Eureka

The magazine for members of

THE
ARM
CLUB

Acorn WORLD

What to see at the big show

Ovation Pro challenges to be *the* Acorn DTP program

Dr Smith's C Development Toolkit

Colour printing with the Canon BJC-4000

Music Maker reviewed

Issue 20 — Autumn 1996

What's Happened To Eureka

Welcome to the new-look Eureka. So what was wrong with the old look? Nothing really, but it's always good to have a change from time to time and with a different Editor taking over, with some different ideas, a different look has emerged.

The first big change you will have noticed was, of course, the cover and our thanks go to Christopher Jarman for the very big part he played in its design.

If you are wondering what has happened to the contents page, which used to be here, wonder no longer but just turn over to pages two and three to find another new look.

We are sorry about the unintended dark looks of the illustrations on about a dozen pages of the last issue. This was a problem at the printers, beyond our control. We are using another firm this issue.

We hope you like the changes. Write in and tell us (by email, if possible) and perhaps see your well-considered words in print. In fact, letters on any Club or Acorn subjects are welcome and will be published if of general interest.

All opinions expressed are those of the authors

and not necessarily those of the Club or its officers.

Contents

Ovation Pro Arrives At Last

REVIEW

Work on Ovation Pro has gone on unceasingly since it was first demonstrated some two years ago. Even when it finally went on sale, in June, Beebug warned that it was still incomplete and not without its problems. Two free upgrades were promised to follow in the next few months.

Peter Jennings puts the long awaited desktop publishing program from Beebug to the test by using it to produce this magazine.

Ovation Pro comes on eight discs with a 288-page wire-bound manual, a slimmer tutorial, some pages of release notes and a folded A4 quick reference card. These are contained in a strong outer box, which should stand up to whatever the Royal Mail does to it, but a rather flimsy inner box which will not last very long if it is to be used to store the manuals on the user's desk (in poor contrast to the sturdy slip-in case which houses Impression Publisher).

However, the contents are what really matter and they stand up to an initial inspection very well. Two of the discs contain the program and a loader, the others have a thesaurus; tutorial; extras, including SparkPlug, Bubble Help, a user dictionary and a cut-down Junior version of the program; two discs with more than 50 fonts from Acorn, Beebug and EFF and one of clip art from DEC_dATA. The documentation is detailed and clear.

Running the program puts a new icon — another variation of the DTP scroll and quill cliché — onto the icon bar and clicking on this opens a page with the default A4 document frame.

Clicking Menu on the icon opens a window with the usual Info and Quit entries plus New, Clipboard
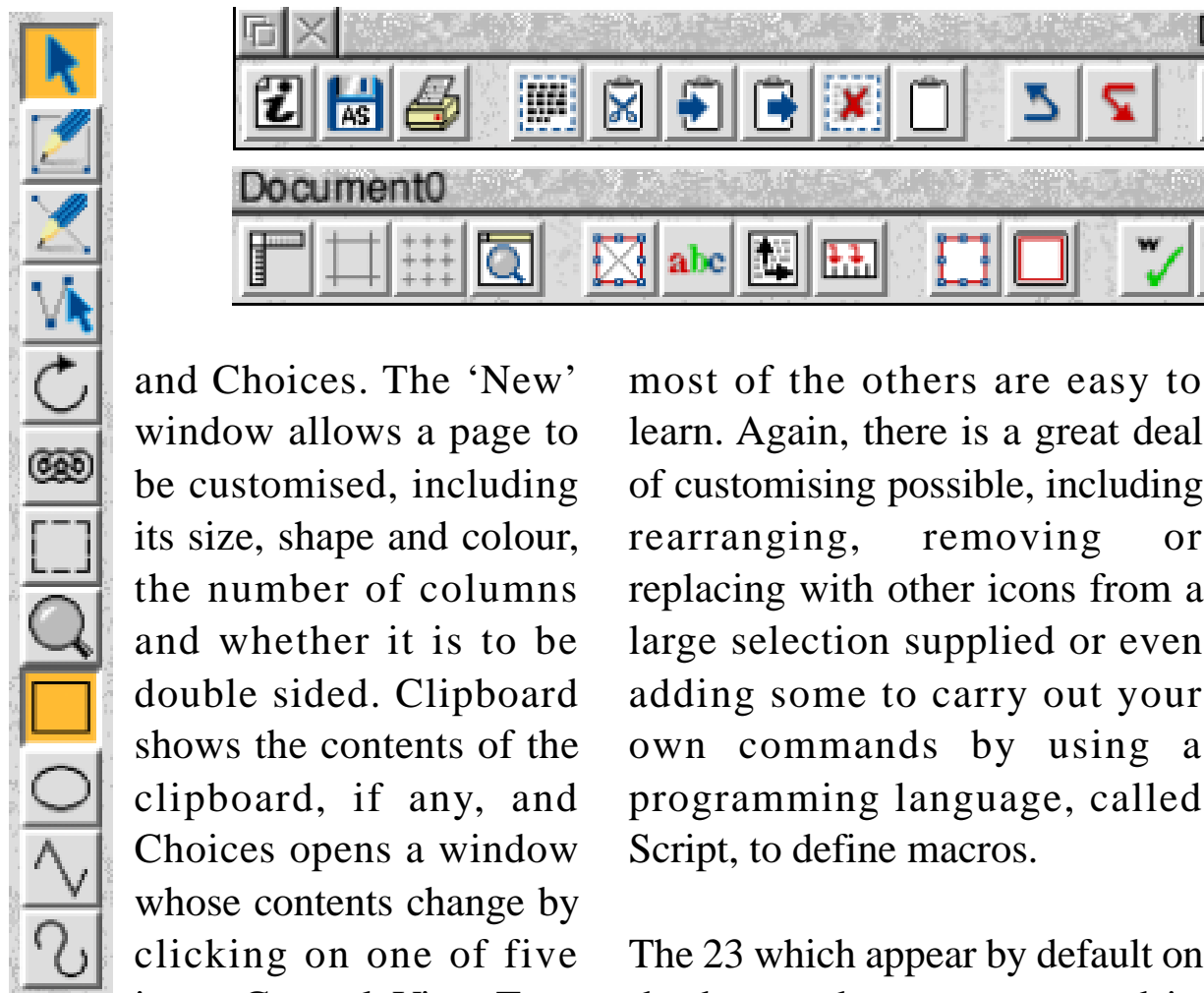
and Choices. The 'New' window allows a page to be customised, including its size, shape and colour, the number of columns and whether it is to be double sided. Clipboard shows the contents of the clipboard, if any, and Choices opens a window whose contents change by clicking on one of five icons, General, View, Text, Picture and Line, for further customising.

The first thing you notice when opening a page is the array of about fifty icons lined across the top, down the left side and along the bottom of the window. These are not as daunting as they may first appear. Many of them are immediately self-explanatory and most of the others are easy to learn. Again, there is a great deal of customising possible, including rearranging, removing or replacing with other icons from a large selection supplied or even adding some to carry out your own commands by using a programming language, called Script, to define macros.

The 23 which appear by default on the button bar are arranged in groups, separated by spacers. They begin with one for a File info box, which shows details of the size, number of words, pages and chapters in the current story and in the whole document, and this is followed by Save and Print. Then there are buttons to Select All and Cut, Copy, Paste and Delete the selection, show the Clipboard and a reassuring pair for Undo and

Redo. Rulers, Guidelines, Grid and Zoom come next, followed by buttons to Modify Text/Picture, change Text Colour and Format, Display Tab Ruler, Modify Object, Frame Border and Spell Check.

The toolbox at the left provides the means for designing and linking frames of varying shapes and drawing straight or curved lines, rectangles, circles and ellipses. The box can be moved and reshaped and the tools rearranged.
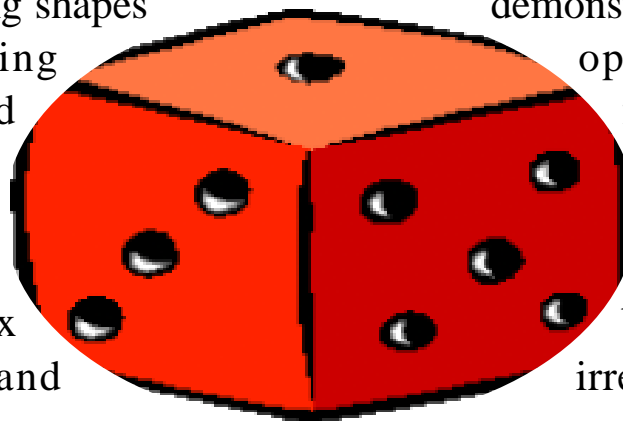
A graphic frame of any shape can have the picture made to fit it. Text will flow around it.

The info palette at the bottom, which can also be detached and moved around the screen as you wish, is context sensitive. This means that the details it shows vary according to the tool or object selected. So, for example, while you are working on text the window will show details of the text frame size and position and the selected font, its size, style and format, and there are buttons and

write-in boxes to change them. Other appropriate information will be displayed when a Picture frame, Line, Path Edit mode, Rotate or Zoom tool is active.

One of the features which has most impressed onlookers whenever Ovation Pro has been demonstrated at a show or open day is its facility to manipulate both text and graphic frames. They can be embedded, irregular shaped and rotated with ease. Text inside a rotated frame remains editable at any angle. Graphics can be clipped to fit the shape of the frame and text will flow correctly around it.

Automatic drop caps can be set very easily, with a choice of line sizes. There are kerning, tracking and auto hyphenation and a unique (at least on the Acorn platform) enhanced justification, which adjusts the spaces between letters

as well as words.

Documents are designed, as expected, by using master pages and styles. When you open a document for the first time it has only a single master page which is, of course, the default one unless you choose to alter it. A new one is then automatically created for each new chapter and you can, if you wish, alter it — such as by changing the chapter number — without affecting pages in other chapters.

Frames can be an irregular shape and text can be set at at any angle and still be edited.

Styles, which can be allocated F-key numbers (or other key combinations), are set up or altered in an edit window which shows all their attributes and includes a sample phrase in the chosen font. There are buttons to access other windows for editing Text, Format and Tabs. The Text and Format windows have boxes against the attributes and a tick in one shows that it is set on. A blank

signifies that it is off and there can also be a cross indicating that it will have no effect. This confused me for some time. I kept wondering why all the styles I had created based on Bodytext had a drop cap until I eventually realised that the cross entered against it was not cancelling the drop cap but meant that the original setting for one would *not* be changed. *[Next time RTFM. Ed.]*

Object Linking and Embedding (OLE) is supported. Pressing Control and double clicking on a picture loads it into a suitable editor for its type and, after editing, it can be saved back into its page.

Full use is being made of that exciting newcomer to the Acorn scene, Applets, which are mini applications which provide small extensions to the main program. These are still being added as Ovation Pro continues to be developed. The first two provided support for ArtWorks files and allowed old Ovation1 files to be converted and loaded into Ovation
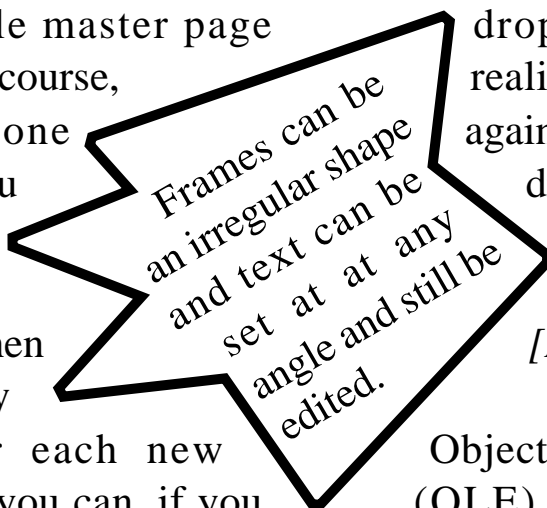
Pro. A library of scripts is now being built up and among a useful range recently introduced are a calculator which will add up figures in a document, a fraction writer which converts, for example, '5/8' into '$\frac{5}{8}$' and an option to set key short-cuts similar to those used in Impression.

Text colour is controlled from two separate windows. The colour picker offers a selection of 10 colours (including transparent, black and registration black) with a choice of percentage of tint. An Edit Colour window gives the ability to create, rename or delete colours and to access a colour chart with a choice of Generic, HSVtone or Rainbow colours.

Colour separation facilities for printing are to follow in one of the free upgrades, along with image processing, contents and index generation and a number of other enhancements.

Acorn computer users now have a wide range of good DTP programs available to suit all needs. Any of them can be recommended for smaller jobs or occasional use. Inevitably, Ovation Pro is being compared with Impression, whose several versions have always dominated the higher end of the Acorn market, and each has its champions.

I prefer Ovation Pro, for its features and ease of use, backed up by Beebug's vigorous and enthusiastic development of it and their unambiguous future support. For those who need a desktop publisher with professional facilities and quality, Ovation Pro promises to be the one that will have the most to offer.

Ovation Pro
Price: £165 + postage and VAT
Site licences: 30-user £600
15-user primary school £300
(Upgrades available from Ovation and other programs.)
Supplier: Beebug Limited,
117 Hatfield Road,
St Albans, Herts, AL1 4JS
Tel: 01727 840303
Tel (sales): 01727 840305
Fax: 01727 860263
Email: sales@beebug.co.uk

Writing RISC OS Modules — Part 5

In part three of this series, I demonstrated how to use vectors to write code that is run when particular events occur. It is also possible to change the behaviour of RISC OS SWIs by attaching code to vectors which modifies or replaces existing functionality.

There are four ways in which this can be done:

1) Completely replace the standard OS code

2) Write some code that is run before the standard OS routine

3) Write some code that is run after the standard OS routine

4) Write some code that is run before and after the standard OS routine

The simplest cases are 1 and 2 where the code that is attached to the vector using OS_Claim simply returns to the caller or passes on the call respectively.

In the latter two cases we need some way to enable our module to be called again once all the standard OS code (and previous claimants of the vector) have run.

The latest part of Mark Smith's continuing series deals with advanced vector usage.

The clue to the way in which this is done is in the way control is passed back to the caller:

LDMFD R13!,{PC}

i.e. the address of the caller is the next item on the stack. If we want something else to run before control is returned, we can put the address of that code on the stack so it will be used instead:

STMFD R13!,{PC}
\ Store address of code to be run on the stack
MOV PC,R14
\ Pass on control to the previous vector claimant

MOV R0,R0

\ No Operation (see below)
.postvectorcode
LDMVSFD R13!,{PC}
\ Pass control back in case of an error condition

The above code starts by putting the Program Counter on the stack. In ARM Architectures v1, v2 and v3 (i.e. all processors up to and including those with an ARM7 core) this instruction will actually cause the address 12 bytes (3 instructions) ahead of the current instruction to be written onto the stack. In ARM Architecture v4 (ARM8 and StrongARM cores) the address written is 8 bytes (2 instructions) ahead. Because of this, we need the MOV R0,R0 instruction which copies R0 to itself (i.e. it does nothing) to ensure that the code from .postvectorcode onwards is run correctly regardless of the processor.

When the OS routine (or a previous claimant of the vector) wishes to return control to the caller of the SWI, it will jump to the address at the top of the stack. Since we've now made this the address of our code (either the MOV R0,R0 or LDMVSFD R13!,{PC} in this case, depending on the processor) it is possible to modify the results of the call before they are returned.

Example 7 — ImageFSFix Module

This module forms part of the ArcFS distribution and requires RISC OS 3. Although it is possible to write modules for RISC OS 3 (known as Image Filing Systems) that make files look like directories to the user (the mechanism that DOSFS, ArcFS and SparkFS all use), prefixing the name with a ! does not normally make them appear in Filer windows as an application, the way that ! prefixed directories do.

To get around this problem, ImageFSFix modifies the results returned by three operating system calls (OS_GBPB with reason codes 10, 11 and 12) by intercepting the vector GBPBV so that any Image Files with leafnames beginning with ! are

turned into directories and hence appear in the Filer windows as applications.

On entry:

R0 = 10, 11 or 12
R1 = Pointer to directory name from which to list objects
R2 = Pointer to buffer to place results (word aligned)
R3 = Number of objects to read
R4 = Offset of first item to read in directory (0 for start)
R5 = Buffer length
R6 = Pointer to wildcarded name to match

On exit:

R0 - R2 preserved
R3 = Number of objects actually read
R4 = Offset of next item to read in directory (-1 if finished)
R5 - R6 preserved

The data returned by each of the reason codes is a series of object descriptors as follows:

R0 = 10 on entry

Offset Contents
0   Load address

4   Execution address
8   Length
12   File attributes
16   Object type
20   Object leafname (null terminated)

R0 = 11 on entry

Offset Contents
0   Load address
4   Execution address
8   Length
12   File attributes
16   Object type
20   System internal name (internal use only)
24   Time/Date (cs since 00:00:00 1/1/1900)
29   Object leafname (null terminated)

R0 = 12 on entry

Offset Contents
0   Load address (or high byte of date stamp)
4   Execution address (or low word of date stamp)
8   Length

12   File attributes
16   Object type
20   Object file type

24   Object leafname (null terminated)

The next entry follows the object leafname, aligned on a word boundary.

The code sets R4 as the offset to the start of the object leafname from the start of each object descriptor and then goes through them, checking whether any have an object type of 3 (image file) and a leafname prefixed with !. If any do, the object type is changed to 2 (directory).

OS_Claim is called in the initialisation routine to claim GBPBV and OS_Release is called in the finalisation routine to release it. In addition, two commands are provided to enable and disable the module.

The code traps service call &27 - Service_Reset to claim GBPBV on reset. This will only ever be used on a RISC OS 3.0 or 3.1 machine where a soft reset leaves modules in the RMA but they need to reclaim any vectors.

Example 7
Also on the Eureka disc

```
10  REM >Example7
20  REM
30  REM ImageFSFix Source
40  REM (C) 1996 Mark Smith
50  REM
60  DIM space% 1024
70  GBPBvector=&C
80  final=0:service=0:help=0:table
=0
90  FOR A%=4 TO 6 STEP 2
100  P%=0
110  O%=space%
120  [OPT A%
130  \--------------
140  EQUD 0
150  EQUD init
160  EQUD final
170  EQUD service
180  EQUD title
190  EQUD help
200  EQUD table
210  \--------------
220  .table
230  EQUS
"ImageFSFix_On"+CHR$0
240  ALIGN
250  EQUD init
260  EQUD 0
270  EQUD OnSyntax
```

```
280  EQUD OnHelp
290  \--------------
300  EQUS
“ImageFSFix_Off”+CHR$0
310  ALIGN
320  EQUD final
330  EQUD 0
340  EQUD OffSyntax
350  EQUD OffHelp
360  EQUD 0
370  \--------------
380  .OnHelp EQUS
“*ImageFSFix_On allows image
files whose names have a ! prefix
to appear as applications in Filer
Windows”+CHR$13
390  .OnSyntax EQUS “Syntax:
*ImageFSFix_On”+CHR$0
400  .OffHelp EQUS
“*ImageFSFix_Off causes image
files whose names have a ! prefix
to appear as ordinary images in
Filer Windows”+CHR$13
410  .OffSyntax EQUS “Syntax:
*ImageFSFix_Off”+CHR$0
420  \--------------
430  .title EQUS
“ImageFSFix”+CHR$0
440  .help EQUS
“ImageFSFix”+CHR$9+”0.30 (25
Aug 1996) SA Aware”+CHR$0
450  ALIGN
460  \--------------
470  .service
480  TEQ R1,#&27:MOVNES
PC,R14
490  \ Check for Service_Reset -
Reclaim GBPBV
500  \--------------
510  .init STMFD
R13!,{R0-R2,R14}
520  \ Stack registers (in case of
service call entry) & return
address
530  MOV R2,#0
540  ADR R1,entryGBPB
550  MOV R0,#GBPBvector
560  SWI “XOS_Claim”
570  \ Claim FSControlV
580  MOVVC R0,#1:MOVVS
R0,#0
590  STR R0,[R12]
600  \ Set private word to indicate
whether active
610  LDMFD R13!,{R0-R2,PC}
620  \ Restore registers & return
630  \--------------
640  .final STMFD R13!,{R14}
650  \ Stack return address
660  MOV R2,#0
670  ADR R1,entryGBPB
680  MOV R0,#GBPBvector
690  SWI “XOS_Release”
700  \ Release GBPBV
710  MOV R0,#0
720  STR R0,[R12]
730  \ Set not active
740  LDMFD R13!,{PC}^
750  \ Restore flags (to mask any
error) and return
760  \--------------
770  .entryGBPB
780  TEQ R0,#10:TEQNE
R0,#11:TEQNE R0,#12:MOVNE
PC,R14
790  \ If not OS_GBPB 10, 11 or
```

12 then pass on
```
800  STMFD R13!,{PC}
```
810 \ Stack address to return to after running previous vector claimants
```
820  MOV PC,R14
```
830 \ Call Fileswitch routine
```
840  MOV R0,R0
```
850 \ NOOP to support store PC+12 (ARM v3) and PC+8 (ARM v4) behaviour
```
860  LDMVSFD R13!,{PC}
```
870 \ Return any errors
```
880  TEQ R3,#0:LDMEQFD
R13!,{PC}
```
890 \ Dont bother to do anything if there are no objects read
```
900  STMFD R13!,{R0-R4}
```
910 \ Stack registers
```
920  MOV R4,#20
930  TEQ R0,#11:MOVEQ
R4,#29
940  TEQ R0,#12:MOVEQ
R4,#24
```
950 \ Offset from start of entry to leafname in R4
```
960  MOV R1,#2
```
970 \ Put directory type in R1
980 \--------------
```
990  .GBPBloop
1000  LDRB R0,[R2,R4]
```
1010 \ Get first letter of leaf
```
1020  TEQ R0,#ASC"!"
```
1030 \ Is it a '!' ?
```
1040  LDREQ R0,[R2,#16]
```
1050 \ If so, get object type
```
1060  TEQEQ R0,#3
```
1070 \ Is it object type 3?

```
1080  STREQ R1,[R2,#16]
```
1090 \ If so change it to object type 2
```
1100  SUBS
R3,R3,#1:LDMEQFD
R13!,{R0-R4,PC}
```
1110 \ Return if there are no more objects to check
```
1120  ADD R2,R2,R4
```
1130 \ Point R2 to leaf
1140 \--------------
```
1150  .findleafend
1160  LDRB R0,[R2],#1:TEQ
R0,#0:BNE findleafend
```
1170 \ Find end of leafname
1180 \--------------
```
1190  ADD R2,R2,#3:BIC
R2,R2,#3
```
1200 \ Word Align
```
1210  B GBPBloop
```
1220 \ Loop back to check the next entry
1230 \--------------
```
1240  ]:NEXT
1250  OSCLI"Save ImageFSFix
"+STR$~space%+" "+STR$~O%
1260  *SetType ImageFSFix
Module
1270  *RMLoad ImageFSFix
```

And finally

In Eureka 21, the final part of this series will explore how to create your own SWI calls. Until then, happy programming!

The Canon BJC-4000

A long time ago I got my first printer, an Epson LX-400, and was so pleased with the results I got from AMX Art on my BBC B. Things have moved on since then. I upgraded to an Integrex 132 when I got my first Acorn machine. Now I thought it was time to move on again.

I decided to look through Acorn User to see what printers were on offer. Unfortunately with the Acorn market, many companies charge a lot more because they are an Acorn dealer and users prefer the security of buying from them. I decided to go elsewhere.

A trip to "Byte", my local PC Box Shifter (PC Box Shifter: store where staff know hardly anything about computers and just sell you the box with no real support or help and advice.) Anyway I am glad I got that off my chest. Now you all know! I went in to have a

Matthew Cook visits the PC box-shifters in search of a colour printer bargain.

look at what was on offer. Within five minutes the usual sales person arrived. "Can I help you?" I explained I was looking around at the moment and he went away to leave me to look at the bemusing array of printers. I had already decided before I went that I was going to buy a Canon or HP (Hewlett Packard) Printer. First of all I was impressed by my friend's Canon 600, but that was a bit too expensive. After about ten minutes of playing with the test printout buttons and such like I decided to find a bit more about the BJC-4000 and BJC-4100. I called the dreaded sales person across to ask the differences. "Well, the Canon BJC-4100 is fully Windows compatible, with etc etc etc." After his mini speech, well rehearsed from the Byte catalogue, I asked what about RISC OS machines. "Arh? Um?" he replied, "those we had at school and played Chocks Away on?" "Yes," I replied "but I

do not just play Chocks on mine!" (Why is it that everyone seemed to play Chocks Away on Acorns at School? Something I do not know about the education system?) After that he showed me the manufacturer's blurb and told me they were phasing out the BJC-4000. I decided to go for the 4000 model —so time for the hard facts. Cash! £180 inc vat he said. Bartering time. I managed to persuade the gentleman to sell me the machine for £150 including some consumables. Not bad.

I rushed home to unpack my new toy, I think Muffin my cat enjoyed the empty box as much as I was looking forward to my printing. In usual RISC OS style I had installed the printer and Printer Driver Software and had printed some documents by the time most people would have taken to load up Windows. I was very impressed by the quality and results I achieved.

The printer has now provided six months of services, with no problems at all. The cartridges are not too expensive and are easily installed. I decided to buy Computer Concepts' Turbo Drivers, after seeing a friend's results, and I managed to pick up a second hand copy to save a bit of money. I will not go into the details about installing the Turbo Drivers because it is a different product entirely and this is about my experiences with my BJC-4000.

I was even more impressed when I got it to work with my PC Card. Autoroute went into over-drive then. The only problem was that I had to remove the CC Turbo Drivers' cable and put in a standard Acorn one, but this is not too much of a hassle.

I couldn't recommend the Canon BJC-4000 more, although if you have more money the BJC600 would be worth a look. I also recommend you to shop around and see what you can pick up and not to go to the first advert you see in the Acorn press because, looking through, I saved over £100, which can be spent in other ways —Ovation Pro perhaps!

Around The Clubs

Bottisham Acorn User Group

This Acorn user group for Cambridgeshire and surrounding counties was established in 1982. It meets fortnightly on the second and fourth Tuesday each month, from 7.30pm to 9.30pm in the Design and Technology Department of Bottisham Village College, Lode Road, Cambridge CB5 9DL, which is about five miles east of Cambridge.

The Group has the use of the College's range of about 20 RISC OS computers and associated equipment, allowing a range of activities from beginners' tutorials to advanced graphics using Draw, Artworks, Paint and PhotoDesk.

The 20 or so members, mainly adult males of all ages up to and past retirement —with hardly any nerds —have a wide range of interests and knowledge and even some real expertise.

Visitors are welcome. There is nothing to pay on the first visit and a year's membership is only £10.

The Honorary Secretary, David Mc Dowell, can be telephoned on 01480 381996.

Want to join a local group of Acorn enthusiasts? Here are some ideas if you live in or within reach of Cambridgeshire, Derbyshire or even Auckland in New Zealand.

Derbyshire Acorn Risc Club

DARC, which has about 50 members, holds regular monthly meetings, issues a Newsletter, has a public domain software library of more than 1.3 Gigabytes and has made arrangements for members to receive a discount from some software suppliers. Membership costs £15, or £20 for a family.

Meetings are held at St Augustine's Church Hall in

Duffield, which is east off the A6 on the Little Eaton Road, from 7.30pm to 9.30pm and visitors are welcome for a £2 admission fee. Forthcoming events include:

2 November: Coach trip to Acorn World.
11 November: Databases
17 November: Selective Computer Services Show at Kegworth Hotel
9 December: Leisure evening
13 January: Printers and printing
10 February: To be arranged
10 March: Ovation Pro.

ACORN USERS AUCKLAND INC.

This group has an even more venerable history than the BBC computer and is, in that respect, somewhat like the 'Atom'. The club started life, we think in 1978, as the OSI Users' Group (for the unenlightened — 'Ohio Scientific Instruments' —an early supplier of kitset computers and the built up type of machine with a whole 8K of memory! Sadly, only a memory here in terms of impact nowadays).

Certainly, our President, Gary Plumpton, was a member in those early times and delights (when we can get him talking at all) in stories of everyone spending club nights building their own machines with advice from the more expert (but not to the extent of soldering parts —there you were on your own!).

He also horrifies the present membership by quoting (with documentation) sizes and prices of RAM memory chips, as well as those of disc drives and Winchesters (whatever happened to that term?).

However, all that came to an end when one member returned from an overseas trip with the Acorn-produced BBC Computer, model A (the B with its 32K memory had still to appear in public) and proceded to dazzle all and sundry with its speed (with a tape drive?), programming capacity and ease of use.

Within a very few months many more members owned one of these exciting 'new generation' machines and the club name soon changed as it was to do twice

more. I personally came to the BBC B in the university soon after that —in fact, a couple of months or so before the exciting and 'capacious' disc drives we had ordered reached New Zealand. (Curiously enough, having cut my computing teeth on my son's OSI when he went overseas for a number of years.)

Light-fingered

Only bits of our history can be definitely confirmed from the various documents supplied by the Registrar of Incorporated Societies (a Government official in a system which protects members' interests and, I hope, club officers although I have been told incorporation was initially sought because of a light-fingered early treasurer).

So: 1978?: Initial establishment of the OSI User Group?

1982?: Members began to acquire Acorn machines (and to call themselves officially or not —no on remembers accurately —the OSI/BBC Computer User Group?).

1983: Members of the OSI/BBC Computer User Group (that's what it states!) approve a constitution and application for incorporation (counter-signed by a JP).

1986: The club is officially incorporated.

1991: Name change to Auckland BBC User Group (Incorporated) —hence ABUG the Newsletter.

1992: The North Shore (other side of harbour) group amalgamated with Auckland BBC group. The Registrar approves the change to Acorn Users Auckland (Incorporated).

80 members

Today, the club has about 80 members of whom no more than 20-25 turn out regularly to meetings —a sharp contrast with the 120 pioneer soldering iron 'boys' who had to be thrown out at midnight —and only about two thirds the numbers of four to five years ago.

This is very much a PC (and Mac?) based country and Acorn rarely

gets a mention in the weekly computer pages of the local 'rag' (echoes of The Times, Daily Telegraph and Guardian?). Our other main disadvantage is the distance away from all the support firms (I drooled to see the list of software/hardware firms at the Wakefield and ARM Club shows. Our own came up on September 14 and we hoped to have StrongARM and the NC being shown by Acorn.

Acorn New Zealand (or Barsons as they used to be) have always been very supportive of the club, helping out with our monthly Newsletter 'Armed' and providing the CPU etc. for the club BBS (soon to be a victim of the Web?). APDL in the form of David Holden (and Peter Sykes before him) have also helped us immensely and we distribute locally for a selected number of disc categories.

Despite having to manage very much on home grown talent we hold three meetings a month (although not in January): the first Thursday on the North Shore (ShoreARM) and the second Wednesday for the CityARM (usually a presented talk and/or discussion), with the third a Workshop night on the third Wednesday at the CityARM.

Web page
'Tune in' occasionally to our Web page, maintained by one of our younger members, Jonathan Murray, whose father has an account with Web page privileges. He would love to have you sign the visitor's book! The address is: http://www.shell(or crash).ihug.co.nz/~snookums/welcome.html

When you are next in Auckland be prepared to come and talk —you now know the dates!

Club Corner
If you are a member of an Acorn users' club which has not yet been featured in Eureka, we would be glad to hear about its activities.
Updates, with details of forthcoming meetings are also welcome.

Dazzle

There are now more art packages than you can poke a stick at on the Acorn platform. Like most graphics druggies I try them all and keep trying. Some of the PD ones are very good (like Graffiti) and even some of the old ones that came free on magazine discs (like Imagery) still have their uses. I am fortunate in having been sent a number for review over the years and so I have tried out The Big Picture and Revelation Pro, Compo, etc. etc. In the end most of us settle for the packages we feel most at home with. In my case it is 75% Artworks, 5% the old version of Studio24 and 20% ... wait for it ... !Paint.

But now comes a new kid on the block, Silica Software's Dazzle, from SEMERC, and believe me it's good!

A bright new kid on the block among art packages leaves our reviewer, Christopher Jarman er, ... dazzled.

What has happened here is that someone who knows Acorn machines inside out has created the new application that !Paint should have become by now. Yes, it's child-oriented and intuitive, yes it's totally configurable, so that anyone from five to ninety-five can use it, but it is a tiger in your tank!

The effortless simplicity which Dazzle offers, conceals a powerful yet extremely user-friendly package, that without my recommendation will undoubtedly find its way onto everyone's icon bar before long, anyway.

The first thing to say is: don't think that because it is inexpensive and to be found in a SEMERC catalogue that it is only for kids. It's a grown up package. Look at the specifications: up to 16 million colours, stable and smooth action

with all 26 tools configurable where appropriate, wonderful tile and flip facility (make textured backgrounds for your website in an instant), photo retouching, which is simple yet so versatile that it is all most people will ever need.

It has a facility for making and storing stamps which is sooooo elegant —I have wanted !Paint to have this for years. It has a wash tool to turn your humble drawing into a watercolour, and a tint tool that is amazingly easy, clever, and useful.

Within minutes of loading Dazzle for the first time I was using the tint tool to change several sprites that I was working on as backgrounds for a commercial CD-ROM project. I had saved myself many hours, and a lot of money straight away. The results were perfect, thanks to Dazzle.

It is very nice to draw with too. The quick sketch of a Sea Fury was done in 32,000 colour mode, made into a stamp and dropped onto a photo of some sky. About 20 minutes' work, and the feeling of ease was like a wire through butter. I have seldom come across a bitmap art package which seemed to do exactly what I wanted immediately.

Well hot news! Here I had been using superlatives about Dazzle, and I decided to ring the programmer Richard Kirby to see if it was to be developed further, and to discuss my extremely small wish list. "What version have you got?" He asked, after pleasantries had been exchanged. "V 1.03" I said, "Oh that's Stone Age!" was the reply "Let me send you the

following reasons:

• CONFIGURABILITY — Teachers can set up as many or as few tools as they wish according to the age and experience of their pupils. This ensures some form of progression through the software. Different set-ups can be loaded automatically on boot up, so for example there can be a 'Class 6' set up or a 'Reception' set up and so on.

• FAMILIARITY —One program can be used throughout the primary phase but in an increasingly sophisticated way.

• ECONOMY — The double priced site licence is very attractive.

• ART PERSPECTIVE — It allows children to explore various art techniques: water colour, diffusion, colour mixing and so on. The colour mixing is particularly stunning as it allows tones as well as basic colours to be created very easily.

• NO GIMMICKS —Unlike some

latest version". This turns out to be V 1.15 now with 28 tools, which includes the intriguing 'Rainbow' colouring tool which has to be seen to be believed! It can also take any graphic file that Change FSI can convert, which makes its picture retouching abilities increase by about tenfold.

I asked Helen Constable. who is the IT Co-ordinator for Norfolk, why she recommends Dazzle to the schools there and she wrote:

'Dazzle is now our recommended graphics package for key stages one and two in Norfolk for the

American packages, children cannot destroy their pictures by using exploding bombs and so on. This is a serious art package not a toy."

The manual is excellent; clear, plenty of white space, well expressed and concise. Then I see it was written by Geoff Love which explains it. But who needs a manual? Dazzle is almost self explanatory. The way of changing tool sizes or line thicknesses is simple, just click <menu> on the tool and the pop-up window is intuitive —really it is!

There are just so many nice touches in the configurability that I simply cannot list them. It's enough to say that it is possible to set up Dazzle with one or two tools and 16 colours for a user who may have very limited abilities. Or to include every operation and 16 million colours. An original use for the start-up banner is that it contains a panel of 'tips' and they are different every time you switch on. Naturally that can be configured 'off' if you wish.

This is, I suppose, what might be called a rave review. But I have absolutely no financial connection with this product and I'm not being paid for the review either *[We'll double the fee next time. Ed.]* it's just for fellow club members, so what can I say? Buy it, you will be recommending it to your friends and it won't break the bank! When I rang Richard Kirby I had a little wish list. Could the fill tool have the same global and local options as !Paint? By the time he had sent me the update that wish was included —service or wot?

Inevitably with the interest this package is causing, there will be a DazzlePro soon, I hope to be reviewing that too!

Dazzle
Price: £49 +VAT
Site licence: £98 +VAT
Supplier: SEMERC
1 Broadbent Road
Watersheddings
Oldham OL1 4LB
Tel: 0161 627 4469
Fax: 0161 627 2381

Dr Smith's Toolkit

Whilst Acorn systems benefit from a number of excellent tools for software developers, not the least of which is the Norcroft C compiler supplied as part of Acorn's software tools package, one area in which it has always been deficient is that of validation and debugging tools. It was for that reason that I bought a copy of Dr Smith's C Development Toolkit a few days after its release.

Before I purchased the software I had already downloaded the demonstration version made available by the supplier on the Internet, and satisfied myself that it would be of considerable use to me —anyone else wanting to do likewise can obtain a copy from ftp://ftp.comlab.ox.ac.uk/tmp/Robin.Watts/DrSmiths.zip and try it for themselves.

The product is supplied on a single floppy which contains the two major tools plus a number of other useful utilities and documentation in various formats.

The first of the two major tools is MemCheck, which exists to help detect various errors caused by illegal memory accesses —it is able to track all the blocks of memory currently owned by the program and trap any attempt to access memory that is not in one of those blocks, producing an error report that indicates where the illegal access occurred.

I put this tool to use first, recompiling the KA9Q internet access suite using MemCheck's front end to the C compiler, and linking with the MemCheck run time library. I then started the program, having first taken care to direct error output (where MemCheck logs any problems) to a file. The most immediately

Tom Hughes feels better after trying Dr Smith's new prescription for a C Development Toolkit.

noticeable affect was that everything ran much slower due to the amount of checking being done by MemCheck.

Beyond that I found that the logfile did indeed contain a large amount of information that very quickly led me to a couple of bugs in the program, at least one of which would have caused a fatal crash on a StrongARM based system.

The MemCheck system is also able to track blocks allocated in shifting heaps such as that provided by Acorn's flex library or DeskLib's Mem library —a set of veneers for the flex calls are provided, and some for the Mem calls should be in a future release.

The second major tool is HierProf, a hierarchical profiling tool. This can be used in three different ways, each of which has different characteristics and can record different amounts of detail. One involves recompiling with a preprocessor while the other works on existing compiled code —one just needs a single function call added, while the other works

by manipulating object files so can even work on libraries for which source code is not available.

Initially I attempted to modify one of my old programs by calling the profile all functions routine at startup, but this seemed to produce odd program errors (this was later solved by a new release of the toolkit), so I switched to recompiling with the preprocessor instead.

Unfortunately the program then failed to run properly with profiling, failing with a corrupt malloc heap. I strongly suspect that this is a bug in my program, but I have so far been unable to find it. Even with this bug I was still able to profile some parts of the program successfully.

As with MemCheck, HierProf writes profiling information to the error stream when the program terminates. This takes the form of a hierarchical listing of functions together with the length of time and the percentage of the total time spent in each.

The output also includes minimum, maximum and average times for calls to each routine together with full machine readable details of the profiling that can be read by a supplied set of library routines if you want to write a program to do further analysis of the profiling data.

Also supplied are a number of other useful tools —a program called Makatic for generating makefiles from a template and several programs for manipulating AOF files and C source files. Makatic in particular is very useful. This tool is in fact available separately as freeware from PD libraries and Internet ftp sites, but everything else supplied on the disc is unique to Dr Smith's.

One point to note is that support from Warm Silence Software is absolutely first class —email exchanges between myself, WSS and the author of the software led to a number of bugs being fixed and enhancements made during the course of my review, with new versions being made available free of charge as necessary.

When I received a later version of the software I discovered that the MemCheck tool had been enhanced to support modules written in C, something that was very useful to me. This support is currently still being developed, but is already quite useful provided certain constraints are adhered to —it certainly found some bugs in one of my modules.

All in all this is an excellent package for serious C programmers — it is quite expensive, but is well worth the money if you can afford it. It will quickly repay the expense in time saved trying to find the bugs caused by illegal memory accesses alone.

Dr Smith's C Development Toolkit
Price: £50 + VAT
Supplier: Warm Silence Software
St Catherine's College
Manor Road, Oxford, OX1 3UJ
Tel: 0585 487642
Email: robin.watts@wss.co.uk

Pocket Book Corner

Oh dear, doesn't time fly in the summer —I've already got the Editor breathing down my neck about another article —I'm beginning to see how a normally sane man like Steve can produce Arnold's Observations!

Backups

If you use your Pocket Book to anything like the extent that I do then you ought to have its contents backed up. Think how long it would take to re-collate and re-type all the important (and trivial) information you have on your little machine. A backup is a copy of all your files in another place so that if your data is lost

How Toby Smith goes computing — any time, anywhere, any way, anyhow.

only the changes of the last few days (since the backup) are gone, rather than the entire lot. Backups are something that few people keep. However, there is an amazing correlation between people who HAVE lost a disc full of unduplicated data, and those who now keep backups —think on!

There are several possible ways to backup your Pocket Book drives. Using the Pocket Book alone you can backup a drive to an SSD using either a File Copy on the PB1 (select the root directory to copy everything on the disc) or the Backup function on the PB2 (Shift-Acorn B). If you're lucky enough to have an external floppy
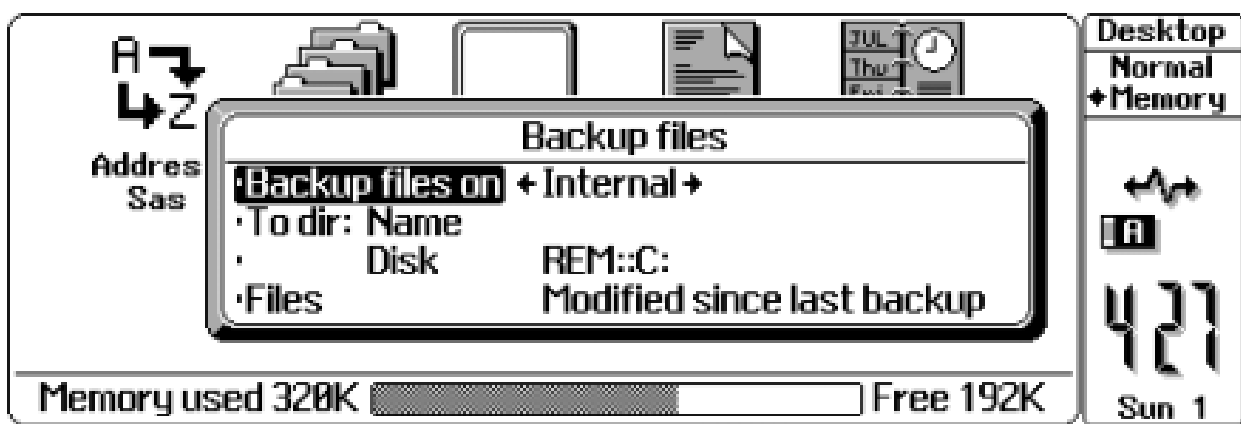
drive (like the Cyclone by Purple Software†) for your Pocket Book you can also use that.

If you don't have any spare SSDs to use, you can also backup to your desktop Acorn using the A-Link. At the simplest level it is easy just to copy all the files from your Pocket Book onto a floppy disc but, as the Pocket Book files use DOS naming conventions, remember to use a DOS formatted floppy disc, otherwise your files will have their names corrupted — not much use as a backup! You could also backup to a PKZIP archive, if you have software to read/write them (like David Pilling's SparkFS), or to a PC hard disc file, created by PC card or Emulator software.

If you do have a PC card or emulator installed, you could use that to run RCOM, which is essentially the DOS version of PocketFS, but is PD (and hence available from the Club

library). Running RCOM on your PC side will not only allow you to access the Pocket Book files from the PC, but will also export all the PC discs, (hard discs and floppies) to the Pocket Book. Thus the Pocket Book copy and backup functions can also use REM::C — the PC hard disc (or in our case, PC partition file) — as a destination.

Having started your backup system, it is worth remembering that a backup is only useful if it is recent. Backup as regularly as possible!

PsiWin

Those with Windows installed on their PC card may also be interested in PsiWin, available
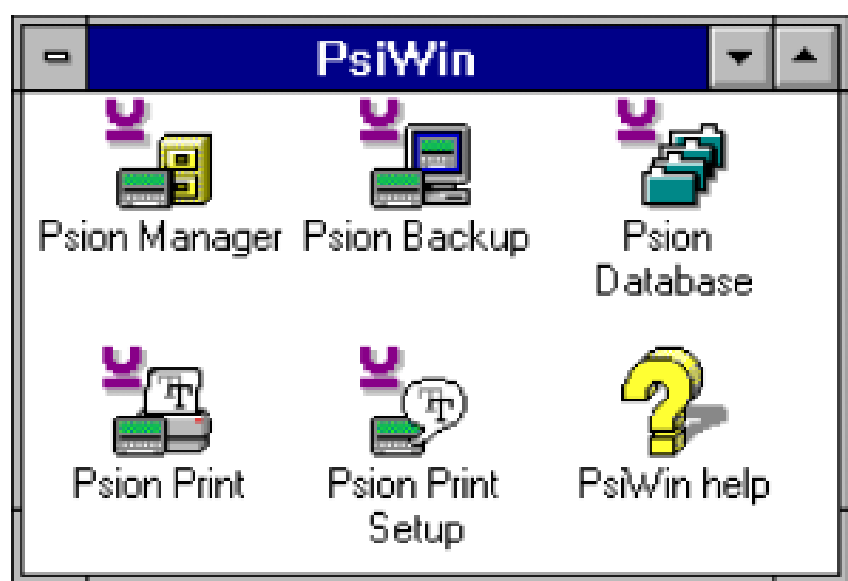
from Psion. This is essentially the Windows equivalent of PocketFS, and allows files to be transferred to and from your Pocket Book and the PC side of your desktop machine in a system very much like the Windows File Manager. It includes a host of conversion facilities to transfer data between the Pocket Book applications and most of the popular Windows equivalents, a Backup system, a Printer link software and a viewer for Pocket Book database files.

That's all for this time folks, so start keeping those backups and remember —it's not size that is important, more what you can do with it.

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† Cyclone external Floppy drives – £170 from Purple Software, 0171 387 7777.

As ever, direct any Pocket Book related queries, stories, or vast pots of money to fund his infinite wisdom, to Toby Smith at the Club address, or by email to pbc@armclub.org.uk

StrongGuard!

A new Club product —StrongGuard!—is to be released at Acorn World to enable more software to run on StrongARM equipped Risc PCs.

As the successor to GameOn!, StrongGuard! will provide all the facilities of GameOn!, and more, for £25 (or £10 as an upgrade from GameOn! release 2).

This will be on sale at the Club's stand at Olympia or can be obtained by post from the Club's usual Freepost address.

Making Links On The Web

WLast time I promised that I would show you how to add links and images to your WWW pages. As I said, I will introduce the simple form of links first and may move on to more complex ones at a later point in the series.

A link is simply a method of moving from one WWW page to another. Links operate in a similar way to the page numbers and the index in a book. In fact you may come across WWW pages that use links as an index to the pages that they refer to. The list that I gave you at the end of the last article is shown below:

In the third of his series on creating HTML pages on the World Wide Web, Andi Flower introduces links.

The new additions to this section of HTML will turn the sections of text, that used to be shown in the list, into links. The result is shown in the image on page 32. The text is blue, indicating to the reader that this is a link.

The solid underlines show that the link above them has not yet been 'followed' by the reader while the broken underline means that the link has already been looked at. This is done automatically by the WWW browser software and there needs to be no special code in your

```
<ul>
<li><a href="Club/HomePage.html">The ARM Club WWW pages</a>
<li><a href="http://www.acorn.co.uk">Acorn's home page</a>
<li><a href="http://www.art.co.uk">ART's home page</a>
<li><ahref="http://micros.hensa.ac.uk/micros/arch-riscos.html">Acorn
software at Hensa</a>
</ul>
```

HTML pages to deal with this.

The first link that was placed in the list is what is referred to as a relational link while the other three are full path or 'literal' links. The relational link "Club/HomePage.html" tells the WWW browser that the file it must load, when this link is selected by the reader, is in the sub-directory (of the current directory) called "Club" and that the file is called "HomePage.html".

The other links are full path names of files specified as URLs (Uniform Resource Location) and you will probably recognise their format. They are in exactly the same format as the lines of text that need to be typed into the box within your WWW Browser (an example of which is shown below).

NOTE: The actual links supplied above may well not exist.

Adding images as a backdrop

Now lets move on by showing you how to add a backdrop to the whole of your document. Replacing the <body> line in the document that was shown last time, to that shown below (all one line, with a space after '<body') will add the specified GIF image as the background for your pages:

```
<body
background="Images/tile.gif">
```

This will use the GIF file called "tile.gif", found within the sub-directory "Images" and will create the same effect as the 'tiling' of a sprite onto the pinboard under RISC OS. Any image can be used. A very simple addition which will provide a great improvement to the 'look and feel' of your pages.

Adding images generally

Having a document that is full of text is all very well and can get a lot of information across to the readers of your WWW pages. However, as the saying goes, a picture is as good as a thousand words and adding images to your pages will have a huge effect on their impact.

As a sensible step forward from

the example page that we already have, let us assume that we wish to add a copy of The ARM Club logo to the top of the page. In order to do this you again use either literal or relational path names to tell the WWW browser where to find the image to use and then simply add a line something like this:

```
<img src="Images/ClubLogo">
```

Well, that shows you how to add simple images to your pages, next time I'll move on to the more complex functions that you can use to display images in different ways including using the mask effect. For now, the image below shows what our new enhanced pages will look like.

The Eureka Disc

Don't forget that we have, in the past, been able to offer an upgrade service for those of you who have found that the version number of your favourite PD program has been superseded and this has now been extended to those discs which have significantly altered since you bought them.

If the original PD disc is returned, along with stamps to the value of 50 pence for each disc, then I will replace this disc with the latest version. Please don't send cash as I have found that a lot of this goes astray in our postal system. Stamps will do and cheques/postal orders can be made out to 'The ARM Club'.

The PD catalogue viewer will not work with RISC OS 2. We suggest that you increase your computing enjoyment by inserting RISC OS 3 into your Acorn machine.

How to get your favourite PD programs upgraded and what's on the Eureka 20 disc compiled by our PD librarian, Nick Evans.

The files can be loaded into a text editor of your choice by pressing down the SHIFT key and double-clicking on this program at the same time.The text files can then be found in the FILES directory.

The printer option expects a standard printer lead to print out properly.

You will have to negate the effect of the changed lead connections in the Turboprinter cable by loading up the module called 'Turbo' which is given to you with the Turbodrivers.

It is inside the 'Modules' directory on the Turbodriver disc.

To increase the access speed to the files of programs it is best to run the catalogue viewer from a ram disc.

Some of the programs on the disc may not run from an Archive. You should, wherever possible, de-archive the programs onto a floppy or hard disc before running them.

Over the past few months the amount of PD/Shareware written by members (or, at least, sent in to the PD library) has decreased to a trickle. The library will only be able to continue as long as it is supported, and that means new material, as well as the discs being bought.

If you find that you are using a piece of PD software which is not in the library I would be very grateful if you sent a copy to me.

This month's magazine disc contains:

• The latest news about The ARM Club discounts scheme

• Example 7 from the Modules article by Mark Smith

• RiscUtils from Damian Leslie, which is a collection of half a dozen or so utilities in one program.

• T1toFont are some new additional codings for the Acorn application

• TextureGdn is an algorithmic texture generation program from Tim Tyler.

Congratulations!

The winner of the mathematics competition in Eureka 19 was Jonathon Stott of Tamworth in Staffordshire.

He receives a copy of Formulix, the formula and equation editor from Computer Concepts.

There is no competition this time so there are three months to give your brains a rest and think about the more important issues of Christmas.

Music Maker

It is not every day that an educational music program aimed at the elementary learner comes on the market, and when the opportunity arose to review MusicMaker 1, I was immediately struck by the quality of its graphics and the logic of its design. MusicMaker 1 comes from Resource Flying Start Software, and its game-like quality makes it an appealing introduction to the art of making music for children aged about seven. It is, however, just that — an introduction — and this review outlines the positive features of the program while drawing attention to some of the limitations of its use at a deeper level.

Rilla Paterson and her trio make music. Rilla Paterson has taught singing and music in schools, is a choral singer and composes for fun using Notate, Rhapsody and Sibelius.

The program runs on RISC OS 3 machines with a minimum of 2MB. It runs perfectly well from floppies, and the discs need swapping only when returning to the main menu. I ran it from the hard disc of my A5000.

Like the rest of the world I dislike reading manuals, and decided at the outset to manage without, (except for the installation requirements) just to see how far I could rely on the pictorial design as a guide. It worked beautifully. I succeeded in accessing every feature and putting the program thoroughly through its paces in all but one minor detail. I regard this as a tribute to the logic of its design; if someone familiar with computers can achieve such instant results during the first-time use of a program, it is likely that the younger learner will enjoy it too.

I also used three children — one of 14 years, one of 12 and my seven-year-old nephew — as my principal guineapigs. The latter needed a lot of help initially, but

was able to use all the activities, and greatly enjoyed composing simple tunes. His favourite feature was undoubtedly Albert Mouse, who pops up every time the child does something right and does a little musical dance lasting about seven seconds. My nephew was still wriggling with glee at the fortieth appearance of this infernal rodent, while the rest of us silently longed for the return of the Pied Piper, but I discovered later that this 'reward' can (mercifully) be switched off by the teacher using one of the Options.

Broadly, the program is arranged in five sections, each characterised by an explanatory icon and accessed from a main window by clicking on the chosen activity:

Up the Stairs

Clicking on the stairs produces different notes, with a variety of instrument options. It teaches the idea that the higher the note on the stairs the higher the pitch. It also introduces the conventional keyboard layout with high notes to the right and low to the left. There is a variety of instrument options which produce some amusing sounds, but one of these includes a cat with a mew which is almost completely devoid of tone. This rather defeats the stated object of learning about pitch, although the noise it makes creates an amusing diversion. The ten stairs are labelled in a scale from C to E although the pitch actually produced varies according to the instrument option selected. This is a feature which I found rather bewildering. The cello, handbell and clarinet play C as C sharp, and this would not worry most people, although it would irritate the music teacher with perfect pitch. However, the horn's C is an F sharp, and the keyboard C is an A! These are so far adrift from conventional concert pitch that I wonder why the programmer has labelled the stairs with their letter names; they are nowhere near accurate and this oversight means that a tune played on the cello sounds completely different on switching to the keyboard option.
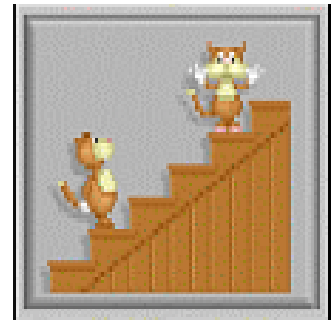
Children can make up tunes and use a 'cassette' display to record and playback their efforts. But playing back using a different instrument option changes the pitch. This to me is an obvious flaw in an activity whose stated aim is "to learn about pitch in the simplest way".

This section also operates on a more complex level which works quite well: clicking on a 'computer' icon changes the cassette recorder to an eye and an
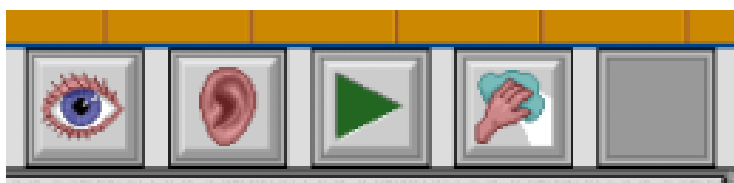
ear, opening up a new routine known as Simon Says. This is quite fun. A syrupy voice invites the user to "Try playing this," followed by a short sequence of notes. Copying the sequence correctly elicits the Albert Mouse reward in elaborate abundance. Repeating the exercise adds successive notes and note patterns, becoming increasingly difficult of course as the sequence lengthens. It is, however, just like

trying to remember an ever-increasing line of numbers, and relies more on the ability to remember sequences than on innate musical memory. The repetitive nature of the sequence tends to create boredom too quickly, and, more importantly, the challenge pays no attention to rhythm. The tune to be copied may be rhythmical, but the desired reward can be elicited by repeating merely the correct notes in an arbitrary rhythm. This lack of attention to the rhythmic aspects of music is a feature which is consistently absent in other areas of this program.

The section can be made even more difficult by closing the 'eye' or plugging the 'ear' with a bright red designer earplug. Full marks for graphics, and even the accomplished musician can be fully stretched here. Closing the eye is particularly valuable, because it teaches the child to listen carefully to the intervals between notes. Plugging the ear is less useful, reducing the exercise to the mere copying of a visual action.

The Jolly Keyboard
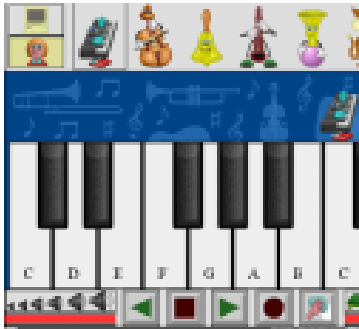
In many ways, this is an extension of the Up The Stairs routine, containing the same features and with the added luxury of sharps and flats. Here, the use of the cassette player to record tunes is particularly rewarding, although this activity suffers from the same problems of pitch when instruments are switched as found in the Up The Stairs. It also fails to reproduce the rhythm faithfully. I found by adjusting to the speed of the recording I could get the computer to replay my efforts reasonably accurately, but the average child would not be able to do this easily. Moreover, while recording a tune at one speed and playing it back at the same speed will usually work well, playing it back at a different speed destroys the rhythm. To my mind it would be worth abandoning the facility of altering the speed if it means gaining consistency of rhythm.

The Trombone

This makes an interesting diversion. Dragging the slider around creates tunes which are then stored and played back via a different window featuring a cat playing the instrument before an audience. This is very

entertaining at a superficial level. The difficulty here, however, is that again, the recording is not faithfully reproduced, either in pitch or in rhythm. and to my musical ear this exercise is simply not accurate enough.

Making Tunes

This is very satisfying, but it can be operated by most children only at the level of straight crotchets. The mathematics involved in creating anything else would be beyond most children under the age of about 10. Take, for example, Baa Baa Black Sheep. Loading the tune into this activity recreates it in crotchets all the way through; when you get to

The Hippodrome

A visit here creates a new opportunity to test the child's musical memory. A delightfully jocular Noël Coward-style ungulate plays a sequence of notes, and this time the programmer has paid an uncharacteristic but welcome attention to detail; the hippo's hands move convincingly on the piano in the right direction and in

"Have you any wool" these are not played as the quavers they ought to be. I made it play correctly by making the "Baa Baa Black Sheep" into minims by putting rests between the crotchets. This worked for a while, but as soon as the screen flipped to the next page (by clicking on a green triangle in the top right hand corner) a significant delay appeared in the music which we found irritating. "Why does it stop playing there?" complained my seven-year-old guineapig. Again, the same old complaint about rhythm applies. Children have a very keen sense of accuracy which is not satisfied with tunes occupying more than one 'page'. If the program were to include some means of varying note lengths, and flow properly from page to page, the Making Tunes activity would be greatly enhanced.

correct time. The child is then invited to choose the correct pattern of notes from a set of four illustrations. These contain dots, and are intended as an introduction to musical notation. The hippo is, however, like his human counterparts, subject to error at high speeds, and for me he kept playing an extra note. My 14-year-old guineapig enjoyed this section immensely, and was

intrigued by the upper-crust accent.

Ready-made tunes

The program comes with a supply of 14 ready-made tunes in a separate directory. These are a mixed blessing. None of them play in time. Some of them play nearly in time, like Baa Baa Black Sheep (named BarrBarr on the disc — ouch!) but Scotland the Brave sent my pet Haggis scurrying for the designer earplug. There is a very lame Blues, and — wait for it — Three Blind Mice and Happy Birthday actually contain wrong notes as well as the wrong rhythm. The tune labelled "Loveis" is referred to elsewhere as "New Tune". This is probably just an oversight. Of course these are minor details but it is nevertheless important to get things right whenever a program claims to be educational.

Mirror image

Children are impressionable and it is wise to feed them with correct information. Incidentally, the quavers of the program icon are the mirror image of what they should be.

In general terms, MusicMaker 1 is a useful addition as an educational game whose stated aims are met. It gives good practice in the use of the mouse, the design is logical and the tunes and graphics rewarding. In short, it is great fun for the complete beginner, and the facility is there for increasing the order of difficulty. It is a pity that the programmer has apparently treated rhythm as though it is a relatively unimportant aspect of music. I regard this as a disappointing drawback, as the opportunity to teach a vital area of music using this very verstaile program has been missed. I note that this is MusicMaker 1; it would be interesting to know if any of the flaws I have found are addressed in subsequent versions.

Music Maker 1
Price: £35.00 + VAT
Site licence: £87.50 + VAT
A PC version is scheduled for release in early 1997.
Supplier: The Resource Centre, 51 High Street, Kegworth, DE74 2DA.
Tel: 01509 672222.
Fax: 01509 672267.

Arnold's Observations

I've just returned from jaunting around the world on business. 'Jaunting' isn't that a wonderful word! A word made popular by the children's SF programme, 'The Tomorrow people' shown on British TV during the 70's. You remember, those kids who could teleport to anywhere they liked, just by holding their belts! No?... I must be getting old!!!

Anyway, I digress. As I was telling you I've just got back to the green and pleasant land and realised I was late in writing these Observations. Still that's normal for me *(Too true. Ed.).* I like living on the edge (this edge is usually the Editor's razor sharp knife which will be used to perform nasty acts on my person should I continue with late delivery of said article.) This issue of my Observations is about an alternative way to visit Acorn World in November; a sort of underground survivor's show guide.

Steve Arnold goes jaunting down memory lane and looks forward to rambling around Acorn World.

Acorn World — a hunting we will go!

When you go to a computer show, you usually end-up tired with aching feet, frustrated because you have either spent too much or couldn't afford to buy what you wanted. And, if you're lucky, you get home and discover you've enjoyed the experience. Sometimes this can be attributed to a state of mind. It is never fun being squeezed and pushed or having to wait at a stand for some info. The thing that annoys me at shows are those people who try to shove plastic bags full of product literature that you don't want into your hands. And for the rest of the day you have to carry it around, filling it with more rubbish until the handle of the bag starts to cut into the flesh of your hand. I hate it —I always blame the people at the

entrance. The other thing that gets my goat, is food and drink. How come we always pay the inflated prices set at these shows? It is getting so that you need a mortgage for a pie and pint! When you complain about the prices, they say "You don't have to buy it!" Well, where else can you go? It's usually a captive market and the nearest shop outside the show is a mile away. Argh!!! I'm starting to sound like Victor Meldrew! We all have our pet hates with these things and it is very difficult to do much about them, But it doesn't stop me trying!!

In planning a day out at a computer show, you normally go through the activity of deciding what to do in your mind. The sort of questions you ask yourself are: what day you want to go, what you want buy, what your spending is, who you want to see. All these thoughts are usually performed before the bat of an eyelid. However sometimes it's worth taking a little time to consider what is the best course of action and solution to your questions. So here is a list of a few options and tips which may help to get through the trauma of visiting a show.

1) Getting to the show

Plan your journey. If you are using public transport, make sure of times and connections for going and returning home. Try to book your transport ticket beforehand. If you are travelling by car, make sure you know how to get there. Take a map of the area. Don't forget to have some money handy for the car park. Switch off lights. —Don't laugh. I've forgotten before now.

2) Buy a show ticket in advance

A number of good reasons here. The tickets are usually slightly cheaper if you buy them in advance and you'll find it a lot quicker gaining entrance to the show. No standing in line waiting to pay to get in.

3) Provisions

If you are going to make a day of it at the show, take a small backpack or bag with you to carry your rations (food/drink). When you have finished eating and

drinking you can use it to carry home all those wonderful things you bought or all that sale literature you have gathered!

4) Money

Two options here: take loads or take none. This depends on what you want to spend. Remember that cash dispensers are usually as far away as the shops and half the time are out of loot. Credit and debit card services are not guaranteed to be available at any of the stands, some will, some won't! Carry your cheque book and guarantee card as a last resort to improve your purchasing opportunities. Note: Ensure all valuables are kept safe. Computer shows are usually crowded places and although it is unlikely that anything will happen, it pays to play it safe.

5) Purchases

Make a list of things you want to look at or buy at the show. Check out all the items on the list before you buy anything. Make sure you have thoroughly researched the show for the best price available. On expensive items it is worth bargaining on price or asking for some extra throw-in items. They can only say 'no!' and nothing is lost. As you go to buy something at the show, ask yourself three questions: a) Do I really want this? b) Why do I really want this? c) Is this the highest priority on the day's 'want' list? If you are happy with the answers/justification you've given yourself, go and buy it. But don't blame me for your decision. All I'm suggesting is you think a little more before you buy at the show. If you are seeking a bargain, the last day is the best time to get the best prices. However some items may already have sold-out. If you are buying bulky items, make sure you can get them home in one piece.

6) Advice

If you are looking for information or some help in solving a problem, it helps to write it down. Then you have to focus on your requirement and describe it in a clear and concise way. This also has the added benefit of reminding you of what you want to ask and allowing you to pass your question on to an adviser in a noisy environment without losing your voice.

7) Hazards
See 'Special Notice'

8) Stress
Crowded places tend to get hot. People get frustrated and stressed. Sometimes tempers fray. Try to remain calm. If it is getting to you, get away from it for five minutes. Always be polite and allow for ignorant cretins trying to upset you. Be aware that you are superior and shall not stoop to their lowly ways, at least not in public. Rudeness has been known to kill!!!

9) Endurance
The best way to last the day is to wear comfortable clothes, especially shoes. Take a few breaks from the hustle of the show every few hours. Have a drink and freshen up. Find a quiet place and if possible sit down. Consider what you have done so far and what you want to do next.

10) Fun
Enjoy the show. You paid to go in, so ensure you get value for money, make sure you ask all those questions and if you're not too sure about any of answers or explanations given, ask someone else. The show is an ideal way to find out. —Use the opportunity. Most of all have as much fun as you can as it will be another year before this show returns.

Special Notice
Avoid 'super anoraks' unless you are a 'super anorak'!

I hope you find the above useful and helpful during your visits to shows. Do I like going to these show? Me? —I love them. The adrenalin literally pours out of me. I get a high out of meeting people with like-minded interests. I like having the chance to discuss the latest technology, be it hardware or software. Then there's the opportunity to meet friends as well as make new ones. On the downside there is a very high potential for meeting with the dreaded 'super' anorak —these ultimate turn-offs for all those with a 'Life'. But these are few and far between and most have some spark of humankind within their natures.

Yes, I can't wait, my palm's getting sweaty in anticipation.

So what do you think? Is going to an Acorn show for you? Give it a try, you'll probably enjoy it.

Time to finish once more

I've recently been reading the biography of Harry S.Truman the former US president. He was a man of dry wit, humour and canny observation, famous for many a quote. Try these two:

"I have found the best way to give advice to your children is to find out what they want and then advise them to do it."

Truman`s Law: *"If you can`t convince them, confuse them!"*

I hope to see you at the Show. Anyway, time to go —Have Fun!

For more information on Acorn World, see page 72.

ARM Acorn '96 MIDLANDS

A DATE FOR YOUR DIARY

The ARM Club's next open day is on
SATURDAY 7th DECEMBER 1996

The National Motorcycle Museum
Coventry Road, Bickenhill
Solihull, West Midlands
(opposite the NEC)

Doors open at 10.00 am until 4.00 pm

Admission charges
Adults £1.00 (Members half price)
Children under 16 free, but must be accompanied by a
responsible adult

Well I Never Knew...

Hi Folks, it is time once again for another page within the incredibly exciting Eureka magazine of 'Well, I never knew it did that'.

This is the page of fascinating facts about your Acorn computer; hints, tips, useful functions; anything that may be of interest to us Acorn users.

Jonathan Stott promptly sent me in a couple of useful ones:

a) When copying or deleting large, or large numbers of, files the process can be speeded up by clicking the menu (middle) button over the filer action and choosing 'faster', this has the effect of suspending the information being shown and releases up some memory resulting in a faster operation (I shall have to time it sometime).

b) The second relates to the use of Rhapsody and particularly when

Geoff Lane's regular round up of helpful hints and tips offers some simple short cuts you may not have known about.

using older Acorn computers. Apparently the computer slows down considerably when entering a new note; the reason being that the program needs to reformat the whole score. This can be speeded up somewhat by editing, say, 10 or 20 bars on a separate file and then copying them together into the main score. Jonathan also mentions that when editing more than one stave at a time doing each one separately will also ensure that the notes are properly aligned. Hope I've explained that OK as I am not very musical :-)

Thanks for those two Jonathan.

Here's a tip to speed up the opening of directories. When you click on the floppy or hard disc icons the application boot files load up the various sprite files to

Secret Lives: 1. The Chairman

Bottoms up

You might think that the ARM Club is run by a group of straight faced Committee members sitting round tables making executive decisions. However, Steve Arnold, Committee member since the very early days of the Club and our Chairman for the past three years is far from conventional.

Take, for example, the last Harrogate Acorn User Show. One evening, Steve decided to prove that he could drink a pint of Best, standing on his head. If you look carefully, you can still see the indentations in his head left by the gravel path outside the pub.

The previous year he'd written an article about everything that had happened during the show weekend with names changed to protect the innocent. This article is a belated chance for everyone else to get even with him!

Steve comes to most meetings with the rest of the family (Clan Arnold) —his wife Sally and young Rachel and Luke who liven up even the dullest of Committee meetings. When everyone's gone home, it's time to put everything back where it belongs — fish the doorstops out of the bath and so on.

Steve knows everything there is to know about Acorn and many of the people who work there, having been an employee for eight years before leaving 18 months ago. If you need second hand computers or spare parts, Steve can usually find someone who will sell you what you want. He's also a great believer in trading favours.

In the first of a new series introducing prominent members of the Club, Mark Smith blows the gaff on our respected (and, it was

These days, Steve's in a job that requires frequent trips around the world (somewhat different from his days at Acorn) and so has less time to spend on club activities and he is now swapping the chairman's role for that of official club photographer. Watch out for the embarrassing photos coming to an issue of Eureka soon.....

Well I Never Knew... *Continued from page 47*

display the 'pretty' application icons; all very time consuming, especially if the disc contains loads of games. If you hold down the 'Ctrl and Shift' keys while clicking on the drive icon and keep the keys pressed whilst the disc is loading, the filer window will open with standard application icons and therefore be much quicker. To the best of my knowledge you can then click on an icon to load and run as usual.

One I found recently and it is so simple that I'm sure I am the only Acorn user in the world who didn't know about it. I use the task manager (icon on the right of the icon bar) quite frequently, usually the task display to change some memory functions. I have always pressed the menu (middle) button over the icon and then clicked on the task display. Recently I accidentally pressed the select (left) button on the icon and the task display opened without the need to select it via the menu, 'Well, I never knew it did that'. The best ones are the simple ones.

Well folks, that's all for this issue; by the time the next one is due we will be in the depths of winter, argh !!! Keep the tips coming, it's your page.

Connector Comms Program

Following on from my article in issue 19 of Eureka entitled 'Try the BBS path', I would like to give members an insight into the use of Connector.

Connector is public domain and was written by Andreas Zieringer who trades under the nom de plume of topdog. Andreas is in his mid 20's, is studying computer science (surprise, surprise) and lives in Germany. He owns an A3000, an A5000 and a Risc PC. Andreas has been programming for the Arc since 1988 and wrote Connector because he needed a comms program and the commercial ones were expensive and not to his liking.

The program is still being developed and as a result upgrades are released periodically. Having said that, I have been using it since March with no major problems. The earlier versions had an occasional file transfer error but of late the program has been working extremely well.

Geoff Lane tries the PD Connector way to log on to his favourite bulletin boards.

The latest version is generally available on fellow ARM Club member, John Stonier's excellent Digital Databank BBS (01707 323531). I usually try the newer versions for a while before sending the latest one to the Club's PD library.

The Club copy is configured ready to go and the only alteration that I can think of that may be necessary will depend on whether you are using the more normal PC type modem to computer lead or an Acorn lead. Apparently the later Acorn machines can work with either lead whereas the older ones need an Acorn lead. My own A3000 needs an Acorn lead but my A3010 works fine on a PC type lead

modem to modem rate as the modems actually compress data before sending it down the phone lines. The figure of 19200 can be increased with later Acorn machines and 28.8 modems but I know the older Acorn machines have a slow serial port rate and if this is set too high, problems can occur. The 8NI I haven't a clue about and the ZModem is the current preferred transfer protocol. I have used other options on PC BBS's.

supplied with the US Robotics modem. The settings for these different leads can be altered via the configure option by selecting menu over the Connector icon on the icon bar, then selecting configure, followed by Ser.Port and then Block Driver. Finally select either InternalPC for the PC lead or, alternatively, Internal if you have an Acorn lead.

When Connector is loaded up and the screen is open certain options can be altered at any time. Most of these will be set automatically, but for members info the windows need to be set as follows: ANSI, 19200, 8NI, ZModem and, within 'special', choose Wrap On. The second setting shown as 19200 refers to the characters per second transfer rate between the computer and modem. This is faster than the

There are many features within Connector that are extremely handy. The address book goes without saying and removes the need to keep entering the number. Also within the address book you can 'Fine tune' the connection to various BBS's with different connection speeds, auto logo on, multiple numbers if you select auto redial from the configure option, how the modem responds, such as silent dial/ring or audible dial/ring, and modem transfer protocols.
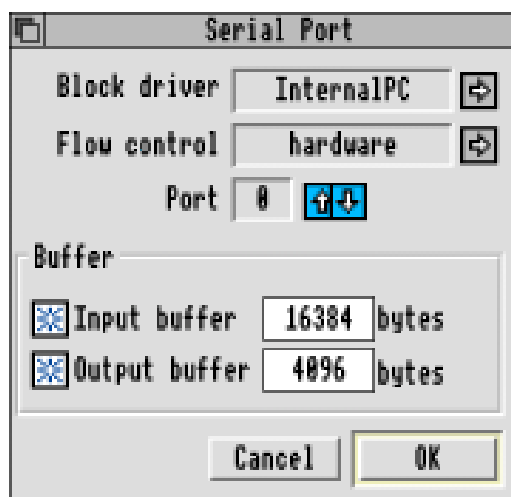
There is a 'Spool' feature which is like a video recorder. All you do is drag the spool file from the menu option onto any directory window (change the name if you like). A window will appear similar to a video recorder. Click on the 'record' button. Then all the BBS action is recorded. When you are finished click on the stop button and then when you log off just drop the spooled Data file onto the Connector window, click on the play button and you will get a replay which can be slowed down or speeded up at will. Do remember that the spool file will be growing all the time the board is being used so watch the memory the file uses. If an area of text is highlighted with the mouse this can be saved as a text file.

While online you can alter where downloaded files will end up — useful if, like me, you do not have a hard disc and the floppy is filling up.

This article is not meant to be an instruction manual for Connector. It is intended to let members know that Connector is an excellent and easy to use communications program. It has many of the features of programs costing £60 or more and is available free from our own club.

So, there you have it. The cost of modems is falling rapidly; a 14.4 is under £100 now. A modem is all you need. No further expense is required, except of course, THE PHONE BILL!

If any members experience difficulty with any of the functions within Connector I will be happy to assist. I am far from an expert but through a little experimentation and the author's help via emails I have learnt. Contact me via the club or email to online@digibank.demon.co.uk (No full stop after the UK bit).

The AUCE Where Teachers Learn IT

If you are a teacher of primary or secondary pupils or even a lecturer in further or higher education then you have to come to terms with using computers.

The national curriculum places great demands on the expertise of teachers and for a primary school teacher the expectations are that one can deliver exciting and relevant material across a range of subjects, from maths to English with some Religious education, history, geography and more. As a secondary school teacher I have nothing but admiration for my primary colleagues. We all have to make use of Information Technology in the subjects we teach and we all need quality help with its use. One source of such help is the Hatfield based Advisory Unit: Computers in Education that I visited to be able to write this article.

Deputy Head Teacher Peter Blenkinsop gets a lesson at the Advisory Unit for Computers in Education.

A little history

The unit started life as part of Hertfordshire's advisory service many years ago and was housed in a row of huts on the site of a school. It thrived there providing IT support for schools who used Acorn computers as well as for those less fortunate who had to struggle with Research Machines equipment. When Local Management of Schools became de rigeur most local authorities pared down their advisory teams significantly and the Advisory Unit made the decision to go private. Several companies and a charity were formed and while the name stayed the same the staff were reduced and the new AUCE was formed.

About five years ago the unit with its eight staff set up in new accommodation, still in Hatfield, but now sharing a three storey

building with a heating company. They are conveniently situated opposite the Wrestlers public house though Alun Hinder, the unit's Acorn wizard, would not confirm that it was the ease of being able to nip out to the pub that made the decision to relocate here easier. It can't have been the fact that the main line railway out of King's Cross is a few yards from the rear of the building!

What do they do?

Just about everything that schools and other educational establishments need, apart from actually sell computers. They provide

• Telephone support and advice for IT
• Visits to schools for IT support and advice
• Day courses on using hardware and software based at the unit
• Advice on the examination and assessment of IT
• A software and resources reference library of up to 2000 items for subscribers to try out before deciding on purchase (or not)

• A Thursday evening open evening for teachers to come in and discuss IT related issues
• A free, to subscribers, newsletter
• Advice on using the internet and courses on HTML page designing and lots more.

How do they do it?

They both respond to schools requests and use their contacts in this and other countries up to Department for Education and Employment (DFEE) level to predict what schools or other educational establishments will need. Their staff have amassed a great deal of expertise in the use of computers in education and should a school have a query about, say, a printer or a whole network then someone will be able to provide, unbiased, advice —often at the end of a phone. What a school does is decide on the level of subscription they need, or can afford. The subscriptions range from an information only service for £250 to the SuperPlus Subscription costing £1250 per year. For subscriptions above the Information Only level, the school receives points which can be spent

on additional services, training courses at Hatfield, on site consultancy visits from the unit's staff, network advice including installation and upgrading and technical services such as providing special cables and setting up printers. You may have one or possibly two printers at home —think about the needs of a school, such as mine, that has about 30, from Laser Directs to HP deskjets, connected to a network of over 100 Acorn computers used by 800 or so students and, more problematically in many cases, 100 staff.

Special Needs Support

Special needs students are just that —special. They often have totally individual needs and will need to be catered for by assessing their individual aptitudes to enable them to access the curriculum as effectively as all other students. The Advisory Unit can provide support for schools in this area and they have a special needs centre which is staffed by a consultant who works with the national and Regional groups involved in software development in this field.

They can advise on students with both learning difficulties and physical disability. The facilities at the unit have been sponsored by the Save and Prosper Trust and the Joseph Rowntree Foundation.

If it does not exist ...

While they do not see their main task as producing software and hardware for school use, the unit has a catalogue of its own. For the Acorn range of machines they have produced Almost Logo, the first implementation of Logo to run under RISC OS desktop. This also can be used to drive floor turtles, the electromechanical non living variety rather than the crunchy meat pie variety. Data handling for secondary schools at Key Stage 4, GCSE years, is catered for with Merlin, a package which can display data in card or grid layouts, sort data, search using AND and OR operators as well as graph the results in a variety of ways. There are also packs of worksheets which make using the package much more straightforward for teachers and students. The needs of teachers to deliver the modelling (usually

using a spreadsheet) requirements of the national curriculum are met with the Modelling Pack material which provides both data and ideas for use across a range of subjects.

Geography

Geography, as a subject, is well serviced by the Advisory Unit with Aegis 2 and the hardware/software in the Weather Reporter package. Aegis 2 allows students to access information about different regions in the world and display the data on maps. The Weather Reporter data logs a variety of weather parameters and allows students to experience, at first hand, the issues around dealing with live data. This piece of equipment deserves a review of its own.

There is other material which is well produced and —possibly more important for schools to know —is well supported by the Advisory Unit.

The future

I asked Alun Hinder where he saw the future of the Advisory Unit while he was explaining to me that he was noticing a change in the way schools were receiving their IT training.

He said that schools were more often having the Unit's staff go to them to work with a group of teachers at the school rather than, in the past, coming to the training facilities at Hatfield.

Here to help

He felt the future was secure with the unit's involvement in Independent, State and Grant Maintained primary and secondary schools as well as Local Education Authorities both in Britain and abroad. His view was that schools will always need support and the unit will be here to help.

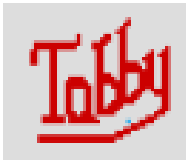The Advisory Unit: Computers in Education is at

126 Great North Road, Hatfield, Herts AL9 5JZ.
Tel: 01707 266714
Fax: 01707 273684
Email: advunit@rmplc.co.uk

Tabby Graphics Tablet

Tabby is an appropriately (if somewhat corny) named device. You see, the device is a small graphics tablet which is used to replace the function of the mouse, hence Tabby (cat!!). I told you it was corny. I've always wanted to try a graphics tablet with my computer, but I have been put off by the vast expense of purchasing one. This is where Tabby comes in. It gives the general functionality of a graphics tablet but at fraction of the cost. The Tabby was originally designed for the PC market and became popular with other machines such as Amiga. A third party company developed the support software for use with the Acorn machines.

Steve Arnold gets rid of his mouse with a Tabby (at least when he's producing the odd graphics masterpiece).

What do you get?
Tabby is packaged in a standard outer card box with a two part polystyrene inner foam tray. Inside this you will find a tablet with integral stylus pen and serial cable. (The size of the tablet is 170mm wide x 145mm, so it doesn't take up too much space on your desk.) A 3.5" disc with the driver software and a single A4 sheet of instructions.

So what can Tabby do?
At its most basic, Tabby replaces the mouse with the pointer of the tablet's pen stylus. This makes the Tabby a very useful tool for those who use art and graphics applications. It can give a 'pen-like' feel to pointer/cursor control.

Tabby works in a way which gives absolute coordinates and not relative screen coordinates as with a mouse. This means that you never move off the tablet area. On the surface of the tablet there is an engraved rectangle representing the screen area in all screen modes.

Tabby Choices

Speeds

Sample rate   25   ⬇️ ⬆️

Pointer speed (norm)   1   ⬇️ ⬆️

Pointer speed (slow)   1   ⬇️ ⬆️

☐ Use default speeds

Tabby switch emulates...

◉ Select   ◇ Menu   ◇ Adjust

Smoothing

◇ Low   ◇ Medium   ◉ High

Keys

⬚ Disable keys   Del   Cpy   PD

⬆️

Alt   Ctrl   ⬅️ ⬇️ ➡️

The stylus pen behaves like a pen on a drawing board.

User choices

The Tabby has a number of user choices. These are selected by clicking on the Tabby icon on the task bar with the menu button of the mouse (middle button).

These options allow you to change the speed of pointer movement, change and select keys that will emulate the mouse functions,

change the Tabby key emulation and finally select whether the Tabby module is RMKilled on Quit.

Making Tabby work

To use the Tabby graphics tablet is pretty easy — as long as everything is working! To start with, ensure your computer is switched off. Find your Serial Port on the back of your computer (this is a 9 pin 'D' type connector socket). Take the cable with the 'D' connector from the Tabby and plug it into the serial connector, gently tighten the moulded finger screws (screwlocks) to fix the connector in the serial socket. Now locate the stylus and place into the holder, incidentally this holder clips on to the top of the tablet.

The next stage is to load the software. Switch on your computer and insert the 3.5"Tabby disk provided. On this disk you will find the !Tabby program. This

can be loaded from floppy disc or copied to a hard disc as required. The program is loaded on the task bar by selecting it and double-clicking with the select (left) button on your mouse. Once loaded you will see a greyed-out !Tabby icon appear on the task bar at the bottom of your screen.

The program is activated by using the mouse to select and click on the Tabby icon. This will change the tabby icon from grey to red to indicate that Tabby is now active.

To ensure you get the best out of the Tabby stylus keep your finger in contact with the metal strip on the top of the stylus. This helps to assist in giving a steady pointer.

Take over

The stylus will take over from the mouse once it is within 1cm of the tablet's surface. Pressing down on the tip of the stylus is the equivalent of pressing the select button on the mouse. If you double click the tip it will perform the same action, that is to load applications and open directories etc. To revert back to your mouse,

place the stylus back in its holder or deactivate Tabby by clicking again with the mouse on the icon bar icon.

Restrictions

Tabby does have some restrictions due to the hardware and software requirements. The hardware requires certain voltages to be available from the serial port to drive the tablet and some of Acorn's older machines do not support the voltage requirements. This means Tabby will not work with the Acorn A310, A410, A420, A440 and A540 without major modifications to the serial port. The A3000 requires a serial interface to be fitted and a special serial port adapter. This is available from the First Computer Centre. To ensure the software works correctly the Tabby needs RISC OS 3.00 or later to be fitted to the computer.

What did I think?

I have to say, it took me some time with the Tabby stylus before I was comfortable or fully operational with it. This is down to me more than the Tabby. I found myself

looking away from the screen to the stylus to see what was happening. I can only describe it as a bit like trying to write while reading a book. Once I had grasped control of myself, it was OK. To the Tabby's credit, it functions well and, although the software appears somewhat simplistic, it covers all that is required to make it work and be flexible for the user.

Acorn applications

I've tried to Tabby with all of Acorn's applications and after some learning with the stylus I found it to be quite effective. I especially like it with !Draw for drawing irregular curves and circle objects and with !Paint for freehand drawing and spraying. As highlighted in the !Help and Readme files Tabby doesn't work that well with games. Still, I'm not too sure I could handle these games with a stylus even if they did work with them. It's so hard to get away from those Z & X keys!

On the whole Tabby is fun to use, but it does take a lot of getting use to after so many years of using a mouse. It is definitely a boon to artists once you have got over the learning curve. It gives that natural feel to creating artwork. I don't think it will ever replace my mouse, but I'll use it when the need arises for me to produce that graphic masterpiece.

Tabby
Price: £67.95 including VAT
Supplier: First Computer Centre
Unit 3, Armley Park Court,
Stanningley Road,
Leeds, LS12 2AE
Tel: 0113 231 9444
Fax: 0113 231 9191

Wanted

Issues 1-4 of this magazine (Eureka and its predecessor), in hard copy, to complete the Editor's file.

Any or all will be gratefully accepted and can be sent to the Club's Freepost address.

More Active Membership

The ARM Club is run entirely by and for its members and its main aim is to enable us to provide as much support as possible for each other. Offers of assistance from members who would like to take a more active part in the Club's affairs are always welcome.

At present, the Club needs volunteers with some technical expertise to help run its advice service. Members seek help and advice on all subjects so it is not necessary to be an expert in all fields of computing to be able to offer assistance.

If you are interested in taking part, please let us have details of the areas you could tackle, whether you would prefer to deal with post, fax, email or phone queries and a rough ides of how much time you would be able to spend on answering. Queries will probably number no more than one or two a month and most should be quick and simple to answer as they will be on a subject you know about.

Also, we still need a volunteer or two who could help prepare a cumulative index for Eureka, as requested on page 61 of our last issue.

The ARM Club is the national club for all users of 32 bit Acorn Computers and Pocket Books. In the six years since it was established (originally as Club A3000) membership has grown to more than 1,500 Acorn users of all shades of enthusiasm and ability.

Back numbers can be supplied on disc as Impression files and any system of indexing, such as Beebug's Arcscan (which could also be supplied), can be used.

Offers of assistance can be sent to the Club's usual Freepost address or emailed to: support@armclub.org.uk (for the Technical Help Service) and eureka@armclub.org.uk (for the magazine indexing).

RSDFS & QuickLynk

M any years ago you were lucky to own one RISC OS machine, let alone two. Nowadays this is becoming increasingly the norm, two machines, one for the hardwork and another for the kids to play games on, or in my case, the Sister.

In the quest for a cheap way of file transfer I went in search of some solutions. The nice offer from Atomwide (two machine Ethernet) would have been a bit too pricey for the use it would get. (I believe the offer at £99 has now finished sadly),

I ended up with two products RSDFS and QuickLynk.

Unfortunately I was unable to use SerialNet, the new program from iSV (the people who brought you DrawWorks) but hopefully I will be able to look at this in the next issue of Eureka.

Matthew Cook compares two ways of getting his computers to talk to each other.

RSDFS

RSDFS (Remote Serial Disc Filing System) comes in a small black box with a photocopied cover. First impressions count, but the old saying don't judge a book by its cover should be remembered because, beneath the photocopied packing and badly printed manual, there is an excellent application. RSDFS has been developed for a long while, it has (in an earlier form) been tried and tested by hardy BBS (Bulletin Board System) users. RSDFS was originally developed as a BBS server where users could have a RISC OS feel to a BBS system instead of the ANSI standard. I can remember when the main topic of conversation around the bulletin board scene was RSDFS and the main question was "How do you get it to work?" It suffered major problems with the user interface,

which was a shame because Chris Claydon had developed a really good product, but now with all things tidied up and re-released, RSDFS is set to make a comeback with the main purpose being a low cost networking solution.

RSDFS is easy to install, just dragging the contents of the floppy onto your hard drive or using the applications on the floppy disc. The Master applications, !RS_Remote, !UserEdit and !SerialDev, are needed on the Master machine. !ControlRS and !SerialDev are needed on the Slave. SerialDev is a small directory that holds code to allow communications programs to talk to the serial port.

Setting up RSDFS is quite simple, although the manual seems to be written to a technical level not too easy, I presume, for new users. The setting up is carried out in three windows selected by the main menu off the icon bar. This allows different drives (hard disc, floppy, CD-ROM and almost any RISC OS filing system). It even coped with the heavily patched MOFS

for my SyQuest drive. Then other items are set up: which serial port, speeds etc. There are lots of security features that Chris has implemented which are useful if you are running a BBS System. You would not want complete strangers wandering over your hard disc and these features would put your mind at rest.

ControlRS is loaded on the Slave machine, where less configuration is required, and then, hopefully, after connecting the serial cable: Voila! As many of you know, things in the computer world never go to plan so, yes, as you may expect it did not work. A quick cup of tea resolved the problem with a look at the UserEdit application I had overlooked earlier. Typing in a user name and password and then entering into ControlRS worked a treat as I now had an array of drives shown on my A3010.

I do not have accurate speed comparisons but RSDFS is not too bad. I was expecting really slow transfer rates, but on page 67 is the results of copying the ARM Club's PD catalogue from the hard disc of

Available RSDFS drives

SCSI HD2 CDROM Floppy

:0 :0 Backup1 Beast Temp
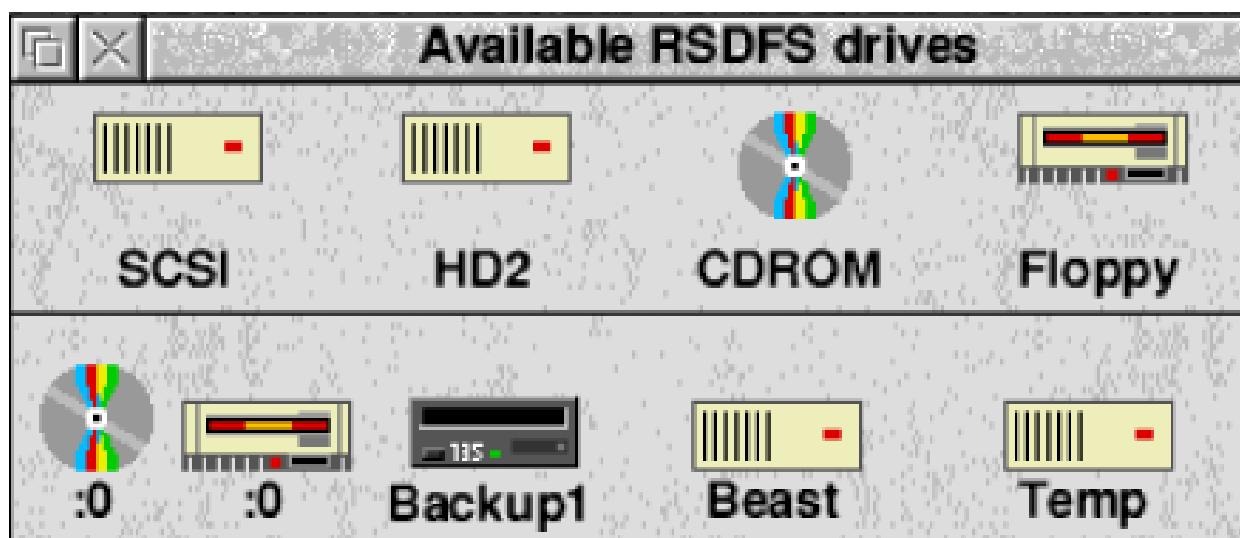
the Master machine to the floppy of the slave.

Using RSDFS is so easy, just like an addition to RISC OS. A window of drives appears just above the iconbar to the left and clicking on one brings up the filer window for that drive. Then you get a full RISC OS implementation, double clicking, sprites and just like a normal filer window, quite impressive.

RSDFS is a brilliant application that filled a niche market until others jumped on the bandwagon. Hopefully the competition will bring more improvements. The BBS side of RSDFS is another plus. Although this costs extra for the tools, it is something to consider if you are starting a BBS.

QuickLynk

QuickLynk is a new contender to the serial transfer game. It is very well presented. A plastic wallet and professionally printed manual accompany the disc. QuickLynk has taken a slightly different approach to the problem of transferring files, it implements only a half Risc OS filing system.

QuickLynk installs easily by just dragging the application onto your hard disc or running it from floppy. Problems occur when you copy it to another place on your hard disc, because it sets no-read access to one of the internal files as a security measure, although the manual explains all this and how to get around it.
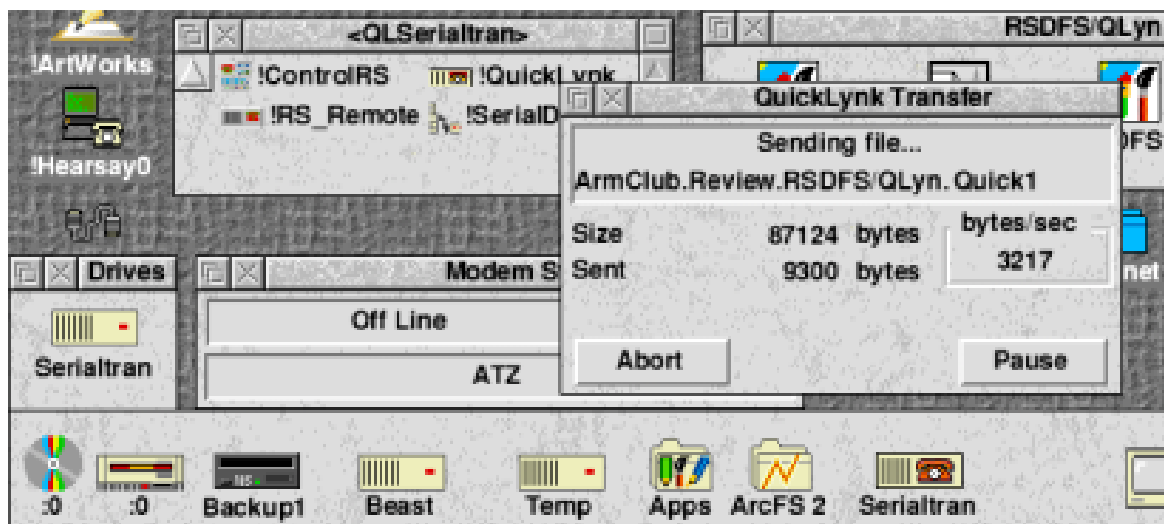
QuickLynk is one program compared to RSDFS's suite, which makes installation much much easier. Setting up in QuickLynk takes the same sort of form as for RSDFS. I was quite surprised because the configuration window looked almost the same as one out of an earlier version of RSDFS. I suppose you cannot have many variations on one theme. The configuration was done and a click on the iconbar menu and a second click on direct connection brought it to life.

On the slave machine I was presented with the drives window and I got another sense of deja vu as the drives window looked the same as RSDFS. The similarities stop here because, when you click on the drive icon, you get a different method of using the filing system altogether. First of all the QuickLynk icon on the iconbar turns to the icon in the drives window (a similar style to Access). The filing system is a home made one by Desktop Projects, who tell me the reason for this was to achieve better transfer speeds. They do have plans to develop the program further towards a full filing system. The interface is easy to get used to. You can have only one window open at a time and the previous directory window is obtained by clicking on an icon underneath the back icon in each window. Files are simply dragged across. Sprites are not used for applications unless the application has been seen on the slave machine and double clicking on an

application opens the directory compared with running the application in RSDFS. There is no implementation of other filer commands, which is a shame as RSDFS seems to implement them okay. The other problem is that the window is not automatically updated, which can cause problems, but their excuse that it would slow down the communications to an unusable speed could surely be overcome.

The modem to modem communications side is rather cut down compared with RSDFS. You can dial up another machine and share files as if you were using it locally although, because of licensing conditions, you have to own the machine that is calling your machine or the person calling has to purchase QuickLynk. Whereas with RSDFS a free cut down client is supplied so that others can access your hard disc, although in a cut down sense, or another full version can be purchased at a lower cost!

QuickLynk is another well programmed application, although it lacks features that its counterpart, RSDFS, has.

The Reckoning

Well there we go: two applications for one purpose; RSDFS or QuickLynk. It all depends on your situation.

If you want to swap files occasionally between two machines, are not bothered about having a full filing system and are on a budget, then go for QuickLynk.If you want to opt for a more serious solution of networking, also maybe including dial up access (useful for schools?), then choose RSDFS.

If you want to run files and load applications off another machine, then I am afraid you would be best saving for a couple of ethernet cards because otherwise you will be very disappointed.

I look forward to watching the development of these applications and will let you know how they progress, and hopefully I will have more news about the latest offering from iSV

Speed comparison table

Copying Catalogue (the archive of the PD Library) off Eureka Disc 19: 153,568bytes. Master: A310 —SpDual. Slave: A3010 —Internal.

QuickLynk	2.17mins
RSDFS	1.59mins
Ethernet	0.24mins
Ether+Access	0.19mins

The two serial packages had the speed set to 19200, connecting two Risc PCs at a higher baud rate would achieve better results. QuickLynk was faster when updating directory windows, because of the reasons in the review, although was marginally slower in the transfer test. The results were calculated on an average of three basis.

RSDFS

Price: Full-FS Package (Master, FS Slave & Old slave) £45

Additional FS Slaves £15

Upgrade from older versions of RSDFS to Full-FS £15

Serial cables: £8 each plus £1 per metre in length (Any length made to order, up to 10m)

Parallel port driver for RSDFS: TBA (expected at Acorn World)

Supplier: ARMed Forces

38 Main Road, Littleton Winchester, SO22 6QQ

Tel: 0196 288 0591

sales@afsoft.demon.co.uk

QuickLynk

Price: QuickLynk £32

With 5m Local Cable £39

With 10m Local Cable £45

With 20m Local Cable £52

(All including VAT)

Supplier: Desktop Project Ltd

Unit 2A

Heapriding Business Park

Ford Street

Stockport, SK3 0BT

Tel: 0161 474 0778

Fax: 0161 474 0781

Email: info@desktopp.demon.co.uk

Global Effect

I look at the box. Do I fully realise that I am about to play, "A compelling new computer game that could change the world"? Apparently, the world is in my hands —I must take control! This game suddenly began to appeal to me; the melodramatic ones are often the best.

If you can excuse the mistakes in the manual (the wrong pictures and very strange spelling) and the fact that it seems to have been printed using a cheap bubble-jet, then the presentation is very good. Indeed praise must be given to the amazing graphics —the best to be found on any Acorn game that has ever been produced!

Global Effect is, in its most basic form, a simulation. The situation is that you are controlling almost all of the man-made creations on the planet, and what state that planet is

Nigel Jackson takes control of the world and saves it a few times but longs for contamination and war.

in varies. In all there are 14 scenarios, although two of those are when the world has no distinct characteristics and you fight against the computer to rule the world. A battle system is promised by Eclipse in the near future, so until then you cannot really fight, which is disappointing.

There are three different types of game: create a world, save a world and rule a world. You can create a world against a computer player or on your own, though there seems little point in this option apart from learning the tricks and skills you will need for the other two options since there is no winner because you have no objective, nor can you kill each other without that elusive battle system.

Ruling a world is also a rather narrow option, since there is no way to remove the computer

player and there is little use trying to stop a military dictator whose most evil and offensive tactic would be piping his sewage into your water supply. Missiles, war ships and planes remain a greyed out option.

Save the world

If you wish to save the world, however, you finally have an objective. The four scenarios basically require you to redress the ecological balance, which always requires planting lots of trees. Still, it is nice and educational, proving how difficult it is to expand civilisation without everyone dying. A certain amount of time is given to you to create a certain amount of city blocks. Each must be powered and the levels of carbon dioxide, pollution and contamination must be kept down, while the ozone must be kept up.

Build cities

When you start to build your cities then a balance must be kept between size, resources and facilities. It is impossible to satisfy the public who will always complain about food, water, waste disposal, lack of recycling, or just die. That's life! And that's where Global Effect succeeds as a simulation. You can build cities, farms, electricity cables, pipe lines, water refineries, sewage plants, trees and city limits among other things. As an electricity supply you can choose solar, wind, nuclear, coal or oil based power plants. Each has a different amount of electricity it can produce and has different risks. Again there is an educational element, when knowledge of the environmental effects of different power sources is needed.

Use power

To create these different constructions you will need to use power which you gain as your city gets stronger and larger. A good city can provide enough power to build almost anything. The gameplay is a simple select and click to build situation, although there are a lot of options to get used to which requires copious amounts of time studying the manual. Once you know what you are doing then you can have fun,

for a while. You see, this always seems an incomplete game to me, especially when I have saved the world several times and outgrown the computer player at its fastest setting. I long for that missing edge that a battle system could provide. I long for the computer to try and blow me up with its missiles. There are many options to this game, and it could provide lasting enjoyment if there were the guns and nuclear armaments that could produce a bit of contamination and death.

I have further criticism, too. The sound is most horrendous, but maybe that's just my Risc PC. Still, this game should work fully on all platforms.Another annoying thing is the protection system. Never in my life have I been vexed so much by spinning shapes! Someone should tell Eclipse that by creating one simple page of text with numbers and letters corresponding to the shapes, their game can be copied with more ease.

The version I have still has bugs. When I put up a row of solar panels, which provide power for up to 25 city blocks, and then place a row of city blocks adjacent to them, I really do expect them to be powered. I had loaded up a saved game and the information displayed that all my cities were unpowered. Then in any subsequent new game, I was unable to power any building. I had to re-install the game, and the spinning shapes were still there!

Potential

Make no doubt about it, this has the potential to be a great game. But the price is too high for mere incomplete potential. Come back to me when you have that battle system Eclipse, and you've got rid of the bugs, and the sound is bearable. Then perhaps you'll have a Global Effect on my senses.

Global Effect
Price: £34.99
Supplier: Eclipse
Unit 1 The Shopwhyke Centre
Shopwhyke Road
Chichester PO20 6GD
Tel: 01243 531194
Fax: 01243 531196

RISC OS 3.7 Arrives

With the development of the StrongARM card for the Risc PC, it was necessary for Acorn to create a new version of the operating system in order to support the new hardware. The result of that work is RISC OS 3.70, an incremental update on the versions of the RISC OS used in previous Risc PC and A7000 systems.

In addition to the work to support the StrongARM processor, which has in itself led to some significant improvements — faster task switching is one notable result — Acorn took the opportunity to include a few other enhancements in RISC OS 3.70.

A new font manager is included, which has the ability to do anti-aliasing by examining the background over which the text is being plotted. This is an advanatage where text is placed over an image rather than a uniform colour, as is common with web pages.

Tom Hughes gets his hands on the latest version of Acorn's RISC OS and looks at the improvements.

Also included is a new version of the Acorn TCP/IP stack. This is largely invisible to the user, as the interface remains almost identical, but the stack itself is based on a new, more up to date, version of the BSD networking code. Configuration of TCP/IP networking can now be done from a new section of !Configure, which simplifies matters.

Naturally RISC OS 3.70 also includes all the improvements made for RISC OS 3.60, so all the owners of older Risc PC's will gain those features (such as support for large hard discs) as well.

Acorn World At Last

Acorn World 1996 is opening at Olympia, in London, with a boast from the organisers that "there is more innovation in this year's show than at any previous event."

The ARM Club will be fronting a large stand at the top of the stairs, joined by a number of local Acorn Groups. Among the attractions planned there is a 'comms workshop' on Friday and Saturday.

StrongGuard!

On sale at the stand will be the first copies of StrongGuard!, eagerly awaited by StrongARM owners to allow more applications to work on their Risc PCs.

Also available will be the Club's well-established range of other reasonably priced commercial software packages, including the popular Game On!, SmartCD+

The big show is now upon us and, if you haven't yet visited it, here's everything you need to know (apart from the expert advice from veteran visitor Steve Arnold on page 42).

and TypeTutor, the proceeds from which are used to fund the Club's activities

StrongARM

StrongARM itself, whose introduction has provided the computing power to drive many of the new applications, will be the big attraction at the ART stand. As well as demonstrating the new processor in Risc PCs, ART will be offering StrongARMs as competition prizes every half-hour throughout the show. A complete SA-equipped Risc PC will be presented to the winner of a 'Lucky Key' competition, run in conjunction with 'Byte' magazine, and Show sponsors Acorn User will have StrongARM upgrades among the many lucky dip prizes on their stand. For those not lucky enough to win one, StrongARM will be on

sale to the public for the very first time from the Centres of Technology exhibiting at the show.

Net Station

The new Net Station computer is now a reality, and production models rather, than technology prototypes, will be available for trial on the ART stand (85), centrally located and shared with Xemplar on the ground floor.

Newspad

A prototype of 'Newspad', described as a personalised electronic newspaper with A4 touch-screen technology, will also be on show and members of the ART team will be on hand throughout the exhibition to answer enquiries and demonstrate the new products.

Theatre programme

On Friday, 'Education Day', the theatre will be dedicated to a series of seminars aimed at educational visitors, teachers and schools' IT buyers.

On Saturday and Sunday, Acorn's enthusiastic band of home,

professional and specialised users get their turn. A wide range of topics and demonstrations cover DTP and graphics, music making and publishing, statistics, the Internet and a new application which renders the Risc PC capable of running more software than any other commercially available desk-top machine!

Saturday will see five of the leading Acorn DTP specialists: Mike Williams of Akalat Publishing; Tony Tolver of T-J Reproductions; Richard Lambley, Editor of Land Mobile magazine; Trevor Hutton, DTP Professional of First Impression and Majid Anwar of Alternative Publishing, presenting everything one needs to know about using Acorn RISC OS computers in design, software, layout and imagesetting/printing.

Geoff Titmuss of Softease will be demonstrating the latest version of the acclaimed DTP software, TextEase, called Multimedia TextEase, and showing how to lay out pages and incorporate text, images, sound and replay films.

Jo McCulloch of Sibelius will be demonstrating all the versions of Sibelius including the latest feature —Flexi-time which allows Sibelius to use MIDI to input and notate what you play.

ARMEDForces Software will be launching WINRisc, with Chris Claydon showing how PC software can be used in the RISC OS desktop environment, with a PC card or podule installed.

Chris Cox of ART will be presenting StrongARM — its history, the upgraded operating system and installation, and giving insights into the development of new applications and hardware based on the new processor.

Dave Clare will be presenting PCA (Plug-in Compliant Applications) from Clare's Micro Supplies and other Acorn developers. It allows applets to be 'plugged' into any conforming application. Dave will also be demonstrating Wimp Basic, a programming environment that allows quick and easy creation of WIMP applications.

Mark Perry of Oregan Developments will be demonstrating ProSound and CineWorks software packages and other hardware packages designed for the latest in Digital Audio and Video Editing.

One of the longest established software houses is Serious Statistical Software and Robin Edwards will be demonstrating the latest versions of the only true statistical software available to users of RISC OS machines.

Lyndon Couch of Beebug will be demonstrating the array of useful features of OvationPro —some on show for the first time.

George Buchanan of Dalriada will be previewing Spider —a new WYSIWYG HTML Editor as well as the latest version of TableMate, TableMate Designer, which will do for WWW Internet page tabular composition what the original did for paper based publishing.

ANT will be demonstrating the browser software that has been chosen for all ARM based NCs —

such as the Acorn NetStation — the Internet Suite, Release ll.

Walter Briggs will be demonstrating his masterly painting prowess in Studio24Pro from Pineapple Software.

ESP and Dr Andy Pearson will be showing the latest in sound processing using a StrongARM equipped Risc PC. They will also be presenting new versions of Synthesiser and expect to have a product for schools.

Whale watching

There will be an Internet link to the 'TIC.TOC' project: 'The International Challenge —Tropic of Cancer' which is an 18 month expedition around the world, tracking the migratory movements of sperm whales.

Once again there will be a Cybercafe and creche facilities will again be available.

Come and introduce yourself to the Club officers on our stand. Remember, this is the big Acorn event of the year. Don't miss it!

Acorn World 1996
Venue: Olympia 2
Hammersmith Road
London, W6
Dates: Friday 1 November to Sunday 3 November 1996
Hours: 10am - 6pm
Ticket prices:
In advance:
Adult   £5
Child (under 16)   £4
Child (under 5)   Free
   Family (2 adults, 2 under 16)
                             £16

On the door:
Adult   £7
Child (under 16)   £5
Child (under 5)   Free
   Family (2 adults, 2 under 16)
                             £20
Tel (Bookings): 0171 070 9909

Parking is very limited at Olympia but there are good public transport services. The best is by Underground to Olympia station (shuttle service from Earls Court).
Hotel and travel deals are available from Expotel.
Tel: 0171 372 2001
(Quote 'Event code Acorn 96)

Coming in Eureka 21 ...

News and reviews of the pick of the new releases at Acorn World

The first of a new series on what the manuals don't tell you about some popular programs

Our delayed look at creating the three-dimensional view with Top Model. We hear about some problems

Aegis 2, the geographical information package

The latest instalments of all our regular series, including :
- Writing RISC OS Modules
- Creating An HTML Page
- Well I Never Knew That
- Arnold's Observations

And, of course, the usual disc crammed full of some of the best PD programs around

Eureka 21 — direct to you in February 1997

Benefits of membership

THE
ARM
CLUB

The national club for all users of 32 bit
Acorn computers and Pocket Books

• The Club's magazine, "Eureka", written by members, published and sent four times a year to members together with a supporting disc.

• Quarterly newsletter to keep members informed between issues of Eureka.

• Technical Help Service — we will do our best to find someone who can provide a solution to any problems which you may have by letter, email, telephone or fax.

• Special discounts from well-known companies for Club members.

• Training courses can be organised on request, regional club meetings are supported through the affiliation scheme and Club open days regularly take place.

• Regional contact lists of other members, available on request.

• Discount Public Domain Library, including unique Club software.

• Special offers at Shows and Open Days

• Opportunites to get involved in the running of the Club itself.

• School and Affiliate Membership available on request.

• Joining pack includes an extra copy of most recent magazine and disc.

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The ARM Club, FREEPOST ND6573, London N12 0BR