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The Ultimate Acorn Show?



The Magazine for Members of The ARM Club



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Melcome

A particular hello to those of you who are not Club members, but bought this magazine as part of a sample pack from our stand at the Acorn World Show. At the time of writing, the Show is still a few weeks off, but it looks set to be a very good event.

Acorn's marketing department has been very active over recent months, but what about its research and development programme? The updated range of machines which Acorn launched in early September was all very well, and the price reductions are very welcome, but in such a fast moving industry as that within which Acorn works, can they afford to apparently stand still? My comments in the last issue provoked some interesting and varied reactions to this topic, see\ the letters page for more on this.

ARM Ltd is continuing to grow, as shown by its very positive contribution to Acorn's recent Interim Financial Results. Both the Apple Newton Message Pad and the 3DO games system are based around ARM processors, and a number of other companies are known to have shown great interest in using ARM processors in their products.

Acorn itself is in the process of expanding. Following its recent move to new hi-tech offices in Histon, Cambridge, Acorn is moving to capitalise on the current state of flux in the computer markets of other countries, most notably Germany, to which a large amount of investment is being directed.

The Acorn market is looking very healthy, and the Club itself is expanding fast, so here's to the future!

Simon Burrows (Editor)

Morpheus

John Bancroft, our illustrious Membership Secretary, reviews the new Morpheus package from Oregan Developments..

Morphing is a technique used to distort images to create the effect of one image transforming into another image. The term 'morph' comes from the word metamorphosis. This technique is very much in vogue and is often seen in TV commercials, Sci-fi movies and music videos. It is a stunning effect – recently seen in the Smith and Jones BBC 'advert', where Mel Smith is morphed into a series of television personalities, concluding with a David Attenborough-loving gorilla.



The popularity of this visual technology has had a filter down effect to the computer market. Programs to perform morphing have become available to owners of Amiga, Macs, and PCs, but have been expensive. Now Oregan Developments have produced *Morpheus* for the Acorn machine, written by Henrik Bjerregaard Pederson, and a snip at £34.95 including postage and packaging. It will run on a 310 machine, but 2Mb of Ram and a hard disc is the preferred setup. Henrik is the author of the excellent *Process* Public Domain package. All that *Morpheus* requires to begin morphing is two pictures. These can be either 256 colour or grey scale sprites or 24 bit images. Using disc / memory swapping, large images up to 2000 x 2000 pixels in 24 bpp colour can be handled on a 4Mb machine. Public domain libraries are a useful resource for graphics, but for the personal touch, those owning hand scanners or camcorders with a digitiser have the advantage.

My first attempt at morphing used scanned images of my son and daughter's School photographs. This choice of picture was comparatively simple – two faces of similar



size and colouring, looking straight ahead. However, there is a facility to scale pictures that are not the same size. The two pictures, the start and end frame, appear on the screen together, covered by a 10×10 grid with knots at the intersections. A toolbox is attached to the left picture and contains tools for zooming into an area and manipulating the individual knots. The knots have to be manually moved



Morpheus brings high quality morphing to the Archimedes platform at a very reasonable price. It has a wide range of application, particularly if you have access to video editing facilities, where full 24 bit frames be utilised may for photographic results. There is even a facility to simple create Replay files from animations, although this is currently very limited. The program never crashed

animation routines.

The main Morpheus Window at work on a sample file

to fit the contours of the face. The idea is to move the knots, so that they line up and correspond with the other face. It is not necessary to process a grid for each face, as the original grid can automatically be transferred across and then adjusted to match the features on the other. In this way, complete images can be morphed or just a fraction by using groups of knots and turning off the rest of the grid. I found manipulating the individual knots rather tricky, but as with everything else, skill improves with practice.

When the edited grid is complete, it is saved to a directory for later playback. The number of animated frames can be set from just a few to fifty or more. Twenty five frames is equivalent to a second of animation. Any intermediary frame can be selected and viewed – the half way frame can be startling! The timing of the animation can be regulated to any pattern of speed, ie a slow start, speeding up to decrease to a slow end. The animation routine can be viewed only in one mode, which is a disadvantage for those with high resolution monitors. However, а sophisticated result can be produced by using individual high resolution frames in other

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during my limited sessions, and I have yet to discover the mysteries of 'dithering', 'enable blending' and 'anti-aliasing'.



If any of you have a sprite animation routine for the 15bpp modes as used with the colour card or G8 board I would be very interested to hear from you.

Reviewed by John Bancroft.

Morpheus costs £39.95 inc VAT from Oregan. Club Members can claim a 15% discount direct from Oregan until 31st November 1993.

Club.....News

You'll probably have realised from the rest of this issue of Eureka that one of the biggest matters on our minds at the moment is the Acorn World Show at the end of October.

Exhibiting at these major shows is not cheap, but the Committee decided that it is too important an event to miss, and judging from our previous experience at past *BBC Acorn User* Shows, it should be a great success, bringing in a lot of new members, and giving us the chance to meet as many of you as possible.

The ARM Club recently became affiliated to the British Association of Computer Clubs, allowing the Club to offer even more to us, the members, as well as providing wider recognition and more publicity for the Club. We hope to talk more about this in the next issue of Eureka.

We are also working with various members on developing several software products, which we plan to sell to other members and the public when they are completed. The Club Committee discussed this at length, and stressed that we should make it clear that we have no intention of letting the Club develop into a commercial organisation, after all that is what the Beebug and Archive user groups did, and we would not want to compete with them. The idea is purely to encourage members to develop their ideas into proper software products, and provide an outlet for programs which the software houses would not be interested in. The Club is a nonprofit making organisation, and the authors would receive the royalties they are entitled to expect for their hard work. However any profit goes into general Club funds, keeping membership subscriptions to a minimum. In particular, no Committee members make any

money out of this scheme whatsoever. If you have ideas for software products, please get in touch via the Club Office.

Apart from the Acorn World Show, the Club is holding its Christmas Open Day on Sunday, 5th December at Belmont School, Mill Hill, London (just along the road from Mill Hill School). There will be lots to see and do, with various companies showing off their latest products, and it will provide a great opportunity to meet with other members for a chat and a cup of coffee or to buy some Christmas presents for yourself or the kids. Make a note in your diary now! The Open Day will begin at 10.00am, and continue until around 4.00pm.

Our annual Annual General Meeting will be taking place at Belmont School, immediately after the Christmas Open Day. We're pleased to announce that nominations are now open for election to the committee. Hopefully some of us will be able to retire peacefully and the Club will then be injected with new ideas, enthusiasm and faces.

In case some of you are not sure what being a committee member entails here is the lowdown on that and also some other essential facts.

The committee consists of the following posts: Chairman, Vice Chairman, Treasurer, Membership Secretary, Technical Adviser, Magazine Editor, Public Relations Officer, Secretary and a couple of "ordinary members".

There are about four committee meetings a year which are held at regular intervals and in

...continued on page 43...

Font Directory

Peter Greenham contemplates installing Font Directory from LOOKsystems on his icon bar...

Anyone who has to use Acorn's RISC OS machines in anger for desktop publishing or graphic design will have mixed feelings about Acorn's font manager.

On the one hand the quality and speed in which fonts are displayed on screen still exceed the capabilities of anything on the PC or Macintosh.

On the other hand, once you start using more than a very small number of fonts, the font directory system used by Acorn shows itself to be messy and unwieldy. Some people just dump all their fonts into one massive font directory, and live with the attendant problems.

The usual alternative is to split up your library of fonts into several different font directories, each of which adds itself to the internal list of font directories when run. This is still a mucky business, guessing which font directory a given font is in, if you know to begin with what it's called. And after all that, removing unwanted fonts from the list is not a fit task for anyone unfamiliar with the command line environment.

It is these problems which LOOKsystems' *Font Directory* is designed to address. They are by no means the first to attempt this, but the various other systems available usually centre around switching font directories around. Computer Concepts' *ArtWorks* includes its own font selection program, but it only works with the fonts supplied with ArtWorks.

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The pre-release version of *Font Directory* I received came with a single folded A4 sheet giving three A5 pages of overview of the features supported, and a Technical Reference Manual – really a programmers' reference manual to the FontFS module: The engine behind Font Directory. FontFS offers a set of *commands and SWI calls, so it can be controlled directly within other programs, and outside the desktop world.

The disc has two applications, **!FontDir** and **!FontMgr**. In addition there is a directory **ShowOpts** which contains a bunch of configuration textfiles. The purpose of this directory – let alone its existence outside an application directory – was not immediately apparent. Nor was it to become so.



The main FontDir Window

Installation

I trust that when released the package will include a decent user guide, as installation proved tricky and took me several attempts before I did things in the right order. However, LOOKsystems are to be commended on fully supporting Acorn's !Help, something done by shockingly few other applications.

As I eventually discovered, I needed to start by running **!FontMgr**, which prompted me to create a new !Fonts application directory and drag it to my preferred location. It also allowed me to define whether or not I wanted it to install itself on sight or only when explicitly run. I found this useful as I generally dislike having things run themselves, preferring instead that they run only when specifically asked for, either by mouse click or in a bootup file. However, it also wanted to know what partition size I wanted to give it. The partition file is a filing system in its own right, containing just fonts, and can be resized later.

After the !Fonts partition is created, **!FontMgr** displays a list of all currently-available fonts, and an attached pane in which I can say into which directory, within the FontFS partition, I want to install selected fonts. Hitting "Go" copies the fonts from their source into the partition file.

This is an opportune moment to mention limits. Only one partition can be mounted at any time.



This is not a problem if *all* your fonts are in that one partition. Each partition can have up to just under 6,000 font families installed. This is more a limitation of Filecore (RISC OS) than FontFS, as the limiting factor is how many objects - files or directories - can exist in the top level of one directory. Currently this is 77. Therefore a FontFS partition is limited to 77 directories, each containing up to 77 families. How much of a limitation this is depends on how you choose to organise your fonts within the partition, and **!FontMgr** is good enough to offer you that choice. You can have a single massive partition containing everything, or loads of tiny ones each containing a few fonts, or any compromise inbetween. It's up to you.

For instance, in LOOKsystems' own examples we see fonts in a given partition arranged under directories such as "Acorn", "EFF", "CorelDraw" and so on. However, this approach is doomed to failure as Artworks alone comes with 156 font families, and EFF and CorelDraw each have many more than that! I have organised mine simply under directories "A", "B", "C" through to "Z", and it looks like it will be quite some time before I will have to create another partition.

LOOKsystems claim that partitions can be up to 512Mb in size. Needless to say I was unable to test this.

Once the initial setup has been accomplished, if you don't want to muck around with font lists you can quite simply open a filer window on the font partition and copy fonts in and out and move them around as much as you like, and get !FontMgr to recompile its tables when you've finished.

FontDir combines many useful features together

The **!FontMgr** application, which lets you create and maintain your font partitions, is sometimes clumsy or unclear in its operation, but it works. More care needs to be taken before the package is released to ensure that the windows behave properly. In particular the attached pane should not disappear when the main font list window is toggled to full size! I will refrain from going on too much about bugs, as this is very much a pre-release version. In any case nearly all of the bugs found have been cosmetic or otherwise to do with the user interface. It, and **!FontDir**, do actually work, without crashing left-right and centre. (!FontMgr crashed only once, when I tried to give it more than 77 font families in a single directory.) However, a well-written user-guide to this application will definitely be needed.

In use

Installation is, as ever, the tricky bit (although it is certainly easier than the old way). Once you have created the FontFS partition, **!FontDir** takes over, and this really is, or promises to be, a delight. When run, it parks itself next to the Apps icon on the icon bar. Clicking on this icon brings up a list of all the fonts you have in your currentlymounted FontFS partition (in my case, all of them). From here you can look at any one of them, and you can add or remove fonts from the list of those available for use at will. The window allows you select fonts to individually, by weight, by family, by directory, or just the whole lot.

!FontDir includes a few other little facilities, like being able to edit Font\$Path, and save, load and clear the contents of the font cache, but most of the time these will not be needed. You do not have to rely entirely on **!FontDir**, as it will coexist with whatever other,

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external, font directories you have set up, but I decided things would be simpler all round if **!FontDir** took care of it all.

One particularly nice feature is that you can drag a document file onto **!FontDir** and it will hunt through it for all the fonts it uses and activate just those ones. You can then run the file secure in the knowledge that the fonts it needs will be there. Already this feature supports a number of document formats including Impression, ArtWorks, Draw and Schema. More will almost certainly be available by the time the product is released.

Summing up

After the initial setting-up – where the confusion has just as much if not more to do with pulling in fonts from the various archives and backups and scattered floppies as it is to do with **!FontMgr** itself – **!FontDir** is simplicity itself.

I can heartily recommend this package for anyone who has to make use of fonts, with the proviso that some amount of polish is still needed on the front end, and a bit more thought given to making **!FontMgr** easier and more intuitive – or at least more explanatory – for novice users. For its quick and fuss-free access to my entire collection of fonts, **!FontDir** has now earned itself a permanent place on my iconbar, just to the right of the Apps icon. I hope that speaks for itself.

Peter Greenham

Font Directory costs £35 inc VAT for a single user licence, from LOOKsystems, 47 Goodhale Road, Bowthorpe, Norwich, NR5 9AY. Site Licences are available, and FontDir can be of particular value when used on a network.

Exploring the Internet

Paul L. Allen roams the Internet from the comfort of his living room and shows how, with the aid of Demon Internet Services and a modem, you can do the same..

Introduction

The Internet is the world's largest computer network. Nobody knows quite how large, but one estimate puts it at around 1.7 million computers in over 125 countries, with an average traffic increase of 20% per month.

Most of the machines on the net belong to large academic institutions and multi-nationals with many thousands of users. A smaller number belong to companies and organisations with hundreds of users. An even smaller number, but one that is growing fast, belong to individuals who pay a service-provider for dialup Internet access.

With the exception of dial-up 'leaf' nodes, Internet machines communicate over dedicated, full-time, high-speed links, ranging from 64kb/s to over 1Mb/s for the 'backbones'. Unlike Fidonet - a network of Bulletin Board Systems (BBSs) - where participating machines phone each other in the small hours to exchange mail, Internet mail is delivered to the other side of the world almost instantly. If you want a file from a machine in the US you don't have to dial direct, or make a file request which may take days to be delivered - just use the file transfer protocol (ftp) to download it over the net. The Internet protocols are such that you can be sending and receiving e-mail (electronic mail), downloading Usenet news (the equivalent of BBS public message areas), downloading a file and chatting to someone halfway across the world all at the same time.

There are several companies in the UK which provide varying levels of Internet connectivity,

ranging from mail-only (sometimes with restrictions on monthly traffic levels), to a fullfunction feed. Many companies which do not offer a full-function service are restricted to a two-stage form of file transfer: first from the remote site to the provider's machine, then a download from the provider's machine to your machine (most providers with this sort of service add insult to injury with high connecttime charges). Of those offering a full-function Internet connection, the cheapest is Demon Internet Services (DIS) who charge £10 per month with no connect-time charges, no traffic charges and no limit on connect time (there is an initial setup charge of £12.50, both prices are exclusive of VAT).

Origins

The Internet was born about 20 years ago from research by the US Defence department's Advanced Research Projects Agency - they were tasked with designing a network which could withstand partial disruption (resulting from enemy action) and still function. The design they settled on was a packet-switching network - data is parcelled into Internet Protocol (IP) 'packets' which are labelled with the address of the destination machine, the packets are then passed from machine to machine until they reach their destination.

In the late 1980s the US National Science Foundation created five supercomputer centres to be shared by academic sites across the country. Although bureaucratic problems prevented the NSF using ARPAnet directly, they could and did adopt the same technology to provide their own NSFnet.

A packet-switching system with sites linked to their geographic neighbours proved much cheaper to implement than linking each site separately to a 'hub' supercomputer centre.

The ARPAnet evolved into two military networks, one for classified information and one for unclassified information, the latter eventually merging with NSFnet, NASA's Science Internet and others to form what is now known as the Internet - a network of networks all using the TCP/IP protocols. The Internet also has gateways into many other networks such as Fidonet, BitNet, and JANet (the UK Joint Academic Network). The gateways are seldom full-function and often limited to exchanging mail and news, although JANet is in the throes of changing from its own proprietary protocols to TCP/IP and many UK academic sites are now 'on the Internet.'

Because the Internet is an amalgamation of several networks, nobody is in overall charge and the whole thing is essentially a cooperative anarchy. But enough of the theory, on to the practicalities of accessing the Internet via DIS...

Name and Address

A full-function feed, such as that offered by DIS, means that your machine becomes a site on the Internet just like any other (except that it's not continuously connected), with its own name and numeric address. Normally names are used in preference to addresses because this allows system administrators to transparently move functions between different machines. For instance, my site is called 'sktb.demon.co.uk' and has the address '[158.152.9.18]'; you can e-mail me as 'pla@sktb.demon.co.uk'.

DIS sites are all of the form '*site*.demon.co.uk', where 'site' is a name for

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your site between 4 and 8 characters long chosen by the user (it is wise to have a few alternatives ready when you subscribe).

A number of Acorn-related companies are on the Internet, including Acorn, Computer Concepts, Aleph One, Acorn User, Spacetech, and The Serial Port (the last three use DIS). A number of Archimedes BBSs have also subscribed to DIS with the intention of transferring e-mail and news to their boards.

E-MAIL

Electronic mail allows you to exchange private messages with people all over the world. They don't even have to be on the Internet as there are mail gateways to many other networks such as JANet and Fidonet. You may send the same message to multiple-recipients, possibly marking some as 'Cc' (this derives from the term 'carbon copy' used on memos) rather than as direct recipients.

Incoming mail for a subscriber is delivered to DIS, who hold it until the site logs on. Actually, mail is only held for a month, though it is possible to make special arrangements in exceptional circumstances.

It is important to realise that although JANet specifies site addresses 'the wrong way round' you should express them in normal Internet format. As an example, mail from Simon Burrows may say it's from smb@uk.ac.nott.cs but you should reply to smb@cs.nott.ac.uk or DIS will reject it. JANet know that the rest of the world drives on the right, and automatically reverses Internet-format addresses.

Usenet News

Also known informally as 'Netnews' (or just 'news'), this is the equivalent of Bulletin Board public message areas, but with Usenet there are many thousands of newsgroups with traffic in excess of 70Mbytes/day (DIS hold local news for 14 days and other groups for 10 days). Usenet is neither a network or a type of software: it is a set of standards for the exchange of news messages - most Internet sites exchange Usenet news, but so do sites on many other networks. Since there are conventions for 'wrapping' news in an e-mail message, Usenet news can be transferred between networks via e-mail gateways.

News articles are tagged with labels identifying which newsgroup or groups they should appear in so that users can download only those topics which are of interest. Articles may appear in more than one group (cross-posting) if they are of relevance to more than one subject area. It is also possible for an article's author to specify that follow-ups should appear in a different group to the one in which the article itself appears (usually because the current 'thread' of conversation has evolved to the point that the original group is no longer appropriate).

The groups distributed worldwide are divided seven broad classifications: 'comp' into (computing), 'sci' (science/theory), 'soc' (social issues), 'talk' (debate, often without useful conclusion), 'news' (news network / software / admin), 'rec' (recreation / art / hobbies) and 'misc' (stuff that doesn't fit the other categories, or transcends categories). These major hierarchies are (usually) circulated around the entire Usenet - this implies worldwide distribution. Not all groups actually enjoy such wide distribution: some sites take only a selected subset of the more 'technical' groups, and controversial 'noise' groups are often not carried by many sites; DIS endeavour to obtain every group available). Some groups are moderated - articles posted to the group will automatically be diverted and sent as e-mail to the moderator who must approve them before they can be exchanged between sites.

As well as the major hierarchies there are many alternative hierarchies. There are national ones

such as 'uk' and 'scot', specialist ones such as 'bionet' (biology) and 'vmsnet' (for DEC's VMS operating system) and the catch-all 'alt' (where people go when they can't persuade the major hierarchies to create a particular group). Finally there is the 'demon' hierarchy for DIS subscribers.

Abbreviations are very common in news postings, both to conserve bandwidth and to save typing. Common ones are AFAIK (as far as I know), BTW (by the way), IMHO (in my humble / honest opinion), IMNSHO (not so humble), ISTR (I seem to remember / recall), IYSWIM (if you see what I mean), OTOH (on the other hand), RO[T]FL (rolling on [the] floor laughing), and WRT (with respect to). One abbreviation you may also encounter is RTFM, which means 'Read The Flipping Manual' (or something like that) – if you post a query to 'comp.sys.acorn.tech' asking how to format floppy discs you may well see this amongst the answers...

Since news postings are often written in a hurry by people who may not be masters of expression it has also become conventional to use 'smilies' to denote mood, be it humorous or otherwise. The prototypical smiley is ':-)' which represents a smiling face (turn the page 90 degrees clockwise), and is used to indicate humour. Many other smilies exist: there is no consensus on precise meaning, but here is a small selection...

| :-) smile | :-(frown |
|-----------|---------------|
| :) smile | ;-) wink |
| :-D laugh | 8-) wide-eyed |
| :-} smirk | :- deadpan |

FTP

Ftp stands for 'file transfer protocol', and is the primary mechanism by which files are transferred over the Internet. To transfer files from a remote machine requires that you know

a valid username and password for that machine, and that the relevant files are open to access by that username. Although this is fine for transferring files around different sites or machines belonging to a single organisation, it doesn't seem to offer much scope for the rest of us. However, many Internet sites include collections of Public Domain software related to a particular subject, which are available to users who log on "anonymously".

There are a number of sites offering files of interest to Archimedes users (a list giving details appears once a fortnight on 'comp.sys.acorn.announce'), however most of the files eventually make their way onto BBSs and PD library discs. You may find that you use ftp more for non-Archimedes files: sources for PD multi-platform programs, text files, weather images or the like.

TELNET

Telnet allows you to login to a remote machine as though you were actually a local user. Not many sites are happy to let just anyone login, but there are a number of special services (on-line library catalogues, Internet-wide file searches, etc.) offered by various sites which are accessed via telnet.

A number of information services (such as University library catalogues) are databases which may be accessed by local users or remotely via telnet, and are thus available to the internet community. Most have a 'dumb terminal' interface which can be telnetted directly, some also have menu-driven interfaces which typically require VT100 terminal emulation, whilst some even support X-windows.

Time-Wasters

Internet Relay Chat is similar in concept to The ARM Club Magazine page 11

BBS multi-user chats, except that there are many separate 'channels' to choose from. IRC is a great way of running up phone bills - if you want to boost BT's profits then telnet to 'irc.demon.co.uk'.

Multi-User Dungeons are multi-player adventure games – very addictive and likely to result in bankruptcy when the phone bill comes in. It is rumoured that DIS will implement a MUD in the near future.

DIS

Following the appearance of the UK's second commercial Internet provider (Pipex) Demon Systems (a computer systems supplier) saw the possibility of leasing a feed from Pipex and selling connections to individual customers. After initial discussion in the 'tenner-a-month' conference on CIX, Demon Internet Services went live in June 1992 with 110 sites (many of whom paid a year in advance to help get things off the ground) and 8 lines. DIS hoped to have at least 200 sites at the end of the first year - 13 months on and they have 1,785 active sites growing at the rate of approx 170 sites/month, served by 32 lines in London, 8 in Warrington and 8 in Edinburgh. Additional 'Points of Presence' (PoPs) will appear in other major population centres as soon as revenues permit.

DIS's rapid growth rate and high traffic caused problems with Pipex, and after a brief flirtation with EUnet GB (the UK's first commercial Internet provider) DIS installed their own direct line to the US and became the UK's third commercial Internet provider. This rapid growth has also resulted in occasional hiccups causing one or more services to run exceedingly slowly - DIS solve this by either throwing faster hardware at it or rewriting the software (existing software is designed to service around a dozen sites and 'scales' badly when this number is exceeded).

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FasterPC

The new PC Emulation Package reviewed by Gary Wass

Acorn's PC Emulator has been developed for a relatively long time. Whilst it will run most PC software, it has always been rather too slow to run many programs such as games. *FasterPC* compromises its implementation of screen modes for speed.

The author of *FasterPC* wrote the emulator to run some of the older, and now cheaper PC software. The emulator provides most CGA modes, no EGA modes, and one VGA mode. Whilst no EGA modes are provided, there is an option to emulate the hardware's presence as some software assumes that VGA will not be implemented if EGA is not.



An application running under Windows 3.0 (TM)

When a colour is changed in the VGA mode, the emulator has to scan through the screen for pixels of that colour and change them. If every one of the 256 colours of the VGA palette was changed then the screen would be scanned and updated 256 times. This obviously takes a long time.

For faster VGA screen updates, *FasterPC* provides a 'Speed' option to replace the

standard 'Accuracy' method outlined above. This option causes *FasterPC* to scan and update the screen only when 64 colours have been changed, thus updating the screen 4 times if the entire palette was changed.

Whilst the 'Speed' setting is many times faster than the 'Accuracy' option, the screen may not represent the true status of the VGA palette. However, for the VGA games which I managed to run, "Indiana Jones and The Last Crusade" and "Links", I could tell little difference between the modes aside from one being bearable and the other like watching paint dry!

> Recent PC games such as "Zool", "Lemmings", and "The Incredible Machine" use high resolution VGA modes and so will not work. It is a pity that EGA was not implemented, as there are more titles for this adaptor than the single tandy mode provided. The author's design decisions are all explained the user guide in with background on the emulator's development.

There are three ways of returning to the desktop. You can either press the left 'Alt' key with the middle mouse button or run a supplied DOS utility. You can return to the PC emulator in the same state in which you left it before quitting by clicking on the *FasterPC* icon with the right mouse button. If the PC emulator crashes, you can hold down both 'Alt' keys and press the middle mouse button to return to the desktop. However, after the latter, you may not enter the PC emulator

in its previous state and must restart it by clicking on the *FasterPC* icon with the left mouse button.

Unlike Acorn's *PCEm*, changes can be made to the emulator's configuration in the desktop which take effect when the emulator is re-entered. This is very helpful when trying to find the best display options.

FasterPC provides far better sound than *PCEm*. It is still a note based emulation only, although the author is considering adding support for sampled sound. Programs which use the unsupported digital sound system slow down unless the emulator's sound facility is disabled from the desktop.

A very small mouse driver is supplied with *FasterPC* as direct addressing of the mouse hardware is not supported in this version preventing standard drivers from working. Generally the mouse worked fine, but none of the Windows mouse drivers would work, and the pointer was not visible in "Links" making control very difficult.

Most modern PC software is supplied on high density discs, but these cannot be read by *FasterPC* and so must be copied to a hard disc partition using the desktop. Additionally, new software, particularly for windows, requires either extended or expanded memory, neither of which are supported by *FasterPC*.

Compiling a breakout game with 301 lines, 13936 bytes code, and 1352 bytes data using Borland International's Turbo Pascal gave the following results:

PCEm (VGA): 3.1 seconds PCEm (EGA): 3.0 seconds PCEm (CGA): 2.9 seconds FasterPC (60Hz): 2.9 seconds
FasterPC (50Hz): 2.8 seconds

These results and further speed test indicate little difference between the speed of emulation of the processors. Unlike *FasterPC*, *PCEm* emulates a maths co-processor, which can make it faster than *FasterPC* with some programs such as spreadsheets.



One of the games rendered playable

The following are lists of software which I attempted to run under the *FasterPC* emulator. It should be noted that those programs which failed to work, with the exception of those requiring a later processor, all worked under Acorn's *PCEm* albeit in most cases at an almost unuseable speed.

Will work:

Microsoft MSDOS 6.0, Microsoft Windows 3.0 (CGA – useable, but no mouse), Borland International's TurboPascal 6.0, As Easy As 5.0 – Shareware spreadsheet (no graph plotting), Fractint 15.1 – PD fractal plotter, Psygnosis's Atomino (CGA, Tandy – playable but corrupt screen), Lucas Film Games's Indiana Jones and The Last Crusade (just playable), Access Software's Links – Golf game (mouse, but invisible pointer), Arnor's

... continued overleaf ...

Protext 4.36, TopLevel's TopCopy Plus 2.25, Performer Systems's Performer 2.30, Maximizer Lite, Intuit's Quicken 6.0, XTreePro Gold 1.3, Software Solution's DataEase 2.5.

Will not work:

TurboCAD 3.0 (requires IMSI's VGA). Software Toolworks's Chess Master 2100 (requires EGA), Sierra's Incredible Machine (requires VGA), Gremlin Graphics's Zool Psygnosis's Lemmings (requires VGA), (requires VGA), Wolfstein 3D - Shareware vector game (requires 286/VGA), ABYSS -Shareware vector game (requires VGA). Gunship 2000 (requires 286/386/486).

The emulator requires at least 2 megabytes of memory, but a high resolution monitor is not required. An ARM3 and hard disc are very useful, although not essential. Most new PC software needs a large amount of free disc space to install. Unlike Acorn's PC Emulator, DOS is not supplied, although early versions of both MS and DR DOS can be bought quite cheaply.

FasterPC represents excellent value for money. *FasterPC* does not replace *PCEm*, but can run some software, particularly games, faster. The two emulators work happily together, and can share the same PC hard disc partition.

Gary Wass

FasterPC costs £19.95 from FasterPC, 33 High Street, Farnborough, GU14 6ES.

The author of FasterPC, David Lawrence, also wrote a Sinclair Spectrum Emulator. Unfortunately this has never seen the light of day, because Amstrad refused to license the Spectrum ROM images for use on the Archimedes. Just imagine, an ARM3 powered Sinclair Spectrum!



A look at the biggest Acorn event of the year, with Simon Burrows.

The Acorn World Show looks set to be a very big event, filling Hall 1 at the Wembley Exhibition Centre, the biggest available at Wembley. Acorn has committed itself to making the Show a success, although most of the organisation is being done by a company called Exhibition Planning Services.

The Show is taking place from Friday 29th October until Sunday 31st October, and prices on the door will be as follows: Adults $\pounds 6$, Children $\pounds 4$ and families (2+2) $\pounds 16$ per day. By the time you read this, advance tickets will no longer be available.

The ARM Club will be present at the Show, on stand 21, which is located near to the Visitors' Lounge, and also the Games Arcade. Please do come along and see us, there will be many special Show offers. As usual, we will be using the Show to promote the Club, encouraging new members to join; if you have friends who might be interested in membership, please bring them along to the stand. As well as membership packs, we will also be selling magazine sample packs for only £2 each, which include a copy of this magazine, the disc and other information.

The Club's Public Domain Library will be in operation, with a wide variety of discs on sale. Why not look at the catalogue on your magazine disc now, and compile a list of discs you would like, to bring along to the Show?

For the first time, we are also producing a range of compilation packs of PD discs, all cheaper than buying the discs individually, full details will be available at the Show.

We will also be selling a set of tutorial discs on various topic, including ARM Code Programming, Impression and Artworks, in association with Illusions Magazine. These will be priced at £7.95, £9.95 and £7.95 respectively. As usual, free advice on any Archimedes related matter will be available from our stand.

What about the rest of the Show? Acorn's theme for the Show is *Vision for the Future*, which has been interpreted by some magazines as meaning that Acorn will be previewing some of its future machines. Unfortunately Acorn has told us that this will not be happening, the nearest visitors will get to this are some indications of things to come in the *Concept* area at the Show.

Acorn intends it to be a family show, a creche will be available for the youngest visitors, along with jugglers, face-painters and the like for older children. The Games Arcade should also be a great attraction, this will take the appearance of a crashed spaceship, and apart from featuring a number of new games titles, will also include one of the country's best laser-light displays, fitted in the roof of the arcade.

Every visitor to the Show will receive a free TDK disc, containing a copy of the *!NewLook* application featured on the Acorn News page of this issue. If you have an Acorn Pocketbook computer, take it along to the Show and Acorn will pump it full of Public Domain software for you, free.

For people who want to spend a weekend in London, free child's tickets to The Science

Museum will be available to visitors. Everything about the Show has been designed to cater for the family, and to make the whole Show experience as pleasant as possible; for example, the aisles between the stands will be much wider than at previous shows, there are large rest-areas, as well as entertainers to keep the crowds happy whilst queueing to get through the doors into the Show.

For the photographers among you, Kodak is making special offers on developing your films, and producing PhotoCD discs from them. If you take along a 12,24 or 36 exposure 35mm film (not slide), they will produce glossy 6"x4" prints and a PhotoCD disc at a generous discount off the usual prices (the prints and disc will be sent to you afterwards).

Acorn will be providing technical support, both in the special clinics and in the Show Theatre which will feature a daily programme of talks about many interesting topics. There will also be a Publishing Area, in which Acorn computers will be used to produce a daily Show Newsletter, right through to the press stage, showing their power and flexibility. Indeed, the Show is being specially advertised to publishing professionals.

Most of the well-known companies will be represented at the Show, as well as many smaller ones, indeed we have been inundated with Press Releases about it! Much more information about what the various companies will be up to is included on the Eureka Magazine disc.

If you're travelling a long way to get to the Show, why not look at our Members' Interests Leaflet and see if there are any other members living near to you, with whom you could share transport?

Simon Burrows

ARNOLD'S OBSERVATIONS

Steve Arnold directs his attention towards Sex. Violence and Videogames!

Well, things are definitely getting better. I'm getting some sleep. My children have caved in to my continual screaming – they couldn't take some of their own medicine – ha!

It's amazing what effect threats have on a six month old baby, when I threatened to sell him to the milkman – he smiled! That really did it for me. I had to smile back!! And you know what, we continued like this for the next five minutes until eventually he closed his eyes and went to sleep... so I've been doing the same thing the last few weeks. I managed to sleep for more than two hours and of course, he knows who's boss!

Anyway, on with the article. I've had a few people ask me if I was on some form of medication while I wrote the last article and some suggested that I seek medical help for my afflictions...what a cheek! Still, it provoked comment.

This time my observations takes another tangent... off into the dark and sleazy world of "Sex, Violence & Videogames":

During the early days of the Beeb (sorry the BBC microcomputer) some clever so and so developed a piece of code that found its way into ROM. This Rom was called PIG ROM! Those of you who have see it can skip the brief description. When you typed in the appropriate rune you were greeted to a picture of Old MacDonald doing something unspeakable to a Pig which became animated to the squeaky version of "ole MacDonald had a Farm..."

That was my first exposure (excuse the play on words) to a form of Pornography in computers...

There have been many more of these lewd & rude programs, from *sex invaders* to the infamous *!Bonkers*. [*What can I say? Ed*]

Today however, it's reaching epidemic proportions, due to the use of technology. It is a simple thing for someone to log-on to a bulletin board in the USA and download any particular flavour of smut.

Now I don't want to seem prudish, but suffice to say, these programs/pictures were intended as a form of entertainment for certain adult audiences. Unfortunately as many a school teacher knows, "This is a bit of problem with Children" as there is always some little clever boy (or sometimes a girl) who thinks it is fun to display these programs/pictures to his or her school chums. A solution to this problem is far from simple. You see, if you ban access or legislate against it, you just send it underground, where it becomes more of a problem. My hope is that we can educate our children in positive ways to ignore it.



Violence & Videogames

There has always been some form of violence in videogames. The shoot-em up games, adventure games, simulation games all contain differing amounts of murder and mayhem.

However, there's currently a feeling that some games writers are stretching the bounds of acceptable behaviour in search of that extra special gut-churning effect. There has an uproar over games such as *'Mortal Kombat'* (no wonder children find it difficult to spell!), where horrific scenes are acted by the players' characters. These games are intended to give a player access to a fantasy world, a comic strip type environment, a different reality, unfortunately it can also act as a de-sensitising agent to certain people.

No-one really knows what effect these types of games have on children. The whole of the computer games industry needs to wise-up and adopt a code of conduct, much like those used by the comic industry during the late 70's, otherwise some regulatory body will be created to vet and certify computer games.

Software writers should realise that games don't necessarily need gory effects, they need better gameplay! "Go to it people..."

Virtual Reality games will only make the debate on these issues more complex, with the advance of this technology, users will be able to live out their fantasies, all in the comfort of their own home. Have you ever wondered what happens when all your dreams come true?

If the computer industry as a whole doesn't address these issues soon, it may find itself the subject of a witch-hunt, with draconian laws ensuring a tight hold on all creative expression.

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I don't want my children to be subjected to some of the violence and sex that's infiltrating its way into the computer world, but I do want my children to be able to express themselves in a creative and intelligent way. Access to new ideas and technologies is a known way of expanding one's horizons. Computers should be tools to achieve this aim.

I'm not proposing any simple solutions, for one thing I'm not that smart! I have expressed a few of my ideas on the above subjects, and would be interested to read your views and thoughts on these subjects.

I'll leave you with this thought: A Dream is a fine place to find new ideas Have Fun! And be nice to yourself!!



Building Blocks Course

Our programme of training courses continues this autumn with news of a special Building Blocks Course to be held in the East Midlands area on Saturday 28th November.

The course is taking place at Leicester High School, London Road, Leicester, and will run from 10am - 4pm. Topics covered will include the applications supplied with your computer, *!Edit, !Paint* and *!Draw*, as well as other topics intended for everyone who feels that their basic skills could be improved, including the new features of RISC OS version 3. The course will cost £20 for Club members, or £25 for nonmembers (refundable on joining the Club), which includes all course materials, including lunch and refreshments.

For more information, or to book a place, please call Toby Smith on (0533) 413850.

Sleuth

Susan Bancroft gets out her scanner and tests whether Sleuth from RISC Developments can really improve her productivity.

The first Optical Character Recognition (OCR) package from RISC Developments is good news for all DTP enthusiasts. It provides the technology to convert any number of paper documents into a computer data base. *Sleuth* processes a scanned image of printed material and converts it into a plain text file. Material can then be further manipulated using a text editor or word processor.

OCR packages have been available for PCs for some time, but some cost well over £500. The price reflects the level of sophistication, namely *omnifont* technology. Any letter font can be recognised by pulling apart any given letter shape and matching it to stored information on characteristic font type. Apparently this process works in the same way as the human brain – who said there was no such thing as artificial intelligence?!

The big disadvantage in the *Sleuth* package is that it does not have the facility to use omnifont technology. That said, it can achieve an accuracy of over 90% in the most popular PostScript fonts, using good quality 400 dpi

Linking items together allows to have a record in the addres number of correspondence re to that addressee, as well as p records. All these linked recor directly from the address book relevant address record is oper

One of the supplied sprite files

scanned images. These are: Avant Garde, Bookman, Courier, Garamond, Helvetica, New Century School Book, Palatino and Times.

It can process type sizes between 9 and 24 points. Conversion speed is between 80 and 250 wpm depending on the hardware in use. Other fonts may be scanned but will have a reduced accuracy. These include bold, italic, accented letters. RISC Developments, with a relations. beady eye on customer is considering a service for those who use original fonts. For a charge, they will train Sleuth to recognise new fonts supplied by the user.

So much for the company publicity - how does the product perform? The package is designed for ease of use with the humblest hand-held mono scanner. Obviously, the better the hardware the better the result. The minimum resolution required is 200dpi, but for the most professional result a 300 or 400 dpi is recommended. For the same reason it is advised to have a computer with at least 2Mb.

Sleuth is very easy to use - simply drag the scanned image into the imput window, select the area to be converted and click to start. The ASCII conversion is displayed in the output window from where it may be saved or refined further. As it is fully multitasking, mistakes can be corrected in the converted text while it is still converting the rest of the text.

I carried out some test scans using a 400 dpi mono scanner on the standard document courier font. In practice, the disadvantages of a scanned image soon became apparent. There



Sleuth in action, converting a scanned spritefile into ASCII text

were approximately 10% of errors, most often a confusion between a 'c' and an 'e','fl' and 'h' However, these can be swiftly found and corrected using a spell check through the article. It has to be said that this would not be such an easy process if the scan included many numerals. Further scans of italic, bold and accented characters were not just reduced in accuracy, but unintelligible. Another thing to consider is the paper colour and uniform contrast behind the desired text, as not everything is typed on pristine white Croxley script. Time may also need to be spent tidying round the edges of a scanned text, particularly if this involves columns of writing. This will not pose a problem for the happy owner of an A4 size scanner.

Sleuth will anything that it ignore determines is not text. It differentiates between what is text and what is not, by trying to find a line of white space running the width of the image between two supposed lines of text. If it cannot find such a line it will treat the area as graphics and will not attempt to convert it into text. This will also happen if there is a picture or line to the left or right of the text or the text is overly skewed. Anticipating these troubles, the manual wisely includes a chapter on

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Problem Solving and lists five of the most common difficulties with an explanation and solution.

Sleuth is essentially meant to be a time saver and I wonder whether this would be so for the speed typist. For the two fingered keyboard tapper, the disadvantages are outweighed by speed and convenience. It is pleasing to find a package suited to the average DTP user, priced at £49. Surely it is better to have a program without the finer refinements, but within a reasonable price range? Typing documents will not be a redundant skill just yet, but OCR technology is certainly here to stay.

Reviewed by Susan Bancroft

Sleuth costs £49 + VAT from RISC Developments, 117 Hatfield Road, St Albans, Herts AL1 4JS, or most Acorn dealers. Site licences and education discounts are also available on request.

Sleuth is the first in a range of OCR products which RISC Developments are planning to release for the Archimedes.



Lexicon

Vous avez besoin de parlez une autre langue? – Consultez votre ordinateur!

Lexicon, from Stallion Software, is billed as the ultimate language teaching aid for the Archimedes. The languages catered for are currently French, German and Russian, with a Welsh version "under development".

To perform the arduous task of helping to teach people languages, Lexicon is based around one large dictionary (a 2000 word dictionary is included as standard) from which several programs run, including a dictionary manager, *!Lexicon*; an automatic vocab tester, *!LexVocab*; a "fill in the blanks" program, *!LexFill*; and a test preparation program called *!LexPrep*. There is also a small program included to give easy access to the foreign keyboard characters.

Lexicon

The Lexicon program its self is concerned with the management of the dictionary. Each word in the dictionary can have a defined meaning, gender, association with a set of arbitrary groupings (such as business, takes être, food etc) and a set of notes. The notes can contain basically anything, including a few examples of usage, other meanings, declensions in numerous tenses and so on. The 'grouping' is connection to any of 64 user-defined groups. These can be set up in any way the user wishes, referring to chapters in text books or vocab blocks such as "food", "holiday" and so on, or any other grouping method you may wish. Each word can also be allocated a reference number, which perform like numerical groups. The most obvious use of this feature is to designate which year / term of a school career this word appears in. The GCSE syllabus and now the National Curriculum attainment targets have led many teachers to create strict sets of words to be

introduced & used for each year-group, and this reference system would be ideal for this purpose.

Lexicon also allows you to perform numerous types of search through the dictionary. You can search for either a foreign word, a given meaning, or a wildcarded version of either.

New words can be added by simply typing in their details, selecting any groups they should be included in, and inserting any notes you wish. The notes can either be imported as a text file, or typed straight into Lexicon. Existing words can also be altered.

Lexicon also includes a small feature to send words or lines from its windows to the caret, allowing simple transport into other packages. However, what separates a computerized dictionary such as Lexicon, from a traditional paper dictionary is not just the ability to alter the records. The binary string is even mightier than the pen!

LexVocab

LexVocab is a desktop program which implements a fairly good version of the traditional language test. You are presented with a word from the lexicon dictionary and 5 alternative meanings (also culled from the Lexicon dictionary), your task being to click on the correct meaning. The words can either be collected from a specialised produced file (See later section on *LexPrep*) or culled direct from a running version of Lexicon. This type of test is simple and rewarding, and computerizes nicely; there are even a few PD versions about.. However it currently is only implemented one way; giving a French word, and several English meanings, I would like to see the inclusion of the opposite, giving an

English word, and several French translations.

LexFill

For those of you familiar with educationalistspeak, !LexFill provides a technology based interpretation of the Cloze test system. For us mere mortals, this translates to "fill-inthe-blanks" on the desktop. You are presented with a piece of text in French, of which a certain proportion of words have been replaced by blanks, which the user must fill in. To make this easier, you are allowed to see the full version of the text for a set amount of time beforehand. clues can be provided, and of course any words can be looked up in Lexicon just by clicking on them. If you get close, (the right word but the wrong person or tense) then !LexFill will tell you that you are close, rather than just saying "Wrong", which is very comforting, and more helpful than you would think. At the end of each completed test, you are met with a congratulations screen, detailing how many words you got right, how many you gave up on, and how many you looked up in Lexicon. This achievement sheet can also be printed out, so teachers can keep a record of pupil achievement. Tests for !LexFill are created

via !*LexPrep* (See later) and can be tailored to pupil ability and knowledge. Different ranges of blanks can be set, specially written clues, and different Lexicon lookup words can be set.

LexPrep

!LexPrep can be used to create text for *!LexFill* and *!LexVocab. !LexFill* texts can either be imported as text files, or typed straight in. Any clues and lookup alternatives should be set at this stage, as should the time allowed for the "full view" before the test starts. Many texts can be included in the same exercise file. *!LexVocab* tests can be set up

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from random or serial lists of words exported from Lexicon itself, or from a user-created list of words (which will be looked up in Lexicon) This method provides a consistent test, giving the same words & the same choices each time, which is better for class testing & comparison than the random method used when !LexVocab is connected direct to a Lexicon dictionary.

Foreign Characters

A small program is included to allow access to the required foreign language characters. This stretches from providing 2 keys mapped to Umlaut (ü) and Esset (b) to a new keyboard definition for typing in Cyrillic (Russian, for those of you who thought that you just wrote all the letters back-to-front, actually has a different alphabet from our usual Roman characters) Lexicon programs will switch between this method and normal keyboard definitions easily by use of a language selector button which you can toggle between French(or other) & English. Personally I use the RISC OS 3 Alt key methods out of habit, which Lexicon also accepts. Russian versions are also provided with a Cyrillic outline font, for use with DTP & similar programs.



Lexicon takes the place of a teacher?!

Minus Points

There are a few things missing in Lexicon. The first is a GOOD manual. Whilst the manual included is long, and passable enough for the likes of me, I can see its style easily confusing people who are teachers first, and computer users second. A special "teachers guide" is included, with a short summary of all the functions, but what about a "Pupil's guide"?

Second comes the use of files. Lexicon understands either imported text files, for use in creating notes for a word or for creating a LexFill or LexVocab test via LexPrep; Special LexList files containing a list of words and their meanings, exported from Lexicon and into other programs; and prepared LexVocab tests, exported from Lexicon. LexList files, unlike other files must have a filename starting with a "L/". The Third, a Vocab test list, is a datafile, and the filename must be preceded with a "V/". If we were talking Amstrad Word Processors, this would be normal, but on an Acorn machine I would have expected to see special file-types, with corresponding sprites.

Third on my hit-list is the lack of any ability to print tests from LexVocab or LexFill. OK, so you loose the spontaneity, the computerisation and the lookup-in-Lexicon feature, but considering that most language departments at schools do not have their own computer, never mind their own network, requiring the use of

'Regardez cette peinture.'
'Pensez-vous que le soleil se couche ou se lève?'
'Il se couche.'
'Très ____, vous ____ être un expert __ art.'
'Non, c'est simplement que je connais l'artiste.
Il se lève ____ avant midi.'

Have fun filling in the gaps!

the school computer room when you want to do a test via Lexicon puts too much strain on the scarce resources of many schools. Simple print out features would be easy to add to the programs, or incorporate in another new program for the suite, and I feel that this is a significant omission. With a printout feature, Lexicon could be of great use to language teachers preparing lessons & tests, but without, it is merely an educational toy. Last time I spoke to them, Stallion have taken this comment on board, and an enhanced version may appear soon!

Stallion plan to release a Welsh version in the near future, and obviously more languages will come along eventually. My suggestions would be Spanish, Italian, Danish (or similar) and perhaps an English version for primary schools or those with learning difficulties, particularly dyslexia.

Summary

Lexicon provides a specialised foreign language dictionary program, with multiple find features, which also interfaces with a fillin-the-blanks test program, and a pick-theright-answer test program. A special test preparation package for the last two is included, as is a program for accessing foreign language characters. All of the above work on the desktop. Lexicon is available in either RISC OS 2 or 3 versions – you must specify when ordering – and comes in either French, German or Russian languages. (2000 word pre-defined dictionary, and 20 word "practice" dictionary included)

Toby Smith

Archimedes Help Service

Lexicon costs £60 + VAT + £2 p&p Site Licence £140 (ex VAT) Education: 20% off RRP ARM Club members: 10% off RRP



Resultz

The much heralded spreadsheet package from Colton Software

My review of *Wordz* appeared in the Spring issue of Eureka, and since then I have been eagerly awaiting the appearance of Resultz, the second in the Fireworkz suite of applications, in order to gain a proper feel for the suite as a whole, how well the different parts integrate together and how it compares with the competition.

Resultz is packaged similarly to *Wordz*, coming in a fluorescent orange and green box, but this time comes with three spiral bound manuals. These are the Tutorial, the somewhat thicker User Guide, and the Function Reference Manual. The documentation is worthy of particular mention, it is clear, comprehensive and well-

written, and by splitting it up into three separate manuals, Colton has ensured that it is easy to use and refer to. The tutorial guide is well written, starting from the very beginning, and contains many useful hints and tips, for example using the printer drivers, and whether you ought to upgrade to RISC OS 3.

On

intentional, Colton designed the applications from scratch to integrate together, developing from their experience with the older Pipedream series. Users of Pipedream will be familiar with much of Resultz, although the word processor and database functionality has been separated out into separate packages, and the user interface has substantially changed.

The appearance of Resultz appears to have been largely modelled on well-known spreadsheet packages for other platforms, at first sight it could easily be mistaken for a PC spreadsheet. Pipedream tended to be a package which people either loved or hated, the hate coming from people familiar with dedicated spreadsheet packages who found the additional

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| 7 | Smith | 0.9 | 1 | 2.5 | 1 | | |
| 8 | Hopkins | 4.1 | 5 | 8.2 | 3 | | |
| 9 | Armitage | 2.0 | 4 | 11.5 | 7 | ∇ | |
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The main Resultz window, notice the button bar at the top

loading up *Resultz*, the similarities with *Wordz* are striking. They share very similar menu structures, icons, windows, and there is a definite functionality. This is all overlap of

features and quirks of Pipedream too much to bear. Resultz has done away with this, being designed as a spreadsheet, but also has the benefit of being able to link in very closely

with an already well-received word processor (and database in the future). Clearly however, Resultz is much more that just Pipedream with the non-spreadsheet parts removed, Colton claims to have designed it with the intention of creating the most advanced spreadsheet package available for RISC OS: we will consider if this is true later in this review.

3D Appearance

Resultz has been designed to use Acorn's recently published 3D style and appearance, and it looks impressive. I have only had a copy of the new 3D Style Guide for a short while, and have not been able to check whether it complies in fine detail, but the appearance does give the feel of a new generation of professional applications for the Archimedes, especially when combined with Acorn's NewLook (3D icon set) for RISC OS.

A wide range of example files are supplied with Resultz, and they provide a good means to see some of the features of Resultz. Nevertheless, it is important to use the package to design your own sheets and charts, in order to gain a real

| Categories | feel for the package. The |
|-----------------|----------------------------|
| Arithmetic | button bar in the main |
| Complex number | Resultz window is very |
| Custom control | useful, providing short |
| Database | cuts to most of the |
| Date and time | |
| Financial | facilities, as well as the |
| Lookup | status line which |
| Matrix | effectively gives you |
| Miscellaneous | interactive help as you |
| Statistical | use the nackage |
| String | use the puckage. |
| Trigonometrical | Deculty contains all of |

Resultz contains all of The functions menu the features which you

would expect of such a package, adjustable cell sizes, large numbers of built-in functions, charts, automatic replication facilities and so on. As with Wordz, what impresses me greatly is the amount of thought and effort which has been put into designing the package to be very

powerful and yet simple to use. This sounds like something which Colton would say in an advert (and probably do!), but I have to agree that it is true.

For example, to use one of the 189 built-in functions, all you have to do is highlight the relevant cell in the spreadsheet, and then click on the "f" (for function) icon on the button bar, displayed at the top of the window. This gives you a menu of categories of function available, such as arithmetic, complex number, financial, statistical and so on. From here, one of the new style selector dialogue boxes is opened, allowing you to choose the specific function required. Parameter help is given automatically, along with parameter "pasting". Recalculation is fast, and generally takes place in the background.

WYSIWYG

One feature of Resultz which Colton emphasises is its WYSIWYG nature. То complement this, there are numerous features for making a spreadsheet look good on screen, so that it will look good on paper. Styles and effects are available, and are handled similarly to Wordz. They can be applied to individual cells, or to whole sections of a spreadsheet, and can be layered, one on top of another. Column widths can be altered anywhere in a spreadsheet, which can give Resultz sheets a rather different appearance to those produced by other packages, especially when the superior text handling facilities of Wordz have been applied to the Resultz file. Multiple and split views on the same spreadsheet are easily achieved, using the same techniques as in Wordz, i.e. you can have a window with more than one vertical and/or horizontal scrollbar.

Graphs and Charts

Resultz has fairly similar chart facilities to those of Pipedream, right down to the so-called "Penguin graphics". Numerous options exist

for converting your spreadsheet into a pretty (and meaningful) picture, with several types of bar and line charts, pie charts, pictograms, 3D charts, mixed charts (combined bar and line), and the resulting charts can be saved in the worksheet.



Acorn's Share Price? Wishful thinking!

Both spreadsheets and charts can be exported into Wordz, where they can be touched up or incorporated into reports or other documents, the live integration facilities allow changes in a spreadsheet to be reflected in your document. Sheets can be saved in Resultz, CSV or Lotus 123 format, and charts can be saved as drawfiles. Resultz can load Pipedream files, although some touching up is usually required, because of the different ways in which the two packages operate.

The printing options available are quite flexible, using the RISC OS printer drivers (although a quick draft option is available). Pipedream used to have its own printer drivers available, so some users upgrading to Resultz may find that they have to learn how to use the standard printer drivers.

Resultz is flexible – it can handle virtually any task suitable for a spreadsheet, and many more besides. For example, one of the sample files is a game of computer minefield, played by clicking in the cells of a sheet to determine where mines are located. The game is achieved through clever use of Sheets can be linked together, functions. allowing data from one to be accessed from another. For the advanced user, Resultz is flexible and powerful enough to meet most demands. As I stated earlier, Resultz features a large number of built-in functions. Additional custom functions can be designed using the aptly named FUNCTION function, although the manual recommends that you have experience in BBC BASIC or a similar language before attempting to write custom functions. It can sometimes be tricky to use custom functions, but most people would not need to use them often, if at all.

A point worthy of mention is the company behind Resultz, Colton Software. Their experience in the spreadsheet field stretches back through the development of Pipedream, which for a long time was the Archimedes spreadsheet by which others were measured. They offer direct telephone support, and there is also the Z-Line independent user group for users of the Fireworkz packages. Colton have traditionally had a very reasonable upgrade policy, and are exceptionally receptive to comments suggestions and about their products.

Resultz is undoubtedly a very well designed and executed product, and integrates very neatly with *Wordz*, and presumably the forthcoming database package *Recordz*. The entire suite of programs will set you back a fair amount of money, but you will be getting good value if you need the power and flexibility offered. I do have reservations about the speed of these programs, you really do need an ARM3 processor and a hard disc to do them justice, and 2Mb of RAM is essential.

Simon Burrows

The RRP of Resultz is £119+VAT, 10% Club discount when bought direct from Colton.

Larger

A review by Mark Smith of this useful little application from Warm Sane Software

Larger is one of those all singing, all dancing utility applications which promises to be so useful that you wonder how you ever managed without it. So when the the Ed phoned me and asked if I wanted to review it, I jumped at the chance.

First of all, it is one of the ever growing range of applications that requires RISC OS 3 version 3.10 or later to run. Anyone still using RISC OS 2 would be well advised to upgrade before Acorn increases the price to £89. As its name suggests, Larger gives you a desktop many times larger than the screen area. Of course you can only view part of the desktop area at any one time, but you can 'move' the monitor around the desktop to view whichever windows are of most interest to you at any one time. Larger provides 3 means of moving round the desktop. The 'Map window' shows a representation of the available desktop space, the area you are looking at and the windows on the desktop. Both windows and the screen can be moved to anywhere on the



desktop just dragging these by representations with the mouse. The other two means are 'pushing' against the edge of screen with the pointer whilst the (optionally) holding down shift and pressing the cursor keys whilst holding down alt. The only small gripe I have with this 'virtual desktop' facility is that it is possible to move the map window off the visible screen area. The only easy way to get it back again is then to retrieve all windows into the visible area, which, of course, also messes up your desktop layout!



Useful when you lose windows!

However, Larger is much more than this. It completely replaces the RISC OS 3 Pinboard. The first thing you will notice when you drag anything to the backdrop is that all icons now have a plinth placed behind them. This makes for a very neat and easy to read display of all your most commonly used applications and iconized windows.

Icons can be automatically placed on the screen, to either the left, right, top or bottom. Unfortunately, you can only set one edge of the screen for directories and backdrops (see later) and another for all other icons. I found this rather restricting as it doesn't, for example, allow you to place files along the top of the screen and applications down the left hand side.

You will also notice that the Larger menu

looks very similar to the filer menu. You can perform any Filer Operation, with the exception of delete, to any application, directory or file on the backdrop, without having to find the filer window that it came from.

Also provided is the facility to save files to the backdrop. This is useful when you need to put a file somewhere temporarily. It is also possible to cycle through windows on the screen, bringing each one to the top in turn. A useful feature if the title bar of an application you want is hidden underneath a pile of windows!

It should also be possible to create a hierarchical structure of different backdrops. For example, within your main backdrop you might create separate backdrops for DTP, Art and Music. Double clicking on the DTP backdrop icon would replace the backdrop with one showing all your DTP applications and directories.

All in all this is an excellent package. I have talked about the major functions provided by Larger, although there are also too many little extras to mention here. There were rather a lot of bugs in the review version, although the author asks to be notified of any bugs or improvement suggestions so I would confidently expect these to be fixed in the near future. At £10 it is really very good value for money. Highly Recommended.

By Mark Smith

Larger costs £10.00 including p&p from Warm Silence Software, St. Catherine's College, Manor Road, Oxford, OX1 3UJ. This price includes a site licence. In general, upgrades are available free-of-charge in return for the original disc plus an SAE.



A Review by Steve Arnold.

There have been a number of Calendar / Diary applications for RISC OS machines. These programs been available in both the commercial and PD arenas. *Event* is the latest commercial desktop diary to hit the market.

What is *Event*? It is a RISC OS desktop diary system that can produce datafiles compatible with *Schedule* on the Acorn PocketBook

and *Agenda* on the Psion Series 3 computers. *Event* is the little brother of the soon to be released '*Occasion*' which is a much larger package, which will include telephone, address book and a note book etc.

| Progress Report | |
|------------------------|--|
| | |
| | |
| Checking for datafiles | |
| Loading file Data | |
| File loaded | |
| | Progress Report Checking for datafiles Loading file Data <i>File loaded</i> |

The Progress Window

Event comes on a single ADFS 'E' format disc with a 30 page A5 style manual. The disc contains the usual *!Scrap*, *!SysMerge* and *!System* applications and of course, *!Event*. The manual is well written with the print size and pictures being large enough to be read by those with poor eyesight.

On launching *Event*, you get a 'diary like' icon on the Icon Bar (what did you expect?) and window in the right hand corner of your screen which is the 'Progress Report' window. This

| ₽ X | Event – Desktop Diary | | | |
|-------------|---|--------------------------|---|--------|
| | E Jan Feb Apr May Jul Aug Oct Nov | Mar Jun Sep Dec | Su Oct 1993 - Sa 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 | |
| | | | 31 | U v |
| \$ | | | | Ð |

The main Event window

gives the user a current status of *Event*. (nice feature). By clicking on the *Event* icon a "year/ month to view" window opens at the current month with the current day highlighted (as long as you have your system clock set correctly). There are arrow buttons to allow

you to move forward/backward to your required date. Clicking on the required day opens up one of three window types, this is dependant on which control icon has been selected.

The window types are as follows: 1) Diary page window 2) Weekly planner window 3) both diary/planner windows.



The Diary Page Window

The diary page has four entry items for input. These are Birthdays, Anniversaries, Appointments. Reminders and The Reminders Anniversaries Birthdays/ / operate in the same way, each has a reminder facility which may be selected to inform the user of pending items both before or after the date. The Appointments option has a time limit option, a reminder option, and Repeat options.

Repeat allows the entry of 'pattern' systems of work, useful for those who have irregular schedules. for example shift workers.

The weekly planner displays an overview of appointments in a 24 hour slot (vertical axis) and in the days of the week (horizontal axis). To investigate the appointment information click on one the appointment bars.

I have successfully passed datafiles between *Schedule* (PocketBook) and *Event* via an A-Link and so far no problems have been noted. This allows one common datafile for two different computers. Very useful and very easy.

problem with Α selecting 'both the diary/planner windows' option was discovered. If you have already selected "both" the windows option or opened each of the diary/planner windows individually and then try to select the dual window option and then selected the day, you end up with "fatal error 5" and a crashed *Event*. This is the only major problem I've found and

now I know about it I avoid doing this. The only other minor criticisms are that the screen fails to refresh as expected and that some items could only be accessed by menu options. New versions of this program will undoubtedly fix these issues.

In conclusion, despite the few noted problems, *Event* offers users a number of features not available in other diary programs, most notably the ability to use the diary data (via the A-Link) in *Schedule* for the Pocketbook or *Agenda* for the Psion Series 3.

Event is fun to use, the inclusion of the historical "It happened on this day" is guaranteed to interest and amuse everyone.

I like this product and I'm currently using *Event* as my general time manager. **Recommended**.

Steve Arnold

Event costs £24.95 from ExpLAN Software UK Ltd, St Catherine's House, 20 Plymouth Road, Tavistock, Devon. Tel. 0822-613868



In the last issue of Eureka, Mark Smith began his series on programming in ARM Assembly Language. In this second article he introduces some important concepts.

Hexadecimal notation

Because the length of 32 bit binary numbers makes them very tedious to write and difficult to interpret, programmers often use Hexadecimal – base 16. This has the advantage over decimal that one hexadecimal (or hex) digit represents exactly four bits, making the conversion between hex and binary very easy. The letters A to F are used to represent the hex digits 10 to 15:

Binary Hex Decimal

| 0000 = 0 = 0 | 1000 = 8 = 8 |
|--------------|---------------|
| 0001 = 1 = 1 | 1001 = 9 = 9 |
| 0010 = 2 = 2 | 1010 = A = 10 |
| 0011 = 3 = 3 | 1011 = B = 11 |
| 0100 = 4 = 4 | 1100 = C = 12 |
| 0101 = 5 = 5 | 1101 = D = 13 |
| 0110 = 6 = 6 | 1110 = E = 14 |
| 0111 = 7 = 7 | 1111 = F = 15 |

Conversion from binary to hexadecimal can be easily achieved by splitting the binary number into groups of four bits and converting each group to the equivalent hex digit:

 $10\ 0110\ 0101\ 1100 = 265C$

Similarly, conversion in the opposite direction simply means converting each hex digit into the equivalent group of four bits:

82FB = 1000001011111011

Hexadecimal notation is indicated by prefixing a number with an ampersand, & character (although on some computer systems you may see a dollar, \$ symbol used).

Representation of signed numbers

The normal method of representing signed numbers in binary is by using 2's complement. A number stored in 2's complement form is negative if its top bit is set, positive otherwise. To change the sign of a number simply invert all bits and add 1 to the result:

1 decimal = 0001 binary

Therefore, to obtain -1 in 2's complement form:

Invert all bits1110 binaryAdd 11111 binary

Therefore, -1 decimal = 1111 binary.

Going back the other way:

Invert all bits0000 binaryAdd 10001 binary– what we started with.

The ARM Instruction Set – Basic instructions

Symbols used to indicate instruction syntax:

Destination register – Rd First source register – Rn Second source register – Rm Expression yielding an immediate constant – #exp

Immediate constants can be specified in most arithmetic and logic instructions as an alternative to the second source register. They cannot take any 32 bit value. The assembler will report an error if you attempt to use an invalid constant. Any 32 bit number that can be derived by shifting an 8 bit number left by a even number of binary places can be specified in an instruction. In practice this means:

0 - 256 - all integers in this range 256 - 1024 - integers divisible by 4 only 1024 - 4096 - integers divisible by 16 only 4096 - 16384 - integers divisible by 64 only 16384 - 65536 - integers divisible by 256 only

and so on.....

MOV – Move

The simplest instruction supported by the ARM processor is one that was used in part 1 of this ARM coding series. This is the MOV instruction:

MOV Rd,#exp MOV Rd,Rm

MOV R0,#10 – store 10 in register R0 MOV R7,#&100 – store &100 (=256) in R7 MOV R4,R3 – Copy the contents of R3 into R4

Either an immediate constant (indicated by a hash, # character) or the contents of a source register is moved into a destination register.

ADD – Addition

Two registers or one register and an immediate constant may be added together and the result stored in a destination register.

ADD Rd,Rn,#exp ADD Rd,Rn,Rm ADD R0,R1,R2 - R0 = R1 + R2ADD R5,R5,#32 - Add 32 to R5

SUB – Subtract

Subtract a register or an immediate constant from a register. Store the result in a destination register.

SUB Rd,Rn,#exp SUB Rd,Rn,Rm

SUB R0,R1,R2 - R0 = R1 - R2 SUB R4,R4,#17 - Subtract 17 from R4

B – Branch

Branch to a different point (address) in your program.

B address

Usually, the address will be specified by a label.

B loop – Branch to the point in the program marked by label 'loop'

SWI – Software Interrupt

Software interrupts are used to call RISC OS routines, such as printing a character on the screen, from programs. It is equivalent to BASIC's SYS command.

SWI swi number SWI swi name

Usually the particular SWI you wish to use is specified in the assembly code by a name:

SWI "OS_WriteC" – Write character whose ASCII code is held in R0 SWI "ADFS_DiscOp" – Perform a low level operation on a floppy / hard disc

Flags

As well as holding the program counter, R15

also holds four status flags which can be set depending on the result of an instruction. An instruction must be suffixed by an S, e.g. ADDS, for it to set the flags. The flags are:

The Zero Flag – Z

This is set if the result of an S suffixed instruction is zero.

The Carry Flag – C

If an operation produces a result which is too large to fit in a 32 bit register, the destination register will hold the lowest 32 bits of the result and the carry flag will be set. For example (with 4 bit numbers):

1010

1100

10110 - A carry has occurred. Number is too large to hold in 4 bits.

A carry resulting from a 2's complement computation is usually ignored:

| 0110 | (=+6) |
|--------|----------------------------|
| 1011 + | (= -5) |
| | |
| 10001 | (ignore the carry) |
| | |
| 0001 | (=+1) – The correct answer |
| | |

The Overflow flag - V

Where operations are performed on signed numbers held in 2's complement form, it is sometimes possible (for example, when adding two numbers of the same sign) for the result of a computation to overflow into the sign bit, corrupting it and making a nonsense of the result. In these cases the overflow flag is set.

For example:

$$\begin{array}{rcl}
0100 & (=+4) \\
0110 + & (=+6) \\
\hline
1010 & (=-6)! & - \text{Overflow has occurred}
\end{array}$$

Clearly this is wrong, the answer should be +10. The overflow occurs because +10 cannot be represented as a signed 4 bit binary number.

The Minus flag - N

This is set if a result has the top bit set. For signed 2's complement calculations, this indicates a negative result.

Condition codes

So, having set the condition codes with an S suffixed instruction, how do you make use of the information contained in the flags?

Well, any ARM instruction can be suffixed with a two letter code called a condition code. There are 16, but for now we will just consider the simplest ones:

AL – Always execute the instruction

CC – Only execute the instruction if the Carry flag is Clear

 \mathbf{CS} – Only execute the instruction if the Carry flag is Set

EQ – Only execute if computation result was EQual to zero (Z flag set)

NE – Only execute if computation result was Not Equal to zero (Z flag clear)

MI – Only execute if computation result was MInus (N flag set)

PL – Only execute if computation result was PLus (N flag clear)

VC – Only execute the instruction if the oVerflow flag is Clear

VS – Only execute the instruction if the oVerflow flag is Set

If no condition code is given then the

assembler will assume that you always want to execute the instruction.

An example of the use of flags and condition codes

MOV R0,#10 .loop SUBS R0,R0,#1 BNE loop

The above short code segment will execute a loop, rather like a FOR..NEXT construct in BASIC. R0 starts off as 10 and each time round the loop it is reduced by 1 by the SUBS R0,R0,#1 instruction. This is followed by a branch instruction which is only executed if the result of the previous instruction is Not Equal to zero. If R0 is not zero the branch is executed and the processor will jump back to the SUBS instruction again as this is what follows the .loop label. Once R0 reaches 0, the branch instruction will be ignored and the processor will continue with the rest of the program.

And finally...

To round off the second part of this series there is an example program, 'ARMCode2' for you to look at and type in. It includes examples of many of the ideas introduced in this article and also shows you how comments can be included in ARM programs.

Note that, following the SUBS instruction there are two conditional instructions. Since the ADD instruction does not have an S suffix, it does not affect the flags and so the execution of both instructions depends on the result of the SUBS instruction being zero.

ARMCode2 is shown opposite, and is also included on the Eureka Magazine Disc.

REM > ARMCode2 REM By M. Smith for Eureka REM Display the letters A to Z on screen : DIM Code% &400 : FOR Pass%=0 TO 2 STEP 2 P%=Code% [OPT Pass% .start MOV R0, #ASC"A" ; Store the ASCII code for A in R0. R1,#26 MOV ; We want display 26 letters. to R1 contains number left. .loop SWI "OS WriteC" ; Display a letter (ASCII code held in R0). SUBS R1,R1,#1 ; One more letter displayed. Have they all been displayed? ADDNE R0,R0,#1 ; If not, the next letter has ASCII code 1 greater than the last. BNE loop ; And branch back display next to letter. SWI "OS NewLine" ; Otherwise we've finished - put the cursor on a new line. MOV PC,R14 ; And return. 1:NEXT : CALL start

Mark Smith

Mark will be continuing this series in the next issue of Eureka. Don't forget if you have any queries or problems when programming, our Technical Help Service is only a letter or fax away (telephone is only really suitable for the more trivial and easily explained problems).

Assembler Help

ASM_Help from Stallion Software is supplied on a single disc with no packaging or manual. The disc contains the !StrongHlp application and a demonstration copy of StrongEd V2.54 (which allows saving).

The StrongHlp application presents information (help) as a series of linked windows. A window contains text with certain words highlighted in red. Clicking on such a word opens a window general gives more which in detailed information. For example you start off with a main menu. Clicking on 'ARM Instructions' opens a window with a brief description of all the ARM's instructions. Clicking on an instruction will then go into detail about the instruction giving you the syntax for the instruction, the flags it effects and the speed in which it executes. Most of the instructions also have examples to illustrate their use. The examples often illustrate uses for the instruction that are not immediately obvious.

If you use StrongEd as your editor then pressing F1 will cause StrongHlp to open a window with help on the word at the cursor. So for example if you can't remember how the flags are effected by a compare instruction press F1 with the cursor over 'CMP' and up pops a window with the relevant information.

The assembler help provided covers all ARM instructions including floating point and coprocessor instructions. Help is also provided on the syntax of other assembler commands such as macros, supporting both the internal BASIC assembler and Acorn's desktop assembler.

If you do not use StrongEd then you can access the help with a few mouse clicks. You will also wonder how you managed without the online help on the majority of SWI, VDU and BASIC commands that also come with the package.

I must point out that the examples and help on using the BASIC assembler were written by myself. When I received ASM_Help for review I was disappointed by the lack of examples describing instructions and as a result wrote the now included examples. There were a few other areas I thought were lacking and they too have been improved. Now that the improvements I suggested have been implemented, I find it very difficult to fault the product. I look forward to !C_Help which I am told is in the pipeline.

The Verdict

ASM Help costs £10+VAT for StrongEd owners. For that you will get the latest version of the help that comes with StrongEd and the assembler help. This is good value for money for people who are still learning assembler as the product will give you the help that you need, where and when you need it, on your desktop. If you are an advanced assembly programmer then whilst it will not be of as much help I think you could be surprised at how useful it actually is. I wrote the game Fervour in 100% assembler taking over 16000 lines of source and still occasionally have to refer to the manual to remind myself exactly how long an instruction takes or which flags it affects. Now I can find the information much faster and the manuals can prop up my desk.

If you have not got StrongEd then ASM_Help will cost you $\pounds 15+VAT$ and offers excellent value for money considering you have not already got the wealth of other documentation also supplied.

Andrew Hersee

Acorn Videos

Acorn has recently published two marketing videos aimed at the home consumer market, in an attempt to encourage more people to buy Acorn machines for use at home, and appear to be a partial replacement for the television adverts which Acorn placed this time last year. TV advertising is very expensive, so by using videos, Acorn can get far more information across to the consumer, but for less expense.

The first new video is "Computers in Education – A guide for parents", produced by Acorn in conjunction with The Sunday Times newspaper. Readers of a recent series of supplements with the newspaper were invited to send off for this free video, in return for a "contribution" to the postage and packing costs. The second video is called "The Home Computer Minefield",

and is available free to people who respond to advertisements which Acorn is currently placing in the national press.

The two videos are narrated by John Craven and John Leslie (of Blue Peter) respectively. Although their target markets overlap a great deal, the two videos are very different in their approach. The Computers in style and Education takes a serious and balanced look at the use of computers in schools, and how parents can help their children. The Home Computer Minefield compares Acorn computers with the competition, and blows up the ones which don't come up to scratch! Of the two videos, watch "Computers in Education" to learn something, and "Home Computer Minefield" to have a laugh (at Acorn...).

Simon Burrows

A3000 JOYSTICK OFFER! Do you own an A3000 and enjoy playing games? In the last issue, we advertised some special joystick interfaces, which sold very well. We still have a small number of these excellent kits available, for only £10.95 each. The interfaces must be assembled before use, which requires the simple use of a soldering iron, and then plug inside the A3000 in the socket intended for a serial port upgrade. The joystick then simply plugs into the serial port of the A3000. For obvious reasons this upgrade cannot be used in conjunction with any device which required the serial port to be used, such as a modem or serial printer. The benefits are that it uses the official Acorn Joystick SWIs, making it compatible with games intended for the A3010, and because it uses the existing 9 pin serial port socket, there are no extra sockets to fit, and the interface will not interfere with printer output. The interface comes with full assembly and fitting instructions, as well as a disc of associated software. To order an interface, please send a cheque for £10.95 including postage and packing, made payable to "The ARM Club", to the following address: Joystick Offer, The ARM Club, FREEPOST ND6573, London, N12 0BR

The Autumn Games Zone

Thanks to everyone who has written in with offers of help for this column, they're really appreciated. We've no shortage of people willing to help with writing games reviews, but could do with some more hints 'n tips, and high scores. Any volunteers? If not, we'll be sending the Editor round with his thumb-screws to encourage people..

This Autumn is going to be an exciting time for games players, with many new titles appearing on the Archimedes. Acorn recently cut the price of the A3010 to £399 inc VAT, and it is rumoured that some retailers plan to slash that price even further in the run up to Christmas. Acorn has also been encouraging more companies to convert games to the Archimedes, and the coming months look like being very active. Then of course there's the Acorn World Show – the Games Arcade is very near to the Club's stand, and will look like a crashed spaceship, with a fantastic laser light display in the roof!

New games set to appear soon include Magic Pockets, Chaos Engine, Sensible Soccer, Fire & Ice, Heimdall, Power Monger, Lemmings 2 The Tribes, Haunted House, Carnage Inc., Birds of War, Crystal Maze, Xenon II (just launched), Simon The Sorcerer, James Pond II and Premier Manager.

See you at Acorn World!

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



The ARM Club Magazine page 36

Stunt Racer 2000

by Paul "Bungle" Hedderly

"Yeaahh, a 4D review? I can get loads of sarcasm in, right?" Not this time. I felt a little uneasy when the 'World Federation Entertainments Network' certification flickered onto the screen doing a fair emulation of a television being tuned, followed by a reasonable sound tracker. The certification slid off, to be replaced by a decent title screen. Ahaaa – could they both be copied from a 16-bit version? Hmm. You are a would-be stunt car driver. The year is 2037, and stunt racing is all the rage. The WFE broadcast a series of races to 750 million viewers; there are 17 tracks of which 16 are covered in 4 seasons racing, and require you to tackle a good variety of terrains. The other is only for the élite.

You start completely unqualified and with a naff car. At the mechanics you can buy and sell engine power, wheel grip, nitro engine booster, mega boosts, a scanner, and ¿TNT? To earn money you must either qualify first, or come in third or better in a race. It is a good system, not too complicated, and if you fail to qualify or win a race, your car is not degraded by the race.



Stunt Racer features fast vector graphics

Driving feel is good – the car responds well, and moves both realistically and as you expect. There are just two major faults. A partly cosmetic fault means that when you hit anything. vour car rebounds unrealistically straight from where you were coming. It can be frustrating to brush a wall and suddenly find yourself going backwards. The second involves other drivers. There appears to be no way that you can win an argument with a computer driven car – they are nearly invincible. While they can, and regularly do, push you aside, often to crash, their course and damage level do not change at all when you collide.

Thankfully, human drivers can be argued with, and the Killer game uses this to the full. Two players are placed in an arena with as many lives as they agree upon. The aim is to bundle the opponent into any wall or off any suspended road/jump handy. Six gates hyperspace you to jumps, floating pads and roads, and a giant pool table.

The two player games are best played over the very responsive serial link, for which two computers and a special serial cable are required (details are given in the manual). There is also a good practice facility.

In all, I think this is a game worth buying, even though it costs $\pounds 34.99$. While the graphics and sound aren't a revelation, the game play is excellent and rewarding.

Paul Hedderly



Jamie Armstrong rolls up his sleeves and goes into battle..

Wow! A beat 'em-up game for only £9.95? That sounds too good to be true, when almost all games now cost at least £25, if not more. So what is Blood Sport, and what do you get for your money?

Blood Sport is the first in a new range of



One of the main arenas in Blood Sport

budget games published by Matt Black Software. In general, it is fair to assume that there is a reason for a game to be priced at only £9.95, when other games cost two or three times that amount. Often this will be because a game is not up to the quality of these more expensive games, or else because there are existing games with a similar theme, so the company producing the new game must give the player some reason to buy it.

Blood Sport is a traditional beat 'em-up game, along the lines of *Grievous Bodily 'ARM*, parts of *Hostages*, and the controversial game *Mortal Kombat* from the games consoles. There is no real blood and gore, just lots of bashing up your opponents, once you've mastered all of the various key-presses needed to remove parts of your opponents' anatomy [*Erm, I think we'd better change the subject Jamie, or else you'll get a mention in Arnold's Observations! – Ed*].

Either two or three players can take part at once, with any number of these controlled by the computer. There are a number of different characters and opponents available, each with a name and particular characteristics, some of the descriptions are quite amusing.

The object of each level is to survive by thumping the living daylights out of your opponents, before they do the same to you. It takes a while to get used to the keypresses (which can be altered), I guess that one of these new *ProPad* type joysticks would be wicked for this game.

The graphics are a bit on the small side, on my monitor they are centred in the middle of the screen, with a

large black border around. The sound and music are fairly basic, but perfectly adequate, and without them the game has a completely different feel.

Each level brings tougher opponents, with better characteristics. Although not an expert at this sort of game, I managed to get through most of the early levels, and I must admit to feeling annoyed when an opponent continually got the better of me.

Whether or not you buy this game is a matter of personal taste. Some people loath this sort of game, and I must say that I found it somewhat repetitive, although admittedly most games have a major repetitive element.

The major plus factor though is the price; if for example you know that your children want a new game, but equally know that they will lose interest after a while, then why not buy a game such as Blood Sport, which costs less than a tenner? Some might disagree with the moral values taught by a game such as this, but I don't see that it is any worse than most other games available for computers. If you've only got a limited budget, and enjoy this sort of game, then Blood Sport is probably for you. It compares well with similar games which have much higher price-tags.

Jamie Armstrong

The Dungeon

Andrew Clover and Andrew Hersee combine forces to give their views on this latest release from The Fourth Dimension. Andrew Clover begins...

The Dungeon is another in The Fourth Dimension's range of rather expensive games. It costs £34.95, so what do you get for the now unfortunately fashionable amount of money? The black plastic case and 16-page manual are there as normal with 4D's games, but this game comes on three discs. There is plenty of free space on the discs, and compression reduces the game to little over a megabyte. Disc swapping, however, is not a problem once the game is loaded, and the ubiquitous key disc system allows you to run it from the hard drive avoiding the problem entirely.

The manual adequately explains that which cannot be guessed, which is not all that much: at a basic level, The Dungeon is pretty intuitive to play. To pick up an object you click on it, then you can click again where you want to put it, be it in hand, backpack, chest, or on the floor. The manual also explains the story, such as it is – the aim is simply to get out of the Dungeon, collecting as much treasure as you can, without being killed by any of the multitudinous monsters.

What immediately grabs one's attention when starting the game is the superb view you have upon your surroundings. You can imagine the scenery being drawn in vector graphics, but The Dungeon takes this a step further: the walls, the floor, the ceiling and all surfaces have sprites mapped onto them, creating a very realistic scene. If you have seen the Archimedes demo of Wolfenstein 3D, or similar games based on the PC, you will be familiar with the idea. You can forget Wolfenstein though; The Dungeon is far more sophisticated. There are shaped arches, seemingly circular pillars, staircases, and objects with holes in them. Also very impressive is the way everything fades to black in the distance; it even performs dithering to achieve this effect. All this and it still goes at a fair lick: a quite playable 12¹/₂ frames per second with an ARM2; ARM3 users get a very smooth 25 frames per second, although it does slow down when there is a lot happening. The mouse-controlled movement also helps in giving a smooth feel – as well as the normal keyboard control, you can click with the middle or right mouse button in the playing area to move, in proportion to how far the mouse is from the centre. This method is very natural and easy to use.



Andrew #1 explores The Dungeon

Clever routines, though, do not a good game make, and it has to be said, the gameplay of The Dungeon is somewhat simplistic. Puzzles are limited to finding keys and the holes they go in, working out by trial and error which

pressure-pads and switches affect which doors, and occasionally seeing where the hidden switches are. Combat in particular is poor – you can only click the right button on a weapon and hope that you will be lucky enough to hurt the monster, or throw objects at it. No skill is involved, and it can be rather irritating to have to keep saving and loading game positions every time an encounter with a monster or four leaves one of your party dead. Luckily this is quite painless, although you will need another disc to store your saved positions on. Worse is the way you have to keep stopping to recuperate, keep up the health, and keep down the exhaustion, which involves eating, drinking, and sleeping. This may be realistic, but it's not very exciting!



You can forget Wolfenstein though, The Dungeon is far more sophisticated.



The graphics are acceptable. Not great, but as good as could have been expected. The monsters are not at all bad, but could do with more animation, while the status panels are pretty dull, as is the title screen, but not garish as other games have been. Apart from a good piece of title music, sound is sadly lacking. It's sparse, and what there is of it isn't all that good – for example, every time a monster attacks you, a sound like a vomiting camel emits from your speakers, although admittedly in a nice stereoscopic way.

So far, I have managed to reach the fourth level, apparently of seven, and am stuck. Considering I haven't being playing entirely honestly, I think there is quite a lot in the game to keep you going, and despite the bad bits, it's still a lot of fun to play. Exploring the dungeon can have quite an atmosphere. Is it worth the considerable sum though? Well, despite the feeling that it's a very impressive routine, with a token game bolted on, it is absorbing and enjoyable. Had it been priced at £24.95, it would definitely be recommended, however £34.95 is a bit much. Buy it if you've lots of money to throw around!

Andrew Hersee continues...

Firstly let me get one thing straight, I am not a rôle playing game freak, and in general prefer arcade action games. This being said The Dungeon kept my interests for longer than I expected.

Some excellent music plays whilst loading setting the scene well. Unfortunately that is where the sonic treat ends, during the game sounds are very limited with no attempt at any atmospheric sounds not even foot steps. The few sounds that do exist are nothing special although it does help if you have your earphones the right way round since they are stereoscopic.



Andrew #2 finds an object, what is it?

The user interface is very good, especially manipulating objects for example you can throw an object in any direction by simply clicking on the view in the appropriate place. On the graphics side the dungeon walls and objects such as loaves of bread are very good, unfortunately they are slightly let down by the attempts at drawing more natural features such as animals.

The texture mapped 3d view is very impressive, dithering is used well to provide depth cueing. The best feature is that as your torch or candle burn out everything slowly gets darker until it's time to light another candle (assuming you can find one). Alike having to feed and rest your party it becomes tedious having to continuously replace candles, eat and sleep. Although the sleep function is quite handy since it speeds the game up so you can find a suitable place to kill things and then sleep, the animals will then come to you and wake you up ready to fight. This is much better than going into a labyrinth and being attacked from all 4 sides at once.

So we have the graphics, a little sound and a good routine how's about the game play? The game plan is lacking in some way in the fact that all you have to do is collect as much treasure as possible and escape. There seems little point in collecting treasure apart from points I assume are awarded at the end of the game (if you stick it out that long). I found myself collecting torches and other objects that inflict as much harm as possible to animals when thrown at them. It is in the area of combat I feel this game is sadly let down. In the first two levels I found no weapons and had to kill animals by throwing things at them, then if I did not run out of objects and die I would have to pick everything up again. Eventually I found a club, and discovered that weapons are not that wonderful anyway. To use a weapon it must be in the right hand of a team member. Clicking on it will then randomly injure your opponent, unfortunately you can only do this every 5 seconds or so and as it turned out the single weapon was less effective than throwing torches at the enemy. Perhaps later on when I find a crossbow for the arrows I found things will be different. I think it is

this weakness that actually makes me continue to play the game. I can't believe it has to be as difficult as it is at the moment and want to find some good weapons to teach the monks and snakes a lesson.

Puzzles are hardly puzzling they mainly consist of switching the correct set of switches, making it impossible to know if you have tried everything with the possible combinations with just 5 switches being 120. Usually though the switches are next to the things they effect making it easier, perhaps you are not supposed to get through the doors I can't work out how to open. But is that where the weapons are hidden, as you can see it's a little frustrating not knowing. Puzzles are not helped by the fact that the dungeon is so well represented making it very difficult to map. It should provide a massive challenge to any good mappers out there who want to discover everything.

My conclusion? If you have a lot of time and patience this game could keep you busy for months as long as you don't give up as it does get very hard. If however you just want a quick game of something to relieve stress this game is not for you. I suppose there is another area too, this game would be great to show off the power of your computer.



The Dungeon costs £34.95 from The Fourth Dimension, or all the usual supplies, including TMJ Software. Club members can obtain a £3 discount when bought direct from The Fourth Dimension (quote your membership number).

Andrew Clover is author of The Hacker games cheat system, and is currently working on a new game. Andrew Hersee is author of the game Fervour, published by Clares, and is currently working on a game conversion.



A fun Educational Game from Acorn Authorised Education Dealer, Le Computer, play-tested by Pete Hughes...

The name "Kim's Game" may not mean anything to many of you, but this traditional parlour game has been made famous by the long-running television programme "The Generation Game".

The game involves being shown a series of household objects, and then having to remember as many of them as possible afterwards. In the television version, the objects pass in front of contestants on a conveyor belt, in the computer version, they flash up on screen, to be remembered by the player.

Kim's Game is supplied on a single floppy disc, presented in a standard plastic wallet. A brief summary of the game play is contained on the back cover of the wallet, other instructions are included on the disc, although the game is mostly self-explanatory.

The Kim's Game application is loaded by double-clicking as usual; the game takes over the whole desktop, but exits and returns cleanly. Some people might say that it should have been written as a multi-tasking desktop application, but I would not agree with this. The graphics are simple yet colourful, keeping the attention of players, and this would not be so easy in the desktop. Also young players would be distracted by everything else taking place in the desktop. The game features little sound, although various sound tracks can be played during the game if selected.

The game tries to establish a rapport with the player, for example by asking what his or her name is, and using this during the game. The first level displays four every-day items, each displayed on screen for five seconds (by default), after which the player is asked to type in the names of the items. In normal mode, the names must be typed in using the precise spelling used by the program, although a "sounds-like" mode is available, which allows many other spellings to be accepted.



An object is flashed up to be remembered

Le Computer have an interest in Special Needs, so perhaps a future version could also have the facility to say the names of the items out loud, to cater for visually impaired users.

After each successfully completed level, the player can continue to the next one, where more items will be displayed, out of a total of sixty in total, including items such as scissors, banana, spanner, bed, radio, spoon and so on. Various options can be configured by the teacher or parent, including time delays, music, sounds-like spelling etc.

So what is the game like to play? Quite simply,



Kim's Game features colourful but simple graphics

it is annoyingly addictive! I suppose this is because it highlights the limitations of one's memory, and the player has a constant feel that one more game will be enough..

Kim's Game is not aimed at the archetypal games player who enjoys blasting aliens and bashing keyboards. There are two markets which it caters for admirably, parents looking for computer games to keep their children occupied, whilst at the same time having some educational benefit, and also primary schools. The game is suitable for all age-groups, but as children get older, they are more likely to be prejudiced against any game which does not appear on the Nindendo or Sega consoles, or does not rely on speed of reaction or quick thinking.

Priced at £25.00 inc VAT and P&P, Kim's Game is cheaper than many games appearing at the current time, and almost uniquely can be happily played by all members of the family. Parents should beware though, it can be embarrassing when your kids prove to have better memories than you do! Schools should jump at the chance to buy a game such as this, and families are unlikely to be disappointed.

Pete Hughes

Kim's Game is available from Le Computer, Main Road, Willows Green, Chelmsford, Essex CM3 1QB, priced at £25.00 inclusive.

Club News

continued from page 4

...different parts of the country at members homes, although there is a preponderance of

meetings in the south of England at the moment. This is more a reflection of the addresses of the current committee members than anything else. We hope to get at least an 80% turnout of committee members for these meetings which are held on a Sunday afternoon at the moment.

The Club also tries to attend the major Acornrelated shows, which this year have been held at Harrogate in April and at Wembley in October. They are both tiring and enjoyable and also a little fraught at times. Of course not every committee member attends all these functions every time.

Now onto the various committee posts and their functions.

Chairman – this is quite hard work as it entails keeping order at the meetings, attending official events and generally keeping a clean, high profile within the Acorn community. You also have to devise ways of keeping the club solvent and pay for the donuts at our meetings.

Vice Chairman – this is a little more cushy as you only have to stand in for the chairman in his absence. Unfortunately this can mean having a call to duty at very short notice so you need to keep a supply of donuts handy.

Treasurer – this may be regarded as a plum job, but all the money is in cheques made out

...continued on page 53...



Version 1.21 under the spotlight

As a follow up to my extensive review of Almanac, the personal organisation package, in the last issue of *Eureka*, Stallion Software have supplied a copy of version 1.21, which has a few improvements. I shall briefly list these, and their uses.

Online Help

Provided by the !StrongHelp program, familiar to those with a copy of !StrongED, (now distributed by Stallion). This works in an attractive "Hypertext" way, and provides help on all the parts of Almanac in a useful and brief way.

Fax-Pack & Arc-Fax

Automatic dialling from buttons in the Almanac Address window.

Export & Import

A really good, comprehensive and configurable import and export feature has been included, allowing details from any part of the system to be imported from other files (CSV and so on) and exported to files & printer. It takes on a highly varied format, where the field names can be arranged in any order on the import/export format designer, and with a few printing features thrown in, this provides a system that can be used for all purposes.

This is the major addition to Almanac for this version, and takes the program from being useful to being REALLY useful. On the import side, all those who were organised before they bought Almanac now have a simple way of inputting their saved address database, and any other diary details from other diary programs. On the export side, any of the sections of Almanac can be exported to a multitude of formats, arranged in any any you wish. For example;

Your address book can be used as a mailing list for a mailshot from another program. Your daily diary details for the next day can be output to a specially designed Impression file, and printed out neatly on a Filofax sized page!

Redesigned Templates

Minor changes have been made to most of the templates, which now appear in more convenient locations on the screen, and have been improved to cater for the emerging "3D" style of presentation. Some of the sprite buttons and pictures denoting record classification had previously been shown only half size, which was a little hard to see on anything short of a good multiscan, but there is now a "full size" option, which solves this.

Eureka recognised!

Amongst the prepared sprites for record "classification" there is a Magazine section, which includes sprites for all Archimedes press, and even a sprite for Eureka! (Simon, our beloved editor, will be delighted by this!)

In conclusion, these new features severely improve Almanac (though I am yet to see a new & readable manual) The physical "portability" problem I outlined in my previous review has now, to all intensive purposes, been solved, as have most of the "presentational niggles" which I mentioned in my full review of Almanac.

Toby Smith

The Almanac upgrade is free to registered users on receipt of the original disc plus an SAE. A Club discount of 10% is available on the full package. Almanac requires RISC OS 3.



Nick Evans talks about the latest Eureka Disc and the material it contains...

At last, none of you had to return defective copies of the last magazine disc. It can only be downhill from now on..

There have been 10 discs of PD clipart added to the library this time, the price is still $\pounds 1.00$ per disc, including postage and packing.

This current catalogue is that which will be available at the Acorn World Show. The PD library plans to be there in with some old, and also some new, ARM Club faces. These shows are the main events in the Acorn users' calendar and afford an opportunity for members of The ARM Club to meet, talk, moan and all the other things that enthusiasts do. The October Show tends to be the only time when a significant number of ARM Club members can meet, apart from the annual Open Day which this year is to be held at Belmont School (just across the road and west a bit from Mill Hill school in north London) on Sunday, December 5th from 10am - 4pm, followed by the AGM.

As an incentive to members to come to the Acorn World Show you will find, elsewhere in this magazine, a voucher which can be exchanged for a free PD disc when you buy any number of PD discs from our stand. We also hope to have some compilations of discs for sale, but these details are yet to be finalised. The magazine disc this time contains only a few programs, but they are all of high quality, and as usual are all written by Club members.

Basic-M/C was written by Sean Creech many years ago and is a useful utility that converts BASIC files so that they can only be RUN and not listed or LOADed.

BeepError is written by Piers Wombwell and allows you to assign a chosen sound sample to an error message. The instructions are easy to read and the program is easy to set up and 4 sound samples are included on this disc so that we can put more programs on it. The number that you use is limited only by the size of the disc on which BeepError resides. Program17 PD disc contains 15 samples including this four. [Nick tells me that he torments his secretary at work with this program! – Ed].

Creepie2 is a Centipede type game from Mark Johnson. The ARM 3 users among you will need to turn the Cache Off unless you can play at the speed of light.

FileTree produces the file tree structure of any disc as a Draw file and is written by John Tytgat. ProLabel can be used to produce commercial quality disc labels with great ease and is written by Peter Eastwood using Helix Basic. Draw files can be incorporated along with text.

BLibII is for those who program in BASIC and contains a useful collection of procedures and functions to save you from having to re-invent the wheel everytime, and also a link program to allow these to be easily used.

All these programs are archived using ArcFS and the very latest ArcFS reader (version 0.60) is supplied on the disc.

Nick Evans



In the footsteps of "The Hacker" comes this new desktop disassembler, put through its paces by Dave Harris.

Diss, from Doggysoft, describes itself as "The all singing, all dancing, Desktop disassembler". A bold claim, so we'll see how it measures up. Diss costs £10, the same as John Tytgat's *Dissi* package in its registered form which is its primary competitor. There are also various PD disassemblers available including demo versions of *Diss* and *Dissi* plus several that are only circulating in PD format.

Here's the competition I've tested alongside Diss:

!Dissi by John Tytgat, v2.04MR (Registered version) £10
!QZap by Kevin Quinn, v0.15, PD
!DisAssem by Henrik Pedersen, v1.22, PD

The last two have not been updated for some time to my knowledge, however Dissi and Diss are both actively developing. A new version of Dissi is being worked on at the moment and will have several useful new features.

I've taken it for granted that all these programs do the obvious things you'd expect from a disassembler – accept drags of files, display a window showing the output and so on.

However, despite the apparent narrowness of the topic range there are some major differences in the design strategy in the various applications, resulting in very different products making it important for you to choose the one that best suits what you want to do. Diss, to quote from the manual, will "...allow you to disassemble, edit and debug any file ... and save back with any changes" – this is worth highlighting: Diss allows you to modify the program which you are disassembling. Put another way, it is best suited for hacking or patching other people's code; a task usually performed with a debugging package.

Dissi does not allow the object being disassembled to be modified - instead it offers far better source generation facilities. If I ever had to try to regenerate a lost source file (or reverse engineer something!) Dissi is the tool I would choose. Dissi does its best to automatically label the source it creates, often leading to very little editing for a reusable source file. Labels must be manually placed with Diss, which can be rather timeconsuming.

QZap is a front end to the inbuilt disassembler with facilities to go to a location, have multiple views, and order the columns of the output in any order. For checking code you have written, and therefore recognise, it is a versatile tool (and one that I used a lot before Diss and Dissi came out). DisAssem lacks the new views feature, but does have marks/labels, branch following and the ability to grab memory.

Neither of the PD applications have the range of features found in Diss and Dissi, but both are fine as a desktop front end to the inbuilt disassembly features of RISC OS.

One thing which becomes very apparent when using Diss is that Doggysoft have chosen not to use the inbuilt disassembling facilities of the RISC OS Debugger module.

This will have a severe effect on many programmers since no coprocessor transfer instructions are disassembled (though it does have floating point co-processor opcodes), and it has several bugs I spotted on disassembling ARM instructions. For example it claimed that a SWP instruction was a TST instruction. Using its own disassembler is a big liability since it has clearly not been well tested and falls short of the inbuilt one which the other three applications use. Using the inbuilt disassembler has a further advantage - it makes the other applications more future proof since the inbuilt one is updated by Acorn to match the processor. The SWP instruction is a good example - the inbuilt disassembler has been updated by Acorn to recognise it, and the other three applications automatically take advantage of it. For this reason I would not choose to rely on Diss to generate source code, however it still has some value as a patching tool.

In use Diss has many options, which are explained in the 12 page manual – however

at times it does give off bad vibes about the design of the program, for example "this menu has all the odd functions which seemed to fit nowhere else in the program".

However, in use Diss is an odd animal. Claiming to be a disassembler it tries to be a debugger, a patching tool, and a source generator. As a result it has some of the desirable features of all of them but not enough to be a complete solution. To me it lacks the design focus of Dissi, which tries only to be a disassembler and source generator and does not have features that are irrelevant such as patching the object, or changing the length/ filetype of the object.

Future support appears uncertain. The manual explains the upgrade policy clearly enough: the first upgrade is free on receipt of the original disc, and subsequent upgrades cost £1 each. However there is talk of a major version 2.00 "at the end of this summer when I get fed up with my other products" which will cost £5 to upgrade. Obviously, this new version has not shown up yet and the other products are still preventing Diss from being developed as was originally intended. The disassembler module is also available separately at £5 – a waste of money until it can disassemble as well as the inbuilt disassembler supplied with RISC OS.



A SWP instruction displayed in Diss and in Dissi

| Diss | | | | | |
|-----------|-------|-------|-------|------------|--------|
| Misc | \$ | | | | |
| Save | \$ | 8 | | Goto : | |
| Goto | F5 🔶 | 8 | | Ĭ | |
| Search | F4 🔶 | | (| | |
| Base | \$ | Abso | lute | Relativ | 2 + - |
| Selection | \$ | List: | Last | Current | t Next |
| Labels | \$ | Noone | | last [| Novt |
| Stack | \$ | neare | ·st: | | next |
| External | ¢ | | The m | ain Diss m | enu |

In conclusion, Diss is trying to be all things to all people and fails to satisfy any. Dissi outperforms it for source generation, and Acorn's DDT, QDebug (and for that matter DoggySoft's own Hacker) are more suited to debugging code. However, the look and operation of the program is hard to fault – it's just that it is not actually capable of producing an accurate disassembly of code to work with.

It seems that some of the energy that could have gone into designing a more useful product or debugging this one has been used to incorporate a scrolltext into the program, which displays some credits but also some material which you wouldn't expect to see in a commercial application. For example, it refers to various people who have presumably upset Doggysoft in some way in the past. The Info window's registration field is used to display the following text, which I quote here without editing (other than skipping some bits), spelling

 About this program

 Name:
 Diss
 Diss

 Desktop disassembler
 Desktop disassembler

 Author:
 Ben J. Dooks of DoggySoft

 Version:
 1.23 (30 Aug 1993)

 User:
 Fergie is to motherhood, what her husband

correction or comment – please draw your own conclusions:

'Good books worth reading: Terry Pratchet: Mort, Isaac Assimov: Atom, ... Acorn Programmers Reference Manual & A3000 Technical Reference Manual (the last two were a sick joke)'

'Fergie is to motherhood what her husband Andrew is to nuclear physics. He is so narrowminded he could look through a keyhole with both eyes'

'Thanks to ... Alan Glover (for giving Jon someone to argue with and writing rubbish), Tim Browse (for giving Jon someone else to argue with) ... the lighting crew at D G C S for nearly electrocuting Mr Clare and being a load of weird blokes who set fire to each other in chemistry lessons'

'Chemistry is one big grey area. Physics teachers spend more time with coffee than teaching us physics'

'T N T (Tri-nitro toluene) and how to make it c) use. (next production we will learn how to make Picric Acid (1ST World War explosive)'...

Dave Harris

Diss costs £10.00 including postage and

packing from Doggysoft, 7 Blackhorse Crescent, Amersham, Bucks, HP6 6HP. Cheques should be made payable to Doggysoft.

The PD version of Dissi by John Tytgat is available from most PD libraries, and can be upgraded.

The rather inappropriate scrolltext





A brief selection from our recent mailbag..

Dear Sir,

I read your editorial in Issue 8 with a good deal of interest. As no more than a humble primary school teacher, may I make the following observations:

Acorn's primary market has (despite what all you hackers and programmers may think!!) always been the school. Along with Research Machines, it has over 80% of the primary school market and a good proportion of the secondary school market.

As a result of the fact that comparatively few schools have yet "opted out", most schools especially primary - get their money from the LEA, which is having its budgets cut by central government. Most LEAs, which weren't entirely convinced about the value of IT in the first place, have, therefore, cut school budgets making it even more difficult schools purchase or for to upgrade equipment. Whilst demonstrating for Acorn during their TESCO day at our local Tesco store I was witness to some children from another school playing, in a rather awestruck manner, on an A420. Their teacher confided in me that they hoped to use the scheme to purchase a similar system. I found this a sad reflection on our education system. Unlike a single user, who can afford to indulge in the latest widget, schools have to think carefully as this will involve either a multiple purchase or a site licence, both of which can be very expensive.

By all means, Acorn, carry on the good *an* The ARM Club Magazine page 49

work. My A440 is infinitely betters than my old Beeb, but don't expect us to purchase a new room full of machines just because you produce a new model. We don't have bottomless pockets, you know.

Yours faithfully,

Mr Christopher Price

Many thanks for your letter and comments, Mr Price, which were put by several members. I've heard staff from Acorn put a similar point of view, referring to the need for market stability in order to achieve growth. However Acorn surely needs to keep up with the competition, otherwise its machines will lose support?

Dear Sir,

I was concerned at some comments in your magazine about using floppy discs at wrong densities, and hope that you will publish this letter so that Club members understand the risks. Doing this will almost certainly lead to loss of data, since high density discs are coated with a different and less sensitive oxide than double density discs, requiring a higher voltage to write to them. To repeat, you can only use a disc formatted to the wrong density for a short time at best, and preferably not at all. Never put one of these away in your collection of floppies, because the data will not be there when you next look at it!

Yours faithfully,

Mr Leo Belcham

We only sent out a very small number of high density discs, because we had run out of the ordinary (less expensive) ones. Apologies for any inconvenience caused to members.

Calc

A commercial version of the well-known shareware spreadsheet hits the streets..

A recent *Eureka* Magazine disc included a copy of the shareware spreadsheet package *Calc*, written by Club member Colin Turnbull. Colin has made many improvements to the package, and it is now marketed under the "Circular Triangles" label, priced at £24.95.

So what exactly is Calc? It is a budget-priced spreadsheet, claiming to offer most of the functionality of much more expensive packages such as Schema, Resultz or Eureka. Circular Triangle have recognised that potential users may be sceptical that such an inexpensive package can meet their needs; following from its shareware heritage, buyers can have the package on approval for a few weeks, after which time they must either return the package stating that no copies have been retained, or pay the very reasonable asking price. Let's hope that nobody abuses this trust.



Calc, explaining them in turn and asking the user to try them out, gaining confidence and experience. The manual is well written, starting at a very basic level and working through the many features. Each chapter includes a checklist of things covered. It starts with producing a simple spreadsheet, and making it look pretty, more advanced spreadsheet manipulation, producing graphs of sheets, logic programming and so on.

In some places, the manual probably goes too far back to basics, for example describing what the caret looks like "*thin, red, vertical line with twiddly bits on the end*", but this does not really detract from the value of the manual to all users. One thing which the manual does not really allow you to do is jump between the chapters, since some chapters follow on from the previous ones, and uses sample files which

> have been created as a result of working through those chapters.

> Calc uses two windows, the *Sheet* window which holds all of the data, and the *Command* window which takes the majority of Calc's keyboard input. For example, formulæ and commands are entered in the Command window, and their effects are shown in the Sheet window.

The Sheet and Command Windows of Calc

Calc is supplied on a single, non-protected floppy disc, complete with properly printed and bound 50 page manual. This takes the form of a tutorial, running through the various features of In use, Calc is easy to get the hang of, relatively quick, and offers all of the "everyday" functionality which a user could want. The limitations of a budget package such

as this come when or if you want to perform more exotic activities using Calc. Thus it does not feature hundreds of statistical functions or the like offered by full-price packages such as Eureka 2 or Resultz. For many users, this will not matter, since Calc features all of the important everyday features. Functions available include the arithmetic and trigonometric common operators, along with Average, Minimum/ Maximum and Spread. Quite powerful replication facilities exist, with three different types of copying, Absolute, Partial and Relative.

Simple logic predicate functions are available, although there is no explicit "IF" command. Simple equality statements are evaluated to either **-1** if true, or **0** if false. An example from the manual is the formula **B2**/ **2*-(B2>100)**. The result of this is half the value of B2 if B2 was larger than 100, otherwise 0 is returned.

Calc does not handle large numbers of different file types and formats. Instead, it uses its own CalcSheet filetype, and can also load & save in Comma Separated Variable (CSV) format, which means that data can be transferred to/from all popular programs.

Calc includes some simple graph plotting routines, and the results can be saved as sprite or draw files to be used in other packages or be printed out. Calc was four types of graph which can be produced, Line, Bar, Stick and Pie-chart, and a number of options exist to customise the look of a graph, for example its axes and range, colours, title and so on. Compared with Pipedream 4, for example, the facilities are fairly limited, but again there is enough functionality to cater for the majority of users. Calc uses its own simple command language, and this is made even easier to use by the way in which clicking can insert details of a particular cell in the spreadsheet. Various function keys are available for regular users, and a drawfile of the function keystrip is supplied with the package.

Conclusion

Calc is a very competent package for its price. It does not offer the wide-ranging and very comprehensive functionality of other, much more expensive spreadsheet packages such as *Eureka 2, Schema 2* or *Resultz.* However at only £25.95 inclusive, it is only a fraction of the price of the alternatives, and for many people would be a perfectly adequate spreadsheet for occasional use. Once you have picked up the basics of how to use it, Calc is quick and easy to use, and contains many powerful features.

As I said earlier, Calc can be made available on approval to any potential customer, so that you can satisfy yourself whether it will suit your needs before taking the plunge. The author of Calc is very responsive to feedback from registered users, so if you have problems or require particular features to be added to the program, these are very likely to be dealt with.

Roger Withers

Circular Triangles can be contacted at the following address: 13 Woodhall Terrace, Juniper Green, Edinburgh, EH14 5BR, SCOTLAND. Calc costs £25.95 including postage and packing. A fully working evaluation copy can be obtained by sending a blank disc and a stamped-addressed envelope.

Colin Turnbull, author of Calc, also played a major part in the development of "1st", a very comprehensive and powerful statistics package available from Serious Statistical Software.

Exploring the Internet

Continued from page 11

...DIS offer telephone support Mon-Fri 9am-9pm, Sat 9am-6pm when they will answer any questions. Unfortunately, they don't know much about the Arc (they recently bought a Macintosh in order to support that machine better, so there's hope for us yet). They may also be called at any time to report a problem with the DIS service, but outside of support hours you'd better be sure it's not your end that's at fault...

DIS may be contacted at

Demon Internet Services 42 Hendon Lane London N3 1TT Tel: 081 349 0063 E-mail: internet@demon.co.uk

Hardware Requirements

Basically, the faster your modem the lower your telephone bill. If you live within a local call of one of the PoPs and take only a few low-traffic newsgroups then 2400 bps may be adequate. If you are a long-distance call away and download a lot of news then a fast modem with V32bis compression will pay for itself quite quickly. Note that the effective data transfer rate will be lower than the connection speed due to the protocol overheads of TCP/IP, bandwidth limitations of links and the loading on the remote computer.

Software Requirements

The software used to connect to DIS is called ka9q (Acorn's TCP/IP package is unsuitable for this purpose). You can read incoming mail and news using just an editor, but this is not very satisfactory and creating outgoing messages is very complex. A mailer simplifies reading/ sending mail – one called BM is (usually) provided with ka9q, but it is very primitive. A

newsreader like ReaderS (£10 Careware) will let you send/receive mail and news.

You can obtain ka9q by downloading it from Arcade BBS, where you can also contact Anthony Frost for details of how to obtain ReaderS.

Conclusion

The Internet can either be a treasure trove of information or a waste of money - it depends entirely on your needs and whether or not the Internet can satisfy them. You may even find that some of the things it offers (like Usenet News) satisfy needs you never knew you had. Before rushing out to join up, you should realise that the Internet was never designed for hobbyist use - BBSers and users of 'handholding' services like Compulink or CIX will likely experience some degree of culture shock. Nobody offers you files on a plate with nice menus or guarantees that what you want will be there; you have to do much of the work vourself (but the no-frills approach also means a cheaper service). Those who encountered JANet and/or the Internet at university will have little difficulty deciding whether or not DIS is for them. Those with modems can try it for a few months without breaking the bank. Those without a modem and on tight budgets will need to give it more careful consideration, perhaps first buying a cheap modem and exploring BBSs before venturing onto the Internet.

Further Information

For more information, please read the full version of this article on the Eureka Magazine disc, which includes a recommended reading section at the end.

Paul L Allen

Paul is an Internet junkie who suffers withdrawal symptoms if he doesn't get his daily 0.5 MB fix of Usenet news..



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...to The ARM Club, and some hiccups in the cash flow may have to be ironed out by you.

Membership Secretary – this really can be a bit tedious and not for people who don't understand Squirrel, the Club's preferred database. It means spending a couple of hours each week at the keyboard with a flurry of quarterly activity producing address labels for each issue of the magazine and woe betide you if issues go astray! It is imperative that you keep thinking up new formats for producing a list of names and addresses.

Technical Adviser – this involves dealing with technical questions and problems, so it helps if you know your Archimedes insideout.

Magazine Editor – this must be the worst job of the lot. After all he has to edit drivel like this and keep smiling whilst being harassed by everyone else because the publishing deadline was last week. Most of the press releases come 30 minutes after the magazine has gone to the printers. There must be some good points to this job but I can't see them, perhaps Simon is easier to please than anyone else in the world.

Public Relations Officer – this involves being nice to firms just in case they are going reciprocate and be nice to the Club. Again lots of donning of suits, but at least your hair can be of any length. Several visits are necessary during the day to product releases with all the sausage rolls, crisps and Coke that implies. Not for the abstemious or those on a diet.

Secretary – another job that involves a bit of work but it is eminently suitable for those out of work with a big piggy bank. At the moment I'm doing this (with another job) but am open to offers (how much money do you want to take over?!).

Member without portfolio – these are general odd-bods who just help out and advise when the urge takes them. There are two of these on the Committee, and they tend to eat most of the donuts at meetings.

Of course other people may be co-opted onto the committee from time to time and we are always on the lookout for unsuspecting souls to be dragged in to help with our various activities. Writers of articles, producers of programs & experts in general can apply now.

If anyone wants to propose themselves or any other Club member for the Committee, or wants to help in any way then please write to the Secretary at the Freepost address in the next couple of weeks. To comply with the constitution the nominations should reach me two weeks before the AGM. Everyone is welcome and urged to attend and any ideas that you have will be gratefully received, and may even be acted upon.

Nick Evans & Simon Burrows





The RISC OS 3 Style Guide is now available from Acorn, and contains large amounts of advice and guidelines on how programs should be written to fit in with RISC OS and other applications. The new Style Guide uses a 3D appearance throughout, and the application to achieve this, called *!NewLook*, is supplied on disc with the manual. It will also be given free-of-charge to everyone who visits the Acorn World Show.



The front-end to Acorn's long-awaited !NewLook application

A rather good offer is currently available; for $\pounds 249.95$ inc VAT, you can obtain an Acorn Pocketbook computer, *Schedule* software, *A-Link* (to connect the Pocketbook to your desktop Archimedes), 1 year hotline support for the Pocketbook, and a copy of Acorn's *Advance* suite of applications, reviewed in the last issue of *Eureka* and including wordprocessor, spreadsheet, database and graphing package, all designed to run on your Archimedes (not the Pocketbook). The offer lasts until the end of 1993, you can order by sending a cheque or

credit card details for £249.95 to: Acorn Direct (Advance with Pocket Book Offer), FREEPOST, Wellingborough, Northants NN8 2BR. Allow 28 days for delivery.

Don't forget that the price of RISC OS 3 upgrades is set to increase from £59 to £89 at the end of October, Acorn has already discontinued the cheap A5000 upgrade packs.

Early in September, Acorn announced a number of price cuts to its range of machines, for example £100 off the price of an entry-level A3010 machine. For full details of the prices, ask your local dealer. The A5000 computer has now been upgraded to feature a faster (33MHz) ARM3 processor, and can be upgraded more easily to 8Mb of memory. Acorn itself does not supply 8Mb versions of the A5000, apart from in its professional publishing packs. A new faster version Floating of the Point Accelerator chip for this machine will be launched next year.

Acorn has been involved in many shows recently, including the *Micros for Special Needs* Exhibition, *Live '93* and the IPEX professional publishing exhibition. A major advertising campaign is currently taking place in the press, tied in to Acorn's free videos, and Acorn has appointed new Advertising, Press and Public Relations agencies.

Simon Burrows

Final Thoughts

Why do people buy Acorn computers? The vast majority are bought for use in schools and colleges, followed by those used in the home, with comparatively few used in other environments, for example business, despite there being a lot of highly competent and inexpensive software available which could be used in the office.

Acorn is slowly attempting to educate these other markets, currently with its push into the professional publishing markets, where its machines are unmatched for their price/performance characteristics.

Members of The ARM Club are also split between those who use Acorn computers in school, and those who are home users only, although there is a significant overlap, partly because so many teachers and pupils discover how pleasant Acorn computers are to use, compared with the alternatives.

A significant number of you are due to renew your memberships over the coming months, and we hope that you will choose to do so. Many of our services such as the Technical Help Service have developed greatly over recent months, and we expect them to continue doing so in the future, with your support. See you at the Acorn World Show!

Please address all correspondence to The ARM Club Secretary at :

> The ARM Club FREEPOST ND6573 London N12 OBR

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