Eureka

Issue 5: Summer 1992

The Magazine for members of the ARM Club

Contents

WELCOME

Welcome to our latest magazine. In case you are wondering, "The ARM Club" is the new name for Club A3000 – at long last the name of the Club has been changed, reinforcing the fact that we cater for users of all Acorn's RISC OS based machines, and not just A3000 owners. Thank you to all the people who contributed their suggestions for a new name – in the end, the name 'The ARM Club' was chosen as being most appropriate.

One of the best things about producing this latest issue of the magazine has been the number of contributions from new writers, and we would like to thank them all. Apologies to those people whose articles could not make it into this issue – hopefully, it may be possible to use them next time, when issue 6 of the magazine appears in late November this year.

Over recent months a Constitution has been drawn up for the Club, in order to clarify the basis on which it operates. You will find a copy enclosed with this magazine – please keep it for reference in the future.

The biggest event in the Acorn year, the BBC Acorn User Show, is fast approaching. The ARM Club intends to make the most of this opportunity to promote itself and provide a forum to meet other members and users. A voucher for a free PD disc is included with this magazine, and we very much hope that you will come along and see us!

As always we are most grateful to everyone who helps us in any way, especially Acorn who have been extremely supportive. In the near future, we expect our program of training courses to expand into other parts of the country, allowing more people to meet us and benefit from the experience of our tireless instructors.

Finally, we hope that you find the contents of the enclosed Club PD disc useful. This has been included as an experiment, but if you find it worthwhile, we hope to include a similar disc with each magazine in the future. Please write in and tell us what you think. All of the software has been hand picked, and thoroughly checked for viruses.

Editorial

NEW FACES

We are very pleased to welcome some new faces to the Club Committee, but first would like to say a big thank you to Andrew Thacker, who is retiring as joint magazine editor, due to other commitments. Andrew has played an enormous part in the development of the Club, especially through his work on this magazine, and I'm sure that we will all miss his unique style and great editorial & design ability.
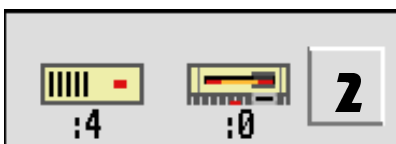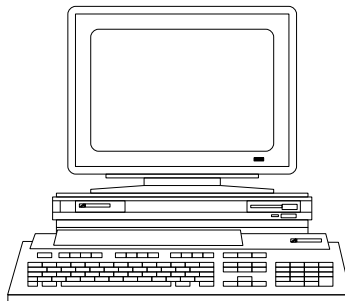
Our new Secretary is Dr Nick Evans, taking the load off the shoulders of Mark Watts, who continues as Membership Secretary. Simon Burrows remains as Magazine Editor, with the assistance of John Bancroft as Deputy. Bruce Dickson is our Training Course Coordinator, and Mick Cooper has started work on Publicity and Advertising, as well as running our Music Users' Group. Rene Barreto is still the Club's Founder (not surprisingly, really!) and Maria Barreto is the Honorary Treasurer.

Please address all correspondence to the Secretary, unless directed otherwise for particular reasons. All material will then be redirected to the appropriate person in the Club. Technical queries can also be sent in, and we will endeavour to reply as soon as possible, although an SAE would be appreciated in these circumstances.

Dr Nick Evans
Secretary, The ARM Club
19 Woodberry Way
London
N12 0HE

Details of other important addresses, and telephone numbers where appropriate can be obtained from the Secretary. Please mark envelopes for the attention of the relevant person, if known. The Editor can be contacted directly on (0533) 712030.

Magazine Editor — Simon Burrows

BIRDING WORLD

Birding World is a high quality monthly subscription magazine for ornithologists. It is now produced using the Archimedes, and here Roy Robinson, the graphics editor, recounts its evolution into today's professional publication, providing an interesting insight into the development of publishing technology for home computer users.

In fact titled *Twitching* in its first year 1978, this A5 format monthly subscription magazine was originally printed from camera ready Amstrad PCW dot-matrix copy. Our printer only supplied the printing, the magazine being put together and posted from home to keep costs to a minimum.

The first improvement in quality was produced by coupling the PCW to Epson's first laser printer, the GQ3500. By the end of the year, production ws handed over to the printer, and occasional colour added in 1988. By now I was an avid PCW user and computer magazine addict (any fellow sufferers out there?), and somehow ended up at the 1989 Alexandra Palace Acorn User Show. What an exciting day that was, suffice to say that 0% finance ensured I was accompanied home by several large boxes. An A3000, dot-matrix, Acorn DTP prepared advert appeared in the August issue!

The A3000 was soon coupled to another GQ3500, already being sold off at half price as an old model! Computer Concepts Impression was used from volume 3 number 2 and around this time our first Archimedes 400/1 machine was purchased, partly out of frustration at A3000 upgrade delays (available in about a month – 2months – next year sir?)

From May 1990 the bulk of the magazine was typeset from Impression via disc to a Linotronic 300 (before any of the Acorn magazines?). Last minute emergency changes can now (if necessary) be pasted in from near typeset quality Laser Direct 600dpi output. This is also used for camera ready copy for our stationery and magazine proofing etc.

The partnership now uses three 400/1 Archimedes, and two Laser Directs etc. We are now producing volume five in the larger B5 format with colour every month (the photographs are scanned and pasted in still). Birding World has an increasing readership, a print run of 5600, and is sent to over 45 countries worldwide. As the graphics editor and computer nut of the partnership, I believe I made the right decision in steering the magazine towards Acorn machines – a very cost effective DTP machine which with imagination can produce almost anything you desire on the page. I also have my own A5000, HP 500C and Spectra Scanner for messing around with colour DTP and look forward to the days of full colour Acorn Desktop Publishing (keep up the good work chaps).

Roy Robinson
Graphics Editor
Birding World

The ARM Club Open Day '92

A day to remember will be Sunday November 15th, when the ARM Club will be holding one of its famous Open Days. This will be held at Mill Hill School, starting at 10am. A number of companies have kindly agreed to attend, and through proper advertising, we hope that this will be a major Club event. Mill Hill School is easy to get to, situated off the A1 and North Circular Road in North London, and refreshments will be available.

The occasion should provide an invaluable opportunity to have a go with the latest products which you could barely get close to at the BBC Acorn User Show! For advance information, please phone Bruce Dickson on 081 959 3321.

Arnold's Observations

When I was asked to write an article for the Club magazine, I sat down and thought to myself...

'Here we go again. What the Hell do I write about?'

Well, after a few seconds (or was it weeks?), a moment of inspiration popped into my head. 'Go down the Pub!' , so I did and this is what I wrote afterwards... I hope you enjoy it.

"RISC OS is an intuitive, consistent and friendly operating system". Yes that's what we are told – it is when compared to most other computer operating systems. It has a nice graphical user interface (GUI {jargon–eh! }) and once you become familiar with its concepts of clicking a mouse button, dragging and selecting graphical objects, it is quite simple to use. The problem is that to a naive user of computer hardware and software, everything is difficult to understand, and to achieve any task requires a long, torrid learning exercise, fraught with tension, anxiety and even fear, the common used phrase by a new user is..

"A whole new language". Well, there's no getting away from it..IT IS!   However all is not lost, it just takes time, a little understanding, the willingness to experiment and a large pinch of self-confidence.

Below are a few of my observations on working in Acorn's "RISC OS" environment which may help you progress. This consists of a list of simple common-sense statements, liberally seasoned with my personal home-spun philosophy. A lot of it is obvious but it does no harm to remind you.

1. Experts: There's no such thing as Experts! Just people who know more than you.
   I'm not an expert, I consider myself knowledgeable, but I'm still learning about various features in RISC OS after nearly 5 years use. And with the RISC OS 3 the exercise starts again.
   [Don't you mean: "Just people who THINK they know more than you!"??? – Ed]

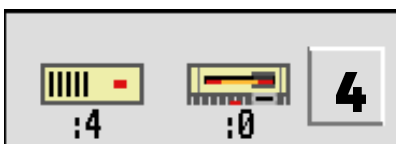2. Computers: A Computer is only a Tool. A tool to be used, be it for fun, education or work.
   It is a very powerful tool in skilled hands, it should be considered as an extension of your creativity, you operate it, you control it, bend it to your will! Remember you're the master, you can always turn the computer off!

3. Applications and Programs: These are never mastered overnight – Take it one step at a time – Learn the concepts, Build a framework of its uses and functions, then fill in all the details.
   You wouldn't expect to drive a car after one lesson, why should software be any different?

4. Planning: If you have a task you wish to complete – Plan it, prior to using your computer – think about what you need to do and how you wish to do it.
   Five minutes planning before can save you an hour without.
   (This is the one I need to remind myself of occasionally.)

5. Success: Firstly, Keep your aims for success within your capabilities, Then slowly progress to beyond your imagination into your dreams.

The language is a bit flowery, but the sentiment is right. As your ability grows so does your success rate. After a few months you will be achieving what you thought was impossible for you.

Progress and Help

If you have (or when you have) reached a good understanding of RISC OS, pass on your knowledge to any naive users you know, but try not to baffle them with Jargon, Keep it short and simple. Remember Simple not Stupidly simple!!
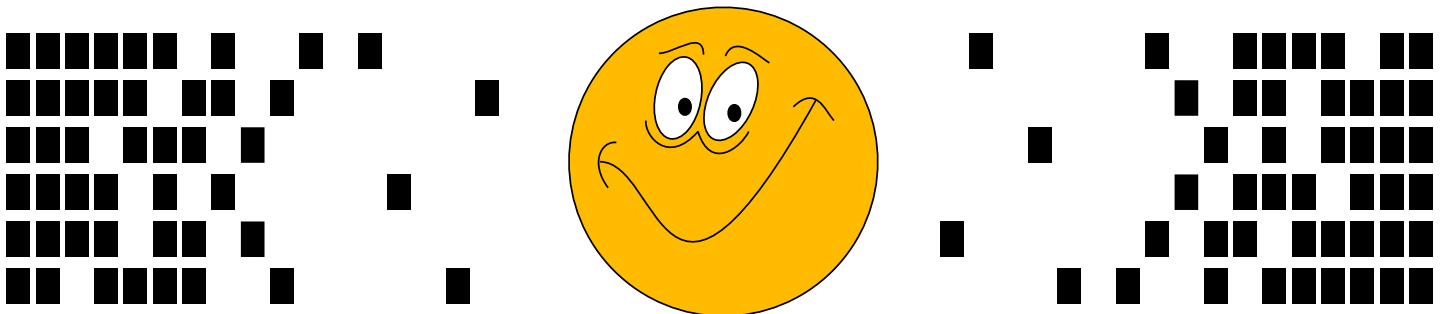
Jargon and the Shop Assistant.

All new users have to fight through pages and pages of computer Jargon. It seems to me that if you know a few of these key words and actually understand what they mean, you are in real danger of giving the average computer shop sales assistant a nightmare.

I've got a nasty side in me, try this... If you have got nothing better to do, go into your local department store that sells computers and ask them "What is a 16 bit computer" and "What is the difference between all these bits and bytes!" Try not to smile or burst out laughing when you hear the answer. Mark them out of Ten for Accuracy and Artistic licence (The Bullsh*t content). If you do get an unusual answer play them along a long bit..It's great fun! If someone tells you a 'whopper', write in and tell us about it..Let's put some fun back into computing.

Have Fun – till the next time.

PS. Arnold's Law: If you can break it, it ain't worth a damn!

by Steve Arnold

Many of you who have attended the Club's training courses will have already met Steve Arnold, and benefited from his experience and unique style. Steve ran our first course, the highly successful "Building Blocks" course, which has since been repeated. He also produced the excellent Charity PD discs for the Club, which were sold last year in aid of worthwhile causes. Our thanks must go to Steve for his support and the excellent courses, not to mention this article!.

THE SCHOOL COMPUTER ROOM

Acorn computers play a vital role in most schools. Here, Gareth Jones and Bruce Dickson reflect on the effect of computers in the classroom...

In the bad old days, many school computer rooms became a "techie's" hangout, with only brief interruptions for lessons. Then the new national curriculum came along to rescue the expensive hardware and software, turning them into tools for all seasons.
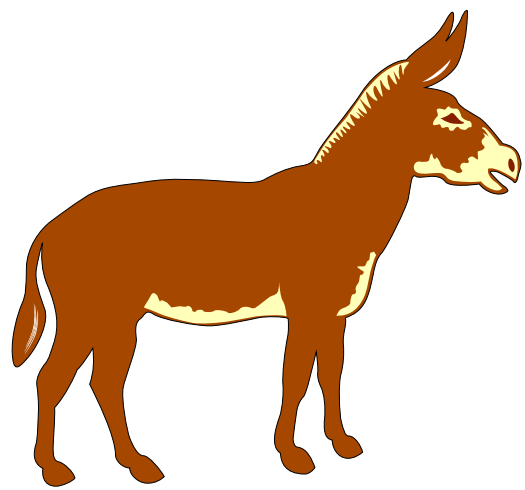
These packages have had a major effect in Geography and other data-base related subjects. Through desktop publishing, the school newspaper seems to have appeared on every notice board, just as no well-dressed Maths classroom would dream of going public without a colour printed pie chart.

The versatile spreadsheet must surely rein supreme with a wide range of applications, from accounts and historical data, to 'option' subjects, foreign vocabulary and scientific formulae.

No longer purely a hotbed of innovation, or a meeting place for developing electronic relationships, or learning how to do things from other pupils, today's "approved" computer room even preaches phrases such as "there are no such things as experts, only people who know more than you", or "third generation languages can harm your equilibrium", and thus is much healthier for reaching out to all in school.

The architects' concept states that great education occurs in great surroundings, and this must lead us to keep aiming beyond the current hardware base: testing new software and peripherals, building new networks, keeping up with the laptop revolution. As new generations of product appear (such as the latest ARM chips), all school computer rooms must be able to experiment with new developments, and not just a few favoured ones.

The developers have a vital role, as does each pupil. Makers of portable machines have got to give us machines which are cheap, tough, compact and valueless to the thief. Software should combine games with learning, trogwork with fun, self-assessment with new concepts, correction with delight: otherwise the idea that the computer is just a tool is going to stifle an awful lot of creativity.

Making a Book

Many charitable fundraising events involve 'making a book', such as for working out the odds on a donkey derby. This would seem to be an ideal task for the Archimedes, so I wonder if anyone has written a suitable program?

The problem is to relate the number and amount of bets on the competitors to ensure that, whoever wins, the promoter will make a certain percentage profit. Whilst this is basically a straightforward task, it has to be done quickly so that odds can be adjusted as bets are placed.

Peter Cullis.

If anyone can help Peter, please write in and we will pass on your replies

(One of the big problems in the computer world is that often the people who can program lack ideas for things which need writing, and those who have lots of ideas do not have the necessary programming skill or time required to implement them.

If you have some ideas for programs, or alternatively have the skill to write programs in BASIC, Assembler or C, but no ideas, please write in and tell us. Hopefully in this way we can provide a forum for the exchange of ideas and programs.

Often it seems a pity that programmers waste their time by 'reinventing the wheel', so before writing a program, do try to make sure that other programs to do the same job are not available, unless you believe that your program will be considerably better or easier to use.)

MIDI *Tracker*

Tracker is a program which has established itself as the standard music package for the Archimedes allowing you to create music pieces which all Archimedes users can listen to. It also allows you to tap into thousands of pieces of music created on other machines such as the Amiga. It allows you to enter notes from a musical keyboard, but does not play them back through the computer. Now with *Midi Tracker* you can power and control your keyboard to the full.

So what do you get for your £18.90? Well, the disc contains the main creation program along with other utilities to get the best out of you specific keyboard. The disc has the following programs: !*Keyboard*, !*TrkSound*, !*Midi*, !*MIDIJuke*, !*MIDITrckr* and some demonstration tunes. To create a MIDI tracker you first have to use the !*Keyboards* program to specify your keyboard specifications, which is probably the hardest part of the process, unless you are lucky to have one of the 15 pre-defined keyboards. This involves checking and making sure that the instruments are set correctly for the channels, otherwise your tracker can sound very weird with a gong playing a piano part for example. Once you have defined your keyboard, compiled and saved it, you can move on to convert a tracker tune.
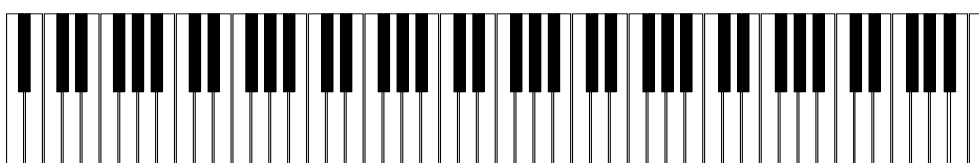
You now have the job of finding a suitable tracker module. My advice is to find a piece of music which only uses simple instruments, with no long complicated speech or instrument samples. It is up to you to experiment to find which are suitable. Music can be created using Tracker which you can then send out to the keyboard. The !*MIDITrck* player is used next to select your keyboard in a window. Now using the !*Trksound* program you can drag the tracker file to a window, which allows you to play the samples in that specific tracker, and then you have to set each sample to a specific instrument on your keyboard.

Again trial and error will help you decide which instruments are the best to use. You can ignore any instrument from the tracker which is useful for ignoring sampled speech and such like. Once you have set each sample to an instrument, you can listen to the piece with a buffer option available to avoid slowing the output to the keyboard due to the processor time available. Finally you can save the music, if it is satisfactory – some trackers will not work with a keyboard. You can now save your work in four formats:– 1. The original Tracker format, 2. Midi Tracker format in which the samples are taken out down to between 5-30k. 3. Header format – which allows you to just save the option to put onto a similar tracker. 4. Standard MIDI format – which allows you to import the data into other packages such as *Rhapsody*. May I commend the way the author has put in hot-key short cuts making it extremely quick to use with experience.

Finally once you've finished converting all your favourite trackers, you can use the !*MIDIJuke* program to play the tracker without any slow-downs caused by other desktop programs. With the amount of Trackers available in the Public Domain, you could spend years trying to convert them all and I must say that some sound amazing through a good keyboard. I think this program is extremely good for all MIDI keyboard owners out there, giving hours of fun. The program is packed full of features and put together in a very professional RISC application. My only complaint is that these features did not appear with the original Tracker program. Fifty pounds is really enough for the package without this additional cost.

Ben Eshmade

The VIRUS Threat

Mark Smith starts the first of his new series on topical issues with a look at the world of Archimedes viruses...

If there is one thing that any computer owner dreads, then it must be the infection of all his or her discs by a computer virus.

A small minority of very sick programmers like to inflict damage on their fellow computer users' software, by writing viruses. They are designed to replicate themselves all over your floppies, and hard disc (if you have one). Some viruses include malicious code to destroy your software and data.

Since the release of RISC OS the number of Archimedes viruses has been growing steadily. At the time of writing there are 22 different known viruses in circulation. Some of these have more than one 'strain', i.e. they exist in slightly different forms. For example, there are six known variants of the Icon virus.

Fortunately, all but two of these viruses do little more than replicate themselves all over your hard and floppy discs and generate silly errors and messages. Whilst this is annoying in itself, said viruses are unlikely to corrupt your discs or destroy their contents.

The two malicious viruses are PARASITE and THANATOS. A brief description of each follows, but I must first stress that these are not very widespread. However, they do give you some idea of the destruction that can be caused.

Parasite

There are two strains of this virus – both add a module to application directories, which is either 6435 or 7252 bytes long depending on which strain is present. In the case of the first strain the module has the filename *FontLibrary*, whilst the second can take 1 of 20 different filenames. Application !*Boot* / !*Run* files are altered so that the module is loaded into memory as soon as the application is loaded or 'seen' by the Filer.


```
▢   Pineapple Virus Killer
    ┌─────────────────────────────────────┐
    │          Paused Checking            │
    │ CFS#ADFS::SJMB.$.!Impress.!Run      │
    └─────────────────────────────────────┘
          350 objects checked
          0 infections
   ┌───────┐                    ┌──────────┐
   │ Abort │                    │ Continue │
   └───────┘                    └──────────┘
```

Killer v1.27 [see later] can be used to detect and remove this virus and *VProtect* (included with Killer) v1.12 or later can detect attempts to load the virus module into memory.

Nasty effects include COMPUTER CRASHES, claiming memory so that large chunks of the computer's memory become effectively unuseable, changing the mouse step (in some cases so that the pointer moves in the opposite direc-tion to the mouse!), disabling any fitted expansion cards, preventing any new Icon Sprites from being loaded, changing the sound settings, redefining the character set to all spaces, CORRUPTING THE DISC IN FLOPPY DRIVE 0, changing the number of configured hard and floppy drives and changing the configured memory settings, country and monitor type.

Thanatos:

This exists as a 11756 byte encoded BASIC program which appears as an absolute code file in application directories. An extremely poor piece of ARM code which is 4k long (!) decodes and runs the program which declares itself as an application task '*Thanatos*'. This can be seen by looking at the task display window. Associated with it is a module with the filename '*TaskAlloc*' which contains a rude sprite to replace the pointer. The application !Boot file is altered to load the virus as soon as an infected application is 'seen' by the Filer.
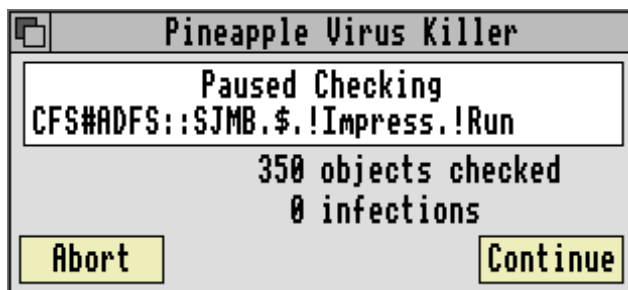
Killer v1.17 or later can be used to detect and remove this virus and *VProtect* v1.10 or later can be used to detect attempts to load the virus. Richard K. Lloyd's *VKiller* v2.30 or later can be used to detect and remove this virus from disc.

Nasty effects include SHUTTING DOWN APPLI-CATIONS, CAUSING A DESKTOP QUIT, making the pointer move in the opposite direction to the mouse, CRASHING THE MACHINE, CORRUPT-ING CMOS RAM, randomly displaying one of eight rude messages, displaying a rude graphic in place of the pointer, WIP-ING THE CONTENTS OF <OBEY$DIR> (usually the last loaded application), advertising a non-existent virus killer from Armen Software , address exception errors, coloured rectangles on screen, April fool message (the last three occurring on April 1st), DESTROYING THE DISC MAP OF FLOPPY DRIVE 0 AND ST506 HARD DRIVES 4 AND 5 (December 25th and January 1st), FORMATS THE FLOPPY IN DRIVE 0 (October 31st).

(Effects likely to cause data loss are in CAPITAL LETTERS).

The best way to protect against virus infection is to scan each disc you receive [except unformatted ones!] with an up-to-date virus killer. This serves two purposes:

• To protect against virus infection, and possible damage, of your software.

• To ensure that you don't pass any viruses on to anyone else.

In particular you should be careful with discs obtained from PD libraries. If you have a hard disc then it is a good idea to load *VProtect* from your !Boot file, if you have one. I have done this with my newly purchased SCSI hard drive, and it has already warned me about two copies of the module virus on my floppies. I was then able to use Killer to remove the infection before it spread all over my hard disc and other discs.

It would be wrong to imply that virus infections are so common that every other disc that comes into your possession will be infected. On the other hand, it is only by careful checking of all floppies that you obtain from third-parties with an up-to-date virus killer that you can be 99.9% sure that your discs are never infected. If everyone did this then all viruses would be wiped out very quickly; after all, it takes at most a few minutes to scan a disc. It could take months to rebuild the contents of your hard disc that has been corrupted by a rogue virus.

It is important to have an up-to-date virus killer that can cope with all known viruses, otherwise it will not detect the more recent ones. The only killer that I am aware of that will cope with all 22 viruses is *Killer*, written by Alan Glover of Acorn and available from Pineapple Software. This is, without doubt, the most comprehensive virus

in cases of extreme problems. Details are available from Pineapple Software (39, Brownlea Gardens, Seven Kings, Ilford, IG3 9NL. or Tel. 081-599 1476.).
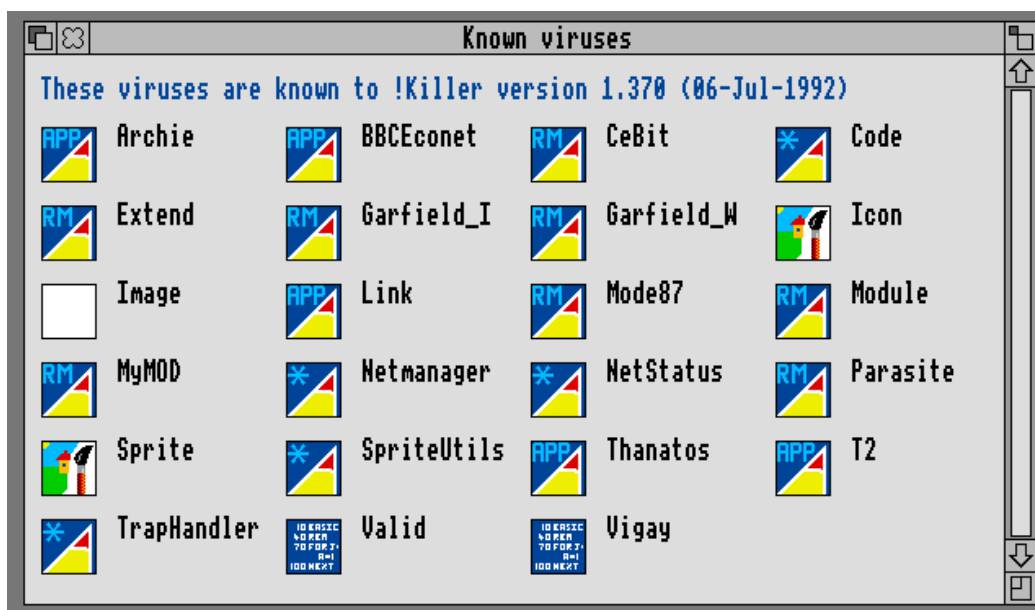
Of course, there are many PD virus killers available, some of which are quite good, but none are as comprehensive as *Killer* and you won't get the peace-of-mind of having an on-site anti-virus service, should you ever need it. Tor Houghton's *Scanner* will scan for most viruses and is fairly up-to-date. However it will not, at present, remove all the viruses. A combination of Richard K. Lloyd's *VKiller*, Michel Fason's *Hunter* and Tor Houghton's *Scanner* and *Interferon* in combination will probably provide protection against most viruses.

Currently, the most prevalent virus is the **Module** virus. Having been distributed on several discs from different magazines, with software on the Newcastle info-server and on some PD discs, this extremely contagious virus is by the far the most common. Even v1.07 (24 Jan 1992) of Orion Computers' IDEFS EPROM was accidentally infected by this virus! It doesn't do any serious damage, and may spread unnoticed until 6th September 1992 when it will print a message on the screen every time you load an infected module.

It is very easy to take a complacent 'It won't happen to me' attitude to virus protection. However when you consider how widely the Module virus has spread, and what could happen if it was a more malicious virus, you may decide that taking a few minutes to check your incoming discs is very worth while.

Mark Smith is probably better known for writing the superb ArcFS program, which every Acorn user must have used at some time. An even better version is soon to become available (a read-only version of ArcFS 2 is included on the accompanying disc).

[Since Mark wrote this article, a new virus has come to light which is even more dangerous that those mentioned above. It is known as 'T2', and appends itself to absolute code files. It is very difficult to detect and remove without special software such as Pineapple Software's Killer. Our thanks must go to Alan Glover for all of his work in the virus field and his assistance to us].

Known viruses — These viruses are known to !Killer version 1.370 (06-Jul-1992)

Archie, BBCEconet, CeBit, Code, Extend, Garfield_I, Garfield_W, Icon, Image, Link, Mode87, Module, MyMOD, Netmanager, NetStatus, Parasite, Sprite, SpriteUtils, Thanatos, T2, TrapHandler, Valid, Vigay

killer currently available, and comes with a smaller resident module (VProtect) for detecting viruses as they are loaded into the machine. For an annual fee of £24 plus VAT you will get regular updates to *Killer*. An on-site anti-virus service is available at extra cost for subscribers

Badgemaking with the Archimedes

by Margery Swinton

I came away from BETT '90 having seen some great software and a badgemaking kit produced by London Emblem. This last item excited me the most because I could see a lot of potential in it. Nine months later after attending a Shell Junior Enterprise Initiative Inset and having experimented myself with the Archimedes and "Draw" package (both new to me) I took a deep breath and launched into introducing a P7 class (11-12yr olds) to the Archimedes.

The children at Riverside Primary School in Stirling are very fortunate in that the regional computer centre is based at their school, so they were able to come into the Archimedes lab for instruction in RISC OS and then Draw. After five weeks the majority of the 28 pupils were quite at home with most of the basic operations in Draw as well as mouse control. I should say that none of our primary schools have mouse controlled software for their BBC Masters. Whilst the pupils were drawing I was working on some badges for a school trip abroad and the Mountain Search and Rescue Dogs Association. The children wanted to be able to do that too, and a chance remark with the school PTA gave the pupils their first brief – to design a badge for the PTA to wear.

At this point the children worked in the lab for 45 minutes a week, and had an Archimedes in their classroom all the time. My time input now is about an hour a week. Badge drafts were done in two ways, either freehand sketches on paper, or rough doodles on the computer. Whilst working on these pictures the pupils had to share file discs, saving and amending their work as time permitted. When the designs were completed, the children learnt how to scale them down to the required badge size of 55mm. Class discussion led to twelve designs being selected for the PTA to cast their vote. The twelve badges were grouped on an A4 page and printed on an Integrex 132 colour printer. After selecting their design, the PTA placed an order for 36 badges.

Flushed with this success and with the Christmas Fayre fast approaching, could we produce Christmassy badges and keyrings, both of which are available from the company? Some good designs were forthcoming, but we needed something else. Public Domain clipart has some good sprites, rather than drawfiles, but these were black and white, and would need colouring, so we all learned how to use Paint. We also discovered how to use the scanner, so scanned in two pictures which were duly edited and coloured. Christmas sales grossed £345.

By now there was quite a lot of interest in the badges and it was clear that we would have to address the costing side in a less haphazard manner. The mathematics side to this project has been quite a headache since prices depended on whether badges (now in two sizes) or keyrings were produced. Keyrings are more expensive but popular. Costs could also be kept down if badges were monochrome rather than colour. By now we were using the Hewlett Package Paintjet, and the paper and cartridge costs were quite high, as well as time consuming. In a bid to reduce colour costs we found a colour photocopying company in Glasgow. However another cost factor came in now because the price per sheet varied depending on the number of copies required. We all started to look at spreadsheets – these have not been used in our primary schools at all, and the group looking at them think they are wonderful. We use "Data Sweet" from Hampshire LEA.

Since Christmas, orders have been coming in from all over Scotland. We have done school Centenary and Silver Jubilee badges. A school in a neighbouring authority asked us to do 21st birthday badges for them, and recently we have been completing a large order for a church rebuilding fund on Speyside and a rural "knockout" in a Grampian village. To date, we have produced over 2600 assorted badges and keyrings.

We, the children and myself, for we are very much a team, have had to advance our skills in order to offer a better and more varied service.

We have started looking at the possibilities of using clip art much more for quality pictures. I am experimenting with the ION camera – a video still camera – which enables photographs to be transferred to screen. This would mean that we could go to the customer with an extended service. We have looked at "FontFX", a program which enables text to be printed round the perimeter of the badge with shadow, upright or sloping text. I do not think it will rest with all this, as something else will come along and we shall eagerly embrace that if it is necessary. The class are also about to get design instruction from an art specialist in order that they can produce a company name and logo. They are about to offer a customised school sports badge and monitor badge. We hope to get the marketing costs down still further by producing a quality customised badge which schools will find hard to refuse. Well, we can all dream....

This project has been enthusiastically received by both the school and the class involved. It is hoped that it will become a school project which the top juniors will take on board each year. The school aims to buy their own badgemaker and computer, but they also like the idea of the camera and scanner as well!

My dream aim would be for us to earn enough money to acquire our own VAT number!

The school and pupils are lucky to have the regional computer centre on site, for it has enabled them to have access to a wide range of expensive equipment not normally available. They have not had to buy software because they are covered by the site licence. However they have shown that they are capable of using advanced technology and could use it if available in our primary schools.

The project has become truly cross-curricular with art and design, maths and language work taking prominent places. Perhaps the most important factor is that these subjects have all become very real and exciting. To the Riverside pupils.......

THE WORLD OF WORK AND SCHOOL IS ONE, THROUGH TECHNOLOGY.

Training Courses

The Club Training Courses and Master-Classes have been one of our most successful ventures – so much so that other notable organisations have started running their own courses!

To date, all of our courses have been held either at Mill Hill School in North London, or the Old Hospital School in Stourbridge. Negotiations are taking place with other schools to provide alternative venues around the country, but if you are a teacher, and believe that your school might be interested in hosting a course, please get in touch with our training coordinator, Bruce Dickson. The course fees include an element for the hosting school, so there is no worry of being out of pocket.

Three more courses have been planned for this year, all to be held at Mill Hill School.

September 13th – Impression II
September 20th – Genesis
September 27th – Pipedream 4

The courses last from 10am to 4pm, and cost £20 per person (including lunch and refreshments), with group discounts available. For more information, or to book a place, please contact Bruce Dickson on 081-959 3321.

Plans have already been made for courses next year, and the following is the provisional timetable:

March 7th – Beginner's Day
March 21st – Games Day!
April 4th – Building Blocks Course
April 18th – General Music Day
May 2nd – To be announced
May 16th – Pipedream 4
June 6th – Beginner's Day
June 20th – Impression II
July 4th – Building Blocks Course
July 18th – Squirrel
August 22nd – Genesis
September 19th – Games Day!

Programming
f o r W I M P S

Ben Summers takes a look at Acorn's professional programming environment...

Last year I received a letter from Acorn suggesting that I pay them £100 for a upgrade to my C compiler, including a new Desktop Development Environment (DDE) thing as well. Needless to say, I forked out the required dosh, and got a box through the post about a couple of weeks later.

In the days of the command line
Before the DDE came along, you had to do everything from the command line (what you get when you press F12 from the desktop), or use Obey files to allow automatic execution of these commands. You had to work out complex command lines to compile your program – for example, to compile a simple program, you would need to use a command like this:

```
cc -I adfs::Ben.$.Clib
  -L adfs::Ben.$.Clib.o.stubs c.proggy
```

That's not too bad. But when you have written your program in several parts, some in C and some in ARM code, which you link together to make your program (one of these wonderful things you can do with C), things get a little complex. You have to use more complex command lines to compile them, and another one to link them all together. You can use a program, supplied with C, which works out which source files have been updated since you last compiled your program, and then compiles them. For this to work, you need to create another file which describes all the dependencies of the source files (if you change one of these files, the source file will need compiling), and the commands to actually compile them. If you want to add another file to the program, you then have to edit this, changing several commands.

Once you have got all these commands sorted out, you then have to cope with correcting your source files. If, in the pre-DDE environment, your source file has an error in it, the compiler will print a short message on the screen giving the line number and the error. Helpful, isn't it? Except when you are writing the program using Edit in the desktop. So unless you run your compiler in a task window (which slows it down and is a lot of added hassle), once it has finished, you go back to the desktop, nicely wiping all those helpful error messages off the screen. You then have to remember what the error was, and the line it was on. Not easy.

Once your code compiles correctly, you will probably find that it doesn't work properly because of mistakes you have made in the code. The debugger supplied with these tools cannot debug desktop applications properly, so it's a bit useless.

It's a waste of time really. Surely you want to spend your time programming, not messing around trying to persuade your compiler, assembler and linker to actually work properly? And you would want a debugger which you could actually use to debug your programs (now there's a novelty).
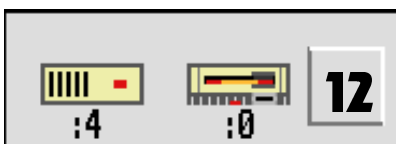
And then came the DDE
Enter the shiny new DDE, the dream of Archimedes programmers, showing the way towards the programming of the future, replacing all those nasty command lines with sparkling new desktop tools. Well almost.

However, unlike the previous tools, the DDE needs quite a powerful Arc for it run properly at anything than a snails pace as it does a lot of disc accessing. In the manual, it suggests that a minimum of 2Mb of memory is needed. I'm sure you could get away with this, but 4Mb seems a little more realistic. You definitely need a hard disc to use it seriously. An ARM3 also helps a lot, so a 4Mb A5000 [or A4] is an ideal machine to use the DDE.

The idea of the DDE is to allow the programmer to control the entire process of program development in the desktop. It succeeds fairly well, but inevitably some flexibility is lost. All the tools are still present as command line utilities, but each has a desktopfront end which allows the tool options to be set up in the desktop and then runs the tool in a window (like the task window, but a little more flexible). These front ends are provided by a module (called FrontEnd) which takes a file describing the WIMP interface, and generates the necessary command to run the tool once the options have been set up by the user. Each front end has a dialogue box to set the main options, and a menu of the more obscure options. The dialogue and menu for the C compiler are shown below.

However, you would not want to use the dialogues to run the tools all the time as it would become tedious dragging the files to the tool every time you wanted to compile them, so a multi-tasking Make utility is provided. This works out

which files have been changed, and then runs the necessary tools to create the program when you click on a 'Make' icon. It even works out all the dependencies of the source file, and checks whether they have been modified also. It is very simple to use. Just dragging the new source file to it's window and clicking OK adds it to the project, and it is compiled in next time you make the program.

One of the things which make the DDE so much easier to use than the old command line tools is that if there is an error in the source file, it is send to the editor using a system called 'ThrowBack'. The errors are shown in a window, and double clicking on one of these loads the file if necessary and then highlights your mistake. This is one of the best features of the DDE which makes correcting source files so much easier.

The DDE has a new debugger, which is excellent. It uses two pseudo-desktop windows, one which shows a listing of your program, and the other which allows you to enter commands and see the results of these. These appear any time the program is stopped. A menu is attached to these which allows easy entering of commands.

The debugger has all the usual commands such as break points (on lines, procedures, SWIs and on WIMP events) allowing you to stop and examine and change variables during execution, watch points which stop the program when a variable is changed and all sorts of useful utilities for debugging your misbehaving programs.

One of the things which strikes you after using the DDE for several months is it's ease of use. Never has using programming tools been so easy, allowing you to concentrate on actually writing and debugging that code. The DDE is much better than some of the development environments available on PCs.

Faults

As with any system, the DDE does have it's faults. This is mainly it's slight lack of flexibility, a side effect of its ease of use, and other small things. My main criticism is of the Make utility, a incredibly useful tool, but one which has limitations.
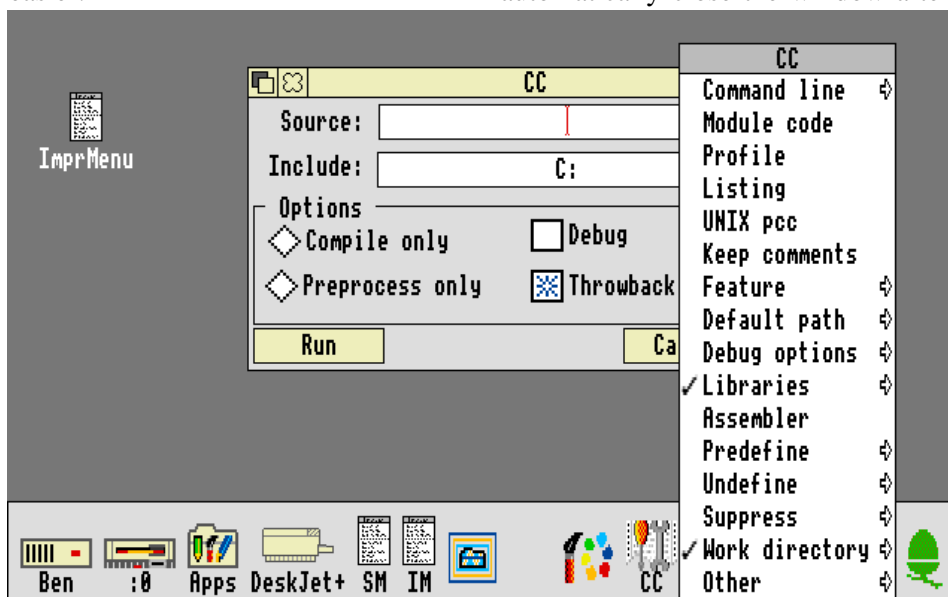
Make tells what kind of source file the file is by which directory it is in. For example, C source files are always in a 'c' directory and ARM assembler files in a 's' directory. Once it knows what sort of file it is, it will run a tool which has registered that it can process that sort of file. After that, it sends the resulting object files to another tool, usually

Link, which is specified by the programmer, which links them together into the final program.

This makes it very simple to use, but less flexible. You can set the options for compilation using the dialogue and menus provided by the FrontEnd module, but these are applied to all that type of source files, and you can only run one tool on each file. However, all these problems can be got around if necessary, and most of the time this system is adequate for writing even a complex program. Most importantly, however, it's easy to use, and this outweighs these disadvantages.

Then there are are small things, such as once a tool has finished running, the window which it runs in is not closed, leaving you to close it. It is not really necessary as any errors have been reported to the editor. An option to automatically close the window after the tool has finished would help. You also tend to find that you get lots of little windows everywhere, which can get in the way a little. You cannot really run it in a standard sized mode (such as 12 or 20). One of the extra large ones (such as the ones with Impression) is needed.

Conclusion

These small faults do not detract much from the DDE. It is excellent, and makes writing desktop applications so much easier. The environment as well as the program being written runs in the desktop and at last we have a debugger suitable for desktop applications. The DDE will make it much easier for programmers learning to use languages such as C where getting the compiler to run is as much trouble as writing the programs! I wish I had had the DDE when I started with C.

However, the real test for an environment such as this is whether anyone using it would want to go back to using the command line tools. I wouldn't.

Ben Summers

Acorn Desktop C costs £269.07 inc VAT, Acorn Desktop Assembler costs £175.08 inc VAT. If both products are purchased, you can mix C and ARM code in your programs.

Ben Summers is the author of several commercial software products, including the excellent 'Twilight' screen blanker, and has also written a number of Public Domain utilities, of which !FileUtils and !HelpReader are the most well known.

GODS

Krysalis Software have plans to convert all major game hits from other formats to the Archimedes, and the blockbuster game GODS is now available.

Originally written by the Bitmap Brothers, this game has converted well to the Archimedes, with excellent graphics (despite having to use a 16 colour mode), and is also a most addictive game, with all the qualities which make you want to take it off the shelf again and again.

GODS is based in the world of classical Greek mythology, and is basically a first rate ladders and platforms game. The object of the game is to steer the hero through a series of scenarios and levels in order to become a god.

The game consists of four main levels, each of which is split into several parts, with bonuses awarded at the end of each. A password option allows you to skip the earlier levels once you get good at the game. Your character starts off as a relative weakling, but as you progress through the game, killing the assorted baddies, and collecting various objects, the prowess of the hero slowly increases, and from time to time the opportunity arises to buy extra items from a shopkeeper.

The first few levels are fairly simple, but the difficulty increases greatly after that, leading to the addictive nature of the game. Often you will find that there is nowhere to go, until you happen to shoot a certain nasty, or find that you can jump somewhere you thought was impossible.

Almost everything about Gods is first rate – the graphics are very good indeed – some Krysalis conversions have been criticised in the past for their unadventurous graphics, but Gods could not be faulted. The sound is perfectly adequate, and overall, this is a game not to be missed.

Full marks must go to Krysalis for this latest game conversion. Their stated intention is to convert every big game to the Archimedes, and with Acorn's increasing focus on the games market, the Archimedes games scene looks to have a very bright future indeed.

Simon Burrows

Quest for Gold

After the hype surrounding the release of this game from Krisalis / Acorn, Quest For Gold has a lot to live up to. In addition to Fatima Whitbread, the athletic consultant, many famous athletes are featured, including Linford Christie, Sally Gunnel and Steve Backley. There are two parts to the game, a training simulation and an arcade game – these can be played separately, or together in the full simulation mode.

The training section is a big disappointment. It can be played by up to four people at once, each player selecting a different country to train. Five weeks then follow, during which time each player has a chance to increase the abilities of his team by setting the frequency, intensity and duration of training for each athlete. Once every player has done this once, the next week is started, with new team statistics calculated based on the amount of training allocated. The strategy element of the game is introduced here, because a delicate balance has to be reached so that athletes are not over or under trained, both of which will lead to a decline in some attributes. Once five weeks are over, one athlete then has to be selected to compete in each event before the game proceeds to the actual competition. Throughout this part of the game, it is possible to get useful charts showing all the individual attributes of the team's athletes, and not-so-useful snippets of supposedly helpful advice from some of the athletes. For example, John Regis gives the "extremely useful" information that "Acceleration training will boost the speed of your athletes". But the real problem with this whole section is the depth. It is not enough to appeal as a good strategy game, and having to alter a huge number of training settings can get incredibly tedious very quickly. I can't see anyone actually sitting down to play this part of the game more than a couple of times.

The arcade mode is more promising. This part of the game is fully mouse controlled, and there are two methods of control. The "Speed Control" method involves wobbling the mouse rapidly from side to side, the speed of the direction change altering the speed of the athlete. This method is very reminiscent of old 8-bit athletic games, and certainly didn't do my mouse mat much good. I much prefer to use the second method, called "Rhythm Control". A mouse button must be pressed whenever an oscillating bar on the screen reaches the middle of a gauge. In this case, the speed of the athlete is determined by the accuracy of the mouse clicks. In all of the events except the 100m, extra mouse clicks are needed to jump or throw at the correct time.

After some events, action replays are available, which are entertaining at first, but are later best skipped. Only five events are available to compete in, which does seem too few for my liking, especially considering that a number of them are far too easy once you have a grasp of the control methods.

By far the best feature of the game is the graphics. The animation has been digitised from real athletes and looks extremely smooth and realistic – if a little sluggish – and the electronic scoreboard system used between events, and the still pictures are of excellent quality. The in-game sound effects vary in quality, from the excellent digitised speech used to start races, to the fairly poor running noises, but the intro-music is well up to standard, and does a lot to capture the atmosphere of the event.

There are a few quirks about the game which do little to improve the overall feel of it, such as the fact that the application's !Boot file has been taken directly from Edit and hence double clicking a text file after the filer has "seen" the game's application will try to load the game, or the fact that disc 1 needs to be write enabled to play the training section, and the manual clearly states "Always leave the discs write-protected", which gives the impression that several parts of the game were rushed to get it finished in time.

Unfortunately, Quest For Gold is another missed opportunity for Krisalis. Like Manchester United Europe, this is a game which should have been a lot better, and could have been if the playability was up to the same standard as the graphics. This is essentially a very basic game hidden behind some famous names and high-quality digitised graphics, and has little lasting appeal.

by Adam Case

Quest for Gold costs £25.99 from Krysalis Software. It is also included in special edition Acorn Learning Curve packs.

Saloon Cars

Deluxe

Saloon Cars is a game that really showed what the Arc is capable of doing, given a half-decent programmer. Now, a lot of the niggles of the original have been ironed out and a few interesting additions added, and the result hits our shelves in the form of Saloon Cars Deluxe. The bad news is that it now costs a tenner more and the upgrade alone is a rather a lot, priced at £17.50 (upgrading policy in true Silicon Vision style!), so I'm sure that most Saloon Cars owners want to know what they'll get for their money, should they decide to upgrade.

If, perish the thought, you are not already acquainted with Saloon Cars, then I suggest you check out issue 2 of Club A3000 magazine, which gives full details. I can report that in Deluxe the car is still impossible to drive, although a simple test track has been included to aid in finding out just how much of a bugger the control system is, and the car still has that annoying habit of getting embedded in a barrier forcing the disgruntled driver to quit the game (unless you want to spend many minutes trying to prise it out of the surrounding barriers) yet such features separate the men from the cabbage patch kids, and mastering them is half the fun.

There are three main areas that have been upgraded. The first involves crashed. They are spectacular; the incredibly detailed cars now spin off/flip over in a variety of fashions depending on the magnitude of your collision strength. I did notice that the cars tended to rotate around completely (through 360 degrees), and so this process is not as random nor realistic as you may expect. The second major improvement is the rear mirror – it now operates correctly. Finally, it is excellent to see 4D taking advantage of more powerful machines, with improved rear-view mirror for ARM3 owners and more scenery/better crashes for 2mb owners. With the added ability to install the game on the hard disc, I would say that in terms of speed and realism, Saloon Cars Deluxe now seems to have surpassed the unsurpassable.

Andrew Thacker

A Cautionary Note

We have received worrying reports that a few individuals have been writing to companies, claiming to be acting on behalf of Club A3000 [now the ARM Club], asking for copies of games and other software for review purposes.

Whilst we are grateful for the opportunity to review games and other software, it is not right that people should deceive companies and take advantage of the Club in this way, particularly when they have no intention of reviewing the software for us.

Software houses and companies are requested to only send software for review to the magazine editor, and not to any third parties. Action will be taken against any individuals found to have acted in such a selfish manner.

If anybody would like to write reviews for the magazine, please write to the editor who will add you to our list of reviewers.

The ARM Club Committee

THE PD SCENE

Ben Eshmade
of Software 42
takes his regular
look at the best
PD software

The Public Domain currently seems to be having its up's and down's, with more libraries opening and a few old ones closing. PD software seems to either come in sudden streams of genuine quality programs or a slow trickle of programs from the not-so-talented authors.

One thing I have noticed over the last few months is the growing number of games being created by the SIMIS flight creator program. This will probably be a growing trend since SIMIS allow people to distribute such creations in the public domain with credit to the designer, unlike other creator programs such as *E-Type Construction Kit* or *Holed Out* which have remained firmly under the copyright of 4D. I don't know if we are likely to see software created by other packages since the only other PD programs which I can think of have been created with the *Creator* package, and these have not been very impressive so far. Do you think construction kits are a good idea or just a toy? Does it feel like cheating, using other people's work and just designing different objects and scenarios? I feel that this depends on how you use the package, and if you spend a lot of time creating a game then it becomes worthwhile, unlike spending 5 minutes tarting up a demonstration file and releasing it commercially or into shareware! Look out for a demo creation language I have seen in the near future.

On the utility parade this month, I would recommend as strongly (bad pun!) as possible the alternative text editor !*StrongEdII* from Guttorm Vik of Brothers in ARM. This editor makes up for all that *Edit* lacks, although as so often this program is shareware, so don't forget to send the money if you use it regularly.

PD Tracker programs are not currently of very high quality, but the new one from AMF seems to be a step in the right direction. !*AMFTracker* is a cheap alternative to *Tracker* which allows editing and creating of your own 4 or 8 channel tunes including the use of samples. !*FontsPlus* by Simon Burrows allows the selection and de-selection of your outline fonts, and is a very useful utility to speed up use of the computer (especially for DTP) [*OK Ben, what do you want? – Ed*]. !*Translator* is probably the most used shareware program, although we shall shortly be seeing a commercial release of the program. The last news on utilities has to be the imminent release of !*ARCFS 2*, which is not "PD", although the read-only version is. This new version is much faster than the older program, nearly reaching LZW speed. On the subject of LZW, it is possible that CC's *Compression* and other programs could be withdrawn, due to an American company gaining copyright on the LZW compression system. However I doubt if a big American company is going to bother to look at the Archimedes market.

For those of you interested in games, why not check out a whole host of games written by Tom Cooper, including !*TBVG*, !*Styx*, !*Lemings*, !*Sylph* and *Son of Gyrinus*. All are extremely good, and because of this some are being developed commercially.

We cannot finish this article without a few bits of news about all those PD demos. Firstly I am organising an 'ARM Club' demo for the near future. Probably the largest demo group in England is the new 'Untouchables', which includes Armageddon, Armanaught, The Chip Duo, Risc Factor and a bit of Hugo Fiennes to add some seasoning. The first release will be the *Terra Demo* in a few months time. Arc Empire will have a two disc Mega demo out soon which is not to be missed (from the people who brought you *TransMortal*). Also Brothers in ARM will release what is probably their last demo offering at the Acorn show this year. For anybody interested in corny, graphic based demos then I heartily and creamily recommend *Ice Cream* from High Risc, which has everything except a kitchen sink.

Anybody wishing to get hold of any of the software mentioned can obtain it from the ARM Club's own PD library (see enclosed disc), or from Digital Illusions PD, 20 College Road, Wembley, Middlesex HA9 8RL.

Ben Eshmade
of Software 42.

P.S. Please note that the DataStream PD library mentioned in previous issues is in the process of changing hands.

Spick 'n Span

Acorn's computers have always had a reputation for being extremely robust and long lasting, but there are various steps which can be taken to prolong the life of your machine, and enhance its resale value if you ever decide to sell it.
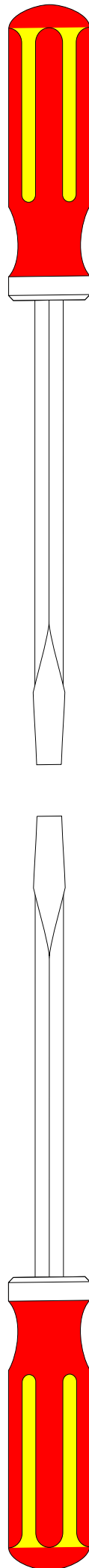
Many Archimedes machines are fitted with Duracell batteries to maintain the internal clock and battery backed memory, which is used to store your machine's configuration. These batteries are best replaced at least once a year in order to keep the computer working properly. Newer machines such as the A3000 and A5000 are fitted with a NiCad battery instead, which recharges itself and so never needs replacing.

Often you will find that Archimedes machines contain a fan, especially if they are fitted with a hard disc. These fans include a filter, which tends to clog up with dust, and if this is not removed, the fan will not work properly and the machine may overheat. Much dust can be removed by taking the filter out and cleaning it, but it is advisable to occasionally buy a replacement filter from your dealer for maximum safety.

The outside of the computer, keyboard, mouse and monitor should be regularly cleaned, although great care must be taken not to use a cleaner which could damage the machine in any way. Keyboards are particularly prone to suffering from dirt, fluff and other rubbish (eg coffee stains), and so it may even be necessary to take the keyboard apart, although this should not be attempted unless you know what you are doing. As always, the ARM Club will be happy to provide individual advice, as will your local dealer.

With proper care and attention, your Acorn computer should last for many years, working properly and impressing everyone who sees it. The Archimedes will only give of its best if you spend a little time caring for it!

Simon
Burrows

Imagination Unlimited – the next frontier!
by Nick Mailer

Many people sit thinking about all the wonderful computer programs which they could write, except that nobody would want them. Would your cat really appreciate version 2.4 of your Pigeon Simulator? In business, marketing companies will probably laugh at your efforts, and only in schools can you write any rubbish you want, and still find at least ten moderately living users.

Often they will also laugh at your work, but perhaps one time in fifty someone will give a grudging compliment, one time out of two-hundred an involuntary gasp, and one time out of a thousand even ask you for a copy (the ultimate accolade). Computers are completely ancillary to humans; at best, computers are catalysts – at worst, they are ends in themselves.

Community effort is the essence of computing in schools. This contrasts with the usual image of a "silicophile", sitting alone in an untidy bedroom with only the green glow of phosphorus and the smell of printer toner to keep him company. Computers are extremely flexible tools, and can be exploited to their full in the school environment. Pupils come from lessons buzzing with ideas, and very often, the projects which arise are quite astounding. It is these programs which demonstrate the true individuality of the programmer, and not the polished GCSE or AS level projects, which although technically masterful, are often quite lifeless.

School pupils are still at a stage in life when they can thrash out their ideas, however impractical they may seem. It is from these communities rather than cloistered marketing companies that future innovators will be found. Remember that the BBC Micro was not the product of a money-oriented marketing manager, but the brain-child of a few people in an organisation wishing to further the education of society. Long may the computer world maintain the pioneering spirit of those in-between-lesson school pupils!

Oh *dear...*

Having no doubt flopped out of the wrong side of bed, landed on last night's half-consumed cup of cold hot-chocolate, realised that he'd left the butter in the fridge and (as if this was not enough) cut his finger whilst opening the morning mail, there were indications that this was not to be one of Simon Hallam's better days. Having read Andrew Thacker's review of his game, Grievous Bodily 'ARM in this illustrious journal, a slightly peeved Simon subsequently aired his thoughts to us. We are printing his letter with comments from Andrew, who wrote the original critique, and is being typically as tactful (yet truthful) as possible...

Dear Sirs,

I read with great dismay your review of the game, Grievous Bodily 'ARM in your latest magazine and offer the following comments in its defence against your vicious attack on the product. *(?!? – a little melodramatic I fear)*

First and foremost why do you insist that the messages within the game and the high score table use the system font, they do not *(Well spotted, but gimmie a little credit, it's based on an 8 by 8 italic system font)*! Try turning the monitor ON next time you look *(Wit. Don't worry – I get it. I'd love to catch your entire routine when I have a little more time)*.

Your comments about the delete key not working whilst entering the high-score page are fair and I will fix this problem straight away. I do feel, though, that in the main, the review seems to concentrate more on the start and hi-score pages than on the actual game itself.

Why is this? *(That's usually as far as I get before becoming bored and sticking another game into the disc drive)*. Why did you not mention anything about the music or sound effects in the game? *(Ok, fair's fair, I thought the tunes and sound effects were OK, but why not make the samples funny (see Chuck Rock) if you will insist that this is a funny game? (see later in the letter...))*.

There was no mention of the fact that the characters in the game are (as far as I am aware) the biggest used in any game on the Archimedes *(Damn well should be; hasn't got that much else going for it)*, whilst still running at a smooth 50 frames per second *(Would we have noticed the drop to 25 frames per second?)*. A fact which maybe explains why the game couldn't run in a 256 colour mode and hence look as pretty as some other games *(Don't gimmie that. Enter the Realm, Twin World, Xenon II and the like have proved that you can still achieve pukka graphics with a 16 colour palette, and in any case, Nevryon shows that you can have bounteous amounts happening on a 256 colour screen whilst retaining smooth animation)*.

Surely after playing the game a few times you must have realised that it is based on a completely different style to that of traditional beat 'em ups *(Too right, other beat 'em ups are addictive)*? The game is (I thought obviously) *(Cra... sorry, carry on...)* meant to be simple to play, (i.e. you don't have to remember the keys for 8 or 9 different moves *(Which is what makes beat 'em ups like Barbarian, Street Fighter 2 and most Karate games so superbly addictive)* and humorous *(You're wrong: if you want humorous, check out Chuck Rock)*.

Why could you not have been more positive *(When you build up momentum in a sadistic mood, it's difficult to stop)* and mentioned some of the daft characters? Cats flying through the air? Black Clad women with big whips!, mad axe men, jumping monkeys, acid-throwing hunch-backs, nurses stabbing you with big syringes, the mad-professor in his helicopter, the killer tea-lady, and the un-controllable mega-stonker gun you collect on the last level, and there are still plenty others to mention. *(I think that sums up quite beautifully why I kept that lot quiet! Daft? Silly. Stupid. Embarrassing. Would you show your friends this game?!?!?!)* The whole thing is meant to be funny, not just another deadly serious (and usually quite sick) beat 'em up *(Do what? Violence is funny?)*.
I can accept that everyone is entitled to their own opinion but yours is so ultra-negative it's untrue *(Welcome to the real world. You should watch more Barry Norman)*! Anyway, the above are my opinions and I would appreciate you printing this letter in full (no misquoting bits out of context!) to even the score a little *(Andrew – 2, Simon H – 0)*.

Yours faithfully,

Simon Hallam, author of GBA.

Ben Summers asks

Why

C

You can't use the Acorn Desktop Development Environment (DDE) system described in my other article for writing in BASIC. However, C is a much better language for writing programs for the desktop, mainly for three reasons.

The first is the language itself. C is much more flexible than BASIC. BASIC tends to enforce it's rules on the programmer, but C has very few rules and assumes that the programmer knows best. It has a much better syntax and range of operators, more flexible ways of expressing what you want, and better control flow statements. It also is much more consistent than BASIC. C sets you free from the limitations of BASIC.

Secondly, it is compiled. This has the obvious disadvantage that it is slightly harder to use (but the DDE goes a long way to solving this), but has many advantages. Firstly, the programs will run a lot faster. They are translated into ARM code by the C compiler. The Acorn C compiler is very good, producing fast optimised code. It is much better than many other compilers on other machines. Compiled BASIC cannot be as good as C because BASIC is designed for being interpreted, whereas C was intended to be compiled from the start. Secondly, you cannot modify C programs once they are compiled, so users cannot fiddle around with your code and you do not have to release the source code with the program as you do with BASIC.

Lastly, and perhaps most significantly, the libraries of functions supplied with Acorn C make programming so much easier. There is the standard C library (the module C programs insist on loading when they are run) which provides general functions, and also the RISC OS library which makes writing proper multi-tasking programs incredibly easy. In BASIC writing for the desktop is quite hard. In C, is surprisingly easy. You can use ARM code much more easily, as with a suitable assembler, you can call a piece of ARM code as if it were a C function.

Additionally, C is a very portable language. You could write a program which can be compiled and run on many different computers. To find out more about C, the best book is 'The C Programming Language' by Kernighan and Ritchie (the inventors of C). Make sure you get the second edition.

So, if you can afford it, why not switch to Acorn Desktop C and find out how easy programming can be!

[Almost all of the applications written by Acorn (eg Edit, Paint, Draw) are written in C, and it is generally accepted that C is the language to use if you intend to write a serious application of any complexity. If Acorn's Desktop C is out of your price range, RISC Developments are producing an updated version of their ISO C package, which is considerably cheaper, but less sophisticated – Ed]

The ARM Club has a MUSIC USERS GROUP, and the good news is that it costs nothing extra to join it! I hope to include at least one page of news and information in each magazine for the computer music enthusiast. I would like to hear from anyone who is thinking of purchasing music software for the first time or who wants to improve their skill and knowledge of the software they already have.

In order to do this I need to know what software is owned by ARM Club members. Naturally one thinks of EMR products, but there are several other packages around, such as Rhapsody, Armadeus, Notate & Inspiration. I would like to arrange another day at Mill Hill School with a rep from that company, who will spend the day explaining all you need to know, answering all of your questions.

Please get in touch with me at the address and phone number given below. If you phone, please tell me the following; name, address, phone numbers, make of software owned, make, model number of keyboard owned, musical interests & any other relevant information.

Music user group forms were sent out to all members a short while ago, but the response has been disappointing so far. On the list of members interests, 67 registered their interest in music, presumably almost all of you know all there is to know about music on computers?!

Please tell me what else you would like to see the music user group organising.

Club tuned to perfection

A memorable and informative day was had by all at Mill Hill School on 17th May, when EMR's boss Mike Beecher delighted and enlightened all with the intricacies and mysteries of Studio 24+ and other EMR packages. I'd like to say that the mile long queue at the door were turned away because of lack of room, but only seven people turned up.

On the day, which got under way shortly after 10am, Mike Beecher concentrated on the NEW Studio 24+ version 3, and

MUSIC USERS GROUP

the latest news from Mick Cooper

explained how to get the best out of it, followed by the improvements in the new version. It was not a sales demonstration, but more of a masterclass / tutorial. It truly is a wonderful and powerful piece of music software, very suitable for beginners as well as professional musicians.

Many other questions were also answered, a few freebies made available, and the day ended at nearly 5pm. Several club members who had travelled many miles to get to Mill Hill went home determined to get to grips with their own machine and software, intent on creating a concerto and / or a number one hit.

Well done Mike Beecher and Club A3000 [now the ARM Club] – let's have another one soon!

Music User Group information is available from Mick Cooper, 3, Artillery Close, Paulsgrove, Portsmouth, Hants. PO6 4HD. Telephone 0705 371018 between 9am and 9pm most days.

I**f you need a reply, PLEASE enclose a SAE** Also please get in touch if you have any comments, opinions, or suggestions concerning the group, or items for inclusion on this page, If you have produced any Maestro files from sheet music, or EMR music files, no matter what style, I would appreciate a copy. Please send any material on disc, and I will return it to you with an assortment of Maestro and EMR files that I have been working on.

Finally

Details of our proposed one day courses at Mill hill and at Stourbridge have been sent to the major Archimedes magazines.

Thanks to Arc World, Micro User, Acorn User, and RISC User for printing details of the last course. If you have any other thoughts on what you'd like to see your Club doing, then do not hesitate to let someone hear your views.

Archimedes Help Service

In the last issue we introduced the independent Archimedes Help Service, run by Club member Toby Smith.

The Archimedes market is not big enough for everyone to have an expert living on their back door, which is where Clubs such as ours can be so important, and this help service may be of great use to members with problems. As a Club, we do provide our own advice with problems, although unfortunately this in only possible by letter, so if you have an immediate problem, the Help service may be able to help. Please remember though that it is run completely independently of the Club.

Details

For immediate problem solving, please telephone between 5 and 9pm, or any time at weekends. For less serious problems, send a letter outlining the problems, and any solutions which you have tried. Please make sure that you include return postage with your letter. If you would like suggestions about the suitability of particular packages for certain tasks, phone in, and the Help Service may even be able to provide a demonstration version of a suitable package.

Even if the Help Service cannot provide an answer to your queries, we can usually put you in touch with somebody who can help. The service is provided completely free of charge, but must ask that any discs are returned, and postage costs refunded.

The Address

The Archimedes Help Service
7 St Catharines Way
Houghton on the Hill
Leicestershire
LE7 9HE   Telephone (0533) 413850

Update

Thanks must go to the various companies who have supported the Help Service, including 4th Dimension, Colton Software, Computer Concepts, Simis, Clares, Risc Developments & Spacetech. A special mention must go to Colton Software for sending me a PipeDream4 mug, which could be considered the best catch of all!

Most of the problems that we have had to solve so far are due to lack of knowledge on the basics of the Archimedes operating system. This can be solved by reading the first section of the Risc OS user guide supplied with the computer. Come on, hands up all those that haven't. Feeling guilty?

The best thing for any user to do is to re-read the first section on the operating system, and the parts from section 2 on System, Modules and Edit (as an example WIMP program). The parts on Paint and Draw may also yield a few little features that you hadn't noticed before as well.

Following a few requests, we are starting to produce simple guides to most popular Archimedes Software, comprising of a few A4 sheets printed from Impression. These may be freely photocopied, and are only a phone call away!

Finally, two letters of thanks from satisfied inquirers:

Many thanks for the advice and especially for the educational PD games. I was hoping for help, but never dreamed I'd get this much – very much appreciated. I can see we'll be contacting you frequently, Toby. You're a wealth of information.
                    P.Larkin, Lister Community School

I feel that the existence of a service like this is very important to NEW users, who can have access to a friendly, human voice who can help to solve their problems for them, and explain things in very simple terms. Also with this, comes the advantage to more experienced users, who may have found a problem that is not covered by the manual, or who may have found a problem with any particular software package. The free software consultancy is a service that is of great use to all levels of users, to stop them from becoming disillusioned with a program that really doesn't suit their particular needs as perfectly as some of the alternatives may.
                    G.Spreckley

   When I was younger, so much younger than today, I never needed anybody's help in any way. But now those days are gone, I'm not so self assured, now I find I've changed my mind and opened up the door. Help, I need somebody, not just anybody, Help.....
                    John, Paul, George & Ringo.

Toby Smith Archimedes Help Service

Final Thoughts

This is the final magazine of the ARM Club's year. Much has happened in the past year, what with the release of the A5000 and A4 computers, and the next year looks set to be equally exciting. Sadly, the Club does require funds in order to survive, and we hope that those of you whose membership expires shortly will wish to rejoin for another year.

The Club is currently standing at somewhat of a threshold; we have spent a lot of time reorganising the Club, trying to make it more efficient, eliminating known problems and becoming more responsive to the needs of active Archimedes users. It looks likely that the number of owners of Acorn's RISC OS based machines will increase dramatically in the coming year(s), thanks to developments in Acorn, and we wish them every success.
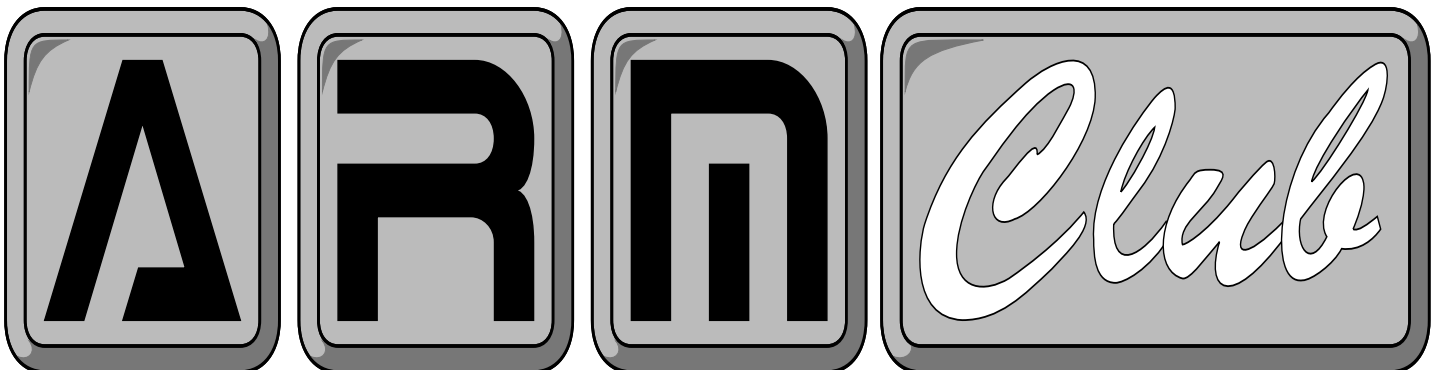
The BBC Acorn User Show provides a golden opportunity to promote and expand the Club, and we hope that you will all play a part in bringing about this success. If you have any Archimedes owning friends, why not show them a copy of our magazine, and suggest that they write in for an information pack? If there are features of the Club which you dislike, or think could be improved, please do write in and tell us!

The Club will be holding its first Annual General Meeting on October 4th at Mill Hill School, commencing at 4pm. We hope that many of you will take the opportunity to have a say in the running of the Club by coming along, and elections will be held for most posts.

Finally many thanks to those who have helped the Club, directly or indirectly in recent months. It is not always apparent how much work has gone into a magazine article, for example, nor how many people have been involved. If you feel that you have some skills which you would like to offer to other Archimedes owners, through the Club, please let us know. Finally, if you are particularly interested by any articles in this magazine, write in to us and we will pass on your letters to the respective writers.

We look forward to seeing you all at the BAU Show!

ARM Club

I wish to enrol as a member of The ARM Club

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

Address . . . .

. . . .

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

For the following questions, please tick as many of the boxes as are appropriate.

Which model Arc do you own? A3000 ☐ A5000 ☐ A310 ☐ A400 ☐ A4 ☐

(For the above, please also indicate in the box how much memory your Arc has).

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

Education ☐	Music ☐	Games ☐	Comms ☐
DTP ☐	Graphics ☐	PD Software ☐	Research ☐
Programming ☐	Databases ☐	Spreadsheets ☐	Other (specify) ☐

The Archimedes programs with which I am most familiar are:

. . . .

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

Please tick the following as appropriate —

I would be prepared to offer some of my hardware for the benefit of other Club members. Please indicate the service you would be prepared to offer (e.g. laser printing at 50p per copy if they include SAE) . . . .

. . . .

I would like to be a contact for my area
(and help organise Club events in my ☐
area and get in contact with members),

I DO NOT want to be added
to the ARM Club members' ☐
list leaflet.

I enclose herewith a donation (minimum of £10) towards the Club. I understand that the Club is non-profit making, and the donation is used to pay for administrative and running costs (such as postage, materials, correspondence etc.). You may send a photocopy of this form if you wish to preserve the magazine.

Please sign here:

Please make cheques payable to "The ARM Club", and send to:
Mark Watts, at **84C Boston Road, Croydon, Surrey, CR0 3EE**.

. . . .