

Page

Atari Users Magazine

Issue 18
90p

REVIEWS

Bounty Bob

One-on-One

Zinderneuf

and more!



ST

software

news



TYPO 3

BLITZ

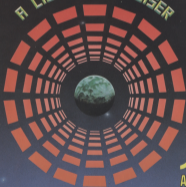
BERTIE

GRAND PRIX

colourspace

PRICE £7.50

A LIGHT SYNTHESIZER



llamasoft



ATARI

LLA 4100

llamasoft

AVAILABLE FROM W. H. SMITHS, BOOTS, WOOLWORTHS AND MOST COMPUTER RETAILERS OR FROM
LLAMASOFT 49 MOUNT PLEASANT, TADLEY, HANTS (TEL. 07355 4476) SAE FOR CATALOGUE & NEWSLETTER
"THE NATURE OF THE BEAST"

Page 6

Atari Users Magazine

November/December 1985

Editor & Publisher
Law Kilgusford

Correspondence
PAGE 6 Magazine
PO Box 64
Sudford
ST16 1GB

Editorial and Advertising
0185 41153 or 0185 219928

Printed by
Sudford Abregraphers Ltd
0185 35232

Typeset by
Budget Typesetting Ltd
0634 43876

PAGE 6 is published bi-monthly

PAGE 6 is a user's magazine and relies entirely on readers' support in submitting articles and programs. The aim is to create ATARI computing through the exchange of information and knowledge. No will receive a page for articles and programs unless appropriate and we hope that you will get satisfaction from seeing your work published. In turn we hope that you will learn from articles submitted by other readers. All published material, rights for words in the Annual Booklet Fall and may receive additional editorial awards as announced from time to time in the magazine.

All original articles, programs and other material in PAGE 6 is copyright of the author as marked. All unmarked material is copyright PAGE 6. Unless containing the by-line. All Rights Reserved. Any material in PAGE 6 may be re-used by User Groups and other non-profit making organisations without permission. Permission to use material elsewhere should be obtained from PAGE 6 in the future. Editors of newspapers reproducing material are requested to send a copy of the relevant issue to the Editorial address of PAGE 6.

While we take necessary steps we do not assume the liability of articles and programs used. The contents and advertisements in PAGE 6 cannot be held liable for any errors or omissions made by advertisers.

HOW TO TYPE IN THE LISTINGS 17

SPECIAL REPORT
PCW 85 28

LISTINGS
BERTIE by Michael Kompster 8
GRAND PRIX II by Chris Davies 32
BLITZ by A.S. Doudney 48
LISTER by Mary Lynch 58

PROGRAMMING
DISPLAY LISTS: A TUTORIAL by Steve Pedler 19
STARS by Paul Lutz 26

REVIEWS
XOS/80 COLUMN 6
MAPPING THE ATARI 16
SHORT REVIEWS by Jim Short 43

FEATURES
TYPO 3 by Alex Simson 11
ADVENTURE - MASK OF THE SUN by Gary Francis 12
FIRST STEPS by Mark Hutchinson 52
THE 8-tact by Matthew Jones 54

Editorial 4
News 5
Update 11
Contact 57
Bug Club Call 58

BACK ISSUES 51
GOTO DIRECTORY 56

Subscription rates annual (6 issues)

U.K.	£ 7.00
Europe	£10.00
Elsewhere - Surface	£10.00
Elsewhere - Air Mail	£15.00
Single copies and back issues at one-sixth of the annual rates	

Disk Subscriptions

U.K.	£20.00
Europe	£37.00
Elsewhere	Please enquire

Please make cheques payable to PAGE 6.

Copy date for the next issue is 6th November. Publication date 12th December 1985

ATARI® is a registered trade mark of ATARI CORP. All references should be so noted.

SOFTWARE APPROVAL SCHEME

Having to buy most software by mail order means that you often have to take a chance on the quality of the product. In order to give you some help, Atari have started a 'Software Approval Scheme' in which they will regularly evaluate software and issue an 'Atari Approved Software' label for the best. Among those software packages to have earned approval so far are **EMTHIEWS**, and **SPACE BASE** from **Atari**, **RESOLVE FROM FRACTALS** and **BALLBLAZER** from **Atariplus**, **PAPEERCLIP** AND **B-GRAH** from **Batteries Included**, **PRINT SHOP** and **BANK STREET MUSIC WRITER** from **Broderbund**, **MICROBASE+** from **Silicon Chip**, **ACTROM** and **BASIC XE** by **O.S.S.**, **ZORRO** and **KENNEDY APPROACH** from **U.S.GOLD**, **HITCH HIKERS GUIDE TO THE GALAXY** from **Infocom**, **gGORTH** from **Eclipse Software**, **THE FACTORY** by **Hayes**, **SYNCAIC** by **Synapse** and finally **PINBALL CONSTRUCTION SET** and **SEVEN CITIES OF GOLD** from **AtariSoft**.

Most of these titles should be available from your local dealer but if you have difficulty try **Software Express** on 021 384 5080.

MERCENARY!

MERCENARY - Escape from Tony needs no further recommendation other than to say it's the successor to **ENCOUNTER** one of the finest British programs of last year. A combination of light stimulus, adventure and arcade fun it promises to show once again that not all the top software comes from the States.

What does it look like? See for yourself.

DIGITISE!

We have had numerous enquiries over the past couple of years for a means of digitising pictures on the Atari. Now a company in the States has introduced **COMPUTEREYE** which retails at £130 for the basic unit. With a you can digitise any printed image, but you can do more. An attachment is available for a video camera and special transfer sheets can be purchased enabling iron on transfers for tee-shirts to be made on an ordinary dot-matrix printer. For further details contact **Digital Vision**, 14 Oak St #2, Needham, MA 02192, U.S.A.

NEW ARIOLASOFT DEAL

AtariSoft who already have an exclusive licensing deal with Electronic Arts and Broderbund to release their products in this country have now agreed an agreement with the Canadian firm **Batteries Included** a company noted for its support of Atari in the various 'field'. AtariSoft will be bringing out **Batteries Included's** new range of integrated software for the ST which includes a stock portfolio manager, word processor, combined spreadsheet and graphics package and a database manager.

DAILY MIRROR REVOLUTIONISES NEWS!

Microsoft, another of Robert Mizzoff's companies have under development for the ST a program that could change the face of club and society newsletters and small publications. Entitled **FLEET STREET EDITOR** it is a full design and layout system for small publications capable of driving a photo-typesetter. The package for the ST is being designed by the person responsible for the **Daily Mirror's** seven page make-up software and is expected to be available early next year.

News



NEW HARDWARE BARGAINS

If you have missed the announcements elsewhere, think now about buying a friend a Christmas present. The **8008L**, with joystick is now £69.95 and a pack with a data recorder sells at £99. If you want something for yourself how about upgrading to a **1800E** with 1050 disk drive and four pieces of software for £265? Or you can get a **1027** printer thrown in for a total of £350. The bargains keep coming!

W.E.E. HAVE GONE.

W.E. Electronics who have advertised add-ons in past issues have advised that 'due to commitments in other areas' it will be unable to support its computer peripheral products and cannot take further orders. After sales support to previous purchasers will continue.

ATARI BITS

... The ST OS ROM should be available by now. At the time of writing the price to those who already have an ST is said to be £12.

... There are rumours that you will shortly be able to buy the ST in bits such as the CPU on its own.

... Attributed to Jack Trissel 'We'll be having higher capacity disks for the ST. CD-ROMs will be available in early 1986 and we'll also have higher resolution colour graphics in the machine'.

... A 'well informed source' in the States claims that Atari sold 50,000 (yes) 520ST's in the first six weeks on sale, thus outstripping the Macintosh.

XOS/80 COLUMN PACK from Computer Support Price £69.95

I have to admit that this is a review of a product that I have not personally tried but others who have used it have raved over it and urged me to do a review. Why haven't I tried it? Well, as far as hardware goes I am a complete novice and on my 800XL at least, it requires the desoldering of a chip and the re-soldering of the XOS chip. That, believe me, is no job for a complete novice! Don't be put off from reading on though because if you want one Computer Support will fit it for you.

At first sight an 80-column pack would seem to be of interest only to dedicated word-processors but behind the product title lies a whole host of changes to the XL/XE Operating System which you might well wish to consider. First though that 80 column mode.

You are not stuck with 80 columns. What the chip does is give you an 80 column option which is enabled by holding the SELECT key on power-up otherwise the machine defaults to normal 40 column mode. In order to ensure the maximum readability the screen is forced to black and white in 80 column mode and other standards (in both modes) include a faster keyboard response, a property centred screen and the cursor redefined as an underline. All editing facilities remain the same but the character set has been redefined to include that elusive £ sign in line of the backslash. It would probably have been better to redefine the hash (#) as this is the ASCII standard for a £ sign on most printers, and put the hash in place of the backslash. Maybe they will do this on a later revision. So far, excellent changes to make the machine much more professional as far as word processing is concerned.

Most software packages that use the recognised screen and editor handlers will work fine but some that have shot out to the OS may not work. Computer Support have been working on a number of patches to these and can probably advise whether your word processor will work or get it to work.

Let's go back to 40 column mode. Here you will get a default screen of green with white characters and a number of other changes. Perhaps most important is compatibility with the old Revision B OS which means that virtually all your software will now run without the need for a Translator. Now, that is probably of great interest to cassette users, who up to now have had to miss out, and cassette owners will find another bonus. The cassette load and save has been adjusted to 8200 baud so that all programs will save and load some 40% faster and they will be still be compatible with other machines. If you are into commercial games most of which boot without BASIC you will be pleased to find that the use of the OPTION key has been reversed so there is no need to hold it down to boot software.



Programmers will benefit by using CONTROL and TAB to stop/start scrolling of listings allowing one finger control, and having full error messages displayed (and beeped). No more hunting for instructions. And programmers will also find many other items of interest for several features of the OS can be controlled by software.

Other changes include the halving of printer timeout and the widening of joystick ports 3 & 4 from the old OS to ports 1 & 2 allowing programs that use these ports to run on the XL/XE.

What sort of support can you expect from Computer Support having forked out £69.95? Well firstly they offer a full year guarantee on all products and secondly will provide you with an updated ROM, whenever amendments are made, for a fee of £5 which will include the latest instructions. As far as updates go, there is a space I K on the chip and Computer Support invite your suggestions for its use. If there is some feature that you think is missing or you think could be improved, tell them and you may well find it on a subsequent revision. The people there are certainly knowledgeable and will try to ensure that you get the best from the product.

To sum up then, a lot of useful features are hidden behind what appears to be a straight 80 column screen handler. If you are confident with electronics or are lucky enough to have an early 800XL with socketed chips you should have no problems in fitting the XOS yourself but if you have any doubts you can send your machine to Computer Support and have it fitted. This will push up the price by a further £15 but a repair will cost a lot more.

If you would like to get a look at the XOS before buying and have a User Group nearby ask the Secretary to get in touch with John Lawson of Computer Support and he will probably arrange to give a demonstration.

ATARI 600/800XL DUAL OPERATING SYSTEM

You could have a dual operating system with the flick of a switch. This will allow you to run all known software written for the 600 and 800 computers in your XL.

It consists of a small socket board which simply plugs into computer. No soldering required.

Price £29.95

Mail Order to:

G. PAUL

2 Francis Road, Elm, West Bromwich,
West Midlands B71 1PT



ADBROKE
COMPUTING
INTERNATIONAL

for



DIRECT AMERICAN IMPORTS FROM OUR U.S.A. BRANCH
PLUS
BULLETIN BOARD WITH PUBLIC DOMAIN DOWNLOAD SOFTWARE

SOFTWARE

*If it's available,
we have it!!!*

- Arcade
- Adventures
- Educational
- Utilities

All latest titles

*All dedicated
magazines in stock*

- Page 8
- Atari User
- Antic
- Analog

HARDWARE

- Full XL range
- 130 XE's
- 520 ST's
- Epson printers
- Interfaces • Modems

*Full supporting peripherals
Full service support etc*

*ring us last &
check our prices*

*Out of office hours,
check our bulletin board
for latest imports direct
from our USA branch*



33, GRIMSKIRK ROAD
PRESTON
LANCASHIRE
PR1 2QP
TEL: (0772) 21474

MAIL ORDER (0772) 27236-10:00am - 6:00pm
BULLETIN BOARD (0772) 27236- 6:00pm - 9:00am

Seasons Greetings to all our customers

MSA & ACCESS WELCOME

BERTIE

SHARE AND WIN MORE

Welcome to Bertie, a variation of the classic game of Qbert.

The object of the game is to move Bertie about so that he colours in every cube on the screen without falling off the pyramid, falling into the hole (which moves) or being caught by the frog. After a bit of patience and practice screens 1, 2 and 3 can be done but the rest are easier to give you a breather. Once a screen has been completed the game continues from that level even after the game is over. You have 3 lives, look after them!

Pressing START or the fire button will start the game and Bertie is controlled by left, right or diagonal movement of the joystick. To pause during play, press any key and press a key again to resume. Pressing OPTION at any time during play will abort the game.

A machine code routine from PAGE 6 issue 13 has been used to display the Player Missiles. It also allows 48 frames to be stored in memory for each Player. Intricate animation can be achieved with the use of this routine. To call up a Player use MC=USRI1568 A,B,C,D where A=Player number, B=X coordinate, C=Y coordinate and D=frame number. This routine appears in lines 20000 to 20040.

```

00 0 BEM *****
01 0 BEM *****
02 0 BEM *****
03 0 BEM *****
04 0 BEM *****
05 0 BEM *****
06 0 BEM *****
07 0 BEM *****
08 0 BEM *****
09 0 BEM *****
10 0 BEM *****
11 0 BEM *****
12 0 BEM *****
13 0 BEM *****
14 0 BEM *****
15 0 BEM *****
16 0 BEM *****
17 0 BEM *****
18 0 BEM *****
19 0 BEM *****
20 0 BEM *****
21 0 BEM *****
22 0 BEM *****
23 0 BEM *****
24 0 BEM *****
25 0 BEM *****
26 0 BEM *****
27 0 BEM *****
28 0 BEM *****
29 0 BEM *****
30 0 BEM *****
31 0 BEM *****
32 0 BEM *****
33 0 BEM *****
34 0 BEM *****
35 0 BEM *****
36 0 BEM *****
37 0 BEM *****
38 0 BEM *****
39 0 BEM *****
40 0 BEM *****
41 0 BEM *****
42 0 BEM *****
43 0 BEM *****
44 0 BEM *****
45 0 BEM *****
46 0 BEM *****
47 0 BEM *****
48 0 BEM *****
49 0 BEM *****
50 0 BEM *****
51 0 BEM *****
52 0 BEM *****
53 0 BEM *****
54 0 BEM *****
55 0 BEM *****
56 0 BEM *****
57 0 BEM *****
58 0 BEM *****
59 0 BEM *****
60 0 BEM *****
61 0 BEM *****
62 0 BEM *****
63 0 BEM *****
64 0 BEM *****
65 0 BEM *****
66 0 BEM *****
67 0 BEM *****
68 0 BEM *****
69 0 BEM *****
70 0 BEM *****
71 0 BEM *****
72 0 BEM *****
73 0 BEM *****
74 0 BEM *****
75 0 BEM *****
76 0 BEM *****
77 0 BEM *****
78 0 BEM *****
79 0 BEM *****
80 0 BEM *****
81 0 BEM *****
82 0 BEM *****
83 0 BEM *****
84 0 BEM *****
85 0 BEM *****
86 0 BEM *****
87 0 BEM *****
88 0 BEM *****
89 0 BEM *****
90 0 BEM *****
91 0 BEM *****
92 0 BEM *****
93 0 BEM *****
94 0 BEM *****
95 0 BEM *****
96 0 BEM *****
97 0 BEM *****
98 0 BEM *****
99 0 BEM *****

```



by Michael Kempster

TYPING IT IN

Simply type in both listings and save them on the same disk or tape one after the other. If you are using cassette make sure that you change line 150 as stated in the DEM and if you use disk SAVE the second listing with the filename "DBERTIE2". RUN the first listing which will automatically load the second.

```

01 100 POKE 87,1:REM "DBERTIE2.Z"REM FOR
02 100 POKE 88,1:REM FOR
03 100 POKE 89,1:REM FOR
04 100 POKE 90,1:REM FOR
05 100 POKE 91,1:REM FOR
06 100 POKE 92,1:REM FOR
07 100 POKE 93,1:REM FOR
08 100 POKE 94,1:REM FOR
09 100 POKE 95,1:REM FOR
10 100 POKE 96,1:REM FOR
11 100 POKE 97,1:REM FOR
12 100 POKE 98,1:REM FOR
13 100 POKE 99,1:REM FOR
14 100 POKE 100,1:REM FOR
15 100 POKE 101,1:REM FOR
16 100 POKE 102,1:REM FOR
17 100 POKE 103,1:REM FOR
18 100 POKE 104,1:REM FOR
19 100 POKE 105,1:REM FOR
20 100 POKE 106,1:REM FOR
21 100 POKE 107,1:REM FOR
22 100 POKE 108,1:REM FOR
23 100 POKE 109,1:REM FOR
24 100 POKE 110,1:REM FOR
25 100 POKE 111,1:REM FOR
26 100 POKE 112,1:REM FOR
27 100 POKE 113,1:REM FOR
28 100 POKE 114,1:REM FOR
29 100 POKE 115,1:REM FOR
30 100 POKE 116,1:REM FOR
31 100 POKE 117,1:REM FOR
32 100 POKE 118,1:REM FOR
33 100 POKE 119,1:REM FOR
34 100 POKE 120,1:REM FOR
35 100 POKE 121,1:REM FOR
36 100 POKE 122,1:REM FOR
37 100 POKE 123,1:REM FOR
38 100 POKE 124,1:REM FOR
39 100 POKE 125,1:REM FOR
40 100 POKE 126,1:REM FOR
41 100 POKE 127,1:REM FOR
42 100 POKE 128,1:REM FOR
43 100 POKE 129,1:REM FOR
44 100 POKE 130,1:REM FOR
45 100 POKE 131,1:REM FOR
46 100 POKE 132,1:REM FOR
47 100 POKE 133,1:REM FOR
48 100 POKE 134,1:REM FOR
49 100 POKE 135,1:REM FOR
50 100 POKE 136,1:REM FOR
51 100 POKE 137,1:REM FOR
52 100 POKE 138,1:REM FOR
53 100 POKE 139,1:REM FOR
54 100 POKE 140,1:REM FOR
55 100 POKE 141,1:REM FOR
56 100 POKE 142,1:REM FOR
57 100 POKE 143,1:REM FOR
58 100 POKE 144,1:REM FOR
59 100 POKE 145,1:REM FOR
60 100 POKE 146,1:REM FOR
61 100 POKE 147,1:REM FOR
62 100 POKE 148,1:REM FOR
63 100 POKE 149,1:REM FOR
64 100 POKE 150,1:REM FOR
65 100 POKE 151,1:REM FOR
66 100 POKE 152,1:REM FOR
67 100 POKE 153,1:REM FOR
68 100 POKE 154,1:REM FOR
69 100 POKE 155,1:REM FOR
70 100 POKE 156,1:REM FOR
71 100 POKE 157,1:REM FOR
72 100 POKE 158,1:REM FOR
73 100 POKE 159,1:REM FOR
74 100 POKE 160,1:REM FOR
75 100 POKE 161,1:REM FOR
76 100 POKE 162,1:REM FOR
77 100 POKE 163,1:REM FOR
78 100 POKE 164,1:REM FOR
79 100 POKE 165,1:REM FOR
80 100 POKE 166,1:REM FOR
81 100 POKE 167,1:REM FOR
82 100 POKE 168,1:REM FOR
83 100 POKE 169,1:REM FOR
84 100 POKE 170,1:REM FOR
85 100 POKE 171,1:REM FOR
86 100 POKE 172,1:REM FOR
87 100 POKE 173,1:REM FOR
88 100 POKE 174,1:REM FOR
89 100 POKE 175,1:REM FOR
90 100 POKE 176,1:REM FOR
91 100 POKE 177,1:REM FOR
92 100 POKE 178,1:REM FOR
93 100 POKE 179,1:REM FOR
94 100 POKE 180,1:REM FOR
95 100 POKE 181,1:REM FOR
96 100 POKE 182,1:REM FOR
97 100 POKE 183,1:REM FOR
98 100 POKE 184,1:REM FOR
99 100 POKE 185,1:REM FOR

```


UPDATE

We will publish the update column in future issues to advise you of any errors, amendments or enhancements to programs or articles in previous issues. If it's not here you can assume that it was right in the first place!

DRAUGHTS (Issue 16). We had dozens of explanations of why this did not work on the 800 but only two readers got it right. The problem is a bug in the 800 OS which wipes out 64 bytes past RAMTOP when 'clear screen' is printed. The fix is simply to change line 10000 to

```
10000 POKE 106,PEEK(106)-10:Q=PEEK(106)+2:  
N=C*255
```

Disk subscribers will find an amended version on this issue's disk.

BLACK BOX (Issue 16). An occasional error (except at line R130). Change the first part of the line to
2=INT(RND*(100)+1

RENUM (Issue 17). The number in the USB call in the text should be 32768 to match the listing.

X-Y-ZAP (Issue 17). Alan Knopp writes to tell us that a small bug has crept in so that the score is not shown when all the lives have been lost. Change line 700 to

```
700 POSITION 4,7:146,"high score",HSC
```

Alan also advises that the player movement routine used (also used in Kang) is by Tom Hudson and from The Analog Compendium.

RADIO TELETYPE (BEYOND ATARI - Issue 17). Mr R.C. Marsh has written to say that Maglin make a kit for a RTTY terminal for use with the Atari (Kit no. LR53H) and that Maglin Magazine published a comprehensive article in their September 1984 issue.

TYPO3!

by Alec Benson

And now for something completely... similar but so much better!

To be honest we were not going to publish any further updates to TYPO because we felt that any further revisions would only serve to confuse readers rather than help but when we saw TYPO3 we just had to use it as our standard typing checker for all future issues. TYPO-3 is completely compatible with TYPO-E.

The advantages of TYPO-3 are that it clears itself from memory as soon as it is run, it allows you to type listings in almost any fashion you wish and it is fast. And you can use it to check previously typed in listings.

The program listing is on page 17. Type it in now, it is well worth the effort, and you can also use it to check ANTIC programs.

TYPO-3 was written by Alec Benson and based on the original TYPO published by ANTIC magazine. TYPO-3 was first published in FEEDBACK, the newsletter of Adelaide Atari Computer Club, P.O. Box 333, Norwood, S.A. 5067, Australia.

LISTING on page 17

LIVERPOOL

THE FOOTBALL MANAGER GAME FOR
THE 48K ATARI (Inc. 512) FEATURING

Varying skill and stamina levels, weekly reports, injuries, loan and tactics selection, full league table, managerial rating and one game facility.

Now available £15.95 inc. with 4 disks, income expenditure, promotion, relegation, European, U.E.F.A. and Cup Winners Cups and transfer market.

Disk £14.95 Cassette £9.95 inc. p.s. p.

P.M. Carlsby, 212, Wadsworth Old Road, Bury, BL9 6DA



The PAGE 6 stand at the Personal Computer World Show with entire PAGE 6 staff in attendance!

10. MASK of the SUN

The Mask of the Sun is an illustrated Adventure that was originally written by Ultrasoft for the Apple II. It has now been translated for the Atari and is distributed by Broderbund. The Atari version occupies two double-sided disks. That's a lot of Adventure, but is it worth the money?

The Mask of the Sun has the potential for a great Adventure. It has a strong plot cast in the same vein as 'Raiders of the Lost Ark' and 'Indiana Jones and the Temple of Doom'. However, it is let down by the worst means and the unfairest puzzles in all of Adventureland! Only the toughest, most hardened Adventure will finish this one without any help.

In The Mask of the Sun, you play the part of Max Steele - archaeologist, adventurer and not particularly honest treasure hunter. Your arch rival, Francisco Boboff, has stolen the scrolls of Uruu which you acquired in a previous expedition. In the subsequent fracas with Boboff, you sustain his gesture by stealing an Amber amulet. During your later research on the amulet, you discover that it may be linked to a now fascinating artifact known as the Mask of the Sun.

Then disaster strikes. While probing the inner recesses of the amulet, a tiny compartment releases a pale green gas which makes you not feel too days. You awaken in hospital to find that your body is undergoing a rapid degeneration. Fortunately, the doctors have committed an mistake which temporarily halts the degeneration, but they cannot cure you. With your life-giving antibodies in hand, you set off to Mexico to search for the Mask of the Sun in the hope that it holds the cure for your condition.

Your Adventure begins as the plane arrives in Mexico. Unlike most Adventures, you begin with a rather large inventory including a bottle of 100 pills. Needless to say, the pills are the antidote for your strange illness and one is automatically swallowed every four moves. This is signalled by a beep from the computer. If you aren't carrying the pills on the fourth move, you'll die. Therefore, never drop the pills. Similarly, if you ever run out of pills, you'll die. This effectively means that you have 100 moves to find the Mask of the Sun.

When you leave the plane, you'll meet Professor de Perez and his assistant Raul. The Professor will give you a jeep full of supplies and a map. Before going any further, make sure you examine and thoroughly understand all the items in your inventory, as in the jeep. When the time comes to use something, you probably won't have much time to experiment with them. You won't need all the items, but as there seems to be no limit on your inventory, you might as well take everything with you.

Examination of the map gives you a rough idea of the location of three ruins - a temple and two pyramids. It doesn't matter what order you explore them in, although most people unconsciously do the top one, then the bottom, then the middle. As a matter of fact, by the time you finish the game, you'll realize that apart from



a subtle hint, two of the ruins were an absolute waste of time in terms of your final goal. Nevertheless, these two are the main fun to explore. (And I won't tell you which ones they are. You'll have to find out for yourself.)

Once you've decided which direction to go, jump in the jeep and head off into the jungle. Raul will accompany you and you'll grow quite fond of his companionship and dumpy observations. It's unfortunate that he won't make it through to the end of the Adventure with you.

By this time, you will have noticed the 'travelling sequences' whenever you move to a new location. This is a unique feature of the game whereby several intermediate scenes are shown in rapid sequence to give the effect of movement. This is quite a novelty at first, but there are really only two different sequences (ie driving in the jeep and walking through the tunnels in the mine) and it grows to be fairly boring before very long. I suppose the nice graphics are some consolation.

You will also observe that there are two directional schemes used in The Mask of the Sun. The first is the traditional compass directions (including diagonal) and is used when travelling in the jeep and in some of the ruins. The other scheme is FORWARD, BACK, LEFT and RIGHT and depends entirely on which direction you've just come from or which direction you're facing. This is generally used when on foot in the ruins. There is no consistency as to which system is used where, so make sure you try every direction whenever there's any doubt.

There are a number of situations where your typing speed is critical for your survival. You may need to type responses quickly to avoid death, but you can sometimes give yourself time to think by pressing any key to stop the timer. The timer is a notable exception. Here you must type the whole command as quickly as possible.

Sooner or later, you will find yourself facing the hellish nightmare scenes. And very aptly named it is too! For here is the worst, meanest, rottenest, unfairest obstacle in any Adventure that I've ever played! For those that haven't searched this list, let me explain. You have just escaped death by the skin of your teeth. Unfortunately, Raul didn't make it. Your path is now blocked by a river of lava. A single island of stone bobs up and down in the lava in a seemingly random pattern. The program tells you that a fearless Adventurer might be able to step across to safety. If you

by Garry Francis of Sydney, Australia



wish to try, you must press the RETURN key. Pressing any other key will send you back to the previous location where you will share Rascal's fate. In other words, you've got no choice. You must press the RETURN key to jump across the lava. And that's exactly what I did. And I died.

Now I considered myself a fearless Adventurer and I wasn't going to let some lava beat me, so I restored a previously saved game (which takes an eternity) and tried again. And again. And again. And again. After two hours and forty attempts to jump across the lava, I eventually gave up. A couple of months later, I lent the game to a friend with strict instructions to save the game as soon as he managed to get across the lava. He never made it. I tried it with a group of people at an Adventure day. They never made it. I tried it again by myself, but never made it. For me, this single arcade-type element had turned an otherwise good Adventure.

In the end, I patiently examined the program with a vector editor and made some interesting discoveries. Each location in the game has its own logic routine which is stored on disk as a DOS 2.0 file. Here's a list of DOS 2.0, you can study examine any of these files using the following procedure:

1. Insert your BASIC cartridge (if appropriate) and boot your computer with a DOS 2.0 disk. Note that it must be DOS 2.0. Nothing else will do.
2. When BASIC's READY prompt appears, type POKE:0001,255 [RETURN]. This will allow you to use inverse characters in step 3.
3. Type DOS [RETURN].
4. When DUP:SYS has loaded and the menu appears, remove your DOS 2.0 disk and insert one of The Mask of the Sun disks.
5. Type A [RETURN] [RETURN] to get a disk directory. Notice that all the filenames are in inverse.
6. You can now use the copy function to view a file on the screen by typing C [RETURN] FILENAME:FILE [RETURN]. Make sure you type the filename and extension in inverse (including inverse blank spaces where necessary) and everything else as normal.

If you follow this procedure, you'll notice that the data files for rooms aren't binary data or machine language as you'd expect, but are in a sort of high level language and are therefore very easy to interpret. For example, if I use a double slash to separate the instructions, then the sequence ID00Y:TS00=0+0 means "if the variable D equals zero, then set variable B to B+0". Similarly, the sequence I C 0141Y:TP "Chickens"Y:IE 2+13 means "if the variable C is not equal to 141, then print the string 'Chickens', else jump forward 13 instructions".

I soon realized that this was a really sloppily written Adventure. I was amazed that it ran as well as it did. Had it been written in a more elegant manner, it could probably have been fitted on one double-sided disk instead of two and hence been cheaper to buy. Nevertheless, the sloppiness proved to be an advantage when it came to fixing the rock bobbing logic.

When I threw up a flowchart of this logic, I realized that it wasn't random, but ran in a 13 step cycle. The rock was up only long enough to see if (Cave you'd seen it) it was too late to press the RETURN key because the time it took you to react and depress

```

C0 1 000 *****
C5 2 000 # MAKE OF THE SUN FINDER-UPPER #
C6 3 000 # by Larry Francis #
C8 4 000 # PAGE # 00000 10 #
C9 5 000 *****
C0 100 PEEK 01,01:POKE 00,01:GOTO0100:GOTO
C0 310,01:GOTO 750,0
C6 110 GEM 00,01:GOTO0100:POKE 100,10
C0 4000 00,01:00000000000000001:GOTO 1
C0 70,00,000
C0 120 POSITION 7,1:1 "INSTRUCTION FOR M
C0 000Y:00:POSITION 10,0:1 "THE MASK OF
C0 100"
C0 130 T 1 "1. Didn't your father say #
C0 7 The Mask # Of The Sun Disk T INTO #
C0 100 1."
C0 140 T 1 "2. Press [RETURN] to modify #
C0 04 OF 000 # TO ABOUT "POKE 00,01:1
C0 7
C0 150 PEEK 704,000
C0 160 000:070401:IF 0:000 THEN 100
C0 170 IF 0:000 THEN POKE 01,0:GOTO000 #
C0 000
C0 180 IF 0:010 THEN 100
C0 190 000:000:000:1 "1000000000000000
C0 000:000:000:000:000:000:000:000:000
C0 200 PEEK 704,0:POKE 704,0:POKE 770,10
C0 000:770,01:POKE 770,00:POKE 770,0:G0
C0 000 100
C0 210 IF 000:000:011,100:1 "000" THEN T
C0 000:000:10 DIFFERENT TO PRINT "OF
C0 000:000:000:000:000:000:000:000:000
C0 000:000:000:000:000:000:000:000:000
C0 220 000:000:000:011:100:1 "000" THEN T
C0 000:000:10
C0 230 POP 1 "0000 "1:POKE:1770:1"...OPEN
C0 000:000:000:000:000:000:000:000:000
C0 240 PEEK 704,0:POKE 704,000:GOTO

```

the key was longer than the time the rock was stable on the screen. You'd have to be extremely lucky to predict the rock's position in advance.

I wanted to alter the logic so that pressing the RETURN key would always cause you to jump successfully across the lava regardless of the position of the rock. Everything else should remain unchanged. As it happened, working out the logic was quite easy, but working out where to put the patch without a major rewrite was quite tricky. In the end, I was saved by the sloppy coding. The programmers had set R=0 later in the program, but never used it for anything. The second R=0 was in an ideal spot for my patch, so I changed this in D=1 and everything worked fine.

If you want to make the same changes as I did, you can accomplish this in one of two ways. If you've got a vector editor, take a look at sector 025A on side C. Change byte 14F from 5D0 to 5C0 and byte 571 from 000 to 001 (assuming bytes are numbered from zero and all values are hexadecimal). Alternatively, you can run the short BASIC program at the end of this article. Just be careful not to make any typos and be very careful with lines 210 and 230. The R=0 and T=1 on these lines must be in inverse order.

Once you've passed the hellish nightmare scene, the Adventurer gets even happier. I won't give any more away, but if you need any help with this part, then try the hints below. These are in the normal format. Just show the list of questions until you find the area where you're stuck, then match the numbers below the question with the words in the attached list to form a hint. Good luck and beware of the inescapable maze!

MASK OF THE SUN hints

1. Can't get past the snake? 28 16
2. Still can't get past the snake? 14 27 71
3. Can't get past the debris in the blocked tunnel? 49 6
4. Can't find your way around the bottom of the pit? 76 39
5. Missing a earned job level? 76 42 10
6. Missing a gold level? 76 42 17
7. Can't move the tenting blocks? 49 6
8. Missing a blue glassed level? 31 1 8
9. Can't get the silver level? 34 16
10. Still can't get the silver level? 58 42 41
11. Can't open the door behind the pedestal? 54 24 75
12. Jump won't go? 72 42 52
13. Can't get the fuel? 44 42 22 54
14. Can't get the potion from the pedestal? 4 16
15. Can't get past the spider web? 62 39
16. Can't unlock any of the doors in the pyramid of Tiamat? 14 42 44 47
17. Can't find the black key? 76 42 54
18. Still can't unlock any of the doors? 14 42 23 47
19. Can't find the copper key? 31 1 8
20. Still can't unlock any of the doors? 14 42 44 47
21. Can't find the silver key? 76 42 4
22. Still can't unlock any of the doors? 14 42 47 47
23. Can't find the gold key? 76 42 43
24. Don't understand the instructions? 65 40 73 70
25. Still don't understand the instructions? 31 28 27 61 48 46 5 58 27 61 48 66 6 6
26. Can't curise the pale green gas? 38 16
27. Still can't curise the pale green gas? 38 49 52
28. Can't save Ramo? 49 6
29. Can't jump across the lava? 33 42 11
30. Can't find the exit from the zone of total darkness? 34 62
31. Can't map the first maze? 85 8 50
32. Don't know the password? 33 42 52 2
33. Can't leave the temple of the sun? 4 42 51
34. Still can't leave the temple of the sun? 30 42 25 2
35. Still can't leave the temple of the sun? 29 42 41 44 42 68 5
36. Can't answer the first puzzle? 42 3 26 27 18 33 42 55 37 39 73 42 33 33 42 13 28 46
37. Still can't answer the first puzzle? 65 27 21 7 73 26 42 45
38. Can't answer the second puzzle? 74 42 32 54 39
39. Still can't answer the third puzzle? 62 32 59 64
40. Can't answer the third puzzle? 18 28 77 12 66
41. Still can't answer the third puzzle? 34 29 27 62
42. Can't get to freedom? 65 27 57
43. Can't map the third maze? 29 42 41
44. Can't get past the tower? 58 42 22 36 2

High Quality - Low Cost

SOFTFLOW software

ATARI 400, 800,
1600XL & 2600XL

382 Lakeside Road, Natick, MA
Tel: (617) 552-8100



**Educational
Software**

- **Classical GEOMETRY** £ 9.50 each
- **Classical ENGLISH** £ 9.50 each
Revision / learning aids. WORD RECOGNITION
- **GEOGRAPHICAL** £ 4.50 each
 - 1 - Great Britain & Ireland
 - 2 - United States of America
 - 3 - Europe
 - 4 - Asia
- **HISTORY MAKERS** £ 6.50
Who did what? When? Learn the famous names.
- **DOODLEBUG** £ 6.50
Drawing fun for all ages.
- **4-LETTER WORD** £ 6.50
Mathematical type game with letters instead of colours.

All prices are suitable for cassette only and require 100 pins and 16MBK cartridge.

Programs and manuals. Tradeable for conversion.

• NOW AVAILABLE FOR YOUR MICROSTAR!

presented by

"A DAY AT THE RACES"

- For 1-2 players.
- Smooth, accurate, sophisticated action.
- Race Top Five finish - 10 sec. wins.
- Excellent Value.
- XL & SE compatible.

Trade Enquiries welcome

PRICE: \$19.95 (US) \$24.95 (CAN/UK), BASIC (REQUIRED)
Checklist: 100% in Stock! Software, 288 High St., Watlington, Oxon.



1. BAIT	12. AFTER	23. COPPER	34. EVENING	45. DEAD	56. BLACK	67. KEY
2. WEAVER	13. LONER	24. INTERIOR	35. HOT	46. SLACK	57. BRIDGE	68. BLUE
3. WINDY	14. SICK	25. REFLECTIONS	36. ROMANS	47. GOLD	58. JOE	69. EVERY
4. BURN	15. HIRE	26. RESOLVE	37. SLITS	48. NETS	59. GOLF	70. LATTER
5. EYES	16. HARE	27. A	38. TYPE	49. YUGO	60. SLAPS	71. SCARPER
6. CAMP	17. DRY	28. IS	39. IT	50. BLOSSOM	61. MARCH	72. FEEL
7. SOUL	18. MORNING	29. WRAP	40. HELP	51. ALFAR	62. MOE	73. FLOW
8. ONE	19. CASPIAN	30. REMEMBER	41. AFFECTION	52. BOA	63. CLIT	74. SPORELY
9. EXAMINE	20. BUCK	31. THERE	42. TIE	53. FREEDOM	64. BRAND	75. DEERBONTY
10. PLATYPUS	21. WOODEN	32. BEAR	43. TOUGH	54. FREQUENT	65. T'S	76. SEARCH
11. ARTICLE	22. OLD	33	44. SLAVE	55. BUYER	66. SMITH	77. JEET



ATARI ST 520ST

POWER WITHOUT THE PRICE
THE NEW ATARI 520ST

ATARI 520ST SPECIFICATION

PROCESSOR
68010 16.7MHz

MEMORY
128K on-board, 1MB expandable

VIDEO
640x480 256 colours

KEYBOARD
Full size keyboard

MOUSE
3-button mouse

SOFTWARE
Includes Atari ST software

PRICE
£2,999

MACINTOSH v F16 v 520ST

	APPLE	APPLE II	ATARI
Processor	68010	68010	68010
Memory	128K	128K	128K
Video	640x480	640x480	640x480
Keyboard	Full size	Full size	Full size
Mouse	3-button	3-button	3-button
Price	£2,999	£2,999	£2,999

The Atari 520ST is a powerful computer that offers a wide range of features and capabilities. It is designed to be a user-friendly system that can handle a variety of tasks, from word processing to graphics. The 520ST is a true workhorse, offering a combination of performance and value that is hard to match.

USER FRIENDLY GEM OPERATING SYSTEM
The Atari 520ST features the Gem operating system, which is designed to be easy to use and intuitive. It provides a graphical interface that makes it simple to navigate through files and folders, and to launch applications. This makes the 520ST a great choice for users who are new to computers or who want a more user-friendly experience.

FAST SOFTWARE AND FUTURE EXPANSION
The Atari 520ST is designed to be a fast and efficient system. It features a 68010 processor that can handle a wide range of software applications, from word processing to graphics. Additionally, the 520ST is designed to be expandable, with options for adding more memory and other peripherals. This makes it a great choice for users who want a system that can grow with their needs.

- 128K RAM
- 1MB 3.5" DISK DRIVE
- MOUSE
- KEYBOARD (96 KEYS)

ATARI 520ST SPECIFICATION

Processor: 68010 16.7MHz

Memory: 128K on-board, 1MB expandable

Video: 640x480 256 colours

Keyboard: Full size keyboard

Mouse: 3-button mouse

Software: Includes Atari ST software

Price: £2,999

PRESS COMMENT

The Atari 520ST is a powerful computer that offers a wide range of features and capabilities. It is designed to be a user-friendly system that can handle a variety of tasks, from word processing to graphics. The 520ST is a true workhorse, offering a combination of performance and value that is hard to match.

The Atari 520ST is a powerful computer that offers a wide range of features and capabilities. It is designed to be a user-friendly system that can handle a variety of tasks, from word processing to graphics. The 520ST is a true workhorse, offering a combination of performance and value that is hard to match.

£749

SILICA SHOP

WE ARE THE UK'S NO.1 ATARI SPECIALISTS

Atari 520ST is a powerful computer that offers a wide range of features and capabilities. It is designed to be a user-friendly system that can handle a variety of tasks, from word processing to graphics. The 520ST is a true workhorse, offering a combination of performance and value that is hard to match.

- 128K RAM
- 1MB 3.5" DISK DRIVE
- MOUSE
- KEYBOARD (96 KEYS)

SILICA SHOP LTD, 1-4 The Mews, Halfway Road, Bishop, Kent, DA8 4DD
SEND FOR FREE ATARI ST LITERATURE

PLEASE SEND ME FREE LITERATURE
ON THE NEW ATARI 520ST COMPUTER

Name: _____ Surname: _____

Address: _____

Postcode: _____

SILICA HOTLINE **01-309 1111**

© 1985 Atari Ltd. All rights reserved. Atari and the Atari logo are registered trademarks of Atari Inc. in the USA and other countries. Atari 520ST is a registered trademark of Atari Inc. in the USA and other countries. The Atari logo is a registered trademark of Atari Inc. in the USA and other countries.

Book Reviews

MAPPING THE ATARI - REVISED EDITION COMPUTE! Books £16.95

Above all else the one thing XL programmers have been crying out for is a memory map for the XL series. It has been a long wait but COMPUTE! have finally come up with a revised version of the classic Mapping The Atari which includes not only the XL and the XE but also throws in a few more hidden gems about the old machines!

Revisiting the book for new XL or XE owners is simple. If you want to be able to program your machine, buy this book, it cannot be recommended highly enough. What you get is a detailed description of almost every memory location you are likely to need to know about with many programming examples and useful routines. If you program in BASIC, your programs will have added polish and scope with this book to hand and if you want to learn machine code a memory map is essential. You may as well not bother without one! But you get much more than just a memory map for the introduction tells you quite a lot about the fundamentals of programming and there are no less than nineteen appendices covering almost every aspect of your machine and including specific chapters on XL/XE enhancements and bugs, XE memory management, DOS 2.5, XL/XE graphics modes and more.

There is a section using the Translator to get a customised Operating System for your machine and you also get a type in program that converts the XL Revision B BASIC to Revision C which alone could save you the price of the book!

What if you already have the original version of Mapping? Well, that is more difficult. This one is more expensive at £16.95 and the vast majority is the same. It depends on how you value all those little gems you picked up from the first edition. There is an Addenda and Errata to the First Edition which was a great thrill to read (I didn't know that) and there is certainly more information overall. In the long run those extra programming tips might be worth more than £16.95 spent on some game you put away after a few plays.

Two hundred and seventy pages of good, solid, hard-core knowledge. What more could you want?

The Letters column has been held over this issue for two reasons - lack of space and lack of interesting letters!

Why not write to us with any observations, tips or questions that may be of interest to other readers? Address your letters to READER'S WRITE, PAGE 6 Magazine, P.O. Box 24, STAFFORD, ST16 1DR.

Let's hear from you!

SPEEDSCRIPT COMPUTE! Books £9.95



Speedscript was a professional quality word processor published a while ago in COMPUTE! and this book is basically a reprint of the article and program listing with a complete source code and much previously unpublished information.

At first sight it might seem strange to produce a book about a magazine program but Speedscript is probably one of the most comprehensive and professional programs ever published in a magazine and is certainly the cheapest full feature word processor you are ever likely to come across. Good word processors are expensive and you may find that the one you buy doesn't suit you. At least with this book you can introduce yourself to word processing with the minimum outlay and even if you find that the program doesn't suit you you will be better armed to find one that does.

Word processing is one of the few tasks that a computer can do for everyone and if you have not dipped your toe in the water, try it, you will not find a cheaper way!

POOLSWINNER

THE ULTIMATE POOLS PREDICTION PROGRAM

- **QUALITY SOFTWARE** - Professional quality software from a professional pool, featuring complete and complete documentation - 100% satisfaction or 90 days. The program operates completely on one machine only.
- **PREDICTS** - Predicts the outcome of pool matches, whether you are playing or watching.
- **ADAPTABILITY** - Adapt to your own pool table conditions.
- **ADAPTABILITY** - Adapt to your own pool table conditions.
- **ADAPTABILITY** - Adapt to your own pool table conditions.
- **ADAPTABILITY** - Adapt to your own pool table conditions.
- **ADAPTABILITY** - Adapt to your own pool table conditions.
- **ADAPTABILITY** - Adapt to your own pool table conditions.
- **ADAPTABILITY** - Adapt to your own pool table conditions.

PRICE: £16.95 (all inclusive)

FIXXEN 686

FIXXEN 686 is a professional quality software from a professional pool, featuring complete and complete documentation - 100% satisfaction or 90 days. The program operates completely on one machine only.

PRICE: £16.95 (all inclusive)

COURSEWINNER

THE ULTIMATE COURSE PREDICTION PROGRAM

PRICE: £16.95 (all inclusive)

How to Type in the Listings

and get them right

The program listings in PAGE 3 are prepared carefully to insure that they can be typed by as nearly as possible. Before typing any listings ensure that you are familiar with the use of the **SHIFT** and **CONTROL**, and **INVERSE** keys as outlined in your computer manual. The listings are prepared to match exactly what you see on screen. Keep this note that you may see in a listing is included in the chart below for screen reference. By using **TYPO 3** you can ensure that you type in the programs **EXACTLY** as they are printed. Remember a simple typing mistake may mean a program will not run.

WHAT ARE THOSE CODES?

Each line of a program begins with a special two letter code. **THESE SHOULD NOT BE TYPED IN.** They are used by the program **TYPO** to check that you have typed each line correctly. **IF YOU HAVE NOT ALREADY TYPED IN THE TYPO LISTING PLEASE DO SO NOW.** The program can be used as you type in each line of a program or to check an already typed program. The code for each line will match but if you have problems check the listing conventions below carefully. you are most probably typing a **CONTROL** character incorrectly. **TYPO 3** cannot check if a line has been entered as if you have problems for entering a listing consult the notes in the program and ensure these are followed. If the **TYPO** codes match with the program will also check you, **LIST** it is possible to disk using **LIST "C"** or **LIST "D" filename"**, switch off the computer, to load and then **ENTER** the program using **ENTER "C"** or **ENTER "D" filename"**. Save this version in the normal way.

HOW TO USE TYPO 3

1. Type in the listing carefully but although you can use **TYPO 3** to check itself use it before it may not work if you have made mistakes.
2. **SAVE** or **CHANGE** a copy of the program.
3. Each time you want to type in a program listing **TYPO 3** first. The program will load a machine code routine to memory and then delete itself. Now type in a line in advance in the magazine including the two machine code and press **RETURN**.
4. A two letter code will appear at the top left of your screen. If this code matches the one in the magazine carry on and type the next line. Note, the code will not match if you use abbreviations. If you prefer to use abbreviations **LIST** the line you have just typed, move the cursor to that line and press **RETURN**. The code should now match.

5. If the code does not match, use the editing keys to correct the line and press **RETURN** again. Repeat if necessary until the codes match.
6. To check a line you have already typed **LIST** the line, place the cursor on that line and press **RETURN**.
7. When you have finished a listing just **SAVE** or **CHANGE** it to the normal way.

You can type the program without using **TYPO 3** and then check it by **LOADING** or **CHANGING** a copy of the program, running **TYPO 3** and then **LOADING** or **CHANGING** your program and proceeding as in step 4 above.

Always **SAVE** or **CHANGE** a program before running it and always use **TYPO** before telling us that a program will not run.

```

01  * END *****
02  * END *
03  * END *
04  * END *****
05  * END *****
06  * END *****
07  * END *****
08  * END *****
09  * END *****
10  * END *****
11  * END *****
12  * END *****
13  * END *****
14  * END *****
15  * END *****
16  * END *****
17  * END *****
18  * END *****
19  * END *****
20  * END *****
21  * END *****
22  * END *****
23  * END *****
24  * END *****
25  * END *****
26  * END *****
27  * END *****
28  * END *****
29  * END *****
30  * END *****
31  * END *****
32  * END *****
33  * END *****
34  * END *****
35  * END *****
36  * END *****
37  * END *****
38  * END *****
39  * END *****
40  * END *****
41  * END *****
42  * END *****
43  * END *****
44  * END *****
45  * END *****
46  * END *****
47  * END *****
48  * END *****
49  * END *****
50  * END *****
51  * END *****
52  * END *****
53  * END *****
54  * END *****
55  * END *****
56  * END *****
57  * END *****
58  * END *****
59  * END *****
60  * END *****
61  * END *****
62  * END *****
63  * END *****
64  * END *****
65  * END *****
66  * END *****
67  * END *****
68  * END *****
69  * END *****
70  * END *****
71  * END *****
72  * END *****
73  * END *****
74  * END *****
75  * END *****
76  * END *****
77  * END *****
78  * END *****
79  * END *****
80  * END *****
81  * END *****
82  * END *****
83  * END *****
84  * END *****
85  * END *****
86  * END *****
87  * END *****
88  * END *****
89  * END *****
90  * END *****
91  * END *****
92  * END *****
93  * END *****
94  * END *****
95  * END *****
96  * END *****
97  * END *****
98  * END *****
99  * END *****
100 * END *****

```

DELETE SPACE

FREE!!!
ATARI
TOUCH TABLET

with a
130XE Computer



Compumart

Mega Deals

Best Price for

ATARI HARDWARE

In the U.K.



Atari 130XE Computer
(with a FREE ATARI TOUCH TABLET!!!)

£159. ⁹⁵
+ £3 p&p

Atari 1050 Disk Drive
(with FREE Home File Manager, Payoff
Adventure & Demo Disks)

£169. ⁹⁵
+ £3 p&p

Atari 800XL & 1050 Disk Drive
(with FREE Home File Manager, Payoff
Adventure & Demo Disks)

£234. ⁹⁵
+ £3 p&p

Atari 130XE & 1050 Disk Drive
(with FREE Home File Manager, Payoff
Adventure, Demo Disks &
10 Blank Disks FREE)

£259. ⁹⁵
+ £3 p&p

Goods despatched: SAME DAY - PARCEL POST

12 Months Warranty: ANY PRODUCT FOUND TO BE DEFECTIVE WITHIN 12 MONTHS OF
PURCHASE WILL BE REPLACED - FREE OF CHARGE



Please send cheques/postal orders to:
Compumart, (Dept H)
71 Greenlana Road, Loughborough
Leics. LE11 5DF Tel (0507) 522229

SEE OUR AMAZING DEALS
ON BLANK DISKS
IN THIS ISSUE

DISPLAY LISTS

PT.1

Many of the superb graphic displays of which we all know the Atari is capable depend on altering a set of instructions in RAM called the display list. This article is devoted to the display list (DL) and how to modify it for our own purposes. The article contains a number of demonstration programs which are explained in the text and in REM statements in the program itself. When typing them in, always type in the lines with REMs in them (at least the line number plus REM, if not the whole line) as in some cases these lines are used for GOTO and GOSUB statements. I would recommend that when reading the article the program listings are studied along with the text.

THE TV-SCREEN DISPLAY

Virtually every display list article I have ever seen starts off with a discussion of how the TV display is produced. This one is no exception, so those readers who already know how this works can skip to the next section.

An image is produced on a television screen by a stream of electrons which strike a phosphor coated surface causing it to glow. The electron beam starts from the top-left-hand corner of the screen and moves horizontally from left to right. When it reaches the right-hand edge, it is switched off, moved back to the left side and down a fraction (this is the 'horizontal blank' period). It is then switched back on and the process repeated, until the beam reaches the bottom right-hand corner of the screen. At that point, it is switched off and brought back to the start position. Thus, the screen image is continuously being redrawn (or 'refreshed') - 50 times per second in the UK PAL system. This is much too fast for the eye to follow and the image appears to us to be stable. However, some flicker does occur and may account for the eyestrain suffered by some people after long periods at their machine.

The picture is therefore built up from a stack of horizontal lines across the screen, these are usually termed 'scan lines'. The Atari can generate 262 scan lines, but not all of these are used in order to ensure the image appears on the screen of all makes of television. In fact, 192 scan lines are used to create the image. It is no coincidence that the maximum vertical resolution of the Atari is 192 (in Graphics 8-11 and Atari modes 12 and 14). In these modes, each horizontal row is one-scan line high. The rows (or 'mode lines') of other graphics modes are composed of

more than one scan line (e.g. one mode line of Graphics 0 is eight scan lines high). Table 1 shows how the mode lines of each graphics mode are made up, plus the resolution and memory requirements for each mode.

The fundamental unit of horizontal measurement on the screen is the colour clock. This is actually a hardware limitation in that a colour clock is the length of the smallest possible dot on the screen whose colour can be controlled independently of adjacent dots. The Atari can display a screen 228 colour clocks wide, but only 160 of these are used on a normal screen to ensure the sides of the picture are not cut off on the television. (Although this produces a border at each side, at least the core taken by the Atari's designers ensures the machine will work with virtually any TV - unlike some inferior machines, which won't.)

The machine can also light each half of a colour clock independently, producing a maximum horizontal resolution of $160 \times 2 = 320$ points, although this sacrifices additional

A tutorial by Steve Pedler

more than one scan line (e.g. one mode line of Graphics 0 is eight scan lines high). Table 1 shows how the mode lines of each graphics mode are made up, plus the resolution and memory requirements for each mode.

The fundamental unit of horizontal measurement on the screen is the colour clock. This is actually a hardware limitation in that a colour clock is the length of the smallest possible dot on the screen whose colour can be controlled independently of adjacent dots. The Atari can display a screen 228 colour clocks wide, but only 160 of these are used on a normal screen to ensure the sides of the picture are not cut off on the television. (Although this produces a border at each side, at least the core taken by the Atari's designers ensures the machine will work with virtually any TV - unlike some inferior machines, which won't.)

The machine can also light each half of a colour clock independently, producing a maximum horizontal resolution of $160 \times 2 = 320$ points, although this sacrifices additional

Table 1. The Atari Graphics modes

Atari mode number	AT&T mode number	Resolution (lines)	Colour scan lines/mode line	Equal line	Memory	Type	
0	0	40 x 200	1	8	80	1600	T
1	1	40 x 176	1	8	80	1760	T
2	2	40 x 200	2	8	80	1600	T
3	3	40 x 176	2	8	80	1760	T
4	4	80 x 200	1	8	80	1600	T
5	5	80 x 176	1	8	80	1760	T
6	6	160 x 200	2	2	20	1600	C
7	7	160 x 176	2	2	20	1760	C
8	8	160 x 200	4	2	20	1600	C
9	9	160 x 176	4	2	20	1760	C
10	10	320 x 200	1	2	40	1600	C
11	11	320 x 176	1	2	40	1760	C
12	12	320 x 200	1	2	40	1600	C
13	13	320 x 176	1	2	40	1760	C
14	14	320 x 200	1	2	40	1600	C
15	15	320 x 176	1	2	40	1760	C

Note:

1) AT&T modes have identical DLs to Graphics 0.

2) Full memory requirements shown are for full-screen mode (no text standard without any added screen type) as for the DL. See 'Mapping the Atari' pp. 17-21.

3) BASIC modes 12-15 are not available on the 500KB series.

4) T = Text mode; C = Graphics mode.

CUSTOM-BUILT DISPLAY LISTS

There is no need for the Atari programmer to be restricted to the "official" DLs and Graphics modes programmed into the Atari. By modifying the DL, you can format the screen in virtually any way you wish. It is easiest to explain how this is done by means of examples.

Before we start I should point out that there are two ways of going about creating your customized DL. The first is to modify an existing DL, set up by a GRAPHICS statement, and the second is to create an entirely new one somewhere in a protected memory area. In general I would recommend the second approach, except for very small changes, since you can then bring your new DL into effect simply by changing the pointer at locations 560 and 561. Changing an existing DL may take a noticeable amount of time, and may be impossible if your new DL is longer than the existing one.

Example 1: Graphics 8 is fine in terms of resolution, but sadly lacking in colour. What is worse, the test window is in the same colour as the main part of the screen. However, we can improve this by changing the text window to Graphics 1, allowing four colour text. Listing 2 does this.

This program is very straightforward; it finds the start of the Graphics 8 DL, and then POKEs the appropriate locations with the Artix code for Graphics 1. Line 40 may need some explanation however. The Operating System thinks that the test window is in Graphics 0 - but Artix must now display it as Graphics 1. This is a potential conflict, since the O.S. allocates 40 bytes per line for the test window, whilst Artix only uses 20 bytes per line. This would alter the position of text PRINTed in the window. We

resolve this by telling the O.S. that the window is now in Graphics 1 by POKEing location 659 with 1.

Example 2: I indicated earlier that it was possible to insert blank scan lines in the middle of a DL. This is demonstrated by Listing 3. This effect gives rather an attractive 'ruled page' appearance which could be useful in long text displays to break up the text (for example, in text adventures). Notice that the screen editor entirely ignores the blank lines - the cursor jumps from one mode line to the next. Unfortunately, putting in the blanks means that we can only put 23 Graphics 0 lines on the screen - this makes it difficult to use this screen for typing in a BASIC program for example (try it), and see what happens when you reach the bottom of the screen.

However, this program also demonstrates how to set up a new DL, from scratch. It must be placed in a suitable memory area - such as page six. Display lists are not relocatable due to the jump instruction at the end. The first three lines of the program READ the DATA for the new DL and POKE it into page six. Remember that zero is the code for one blank line and two is the code for Graphics 0. We must then allocate some memory space for the screen - in this case, done easily by the Graphics 0 call in line 70. We then need to know the starting memory location for the screen memory, which can be found here locations 88 and 89. These values are POKEd into the appropriate locations in page six. Space was reserved for these by the two bytes following the LMS instruction (fourth number in line 60). If other LMS codes were present in our new DL, we would of course have had to reserve space for the two bytes following each one. The final three bytes are the Jump

```

00 10 REM *****
01 20 REM *****
02 30 FOR J=0 TO 255:POKE 127+J,0:PRINT "J=0";GOTO 40
03 40 DATA 00,000,010,011,012,013,014,015,016,017,018,019,
04 020,021,022,023,024,025,026,027,028,029,030,031,032,
05 033,034,035
06 50 REM *****
07 60 REM *****
08 70 BASTER=PEEK(128):POKE 88,BASTER*8:
09 80 BASTER=4+1:POKE 89,BASTER
10 90 POKE 1048,BASTER:POKE 1049,BASTER*4:POKE
11 1050,BASTER*2:POKE 1051,POKE 1052,BISTER
12 95 POKE 1053,B*POKE 1054,B*POKE 1055,B*POKE
13 1056,B*
14 100 GOTO 130
15 110 FOR B=0,100:PRINT *****
16 120 POKE 87,B:POKE 88,B*8:POKE 89,B*16:
17 130 PRINT *****
18 140 FOR B=0,100:POKE 87,B:POKE 88,B*8:POKE 89,B*16:
19 150 PRINT *****
20 160 FOR J=0 TO 255:POKE 127+J,0:PRINT "J=0";GOTO 40
21 170 POKE 128,PEEK(128)+1:POKE 129,PEEK(129)+1
22 180 FOR J=0 TO 255:POKE 127+J,0:PRINT "J=0";GOTO 40
23 190 PRINT *****
24 200 PRINT *****
25 210 PRINT *****
26 220 PRINT *****
27 230 PRINT *****
28 240 PRINT *****
29 250 PRINT *****

```

Listing 4

instruction followed by the starting location of our new DL - the beginning of page six.

To bring our new DL into effect, we first turn off Antic by **POKEing 559** with zero (you don't have to do this, but if you don't then the DL may be changed while Antic is actually drawing a screen, making the picture jerk - which at best looks unprofessional). The DL pointer is then directed to our new DL in line 90 by **POKEing 560** and 561 with the low and high bytes of the start of the new DL. Finally, Antic is turned back on again with a **POKE 559, 24**. You can get out of the new DL, by any **GRAPHICS** call. To get back again, simply repeat the steps in this last paragraph.

Example 3: The first example (Listing 4) is a little more complex, but nicely demonstrates a problem encountered when printing or drawing on a mixed-mode screen. Let us suppose that we want to design an attractive title page for a new game. We want to start off with giant text at the top of the screen, then decrease in size towards the middle, where we will print a message. The text will then enlarge again, and lastly there will be a text window for displaying messages and inputting replies. We'll call the program by some sort of dramatic name - say **INWADERS**, in honour of those little green men who started it all.

Type in Listing 4. Lines 10 to 90 should now be straightforward. Memory is assigned for our screen in line

70, and then the new, mixed-mode, DL is set up. The starting memory location for the text window is obtained from locations 660 and 661 (see Table 1). The method for plotting giant text in **Graphics 4** comes from John Hales in Page 6 issue 8.

The real problem is, how do we **PRINT** or **PLOT** to the mixed graphics modes when the O.S. thinks we're in **Graphics 0**? There are two ways around this. The first is to treat each group of identical mode lines (or more generally, groups of lines with identical memory requirements) as a sort of 'graphics window'. For each window, we would then **POKE** the screen memory locations 88 and 89 with its starting memory location and to be on the safe side do a **POSITION 0,0** to return the cursor to the top left-hand corner of the window. We then **POKE 87** with the appropriate **BASIC** (just Antic) mode number and can now use the normal **BASIC** printing and drawing commands. Alternatively - especially for character graphics - we could calculate the offset from the start of screen memory and **POKE** the internal character codes (not the ATASCII codes) directly into the screen memory.

So much for the Display List itself. I suggest you experiment with the above examples and create your own DLs. In the next part of this article, I want to concentrate on some further applications of display list manipulation - the 'hidden' graphics modes, page flipping, the Display List Interrupt, and scrolling.

From...

Computer Support

"THE UTILITY SPECIALISTS"

A fine selection of software and hardware directly from its makers
Something for every ATARI® enthusiast

SOFTWARE

ANTIC £49.95
The most powerful screen control package ever designed for the Commodore 64. It allows you to draw and print in any mode, to draw and print in any mode, to draw and print in any mode, to draw and print in any mode.

DEVELOPMENT

DEVELOPMENT £29.95
A complete development package for the Commodore 64. It includes a compiler, linker, and other tools for developing software for the Commodore 64.

EMULATORS

EMULATORS £29.95
A complete emulator package for the Commodore 64. It includes a compiler, linker, and other tools for developing software for the Commodore 64.

DATA

DATA £29.95
A complete data management package for the Commodore 64. It includes a compiler, linker, and other tools for developing software for the Commodore 64.

DEVELOPMENT

DEVELOPMENT £29.95
A complete development package for the Commodore 64. It includes a compiler, linker, and other tools for developing software for the Commodore 64.

THE CLAP

THE CLAP £29.95
A complete development package for the Commodore 64. It includes a compiler, linker, and other tools for developing software for the Commodore 64.

VIDEO RECORD

VIDEO RECORD £29.95
A complete development package for the Commodore 64. It includes a compiler, linker, and other tools for developing software for the Commodore 64.

SOFTWARE

SOFTWARE £29.95
A complete development package for the Commodore 64. It includes a compiler, linker, and other tools for developing software for the Commodore 64.

DEVELOPMENT

DEVELOPMENT £29.95
A complete development package for the Commodore 64. It includes a compiler, linker, and other tools for developing software for the Commodore 64.

EMULATORS

EMULATORS £29.95
A complete emulator package for the Commodore 64. It includes a compiler, linker, and other tools for developing software for the Commodore 64.

DATA

DATA £29.95
A complete data management package for the Commodore 64. It includes a compiler, linker, and other tools for developing software for the Commodore 64.

DEVELOPMENT

DEVELOPMENT £29.95
A complete development package for the Commodore 64. It includes a compiler, linker, and other tools for developing software for the Commodore 64.

THE CLAP

THE CLAP £29.95
A complete development package for the Commodore 64. It includes a compiler, linker, and other tools for developing software for the Commodore 64.

VIDEO RECORD

VIDEO RECORD £29.95
A complete development package for the Commodore 64. It includes a compiler, linker, and other tools for developing software for the Commodore 64.

OTHER PRODUCTS FROM THE STORE: **DEVELOPMENT** £29.95, **EMULATORS** £29.95, **DATA** £29.95, **DEVELOPMENT** £29.95, **THE CLAP** £29.95, **VIDEO RECORD** £29.95, **DEVELOPMENT** £29.95, **EMULATORS** £29.95, **DATA** £29.95, **DEVELOPMENT** £29.95, **THE CLAP** £29.95, **VIDEO RECORD** £29.95.

ORDER ONLINE AT WWW.COMPUTERSUPPORT.CO.UK

We will personally assist you and arrange deliveries to your home, where most of our software is available.

© 1992. It is a trademark of COMPUTER SUPPORT.

Mail order only. In order and shipping costs apply.

Computer Support (UK) Ltd

20 Sanson Court Road, Abbey Wood,

London, SE18 3PL

Tel: 01-311-7320

All prices include postage & packing (some day shipping).

SOFTWARE

31 Stoneyhurst road Erdington

U.K SOFTWARE

Becker (cd).....14.95
Ballblazer.....9.95/14.95
Fracturas.....9.95/14.95
Kennedy App.....call
Theatre Europe.....9.95
Blue Max 2001...9.95/14.95
Mercenary.....9.95/12.95
Strip Poker.....9.95/14.95
Whirlinards.....9.95/14.95
King of the Ring.....phone

GREMLIN GRAPHICS ACTIVISION
ELECTRIC FREARS BRIGLADSOFT
ENGLISH SOFTWARE LLANASOFT
U.S GOLD HELDGENE HOUSE
SECTORSOFT CREATIVE SPARKS
DATADISK OCEAN NOBAGER P.S.S.

IMPORTED SOFTWARE

AT A GLANCE

Kybrd Template/Synalc.....soon
Kybrd Template/Synfile.....soon

BATTERIES INCLUDED

B-Graph.....59.95
Home Pak.....49.95
Paperclip.....59.95

BOOKEREND

Printshop.....39.95
Data disk 1.....22.95
Data disk 2.....22.95
Printshop paper.....19.95
The Mask of the Sun...43.95
Serpent's Star.....43.95

CAROUSEL SOFTWARE

Brain Strainers(c/d).....9.95
Simulated Computer(c).....9.95
Simulated Computer(d).....14.95
Tolly Turtle(c).....9.95
Tolly Turtle(d).....14.95

EPYS

Lorealis Gift.....soon
The Sidelos.....soon

MONARCH DATA SYSTEMS

ABC Basic Compiler...39.95

SSI

Battalion Commander...37.95
Battle for Normandy...37.95
Battle for Shiloh...37.95
Breakthrough/Ardenness37.95
Broadsides.....33.95
Carrier Force.....37.95
Colonial Conquest...37.95
Combat Leader.....34.95
Computer Ambush.....48.95
Computer Baseball...37.95
Computer Quarterback...37.95
Cosmic Balance.....33.95
Cosmic Balance II...38.95
Eagles.....39.95
Epidemic.....39.95
Field of Fire.....37.95
Fortress.....29.95
Geostone Warrior...37.95
Imperial Galactica...33.95
Kampfgruppe.....57.95
Knights of the Desert34.95
Objective Europa...37.95
Op Market Garden...57.95
Panzer Grenadier...37.95
Quantron.....57.95
Ralls Meet.....37.95
Reforger '88.....49.95
Shattered Alliance...34.95
Six Gun Shootout...37.95
Tigers in the Snow...37.95
War in Russia.....57.95
50 Mission Crush...33.95

INFOCOM

Cythrota.....29.95
Deadlines.....37.95
Enchanter.....37.95
Hitchhikers guide...29.95
Infidel.....42.95
Planetfall.....37.95
Sea Stealer.....34.95
Suspect.....37.95
Suspended.....37.95
Winters.....37.95
Wishbringer.....29.95
Zerk I.I.I.I.II.....29.95

MICROPHONE

Crossade in Europe...35.95
Decision in Desert39.95
Gunship.....soon
Silent Service.....soon
Top Secret.....soon

MICROLEAGUE

Baseball.....soon
Beta disk.....soon
World series disk....
1984 Team disk.....
Allstar roster disk...
Franchise Team disk...
General Manager/owner.
STRAPSE

Brimstone.....soon
Easts.....39.95
Mindwheel.....39.95
Synalc.....49.95
Synfile.....49.95
Syntrend.....39.95

WINDSCAPE INC.

Seek at music writer...
Holley Project.....
Crossword Magic.....

ROYAL SOFTWARE

Trivia Quest.....
Trivia Utility disk...
0.8.8
Action.....75.00
Action Toolkit...27.95
Basic 88.....75.00
Basic 8L.....80.00
Basic 8L Toolkit...27.95
DOS XL 100 Bug 6527.95
Mac/65.....75.00
Mac/65 Toolkit...27.95
Writer's Tool...60.95



WHAT'S NEW? CALL US



HOTLINE 021 384 5080

EXPRESS

phone us now!

Birmingham B24 8HA

IT'S OUR BIRTHDAY!

BUT YOU GET THE GIFT

£1 off your next purchase

STARI		METACOMCO		INFOCOM	
2B Master.....	39.95	Assembler.....	49.95	Mind Forever Voyaging.....	44.95
Some Planctium.....	49.95	C Assembler.....	89.95	Catthroats.....	39.95
ST Cobol.....	49.95	Lisp Development Kit.....	89.95	Deadline.....	49.95
Two Key Accounting.....	79.95	Pascal.....	89.95	Eschbacher.....	39.95
Asteroids.....	.....9.95	FIDLER MICROPROGRAMING		Hitchhikers Guide.....	29.95
Battlespace.....	.....9.95	Administrator.....	349.95	Infidel.....	44.95
Cala/Clock/Breakout.....	.....9.95	Appointment.....	74.95	Planetfall.....	39.95
Centipede.....	.....9.95	Batmaster.....	59.95	Sea Stalker.....	39.95
ST Business Tools.....	.....9.95	Batstate 2.....	399.95	Sorcerer.....	44.95
Star Raiders.....	.....9.95	Mediate.....	39.95	Starcross.....	49.95
TALIST		Mastergraph.....	29.95	Suspect.....	44.95
2Kul & Meat.....	39.95	Spellmate.....	29.95	Wishbringer.....	49.95
Flexifile.....	69.95	Mordante.....	59.95	Witness.....	29.95
DRAGON GROUP		SIRSA ON-LINE		Zerk I.....	29.95
4 x Path.....(level 1)	99.95	Gate.....	.....9.95	Zerk II.....	44.95
4 x Path.....(level 2)	.....9.95	King's Quest II.....	.....9.95	Zerk III.....	44.95
Path Accelerator.....	74.95	Slime II.....	.....9.95	NIGHTMOR	
SOFTLAN CORP.		FTL/GASIS SOFTWARE		Flight Simulator.....	39.95
VIP Professional.....	phone	Sandog.....	39.95	Flipside.....	34.95
EST SYSTEMS		WINDSCAPE		Goldrunner.....	29.95
C Compiler.....	59.95	Bojs Yu.....	.....9.95	IBM-ASCII Transfer.....	39.95
Macro Assembler.....	39.95	Halley Project.....	.....9.95	M/Disk (Rom Disk).....	34.95
BARRA/BIPPO		Keyboard Cadet.....	.....9.95	MI/Term (Comm).....	79.95
C Compiler.....	79.95	KIRCON SOFTWARE		Mud Pies.....	29.95
Checkbook Binder.....	.....9.95	Taurus Accounts.....	250.00	Soft-apost.....	34.95
MIRAGE		Taurus Invoking.....	135.00	KUMA	
Express Letterwriter.....	49.95	Taurus Printers'.....	500.00	K-Comm.....	49.95
MAIL-ORDER SPECIALISTS		K-Data.....		49.95	
PLEASE CHECK AVAILABILITY BEFORE PLACING ORDER		K-Saks.....		49.95	
cat here		K-Spread.....		49.95	
PLEASE RUSH ME YOUR LATEST PRICE LIST		K-Mord.....		49.95	
NAME.....					
ADDRESS.....					

Mail-order specialists

PLEASE CHECK AVAILABILITY BEFORE PLACING ORDER

PLEASE RUSH ME YOUR LATEST PRICE LIST

NAME.....

ADDRESS.....

£1 OFF

voucher

USE BEFORE 31-12-85

STARS

by Paul Lay

If you want to write a good space game you need a good background and what better than a scrolling starfield such as used in STAR RAIDERS or GALAXIAN?

The programs presented here give you various starfields to which you can add your own game play. Listing 1 is a simple scrolling star field which uses one retrace end a Display List Interrupt service routine to provide an excellent set of scrolling stars which are independent of the playfield. The routine is shorter than it looks as lines 160-290 are merely a demo to illustrate how printing to the screen does not affect the stars. Listing 2 is a better version that uses a much more complex Display List Interrupt to give a 3-D effect. Lines 10-440 provide the basic routine with the remainder of the program giving a demonstration to show the independence of the stars from the playfield. A further demonstration of the use of this routine is given in Listing 3. This includes some machine code routines to allow you to steer through the stars by using a joystick in port 1. To run this one delete lines 450-570 from Listing 2 and add the new lines.

Finally for those of you interested in exploring the routine further I have included the assembler source code for the display list interrupt.

```

01 1 000 *****
02 2 000 * STAR SCROLLER 1 by Paul Lay *
03 3 000 * ----- *
04 4 000 * PAGE 0 PAGEONE - England *
05 5 000 *****
06 10 GRAPHIC 16:GRAPHIC 7
07 20 FOR 123000 TO 1000
08 30 0000 J0000 1, J1000 1
09 40 010000000+00000000000
10 50 FOR 12000 TO 10000
11 60 000 1,140 000 1
12 70 GRAPHIC 000010001+000
13 80 FOR 120000 TO 100000 STEP 1
14 90 000 1,11000 1
15 100 FOR 12000 TO 1000
16 110 000 1,0000000000000 1
17 120 000 04070,00000
18 130 000 011,00000 000,0
19 140 000 000,00000 0000,1
20 150 000 0000,10000 000,10
21 160 000 0000,1000
22 170 ? 0000000,0001000,"
    *****
    *****
  
```

```

23 170 0000 000000000
24 000 0000000000000000000
25 000 0000 00000000000000000 0,000,1,10
26 000 0100 0,0100000 0,070
27 000 00000 0-0,040
28 000 0100 000,0
29 000 00000 001,000
30 000 0100 000,0
31 000 00000 001,0000000 0,0,0,0
32 000 ? 000010-0 0000 000 00,000,000
    000
33 000 0000 000,00000 000000000000000
34 000 0000 000
35 0000 0000 00,000,00,000,10,010,100
36 1000 0000 00,0,001,00,000,001,0
37 2000 0000 000,000,10,0,100,000,01
38 3000 0000 1,000,0,000,0,000
39 4000 0000 000,000,100,100,00
  
```

```

51 1 000 *****
52 2 000 * 3D SCROLLER 2 by Paul Lay *
53 3 000 * ----- *
54 4 000 * PAGE 0 PAGEONE - England *
55 5 000 *****
56 10 GRAPHIC 00000 000,1
57 20 00000 0,0,0,1000000 1,11,0
58 30 POSITION 10,10
59 40 ? "*****"
60 50 ? "By Paul Lay"
61 60 FOR 12000 TO 1000
62 70 0000 J0000 1, J1000 1
63 80 GRAPHIC 00000000000 10
64 90 0000 0000-00
65 100 000 04070,0000000000000000
66 110 000 0000000 00 00000 000 1
67 120 000 1,11000 1
68 130 000 000,00000 0000,1
69 140 000 010,000
70 150 000 100,0,0,100,10,010
71 160 000 1,100000 1
72 170 000 011,10000 010,0
73 180 000010000
74 190 0000 100,100,0,001,000,0,100
75 200 0000 11,100,100,100,100,100,100
76 210 0000 10,000,00,00,100,00,100
77 220 0000 00,100,000,0,100,100,0
78 230 0000 100,0,0,100,100,10,010
79 240 0000 101,0,000,0,0,101,00
80 250 0000 000,100,100,100,0,100,100
81 260 0000 100,0,000,000,000,000,000
  
```




185 PCW85P

PCW 85

reported by

Les Eillingham

'We came down here to spend some money' complained a couple of lads from far away Durham. True there was not much you could actually BUY for your ATARI at the PCW show but there was quite a lot to see and the promises of much more support for our machines in the future. The ATARI stand hit you in the face as you turned right from the front door but many of the other goodies took a bit of finding. One thing became obvious from the start - playing the rising reporter AND trying to run your own stand was as hard as trying to complete MINER 2049er with only a limited time allowed for play!

Initially I suppose interest centred around ATARI's three large stands, one of which was set up for public relations purposes with tables and chairs for 'important' visitors and private rooms for interviews, whilst the other two housed dozens of small units occupied by software houses and others who had some product or other for ATARI machines. The set up certainly created the right impression judging by some of the press reports following the show with comments such as 'Atari managed to put at least 50 ST's on their stand' and 'Atari live up to their promise'. What it was basically was a brilliant piece of promotion using the resources of about 30 other companies to promote the ATARI line. Nobody has ever criticised Jack Tramiel for his marketing ability!

Let's start with ATARI themselves. For most media men the focus of attention was not the hardware but Jack Tramiel himself who seemed to be constantly surrounded by TV cameras and press men. Most of what he said merely reinforced, for the sceptic, what he had said before and there were certainly no major new announcements. 520 ST's were around in force with just the odd colour monitor but the promised CD ROM unit did not turn up and the solitary 2688ST and HARD DISK DRIVE were locked away in a huge glass case on centre stage. What you could see was very impressive but the presentation led to suspicion and rumours. Let us hope that the 2688ST is close to production and that it will be available soon in the UK for the future of many of the software houses producing entertainment packages could depend heavily on existing ATARI owners having available a new generation machine they can afford.

To many of those existing owners though the ATARI stand may have been a disappointment for the support of the 130XE or XL machines was minimal with almost all the emphasis on the 520ST. Amongst those companies showing software for the 8-bit machines were **English Software** with their martial arts program CHOP SUEY and **Ripstone Software** who now have the rights to produce THE PAY OFF for the Atari and other machines. Future releases

include another two adventures OPERA HOUSE and THE MASK plus a multitasking FORTH system for the 800/XL entitled FORTH A new cartoon to the ATARI was **Blue Ribbon Software** who had two titles, DIAMOND MINE and SCREWBALL translated from the BBC and to be available at the remarkable price of just £2.50 each. Three further titles are planned and all five will be available on one disk for just £9.95. **Microsoft** now have SOULDER-DASH from First Star and FIRST STEPS WITH THE ME MEN for young children at £9.95 and £8.95 respectively. **Miscade Technology** had their MULTI-VIEWTERM communications software and DWIARI interface hooked up and exploring Telecom Gold. There was more 8-bit software elsewhere in the show but not much more on the ATARI stand.

So on to the star of the show - the 520ST which had a very impressive range of software - admittedly much of it only in the demo stage - ranging from low price entertainment packages right up to the very top end business applications where you pay so much for the program that they give you the machine free! Included were many languages and development

5PCW85PCW85PCW85PCW8

packages which are likely to be among the first releases but overall the breadth of software that is being developed for this machine is quite amazing.

Starting close to AT&T themselves we had companies such as **Digital Research** showing GEMDraw and various GEM packages many of which are supposed to be included with the machine itself but which had not been completed and **BOS Software** with the BOS Operating System and associated packages of interest only to serious business users. Up in this category were **WASP Software** with dedicated packages for the Printing, Accountancy, Insurance and Legal professions, **Metacomco** who developed the BASIC for the ST had a Macro Assembler for just \$49.95, PASCAL at \$89.95 and an IBM CROSS DEVELOPMENT SYSTEM which would set you back a cool \$1,000! You wouldn't buy that of

Computers who have made a name among QL users have a whole range of applications planned at a standard price of \$49.95. Among these are K-SPREAD, a spreadsheet that uses the Mouse and Windows, K-SEGA, a very fast Editor/Assembler, K-DATA which is a database allowing transfer to and from other K-series applications, K-WORD a word processor and K-COMM a communications and Videotext terminal program. To top all this off they have a book coming out - The Atari ST Explored.

Softtechnix have a couple of programs transported from the Macintosh, **TIMELINE** allows you to plan any time or date related activity and **RHYTHM** 'pump spreadsheet, part calculator'. Back on the language/development side, **HiSoft** promise a full range after Christmas - they say they will not rush things - which will include **DevpacST** a sophisticated editor/assembler/debugger.

readily available! One adventure that you could actually buy at the time of the show was **LANDS OF HAVOC** from **Nicrodeal**, a 2000 screen action adventure for just \$19.95. Another adventure, or rather two adventures comes from **Talent Computer Systems** who bring you **WEST** and **THE LOST KINGDOM** OF ZHUL, both of which have been successful on the QL. These two come on one 3 1/2" disk for the inclusive price of \$24.95.

One of the first American companies to announce the translation of their existing software to the ST are the acknowledged masters of Adventure, **Infocom** who are translating their complete range, **ZORK** and **HITCHHIKERS GUIDE TO THE GALAXY** were actually available for purchase at the show. Of the graphics based programs the most impressive was **CHES** from **Intelligent Chess Software** with a true 3-D board on screen. And there was more which I didn't get a chance to see including an integer from **BTM** allowing BASIC programs to be run, a promised 'ELITE' type package from **Finchid**, and **CASH TRADER** from **Quest International**. In all, the software under development and likely to be available towards the end of this year and early next year is truly astonishing in its variety and holds great promise for establishing the ST as THE machine of 1985.

So far we have covered only the AT&T stand, but what of the rest of the show?



course but think of the promise that it holds for future software availability on the ST. **GST Systems** had an **EDITOR/ASSEMBLER** and a **CPM EMULATOR** allowing CPM programs such as **Wordstar** and **dBase II** to run on the ST.

Languages and general business applications were the dominant type of software and among them we had **Talent Computer Systems** with a file management system called **FLEXFILE** allowing many different types of single file applications to be handled. **TDI Software** had **TDI MODULA-2/ST** billed as the best language for modular programming as well as **UCSD PASCAL**, an industry standard operating system. **Nano**

So far you might be forgiven in thinking that the ST is just a business machine, and without the 260ST that isn't what it might turn out to be, but a number of companies have committed themselves to providing entertainment software for the ST. Graphics and sound on a new machine take a lot of exploring and you cannot expect the best for some time so most of the announced packages were of the style of text adventures or the like with one notable exception, **BRATAOGAS** from **Pyggonia**. I must admit that I didn't get a chance to see it but others raved over it and some called it the game of the show! One to look out for when it is released, which will presumably not be until colour monitors are

As far as AT&T was concerned the rest of the show was dominated by two companies, **Activision** and **Atarisoft**. Four games were on active display at the **Activision** stand, **RESCUE ON FRACTALUS** and **BALLBLAZER** and somewhat unexpectedly as they are only just available in the States, **HORRORS HIPT** and **THE BEOOLON** which again feature facial graphics and look to be a couple of stoners. Lack of time prevented a proper look but what I did see was very impressive and hopefully we can bring you a full review shortly. After a lengthy period in which they appeared to desert the AT&T, **Activision** are bringing out some really top class software over the coming

PCW85 PCW85 PCW85 PCW85

months. Some programs will be available by the time you need this but those to look out for include **HACKER** one of the most innovative programs of recent times in which you explore a host computer you have accidentally accessed. There are no instructions, no rules, no help. The screen just say 'Log on please! For adventures comes **MINDSHADOW** a fully illustrated graphic adventure with animation. **THE DESIGNER'S PENCIL** is a creative program combining both art and music and **GAMEMAKER** allows you to create your own arcade style games with options for novice and advanced programmers. The 'ultimate' flight simulator is said to be **SPACE SHUTTLE** designed in consultation with NASA where you control more other than the Shuttle itself. Finally from Activision comes **THE GREAT AMERICAN CROSS COUNTRY ROAD RACE** a driving simulator in which you race through 25 cities across the States.

Atari are also supporting ATARI in a big way by bringing to the UK some of the best in entertainment and application software from the U.S.A. Their stand was dominated by a huge projection TV screen showing music videos which was commanded midway through the show by Jeff Miller for use in demonstrating **COLOURSPACE**. Not many watched the videos but once **Colourspace** was up and running crowds lined up along the balcony. AtariSoft have already released many of the Electronic Arts programs at super prices and promise more to come. **PNBALL CONSTRUCTION SET**, **MUSIC CONSTRUCTION SET** and **SEVEN CITIES OF GOLD** should be widely available by now and all have a superb reputation from past imports. In the 'mid-price' range at £9.95 on disk only they have **AXIS ASSASSIN** a sort of **Centipede** and **Dr Jaxx** in which you investigate the failed Operating System of a computer. Coming soon is **ARCHON II ADEPT** which carries the **ARCHON** game to new heights and a new strategy game called **THINK** played on a 6 x 6 grid. AtariSoft are not just into games though for they have signed an agreement with Bentley included to bring out their range of Personal Productivity programs. All of these have received superb reviews

in the U.S. and we can now look forward to wide availability here. **NEW PAPERCLIP** is a professional word processor to retail at £59.95 and **HOMEPAK** combines a word processor, database and telecommunication package in one program for just £39.95. **BYGRAPH** is the best graph program available for the ATARI and is worth £49.95 for anybody who has any business applications they want to run on an 8-bit machine. Other releases to look out for are **GOLF CONSTRUCTION SET** and **PAINTBOX** both on disk or cassette.

Several companies have tried to bring U.S. software over here in the past with varying degrees of success but both Activision and Activision have the resources to make it succeed. First class presentation and promotion should ensure that the best from the U.S. continues to come our way.

U.S. GOLD of course are well known for their licensing of games from America but from their stand you could be forgiven for thinking that they had now gone into the video business. **NAMMO** and **ZORRO** stand out from a combined **OCEAN** and **U.S. GOLD** stand and an impressive array of software was promised including many strategy titles from **SSI** as well as **NEW YORK CITY**, **BLUE MAX 3001**, **SUPER ZAXXON** from Synapse, **GOOMES** and **ZORRO** from DataSoft and many, many more. Look out for the usual U.S. GOLD colour spreads in the coming months.

And among the rest we had **Antag** who have **TRIVIA** - a version of the popular **Trivial Pursuit** at £7.95 with **PWD-A-SIDE** and **JUMP JET** to come. **Linnsoft** showed a prototype version of **COLOURSPACE** running on one of the few ST's hooked up to a colour monitor (a Microvite) and had a great psychodetically painted **LORE Novagen Software** had their own stand for **MERCINARY**, the successor to **ENCOUNTER** although they were late setting up their stand so I didn't get a chance to see it although visitors to the **PAGE 6** stand revelled about it. **Androgene Software** had **XL** and **SE** versions of the **MICRO SWIFT SPREADSHEET** and **Allegro Software** had **SHOOT EM UP 4**

wonder if this is the old C.S. Software game). **Beyond Software** at last promise an Atari version of one of Flat Star's titles, **SUPERMAN** and **Precision Software** has **SUPERSCRIPT System 3 Software** were apparently banned for promoting **TWISTER** with 'coastly clad barbers' but will promise versions of **TWISTER**, **INTERNATIONAL KARATE** and **THE NITRO CYCLERIC NINJA** for the ATARI.

Typocraft Computer Software, who I missed, apparently had a range of software prepared for the 2600ST and there were books on the ST and **ML/RE**, a games interface cable from **Connections** at £39.95 and probably a lot more than I liked to see.

So was it all worth it? Well, the PCW Show of 1985 was certainly the best showing for ATARI in the last 5 years and holds great promise for the future success of ATARI. Whether that success will be heavily slanted towards the ST I don't know but the media, the software houses and the press were certainly excited more by ATARI than by any other manufacturer. The 1300XL (and other 8-bit machines) look to have some good support from software companies new to ATARI. Let's just hope that they advertise their wares (in **PCW85**) and will in sufficient quantities to continue that support. If you are happy with your existing machine it is worth sticking with it but keep an eye on the ST for it is the machine of the future. Maybe not for a year or two though so you have time.

Meanwhile those of us who have made the commitment to an ST can look forward to the voyage of discovery all over again only this time the field is wider, the rewards potentially greater and the transport programming a lot longer. Already there are over 20 books planned for the ST between now and February and there will be plenty more. There will be hundreds of items of software and much of it will come from the UK.

Jim Capparello of ANTIC was impressed by the amount of software being developed. Leonard Trammel was astonished at the amount of software British companies had developed in such a short time. 'Much more than in the U.S.' Who knows what we may see at the ATARI USER SHOW next May!

GRAND PRIX II



REQUIRES 48K

by Chris Darkes

SPECIAL KEYS

K	Exit yellow car **
N	Pin for player one
P	Pin for player two
SPACE	Pause **
ESC	Terminate race

** Note: Press number keys to resume after these key strokes.

SPECIAL SCREENS

From original screen (FINISHING RESULTS) you can access a DATA CHANGE SCREEN by pressing 'D', or you can access the NAME CHANGE SCREEN by pressing 'N'.

DATA CHANGE SCREEN

With player one's joystick select race length (default is 10 laps) then press fire to input car selection, and continue through this screen changing whatever default settings you wish, they will stay at your new set values till you access this screen again when they will revert to default. On this screen you can change laps, visual speed (cars will appear to go faster to it's actual speed, effectively making the track seem longer or shorter to the cars), computer car's handling (highes the setting the less competitive they will be), and player one and player two handicaps (works the same way as computer handling to allow different skilled player's to compete on a equal chance of success).

NAME CHANGE SCREEN

Press 'E' to cycle through driver's numbers and names. Player one is car 15 and player two is car 16. When you have the desired name, change letters with player one's joystick and by pressing 'E' the changed name will be entered into memory. Press 'ESC' to exit screen.

If you would like to have a permanent copy of Grand Prix II with the changed screen (just load game to the usual way and press 'N' for the screen, alter names then press 'SYSTEM RESET' and save to tape using the cassette save routine (listing 7) or to disk by saving locations 45000 to 49000. Run address is at location 47000. Note: You must not race and then save the game.

Grand Prix II is a one or two player game requiring joysticks to race your cars against the fourteen cars controlled by the computer. You have a plan view of the track with safe cornering speeds shown on the inside of each bend. You will have to exceed these speeds to win but if you take a bend at a speed in excess of 30 m.p.h. above the safe speed your speed will reduce to the safe bend speed simulating a skid, and your tyre's life will be reduced. Fuel and tyres are reduced as the game progresses. If the tyres reach 10 you have to keep to safe cornering speeds. Reduce your tyre strength to 0 and you will be wiped off screen and take no further part in the race. The same applies if your fuel reaches 0.

Player one's speed, tyres, fuel, and current lap will be shown on the bottom left of screen, with the same information for player two on the bottom right. Above player two's position and lap number, 'POS-' will show the position of each car as it passes the finishing line during the race so you can see exactly which cars are the leaders. If a down facing arrow is shown the last car to pass the line was a back marker (lower than 9th place). You can access pins on any lap (but not along starting straight) and race from 5 laps and up to 99.

The cars are capable of around 230 m.p.h. with slip streaming but this depends on each cars engine performance. At the start of each race each car receives it's top speed capability and it's accelerating capability, which will not change during that race, then it will receive it's position on the grid. The maximum top speed allowed for each car is 160 m.p.h. You accelerate by pressing the button, decelerate by releasing button and brake by pulling joystick back.

Player one's car is yellow, player two's black. Pressing the 'W' key at any time during race will pause the action and erase the yellow (player one) car. Press any number key to continue the race and then computer car Pin 14's condition is shown in place of player one's. Note that player two (black car) will be erased automatically by the computer if the fire button on joystick 2 is not pressed at start of race, after this it cannot be taken out of race unless forced by lack of tyres or fuel. You can, if you wish, take no part in the race and just sit back and watch the computer cars compete. When you cross either player or both the computer will use that player's colour for some of its cars.

At the end of the race the FINISHING RESULTS screen will appear and will list the driver's finishing positions.

COMPUTER CARS

Yellow computer cars are driven by the most experienced and have the better chance of the faster cars. The driver's experience and car performance then reduce through blue then red to the most inexperienced, and least likely to receive a hot car, represented by black.


```

11 1 RUN *****
12 2 RUN *          *****
13 3 RUN *          Ag Garis Garbis *
14 4 RUN *          *
15 5 RUN *          Four Parts - Listing 1 *
16 6 RUN *          *
17 7 RUN *          PAGE & MAGAZINE * ENGLAND *
18 8 RUN *****
19 9 RUN
20 10 RUN SAVE%:DISKPREX.1
21 11 RUN
22 12 T COMMAND? *****
23 13 T COMMAND? *****
24 14 T COMMAND? *****
25 15 T COMMAND? *****
26 16 T COMMAND? *****
27 17 T COMMAND? *****
28 18 T COMMAND? *****
29 19 T COMMAND? *****
30 20 T COMMAND? *****
31 21 T COMMAND? *****
32 22 T COMMAND? *****
33 23 T COMMAND? *****
34 24 T COMMAND? *****
35 25 T COMMAND? *****
36 26 T COMMAND? *****
37 27 T COMMAND? *****
38 28 T COMMAND? *****
39 29 T COMMAND? *****
40 30 T COMMAND? *****
41 31 T COMMAND? *****
42 32 T COMMAND? *****
43 33 T COMMAND? *****
44 34 T COMMAND? *****
45 35 T COMMAND? *****
46 36 T COMMAND? *****
47 37 T COMMAND? *****
48 38 T COMMAND? *****
49 39 T COMMAND? *****
50 40 T COMMAND? *****
51 41 T COMMAND? *****
52 42 T COMMAND? *****
53 43 T COMMAND? *****
54 44 T COMMAND? *****
55 45 T COMMAND? *****
56 46 T COMMAND? *****
57 47 T COMMAND? *****
58 48 T COMMAND? *****
59 49 T COMMAND? *****
60 50 T COMMAND? *****

```

```

61 1010 DATA 78,78,178,8,8,128,78,124,78,
62 1020 DATA 78,78,178,8,8,128,78,124,78,
63 1030 DATA 102,102,8,8,102,8,8,102,102,102,
64 1040 DATA 102,102,8,8,102,8,8,102,102,102,
65 1050 DATA 102,102,8,8,102,8,8,102,102,102,
66 1060 DATA 102,102,8,8,102,8,8,102,102,102,
67 1070 DATA 102,102,8,8,102,8,8,102,102,102,
68 1080 DATA 102,102,8,8,102,8,8,102,102,102,
69 1090 DATA 102,102,8,8,102,8,8,102,102,102,
70 1100 DATA 102,102,8,8,102,8,8,102,102,102,
71 1110 DATA 102,102,8,8,102,8,8,102,102,102,
72 1120 DATA 102,102,8,8,102,8,8,102,102,102,
73 1130 DATA 102,102,8,8,102,8,8,102,102,102,
74 1140 DATA 102,102,8,8,102,8,8,102,102,102,
75 1150 DATA 102,102,8,8,102,8,8,102,102,102,
76 1160 DATA 102,102,8,8,102,8,8,102,102,102,
77 1170 DATA 102,102,8,8,102,8,8,102,102,102,
78 1180 DATA 102,102,8,8,102,8,8,102,102,102,
79 1190 DATA 102,102,8,8,102,8,8,102,102,102,
80 1200 DATA 102,102,8,8,102,8,8,102,102,102,
81 1210 DATA 102,102,8,8,102,8,8,102,102,102,
82 1220 DATA 102,102,8,8,102,8,8,102,102,102,
83 1230 DATA 102,102,8,8,102,8,8,102,102,102,
84 1240 DATA 102,102,8,8,102,8,8,102,102,102,
85 1250 DATA 102,102,8,8,102,8,8,102,102,102,
86 1260 DATA 102,102,8,8,102,8,8,102,102,102,
87 1270 DATA 102,102,8,8,102,8,8,102,102,102,
88 1280 DATA 102,102,8,8,102,8,8,102,102,102,
89 1290 DATA 102,102,8,8,102,8,8,102,102,102,
90 1300 DATA 102,102,8,8,102,8,8,102,102,102,
91 1310 DATA 102,102,8,8,102,8,8,102,102,102,
92 1320 DATA 102,102,8,8,102,8,8,102,102,102,
93 1330 DATA 102,102,8,8,102,8,8,102,102,102,
94 1340 DATA 102,102,8,8,102,8,8,102,102,102,
95 1350 DATA 102,102,8,8,102,8,8,102,102,102,
96 1360 DATA 102,102,8,8,102,8,8,102,102,102,
97 1370 DATA 102,102,8,8,102,8,8,102,102,102,
98 1380 DATA 102,102,8,8,102,8,8,102,102,102,
99 1390 DATA 102,102,8,8,102,8,8,102,102,102,
100 1400 DATA 102,102,8,8,102,8,8,102,102,102,

```

DISK USERS

1. Type each listing, check both TYPED and SAVE to disk using the Monitor screen on line 23 of each listing.
2. Switch off and re-load your machine.
3. Type RUN "D:DISKPREX.1"
4. When you see the "loaded" message type DOG and choose option N - BINARY SAVE.
5. DOG 2.0 or 2.5 users type GP:DISK1-DIG:PCDD:7000 and press RETURN.
6. Disk 3.0 users use Monitor: GP:DISK1 from address 5000, and address 7000, Run address 7000.
7. Type in the loader program (listing 5) and SAVE to the same disk using Monitor "D:DISKPREX.1&2"
8. To run program type RUN "D:DISKPREX.1&2"

CASSETTE USERS

1. Type in each listing, check it both TYPED and CASSETE to cassette with each listing following the last.
2. Switch off and re-load your machine.
3. Rewind tape, CLOAD and RUN the first program.
4. As loader sounds, CLOAD and RUN remaining programs and the "loaded" prompt appears.
5. Without switching off the machine, type in the cassette loader program (listing 6) and CASSETE 3 for a new tape. Leave tape in position.
6. Type in the cassette loader program (listing 7) and RUN it. When signaled with 2 beeps, press RECORD and PLAY and hit RETURN.
7. Rewind tape CLOAD first program and RUN it. Leave PLAY button pressed and hit RETURN when you hear the beep.

If you have problems running the game from cassette try FORCE 1&2:1 after power up and before the first load or try typing GAD after the game has loaded.



*A special offer for
User Group members!*

£3 OFF

each new subscription

Here's your chance to make sure of a regular copy of Atari User – the independent magazine that's become the premier source of information on the whole range of Atari microcomputers.

Each month brings you a choice selection of first rate programs, powerful utilities, easy to follow articles and invaluable hints and tips – plus full coverage of what's happening in the world of the Atari, with in-depth reviews of all the latest products.

If you want to know all there is to know about your Atari micro, Atari User is essential reading!

ORDER NOW!

Please send me the next 12 issues of Atari User at the specially reduced User Group members' price of £9 (normal price £12). Please indicate method of payment:

- Bank/Mailorder/Transfer**

- Bank Giro/Via**

- Cheque/PD made payable to Grafton Publications Ltd**

Name _____

Address _____

Signed _____

Send to Atari User, FREEPOST, Europa House,
68 Chichester Road, Hazel Grove, Stockport SK7 5YE.

(No stamp needed if posted in UK)



ONE OF THESE COULD BE YOURS HOW?

By writing an article or
sending a program to PAGE 6

During 1993 we will be giving away an AtariWriter cartridge to the author of the best article published in each issue and a Paint cartridge to the author of the best program submitted. All contributions will be re-considered prior to publication of each issue so that if you do not receive the award for a particular issue, your article or program will still be in the running for the next issue. In addition to this all articles or programs published will still be eligible for awards in the annual Readers Poll or a weekly awards writing an article or sending in a program.

Articles may be on any subject of interest to Atari users and should be at least one magazine page length. Diagrams, charts, illustrations or even photographs may be included if you wish. Programs can be for any memory size and may be games, utilities or more serious programs provided they are of general interest. If possible please submit articles and programs on a DOS 2.0 or CD/DVD 2.0 disk which will be returned or replaced if requested by a disk from the PWO's Library. Any DOS 2.0 compatible word processor may be used. If you do not have a disk drive, please use cassette but ensure that TWO copies are recorded, one of which should use LIST "C". Hard copy listings of programs are NOT required but documentation explaining how to use the program should be included. Typewritten or hand-written articles are still welcome if you cannot manage disk or cassette and will be given equal consideration. Written program listings will not however be accepted. Come on, lets see your articles and programs. Best of luck!

This issue the award of a PAINT program goes to Chris Davies for his splendid Grand Prix II. The ATARIWRITER award has been held over for YOUR contribution. It would have gone to Steve Prolier but for the get one last issue!

P.F. Software...

Smart Art (16M)

- OVER 90 DIFFERENT COLOURS CAN BE DISPLAYED AT ONCE
- INTERRUPT DRIVEN CURSOR
- 4 BRUSH SIZES
- 3 BRUSH SPEEDS
- AIR BRUSH MODE
- PLOT
- DEBAND
- FILL
- DRAW CIRCLE
- SAVE PICTURE
- LOAD PICTURE
- SEPARATE PROGRAM TO DISPLAY PICTURE
- DEMO PICTURE

AVAILABLE ON COMPACT DISK OR COMPATIBLE CD-ROM
 ONLY
 £14.95
 £19.95
 £24.95

Chapters 6, P.O.'s to
 P.F. SOFTWARE
 14, BIRNSTALL AVENUE,
 LITTLEBOROUGH
 LANC. OL16 5JA

ALSO AVAILABLE

FRUIT PICKIN' (16M) Pick the fruit from the orchard while avoiding several colorful nasties (telephones, potato plants, cheese-burgers and more). Extended use of PWO graphics provides up to nine individually moving "sprites" for which are multicoloured. With increasing difficulty levels, total W/L game action for super smooth movement and animation. Even the usual games player can't lose at this pick! £2.95

ALSO AVAILABLE ** NEW PRICES **

FRUIT SALAD (16M) Massacre your game using colorful graphics from instead of boring pigs. The various game options make this a challenge for adults and with the fun graphics and total package equal an interactive entertainment for young children. One or two players. £2.95

** Order both **FRUIT SALAD** and **FRUIT PICKIN'** for only £4.95 **

BLACKJACK (16M) Features variable to view and display. Can you beat the bank? £1.95

PICTURE PUZZLE (16M) Watch the picture jumble itself up. Can you recreate the original picture? Two to four pictures to choose from, 20 difficulty levels. £2.95

PICTURE TORMENT (16M) Pictures to torment! Build words horizontally and vertically. It is then up to you to see it out. 20 difficulty levels. Also include bonus programs to design your own pictures for use in the game. £2.95

Prices inc. p&h.

Overseas orders for single programs please add £6.50

SHORT REVIEWS



BOUNTY BOB STRIKES BACK

Big Five (U.S. GOLD)
64k cassette (NOT 400/800)
£9.95
48k disk £14.95
1 player/joystick

This game is, in effect, the follow-up to the enormously popular MINER 2049er. It has taken some considerable time for MINER's successor to appear - the original Big Five game is well over two years old! - but, in between we had the elusive Scrooper Cooper which failed to see the light of day. Still, not to worry, Bounty Bob is back, bigger and better than ever before in this latest game from U.S.GOLD and the good news is that it retails on cassette and disk at sensible prices. You won't have to fork out £50 for the ROM version.

Most of you will be already be familiar with the concepts of the original MINER game. BOUNTY BOB follows a similar plot as our intrepid hero embarks on a journey covering 25 exciting new levels in his bid to rescue the mine and defeat the plans of the evil Yulon Yulon (whatever he may be!).

Gameplay is virtually identical to the original. You must guide Bob around the platform levels, filling in all the sections of the framework in order to 'claim' them. Deadly mutants patrol the framework and you can either avoid them by jumping over them or destroy them by collecting one of the many 'treas' scattered throughout the mine and then touching the mutants.

Bob still retains his incredible jumping powers from the previous game but, unlike MINER, you can vary the delay between pressing the fire button and directing the joystick and thus control his jumping distance. This greatly enhances the playability of the game. All the old familiar objects and modes of transport are there to both

Jim Short reviews some recent releases

help and hinder Bob - transporters, palmiers, lifts and of course, the cannons and there are a whole batch of new ones waiting to be discovered and explored such as the gravity lift, gear elevator, section tubes, mobile section unit, acid rain, utility hoist and a host of other weird and wonderful contraptions.

First impressions are generally important and the title screen is a mere taster of what is to follow. A flock of birds fly on carrying the letters of the alphabet and they quickly re-arrange them onto a huge 'billboard' affair to spell out the opening credits. The accompanying tune is excellent and sounds suspiciously like a re-working of the Superman and Star Wars themes.

The high score table is another eye-opener. You must spell your name by pushing letters onto a conveyor belt with the aid of a pair of billcoorns, whereupon the birds swoop down and transfer your name and score to the High Score billboard. The fun starts when your name is added to an otherwise full High Score table as the birds have to fit you into the correct slot while re-arranging all the other names and scores in their proper order. Clever birds these ones!

My main gripe concerning the original MINER game was that it was just too difficult, especially for someone of my limited skills. No such problems with BOUNTY BOB though, an



'Options' Screen allows you to alter numerous game parameters to make the game as easy or as hard as you like. You can choose to start the game with up to 4 lives, let the bonus life to be awarded anywhere from 10,000 to 90,000 points, re-start the game at the point you left off after losing a life, enable 'secret messages' which allow you to 'warp' to higher levels and so on.

It would be no great shakes to write a book about this game but, naturally, magazine space won't allow it. The graphics and animation are superb and the quality and variety of the 25 levels are unsurpassed in any other platform game I've seen. Colour has been used in great effect with the mine levels constantly changing colour each time you play. Sound effects are also first rate.

Naturally, at this point, reviewers quote the tired old cliché that 'follow-up games are never as good as the original' but in this case it couldn't be further from the truth. BOUNTY BOB STRIKES BACK is as important to your collection as STAR RAIDERS and POLE POSITION were. Mark my word, it is destined to become the number one game of 1985. Miss it at your own peril!

One final note. The cassette version of BOUNTY BOB is only compatible with the XL and XE models as it requires 64k RAM. Owners of 600/800 models will have to settle for the 48k disk version.

MIG ALLEY ACE
Microprose (U.S. GOLD)
48k disk £14.95
48k cassette £9.95
1/2 players
Joystick(s)



Someone at Microprose is obviously softer than on flight simulators. MIG ALLEY ACE is the latest in a long line, following in the wake of previous releases such as SPITFIRE ACE, SOLO FLIGHT and F-15 STRIKE EAGLE.

There seems to be a trend these days toward combat-style flight simulators and this one, as the name implies, is no exception. The action supposedly takes place during the Korean war of the early 1950's when inferior U.M. jetfighters took on the mighty squadrons of North Korean MIG-15's, or so the blurb on the enclosed booklet says!

You have a choice of three different game options, 1 player solo, 2 player head-to-head or 2 player co-operative. The screen is split into two separate cockpit views, the top being player one's cockpit view and the bottom player two's on the computer's depending on your game choice. This is slightly unusual for this type of game and takes a bit of getting used to at first.

The simulation covers several different combat scenarios. You have 3 lives in which to try and battle your way right through the card and, afterwards, you are awarded a rank based on how well you fared in battle. The ranks go from Novice through to WGP (World's Greatest Fighter Pilot).

As flight simulators go, MIG ALLEY ACE is something of a let-down, particularly in the graphics department. All the action takes place in the air with no facility for taking-off or landing and control is almost entirely from the joystick with the bare minimum of keyboard input. As a result, the game is best suited to complete beginners and a good idea would be to use it as a flight trainer before moving on to something more complex such as the brilliant F-15 STRIKE EAGLE.

Sadly, the Atari version of MIG ALLEY ACE loses out to the C64 one. The cockpit view is much more realistic on the 64 version with a proper cockpit canopy and an authentic rotary-dial

instrument display. The Atari version is more like a view out of a plate-glass window and the digital instrument bar is about as unrealistic as they come. The Atari is capable of a far superior display to that of the Commodore as Microprose have already shown with their versions of SOLO FLIGHT and F-15 STRIKE EAGLE and I honestly cannot understand why they should purposely make Atari the poor relation this time. Let's hope Microprose don't repeat this in any forthcoming releases.

KISSIN' KOUSINS

English Software
48k cassette £6.95
48k disk £9.95
1 player
Joystick



I must admit to having a soft spot for English Software. AIRSTRIKE was the first cassette game I ever purchased and it is still one of my 'all time' favourites. I was a little disappointed when they seemingly stopped supporting Atari a short time ago (though I don't say they had their reasons), but now they are back again with some new titles. The first of these is KISSIN' KOUSINS and it has the distinction of being the first all-UK release to feature digitised speech. When the program loads you are greeted by a clear and precise voice announcing 'English Software presents Kissin' Cousins'. An impressive start. Unfortunately the game fails to live up to the opening scenario.

You control a cute little character who is desperately trying to save his Kissin' Cousins although it doesn't say who they are. You must guide him through various street scenes, jumping over the many objects lining his path and avoiding the bombs being dropped from above. Stationary objects are easily dealt with but in subsequent scenes you will encounter moving contraptions, kangaroos, bats, rubber frogs, gogglers and pogooppers-all of which combine to make the going really tough!! Never once made it past those pesky kangaroos!

Graphics are nice and colourful if I dare I say it - somewhat Spectramish in appearance but a lot more thought could have gone into the actual game. As things stand, it takes second place to the granddaddy intro.

English Software may well be forever judged on the standards set by JET BOOT JACK, however they do have other good titles such as LEGEND OF THE RINCKERHOLE, SOLDIER'S FORTUNE and HENRY'S HOUSE just waiting to be converted to the Atari. How about it English Software?

HIJACK
English Software
48k cassette £6.95
1 player
Joystick



HIJACK is yet another new title from English Software. It is a helicopter rescue game along the same lines as CHOP-CHOP only, in this game, you must rescue VIP passengers from the roof of a high speed train and deposit them to safety in the rear security carriage.

A nifty little angle accompanies the opening title screen, clever composition like this being a traditional feature of many English Software games. A quick press of the START key and it's on with the action. The train is speeding across the bottom of the screen from right to left and you must swoop down in your chopper and pick up the VIP's who are mulling about on the roof of the train, saving tentatively at you. Press the fire button to lower the rope and, once the figure has taken a firm hold, transport him back to the safety of the rear carriage. Simple, eh? Well, not quite. Hinged to tell you about the cannons firing at you from the hills and the huge trees that line the sides of the track and which you almost always fly into, or at least I do! Once all the 10 VIP's have been rescued you move onto the next level of play where gunfire from openings on the roof of the train is a further hazard.

Like this game, it has clear, colourful graphics, good sounds and some excellent special effects. The way your helicopter bursts into a flaming ball when it collides with a tree or is hit by a missile is incredibly realistic. Worth £6.95 of anybody's money.

ARCHON

Electronic Arts/AtariSoft

48k cassette £11.95

48k disk £14.95

1/2 players

Joystick(s)

ARCHON has been available for quite some time on import, at import prices, but is now being marketed in the UK by AtariSoft on both cassette (previously unavailable) and disk so it is worthwhile taking another look at it.

ARCHON is a unique sort of game. Whilst the basic theme has been borrowed from mythical folklore, the game itself offers a whole new concept in computer programs combining the strategy of conventional board games such as chess with the high speed action associated with arcade style games.

There are two sides - the Light and the Dark - each containing 18 pieces or 'icons'. These take the form of legendary creatures such as dragons, wizards, knights, mages, trolls, bards and shapeshifters. The sides are balanced in strength but are not identical. Each icon has its own distinct weaponry and attacking strength and therefore some icons are superior to others. The most powerful icons are the Wizard, who leads the white side and the evil Sorcerer who commands the forces of the Dark side.

The board layout is very similar to that of a chessboard with certain interesting differences. Whilst some of the board squares retain their normal black or white colouring for the duration of the game, other 'luminance' squares alternate back and forth between varying shades of black, grey and white. As icons have a power advantage on squares of their own colour, the luminance cycle must be closely monitored so that you can attack your opponent when the square is in your favour.

There are 5 red 'power points' situated at strategic places on the luminance squares. These heal injured icons and also protect them from the effects of magic spells. To win the game, a player must destroy all of his opponent's icons or occupy all 5 power points with his own icons. In practice, the latter option is the more difficult of the two.

All movement is joystick controlled,



The icons are moved with the aid of a 'target frame' and their movement from square to square is along the same lines as chess but also depends on whether the icon involved is a 'Ground' mover or 'Fly' mover. Fly movers can jump over occupied squares while Ground movers cannot.

Sounds fairly routine, maybe even a little boring so why has Archon received so much praise? Well, ARCHON didn't gain its reputation by being a mere chess clone. The fun begins when you invade a square occupied by an opposing icon. You don't automatically claim that square as you do in chess, you must fight for it first!

When two icons come face to face on any square on the strategy board, that square immediately pops out to fill the entire screen and forms the Combat Arena. It is now a fight to the death with the victor gaining the right to occupy that square on the board. Various moving obstacles add interest to the arena battles but they are also pretty useful for dodging behind in order to escape your opponent's missiles. The Wizard and the Sorcerer can call upon a number of different spells in order to enhance the enjoyment and playability of the game. The individual spells can only be cast once, so it is best to use them wisely.

The graphics in ARCHON are truly outstanding, particularly in the combat arena where the icons fairly 'come alive'. A word must also be said here about the packaging which is of a very high standard and includes a well-written and thoroughly absorbing instruction booklet complete with many game diagrams and drawings.

ARCHON can be played either against the computer or a human opponent. The computer plays a reasonable game but tends to be somewhat predictable and, after a short while, becomes rather easy to beat. An 'expert' version is now available in the States where the computer

plays a much slicker game, however the game only really comes alive when you play against a friend. Two player ARCHON is the most fun head-to-head confrontation this side of Middle Earth. If you haven't already bought it, then do so now. You won't regret it.

M.U.L.E.

Electronic Arts/AtariSoft

48k cassette £11.95

48k disk £14.95

1/4 players

Joystick(s)

M.U.L.E. is a strategy game based loosely on the game of 'Diplomacy'. It puts you and up to three fellow players (although the lack of extra joystick ports on the XL and XE restricts this to only one other player) on a barren alien planet and it is up to you to settle on a plot of land and develop the planet's resources. Your goal is to make as much money as possible and amass the greatest number of points in order to gain the title of 'First Frontier'. To do this you must buy, sell and trade your produce. You are helped (and even hindered) in your task by a mysterious mechanical creature known as a M.U.L.E. (Multiple Use Labour Element).

At the outset you can choose from 8 different game characters with oddball names such as Rowdy, Golliver and Ripper. Each character has its own particular skills and capabilities and you must use them to their best advantage. During your daily toil you will be handicapped by random events like planet-quakes, acid rain, pest attacks and even runaway M.U.L.E.'s. You can't plan for them but they all add extra enjoyment to the game.

There are ways to make a last-luck other than working such as paying a visit to the pub or catching the Wagoner who lives in the caves (he'll pay you to let him go) and, in the higher levels, mining the valuable 'Crystals' mineral. At the end of the day though, success depends upon your exploitative skills.

All events are represented graphically with lots of fine animation and good use of colour. The sound effects are excellent too, particularly the catchy title music. The packaging is up to AtariSoft's usual standards and comes complete with a comprehensive 18 page manual.

It is difficult to do a game of such

complexity proper justice in a short review. It won't appeal to everybody but if you are tired of arcade-style games or never liked them in the first place, then you'll find M.U.D.E. one of the most fascinating and imaginative games available anywhere.



MURDER ON THE ZINDERNEUF

Electronic Arts/Ariclasoft
48k disk only £14.95
1 player
Joystick

Fancy a game of Cluedo? This strategy game from Electronic Arts is more or less an enhanced version of the popular Washington board game.

The plot reads exactly like an Agatha Christie 'whodunnit' and goes something like this. The year is 1936 and the luxury airship ZINDERNEUF is flying 5,000 ft above the Atlantic Ocean on a voyage from London to New York. There were 16 passengers on board when the ZINDERNEUF left London but now one of them has been brutally murdered. You play the part of the detective who has the job of solving this heinous crime and you have just twelve hours (26 minutes of real time) in which to do so.

You begin by choosing your detective character from a list of eight. They are all based on famous fictional detectives but their names have been altered slightly to give them a comical appearance. Thus Inspector Clouseo becomes Inspector Rhatzow, Hercule Poirot becomes Achille Merlot, Miss Marple is Agatha Marbles and so on.

The screen display is a plan view of the passenger section of the ZINDERNEUF and you use the joystick to guide your detective round the many rooms and corridors of the airship, searching for clues and passengers to

interrogate.

You may question the passages in a number of different ways and your approach is all important as it determines how the passengers will react. If they like your approach you may glean some worthwhile information from them but if they don't like it they may tell you to 'Take a hike' or 'Jump in the lake!' By carefully studying the clues and various pieces of verbal information you should be able to come to a logical conclusion as to the identity of the killer. You then present your 'final accusation' whereas the murderer's true identity is revealed along with their reasons for committing the crime. If your accusation is correct you are then awarded a rank based on how well you solved the crime. If it is incorrect all you get is a touch of abuse.

Once again the game packaging is first class and the instruction booklet is a riot. Reading it is almost as much fun as playing the game. If you are looking for a game that exercises the brain rather than the trigger finger why not take a trip aboard the ZINDERNEUF? It beats playing Cluedo anyday.

ONE-ON-ONE

Electronic Arts/Ariclasoft
48k cassette £9.95
48k disk £14.95
1/2 players
Joystick(s)



If you follow the sport of basketball, American style, you will be familiar with the term 'one-on-one'. For the uninitiated it simply means one against one and in this sports simulation you can enjoy a basketball showdown against the computer or a friend.

The game itself was written in conjunction with American pro basketball players, Julius Erving and Larry Bird and you have the option of controlling a computer version of either player. Several difficulty levels are selectable at the start of every game, ranging from 'Park and Rac' (easy) through to 'Pro' (very hard) and you can also set a number of game parameters to choose a timed game with four quarters of play or to play to a set score, and to have 'winners out' or 'losers out' after a score is made. If all these terms

sound like double-dutch to you, don't worry as they are clearly explained in the instructions enclosed with the program.

The actual play centres around one and the same only joystick control of your player is surprisingly easy and of offensive and defensive manoeuvres such as dribbling, spins, jumpshots, steals and blocks are carried out with a combination of complicated joystick and keyboard commands. Graphics are excellent with some of the slickest animation you are ever likely to see.

Four plays are catered for in the higher levels of play with the referee putting in a regular appearance to make sure justice is done. There is even a 'fatigue' element built in to the game and bar graphs at the bottom of the screen indicate how strong/fatigued your player is. When things get critical you can take a 'time out' to restore your player's 'lagging' strength.

ONE-ON-ONE is another game which is best played against a human opponent (the computer is just too damn good). I would have preferred a full blown basketball game with two separate teams rather than single players but this is certainly a worthwhile alternative.

HARD HAT MACK

Electronic Arts/Ariclasoft
48k cassette £9.95
48k disk £12.95
1 player
Joystick



The version I reviewed in issue 16 was an import which was available on disk only but now ARICLASOFT have made the game available on cassette. It is still the same game though and faces stiff opposition from the many other platform games around.

Also received for review

STRIP POWER from U.S.G.O.L.D.
44k cassette or 48k disk at £9.95 or £14.95.

Reviews next issue include RED MOON and WISHBINGER. Adventure fans should not miss it!

ST

METACOMCO & THE ST

Metacomco is a name which in the years recently for its work as Commodore's *Amiga* but this conceals a much longer history within the personal computer market. One of their earliest major software projects was working with Digital Research (of CP/M fame) on what became Personal BASIC which will be the ST's BASIC. Since that time, Metacomco has developed TRIPDS, a realising OS (the core of the *Amiga* OS) as well as a formidable array of languages and development tools: ISO Pascal, LISP, DCL, editors, linkers and much more.

QJ users will already be familiar with Metacomco's *Editor/Assembler* package as well as an excellent ISO PASCAL so it should come as no surprise that they are producing a full range of languages and development tools for the Atari 520 ST.

The first, and most essential, release is a Screen Editor which allows easy development of source code with its range of immediate and extended commands. One slight disappointment is the installation on GEM which is the "TOS takes parameters" application type rather than a full integration into the GEM environment although this proves to be no handicap in operation. The default text buffer is 18,500 words (approx. 60K) which should be sufficient for most applications but may be increased if required. The immediate mode allows quick and easy movement around the screen while entering text and editing with the extended mode gives access to a useful range of facilities covering block moved, movement, search and exchange, altering text and repeating commands.

The next release should be a full feature 60000 *Assembler* (currently in Beta test) which will incorporate the *Editor* (or should it be other language packages). When I spoke to Metacomco about the *Editor*, I was assured that initial purchasers of this package would be able to obtain some adjustment in price or similar if purchasing a similar package incorporating the *Editor*.

Future releases include a full ISO standard Pascal which will produce native code, Lattice C (a very powerful 16-bit RAM implementation with extensive libraries), DCL (also a very full and powerful version) and LISP (Cambridge, an implementation previously available only on mainframes and mini's). By themselves, this range of software would make the ST a very powerful software development system but combined with a price tag of under £100 per language package, Metacomco make the Atari ST into the most powerful system for under £1000. To illustrate this point a little further, Lattice C averages around £400 for any other 16-bit machine and I believe a Mini or Mainframe Cambridge LISP would cost well into four figures. You will be able to buy both plus 60000 and still have change from £1000!

There is a note of caution though. Don't expect to see large numbers of entertainment packages suddenly appearing. The first releases are unlikely to make use of more than a fraction of the machine's capabilities as it takes time (lots of it) to develop software using the best part of half a megabyte of memory in an efficient manner. It's all too easy with sloppy coding. Atari have provided a very powerful machine and Metacomco are producing a powerful set of tools for using it but it's up to software houses and individuals to get the best from the machine.

Laurance Miller

Computer

Amiga Deals

Best Prices for BLANK DISKS in the UK.

See Details 12

FREE!!! Plastic Library Case worth £2 when you buy 10 Disks

FREE!!! Perspex Disk Storage Box worth £10 when you buy 50 Disks

10 - 5 1/4" SINGLE SIDE DOUBLE DENSITY BLANK DISKS (with 950 code) **£9.** 10 11 pps

10 - 5 1/4" DOUBLE SIDE DOUBLE DENSITY BLANK DISKS (with 950 code) **£13.** 10 11 pps

50 - 5 1/4" SINGLE SIDE DOUBLE DENSITY BLANK DISKS (with 950 code) Storage box **£49.** 10 11 pps

50 - 5 1/4" DOUBLE SIDE DOUBLE DENSITY BLANK DISKS (with 950 code) Storage box **£69.** 10 11 pps

AMIGA DEALS! See our 12 page 1988/89 Catalogue for details of our other products and prices. We also offer a special discount on all orders over £100.00. See our 12 page 1988/89 Catalogue for details.



Now we have a special offer to all our customers. Buy 100 or more disks and we will supply 2000 extra.

See our 12 page 1988/89 Catalogue for details of our other products and prices. We also offer a special discount on all orders over £100.00. See our 12 page 1988/89 Catalogue for details.

... with the Multi-Industry/Database modern serial interface plus software package from Miracle Technology.

This unique communications package gives AT&T users full Prestel facilities, including graphics, and allows access to MicroCOM, Videotex systems, telex, electronic mail, bulletin boards and databases. Database facilities based rates of 1000/15, 75/1000, 1000/2000, 2000/2000. 880 interface not required.

For models 400, 800, 800XL, 800A, 850X, 850EM and 1000 used with suitable modems.

To get your AT&T service, all the way, slip the coupon today.

Please send me:
 Multi-Industry/Database package @ £65.00
or call 1 to 10 100 100
 1 year free telephone rental
 charge my Access/Visa/credit

expiry date

Name

Address

..... POSTCODE

send to:
Star Support 4, Miracle Technology (UK) Ltd,
10 Patten Street, London E14 6AE
Tel: 0473 8000
1987 Star Technology Company Limited

FULL PRESTEL FOR ATARI USERS!

MIRACLE
TECHNOLOGY



Back Issues

*You've already missed plenty,
don't miss the rest!*

Issue 1

Music
Computer/Clubs
Clubs
Getting on a Diet
MUSIC
New Music (continued)
The New British Bands
New Songs
Language

Issue 11 - Advertising Special

Advertisement
New Advertisers
How Advertisers
Maximize Your
ROLES OF SUCCESS
Options
Systems
Screen Culture
→ after the usual business

Issue 12

Business Machines
Computers
Guitars &
Recording
Index CD-ROMs
Bookmarks
DVD Disk Drive
Hardware Focus
→ after the usual business

Issue 13

Flight of the Free
Laptops
Book Review
Book Store
Music Review
1999 Winter Sampler
PMS in the new Year
Music Reviews
Miscellaneous Columns

Issue 14

Competition
Apple Macintosh
Computer Control
PAGE 6
Accessories
Hardware Great
The Golden State
First Steps A-Z of MUSIC

Issue 15

The Windows
Guitar
Tech Tools
Apprentice
WEB RESOURCES
Super Music Sampling
MUSIC
Using Materials
→ reviews and more

Issue 16

Book Store
FREE!AR CD
Magazines
Turn The Tables
Hardware Great
FREE! Bookmarks
Illustrated and the 1999
→ 80 books reviewed

Issue 17

Books
Shipping Orders
DVDs
Book Store
CASTLE WORKS
MUSIC's Label Station
New DVD Format
Super High Res... and more

Issues 1 - 6, 8, 9, 11 SOLD OUT

Issue 7 £1.00 inc. postage

Issues 10 onwards £1.25 inc. postage

Overseas readers please see page 3

DUST COVERS

Don't risk a breakdown of your precious equipment through dust or spill soiled. Protect all of your equipment with a custom made dust cover. Natural PVC with a heavy or bluish film - neatly folded away when your equipment is in use. Easily fitted with all peripherals, joysticks etc. in place.

5005T	4.95
3 1/2" 486/586 Disk Drive	3.95
Stacked 3 1/2" Disk Drives (2)	3.95
50023B Monochrome Monitor	4.95
486/504 4-8000, 80000, 133000	3.95
410 CD-ROM Cassette*	3.95
410 New Style Cassette	3.95
1418 Cassette	3.95
5003 10000 Disk Drive	3.95
1826/1827/1819 printers	3.95
Other printers (in order)	4.95

*old style does not have a paper bottom.

Some popular printer covers are held in stock but most can be obtained to order. Please state type of printer.

DISK INLAY CARDS

Keep track of your programs easily and tidily.

Disk insert cards.
Pack of 25.

£1.00 each pack inc. postage.

PAGE 6 BINDERS

with FREE index

NOW AVAILABLE! Superb binders to keep all your copies of PAGE 6 in mint condition. Each binder holds 12 issues securely and safely. For a limited period each binder will come with a comprehensive index to the first 12 issues of PAGE 6 completely FREE! Turn your PAGE 6 magazines into a permanent reference collection.

Binders £3.95 EACH plus 30p p& p each.

THE PAGE 6 LIBRARY

Available to subscribers only, the **PAGE 6 LIBRARY** is a fine collection of Public Domain programs from around the world. Hundreds of user-written programs including machine-code at very little cost. Available on disk only. Send a stamped addressed if you have not had current details.

ORDER ALL ITEMS ON THIS PAGE FROM
PAGE 6 MAGAZINE

P.O. BOX 54,
STAFFORD
ST16 1DR

Please make cheques payable to PAGE 6.

FIRST STEPS

WRITE A GAME!

By now you should all have the complete 'A-Z' of ATARI BASIC, and I hope that you forgive any mistakes that occurred between my keyboard and the final copy.

The Editor and I have been discussing how best to follow this set of articles and he has talked me into trying to write a game, a section at a time, to illustrate BASIC and involving reader's participation. This sounds easy until you sit in front of a blank screen but one reader has come to my rescue. Albert Bidwell recently asked me how to write a snake and crosses game and I have decided to use this game to explain some of the commands that were in the 'A-Z'. The examples used will follow most of the rules of programming, but will deviate where necessary so that it is easier to explain. I hope that I can keep this set of articles on a simple level to introduce the beginner to programming.

I hope that you are not sitting back saying, "Oh, great - a few games!" I want you here and now, I am expecting lots of response from the readers and if I don't get it the project may be doomed. I want you to improve the program in any way you can and send me your ideas and your own programming examples to illustrate how the game should be improved. Letters should be sent to me as soon as possible to give me time to set up the next article. You can still contact me direct with any problems but do enclose an S.A.E. if you require a reply.

As the next issue will be early for Christmas there will not be time to include your ideas in the next column but I would like to hear from as soon as possible so I can plan ahead. Remember though, without your response the column is doomed!

Let's start. Normally we would start any program with a rough idea of how we want our game to run, i.e. the object of the game, rules, scoring etc. but as everyone already knows the game of snake and crosses we can pass on to the initial flowchart of the game - termed the ALGORITHM. I have included an explanation with the algorithm, but in order to get you started I have also included a small program to show you how the "FINISHED?" and "AGAIN?" boxes work. Check out the program listing. The REMs should make it self-explanatory enough.

If you now refer to the diagram you will see that the introduction screen is set up as a GOSUB routine. This is for reasons of speed as whenever a GOTO or GOSUB is used the computer starts at the beginning of the program to search for the required line. It will run the quickest having the main play sequence as near to the start of the program as possible.

Memory space is critical, all DIMensioning and initialising must be done first but it is preferable to set up the screen

```
01 1 REM *****
02 2 REM * FIRST STEPS - WRITE A GAME! *
03 3 REM *
04 4 REM * PAGE 5 MAGAZINE - ENGLAND *
05 5 REM *****
06 7 REM *** Set up intro screen.
07 10 GOTO 5000
08 15 REM *** Main sequence.
09 2000 GOTO 100
10 2001 REM *** Set up intro screen.
11 2010 PRINT@100:PRINT 500,500:PRINT 700,500
12 2020 PRINT@100,500:PRINT@100,500:PRINT@100,500
13 2030 PRINT 700,1000:GOTO 100:PRINT@100,500
14 2040 PRINT@100,500:PRINT 500,100
15 2050 PRINT@100,500:PRINT@100,500
16 2060 PRINT@100,500:PRINT@100,500
17 2070 PRINT@100,500:PRINT@100,500
18 2080 PRINT@100,500:PRINT@100,500
19 2090 PRINT@100,500:PRINT@100,500
20 2100 PRINT@100,500:PRINT@100,500
21 2110 PRINT@100,500:PRINT@100,500
22 2120 PRINT@100,500:PRINT@100,500
23 2130 PRINT@100,500:PRINT@100,500
24 2140 PRINT@100,500:PRINT@100,500
25 2150 PRINT@100,500:PRINT@100,500
26 2160 PRINT@100,500:PRINT@100,500
27 2170 PRINT@100,500:PRINT@100,500
28 2180 PRINT@100,500:PRINT@100,500
29 2190 PRINT@100,500:PRINT@100,500
30 2200 PRINT@100,500:PRINT@100,500
31 2210 PRINT@100,500:PRINT@100,500
32 2220 PRINT@100,500:PRINT@100,500
33 2230 PRINT@100,500:PRINT@100,500
34 2240 PRINT@100,500:PRINT@100,500
35 2250 PRINT@100,500:PRINT@100,500
36 2260 PRINT@100,500:PRINT@100,500
37 2270 PRINT@100,500:PRINT@100,500
38 2280 PRINT@100,500:PRINT@100,500
39 2290 PRINT@100,500:PRINT@100,500
40 2300 PRINT@100,500:PRINT@100,500
41 2310 PRINT@100,500:PRINT@100,500
42 2320 PRINT@100,500:PRINT@100,500
43 2330 PRINT@100,500:PRINT@100,500
44 2340 PRINT@100,500:PRINT@100,500
45 2350 PRINT@100,500:PRINT@100,500
46 2360 PRINT@100,500:PRINT@100,500
47 2370 PRINT@100,500:PRINT@100,500
48 2380 PRINT@100,500:PRINT@100,500
49 2390 PRINT@100,500:PRINT@100,500
50 2400 PRINT@100,500:PRINT@100,500
51 2410 PRINT@100,500:PRINT@100,500
52 2420 PRINT@100,500:PRINT@100,500
53 2430 PRINT@100,500:PRINT@100,500
54 2440 PRINT@100,500:PRINT@100,500
55 2450 PRINT@100,500:PRINT@100,500
56 2460 PRINT@100,500:PRINT@100,500
57 2470 PRINT@100,500:PRINT@100,500
58 2480 PRINT@100,500:PRINT@100,500
59 2490 PRINT@100,500:PRINT@100,500
60 2500 PRINT@100,500:PRINT@100,500
61 2510 PRINT@100,500:PRINT@100,500
62 2520 PRINT@100,500:PRINT@100,500
63 2530 PRINT@100,500:PRINT@100,500
64 2540 PRINT@100,500:PRINT@100,500
65 2550 PRINT@100,500:PRINT@100,500
66 2560 PRINT@100,500:PRINT@100,500
67 2570 PRINT@100,500:PRINT@100,500
68 2580 PRINT@100,500:PRINT@100,500
69 2590 PRINT@100,500:PRINT@100,500
70 2600 PRINT@100,500:PRINT@100,500
71 2610 PRINT@100,500:PRINT@100,500
72 2620 PRINT@100,500:PRINT@100,500
73 2630 PRINT@100,500:PRINT@100,500
74 2640 PRINT@100,500:PRINT@100,500
75 2650 PRINT@100,500:PRINT@100,500
76 2660 PRINT@100,500:PRINT@100,500
77 2670 PRINT@100,500:PRINT@100,500
78 2680 PRINT@100,500:PRINT@100,500
79 2690 PRINT@100,500:PRINT@100,500
80 2700 PRINT@100,500:PRINT@100,500
81 2710 PRINT@100,500:PRINT@100,500
82 2720 PRINT@100,500:PRINT@100,500
83 2730 PRINT@100,500:PRINT@100,500
84 2740 PRINT@100,500:PRINT@100,500
85 2750 PRINT@100,500:PRINT@100,500
86 2760 PRINT@100,500:PRINT@100,500
87 2770 PRINT@100,500:PRINT@100,500
88 2780 PRINT@100,500:PRINT@100,500
89 2790 PRINT@100,500:PRINT@100,500
90 2800 PRINT@100,500:PRINT@100,500
91 2810 PRINT@100,500:PRINT@100,500
92 2820 PRINT@100,500:PRINT@100,500
93 2830 PRINT@100,500:PRINT@100,500
94 2840 PRINT@100,500:PRINT@100,500
95 2850 PRINT@100,500:PRINT@100,500
96 2860 PRINT@100,500:PRINT@100,500
97 2870 PRINT@100,500:PRINT@100,500
98 2880 PRINT@100,500:PRINT@100,500
99 2890 PRINT@100,500:PRINT@100,500
100 2900 PRINT@100,500:PRINT@100,500
```

so that the players have something to look at while the computer is busy with its housekeeping. Once the screen is set up, all INPUTs must be answered and any errors must be TRAPped, otherwise the program will stop execution.

The algorithm may seem complicated and tedious, but in practice it is very simple. The graphics take up most of the listing and the error trapping only a few lines. Type in the listing and try some silly responses. Because the computer only checks for illegal strings it will take any legal input as your true name. If your name is longer than the length to which the name string is DIMensioned it will only store to the DIMensioned length, so if you need more space use a longer DIMensioned string (A\$ and B\$).

Here are a few notes to help you with the program. Notice that the subroutine starts at 5010 and that I have placed a REM statement at 5009. Never, ever, send the program to a line containing just a REM statement. Many

by Mark Hutchinson

The purpose of this project is to enhance the write-protect capabilities of the Atari 800 disk drive. By giving you write-protectable write-protected disk so that you can ensure the safety of data, make one-of-its changes, or use the B side of disks without cutting a hole.

To complete the modification you need to be a very competent circuit builder. It is extremely easy to make mistakes and just one slip-up could ruin your disk drive and cost you over \$500 for repair. If in doubt, give up! Because of this, I have not aimed to give step by step instructions, so if you or a friend do not have such skills, I recommend you look at the *Advanced* reviewed in PAGE 6 as an alternative.

Undertaking this project will render the warranty of the 800 void. If you choose to do this alteration, read this article all the way through first.

COMPONENTS REQUIRED

- 1 x Verosip (Maplin FL177)
- 2 x locking DPDT push switches with single mounting bracket, screws, spacers and buttons (Maplin F167X, F17554, FL113 or Tandy 278-9481)
- 1 x Green LED with holder
- 1 x Red flashing (see text) LED (Tandy 278-036) with holder
- 1 x packet of Verosips (Maplin FL294)
- 1 x 2-way socket (Maplin BR65W & 5 x YW25C)
- Wax (multicoloured)
- 2 x small right angle brackets (Mechano?)
- 2 x bolts/nuts/washers
- 2 x barbed washers

There are some components worth saying more about. Most important is the flashing red LED. Although this will cost you about £1.50, ten times more than an ordinary red LED, and a trip to Tandy is required! Maplin do not stock it, so it is vital in order to keep your attention whilst write-protect is on. Cut costs, and you could lose in the long term. Any LED holders should do, but I don't recommend the chrome panel holders (Tandy 278-036, Maplin F1686) because they cut the viewing angle too much.

The 800

A write protect modification

A proper PCB plug (Maplin BR67X) could be used if you wish, but I found Verosips quite satisfactory, and you need them anyway. Don't cut the present cable or you will not be able to restore the 800 to its original state if you want to.

Although Maplin and Tandy have been quoted as sources of supply, many of these components should be available from your local electronics shop.

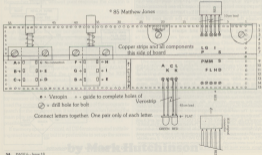
CONSTRUCTION

The diagrams should be sufficient for anyone capable of building the modification, but here are some hints you may find useful.

Make sure the 'verosip plug' is not obstructed by wire ends around this file may be required, or it may not 'make' properly and fall off later. Whatever plugtype you use, make sure only the marked wires are, in order to aid you in future. (The 800 pcb has the red wire marked).

I placed two LEDs next to the BUSY and POWER LEDs, but you could put them anywhere. Holes will have to be drilled to suit your holders.

The 800 top, removed by taking the four little discs at the top off to expose the screws, has to be modified to expose the switches. If you look inside the top, you will see modified holes at



3-test

Modification for 810 disk drives

the rear) opposite for the power and drive select switches). Cut out the two large round holes with a sharp knife.

The switches themselves must be mounted on the PCB using spacers. I used an old ball point pen barrel cut at Tross Internals. These are needed to position the switches behind the holes. The switches are not soldered direct to the veroboard, but wired together, i.e. A to A, B to B etc. There are only two of each type.

After you have built the board, wired up the LEDs and connected the flying socket, you must spend plenty of time checking your work. First, check that you have made all the right connections as shown in the diagram. Second, very carefully check that there are no solder splashes or strands of wire that are, or may be in future, shorting two points. Terrible damage can be caused by such shorts. Finally, repeat the two checks. If you find anything wrong, correct it, and start the checks again. You cannot be too careful.

Only when you have thoroughly checked your work should you fit it to the 810. Once you have unplugged the power lead, you have to locate plug member J01, which is at the back of the vertical board, and note the position of the red wire (also marked on the PCB). Gently remove the socket, (the plug has the pins and fit it into the Versaplug, ensuring the red wire matches. Now connect your flying socket to J01, checking that the red wire follows through all the way from J01 to the original socket (ignoring the break on the Versaplug).

The two right angle brackets are each used in different ways. You will find one hole suitable for a bolt near the centre in the metal plate at the back of the 810. The two curved washers are to be used with the bracket to hold it tightly in place without pivoting. The second bracket is used to help prevent pivoting when the switches are operated. It will rest inside the metal back plate to which the other bracket is bolted. When mounted at the back, the new board should not interfere with any drive components. If your drive is different, do not attempt to fit this modification, as the circuits may have changed.

3-Test IN USE

Ensure that the fitting has been done correctly, that you have connected the right sockets to the right plugs and got them the right way round (use the red/wire as a guide). When all is okay, set both switches to their 'out' or 'extended' position. Leaving the 810 lid off for now, plug in the power lead and turn on at the front. Be ready to turn off immediately if no LEDs come on or the drive doesn't do its normal start-stop-power up. (Be-check you wiring if all is not well.) Now press the 'inner' button and the green 'protected' LED should light. Press the 'outer' button and the red LED should flash continually. Press the 'inner' button again and only the power LED should remain on.

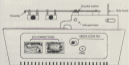
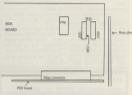
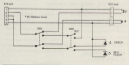
You must now test the write protection, using a blank disk, DOS

format (DOS2 selection 0) and a write protect label. With only the ordinary LEDs on (inner button out), the drive should act as normal, obeying the write-protect tab. If write-protected, the drive will give error 144 whenever you access it to format, otherwise it will format normally. With a 'special' LED lit, the drive will either be write-protected (green) or unprotected (flashing red). When all is tested and working, replace the 810's lid. The modification is complete.

You may have thought that I have overdone the 'make sure you check it' warnings, but I haven't. To my cost, I bought the 'protector' switch (having had a prototype going for months) and left a minute solder splash. With a mini firework display, I killed the infra-red LED and a few other parts. Fortunately because the 810 will auto-erase itself, but as I, the designer, can fool up, I hope you heed my warnings and check everything thoroughly.

No responsibility is accepted by the author, FWD&S Magazine or any other party for any damage that may occur from the building of this project.

by Matthew Jones



GOTO DIRECTORY

A.S. WORTON & SONS,
116, Eddleston Road,
Craze,
C182 7HD
Tel: 0270 214118

Nothing but ATARI. Authorised Service Centre with fast turnaround of all repairs. The usual range plus printers, joystick units, extension leads or good prices. Try us for repairs or purchases.

COMPUTER CENTRE,
174, High Street,
Hornchurch,
Essex
Tel: Hornchurch 84824
76613 or 44255

We have a large range of software, hardware, printers, interfaces, magazines and books. Full support given in installing, using, processing etc. Computer repairs. We specialise in all home computers. Mail Order or personal calls welcome.

BITS AND PIECES,
18 North Street,
Stroud,
Rochester,
Kent
Tel: 0824 720225
or 8034 730222

A NEW Atari only shop in Stroudway area. 1L/3L/5L always in stock. We are happy to demonstrate the latest software and offer the usual friendly service. Remember we are ATARI only. We stock the best.

The GOTO DIRECTORY is a guide to retailers who provide product support for Atari. Many of these retailers will supply Mail Order so if you have trouble finding a supplier, turn to the GOTO DIRECTORY.

Retailers who are interested in an entry in this feature are invited to contact the Editor on 0785 41153.

JENNINGS STORES,
248, Herford Road,
191, Green Street,
Enfield,
Middle
Tel: 01 804 1767

Very large range of English and American software available as well as the very latest in hardware.

PEATS ELECTRONICS,
25, Parnell Street,
Dublin 1,
Ireland
Tel: 00351 749972/3/4

We stock a full range of Hardware, Software, Interfaces, Printers and accessories. The fullest support for Atari in Ireland. Mail Order throughout the U.K.

MICROBYTE,
71, Seiview Road,
Lisnac,
Wexford,
Marysville, L45 4QW
Tel: 051 630 6933

Tired of high prices, poor service and hidden charges from other Mail Order retailers? Try us for the latest titles and U.S. magazines. Wait or call anytime up to 6 p.m.

SOFTWARE EXPRESS
31, Stonehurst Road,
Erdington,
Birmingham, B24 6HA
Tel: 021 384 5080

We are a company dedicated to supplying ALL your Atari needs, which also includes a PERSONAL IMPORT SERVICE and an out of warranty repair service. For sales and service phone 021 384 5080.



LADBRONE COMPUTING,
33, Ormskirk Road,
Preston,
Lancashire
PR1 2QP
Tel: 0772 21474 or
0772 27226

We offer full service and support for any Atari and have all peripherals and available software in stock. Come to the shop for personal service or try us for Mail Order. Either way you'll be pleased you did.

TRONIC,
144, Station Road,
Harrow,
Middle, HA1 2RH
Tel: 01 861 6036

Software, peripherals, books and magazines. A comprehensive range for Atari. Amstrad, Commodore and Spectrum. Try our late night shopping. Open 10 a.m. to 8 p.m. Monday to Saturday. Give us a call or pop in a visit.

RAFORD Hi-Fi LTD.,
52, Gloucester Road,
Bristol,
Avon
Tel: 0272 428247

We stock and support a comprehensive range of products for Atari. Huge range of software from educational to small business (plus games of course). Word processing packages. Printers. All for the best computer's ST's available pure stock.

YORK COMPUTER CENTRE,
7, Stonegate Arcade,
York
Tel: 0904 641862

Top American and English software - over 1000 titles! Hardware, books, magazines, accessories. If you need anything for your Atari, try York's. We're the widest and most comprehensive range of products for your machine.

DATABASIC £7
subroutines to ENTER to give
shuffled and indexed files in BASIC

TABLET DECODER £7
decodes tablet files from BASIC

Each on disk for 48K D006 2/3/4

IXIAN TECHNOLOGY
3 Cranford Rise
Middleshed
Berk
SG6 7LR

MICRO ILLUSTRATOR
(Touch Tablet/Koala Pad etc.)

TO
1029 PRINTER
SCREEN DUMP
with ROMAN Pic-files

NOW £5 - Disk only

Mike Jarvis, 18, Portway Drive, Blue Park,
Nottingham, NG2 2DP

Send S.A.S. for FURTHER details prices on ATARI and many
hardwares

Contact

ANYONE KNOW GERMANY? I have recently come across a few public domain program and games from users in Germany and they are brilliant. If anyone has any more or can put me in touch with any User Groups in Germany please get in contact. I would love to publish some of the programs or help distribute them in the UK. If you contact the authors, Les Ellingham c/o PAGE 6.

SPECIAL INTEREST GROUP I am starting a special interest group for Atari home computers which will concentrate on matters such as games, robotics, computer art and other specialist activities. Initially we hope to offer two services - a newsletter and a contact service. If any readers are interested could I invite them to write to me enclosing a stamped addressed envelope for an application form. G.Lawley, 1403, Richmond Road, Leytonstone, London, E11 4DT

ANALOG 16: Wanted or copy of Solid State with instructions from that issue. Will pay for loan or provide a blank disk and pay for photocopies. E.Jordan, The Aukley, 53, Barry Close, Blaxton, Chester, CH1 6SP

DECEASED 816: Now working 810 disk drive with loads of disks, any offers? Phone 3 Based on 01-767 4792

RADIOHARES: Can anyone help me to use my Atari for CASSETT/AMTR. I have a full licence but we do not have much support for Atari in Belgium. Janine Guideo, Guido Coellestraat 40, B-8390 Knokke Heist 2, Belgium. Tel. 050/514594

ST USERS: We have just started an ST User group and would like to correspond to users of the ST in the UK and Europe to get together information about programs and clones etc. We hope to produce an ST newsletter quite soon. Chocron Org, P.O.Box 50423, Pasadena, CA 91105, U.S.A.

FMPC 6: Is also interested in getting together and distributing on many ST clones and public domain programs or possible. All disks returned with, hopefully, more goodies on it.

TIME MACHINE: Can anyone tell me how to get back onto the mail from the disk passage in the Egyptian Time Zone? Also in THE COUNT, how do you stop the flagpole from breaking? I can exchange help on: Pante Adventure, Novgor Castle, Strange Calypso, Mission Impossible, Golden Voyage and Golden Basin. Gavin Foster, 814, London Road, Loughrea Sea, Essex. Phone no. 73306

PEN PALS WANTED: I would like to make new friends in Great Britain, Europe, America. I have a 130XE and 2056 disk drive. Please write to David Morgan, 95, Walter Road, Amswell, Doyl's Wick, Tel. 0299 32666

CHALKBOARD POWERPAD: Does anyone have any software for this and technical information on how the unit works? John Dennis, 16, Highgate Road, Cranwell, Skelton, Lincolnshire. EP04 BEL Tel 0480 61883

YORK USER GROUP: We are a group of enthusiasts around York currently setting up a User Group. If you are interested in meeting others in this area please contact John Nelson, 10, Dillingfield Close, Broughwaite, York. Tel. YORK 705091

BOOKS FOR SALE: Machine Language for Beginners £2.75, Atari Games and Recreations by Peters and Atari Basic by Wiley for £16.95 all inclusive. Michael Courtney, 64, First Avenue, Gillingham, Kent ME7 2LG

PRINTER FOR SALE: Centronics 319 (same as Atari 825) and totally Atari compatible including MMF interface cable, manual cover and user processor. Accepts single sheet, roll and fanfold paper. As new condition. £200. Tony Chamberlain, Tushley, Wyle 0892 20694

1027 FOR SALE: Just 1027 printer less than a year old. Any reasonable offer considered. Contact M Whitty during the day only on 01 698 6412

HOME FILING MANAGER: Does anyone know how to change the number of line feeds between printing cards and can the type styles be changed? Tony Chamberlain 0892 20694

BACK ISSUES: PAGE 6 issues 1 & 2 required to complete an Quality photo copies accepted. J Stuart Nathan, Phone 0383 414349 (evening)

AUSTRALIAN USER: My name is Ray Christie and I live in Victoria, Australia. We haven't had an Atari club/group out here for 18 months and I would like to write to folks in the UK to keep it alive. Please write to R.A.Christie, 15, Heather Grove, Geelongborough 3088, Victoria, Australia

BOOKS AND MAGS FOR SALE: PCC6 6, Amc, Analog and many Atari related books for sale. Please send us a fee for to H.P.Held, The Chimes, Holly Lane, Hox, Nr. Bickenham Kent, ME3 9HT

ADVENTURE HELP: Can anyone help me on Dallas Quest when I am stuck at the Trading Post and on Seeds of Egypt when I am stuck right at the beginning. Ken Hoogerdyk, Pn Beatrix St.13, 1721 AS, Brook Op Langefeld, Holland

WORLDWIDE CONTACTS: I would like to write to other users around the world. I have a 684 6000E, and 1050 disk drive. Ken Hoogerdyk, Pn Beatrix St.13, 1721 AS, Brook Op Langefeld, Holland

TIME MACHINE: How do you escape from the Mosquit Room after you have collected level 7 C.Silva, 20, Kingsway Road, Aldridge, Walsall, West Midlands, W50 6BU

CONTACT really does work! If you need help or want to get in touch send your notice to PAGE 6 on a separate sheet of paper headed CONTACT. We will accept any notices except those offering software or copying utilities for sale or exchange.

BULLETIN BOARDS

Livingston BBS

Atari based board - the best in Britain

Tel. 0506 36978

24 hours

C.B.A.B.B.S.

BUG club board

Tel. 021 439 3761

24 hours excluding Thursday evenings.

Bug Club Call

The big event of the month has to be the PCW show at Olympia. The club organised a coach trip to London on the Sunday to see what had been described as 'the ATARI show' and, especially when you compare it to the episode we had two years ago, it was a great success. A few were fit to have a bit in and miss the departure, but we went down with a full coach and returned happy and content. To see the rest of the magazine has the show well documented but a little more shouldn't hurt. The exhibitors had obviously had a very hard week because they looked well and truly worked. Atari had three large stands, one of which appeared to be coffee tables and another was full of ST's lying idle. It's a great idea having thirty or so machines for visitors to try out but something a little more interesting than the OS would have been appreciated. There was Farnsworthy Approach on one, but nobody seemed to know how to play it, and somebody had wiped the instructions! There was even one stand selling a software package but didn't have one to demo, and the pretty lady promoter didn't even know the price of the machine. I was looking forward to the Colourscape demo mentioned in the last PAGE 6 but it was on a screen so large that you needed to go to the other side of the hall to see it, where you couldn't hear the music through the constant beeping of games and Rambo videos.

But I don't really want to sound so negative, it was a great day-out and I enjoyed myself immensely. It was also nice to

see a bit of the competition which I have always ignored in Laskys and Smiths. There was one demo on the ST that was really quite stunning. It was a file of high res colour pictures (well actually it was the lowest resolution on the ST) which could all be called from the disk and displayed on the screen at the same time, on top of each other, and then moved and cropped and altered and have the colour changed ... and it doesn't sound half as impressive as it looked. It is some machine.

Anyway, what else is new? C.I.A.B.B.S. (the Central Birmingham Atari Bulletin Board Service) is now up and running. So, if you have a modem you can get in touch with it, and BUG, by dialling 021-420 3761. During the first week on the net it was contacted by 20 users, one of which was from Norway! It is running 24 hours a day except on Thursday evenings when the hardware is used at the club.

In the last few months there have been quite a number of new software releases and we must thank Software Express International for letting us preview them at club meetings as they have become available. It's good to be able to spend a night on them before splashing out. That's one advantage all you users who have refrained from joining the club are missing out on.

Mike Wilkinson

LISTER

by Mary Lynch

Lister was written for use on the 822 printer to aid in debugging program listings but should run on any other printer. It allows you to print a listing to any line length and divide it into manageable pages.

The program is to be listed next to an tape or disk in LIST format e.g. LIST "D:PROGRAM" or LIST "C:". Just answer the on screen prompts.

BERTIE continued from page 10

```

00 0000 0070 170,000,0,00,000,000,0,100,
00 0000 0070 0,100,0,100,000,000,0,140,00
0,5,000,000,0,00,000,00,000,000
00 0000 0070 0,000,10,00,010,00,000,0,10
0,000,0,04,000,010,0,000,000,0,000
000,000,000,000,000,000,000
00 0000 0070 100,010,0,100,000,000,0,100
000,000,000,000,000,000,000,000,000,00
0,0,100,000,0,000,0,000,04,100
00 0000 0070 001,0,0,0,0,0,0,0,0,0,0,0
0,0,0,0,0,0,0,0,0,0,0,0,000,000,000,000
0,0,0,0,0,0,0
00 0000 004 *****
00 0000 004 0,000,00,000,000,000,00,000,
00,000,00,00,000,000,000,000,00,00,00,
000
00 0000 0070 0,0,0,10,00,0,0,0,0,0,0,
00,00,00,0,0,0,0,0
00 0000 0070 0,0,000,000,000,000,000,00,
00,000,000,000,000,000,00,00,00,00,
000,0,00
00 0000 006 000,000,000,00,0,0,0,0
10 0000 004 *****

```

```

00 0000 004 *****
00 0000 004 * LISTER by Mary Lynch *
00 0000 004 * Feb, 1985 *
00 0000 004 * ***** *
00 0000 004 * PAGE 6 END - END *
00 0000 004 *****
00 0000 004 FILES(00)
00 0000 T "LENGTH OF LINE " LPRINT CL
10 0000 T "NUMBER OF LINES TO A PAGE " L
0000 CL
00 0000 T "*****"
***** * *****
00 0000 T "NAME OF FILE TO LIST" GET "F"
00 0000 T "PREFIX OR C I OR L" GET "C";TEMP 000
00000 FILES
00 0000 0000000000000000000000000000
00 0000 0000000000000000000000000000
00 0000 T "NAME OF FILE TO LIST" GET "F"
00 0000 TEMP 0000000000000000000000000000
00 0000 004 FILES
00 0000 004
00 0000 FOR C01 TO C0
00 0000 TEMP 000000000000000000000000
00 0000 T "*****"
00 0000 00 0000000000000000000000000000
00 0000 0000000000000000000000000000
00 0000 FOR P01 TO 010 0000000000000000
0000
00 0000 0000 000,000 T "*****"
0000 0000 0000000000000000000000000000
00 0000 0000000000000000000000000000
00 0000 0000 000000000000000000000000
00 00000000

```

Silicon Chip

No. 1 FOR ATARI®

Atari 520 ST

GUARANTEE

Our EXCLUSIVE Direct Exchange Guarantee is available FREE OF CHARGE to all our customers. If a product purchased from SILICON CHIP becomes faulty due to a manufacturing or component defect, within ONE YEAR of purchase, we will, subject to availability, exchange for new.



SPECS

512K RAM,
Expandable Rom,
MDA Interface, PS222
Serial/Centronics Parallel
Interfaces, Floppy Disk and Hard
Disk Interfaces, RGB video and TV
Outputs, Sound Generator with 3 channels,
2 Joystick Ports, 3 Graphics and Text Modes -
320x200 = 512 colours, 640x200 = 4 colours, 640x400 B/W,
16 Bit Motorola 68000 Microprocessor running at 8 MHz.

PRICE

ST PACK INCLUDES:

520 ST
1 Meg. Floppy Drive
Hi-Res 9/16 Monitor
Plus software listed below

CPMS.00

Basic, Logo, OEM write,
GDM print and DOS Operating
System

Final prices and specs may be
subject to change

POWER WITHOUT THE PRICE

Chipsoft Integrated Accounts
Package -
Including Stock Control,
Nominal, Sales and Purchase
Ledgers **£290**

ST to Centronics Printer Lead

£29.99

ST Modem Lead

£24.99

**SILICON CHIP LTD, Showroom address:
302 High Street, Slough, Berkshire. Tel: 0753 70639**

- * 1st Atari Business Centre.
- * 1st Dealer for 130 UK.
- * 1st Dealer for 1029 Printers.
- * 1st Dealer with our own Software House for Software Support.
- * 1st Dealer for 520 ST

Please phone or write for full details.



The Midlands **ATARI** Center

212-213
Broad Street



TEL: 021-643 9100

212 BROAD STREET, BIRMINGHAM B15 1AY



A
FRIENDLY WELCOME
ASSURED
EXPERT ADVICE
ALWAYS AVAILABLE

OPEN MON-SAT
9:30 a.m. - 6:30 p.m.



A COMPREHENSIVE SELECTION OF
SOFTWARE ALWAYS IN STOCK

YOU'VE
READ
THE
BEST



NOW
TRY
THE
BEST

AS ATARI SPECIALISTS WE OFFER KEENEST PRICES
AND LARGE UP TO DATE STOCKS

TRY OUR MAIL ORDER SERVICE GOODS DESPATCHED BY RETURN --- NO WAITING