birds and led a discussion on various items of hardware. After Steve’s presentation people seemed to be spread out busily talking to the exhibitors demonstrating their particular area of interest. People were happy where they were so the rest of the presentation program was suspended.

There were quite a range of areas and interests represented. John Ward was demonstrating professional DTP techniques and laser printing, John Waters, who lives just down the road from the school in Orpington, was demonstrating his family genealogy database using Longman Logotron’s *S\_Base*. The Claringbull Family, Roger, Helen and Andrew, were doing a roaring trade video digitising visitors using their new Eagle card and using 4Mation’s *Poster*, printing out colourful badges.

David Coronel of The Data Store, based in nearby Bromley, brought along his computer and MIDI keyboard and was demonstrating the wonderful music processor *Sibelius7* and providing us with some background music composed by Bach. Club member Andrew Piper, who is also one of the PTW Software team, displayed and demonstrated some of PTW’s educational software titles.

Three of the Club’s committee members had brought along Risc PC machines and were showing off their capabilities. John Bancroft was demonstrating Spacetech’s *Photodesk* (reviewed in Eureka 12). I was absolutely amazed by the differences between the original and repaired versions of the school photo which he discussed in the review; Photodesk seemed so easy to use.

Simon Burrows, Mark Smith and Steve Arnold were very busy, helping people with their inevitable technical queries. The ARM Club PD library was manned by whoever happened to be nearby and gave visitors the opportunity to access the complete library of quality PD software.

Chris Price had his computer set up with some of the software that he regularly uses in the classroom. I watched some children getting to grips with simulated problems in Minerva’s *PrimeSolver*, and having great fun with 4Mation’s *Flossy The Frog*. Also in an educational mode, I was showing children and adults one of my favourite mapping programs, Topologika’s *Navigator*. Several people were also interested in using my Acorn Pocket Book and seeing it interface with my A5000.

Mrs Price, Chris’s mother, was absolutely wonderful. She’d organised some of the school’s staff and parents to prepare quiches and salads and served up a lunch for everyone. I do want to say a public thank you to Mrs Price and all her helpers for the excellent welcome they gave to everyone and for all the little extras they provided which made the day very special.

At the end of the day my brother (who had previously found computers at best

expensive toys and, at worst, very boring) was starting to see their potential and actually said he might consider getting one.

It was a glorious summer's day, too glorious as it turned out as the weather was more conducive to spending a day on the beach than playing with computers in a school hall. I must say that we were a little disappointed with the numbers of members attending.

For those of you who didn't even know about the day we apologise. The date was organised at short notice and we weren't able to coordinate this with the publication of the magazine so we had to limit the members included in the mailshot to those in the south and east of England. Visitors did come from quite far afield, some were attracted by the message we put on bulletin boards. We even had several people join the Club on the spot at the Open Day.

The ARM Club is always keen to hold open days and meetings in new places so that different members can get involved in what we are doing. Later in the year, Saturday 19th November to be precise, another open day is being held in the West Midlands at St Mary's Activity Centre, Gorge Road, Sedgley, West Midlands. See the advert elsewhere in Eureka.

Due to the Acorn shows in Harrogate the Club has built up quite a substantial membership in the north of England and Scotland. We would

like to plan open days to enable members in that area to get together in the not too distant future. These open days will only work if members are willing to support the Club's activities in their locality and perhaps even get involved with their organisation.

Do you know of a venue near you, a school or church hall, where an open day or training course could be (economically) organised? Would you be willing to help in some way by putting up tables, catering, making tea, or by presenting your computing expertise to others? (You don't have to be an expert, I'm not). With a few local members involved the Club could more effectively coordinate the organisation of an event.

The more people there are involved, the less any one person has to do (many hands make light work!). If you have any ideas, suggestions or comments to make on this subject or if you would like to volunteer your services, please don't hesitate to contact me at The ARM Club FREEPOST address or by phoning me on the Club number.

Finally another thank you to Chris and Mrs Price and all at Merton Court School who helped to make the Open Day successful.

**Geoff Stilwell**  
**Club Secretary**

---

## **The ARM Club Discounts Scheme**

The range of discounts available to Club members from well-known companies is increasing all of the time. Full details of the current discounts on offer are included on the magazine disc accompanying this issue of

Eureka. In addition to this list, a discount of 10% is available to members on all software products produced by Club members and sold direct through the Club. For more details of these, see the enclosed leaflets.

# Acorn World '94 Show

*A preview of the biggest event in the Acorn year...*

Acorn World '94 is taking place at Wembley Exhibition Centre Hall 1 on Friday 28th, Saturday 29th and Sunday 30th October, opening at 10.00am each morning.

As usual, the Acorn stands will be centres of attention with many details being kept secret until the Show begins. Acorn's main stand will feature a number of highly configured Risc PCs combining several applications, with images relayed to overhead screens with a DJ-style voice-over for guidance. One of these computers will be a "rocket ship" Risc PC configured with seven case slices and a whole host of interesting peripherals.

One unexpected development is that Acorn will be showing a Risc PC fitted with up to 5 ARM processor cards as well as a standard heterogeneous second processor card. Quite apart from this, the first prototypes of the 486PC card for the Risc PC should be available for demonstration, however contrary to previous expectations they will not be available on sale for several months.

Operating system developments will be demonstrated with Acorn showing how different applications can be run on the Risc PC. Current plans include showing UNIX running native on a Risc PC, OS/2 running on the new 486PC cards and TAOS (a multi-

processor operating system) running on ARM processors. Sounds quite exciting!

Networking will be a key aspect of Acorn's main stand, with new versions of the *Access* product being previewed which amongst other features will show CD-ROM support for Access networks. Microsoft and Novell-based servers will be used to serve RISC OS applications. Early versions of a RISC OS World Wide Web (WWW) browser for Internet users may also be demonstrated.

Online Media, Acorn's new operating division for Interactive Multimedia, will also be present at the Show, demonstrating its *set-top boxes* (STBs) as described in Eureka 12. A domestic lounge-of-the future will be part of the demonstration, showing how Online Media's products and services could fit together in the future.

The Show will provide the first opportunity for people to sign up for the new Acorn Enthusiasts Scheme. More information about this can be found in the Acorn News page.

According to the organisers, Acorn World will provide the largest ever showcase for Acorn products and services. The Show will include a series of themed feature areas, providing a glimpse of technological innovation in the interactive multimedia, publishing, education and home business sectors, quite apart from demonstrations by third party exhibitors at the Show.

*Continued on page 61...*





# **ARNOLD'S OBSERVATIONS**

## *Steve Arnold considers surfing the Information Superhighway*

Well, like a lot of parents I'm happy that the school summer holidays are over. When you were young, those six weeks holiday flew past without a thought. When you reach adulthood and have extra little feet running riot throughout your household, six weeks are a very, very long time.

I'm the lucky one, I go to work freeing myself of the daily burden of amusing the little folk. My poor wife! I don't get away scot-free, I do have to pay the piper in the evenings and at weekends — you know the sort of thing, rebuild the furniture, redecorate the walls you painted last week and of course my favourite, rescue the remote control from around the "U-bend" (it's amazing how resilient our remote seems to be!). Still summer's over and my wife is thankful that at least one of our bundles of trouble is out of her way for most of the day, thanks to our wonderful education system.

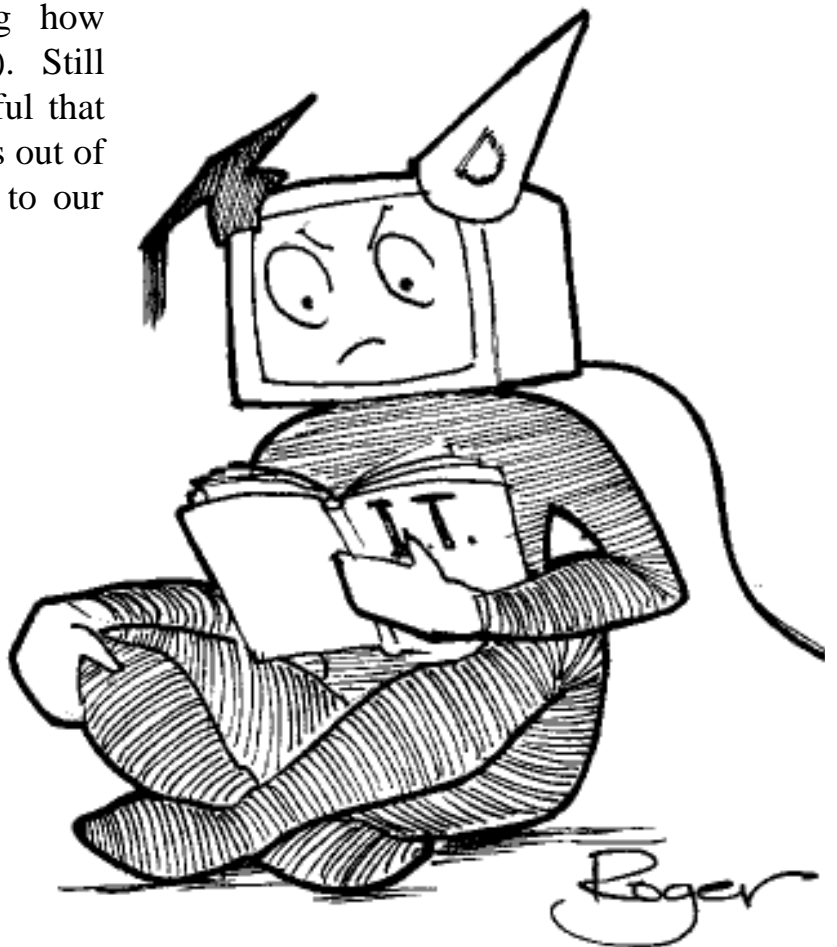
Anyway time for the article...

### **Computers for Schools : PCs versus the Rest!**

At a time when there are over a quarter of a million young adults who are looking for or have found places in Higher Education, I have been roped into the circular argument of "what is the best computer for use in schools?". This is not one of those "why you should use a PC or something else" articles, I hope to give an insight into why the argument for one computer

system in preference to another is rife among Teachers, Governors and Parents and give my two pennies worth on the argument.

I have heard many conversations and debates on why "standard PCs" as opposed to Acorn or Apple machines should be used in schools. Some of the arguments are biased towards the mythical "industry standard", some on using the tried and trusted method, the "I can't be bothered to learn another system" or the "I just use a PC at work and know how it works" approach and some opinions are based on poor ignorance and misinformation. Most people consider that the computer systems used in



*Information Technology — Back to school or not?*

schools should be used to develop the IT skills needed for the child's future working life. This is an admirable approach, however it is flawed. The future is indeterminable and subject to change. The best that can be achieved is to build a framework of IT knowledge, understanding and methodology to learning. There is no cost effective system available today that will meet the information technology needs of the future. The systems used to teach children today will bear little relevance in the working world in 5 years time.

Take a look at some of the technology changes over the last fifteen years in schools: fifteen years ago, the first electronic calculators were just becoming available to the elite few who could afford them. Ten years ago, the first generation of BBC computers were available. Five years ago, WIMP environments became the norm for computer-user interface. Today CD-ROM, multimedia & the Internet are becoming standard technology for everyday use. In the next five years the hardware will increase in performance, the software will become more powerful and hopefully the human-computer interface will become simpler, but the major growth area will be in the application and use of computer systems and new technology.

It can be implied from the rapid changes of technology over the next five years and the experiences of the last fifteen years that the choice of computer systems to be used to teach children should be made on the basis of what gives the most educational benefit for children today. Based on my interpretation, it is my firm belief that Acorn systems are still the best educational computers available but the competition is starting to close the gap.

## **The Internet and the Superhighway**

It couldn't have failed to reach anyone's notice that the Internet and the forthcoming *Superhighway* is big news. This area is the current vogue technology news, it is being shovelled out at hype status. Weekly specials on *News at Ten*, articles in every science oriented TV programme, each reminding us of the benefits and new opportunities this exciting technology will give us. This will impact everything and everyone.

I'll give an example of just one aspect. In the future, the average box of tricks we use for entertainment will have video conferencing facilities with remote sensors for attachment to systems or to the human body. Imagine waking up feeling a bit under the weather. Instead of ringing for a doctors appointment, you login to his system — up pops your doctor on the screen, full of the usual polite chit-chat about not seeing you for sometime, muttering something about eating apples! You then go through the standard question and answer sessions about your symptoms. He takes your temperature and your blood pressure and asks you to say "*Arrgh*". He tells you there's nothing much to worry about, it's just a cold. He prescribes you the latest cold remedy and sends the prescription directly to your local chemist. He finally tells you to contact him directly if your condition does not improve; that's when you realise that you have been interacting with a very sophisticated software package. Science-fiction? — Watch this space!

### **The Internet**

The Internet networks give access to systems that contain hundreds of gigabytes of information from every corner of the globe.

The amount of information available is expected to grow at a phenomenal rate. This will cover every aspect of human knowledge and experience. The topics available for accessing require an index just to focus the user onto the right subject matter. We are talking *huge*! However let me temper all this enthusiasm and bring our feet down to earth, just because you have all the combined knowledge of brain surgery doesn't mean you can become a brain surgeon. You see, that's a skill and without the skill and understanding, a subject is just a list of facts and data.

The so-called "average person" will have so much to choose from, they'll be spoilt for choice. Everyone will end up with "information overload". This is an interesting time to live in. There will be a cross-fertilisation of social, technological and creative ideas from every area of the world. This will sure bring changes along the way!

I have found what I would describe as the definitive reference book on the Internet. It's a healthy tome, covers all aspects of the Internet and is full of practical information. Here is the info:

Title: The Whole Internet User's Guide & Catalog. ISBN No.1-56592-063-5 Author: Ed Krol (sorry, price not known).

I hope you have found this interesting, if so, write in and share your comments or ideas with us. Time for me to close once again. I'll leave you with this thought: *Everything is easy for the person who does nothing!*

***Have fun!***

**Steve Arnold**



# Club Training Courses 1995

Arrangements have recently been finalised for our training courses in early 1995. These courses will be held at Mill Hill School in North London because it is easily accessible, however the Club is always on the lookout for new venues in different parts of the UK at which to hold courses. Please contact the Club Secretary if you might be able to help in providing a venue for a day course.

## **Saturday 21st January — Building Blocks**

Our well-known introductory course on the basics of RISC OS has been substantially revised and this will be the first opportunity to benefit from the new material. This course is intended for anybody wishing to brush up or learn basic skills in using RISC OS computers & includes comprehensive course literature and support.

## **Saturday 18th February — Pocket Book**

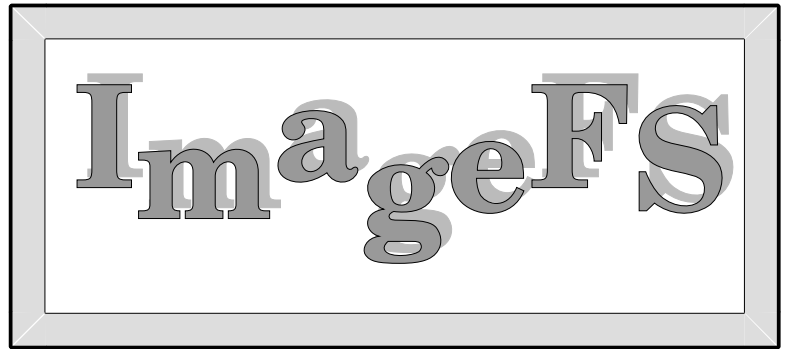
A new course looking at the Acorn Pocket Book computer, its use and applications. Learn how to get more out of your Pocket Book and see how it can be connected to desktop Acorn computers. A great opportunity to learn from the experiences of other Pocket Book users.

## **Saturday 25th March — Applications Day**

Individual and group guidance on desktop publishing, ArtWorks and / or databases, according to requirements of attendees.

Courses last from 10am to 4pm and cost £20 per day including lunch, refreshments and course materials (£25 non-members). For information or to book a place, please telephone the Club number 0171 624 9918.

*The new graphics utility  
from Alternative Publishing  
reviewed by Simon Burrows*



A review of Computer Concepts' *Graphic File Loaders* appeared in Eureka 12, written by yours truly. Subsequently a copy of a new package called *ImageFS* arrived on my desk, courtesy of Alternative Publishing Ltd.

ImageFS describes itself as "The Universal Bitmap Filter for RISC OS computers", and comes similarly packaged to CC's offering on a single disc in a CD-style case. However the cover sheet is printed in full colour, with illustrations of some files accessed using ImageFS, and looks very professional.

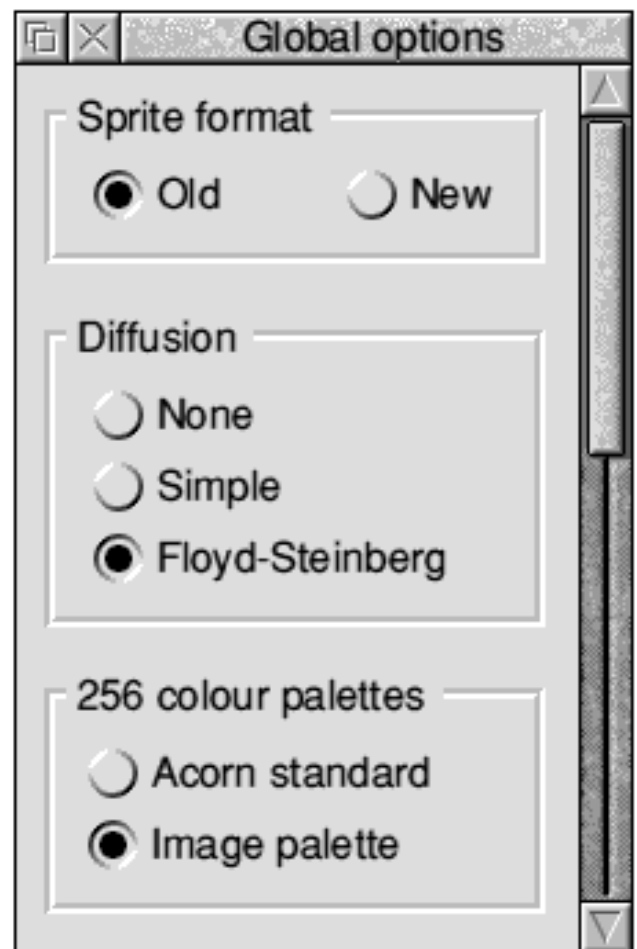
Put at its simplest, once ImageFS has been loaded, foreign graphics files can be dragged into any application which can handle RISC OS sprites. ImageFS converts these foreign files into matching sprites on-the-fly as they are loaded from disc, removing the need for the original files to first be converted using a translation package such as Acorn's *ChangeFSI* or the shareware *Translator*.

Apart from removing one step in the process of loading the file into your favourite package, ImageFS does not alter the original file which is very useful for multi-platform situations where PCs, Macs or Sun machines are being used alongside Acorn computers. Read-only devices such as CD-ROMs do not cause any problems when ImageFS is used. Also because the files are converted into sprites on-the-fly, there is no need whatsoever for the target application to understand the particular foreign file format.

The ARM Club Magazine page 17

The ImageFS software consists of a relocatable module with WIMP front end which allows the various options to be configured. The front end can be removed from the icon bar without removing the module, so it is not necessary to have your icon bar permanently cluttered up with a rarely used icon.

For each foreign graphic file format, the *filetypes* window overleaf allows support for that format to be switched off, on, or auto. *Off*

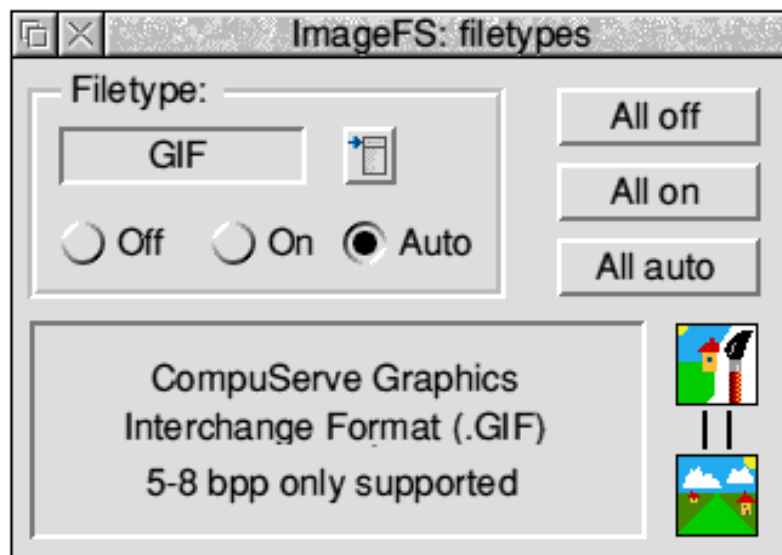


*A range of options are provided by ImageFS*

is fairly self-explanatory. *Auto* means that formats are automatically converted on-the-fly, so for example, double-clicking on a foreign graphic file will usually mean it is loaded into *Acorn Paint*. *On* is slightly different, in that double-clicking on a file opens it up like a directory, with the equivalent sprite file inside ready to be dragged into an application. This distinction can be important for packages such as *Impression Publisher* which include their own handlers for certain foreign graphic formats.

ImageFS supports the following foreign graphic formats: ZSoft PCX, BMP, Clearfiles, PBMplus, Truevision Targa, TIFF, CMYK TIFF, GIF, MacPaint, IMG, ColoRIX, and Apple PICT2. However many of these “standards” have slightly different variants, not all of which can be handled by ImageFS. It supports Acorn’s new 16bpp and 32bpp colour sprite formats and offers many options including a choice of dithering, palettes, resolutions and pixel aspect ratios.

Overall ImageFS is a powerful, well-written utility. The decision as to whether you should



buy it depends on what foreign graphic formats you wish to handle, and also the target packages. CC’s *Graphic File Loaders* handle JPEG and PhotoCD formats which are not currently accessible using ImageFS, but are restricted to use with CC products. If you wish to access the formats supported by ImageFS then I would highly recommend it.

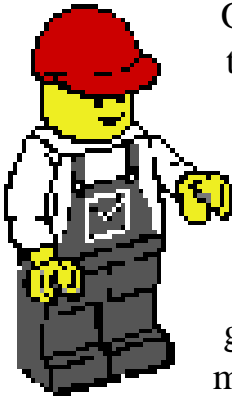
**Simon Burrows**

*ImageFS costs £34.95 +VAT from Alternative Publishing Ltd, Pentagon House, Washington Street, Glasgow, G3 8AZ. Tel 041 248 2322. Computer Concepts Graphic File Loaders cost £39.00 +VAT.*



# Lego's Control Lab

*Toby Smith investigates Educational Control Technology*



One of the main features of the new National Curriculum for Computing is the references to modelling and Control Technology.

So what is Control Technology? Basically it is getting your computer to manipulate external models,

devices and so on via some form of software and hardware interface. Back in the good old days this was accomplished by a *turtle* — a simple upturned salad bowl, a few motors and a pen, casually cabled into the user port on the good old BBC B. In the cut and thrust of modern technology, however, more can be achieved.

LEGO, manufacturers of the popular plastic brick, have had an educational arm for a while, providing a series of stand-alone model kits for the basic technology syllabus. Last year they launched Control Lab, their new computer control system for Apple Mac and PC compatible machines. Since then, an Acorn version has been under development, eagerly awaited by technology staff up and down the country, and we've got hold of a pre-release version!

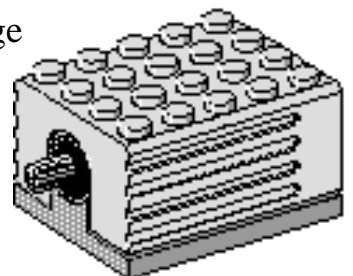
The system divides nicely into three parts: firstly there is the model kit, containing a large number of the usual LEGO bricks & all the sensors and output devices used in the system. Second is an interface box onto which the input and output devices are connected (it uses LEGO's 9 volt electrical system). The interface connects via an appropriate cable to the serial interface of

your computer which runs the third part of the system, the software, which comes with a large quantity of documentation and resources.

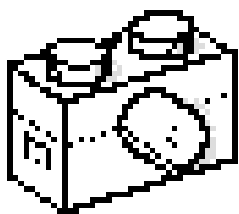
The system includes three types of output devices: motors (three are provided), small lights (four) and one sound element which can produce two types of noise! Five input sensors are also provided: a temperature sensor, a touch sensor, a light sensor and two angle / rotation sensors. These are all connected via wires and connectors to the interface box, which is colour coded like the sensors to ensure that everything is connected in the right place.

The LEGO model kit contains all the components and building instructions for seven models, ranging from a greenhouse and a car test bed through to a vending machine and a joystick-controlled wheelchair. These models are all beautifully thought out and are designed to contain more sensors that you actually need, allowing different methods of controlling the model to be developed, compared and discussed by pupils. Of course as one comes to expect from LEGO, infinitely more models can be made from your imagination.

The computer software kit comes with a large selection of documents and sheets, all nicely kept in a large A4 sized Lego brick,







referred to as “cute” by several teachers I could mention. A series of printed *QuickStart* cards are provided to swiftly pilot you through the features of the software. Unfortunately I feel these are more of a tutorial for the teacher as the cards would take pupils through a year’s course in a fortnight. The documentation also includes a series of Project Cards for the seven models in the brick kit, describing what they are and what the project is. A Teacher’s guide book includes suitable solutions, extra comments & information. All printed material is freely photocopyable, and the software comes with a free site licence.

The software is designed to look and feel the same way as the Mac and PC versions which is usually a really bad omen but the LEGO style fits perfectly into the Acorn framework, and there are only a few throwbacks that aren’t really Acorn standard. They would only be noticeable to those steeped in the lore of the Style Guide, and don’t get in the way — wish I could say the same of some purpose designed software packages!

Sensor	Read Out Option 1	Read Out Option 2
Temperature	Celsius (-20 to 50)	Fahrenehit (-4 to 112)
Touch	Boolean (True or False)	Counter
Light	Percentage (100% full on)	Raw data (more accurate)
Angle	Degrees	16ths of a revolution

The software has three levels, on different windows. The first, the *Setup* window, contains a picture of the interface box and a series of icons to drag onto this picture to tell the computer what is connected where. Two small icons above the output ports representing lights on the interface box, become live for checking the motors, lights and so on, and the read out of the sensors is

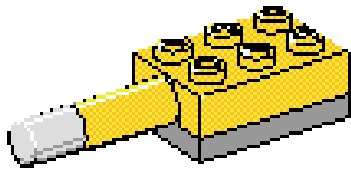
given above their icon. At this level the read out units of the sensors can be changed.

The second window allows procedures to be written in the control language, a LOGO variant, to control the models. Anyone who can grasp screen-based LOGO can grasp this language, and anyone with a smattering of BASIC or a similar language will be well away. Commands can be entered for immediate execution in another window called the *Command Centre*. Procedural programming is introduced and promoted in this software more than it is in most other LOGO packages, something which I wholeheartedly support. The language is very easy to learn & perfectly logical, and personally I was easily completing even the more complex tasks inside about 5 hours on the system, but then again I did start from a fairly good knowledge of the Acorn system and of programming principles, so children should take longer, can experiment far more, and will fall into the traps of programming that I know to avoid!

The third window is called the *Project Page*, and is designed to fill that part of the

National Curriculum which requests that pupils are able to present their work to an audience.

Demonstrations can be set up to run from the project page which contains all the basic ingredients for some really complex demonstrations. Text and pictures can be displayed, pictures come from the selection provided with the package which covers most of the parts of the kit, motors, sensors and so on, and your own sprites & drawfiles can also be imported. Unfortunately text cannot be



imported as yet. Also available are simple graphs, plotting the readings from up

to four sensors against time, monitor boxes to display the results from sensors, and buttons which can activate any LOGO command or procedure to help operate the model.

In use, the system is simple and friendly. Pupils found controlling physical models was far more interesting and stimulating than controlling a triangular block on screen. Simple programming projects for the First Years (who get about 4 periods on CT from a seven week IT course) were easy to develop, including a fan model suggested by LEGO and a set of traffic lights to program in sequence. The Second Years were introduced to the sensors and the slightly more complex programming that goes with them. They then create the procedures and project pages from 3 of the simplest models. Third Years will in future be let loose on the more complex models, but for the time being will have to start at the beginning!

Despite certain bugs which will be fixed for the release versions, the software is quite brilliant, being very hard to crash even when given a series of stupid commands. The software provides a help system giving instructions on use of all the commands, but this contains ALL the commands available to the system which includes a large number of script language connections for altering the project page; this I felt would confuse and distract pupils searching for simpler commands.

The interface box and 9 volt connection system have been designed to be completely fool proof, and in the very unlikely event that you do get a short circuit, there is a circuit breaker in the interface box housing. Serial connection is a very wise choice as it doesn't interfere with parallel printers nor take up one of your podule slots. Don't forget that the A3000 will require a Serial Upgrade chip costing £20 to run the system.

In conclusion, the LEGO Control Lab system will amply fill all your Control Technology needs from KS1 to KS3. It may be useful higher up, with certain adaptations to the models or with future LEGO developments, but I feel that below secondary school level the amount of programming needed would be beyond most children and would spoil them for learning it later. Having said which, the asking price is pretty hefty and represents a considerable chunk of most IT budgets.

#### Prices

Models Kit	£ 164.00
Interface	£ 172.80
Cable (serial)	£ 15.20
Software(Inc Site licence)	£ 100.00
<b>Single System</b>	<b>£ 452.00</b>

Starter Pack (5 systems)	£1647
	28% less
Class Pack (10 systems)	£3077
	32% less

All prices exclude VAT, Carriage is free. Contact LEGO Dacta, LEGO UK Ltd, Ruthin Road, Wrexham, Clwyd, LL13 7BR, for free information pack & video. Thanks to Leicester High School for Girls for loan of spare kits & children!

**Toby Smith**

# THE PD SCENE

## Nick Evans assesses the latest development in the world of PD.

The first Public Domain/Shareware CD ROM for the Archimedes range of machines has been produced.

It was compiled by The DataFile and is produced by Desktop Laminations, a Bristol-based company.

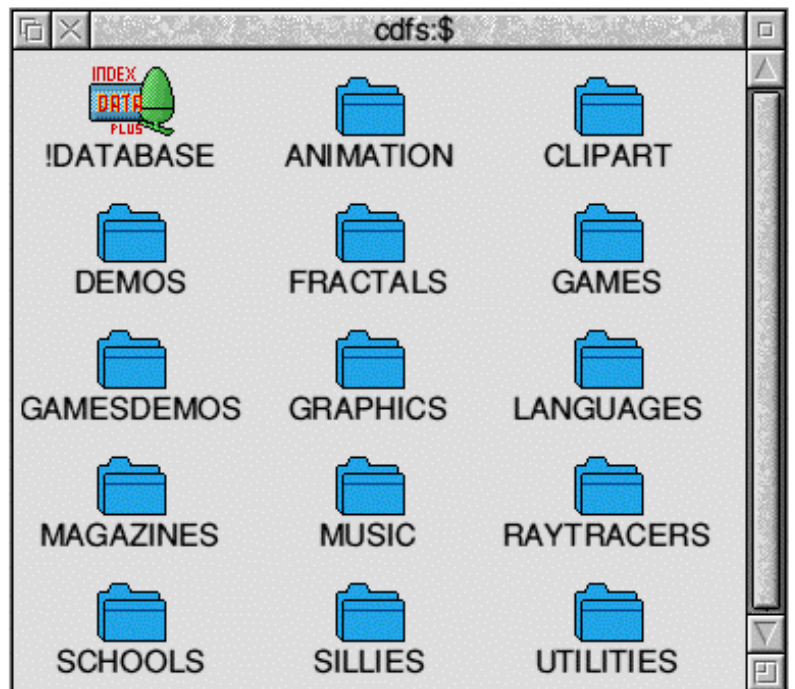
The PD-CD1 disc, as it is called, contains 256MB of software which according to the disc cover is a quarter of all that held in The Datafile library. It contains a full range of PD, freeware and shareware. There are over 20 Ace films, 70 demos, 1800 clipart images, 10 fractal programs, 70 games along with 15 demos of commercial games, 4 directories full of pictures in GIF and JPEG format, 6 or so languages such as Hope, Little Smalltalk, PERL etc, 26 Coconiser tunes, a directory full of Tracker modules, 3 directories full of Symphony tunes, 4 ray tracing programs, 35 or so educational programs or suites of programs, 73 programs in the Sillies directory and over 46MB of various utilities and diverse applications. There are also 16MB of text files released by the *Project Gutenberg* which is an American project set up to encourage the creation and distribution of English language electronic texts which have no copyright such as the Bible, the Song of Hiawatha and the 1990 CIA World Factbook, to mention just a few!

Also included is a copy of the Datafile's catalogue and PD disc ordering program if

there is a disc you would like with programs which are not included on the CD-ROM.

Although the instructions on the CD-ROM suggested that a multi-session CD-ROM drive was needed to read all the files, I had no trouble with my very old Chinon CDS-431 single-speed, single session CD-ROM drive, all files being found and read perfectly.

The programs and other files are arranged in directories in a logical way and, once you have read the database of files, are easy to find.



*The root directory of the PD-CD*

Due to the very large number of files on the disc it is inevitable that some may be duplicated. I found that the version of *!Today* by James Noad and modified by James Miskin appeared twice as well as a (very small) handful of clipart files.

The clipart is divided into drawfiles and sprites and, as always with clipart, is like a curate's egg — ie good in parts.

Of the 4 raytracing programs, one is an older version of POVray and another is DKBTrace on which POVray is based. I also noticed that *Draw1.5* was present along with the much more recent *DrawPlus* version 2.24 (the very latest one).

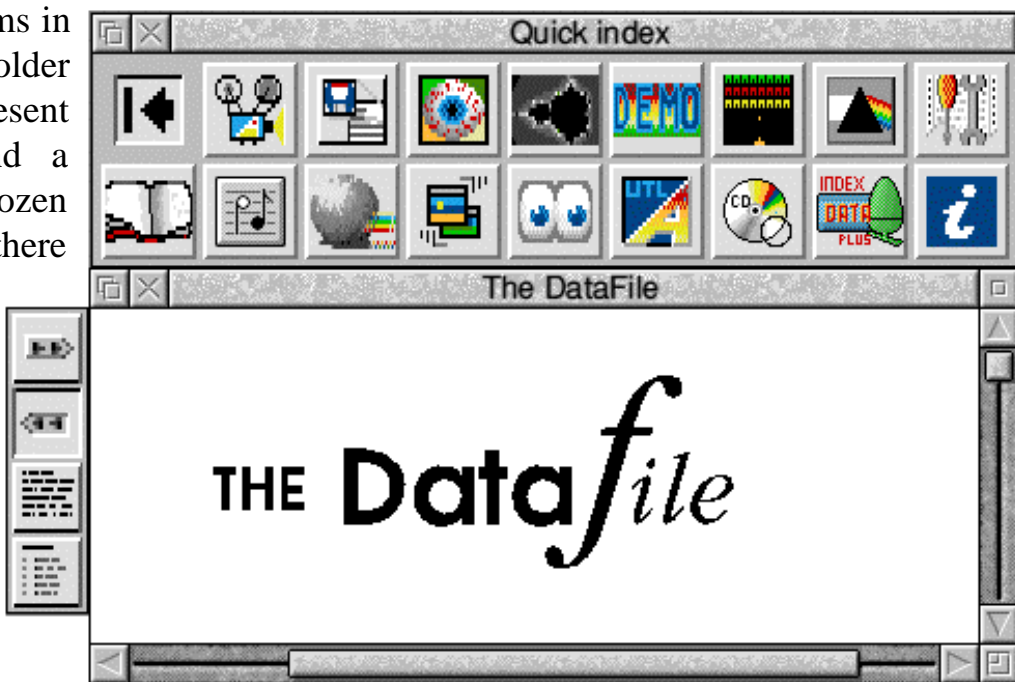
One of the problems with the ISO-9660 standard which is used when producing CD-ROMs is that only capital letters and a few other characters such as ! are acceptable. This meant that there was one application which would not read because the CD-ROM authoring system had changed the filenames of two files within the application so that the !Run file was looking for the wrong filenames.

There are obvious problems associated with producing and marketing a CD-ROM devoted to PD and Shareware all of which are exhibited by this product:

Due to the continual revision of PD software by authors and the irregular contact between them and the major PD libraries some programs in each library will be older versions than the present release, and I found a couple of dozen applications where there are more recent in your own ARM Club PD Library. This is both a joy and a nightmare when running a PD library. However, in all fairness, I have to say that I also found about the same

number of applications on the CD-ROM which were more recent than in the Club library, a fact which has now been amended — thanks Datafile!

I noticed that a very small number, perhaps half a dozen at most, of JPEG files of the Fantasy type included well-hackneyed pictures of bare-breasted Amazonians astride dragons etc, and this will undoubtedly upset a small number of people on the grounds that the files cannot be removed from a CD-ROM and so there is no control over young eyes which may see them. My reply to this would be that pictures like this appear from time to time in most magazines and calendars associated with role playing games such as Dungeons and Dragons, DragonLance etc and could be considered in a different light from photographs and television which are obviously much more true to life and appear everyday in daily newspapers such as the *Sun*. There is a health warning with the disc to say that some pictures may be unsuitable for young children. I can assure everyone that The ARM Club PD library has a 'U' certificate.



A copy of the Datafile's PD catalogue is included on the PD-CD

I would have liked to see some more of the larger PD applications which are very cumbersome to distribute on floppy discs such as TeX, WordHound, GhostScript etc although it was good to see EarthMap on the disc.

I gather that there is the possibility of another such disc coming from Datafile in the not too-distant future and perhaps this will be rectified.

One of the problems with CD-ROM is the excruciatingly long time that the computer takes to open a directory and load in all the !Sprites files. This can be avoided by holding down CTRL and SHIFT when opening a directory. Overall I feel that a better solution is to archive all the programs; it may seem a bit strange to advocate placing archives onto a CD-ROM with potentially 500MB+ of storage space but this has three benefits: firstly the sprite pool doesn't get filled with sprites as the !Sprites file is only read from each application as it is decompressed, secondly the filenames of the applications don't get changed so all the applications will run and thirdly, with the speed of ArcFS in decompressing programs, it is generally quicker to load a program into memory and then have it decompressed than to load the same program, which will usually be at least twice as long, from a slow CD-ROM.

Overall I cannot fault this CD-ROM on value for money or in the range of programs on it. If anyone thinks that I am over-critical then I must say that I do not mean to be. I really think that this product is extremely good value. I would buy it for Powerbase (a superb database) and EarthMap alone.

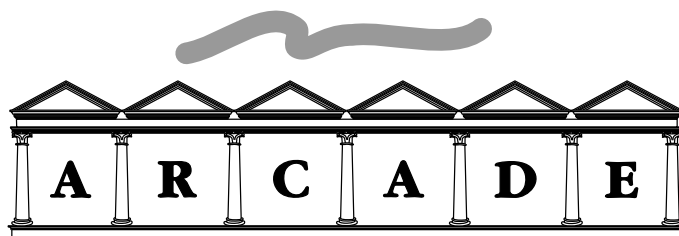
I gather that the master CD-ROM was

produced by Eesox who have been advertising in the Acorn press that they will produce these at a very advantageous price until October.

The CD-Circle, which produced this CD-ROM, is a CD User Group that has formed with the intention of expanding the number of CD-ROMs available to the Acorn market. To do this they have produced a couple of software programs which read the various codes from a suitable PC CD-ROM allowing them to be run on an Acorn machine without the need for a PC card and / or emulator. They produce a bimonthly catalogue disc available by subscription from them containing an up-to-date list of CD-ROMs available.

*The address of CD-Circle is PO Box 332 Bristol, BS99 7XL. Tel 0272 799979.*

Nick Evans  
Club PD Librarian



**The Archimedes Bulletin Board**  
**081 654 2212 and 081 655 4412**

The Club has several pages on Arcade Bulletin Board available for public access. At present these only contain information about joining the Club, although it is hoped that they can be used to convey information to members in the future.

Thanks to sysops Dave Coleman and David Dade for their support, Arcade is well worth a phone call to catch up on the latest news or download recently released PD software.

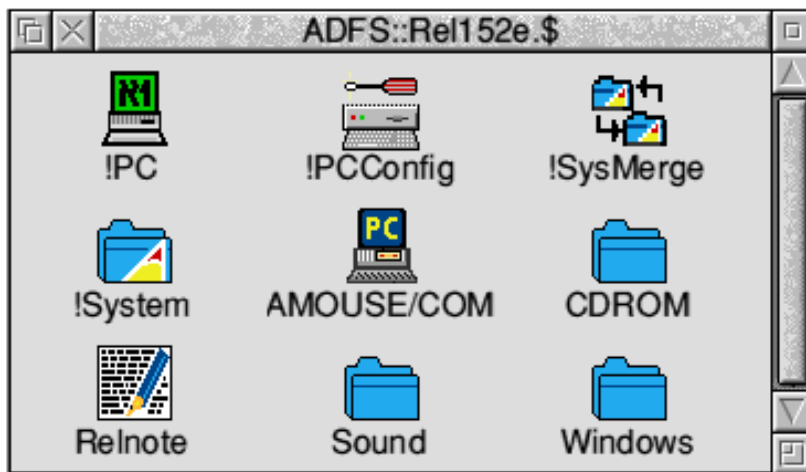


# Aleph One 486PC Card

*The ultimate upgrade for a self-respecting Acorn user?*

Although there are many advantages to owning an Acorn computer, most users will accept that there is one main disadvantage in choosing an Acorn computer as opposed to a standard IBM PC compatible, that is the very wide range of PC compatible software which will not run on the computer without some sort of software PC emulation or a hardware PC card.

Acorn's PC Emulator and David Lawrence's *FasterPC* provide limited PC compatibility by emulating a PC environment in software. The disadvantage of this approach is that it is very slow and won't run important applications such as Microsoft *Windows 3.1*.



*Contents of the supplied disc*

The only alternative option open to owners of Archimedes computers is to purchase one of Aleph One's PC Cards. These are suitable for 300, 400 and 540 series Archimedes-badged machines, an A5000 or a Risc PC. They can also be connected externally (in a suitable case) on an A3000. Acorn-badged mini expansion card versions are available for A3020 and A4000 computers, although these are based on an older revision of the Aleph One PC Card.

The review card that I used was the faster 50MHz clock doubled Cyrix 486SLC2, although a cheaper 25MHz version is also available. The cards support between 2 and 16MB DRAM on a single SIMM, the review card was supplied with a 4MB SIMM and also tested with an 8MB SIMM.

On opening the box you are presented with a 48 page ring bound manual, the card in a static protection bag, a half width expansion card blanking plate with screws and a T piece and a registration card.

The PC card is very well constructed apart from a few cases of apparent cost-cutting, for example there is no guide around the IDE hard disc connector and the SIMM socket is all plastic as opposed to the Risc PC SIMM sockets which use more sturdy metal clips.

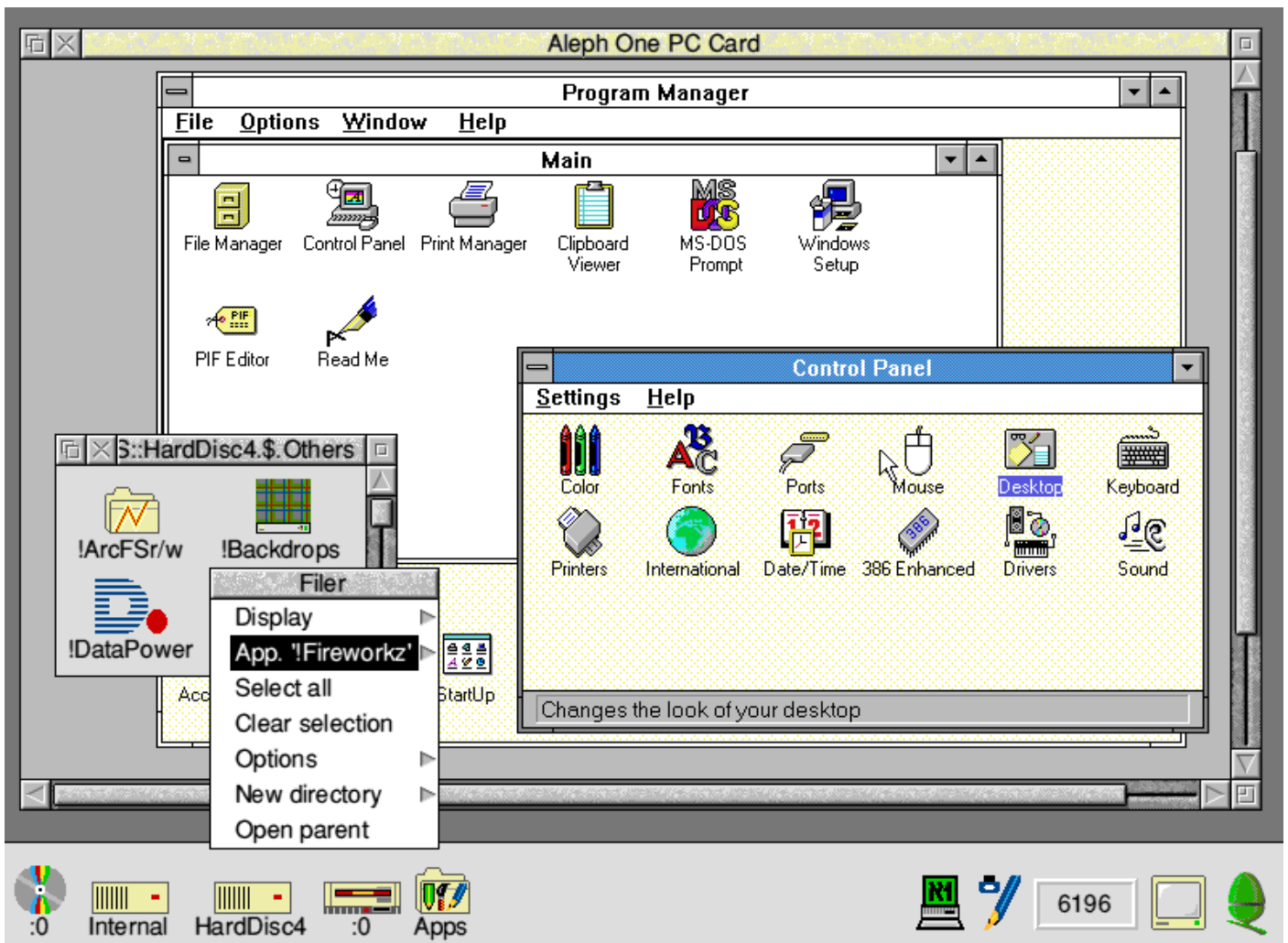
Next to the SIMM socket there are three links which must be set depending on the SIMM size. The links are marked 2MB, 4MB and 16MB with a note that both the 2MB and 4MB links should be set for an 8MB SIMM. The manual, however contradicts this and shows diagrams of different link settings. I can only assume that some mistake was made when the PCB markings were laid out, but there is no note to the affect that what is written in the manual overrides what is indicated on the board. *[The point is that the link(s) should be absent for the RAM you have. Aleph One have said that they will update the ReadMe file to make this clearer — Ed].*



Criticisms aside, the fact that Aleph One have managed to lay out practically a complete computer system on one Eurocard size PCB is a considerable achievement. The result is very neat and packed with features such as a direct IDE hard disc interface, a numeric coprocessor socket and direct serial & parallel interfaces.

Installing the card is fairly straight forward. It is simply a case of plugging the card into a spare expansion card slot, using the T piece and blanking plate if necessary. With that done, all that you need to do is switch the computer on, make a backup of the supplied disc and then you can configure the PC card to your own requirements by double clicking on the !PCConfig application. At the top of the configuration window, options are

provided to set up one or two hard discs that you wish to make available for use with the PC card. These can be partitions on your existing RISC OS hard discs, directly connected DOS formatted IDE drives or DOS formatted SCSI hard discs if you have a SCSI interface card fitted. DOS partitions can be created and formatted using the configuration software. You can also configure the PC to automatically boot in a window or full screen when you load the !PC application or just have it install on the icon bar and not boot until you click on the icon or select Single Task from the icon bar menu. The remainder of the configuration window is concerned with setting other user preferences such as enabling VGA graphics support and also an option which should be set depending on whether or not there is a



*Microsoft Windows (TM) in its proper place... inside a RISC OS window!*

387 numeric coprocessor fitted on the card.

The one small gripe I have about the configuration application is that it appears no attempt has been made to follow the RISC OS style guide. For example, the different types of hard disc should be selected by radio buttons, not option buttons since only one can ever be selected at any one time. Also, the diagrams shown in the manual differ slightly from what is described in the text and from what actually appears on the screen. I accept that the software may have been updated since the manual was printed, but at least the text and diagrams should match up.

Having set up the configuration, you are now ready to start up the PC by double clicking on the !PC application. Depending on how you've set up the configuration, it will either boot immediately or just start up on the icon bar. In the latter case, you can boot the PC by clicking on the icon bar (in which case the PC screen will be displayed in a window on the RISC OS desktop) or select Single Task from the icon bar menu (in which case it will take over the full screen). From there on you can use the PC card just as if it were a dedicated PC system.

I set up a 100MB partition on a 105MB Syquest cartridge and also connected a 40MB IDE drive directly to the card. Connecting a drive to the card is fairly straight forward, although you do need space for it inside the computer. For an A5000, it is possible to mount a hard disc in the space normally taken up by a second floppy disc drive and if you have a Risc PC, you could mount a drive in a spare device bay. For other computers (A300,

About this program	
Name:	Aleph One PC Card
Purpose:	High-performance DOS
Author:	© Aleph One Ltd. 1992
Version:	1.52 21/Apr/94
Hardware:	16-bit ASIC (Elvis)

*The version of the PC software used for this review*

A400 and A540 series), it is not possible to mount two hard discs (one RISC OS, one PC) and a floppy inside the machine unless your RISC OS drive is IDE and mounted on the controller card. Because of the lack of a plastic guide around the IDE connector on the PC card, it can be very fiddly to get the connectors on the cable and card lined up. However, it is definitely worth connecting a hard disc in this way if you can because it speeds up disc access significantly. For example, to install Double Space on a hard disc with just MSDOS 6.2 installed took 15 minutes on 50MB partition of a fast 420MB IDE drive, but less than 8 minutes on a relatively slow but directly connected 40MB IDE drive. As mentioned earlier, support is included to use DOS-formatted SCSI drives with the card, provided that your SCSI card is fully Acorn SWI-compatible, although I did not have the opportunity to try this out.

In use, the PC card performs well, running all the software that I tried to use on it including MSDOS 6.2, Windows 3.1, Autoroute Plus, Borland Paradox for Windows and some games. The one area in which performance is relatively poor is in the screen update. This is not Aleph One's fault but is down to the fact that all updates have to be sent along the expansion card bus to the ARM processor before they are displayed on the screen. The expansion card

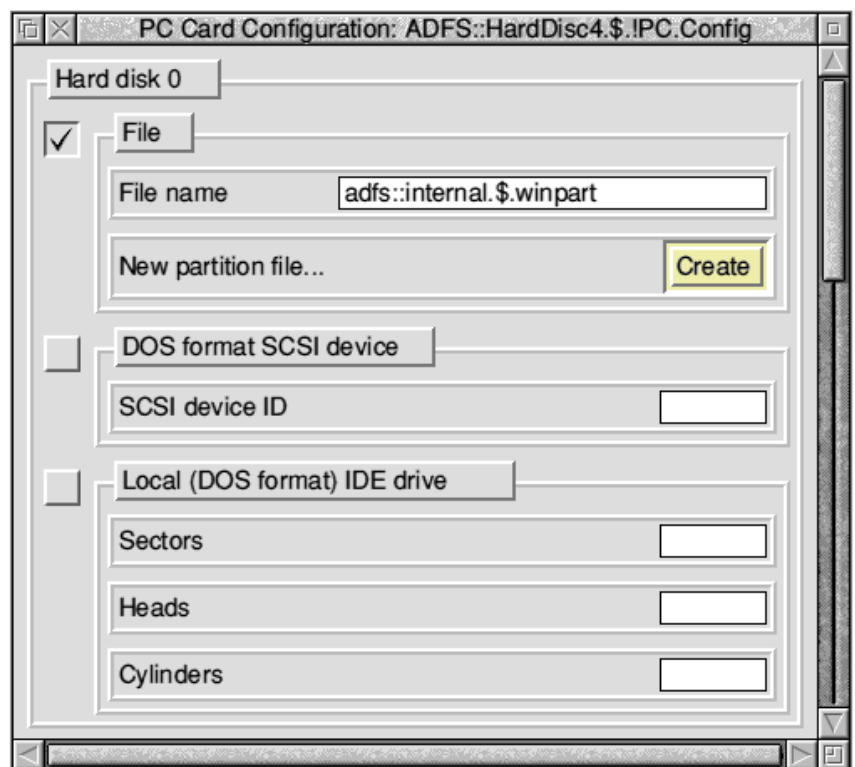
bus, in this case, acts as a real bottleneck. Fortunately, if you are running Windows 3.1, Aleph One supply drivers as standard which effectively use the ARM processor as a *Windows* graphics accelerator. This significantly reduces the amount of data that has be transferred across the expansion card bus and uses what in many cases will be the superior performance of the ARM chip to render all the graphics. The use of these drivers turns what is otherwise a very sluggish Windows performance into something quite reasonable. CD-ROM drivers are supplied, and network drivers are available as an option.

The PC card includes a socket for a 387SX numeric coprocessor, important since some floating-point intensive software may require a coprocessor in order to work at all — Acorn's forthcoming 486PC card for the Risc PC will not have the option to fit a numeric coprocessor. Also included are parallel and serial ports (LPT1 and COM1), both of which were tested and found to work without any problems. It is possible to have parallel output redirected to the Acorn parallel port, however the PC parallel port should be used whenever possible, and is essential for dongled PC software. A high density floppy drive is now pretty essential for using PC software, if you own an older Acorn machine then the Serial Port / Arxe and Beebug high-density drives are supported.

The sound capabilities of most PCs are very limited without additional hardware; the PC card passes the standard PC beep over to the Archimedes in software so that

error beeps are heard on the speaker. In order to hear other sounds a special lead must be made up to connect the PC card to the Archimedes for sound, such leads are available ready-made from Aleph One for £5.00.

If you have a multiscan monitor, the Aleph One PC card supports VGA (640x480) resolution graphics. If your system is capable of displaying mode 31 (ie you have RISC OS 2.01 or later, a multiscan or SVGA monitor and, if you are using a 300 series, 400 series or A3000 computer, you have a VIDC enhancer fitted to your machine) then you can also display SVGA (800x600) resolution graphics. The PC card is capable of working with a standard TV resolution CGA monitor but a lot of PC software, including Windows 3.1 won't so a multiscan monitor is to be recommended. The card supports 600x480 for any hardware, but to see it in single tasking mode requires a monitor fit for Acorn mode 27.



*Part of the !PCconfig application...*

One of the benefits of a PC card over a traditional PC is the sharing of data, screenshots from the PC can easily be saved as RISC OS sprites and ASCII text can be saved to a RISC OS filing system. The contents of DOS partitions can be accessed from the RISC OS desktop and files manipulated using the standard RISC OS conventions. However current versions of Acorn's DOSFS module have a limitation which makes it impossible to access DOS partitions greater than 32MB in size.

I did experience a problem when in multitasking mode, in that Ctrl-Alt-Delete caused the PC card to crash. Aleph One have assured me that this problem is fixed in the latest release of the PC software.

The manual supplied with the card concerns itself with the running of the Aleph One card, not with PC-related matters for which a standard PC reference book should be consulted. The manual is clear and concise, easy-to-follow for people with little experience. A trouble-shooting section is included, and Aleph One have a reputation for providing high-quality professional support to customers with difficulties.

Putting aside a few minor niggles, the Aleph One card fulfils its purpose very well. A common concern is about the price. The setup I tested, a 50MHz card with a 4MB SIMM, will set you back around £720 all inclusive. For not much more than that you could get a cheap PC system of a similar specification, including case, monitor, keyboard, mouse and hard disc. However this does not take into account several factors such as the advantages of having everything in one box with easier data transfer between the two environments, and the peace of mind which comes with

buying from a reputable company such as Aleph One rather than a cheap PC box shifter.

If you own an Archimedes, require PC compatibility and the PC Emulator isn't good enough then your only options are to buy the Aleph One card or a PC system. Unless you can see that it would particularly benefit you to have a separate PC system, I would recommend the Aleph One card. On the other hand, if you own or are thinking of upgrading to a Risc PC then I recommend that you wait if at all possible until PC cards which fit in the second processor slot become available. The first of these will be the Acorn 486SX (SLC) card which is currently estimated to go on sale in January and which is expected to be clocked at 33MHz. This will cost £99 +VAT if bought at the same time as a Risc PC (existing Risc PC owners can also take advantage of the offer). Aleph One will be offering higher specification PC cards for the Risc PC, some of which may be demonstrated at the Acorn World Show this month. All will offer a significantly better price / performance ratio than the current range of PC expansion cards thanks to the design of the Risc PC, will be able to share memory with RISC OS and will not have the problem of having to move data across the expansion card bus.

**Mark Smith (and Simon Burrows)**

*For more information, contact Aleph One, The Old Courthouse, Bottisham, Cambridge, CB5 9BA. Tel 01223 811679. RRP's inc VAT:*

*486PC/25MHz/0MB RAM £439.00*

*486PC/50MHz/0Mb RAM £529.00*

*4MB SIMM £190.00*

*Thanks to Aleph One for their assistance.*

# ARMlock

*Toby Smith tries to protect his data from unwanted attention...*

ARMlock from Digital Services is a hard disc file protection system. Files can be fixed to ensure that they are not run or copied by unauthorised people. Protection of this type is quite popular among people running machines in public places, at computer shows and those with restricted information.

Once installed and active on your machine the ARMlock module enforces the normal public access strings allocated to files, using the following system:

Permission	Setting
No restriction	--/wr
Read Only	--/r
Execute only (no copying)	/
No access	--/

Public access, in line with the above method, is given to all users of the machine. To gain access to the files as an owner (who can do anything) you need to run the separate *!ARMlock* software which can be either password protected (so that it will not load without the password) or kept safely on a floppy to be extra careful. The lock is linked to one copy of *!ARMlock* by serial number, so even with another copy of the program people can't gain access to your system.

On the plus side, this system can be set up without the need for complex re-configuring and you don't have to create separate partitions on your hard drive. However, you do have to carefully check that the system is set up at the beginning, particularly that your boot-up

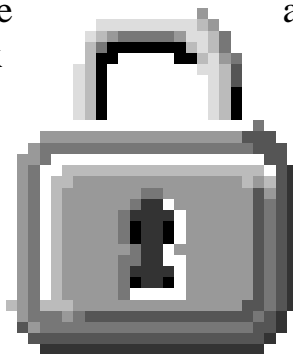
system can be read. This does, literally, take days to perfect. Also it is unfortunate that the default access setting for a file newly created by an application is WR/ which translates to no access. If you don't carefully and meticulously change your entire hard disc's access (and I admit that I didn't) then you will find that all your files are locked to begin with, not to mention having to unlock each new file when you create it after the system has been installed — which is a complete pain.

The protection system used by ARMlock really is hard to crack. You could confidently say that it is uncrackable — all the usual backdoors into the system have been filled though I'm sure a really dedicated attempt could get through.

ARMlock also provides a hard disc backup system, copying all or a selection of the hard disc contents onto floppy (or other medium). The files are compressed using the Acorn *Squash* utility which is used whilst the floppy is moving between sectors, cutting the time taken to backup to a fifth.

In use, I must admit that I didn't like the system. I'd rather have the worry about my files than people constantly complaining about the errors because they can't use such-and-such. (If the default saved file access was ANYTHING other than full lock this wouldn't happen) I'd also like to see a more useful error when people attempt to do something the

*continued on page 35...*



# UK School Internet Primer

*A new Internet book for schools reviewed by Paul L Allen*

The UK School Internet Primer by Nicholas Mailer and Bruce Dickson (priced £8.50) is intended to give guidance to schools thinking about obtaining access to the Internet. The guide covers what's available via the Internet, how to use it and potential pitfalls. Its 168 A5 pages of large type are not enough to go into great detail about every aspect of the Internet or its application in schools but do contain sufficient information to allow teachers to evaluate how useful the Internet would be in their school and get them started once they have a connection.

On the whole the guide is well-written, easy to understand and contains much that is useful. It has simple explanations of how to use the major facilities of the Internet and advice for their application to schools. There are many good ideas such as setting up local newsgroups for students to practise on before venturing out onto the Internet, how to make the idea of Internet access seem attractive to Heads and Governors, etc. The section on contentious material is well-balanced and points out that much of it, whilst being slated by the press, can still be useful (the nazi rantings denying the holocaust in some newsgroups can be countered with the World Wide Web Holocaust exhibition and turned into a useful learning experience). The inclusion of the bitterly sarcastic *Emily Postnews* guide to netiquette should do much to prevent

students embarrassing themselves, or the school, in Usenet newsgroups.

However, the guide is somewhat parochial in that the instructions and examples, whilst claiming not to be platform-specific, are almost entirely based on the Apple Macintosh. There is some concession to other platforms in that command-line interfaces are briefly outlined, but that is all. Even the checklist for starting up has a heavy Mac bias as indicated by:

*"A starter kit book, often with excellent Shareware-type programs should be available. It will be American, long and expensive, but invaluable."*

The authors are in fact talking about Adam C. Engst's *Internet Starter Kit for Macintosh*. This book is indeed essential for Mac users because the accompanying disc contains the Mac TCP/IP software (the TCP/IP package is also available from Apple but at a much higher price than Engst's book).

There is mention of Internet software for the IBM PC, but all that is said about Acorn machines is that Acorn has an FTP site and there are some Usenet newsgroups devoted to Acorn machines. There is no mention of the free TCP/IP software available for the Archimedes (which has had some major improvements recently courtesy of Adam Goodfellow and in most areas can hold its



own against any other platform). Given that most computers used in schools are Acorns or PCs, the Mac-orientation of the book detracts from its usefulness.

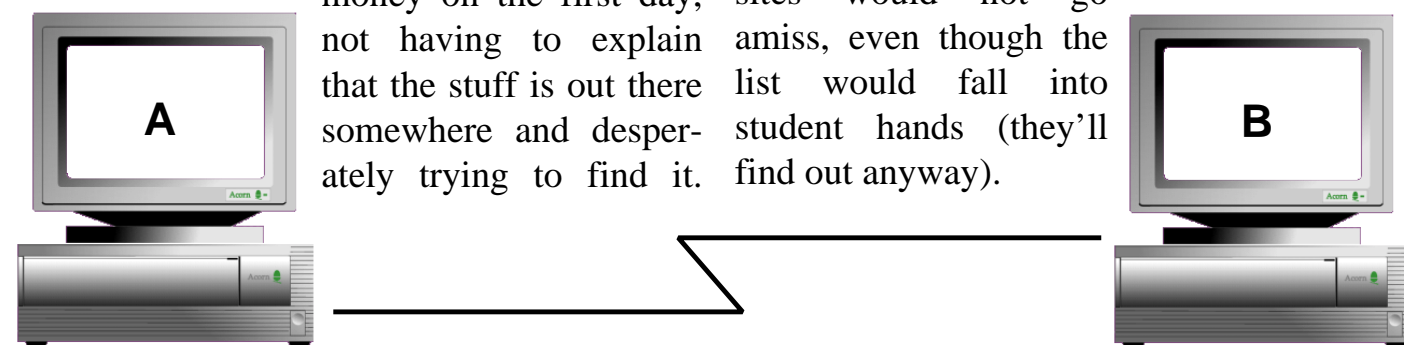
There are a number of minor, but annoying, errors. JANet (the UK's Joint Academic Network) is not a subnet of the Internet as it does not use the same protocols — there are gateways for e-mail and Usenet news (and, if you know where, for telnet). JANet is in the throes of being superseded by JIPS which does use Internet protocols. NSFNet, not BitNet, is the US equivalent of JANet. The .com, .edu and .org domains are international, not specifically for the US (although it does tend to dominate them) — there is a .us domain corresponding to the .uk domain, it just isn't widely used. IRC (Internet Relay Chat) can be accessed perfectly well via telnet — you don't have to run an IRC client (although it makes life easier). Most textfiles available for download by FTP carry the extension .txt not .doc.

There are a number of significant omissions. Many useful network resources are listed, such as the Vatican Library, the Louvre and the Dead Sea Scrolls but no details are given about how to access them. Granted, the book does explain the tools with which such resources (and many others) can be found, but the System Manager who has persuaded the Head to part with hard cash is going to want something impressive to show for the

money on the first day, not having to explain that the stuff is out there somewhere and desperately trying to find it.

The list of the major worldwide news hierarchies (the “big seven”) omits the *misc* hierarchy which does have some useful groups. Whilst the authors are careful to point out the importance of reading a newsgroup's FAQ (list of frequently-asked questions together with their answers) before posting to that group, they do not say that Usenet FAQs are also available for download by FTP from the appositely-named rtfm.mit.edu. Although the e-mail address of the US president is given they do not mention what is likely to happen if someone sends a death-threat as a joke (it is not a crime here, as it is in the US, but I doubt that would prevent a visit from the police). It is pointed out that annoying or abusive postings will result in many e-mailed complaints but not that it is a mandatory requirement of any Internet site to have a user called *postmaster* who deals with such complaints.

Although contentious issues are covered, there are some significant omissions in this area. One is that in primary schools it is advisable to not allow a list of usernames to be obtained with *finger* or to let children post to Usenet newsgroups lest they receive unwanted attention by e-mail. Another topic is net-sex which may range from flirting on IRC, through e-mailed explicit love letters to private telnet chats. These activities may be acceptable between consenting adults but are not such a good idea in a school. A list of potentially dangerous newsgroups and FTP sites would not go amiss, even though the list would fall into student hands (they'll find out anyway).



There are also some suggestions with which I would disagree. The guide encourages pupils to correspond with authors of textbooks and to ask for clarification when eavesdropping in highly technical newsgroups — neither of which is likely to endear them to people who have serious work to do. At first sight suggesting that students post questions to relevant newsgroups as part of their research into a project seems like a good way of introducing students to the Internet — however this overlooks that this method of research runs up phone bills, that the data is likely to exist in the school library (and has already been paid for) and most importantly that Usenetters do not take kindly to students asking for help with their homework. The suggestion that a student rather than a teacher could control Internet access sounds like a recipe for disaster in most schools.

The list of Internet providers does make some attempt to classify services into BBS-style access and full Internet access but neglects to distinguish between BBS access providing only email and news gateways from BBS access which includes telnet — this allows some of the more attractive Internet facilities like World Wide Web and gopher, prominently covered in the guide, to be used (with some limitations). I suspect that the foundation of the list was Paola Kathuria's monthly summary of UK Internet Providers (posted to *uk.net* and several other groups) but the authors have expanded upon the detail by including some extra information from the providers. One addition is GreenNet's connect-time surcharges — a pity it omits access surcharges of between 60p/hour and £6.40/hour depending upon the method and time of access (the quoted charges are possible, but only if you are already on the Internet and telnet to your GreenNet account).

The guide is a useful introduction for schools although I would suggest that it be used in conjunction with Ed Krol's *The Whole Internet User's Guide and Catalog* which goes into much more detail on the tools and resources available and how to use them on a variety of platforms. In summary, I would award the book 7 marks out of 10 — could do better.

**Paul L Allen**

*The UK School Internet Primer is published by Koeksuster Publications, St Augustine's Cottage, High Street, Mill Hill, London. NW7 1QY. Tel 0181 959 3321. ISBN 0-9524072-0-5. Price £8.50 (add £1.50 p&p if bought direct from the publishers).*



## Internet Email

We are pleased to say that Eureka magazine can now be contacted by electronic mail on the Internet at the following address:

**editorial@nucleus.demon.co.uk**

The Club's software development team, led by Mark Smith, can be contacted at:

**softdev@nucleus.demon.co.uk**

Technical questions can be sent to:

**support@nucleus.demon.co.uk**

Finally general enquiries about the Club can be sent to:

**clubinfo@nucleus.demon.co.uk**

Please note that this is an experimental service and may be withdrawn at any time without notice. If you have a permanent Email address which could be used by the Club to contact you, please mail it to us.

# The Technical Clipart Collection

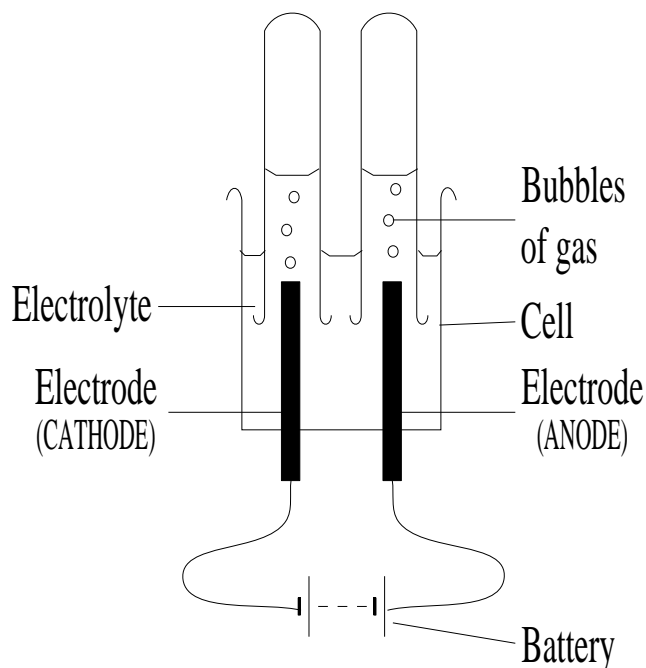
*Matthew Hallam talks about a resource package for schools*

Earlier this year [*Eureka 11 to be precise*], a package called "Chemistry" from PTW Software was reviewed which included a selection of Chemistry clipart files in drawfile format.

PTW Software has now released a separate pack entitled "The Technical Clipart Collection" comprising many files from the Chemistry package as well as a set of electronic circuit and PCB symbols. The stated aim of the pack is to provide a selection of scientifically oriented clipart in Draw and DrawPlus format, suitable for use in an educational environment.

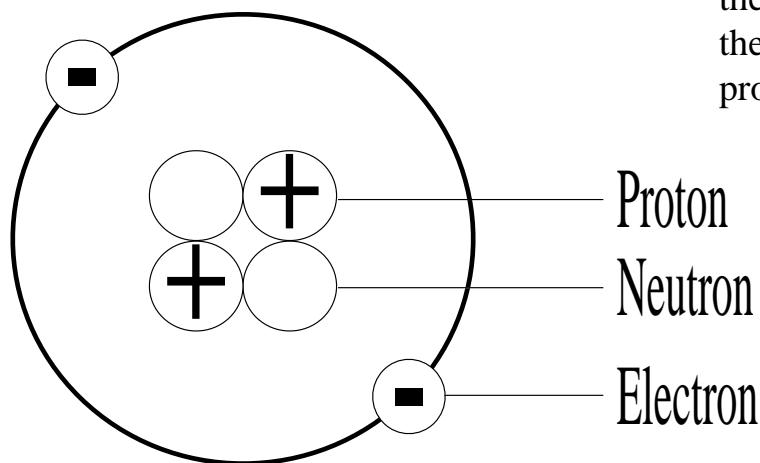
In terms of packaging, the Collection is supplied on a single 800K disc with printed ten page manual and registration card, complete with sticker informing the user of PTW's Telephone Hotline for support or product enquiries which is open 7 days a week. PTW are only a small company and the quality of the support they offer is said to be very good, particularly when it comes to

listening to feedback from customers and making improvements as a result.



*One of the chemistry diagrams supplied*

The Chemistry directory on the disc contains five subdirectories: *Apparatus*, *Experiment*, *Flask+Tube*, *Labels* and *Misc*. Each of these contains a selection of relevant drawfiles, for example the *Apparatus* directory contains pictures of Bunsen burners, thermometers, tripods, flasks, pipettes and the like. Advice is given on using these to produce diagrams for particular experiments; the *Experiment* directory contains an assortment of ready-designed diagrams such as the one printed above. The *Labels* directory contains an assortment of clipart that can be used to produce labels for experiments or chemical bottles. The *Misc* directory contains a few items of particular value, including a couple of



*Remember these things?*

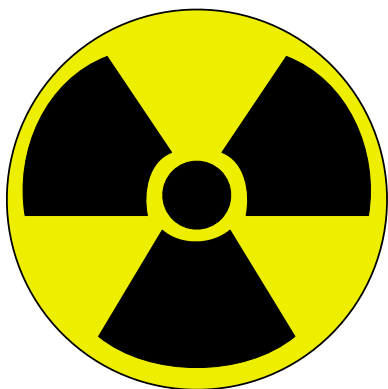
complete diagrams of the Periodic Table, one including atomic numbers and masses, the other just the symbols of the elements in traditional arrangement. There is also a drawfile which can be used to print out your own A4 graph paper, although it could be cropped down to smaller sizes if needed.

The *Circuit* and *PCB* directories contain electronic circuit and PCB symbols respectively. Both *Draw* and *DrawPlus/Vector* Library formats are supplied with detailed instructions on how to use them to create circuit diagrams and even multiple layer PCB artwork for photographic PCB production. Some of the electronic component symbols are intended to be combined to create different symbols. An Integrated Circuit template is provided to speed up the production of IC diagrams.

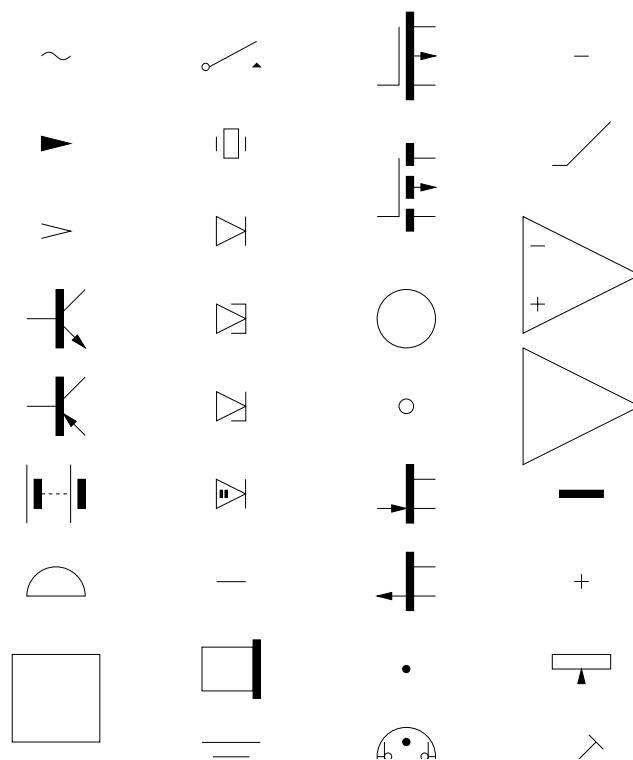
All in all, priced at a mere £7.50 including VAT and site licence, The Technical Clipart Collection offers excellent value for money, especially for departments on a tight budget. Any physics, chemistry or electronics teacher is recommended to buy this pack.

**Matthew Hallam**

*PTW Software, 72 Frosthole Crescent, Fareham, Hampshire, PO15 6BG. Tel 01329 281930. DrawPlus recommended.*



*The ideal label for a Science teacher's coffee mug!*



*Some of the electronic circuit symbols*

## ARMlock Review

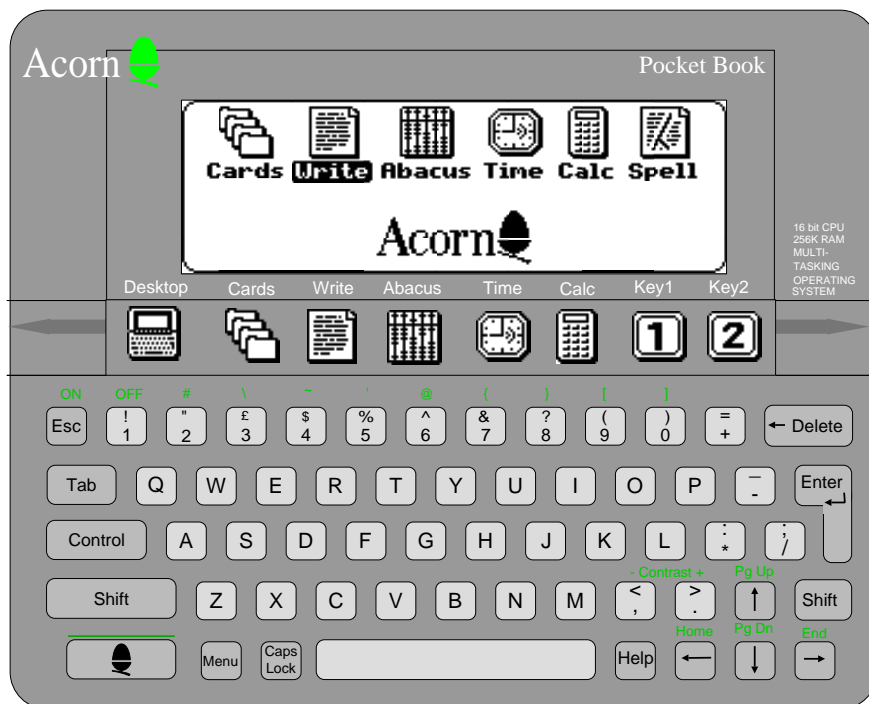
*continued from page 30*

system will not allow — “*You do not have the status to do that*” rather than the very ambiguous “*Access violation error*”. I would also like to see the ARMlock program files hidden away somewhere, inside a neat application or inside the Risc PC’s *!Boot* system rather than having to have a collection of weird modules and files in *\$.ARMlock.Files*.

In summary, if you are really and constantly concerned about access to your files then ARMlock is almost impossible to crack, but I feel that the setup and management time of this system is too long if your machine is not under real threat.

**Toby Smith**

**Price** Single User £35 Ten User £139 ex VAT.  
Digital Services, 9 Wayte Street, Cosham, Portsmouth, PO6 3BS. 01705 210600.



# Pocket Book Corner

*A new regular column for users of Acorn's smallest machine!*

## A-Linking : “To the outside world.”

Probably the most common add-on to the Acorn Pocket Book is the link and software to connect it to a larger Acorn computer. Developed by Acorn & Computer Concepts, the A-link consists of a serial interface for the Pocket Book which connects via a generous length of serial cable to the serial port of your desktop Acorn. The package also includes software (PocketFS) for the desktop machine to allow it to talk to the Pocket Book.

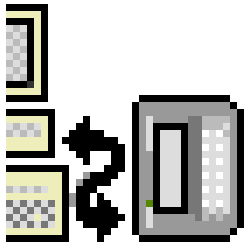
Once connected, which is a simple matter of connecting cables and running the software, PocketFS offers two methods of accessing the contents of your ultra-portable machine. If you click ADJUST on the icon bar then you will be given what could be referred to as “direct access” to the internal storage of the Pocket Book via a normal directory viewer as if it were a floppy disc. This is actually a very nice way of navigating around and offers a good way of managing your Pocket Book discs — it’s easier to rearrange the files on the desktop machine than to use the Pocket Book’s own DOS-like filer.

The second access method is to use the PocketFS display, which contains a set of columns, one for each program, listing the files underneath. From this window you can transfer files off the Pocket Book and translate then into readable formats.

**Write** files can be translated as plain text (an *Edit* file) or as Rich Text, a format used by Microsoft Word on the PC which also contains some layout info such as bold etc. So far the only program I know of that uses this filetype on the Acorn machine is *Wordz*, but I believe that others are on the way.

**Cards**, the database, talks in CSV files, a widely supported format for databases. It certainly works with my favourite database, *Squirrel*, and I often transfer Cards files to the big brother machine so that I can sort them, a feature unfortunately missing from Cards itself.

**Abacus** files can be saved as CSV files too, but this does not convert the formulæ (it merely inserts the result) so *Lotus123* file format is also allowed, to cope with



formulae conversion. Most spreadsheet programs for desktop Acorn machines load and save this (sometimes via a converter program).

# ARM'94

Acorn

PocketFS is designed around a very flexible system, using the columns to convert and the direct access to upload files which are not supported, such as PIC format screen-shots from the Pocket Book. A PIC format file converter is included on the magazine disc (editor willing!). To take a screenshot on the Pocket Book, hold down Ctrl, Shift & Acorn, and tap S, A file called *Desk.pic* should appear in the root of the internal drive.

The A-Link is a very powerful link between your Pocket Book and the outside world, essentially giving the Pocket Book files access to the display and printing capabilities of its bigger brothers. This column, for example, is written on the Pocket Book, and the text and screenshots converted up to my Risc PC to be sent to the editor and published: a lot of scope for a computer the same size as my wallet!

## *On The Disc:*

!PICconv	(App)	PIC files to sprites
Article	Write	Text of this article
Cashadd	Abacus	Total cash collections
Chars	Abacus	Table of available characters and code

————— **Toby Smith** —————

*Toby has volunteered to act as coordinator of any information or questions about the Pocket Book sent to the Club. Please address any correspondence to Toby at the usual address.*

ARM '94 is the name of the Club Open Day taking place in the West Midlands on Saturday 19th November.

The venue is: St Mary's Activity Centre, Gorge Road, Sedgley. Near Wolverhampton and Dudley in the West Midlands.

Doors open at 10.00am until 4.00pm. A small admission charge will be made towards Club funds, namely £1.00 for adults and 50 pence for accompanied children.

Come and see the Acorn Risc PC in action. Thinking of buying a computer? Baffled? We speak English! Want to know how computers can be used in education?

Seminars and demonstrations will be held on desktop publishing, scanning, databases, digitising and the Risc PC. Representatives from several companies are expected to be present, including Acorn, Computer Concepts and the local Acorn dealer.

Meet the Club Committee and other members. The Club PD Library will be available on the day, and a Bring & Buy sale of software and hardware will be held with many bargains sure to be available.

For more information on the Open Day, please contact the organiser, Club Membership Secretary Ralph Sillett on (01785) 714535 after 6.00pm.



# Equate

*A new mathematical  
graph plotter from PTW  
Software reviewed by  
Tom Hughes*

Having already reviewed one graph plotting package this year, I jumped at the chance to get my hands on another and see how it fared in this apparently growing sector of the market. Bearing in mind the number of Acorn machines used in schools, it is quite surprising that it has taken so long for these programs to begin popping out of the woodwork.

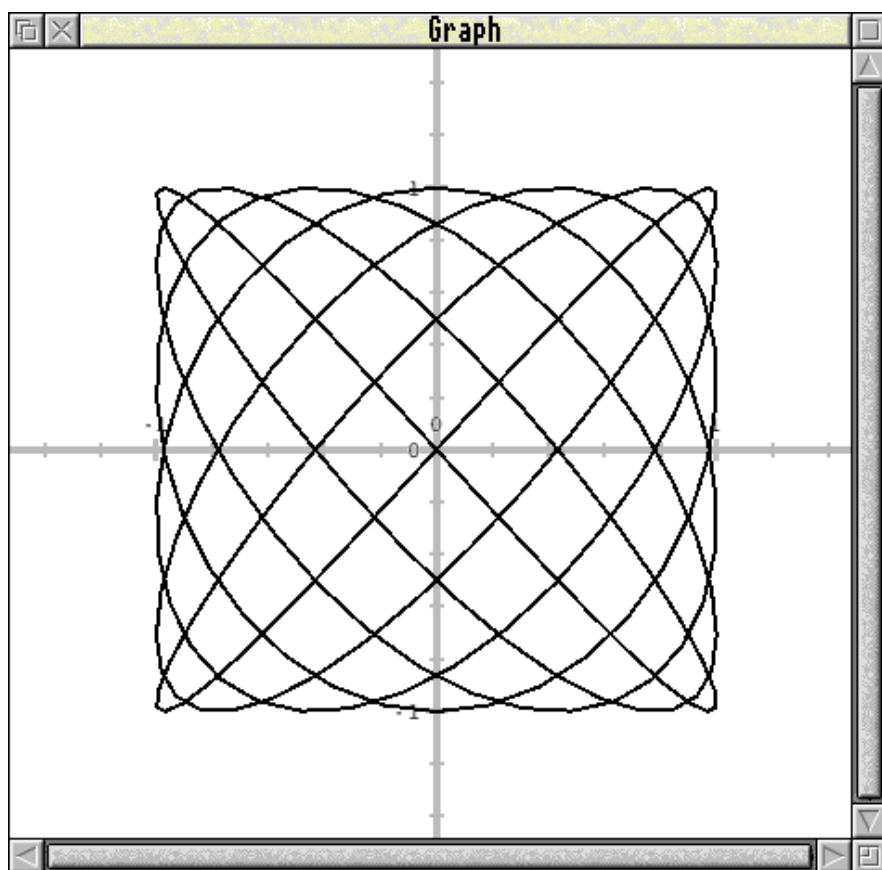
My first impressions of *Equate* were favourable, it was well presented and a sticker on the case gave details of a customer hotline available seven days a week! The program was quickly and easily installed on my hard disc with no hassle at all, at which point I ran it...

Unfortunately this was when my opinion of the software began to change. Things began well enough — I clicked on the icon bar icon and up came a window showing some axes. I then clicked menu over this window in order to try and plot a graph, and discovered that the main menu contained no fewer than seventeen items (plus three separator lines). This is really far too many, and leads to a menu structure that is difficult to navigate.

Clicking on *New equ.* on this menu to create a new graph, I was surprised to discover that nothing happened; it seems that you either have to use the key shortcut or else move right to get the dialogue. Small points like

this are what makes or breaks a programs user interface in my mind, so this was not an auspicious start.

Reading the manual, I was able to ascertain that the program can handle implicit multiplication (equations like  $2\sin x$  with no '\*' symbols in) which is one plus point, as many programs fail on this which is a pity as it is not particularly difficult to implement. The manual also explains that some of the symbols used must be inserted using the Alt key and the numeric keypad, failing to mention that several of the more



common ones are available more easily on machines with RISC OS 3 (Alt-2 gives  $^2$  for example, and Alt-3 gives  $^3$ ).

Entering an equation I plotted a graph, only to get one of biggest surprises — the thickness of the lines plotted by default is absolutely unbelievable. I'm sure many people will recall their maths teachers extolling the virtues of using a sharp pencil to get as fine a line as possible when drawing a graph, but this is completely ignored by Equate, which uses lines a full 1.6 points thick. Even worse, the axes are 3.2 points thick. Whilst this can be changed by the user, to give defaults like these is fairly silly.

Looking to zoom in on the graph, I turned once again to the menu, and selected the *Zoom in* option, only slightly surprised by now that it had no magnification dialogue attached. Nothing happened (except that the menu disappeared). Having a brainwave (?) I tried dragging a box in the graph window to find that this did indeed have the desired effect. If it must be done this way (and I don't think it should) at least change the cursor in the window to indicate clicking in the window now has a different effect.

What was perhaps worse was that having zoomed in, it was not possible to pan around the graph using the scroll bars. The zoomed in portion of the graph simply filled the work area of the window! Zooming out can then be achieved by entering a number in the writable item hung off the *Zoom out* option of the main menu.

Having given up on expecting the user interface to do anything sensible, I moved on to looking at the core question of the program's mathematical abilities. In this area, things are much better. The program has a good range of functions available in equations and can handle cartesian, parametric and polar plots. It is missing support for parametric polar plots though, and has no facility for plotting differentials or integrals — you have to calculate these by hand.

*The window used to define equations for Equate*

The program does however provide a trace window which will display the coordinates of the point under the cursor, together with the gradient of the curve at that point. It can also calculate intersections between curves, although it uses the simplest of the three common algorithms to do this, which is both inefficient and more prone to failure. The

manual explains well how these techniques can be combined to calculate further information about the graph.

Equate	
Save	▶
Print	▶
-----	
New equ. F4	▶
Edit	▶
Delete	▶
-----	
Axes F5	▶
Style	▶
Range	▶
Autorange	▶
Reset range	▶
Zoom in F7	▶
Zoom out	▶
-----	
Co-ordinates	▶
Trace	▶
Intersect...	▶
Accuracy	▶
Quickdraw	▶

Perhaps the biggest thing missing from this section of the program is the ability to calculate the area under the curve or the volume of rotation about the axis, both of which are fairly easy to do, although they are fairly time consuming.

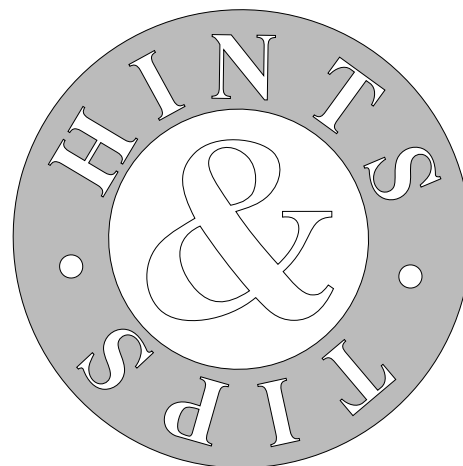
Graphs can be saved in the program's own format which is textual, although it has its own filetype, or as drawfiles which can be exported to other programs for

*The main menu* inclusion in word processor documents for example. There is also a fairly standard printing facility, using the RISC OS printer drivers.

All in all, the mathematical side of this program is competently done although there is room for extension in the future. This is all let down by the user interface, which is so poor that I find it hard to recommend this program. A little work on the interface however could go a very long way to making this a much better program.

**Tom Hughes**

*Equate costs £17.95 all-inclusive, with free site licence, technical support and upgrade path. PTW Software, 72 Frosthole Crescent, Fareham, Hampshire, PO15 6BG. Sales telephone 01329 281930.*



## Some handy hints collated by Mark Smith

Welcome to the Eureka Hints & Tips Page. This is a new forum for you to share any handy hints that might help other Acorn users get the best use out of their computers.

To start the ball rolling in this issue, here are some of my suggestions. For future issues I will be relying on you to send in any tips that you have picked up.

### Alarm

*Alarm* is a useful, but very much under-used application supplied with RISC OS. Not only does it provide a clock on the icon bar (in a variety of user selectable formats), but it also allows you to set yourself reminders to appear at certain times. Of particular use in the versions supplied with RISC OS 3 is the ability to start up applications at certain times. For example, anyone with a tape streamer could use Alarm to set up the computer to automatically perform a hard disc backup at regular intervals.

Alarm can be found on RISC OS 2 applications disc 2 or in the Apps folder on a RISC OS 3 machine. The RISC OS Applications Guide contains useful information on how to use Alarm.

## Recovering from an application crash on a Risc PC

Pressing the Alt and Break keys together allows you to quit any software that has crashed the computer. You will get the option first of quitting the application that was running when you pressed Alt-Break. This will normally be the one responsible for crashing the machine. Alternatively, you can cycle through all the currently loaded WIMP applications until you reach the one that you want to quit.

### File redirection

Most \*Commands normally work by taking input from the keyboard and sending output to the screen. However, it is possible to force commands to use other devices and files for command input and output. To do this, use the following notation } where the Redirection specification is one of the following:

> filename	Output is sent to filename
< filename	Input is taken from filename
>> filename	Output is appended to filename

For example, to send catalogue a directory and send the output to filename *Out* you could use the following (the spaces are important!):

```
*Cat { > Out }
```

You can also specify devices in place of filenames. For example, to send the output of a command to the currently configured printer, you would use something like the following:

```
*Help FileSwitch { > printer: }
```

A full list of system devices is included in your user guide in The Command Line section.

## Improving Risc PC graphics capabilities

Shift - double click on the file *!Boot.Utills.BandLimit* (Risc PC users only) to load it into *Edit*. It should contain one line of text as follows:

```
VIDCBandwidthLimit  
38000000 76000000 152000000
```

The three figures refer to the maximum transfer rate in bytes/second at which data can be sent from the screen memory to the VIDC20 and correspond to no VRAM, 1 MB VRAM and 2MB VRAM respectively.

In the case that no VRAM is fitted in a machine there is a theoretical maximum system bandwidth of 64MB / second. This must be shared between the video display and the processor so the more bandwidth used by the video display, the slower the computer will run. You may increase the VIDC bandwidth limit to obtain higher resolution displays with more colours at higher frame rates at the expense of computing performance.

Where VRAM is fitted a separate video data bus links the VRAM to the VIDC. The maximum theoretical video bandwidth is just over 80 MB/second (where 1MB VRAM is fitted) or 160 MB/second (where 2MB VRAM are fitted). In most cases you should be able to make the last two figures of the VIDCBandwidthLimit command 80000000 and 160000000 respectively. You should then be able to display 800x600 in 32 thousand (1MB VRAM) or 16 million (2MB VRAM) colours at a 60 Hz frame rate. This, however, is not guaranteed to work on all machines.

**Mark Smith**

# Penfriend

## *A predictive typer from Design Concept*

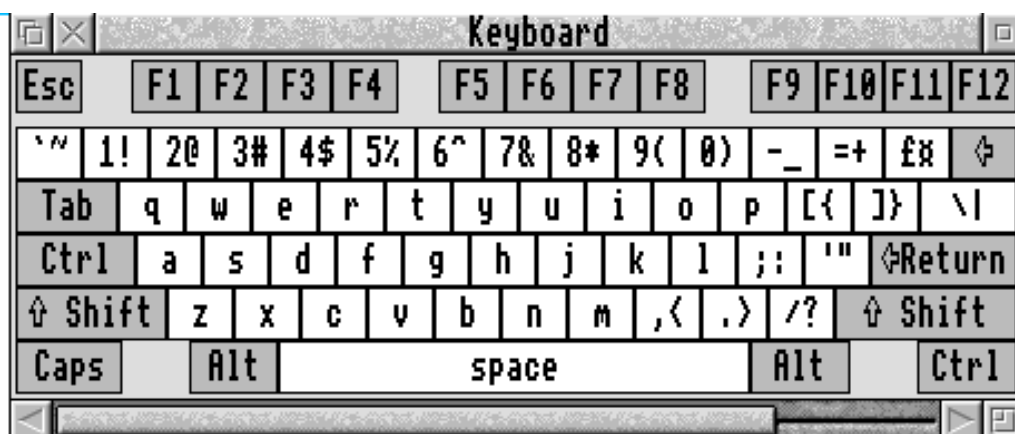
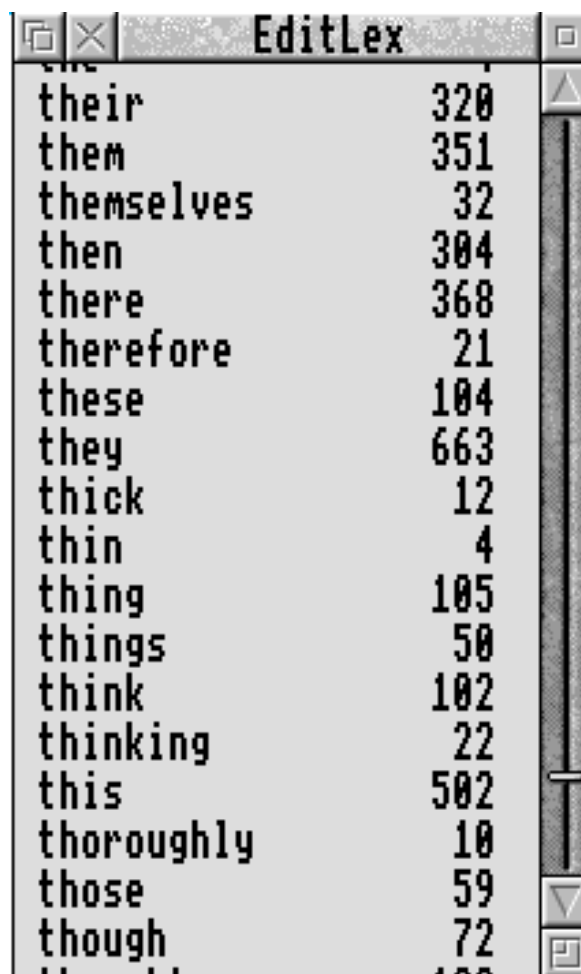
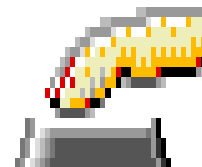
Over the last year I've been helping a twelve year-old boy who has learning difficulties. He finds reading very hard which has slowed down his learning a great deal in all areas. Terry (not his real name) has a very lively imagination and likes to tell a story. I've been getting him to use my A5000 for word processing. We started with him dictating and me typing thus speeding up the process and circumventing the problems he had with writing, spelling, etc., but Terry wasn't being challenged to improve these things.

Then I saw Penfriend advertised. Penfriend is a predictive typer. "What's a predictive typer?" I hear you ask. It is a utility program, used alongside a word processor or text editor, that will predict and insert words as you type. I immediately saw the potential this program had and I couldn't wait to use it with Terry.

Let me explain how the program works. The program comes on a disc with several example 'Lexicons' which are dictionaries of words for different purposes. One of these is set to load as default when Penfriend is loaded onto the Icon Bar in the usual way.

A click on the Penfriend icon brings up another window on the screen. As you start to type into your favourite word processing program a list of words is displayed in the Penfriend window. If the word you want is

present in the list a function key press will insert the required word into the text in your word processor. The two screen shots here show the predictor window after the letters T and R have been typed.



The effectiveness of the predictions obviously depends on the lexicon loaded. The program can be set so that new words may be learned and added to the lexicon, although not a good idea if the user doesn't spell well. The lexicon also remembers the frequency of words used, and the predictions Penfriend displays can be these most often used words. The lexicons can be edited in a separate program, *!EditLex*. Any textfiles can be loaded into EditLex and added to the current lexicon. New words that were learned in a typing session can be accepted or rejected by a *Verify* option.

Other typing aids can be switched on from within the program. *Sticky Keys*, reminiscent of *Folio* on the BBC Micro, holds the state of

The 'Statistics' dialog box has two tabs: 'General' and 'Words'. The 'General' tab is selected and shows 'User: TextFile' and 'Number of uses: 18'. The 'Words' tab shows 'Number of words: 1086', 'Words typed: 582', and 'Suggestions used: 305'.

Statistics	
<b>General</b>	
User:	TextFile
Number of uses:	18
<b>Words</b>	
Number of words:	1086
Words typed:	582
Suggestions used	305

the Shift and Ctrl keys after they've been pressed, so that the next letter is capitalised or control keypresses accessed more easily. Spaces can be placed after inserted words. Smart Punctuation places punctuation marks in the right places, despite the inserted spaces, and after a full stop, question mark,

or exclamation mark the next letter is automatically capitalised.

If you possess the Superior Software *!Speech* package then this can be used with Penfriend to vocalise letters and words typed

The 'Display Options' dialog box contains settings for the Predictor Window (Medium), Words Offered (6), and Keyboard Window (Alphabetic). It also has checkboxes for 'Follow Caret', 'Suggest Only Once', 'Prefer Recently Used', 'Windows at front', and 'Show capital letters'. 'Cancel' and 'OK' buttons are at the bottom.

Display Options	
Predictor Window	Medium
Words Offered	6
<input type="checkbox"/> Follow Caret	
<input type="checkbox"/> Suggest Only Once	
<input checked="" type="checkbox"/> Prefer Recently Used	
<input checked="" type="checkbox"/> Windows at front	
Keyboard Window	Alphabetic
<input checked="" type="checkbox"/> Show capital letters	
Cancel OK	

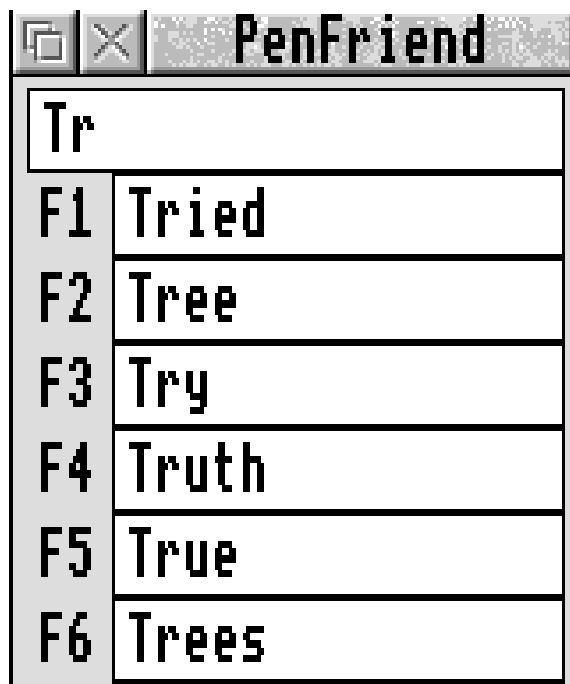
and/or predicted. This is a little unusual at times but it is a lot of fun and a great motivating influence.

There is an option to have a keyboard visible on screen which responds to mouse clicks. If Shift is pressed the display reflects the change with all the letters being capitalised. The display can be a normal QWERTY keyboard or an alphabetical display. All of these extra functions may be switched on or off from the Options menus.

Terry's first go with Penfriend was not a success. The novelty of the program was too much of a distraction for him and the predictions went unheeded. Some of the program's options were not helpful, so the next time Terry came I'd switched these off and things started to improve.



As Terry's reading was the main problem I learned to set the number of words listed in the prediction window to less than 6. Gradually he was increasingly able to select words correctly. I felt that this was helping Terry, not only speeding up his ability to express his ideas in type (albeit still slowly)



but he was reading the lists of words and making decisions about spellings when choosing the correct words.

I had hoped that I personally would find Penfriend useful in my writing too, but I am, surprisingly, too fast a typist so Penfriend actually slows me down. I don't suppose it was really designed for typists.

Nevertheless, I believe Penfriend will be very useful in most classrooms where there are children who find writing, reading, typing and/or spelling a problem.

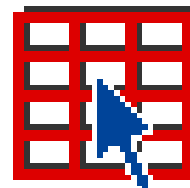
### Geoff Stilwell

*Penfriend is available priced £25 + £2 p&p from: Design Concept, 30 South Oswald Road, Edinburgh EH9 2HG. Tel 0131 668 2000. Fax 0131 668 2000.*

# Clicker

*A utility from Crick Computing  
reviewed by Geoff Stilwell*

A few days ago I received through the ARM Club postal system a review copy of an educational utility program called Clicker from Crick Computing. It seemed similar in usage to a program I already used called Penfriend from Design Concept which is why I am reviewing them together for this issue of Eureka.



Most teachers will have used, seen or heard of a concept keyboard. For those who haven't; a concept keyboard is a peripheral device which is connected to the computer and acts as a touch-sensitive keyboard. The flat A3 or A4 sized board is electronically divided up into a grid of much smaller areas or cells which can be combined or used individually to perform any kind of input to the computer. Paper overlays are usually created to delineate the areas for a specific definition. Pictorial representations or words help children, especially those with learning difficulties or younger children, to access a program's functions. Whole words or phrases can be entered into a wordprocessor with a single press on the concept keyboard's face.

Clicker is described as "a multi-level, on screen overlay keyboard". A keyboard overlay is displayed on screen and accessed using the mouse. A click on a cell could enter letters, words or phrases into a word processor or the click could fulfil a function like the deletion of a character or word, or the saving of the document replicating the

pressing of the Save function key.

Clicker at first seems like a glorified Macro editor and input-ter but a short investigation of the program and the manual reveals it to be quite a sophisticated and useful tool for use in the classroom.

The Clicker manual is organised as a tutorial with a reference section at the back. Creating new grids of your own begins with the Make Grid dialogue box where the size, number of cells and other attributes can be set. With your basic empty grid saved you may now give the grid global attributes such as fonts colours and borders. The individual cells can now be defined. Inserting text into the cells can be accomplished through menus or by using the quick key-equivalent Shift+Click.

The cell can be programmed to insert text into a word processor, this may be the text displayed or up to seventy characters which is typed into the Other text field in the cell action dialogue box. The cell may be set to perform an editing action or to save or print, in fact any function that may be accessed normally from the keyboard. A cell can output sound when clicked. Superior Software's speech module is included so that

the text in the cell is 'spoken' by the computer. Sound samples may even be

Words				
My	name	is	Jo	<i>Rub out</i>
to	school	park	with	<i>New line</i>
I	like	the	computer	<i>Print</i>
my	mummy	and	from	<i>Save</i>
home	daddy	play	.	<i>Letters</i>

played when a cell is clicked. This could be recorded speech or music. A sound sampler is required to use this option.

The power of the program is demonstrated in its ability to load further grids. One example that is suggested in the manual has the first grid holding letters of the alphabet. Clicking on a letter cell will load up another grid with words beginning with that letter. One cell on the word grids when clicked will reload the original letter grid again. In this way whole dictionaries can be built specific to a project or topic or appropriate for a particular child. The only restriction to the loading of grids or sound samples is that they must all be saved in the same directory as the original grid.

Unfortunately the cell display on screen is text only, whereas a concept keyboard overlay can be pictorial, whatever is appropriate for the purpose. Perhaps a future upgrade could include the option to put small graphics into cells providing a pictorial display as well as text.

FkeyStrip												
Ct-Sh-Fn												Exit
Ctrl-Fn												Task
Shift-Fn												Icon bar
Function			Save									Command
	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12

The function keystrip facility



Clicker is a blank key strip grid. The cells can be defined to duplicate the actions of the function keys. The program is not worth getting for this alone, as other simpler utilities do this better, but if the program is purchased for use with children then adults and older children can make use of this option.

The Clicker package was accompanied by documentation from Crick Computing promoting an associated product, Switch Clicker. This is specifically designed for users

My biggest complaint about the program is that I was only able to apply cell attributes globally or to a single grid. It would be helpful if a group of cells could be highlighted and the attributes applied to this selection.

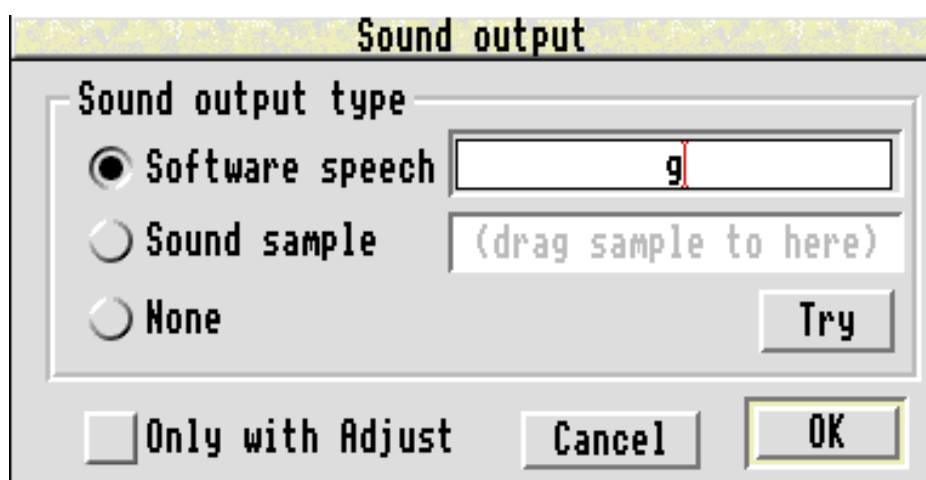
Clicker will be most useful with younger children or those with learning difficulties. Like most good educational software Clicker will not save the teacher time as the teacher will have to set up appropriate grids for their pupils. But it will help their children, especially those that have difficulty with typing or spelling or those who have a visual impairment. It could also be used to aid teachers writing reports, with commonly used phrases entered into the wordprocessor with a single click.

One other very useful example is to use a grid as an on-screen function key strip. Supplied on the disc with

with physical or mental disability. A Clicker grid is scanned on screen and cells can be clicked with various switch devices including the mouse.

Switch Clicker can be obtained for £75 + VAT. The price for Clicker is £35 +VAT. The price for both products includes a site licence for up to five machines. Further details about Switch Clicker or Clicker can be obtained from Crick Computing, 123 The Drive, Northampton, NN1 4SW Tel/ Fax: 01604 713686.

**Geoff Stilwell**



# Education Column:

## Kent IT Show Report

*Geoff Stilwell writes about his latest experiences*

Since I acquired my first computer in 1983 I've been a lone enthusiast. As a teacher, if you're interested you're considered an expert, so I was given the responsibility of IT coordinator. I often wished that there was someone that I could turn to when I had a problem but it was always me that others turned to with theirs. I joined The ARM Club thinking that here at last was a chance to glean wisdom from others more knowledgeable, but I didn't take the opportunity. I read the magazine avidly, loaded up and investigated the programs on the magazine disc, thought about getting along to one of the training days and that was about as far as I got.

Last November I put myself forward for The ARM Club committee with the intention of acquiring a wider knowledge and experience of computers in general. I turned up at the December '93 Open Day at Mill Hill and I was welcomed with open arms.

As I've said before, I am the least technical of the Committee and, despite my comments in Eureka 12 about technophiles and acronyms, I really do enjoy the company of those who know much more about computers than I do. The ARM Club has also provided me with the opportunity (some would say excuse) for going to and participating at the computer shows. This year I went to the BETT Show at Olympia, the Acorn User Show at Harrogate, and most recently, in July, to the Kent IT (KIT) Show in

Maidstone.

I'd already arranged with Education Information Systems, the joint organisers of KIT, to have some ARM Club leaflets distributed at the show to advertise our Open Day the following weekend. I also managed to get a couple of days off from the DTP training course I'm attending to go to the show myself.

The Kent Education Authority has always been biased towards Nimbus and IBM-compatible computers so I was very surprised to see so many Acorn-related software houses and products represented. The Acorn/Tesco promotion scheme has allowed schools to acquire Archimedes computers they would not necessarily have purchased otherwise. It was very interesting to hear the comments of people who had had experience of both Acorn and PC platforms.

The first person I bumped into was Brian Kerslake of Topologika. Brian and I had met before at the shows previously mentioned, so it was good to meet and chat to a familiar face. Topologika's stand was displaying many of their software packages, "Talking Rhymes", "Freddy Teddy" and "Music Box", to name a few. Coincidentally I had my "Navigator" package with me (I was showing it off to another ARM Club member in Kent) and I'd had a small problem while developing an activity at

home. Brian loaded it up and together we investigated. Brian was very interested in the activity I'd developed and said that Topologika were willing to pay for activities developed for Navigator by users. So if any of you teachers, or children, have developed activities specifically for your class, send them to Topologika, it might prove worthwhile financially.

Another name you will recognise, as an educational software house catering for the Acorn platform, is Sherston Software. Their new geographical adventure "Around The World In Eighty Days" was being demonstrated, and looked very impressive. It presents geographical challenges as part of a linear adventure following in the footsteps of H.G. Wells's character *Phileas Fogg*. We also discussed Sherston's adventure "The Crystal Rain Forest" where all the problems and puzzles are related to LOGO.

I spent quite some time over the two days chatting to Peter and Pauline Worley of ERIC (Educational Resources In Computing). I watched their wordprocessing package "BEARWORDS" being demonstrated several times and I was impressed. It certainly seems to provide stiff competition for the other child-centered wordprocessing packages for schools such as Logotron's "Pendown". ERIC also produce an associated spreadsheet package "BEARSHEET" which unfortunately I didn't see demonstrated. I hope to obtain review copies of these two pieces of software so that I will be able to give a more considered opinion in Eureka.

I am at present collecting together LOGO packages for a comparative review in a future Eureka and I was particularly interested in researching all the different LOGO and turtle

graphics programs available while I was at the show. I was promised a review copy of the Hatfield Advisory Unit's Turtle graphics program, "Almost Logo". The Dorset IT Centre gave me a pile of their LOGO booklets and a couple of extension discs. These provide extensions and additions to the standard Logotron LOGO already in most classrooms. This made me think again of the wealth of teaching materials being produced in different parts of the country that is still not being effectively distributed to schools and classrooms. Too many people all still re-inventing the wheel!

One very interesting stand was where St Mary of Charity Junior School were showing off their use of Archimedes computers. The school have chosen the *Acorn Options* Rental Programme. David Silcock of Sensitive Data Systems, who installed the school's network, was present at the stand discussing the advantages of such a scheme. There were several other school stands present but they were all PC-based systems and didn't seem to hold my interest for as long. I wonder why?

I was surprised and disappointed by the absence of an Acorn stand at the show. Peter Howes, the regional representative, was there making his presence felt on the second day but it seemed a shame that Acorn did not take the opportunity to provide a stronger presence in an area where they seem to be making some inroads.

Although I had taken two days off from the training course, I wondered whether the relatively small show would justify all that time. I was very surprised to find that I was just as involved on the second day, talking to people I'd not spoken to before, handing out

more ARM Club leaflets, establishing links and making contacts. I hope that in the long term the club and all the people and companies I spoke to can be useful to each other.

I must say a final thank you to Linda Nutley of EIS, the show organisers, for her help with the club leaflets, and for making me personally so welcome at the show.

**Geoff Stilwell**

*Contact addresses for companies mentioned in this article are included on the Eureka magazine disc.*



## Eureka Disc

There have been a lot of changes to the Club PD Library over the last three months, nearly 99% of the task of archiving the discs has been completed. Don't forget that an upgrade service is available for those discs which have significantly altered since you bought them, just return the original PD disc with 50 pence worth of stamps for each disc.

*This month's magazine disc contains:*

**Calendar** — a couple of Draw files of a calendar for 1995 from Club member Aneurin Griffiths. You will see that he produced these in April — how's that for forward planning?

**GameBase** — this is a bit of advertising for the Club product GameOn!, but also is a database containing some of the (in)compatible programs with the Risc PC.

**MailLabel** by Club member Toby Smith which is a utility to help you label letters,

The ARM Club Magazine page 49

parcels etc. Again this seems only to work on RISC OS 3 machines.

**MemoryPie** by Club member Dave Lodge is a utility which displays the memory use as a pie chart on your icon bar

**NewPal** by Club (and Committee) member Andi Flower emulates the Risc PC *Display Mgr* utility and should get you more used to thinking about modes in terms of Resolution and colours instead of the (meaningful) numbers we have all grown to love.

**Q2Track** is a RISC OS 3 only program which offers greatly increased control over ProTrackers and SoundTrackers. The program is written by *Sounds Riscy*, a group of guys some of whom have joined the Club.

**Spr->Asc** converts an Archimedes sprite into a collection of text characters so that they can be sent over email etc. This is also written by Dave Lodge and is RISC OS 3 only.

**Thumbnail** is a Shareware program from Club member Ian Palmer who always produces very high quality work. This RISC OS 3 only program provides you with a convenient way of searching for a picture from a library of pictures by providing "Thumbnail" versions of the pictures that can be viewed quickly and easily. It requires *ChangeFSI* to run as it uses this for converting different file formats.

**ViprSting** is an Elite based story in Impression II file format produced by Richard Goodwin, now the Editor of Illusions Disk Magazine.

**Nick Evans, PD Librarian**

---

---



# 3DO Multiplayer

*Nick Evans assesses the ARM powered games console*

The 3DO Interactive Multiplayer System has now been officially launched in the UK with about 20 games to choose from. This is about a year after its launch in the USA and follows on from the Panasonic Roadshow which began in the last week of July to promote the machine. This is the (dare I say it) games console based on the VLSI ARM chip which is very similar to those in the Acorn Risc PCs with a price tag of £399.95. It comes with *Total Eclipse*, an adventure game from Crystal Dynamics.

The specifications of the machine are quite impressive. It uses the ARM60 processor running at 12.5MHz giving about 6 MIPS and comes with 2MB of main RAM and 1MB of V(ideo)RAM. There is an expansion port for extra RAM when needed in the future. The operating system is in a 1MB ROM and there is 32K of battery backed up S(tatic)RAM. It includes a double speed CD-ROM drive which is audio and PhotoCD compatible as well as being able to show VideoCDs and reads either 12cm or 8cm CD-ROMs. The audio output is 16bit. There is Composite (which will connect to a TV), S-Video and RF output at 25frames per second and a high speed AV I/O (VideoCD) expansion port. The colour output is 16bits as standard but 24bit graphics is possible.

The manufacturers insist that the 3DO is not just another games console but a complete home entertainment centre (wasn't that what Philips said about the CD-i?). However it seems more than likely that any significant market penetration by the 3DO will be made initially on the back of the games market and

it is certainly being targeted at the 16–24 year olds in the first instance. The main distributors in this country are ZCL who have over 200 dealers signed up to retail the 3DO, this includes their own chain of Calculus stores. Double this number being wooed at the moment and there should be over 850 stores involved in selling the 3DO by the time that you read this article although, as yet, not the largest of the multiples such as Dixons.

Sales of the 3DO have now reached the 200,000 mark in the USA from 4,000 retail sites in July and there are about 3,000 units ready for sale in the UK. There should be about 100 software titles available by Christmas and also a F(ull) M(otion) V(ideo) cartridge.

On briefly using the machine I was quite impressed with its performance but a little disappointed at the software available. However since I am no great user (or lover) of games apart from *Taipei* and *Tetris* I don't think that I am the best person to write about this aspect of the machine. Give me an encyclopædia every time!

Even though the Mark1 3DO system has just been released in the UK already details of a 64-bit multiprocessor upgrade to the 3DO have been announced. It is at present termed the multi-player M2 accelerator and has improved graphics, sound and a customised PowerPC processor. The new card will be manufactured by IBM, Motorola and Matsushita (Panasonic) and is to be available as an upgrade for current 3DO

users. The card is to use the same operator system and development tools as the current 3DO system.

Another interesting development is the development by Creative Technology, who are probably best known for their SoundBlaster cards for the PC, of a 3DO PC card which will allow 3DO CD-ROMs to run on the PC. It slots into the PC and allows it to run 3DO software using only the PC's monitor, sound card and CD-ROM drive. The card will also allow the software to run in Windows. At present the card is guaranteed only to run on the Panasonic 563 CD-ROM drive with a SoundBlaster card in the PC, but this is due to be expanded to cover other CD-ROM drives in the next few months. I have been told that the street price of the 3DO card is to be £200—£250 and should be ready and in the shops by Christmas.

It will be interesting to see how this machine takes off (or not as the case may be) and also, if it is successful, what the spin-off for the Acorn market will be in the form of a greatly enhanced software base, even perhaps a 3DO podule. I await further developments with eager anticipation.

Nick Evans



## Technical Help Service

Help and advice on any Archimedes or Risc PC matter is available free of charge to Club members from the Club office or from our stand at the Acorn World Show. Due to the number of enquiries we are receiving, please put questions in writing and send, fax or email them to the Club.

The ARM Club Magazine page 51

# Help Required

My name is Hugh Swan, I am an ARM Club member. I am preparing what I hope will become a definitive reference book on the subject: Hardware Expansion and Peripheral Connectivity of the Acorn 'A' Series, Archimedes, Risc PC, A4 Portable and Pocket Book computers. This is a commercial project.

I wish to appeal to members to assist me by providing me with any helpful hints and tips, accounts of experiences relating to connectivity, advice regarding same and descriptions of particular difficulties which members may have encountered with connectivity pertaining to any combination of computers (Acorn or otherwise) and / or devices. Particularly notable experiences may be given a special mention and credit if desired. Certainly the Club will be acknowledged. I will be very grateful for any information received. Please contact me at:

*1 Queen's Tce, Marketplace, Marshfield,  
Chippenham, Wilts, SN14 8NS.*

*Tel:01225 891314.*

Hugh Swan

## Graphics Designer wanted

I would be very interested to hear from anybody with an interest in designing graphics for use in Eureka and / or other Club literature. These may include titles for articles, illustrations, logos and other material. If you would like to discuss this matter further, please contact me directly on Tel / Fax 0116 271 2030.

Simon Burrows, Eureka Editor

---

---

# REVIEW

## The Time Machine

*Andrew Clover puts his best foot forward and enters the fourth dimension...*

Remember Haunted House? The Fourth Dimension's newest release, The Time Machine, is like that, only more so — and unashamedly so. Both are adventure games, taking place in windows on the desktop, the player interacting with the objects and rooms simply by clicking and

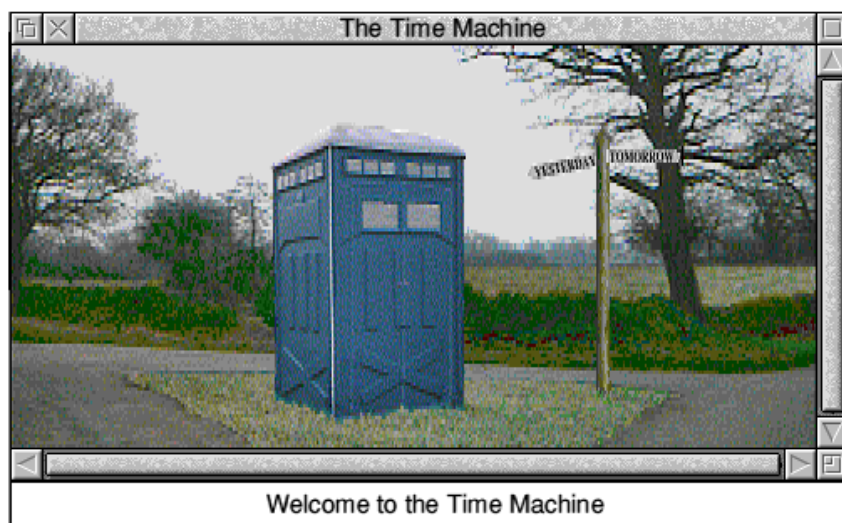
## The Autumn Games Zone

Welcome to a slightly smaller Games Zone than usual, new games releases have been slightly slower than normal in filtering through to Eureka. However *Acorn World* is sure to make up for this, what with releases like *Wolfenstein 3D*, *Cannon Fodder* and *Simon the Sorcerer*.

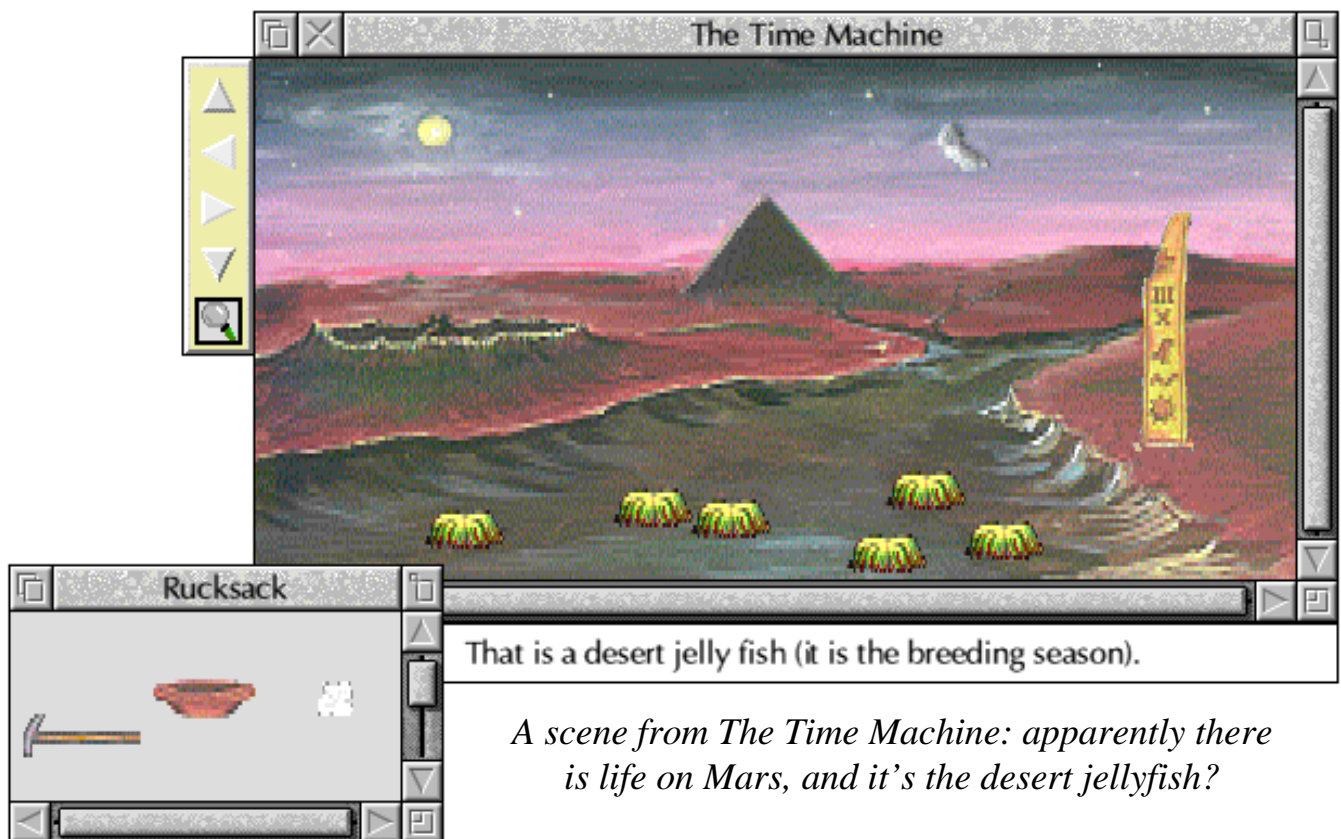
There will be a games arcade as usual at the Acorn World Show this year, not in the shape of a crashed spaceship but something equally exciting?! Acorn has yet to unveil details. What is known is that the arcade will be located behind the Club stand, so there's no excuse not to come and visit us!

Reactions to comments in the last Games Zone about the potential impact of the 486PC card on native games development have been mixed, and really boil down to whether it will be powerful enough to run PC games at an acceptable speed. The fact that new releases are on the way from so many companies, including *Wolfenstein 3D* from new company Powerslave Software, shows that there's no sign of titles drying up in the near future. Do keep writing in and telling us what you think about the Acorn games scene!

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



*The Time Machine revolves around a time machine.  
Surprising or what?*



dragging with the mouse. The Time Machine, though, is much larger than its predecessor: it comes on five discs, and, unless installed onto a hard disc (a painless process), requires copious disc-swapping. The Time Machine also needs two megabytes of memory.

Starting the game reveals two windows. One is titled 'Rucksack', and it is to here that you drag any useful objects you may find. Six objects at once will fit in the rucksack, and may be carried from one room to another. The other, main window shows a picture of your current location — initially, outside a Portaloo — and has arrow icons to allow you to move. The pictures that appear in this window are scanned from photos and original artwork, and are of a very good quality. However in these days of the Risc PC and photographic quality high-resolution desktops it's a pity that they are only standard-resolution, 256 colour graphics;

on the other hand, using high-resolution graphics would double the disc space required. Perhaps The Fourth Dimension should consider a CD-ROM version with photo-quality graphics?

Once you have managed to enter the aforementioned Portaloo, by solving the world's most awful puzzle (see below), the plot soon becomes clear. Its owner has been trapped in a Time Vortex, and you have to release him (or her — it is never made clear) by collecting parts of a key to Time. This means solving several long, chaining puzzles in many different settings, from Mars to the Abbey Road studios, and noticing numerous Dr. Who references. This is not an adventure game as we know it though. The problems are not of the normal, get-hammer-hit-nail type found in most text-based adventure games, but are often just bizarre and unconnected puzzles. There is no logical reason, for example, why you would put three jars of differing sizes inside each other,

nor any why you should receive a coin from out of nowhere for doing so. But there are jars of different sizes which can go inside each other, so you do it. That's not to say the puzzles are bad: they are fun to solve, and often require knowledge and cunning (you will need to know hexadecimal, for example, and the origin of Beatles songs), they're just unusual. It has to be said, though, the first puzzle is indeed bad. Trying to open the Portaloo door gives a sound sample which asks, "What is the password?". I don't think I'll be spoiling anyone's fun too much if I reveal that the password you have to type in is 'what'. This an atrocious example of The Time Machine at its worst; there are a few really good, logical puzzles, but I couldn't really quote any without making the answer obvious and giving the game away.

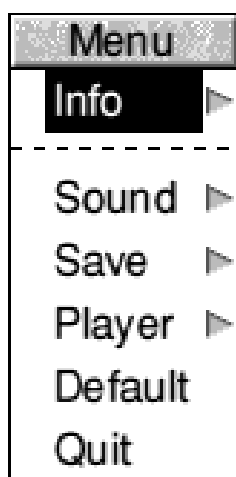
The difficulty level is probably pitched about right. The first set of puzzles, concerning how to get the time machine working properly, shouldn't be too difficult for most people, and then the game widens into many different areas with lots of new puzzles to solve. It should take a long time to complete The Time Machine; after weeks of playing, I'm still only about halfway through. And I do keep coming back every so often for another try, a sign of a good game.

again for no apparent reason. Sometimes it decides to eat any quantum discs put in it, making the game impossible. Sometimes, if you drop too many objects in the time machine, some start to disappear without warning. If you don't drop an object in quite the right place — and The Time Machine can be extremely strict about where you drop the objects, sometimes you have to be pixel-perfect, rather difficult in a high-resolution mode — it will plummet to the floor, and might smash, or, if you're in the Portaloo, it will disappear for, again, no apparent reason. This is absolutely infuriating. Luckily, there is a Save feature. One soon learns to save the game at least every minute, in case one of your objects explodes and makes the game unwinnable. Other bugs in the program have a habit of killing another desktop task at random, usually the pinboard; hopefully, this problem will be fixed by the time you read this.

In conclusion, the game is good fun, has very good graphics and sound, and will last a long time. The strange puzzles, however, are not to everyone's tastes. Personally, I enjoyed them, but I know people who just found them irritating. I recommend trying the game out before parting with the money.

**Andrew Clover**

*The Time Machine costs £25.95 from The Fourth Dimension, 1 Percy Street, Sheffield, S3 8AU. Tel 0742 700661. Fax 0742 781091 or from your usual games supplier. Club Members are entitled to a £3 discount if bought direct from The Fourth Dimension.*



Although the first puzzles are relatively easy, they are often made difficult by some strange bugs and features which litter The Time Machine. The time machine can't work if either of the doors of the control desk are open, for no apparent reason. Sometimes it just refuses to work at all,



*Mike Jones puts on his gloves and enters the finite realms of his imagination...*

Small is one of those games which is published from time to time by an unknown publisher without the marketing clout of the well-known software houses. Sometimes these games are published by over-enthusiastic authors dispirited by rejections from the games companies; in other cases the authors recognise the potential of their game and believe that it will be more rewarding to publish the game themselves, cutting out some of the third parties in the software chain. In terms of quality of the game, Small would appear to fall into the latter category.



Small is an isometric 3D maze game, the most noticeable feature of which is texture mapping used effectively for all the scenery. This is currently common on the PC with games such as Wolfenstein and Doom, and the overall 3D effect is very striking. Most graphics used in the game were produced using Illusionist

from Clares [I believe that DJ Hoskins, author of Small, also wrote Illusionist — Ed].



The plot behind Small is that you have been shrunk by the 'gods' to a microscopic size as punishment for your arrogance [ho hum — Ed] and imprisoned inside your own mind. The aim of the game is to escape from the series of over fifty increasingly complex mazes which supposedly form the human mind allowing you to return to

*You are small, very small. This place is big, very big...*





*You never can tell what may be lurking around the next corner (unless you've been there before!)...*

normal size having learned some respect for the gods..

Did you know that your mind is inhabited by arachnids, hermits and keepers? Thought not. Still, a game which merely involved navigating numerous mazes wouldn't be very captivating. Each stage of the game consists of a maze containing various nasties, bombs, ammunition, treasure, traps, transporters and vanishing walls. There is an exit which must be located to proceed to the next maze before your time or energy run out. Shooting the bouncing 'spirit' balls increases your energy, collecting treasure increases your score. Often your path to the exit is blocked by various nasties which must be eliminated by bomb or bullet. Running out of time or energy is fatal and ends the game, although passwords are available for later levels.

A map of each maze is plotted as you explore, this can be very useful for identifying areas which have not been visited, including areas hidden by vanishing walls or which need to be visited using teleports. It isn't necessary to explore the whole of each level in order to proceed to the next, but treasure and other score-increasing opportunities may be missed if you don't. Each maze is only two dimensional in that it

isn't possible to move in a vertical plane, perhaps scope for a sequel?

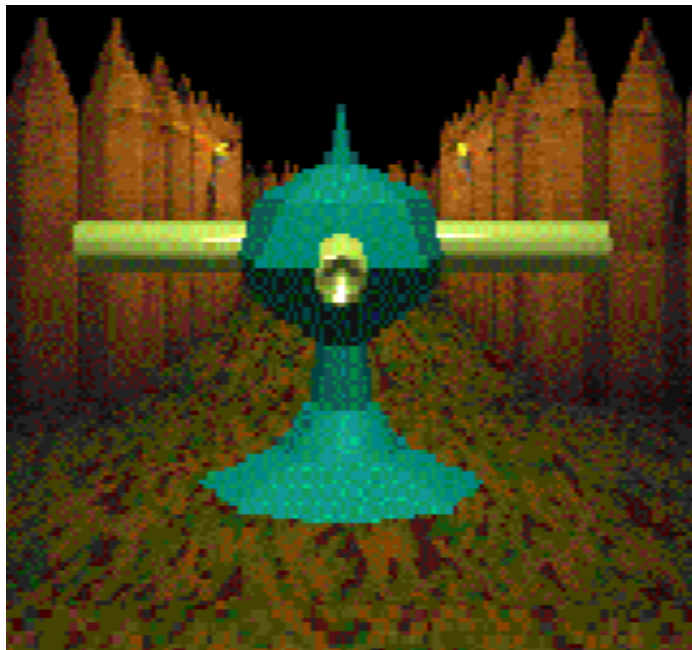
In appearance Small is attractive and quite smooth to play, with realistic representation of movement. Some nasties such as 'heads' are stationary, but fire projectiles at you,



*Some treasure — who was silly enough to leave it in the open??*

while others such as arachnids can follow you around, making a nuisance of themselves. In terms of playability, the game is easy to pick up and the first few levels

simple to complete, however it does have the all-important "one more go" addictive quality necessary to stop any game being relegated to a dusty disc-box.



*Watch out! That gun is pointing at you...*

Overall for a native Archimedes game, Small is impressive and probably the first of a number of games of its like. The graphics are fairly good although nowhere near the standard of the latest PC games using similar techniques. As a new and small company, Virgo Software has taken a gamble in releasing Small themselves, but hopefully it will pay off leading to more quality home-grown games in the future.

**Mike Jones**

*Small is available direct from Virgo Software, PO Box 44, Stockport, Cheshire, SK7 4QY. Tel 0161 456 0009. Access and VISA accepted. Price: £24.95 inc VAT.*



## Members Ads

Club members can advertise any unwanted hardware or original software free-of-charge in Eureka. Please remember that the magazine is only published quarterly so it is best not to send in adverts just after this issue has been published.

### **FOR SALE: A5000 LC System**

RISC OS 3.1, 120MB hard disc, HCCS micro-podule with Hi-Vision digitiser.

Price: £750 or nearest offer.

Also contacts wanted within 35 miles of Ramsgate. Contact: Mr R Holt  
Tel 01843 584598

### **FOR SALE: Hardware & Software**

Acorn JP150 printer with CS feeder £175.00

Pocket Book + Schedule + 256K SS £180.00

Acorn Advance software £40.00

Power Pad (Joypad) £20.00  
plus much more.

Contact: Mr R Sillett  
Tel 01785 714535

### **FOR SALE: Morley User Port / Analogue Port / IIC mini-podule for A3000**

£18.00. Tel 0116 271 2030

### **FOR SALE: A5000 LC System**

4MB RAM, 14" monitor, 40MB HD,  
lots of original software packages £995.00

**Citizen Swift 24e Colour Printer** £135.00

plus other items including BBC Master 128

Contact: Mr G Holman  
Tel 01733 321540

### **FOR SALE: Acorn Desktop Assembler**

Release 2, as new, unregistered with card.

With manuals, discs, cards and box. £110.00

Tel 0116 271 2030

# Letters Page

*Chris Price discusses his opinions on the future of the Acorn market...*

## ***W(h)ither Acorn?***

(The reason I was prompted to write this extended letter was that Geoff Stilwell, the Club Secretary, asked me for my opinions and he's bigger than I am and, as I'm a natural coward... No, that isn't true... Well, not very true.. It also would have been a lot more difficult without referring to Ian Lynch's article in this month's *Archive*.)

No, the title isn't a mistake. And, yes, the pun is deliberately intended.

A while ago, I was prompted to write to one of the newsstand magazines about Acorn's new strategy concerning the launch of the Risc PC. I shall now try to expand on that letter.

My main concern was to try to fathom the reason for Acorn launching themselves into what is now becoming a viciously competitive market, where margins are being eroded practically daily — to such an extent that the supposedly invincible IBM has seen its market share eroded from practically 100% (ie total dominance) to 10% (at the time of writing) and still falling.

As we all know, the standard PC has “Intel on the inside” (to coin a cliché), uses Microsoft's MSDOS operating system and, as often as not, Microsoft software in applications. Although a number of people will now admit that MSDOS is not the easiest operating system to use, Microsoft and Intel have what amounts to a stranglehold on the

market — to such an extent that Microsoft was recently taken to court and had to prove that it wasn't secretly tinkering with its own operating system to make all of its software run faster than its competitors who didn't have access to the code in the operating system.

So what is Acorn's reason for producing a PC? Here are a few suggestions:

### **Street cred?**

You're not hip unless you can produce a proper PC and grab a slice of the (admittedly huge) business market?

Although this idea hardly merits consideration, let us do just that. It is possible, I suppose, that there could be an element of “me too!-ism” in Acorn's behaviour. Against this, one must say that this sort of street-cred can carry a fearsome cost. Most people buy a computer for strictly utilitarian purposes — WP, spreadsheet, database — and here it is the software companies, not the hardware manufacturers, who control the market — as the likes of Apricot Computers found out to their cost. If this is the only criterion that people are going to use, they are going to opt for the cheapest system, warts and all, and they will suffer the inadequacies of the software on the grounds of cost-effectiveness.

More to the point, Acorn simply aren't big enough to take on the likes of DELL or Compaq in a price war and win. Margins are being cut continually in what, to the outsider, looks very much like a game of

“Last one to cut his throat is a sissy!” In reality it is a simple matter of brinkmanship designed quite deliberately to wipe out the smaller players in the market (and some of the slower moving dinosaurs like IBM), leaving the field clear for three or four major companies. Again this is simply a game that Acorn simply do not have the financial muscle to play or win.

### **Messianic zeal?**

This idea carries more credibility, but also smacks of intellectual elitism. “If you make a superior mousetrap, the world will beat a path to your door.” Whoever said that should be taken out and shot! The idea needs marketing — and long experience of Acorn has taught me that their one significant weakness is in marketing and that, over the past ten years, they haven't got any better!

It is true that Acorn have got a superior product and most of us know it. However, it must also be admitted that Acorn's main hold is in the educational market which is, in financial terms, a tiny fraction of the business market.

The education market is also a good deal cosier (the main players are Acorn and Research Machines) and margins do not seem to be under threat. In this atmosphere it must be fairly easy to be lulled into the idea that everybody will accept your product and ideas because they are new, innovative, and better than the “industry standard”. In the education market this is largely true — largely because the market is a captive one! In the big bad world of business, it just ain't so, largely, as has been mentioned before, because people don't give two hoots what the machine is called as long as it's cheap, runs MSDOS and Windows.

I know that a case can be made if you take into account the cost of standard (ie MSDOS software) and the cost of support, but this assumes that most people buy all their own software — and they simply don't! Most people don't pay for software or its support because a) they only use it at work and b) if they do take it home, they normally copy the software (illegally) for their own home use.

### **Getting the market wrong?**

This is a variant of the above, and I am not, with all due respect, being rude to Acorn. They have a good product and believe in what they are doing, I am sure, but they have no experience of the world of business. True, there are a (small) number of business people who use the Arc but these are principally people who have grown up with Acorn systems and are familiar with them. Everyone else uses Intel / Microsoft!

Having been raised within this market it is just possible that the people at Acorn believe that the poor, misguided people in the business world only need to be shown a Risc PC to undergo a Pauline conversion — the scales will drop from their eyes and they will become ardent Acorn fans! Miracle conversions. Thousands of people buy Risc PCs and join The ARM Club!

This argument simply does not stand up to close scrutiny for two main reasons.

1) Like many markets, the business one is innately conservative and dislikes change. It has coped with the quirks of MSDOS since its inception and is not likely to change — especially when that change envisages a machine containing products (chiefly the (new) OS) that are marketed by neither Intel or Microsoft.

2) For the reason above, and because they too don't want to lose market share, the likes of Microsoft and Intel will do their very best to sow seeds of doubt in the minds of IT managers. After all, they will say, nobody ever got the sack for purchasing IBM clones with Microsoft software but they may well get a rough ride for buying something new that nobody has heard of. Being innately conservative etc etc.....

And that, my friends, is known as "Chicken & Egg" syndrome aka a Closed Circle. We won't buy anything else because we don't want the sack so we never give ourselves the chance to see anything that might, just possibly, revolutionise our ideas. *Ipsa facto* Acorn, or for that matter anyone else marketing a machine that doesn't have a "standard" OS, is shut out before the market even opens for business (just ask IBM what happened to OS/2).

### **A Ray of Hope...**

Yes, there is one and it lies chiefly with teachers, parents etc — in fact anyone involved with children. In an excellent short article in this month's *Archive* magazine, Ian Lynch makes the obvious point that it is all very well teaching children to use today's standard systems, but the children of tomorrow won't be using the same systems we use now.

Consider — although it has gone through umpteen reincarnations, the MSDOS system was founded in the early '80s. In computer terms that is stone age and the only reason that it hasn't moved on is that Bill Gates has got the market by the throat! Anytime someone contemplates trying to break Microsoft's monopoly, he just squeezes a bit harder and the person who had the thought

quietly drops it (rational thought is rather difficult when someone has their hand on your windpipe!). Other operating systems are therefore condemned as oddball, quirky etc and doomed to failure (see previous remark on IBM and OS/2).

However, our children have been brought up with systems like the Archimedes which they know and understand. Not only are they likely not to want to work on the likes of MSDOS but they are unlikely to have experience of it at school. The market will have moved on and converged even more.

On another point, as a teacher I am interested in teaching children the generic side of things. I will show them how a database/spreadsheet/WP system works. Which one doesn't really concern me as long as it is good, the children understand it and it gets the job done. I've also proved this approach works — most recently with our school secretary who has been trying, very successfully I might add, to come to grips with *Impression* which we use in the office. She has enrolled on a course and, although they don't use the same WP system she was able to pick it up fairly quickly because she already had the basics to hand. The individual bits and pieces were different but the approach was the same.

Stick to what you know Acorn and try and persuade children and schools to take their RISCy habits with them through life. Then we may see a change in business habits.

**Chris Price, Merton Court School**

*If you have differing views then we would very much like to hear from you.*

# Acorn World '94 (continued)

A new collection of Risc PC cards and adapters will be on display at Acorn World, quite apart from those already mentioned. These will include the new 16 bit sound card, SCSI II interface card, network interface cards and digitising cards. A pair of MPEG cards, developed by Wild Vision in collaboration with Acorn, CC and Anglia Television will be demonstrated for the first time. PC expansion cards will be shown fitted to the Risc PC using the ISA bus adapter card developed by Patrick Arnold.

Each day at the Show, a special newsletter will be created and printed using Acorn and AB Dick technology for distribution to visitors. The Games Arcade will be present as usual, situated just behind the Club stand. It is rumoured that last year's crashed spaceship will be replaced by something even more exciting...

The Show Theatre will be used for presentations on a whole range of topics, timetables are being published in the newsstand Acorn magazines. The presentations by Peter Bondar of Acorn on the Risc PC are particularly recommended. The theatre programme runs throughout the Show, so do take the opportunity to rest your feet for a while!

A new feature for 1994 is the series of free training sessions being run by Acorn. These are intended as tasters for the full-day courses organised at Acorn's training centres around the country, but are themselves complete mini-courses. Each session will last for one hour and places will be very limited indeed. Topics for the snapshot sessions include *Introducing RISC OS*, *Make*

*the most of !Draw and !Paint*, *Effective DTP*, *Creative Multimedia* and *Behind the Desktop*.

The Show will feature a *Laser Labyrinth* where children can dress up and play warrior in a labyrinth of tunnels, using a real laser gun while an Acorn computer measures their pulse and respiration rate. For primary school children, there will be a Pocket Book jigsaw competition with puzzle pieces hidden on stands around the show hall. As last year, there will be a laser light show, creche, face painters and jugglers.

The show sponsors, Europress, will be holding a lucky dip throughout the Show with tickets costing £1, proceeds to charity.

The results of Acorn's *Design a Christmas Card* competition will be announced at the Show, with finalists' entries on display and the presentation of a Risc PC to the winner. Acorn will be using the Show to make a very special offer on a particular piece of Acorn equipment, details at the Show.

Finally, the most important question for the whole Show — what will the third party exhibitors be doing? There's far too much to write about the individual exhibitors here, details of just a few have been included on the Eureka disc. Everyone looks to be making a real effort to make the Show a success, let's hope that it turns out to be one.

**Simon Burrows**

*Thanks to Beverley Adams and the Corporate Affairs team at Acorn for providing information about the Acorn World Show.*





# Acorn News

The Acorn World Show is at the centre of most people's minds at present, being the biggest event in the annual Acorn calendar.

scheme have not yet been unveiled, although it is known that there will be some sort of joining fee and an Acorn VISA credit card may form part of the scheme. Competitions and special offers will be held to encourage people to join the scheme at Acorn World.

Shortly after Eureka 12 was published, Acorn announced the new Pocket Book II computer. The original Pocket Book was launched in August 1992, at the time to a fairly sceptical market. Nevertheless Acorn has sold a five-figure number of these palmtop machines and they are rapidly gaining wider acceptance. Acorn has now enlarged the Pocket Book range with version II, based on the successful Psion Series 3a computer. Even better, unlike the original Pocket Book, the new model offers substantially increased functionality for all users over its Psion sibling.

The additional fifth volume to the RISC OS 3 Programmer's Reference Manual covering RISC OS 3.5 and the Risc PC should now be available, including a revised index. The price is £29.95, product code ACJ05.

Acorn has launched two new discs, the RISC OS 3.1 Upgrade Disc 1, containing *!Printers* version 1.24, and Upgrade Disc 2 containing new versions of many RISC OS 3.1 Applications. Both discs are available from your local Acorn dealer. Disc 1 is also available from the Club, Disc 2 will hopefully be available shortly. A new utility for the Risc PC called *!MakeModes* is available direct from Acorn Customer Services, allowing monitor definition files to be created and edited with ease.

The Pocket Book II includes the following software: *Desktop, Cards, Write, Abacus, Time, Calc, Spell, Thesaurus, Schedule, OPL, World, Plotter, Record* and *JP150 driver*. Prices for the Pocket Book II are also very competitive — not only do you get an undeniably better machine than the Psion 3a, the street prices are very attractive:

A new variant of the Risc PC has been launched, the Risc PC 600 CD. This is a standard machine fitted with a Cumana CD-ROM drive. Two variants are available, the Risc PC 600 CD system 5MB 210HD and the Risc PC 600 CD system 9MB 420HD, priced at £199 +VAT over the price of the equivalent system without CD.

Pocket Book 256K	£169.95 ex VAT
Pocket Book II 256K	£229.74 ex VAT
Pocket Book II 512K	£280.81 ex VAT

Desktop links for Acorn, PC and Mac are available, along with class packs.

A lot more news has been announced by Acorn recently, far more than can be fitted on a single page. Further details are included on the Eureka disc.

The new Acorn Enthusiasts' Scheme will be launched at Acorn World, with the aim of bringing together people who take pleasure in using Acorn computers and those who actually make them. Full details of the

**Simon Burrows**

## **Final Thoughts**

Discussing the worries of the world with Acorn users recently, it's been clear that the Risc PC has injected new life and interest into the Acorn world. Once again people can have a computer with comparable or better facilities than the alternatives, and there is a sense of pride in the achievements of Acorn and the capabilities of its computers.

One of the other attractions of the Acorn world is its relatively small size, it is possible to have a fairly good idea of what is happening and actually make your own mark in some small way.

It's amazing how frequently the same problems and experiences come up, having contacts with other users can easily increase your productivity and increase the satisfaction obtained from using an Archimedes or Risc PC computer.

---

Eureka Magazine is published quarterly by The ARM Club. Copyright © 1994 The ARM Club. All Rights Reserved. All material in this magazine has been produced by Club Members. All opinions expressed are those of the individual authors, and may not reflect those of The ARM Club or its Committee. Articles and other submissions for the magazine or disc will be most welcome.

# **The ARM Club**

## **Benefits of Membership**

*The Leading Independent User Group for Archimedes and Risc PC Users*

- Quarterly Magazine published free of charge for members
- Disc of quality software written by members with each Magazine
- FREE Technical Help Service – we will do our best to solve any problems which you may have, by letter, telephone or fax
- Special Discounts for Club members from well-known companies
- Training Courses, Regional Meetings and Open Days
- Regional Contact Lists of other members, to get in touch
- Discount Public Domain Library, including unique Club software
- Joining Pack includes copy of most recent Magazine and disc
- Special Offers at Shows and Open Days
- Opportunities to get involved in the running of the Club itself
- School and Affiliate Membership available on request

*If you want to get the most out of your Acorn computer, join today!*

**Annual Membership costs only £12.00**

*The ARM Club, FREEPOST ND6573, LONDON N12 0BR*

*Tel 0171 624 9918 Fax 0181 446 3020*

*Affiliated to the British Association of Computer Clubs*