A Database Publication

ATARI USER

Vol. 4 No. 5 September 1988 £1.25

TYPE-IN GAME
Save the world from the robot invaders



Create your own WORD PUZZLES

UTILITIES
Catalogue your discs
Personalise your printing



What's new in the USA

INSIDE THE VCS 2600 GAMES SYSTEM

Special pull-out

ATARI USER MAIL ORDER OFFERS

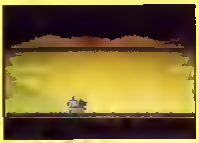
10 fabulous programs from your favourite Atari 8 bit magazine!

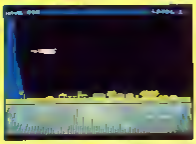
Due to the tremendous success of the last Ten of the Best compilation we have compiled a new disc full of the most exciting games that have appeared in *Atari User* over recent issues.

There are stunning shoot-'em-ups, challenging simulations and thought provoking strategy games alike – and all for only . . .

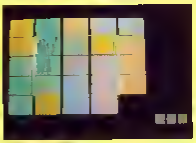
All this for just £4.95



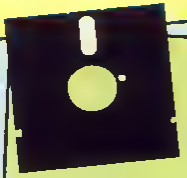




Dam Trouble



Colour Puzzle



Ten of the Best Games Volume II

Colour Puzzle – A mind-boggling brain teaser devised to confuse and bewilder Match the coloured squares in this version of the tradtional sliding block puzzle

Dam Trouble – Classic arcade fun puts you in command of a highly sophisticated military helicopter Your mission To protect the town of Floodsville from ruin

Reversi – Can you beat the computer in this advanced version of the classic Othello board game?

Light Gun Blaster – The first ever listing for the XE games System Blast the coloured squares to beat the clock using the light gun

Mine Runner – Guide your underground exploration vehicle through increasingly difficult levels of meandering tunnels and dangerous obstacles

Breakin – Fast and furious arcade action in our version of the classic bat and ball game Breakout Try your skill against the different bumper patterns and fatal ghosts

Submarine Hunter – Experience the thrill and nerve-tingling excitement of naval warfare as you hunt the oceans for enemy submarines

Tyrants of Torment – Can you save the world? Armed with your super hi-tech bouncing buggy you are the last hope against the evil dictators

Clay Pigeon Shooting – Test your accuracy in our fast action shooting game How many birds can you bag today?

Brag – Saloon gambling in the Wild West as you take on three of the meanest card players this side of Dodge City There may be more at stake than just cards

TO ORDER PLEASE USE THE FORM ON PAGE 47

Contents



Vol 4 No 5 September 1988

MANAGING EDITOR
Derek Meakin

GROUP EDITOR
Alan McLachlan

FEATURES EDITOR
Ken Hughes

PRODUCTION EDITOR
Peter Glover

EDITORIAL ASSISTANT
Neil Fawcett

NEWS EDITOR
Mike Cowley

REVIEWS COORDINATOR
Pam Turnbull

TECHNICAL EDITOR
Andre Willey

ADVERTISEMENT MANAGER
John Snowdon

ADVERTISING SALES
Andrea Fawkes

Tel 0625 878888 (All depts)
0625 879940 (Subscriptions)
Telex 8312188888
Telecom Gold 72 MAG001
Prestel Mailbox 614568383
Fax 0625 879966

Published by
Database Publications Ltd
Europa House Adlington Park
Adlington Macclesfield SK10 4NP

ABC 33,573 January June 1988

Subscription rates for
12 issues post free

£15 – UK
£18 – Europe (incl Eire)
£33 – Overseas (Airmail)

ISSN 0266546X

Atari User welcomes program listings and articles for publication Material should be typed or computer printed and preferably double spaced Program listings should be accompanied by cassette tape or disc Please enclose stamped self addressed envelope otherwise the return of material cannot be guaranteed Contributions accepted for publication by Database Publications Ltd will be on an all rights basis.

© 1988 Database Publications Ltd No material may be reproduced in whole or in part without written permission While every care is taken the publishers cannot be held legally responsible for any errors in articles listings or advertisements

Atari User is an independent publication and Atari Corp (UK) Ltd are not responsible for any of the articles they contain or for any of the opinions expressed

News trade distribution Europress Sales and Distribution Limited Unit 1 Burgess Road Ivyhouse Lane Hastings East Sussex TN35 4NR Tel 0424 430422

News **4**
All the latest from the ever-changing world of the Atari 8 bit

Character Designer **6**
Having printer problems? Our easy to use routine will help you

Games reviews **11**
Under the microscope Compilation III, Leapster, Airwolf and more

Nele **15**
Beat the men from outer space in this exciting type in game

Rouloc **17**
Your favourite resident Atari adventurer dreams of days of yore

Software Solutions **19**
More programming problems solved by our technical wizard

X-Word **21**
Create your own crosswords with this excellent puzzle generator



VCS **27**
Start of a new series which takes a look at the 2600 game system

Disc menegement **32**
Get to the root of the problem with our handy utility program

Gadget **37**
Plug in your esns and blow your mind with a DIY amplifier

US producte **41**
We take a brief look at the latest State side games software releases

Mailbag **43**
An opportunity to get your news, views, moans and name in print

Hints and Tips **52**
Get more fun out of Infocom s Mindshadow with our readers' help

Map **53**
The complete solution to the fascinating Mindshadow adventure

Get it right! II

All major listings in this issue are accompanied by checksums to help overcome typing mistakes For full details of how they work, see the article on page 23 of our November 1987 issue

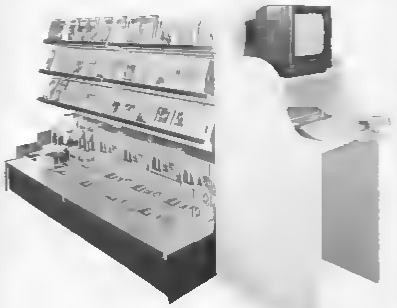
Gallup Software Chart

THIS MONTH	LAST MONTH	TITLE (Software House)	COMMENTS	PRICE
1	1	GRAND PRIX SIMULATOR *Code Masters*	The ultimate in simulators stays at the front of the field This can be played again and again	1.99
2	2	GREAT AMERICAN RDAD RACE *Firebird*	Ten drivers await you in this race crossing the USA. Beware of the police your speed and the obstacles	1.99
3	•	DAYLIGHT ROBBERY *Atlantis*	From the same stable as Cops 'n' Robbers – a fun value for money romp on the wrong side of the law	1.99
4	•	LEAPSTER *Alternative*	Great if you enjoy jumping over cars and lorries while collecting items from open windows	1.99
5	15	AIR WOLF *Encore*	Translated from the TV programme You are a man with a mission flying a helicopter	1.99
6	13	STEVE DAVIS SNOOKER *Blue Ribbon*	Re released to coincide with the last snooker champ pionships good for its genre and hasn t dated	1.99
7	9	ZYBEX *Zeppelin*	An excellent shoot em-up worth more than its budget price Good graphics	2.99
8	5	SPEED ACE *Zeppelin*	Zeppelin s first release for the Atari Good use of the split screen in this motorbike simulation	2.99
9	•	POTHOLE PETE *Atlantis*	Good price and clean graphics in this adaptation of a common platform game	1.99
10	20	BMX SIMULATOR *Code Masters*	Code Masters is renowned for its simulations This one is no exception with nice graphics and sound	1.99
11	•	DESMONO'S DUNGEONS *Alternative*	Join this little fellow as he struggles to gain points wealth and safety Platform games are in this month	1.99
12	•	EXTIRPATOR *Firebird*	Another release from the British Telecom budget label No complaints at the price	1.99
13	•	LEADERBOARD *US Gold*	Making a comebeak – so if you missed out at St Anne s cross the Atlantic for this golfing spectacular	9.95
14	•	BOULDERDASH *Prism*	Your chance to play the diamond chasing, rock eating fiend Add it to your collection if you haven t already	2.99
15	•	FOUR GREAT GAMES *Micro Value*	Superb value especially as it includes Phantom and Rebound Not one to be missed	3.99
16	19	HENRY'S HOUSE *Mastertronic*	If you haven t already got this platform game add it to your collection stunning graphics.	1.99
17	10	REVENGE 2 *Masterstronic*	Geff Minter s long awaited sequel to Revenge of the Mutant Camels As strange as ever	1.99
18	9	SPOOKY CASTLE *Atlantis*	This one starts difficult to play and rapidly becomes impossible as Gormless Gary avoids the bats	1.99
19	7	DECATHLON *Firebird*	Exercise without leaving your chair with multiple events to choose from in your quest to beat the field	1.99
20	4	MATTA BLATTA *Firebird*	Fallen from last month but Firebird is holding its own in the market with four games in the chart.	1.99

Now try before you buy

HERE'S a sneak preview of what you'll see when the new Atari Games Centres begin to open up throughout the country

Atari plans to set up between 30 and 40 such centres – based on retail outlets located in Britain's biggest cities and towns – where games players can try out the latest releases for themselves before deciding what to buy



ATARI PLANNING ST CONVERSIONS

FRESH waves of 8 bit entertainment software will soon be pouring into the shops as a result of new Atari initiatives

At least six games among a batch under development at Atari UK headquarters are very near to completion the company's software chief Bob Katz told *Atari User*

And a licensing agreement with a leading software games publisher has guaranteed a further supply of titles in the New Year

The deal will result in at least 20 programs being ported across from the ST

The new titles – on the Atari label – will initially be released for the XE with 2600 versions to come later

The ST conversions will run right across the board – XE 2600 and 7800 'These should be ready for release at the start of next year ' Katz said

I can't give you details of the deal just yet except to say that a major publisher is involved "But I can promise that some of the titles involved are very big games

New graphics system

CHICAGO based Reeve Software (0101 312 393 2317) is promising to open up a whole new world for Atari XL/XE users with the release of Diamond – a complete graphics operating system

An environment rather than a program it allows the Atari to use the icon based point and click menu systems that ST owners already have at their fingertips

Features include a mouse cursor that can be operated by keyboard joystick touch tablet or mouse drop down menus and desk accessories which can be called up from any Diamond based program at any time

Icons can be activated through a point and click system with a mouse then shaped or moved Dialogue boxes and windows are also easily manipulated

The package includes Diamond Desktop Software which is designed to keep keyboard use to a minimum Desktop is compatible with floppies hard drives and ram discs as well as with most disc operating systems Price $29 95

Legend comes to life

A BLOCKBUSTER illustrated adventure game based on the legend of King Arthur is shortly to be unveiled by Level 9

Lancelot is the second title to be released by the specialist software house under the exclusive Mandarin label the first being the Time & Magik trilogy

The game closely follows Malory's Le Morte D'Arthur, and traces the legend of King Arthur from the founding of the Round Table through to the successful conclusion of the search for the Holy Grail.

Pete Austin of Level 9, himself an authority on King Arthur, insists that this is "the best game to date ' from the company that is the acknowledged world leader in adventure software.

"The legends of King Arthur and his Knights of the Round Table are known to all ', says Pete, "but it is a sad fact that most modern interpretations seem to owe nothing to the original tales

Most people will have seen software programs with Arthurian titles which turn out to involve Merlin jumping from platform to platform while zapping orcs with fireball spells

"We got tired of waiting for someone else to do a proper job, so here's our faithful interpretation of the Arthurian saga"

The package contains three adventures with more than 60 000 words of text interspersed with high quality graphics Price £14 95



INGRID IS BACK...

THE sequel to the successful Gnome Ranger from Level 9, Ingrid's Back is on schedule for release in October

It features the same accident prone heroine as the original This time she's tasked with thwarting Jasper Quickbuck, insider dealing lord of Ridley's Manor who's planning to steamroll the gnome belt for a Yuppie Homes development Price £14 95 on tape, £19 95 on disc



Personalised printing need not be a pain

LEN GOLDING's new routine takes the toil out of creating your own characters

MOST modern Epson and compatible dot matrix printers have a download capability which allows you to replace the standard characters with ones of your own design. You could go Gothic for example, or produce a sans serif font similar to school script.

You could also design special purpose characters such as Ordnance Survey or electronics symbols, or draw your own dungeon floor plans complete with traps and treasures. Another idea is to define icons – men, cars, ships and so on – so that complex statistical data can be presented in pictorial form.

Understanding how to do it though – well that's another matter entirely. Printer manuals are notoriously unfriendly, especially when they're written in Japanese English. Epson manuals are better than most, but it still takes a lot of time, effort and background knowledge to get the download system working, especially since none of the sample programs will run correctly in Atari Basic.

Even when you've managed to decipher the instructions and are aware of all the strict rules on syntax and character shape limitations, the job's only just begun. You're still faced with a tedious and error prone task involving many binary to decimal conversions. And the shape you produce on the drawing board may bear little relation to the character printed.

Also, different print modes – enlarged, condensed, emphasised and so on – can change the appearance of a character, so you really need to see it in all modes before finalising its shape.

This utility program overcomes all of the fundamental problems. It makes character designing as easy as playing a computer game and the results can be printed out in various modes as part of the editing process. When you're satisfied, the character data can be inserted into a short Basic program which will do the downloading for you and can easily be incorporated into your own software. The new characters will then remain available until you switch the printer off.

Before we examine the Editor – Program II – in detail, let's look at some of the principles involved. If your printer can download new characters it possesses two independent memories – rom and ram. The rom contains the standard character shapes or fonts, which the printer normally uses. Like the rom inside your computer, its contents cannot be changed.

The printer's ram, on the other hand, is easily modified. Most printers use this chunk of memory as a print buffer – text is loaded into it at high speed, then released one character at a time at a rate the printer can handle. As soon as your text has finished loading into the buffer the computer can be used for other things, even though the printer may still be chattering away.

To download a new set of characters you must first take control of the buffer ram. Usually this involves setting one or more DIP switches inside the printer – your manual will refer to *disabling* the buffer or making it *invalid*.

Once the new switch pattern has been set the printer will be able to store only one or two lines of text in advance, so you won't be able to use the computer until virtually all the file has been printed.

The other thing to remember is that downloaded characters of this kind will not work in NLQ modes. However, you can use them in all other styles – pica, elite, enlarged, condensed, sub script and so on.

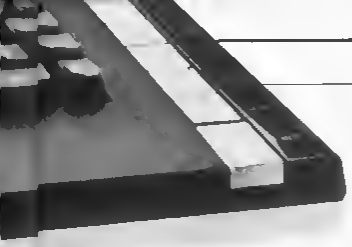
Usually you will want to change only a few characters rather than installing an entire font. This is a three stage process. First you copy the standard character set from rom to ram, next download all the new *shape* data and finally tell the printer to use the ram character set instead of its usual rom one.

The necessary instructions are sent in the form of Ascii strings always starting with CHR$(27) – the Escape code. The printer recognises these strings as instructions, not as text to be printed.

For example, the Ascii codes which will copy the entire character set from rom to ram are: 27,58,0,0,0. The Epson manual suggests this way of sending them to the printer:

```
10 LPRINT CHR$(27);":";CHR$(0);CHR$(0)
;CHR$(0)
```

Unfortunately, it won't work on the



Atari since the LPRINT command cannot handle semicolons in the right way. And semicolons are absolutely vital – leave one out or put it in the wrong place and your program won't work properly. To get round the problem, we have to use something like this:

```
10 OPEN #1,8,0,P
20 PRINT #1, CHR$(27),"  ,CHR$(I0),CHR$(
0),CHR$(I0)
```

Program 1 illustrates the download system in practice. Line 20 copies the character set from rom into ram and line 30 tells the computer which characters are to be re-defined by indicating the first and last characters in the desired block.

The inverse 14 specifies all characters from inverse 1 – CHR$(177) – to inverse 4 – CHR$(180). If you want to re-define only a single character, this must be specified as both the start and the end character in your block. For example, to re-define only the letter A, you would change line 30 to read:

```
30 PRINT #1,CHR$(127),"A",CHR$(I1),AA,
```

or

```
30 PRINT #1,CHR$(27),"A",CHR$(0),CHR$(
65),CHR$(65),
```

Almost any block of characters can be re-defined so long as you steer clear of the essential printer control codes 7 to 27, 127, 135 to 155 and 255. It's most convenient to use the inverse character set, especially if you're designing an entire font. But there's nothing to stop you re-defining non-inverse characters – say by changing the a and e into school-script form, or putting a Copyright symbol on the @ key.

Lines 40 to 100 in Program 1 send the new character data to the printer. You must provide exactly the right amount of data – twelve numbers a character – to replace everything in the specified block, otherwise you'll get peculiar results.

Line 110 instructs the printer to use the character set in ram instead of its usual rom set. Line 120 prints out the re-defined characters. When you Run Program 1 you will get a Greek letter *Mu*, the Ordnance Survey symbol for a church with spire, a small man and the circuit symbol for an NPN transistor.

Each character pattern is made up of 12 numbers, the first of which contains *attribute* data. This specifies whether or not a below-line descender is required – as in y or j.

You'll see it's 11 for *mu*, which has a descender and 139 for the other symbols which all sit above the baseline. If your character is to be used in proportional mode, this first number also contains the necessary size data.

Working out the attribute value can be a pain and, unless you know precisely what you're doing, it's best to steer clear of proportional characters. However, if you must use this mode the editor program will do the calculations for you, provided you obey the rules on character widths, which are laid down in your printer manual.

> ***Printer manuals are notoriously unfriendly, especially when they are written in Japanese English***

The remaining 11 numbers all specify shape data. They are treated as binary numbers and your printer manual should contain a diagram showing how they are translated into print head patterns. You don't need to understand how it works though, because the editor will work out all the numbers for you.

Now let's look at the editor program itself. When you Run it there is a delay of about five seconds while the machine code routines are initialised. Then you'll see a grid and a cross-shaped cursor displayed on screen.

Use a joystick to move the cursor and press the fire button to place dots where you want them, or to erase existing dots. The cursor can be speeded up or slowed down by increasing or decreasing the value of SPEED in line 10.

A dot can go in any cell or on any of the vertical lines, so the grid is in effect 11 columns wide by 8 rows high. However, because of the printer's internal limitations you can't put a dot on a vertical line if either of the adjacent cells is occupied – and vice versa. If you try to position a dot illegally, the computer will refuse to do it and you'll get a polite beep.

At the bottom of the Edit screen you'll see a menu of options, any of which can be selected simply by typing the initial letter. **Erase** clears all dots from the grid. **Fill** puts a dot in every cell – but not on any lines. **Toggle** replaces every dot with a space and every space with a dot, creating an inverse image.

However, dots on lines will not toggle correctly, so they are erased and only the dots in cells are inverted. This is to ensure you don't end up with an illegal pattern.

The **Convert** option presents you with a second menu, asking whether you want a descender and whether proportional data is to be included in the attribute byte. Once you've supplied the necessary information the twelve numbers describing your character will be worked out and printed on screen.

The **Print** option requires a selection from Menu II, but then it prints a third menu which allows you to specify the print mode – enlarged, condensed, emphasised and so on. When you have made your choice, the program will dump your new character to the printer – along with the twelve numbers describing it.

In fact it prints the character several times so you can see how it looks on its own and in conjunction with other letters. Line 1100 controls the print out and you can easily change it to suit yourself. After printing you get the chance to try the same character in a different mode without having to repeat the whole conversion process.

When any menu is displayed pressing the Escape key will return you to the Edit mode, with the re-designed character intact. All the likely errors are trapped, the menu system makes it hard to crash the program – which is designed to be as user friendly as possible.

When you're satisfied with your artistic efforts the new character data can be inserted into Program 1 replacing or adding to the examples already there. Just make sure that you have exactly the right amount of data – 12 numbers a character – to replace everything in the specified block.

The new routine can now be incorporated into your own Basic software so that the new characters are downloaded at the start of your program and can be used like the standard character set.

Turn to Page 8 ▶

◀ From Page 7

```
1 REM PROGRAM TO DEFINE AND PRINT FOUR
  NEW CHARACTERS
2 REM BY LEO GOLDING
3 REM (C)ATARI USER
4 REM ********************************
10 GRAPHICS 17:? #6;"Please wait"
20 ? #6;CHR$(123);"M";CHR$(8);CHR$(101);C
HR$(0);" Copy ROM character set at
 RAM
30 ? #6;CHR$(27);"E";CHR$(0);"E";" Specify which characters are to be re
placed ("M" to "{")
40 READ A:IF A<>-1 THEN 110
50 ? #6;CHR$(17);"Download new character shapes from lines 60-90
60 DATA 24,24,24,0,0,0,24,0,120,4,0
70 DATA 129,0,0,12,64,10,224,20,64,12
0,0
80 DATA 239,0,16,1,20,152,96,152,30,1,
16,0
90 DATA 127,0,254,0,16,0,42,0,70,0,142
,0
100 DATA -1
110 ? #6;CHR$(27);"M";CHR$(13);CHR$(0)
 Select RAM character set
120 ? #6;"{}|~" Print the four
 new characters
```

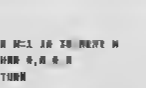
Program 1. Defines and prints four demonstration characters



LINE CHSUM	LINE CHSUM
1 CAJ (W)	50 OGA (G)
2 CAK (J)	60 U27 (2)
3 CAL (V)	70 URC (U)
4 CJR (4)	80 4YJ (Q)
10 22R (Y)	90 VJB (5)
20 852 (E)	100 RSC (3)
30 YKG (T)	110 VNX (L)
40 GFK (8)	120 CLT (V)

```
1 REM PRINTED CHARACTER DESIGN AID
2 REM BY LEO GOLDING
3 REM (C)1983 ATARI USER
4 REM ********************************
10 SPEED=20:POKE 82,0:GOSUB 200:GRAPHICS
 17
20 DIM M$(1),POKE 752,0:POKE 82,1
30 ? "INSTRUCTIONS":? "============"
40 FOR X=0 TO 21:READ A:POKE 1536+X,A
 :NEXT X
50 DATA 104,104,104,141,7,212,24,105,2
,141,704,121,706,169,0,133,704,113,203
,160
60 DATA 167,2,145,203,136,200,751,230,
204,203,208,246,105,100,141,204,6,165,
10,141
70 DATA 236,6,165,5,141,27,208,169,46,
141,47,2,165,14,141,192,2,208,1,184
80 DATA 177,704,6,200,4,141,0,200,96,1
73,128,2,201,15,240,189,173,233,6,24
90 DATA 105,5,168,162,5,169,0,145,203,
136,202,16,250,173,128,2,41,1,208,17
100 DATA 173,255,6,66,233,0,201,10,176
,2,169,10,141,255,6,20A,72,173,128,2
110 DATA 41,2,208,16,122,255,5,24,105,
8,201,74,104,2,169,74,141,255,6,173
120 DATA 128,2,41,4,208,17,172,254,6,5
6,233,4,201,100,176,2,169,100,141,254
130 DATA 6,208,22,173,128,2,41,8,240,1
6,172,254,6,24,109,0,201,140,144,2
140 DATA 169,140,141,254,6,172,255,6,1
69,32,145,205,200,145,205,200,169,240,
141,206
150 DATA 200,169,32,145,205,200,145,20
5,172,254,6,141,0,208,96
160 POKE 53248,0 S=PEEK(106)-16 POKE 1
06,S-16
170 GRAPHICS 2 POKE 752,1:POKE 756,S:PO
KE 709,0:POKE 710,0:POKE 712,0:RA
180 POKE 821,1 POKE 762,17 "Start/Stop
 Italics"
190 COLOR 1 GOSUB 600 REM Draw Grid
200 K=USR(1536,53 REM Set up PM Graphics
210 POKE 764,255 ? "K" ? "Erase  Fill
 Toggle  Convert  Print"
220 A=PEEK(764) IF K=255 THEN 230
230 POKE 764,255
240 IF A=42 THEN ? "K":GOSUB 1000:GOSUB 1
:GOSUB 600 GOTO 210
250 IF K=56 THEN ? "K":FILL=1-FILL COLOR 2
:GOSUB 600 GOTO 210
260 IF K=45 THEN ? "K":GOSUB 1000:GOSUB
410 GOTO 210
270 IF K=10 THEN ? "K":CONVERT=1:GOSUB
 600:IF OK=1 THEN GOSUB 1140 GOTO 210
280 IF K=18 THEN ? "K":PRINT=1:GOSUB 6
60 IF OK=1 THEN GOSUB 960 GOTO 210
290 POKE 764,255 GOTO 210
300 POKE 53278,0 A=USR(15360 REM Main
 Joystick control routine
310 A=PEEK(1279) V=PEEK(1791)
320 I=0 IF (H-96)/8=INT((H-96)/8) THEN
 I=1
330 FOR N=1 TO SPEED:NEXT N
340 IF STRIG(0)=1 THEN 270
350 POKE PEEK(62252)+IF POKE=3 OR PM
OKE=6 OR POKE=7 THEN GOSUB 1220 GOTO
220
360 H=H-A*(Y-V-1)+(COLOR=2)*2+(I=1)
370 Z=3*(I=0)+2*(I=1)
380 COLOR Z FOR ROW=Y TO Y+6
390 PLOT H ROW GRAPHICS 8+16,ROW NEXT ROW
400 IF Z=3 AND T=1 THEN COLOR 1 PLOT H
 -6 Y-17 POKE 16 A=6 Y=11
410 GOTO 220
420 REM Toggle each cell:
430 FLAG=0 FOR COL=2 TO 18 STEP 2:F=0
ROW=0 TO 8
440 K=COL*4+50 V=ROW*8+1
450 LOCATE K,Y,D IF D<>2 THEN 510
460 IF FLAG=1 THEN 490
470 GOSUB 1220 FLAG=1
480 ? "ROW  Blocks on vertical lines c
annot" ? "be toggled correctly- so are
 erased."
490 COLOR 2 FOR A=Y TO Y+6:PLOT X-2,R
OW+2 NEXT R
500 COLOR 1 PLOT X,Y GRAPHICS 8+16,ROW
510 NEXT ROW:NEXT COL
520 FOR ROW=0 TO 7 FOR COL=0 TO 10 STE
P 2
530 K=COL*4+51 V=ROW*8+1:LOCATE K,V,D
540 Z=3:IF D=2 THEN Z=2
550 COLOR Z:FOR R=V TO V+6
560 PLOT K,R NEXT R:NEXT COL:NEXT ROW
570 NEXT ROW:NEXT COL:RETURN ROW
580 IF FLAG=1 THEN GOSUB 1150
590 RETURN
600 REM Fill each cell
610 FOR ROW=0 TO 64 PLOT 50,ROW:DRAWTO
 98,ROW:NEXT ROW
620 COLOR 1:FOR ROW=0 TO 64 STEP 8:PLO
T 50,ROW:DRAWTO 98,ROW:NEXT ROW
630 FOR COL=50 TO 98 STEP 8:PLOT COL,0
 :DRAWTO COL,64:NEXT COL
640 RETURN
650 REM Open printer
660 TRAP 1150:CLOSE #1:OPEN #1,8,0,"P:
"
670 REM Convert pattern into numbers
680 OK=0:F=0 FOR COL=1 TO 11
690 I=0 FOR ROW=1 TO 8:LOCATE COL+4+50
,ROW+8,A
700 LOCATE COL+4+50,ROW+8,A:IF A<>32
THEN 720
710 I=I+2^(A-ROW):F=1
720 NEXT ROW:NOTE I,T:NEXT COL
730 IF F=0 THEN GOSUB 1220:? "No char
acter to convert!":GOSUB 1100:RETURN
740 REM Specify character type!
750 POKE 764,255
760 ? "  Standard  no descender
  Ex:t"
770 ? "  Standard, with descender"
780 ? "  Proportional, no descender"
790 ? "  Proportional  with descender"
:CHR$(28);
800 K=PEEK(764):IF K=255 THEN 800
810 POKE 764,255
820 IF K=28 THEN 910
830 IF K<>24 AND K<>32 AND K<>70 AND K
<>11 THEN GOSUB 1220:GOTO 750
840 FLAG=1:IF K=24 OR K=10 THEN FLAG
=0
850 A=0 IF K<>24 AND K<>32 THEN A=11:G
OTO 920
860 TRAP 860:? "ASpecify start,end pos
ition numbers."
870 ? "Start position (0-6)";:INPUT ST
ART:IF START<0 OR START>6 THEN 860
880 ? "End position (6-11)",:INPUT FIN
:IF FIN<6 OR FIN>11 THEN ? CHR$(253),CH
R$(150);:GOTO 880
890 P=(START<D1+(START>7)*75+(FIN<4)*(FIN
)11)+(START<4)*(FIN-START<5) IF P<
0 THEN 910
900 GOSUB 1220:? "Illegal - check page
 printer manual ",:GOSUB 1100:GOTO 210
910 A=16*STR(1)+FIN
920 M(0)=A:FLAG=0:? #1;"Attribute" A
ute
930 RETURN
940 REM Specify print mode
950 TRAP 1150:CLOSE #1:OPEN #1,8,0,"P:
"
960 POKE 764,255
970 ? "  P:a      Enlarged      Cond
ensed"
980 ? "  Enlarged-condensed      Empha
sised"
990 ? "  Enlarged-emphasised      Elite
"
1000 ? "  Return to Edit mode":CHR$(
```

```
2N)
1410 K PEEK(764):IF K=255 THEN 1410
1420 POKE 764,255:IF K=28 THEN RETURN
 :REM ESC Key pressed
1430 PMDRE 300(K 313+48*(K 36)+200*(K=2
8)+52*(K 24)+24*(K=29)+60*(K 27)+17*(K
=51)
1440 IF PMDRE=0 THEN GOSUB 1220:GOTO 9
70
1450 ? #1,CHR$(27)"I";CHR$(PMDRE)
1460 ? #1;CHR$(27);"-";CHR$(48);CHR$(49
 CHR$(49):REM Copy from ROM to RAM
1470 ? #1,CHR$(27);"%";CHR$(1);"";:R
EM Replace character "" only
1480 FOR I=0 TO 11:? #1;CHR$(M(I));:NE
XT I
1490 ? #1;CHR$(27);"";CHR$(I);CHR$(63
1500 ? #1;"  abc  ";I;"  ";
REM Print new character in various com
binations
1510 ? #1;CHR$(27)"I";CHR$(183;
1520 FOR J=0 TO 11:? #1;M(J);" ",:NEX
T I
1530 ? #1;CHR$(155);:GOTO 560
1540 ? "6", FOR I=0 TO 11:? #1;I;" ";:
NEXT I:? :GOTO 1180
1550 GOSUB 1220
1560 IF PEEK(195)<>130 THEN ? "MEMORA
",PEEK(1903),' AT LINE ";PEEK(186)+PEE
PEEK(187):END
1570 ? "Printer is not responding ";E
0SUB 1180:GOTO 210
1580 POKE 764,255
1590 ? : ? "Press  to continue... ";
1600 IF PEEK(764)<>28 THEN 1600
1610 POKE 764,255:RETURN
1620 SOUND 0,0,0,0
1630 FOR N=1 TO 20:NEXT N
1640 SOUND 0,0,0,0
1650 RETURN
```



LINE CHSUM	LINE CHSUM	LINE CHSUM	LINE CHSUM	LINE CHSUM	LINE CHSUM
1 CAJ (W)	140 SSU (6)	410 BRA (5)	630 JZP (J)	850 JKG (L)	1070 M92 (X)
2 CAK (3)	200 KA5 (C)	420 H3V (G)	640 RPA (V)	860 MEJ (5)	1080 L3U (G)
3 CAE (V)	210 KG8 (4)	430 NV4 (P)	650 OGX (Q)	870 581 (7)	1090 5RG (V)
4 CAM (4)	220 WDM (J)	440 CN7 (P)	660 8FQ (K)	880 094 (3)	1100 JX7 (U)
10 OLG (J)	230 T0F (B)	450 YNM (X)	670 HEK (R)	890 Y7T (X)	1110 NZG (E)
20 VGS (X)	240 EA8 (M)	460 CGJ (4)	680 WBC (4)	900 394 (4)	1120 773 (N)
30 KBJ (7)	250 77G (Q)	470 SN6 (W)	690 9V1 (M)	910 94D (G)	1130 KS2 (7)
40 VQU (W)	260 37V (R)	480 JNE (B)	700 MYJ (A)	920 CU3 (Y)	1140 T0G (V)
50 SNH (N)	270 KR3 (3)	490 C4R (K)	710 0KT (M)	930 AKE (X)	1150 SWH (N)
60 WV0 (M)	280 KWF (P)	500 VCK (O)	720 11X (E)	940 JD1 (T)	1160 AR8 (G)
70 GGR (9)	290 E2K (T)	510 9BE (Y)	730 9P4 (V)	950 827 (J)	1170 A5T (J)
80 LEW (C)	300 TLP (O)	520 CEJ (J)	740 0CY (P)	960 TRN (X)	1180 QFG (H)
90 LFR (T)	310 U13 (6)	530 CHP (N)	750 T8E (F)	970 E0L (3)	1190 DX6 (J)
100 NS2 (D)	320 AJ3 (8)	540 0D5 (Y)	760 9PH (6)	980 MH3 (W)	1200 T67 (N)
110 FMA (D)	330 N40 (5)	550 JP4 (X)	770 J5V (7)	990 41K (5)	1210 04U (9)
120 P5M (V)	340 KEK (E)	560 JRM (9)	780 4KA (E)	1000 MRY (O)	1220 4JF (H)
130 E0R (Y)	350 W45 (P)	570 4DR (6)	790 15Y (B)	1010 3EG (K)	1230 NM7 (N)
140 82Y (7)	360 83A (D)	580 S52 (9)	800 W5F (5)	1020 88J (M)	1240 035 (J)
150 2WW (X)	370 F2Y (W)	590 SA9 (1)	810 5BN (B)	1030 3YJ (B)	1250 VVK (N)
160 TF2 (4)	380 NUC (3)	600 CUX (B)	820 46U (2)	1040 H0C (B)	
170 9PR (C)	390 KRY (F)	610 FAA (N)	830 2A9 (B)	1050 YS6 (N)	
180 JEX (A)	400 R0C (L)	620 7NJ (A)	840 243 (A)	1060 WP3 (1)	

MUCH MORE THAN A MAGAZINE



PAGE 6 has been supporting Atari computers for 5 years – coverage now includes both 8-bit and ST. Get tbe latest copy from your local newsagent or by subscribing.

We also support our readers in many other ways.

* **All 8-bit magazine programs on disk witb bonus programs included**
* **Books for beginners to experts**
* **Dust covers for all Atari equipment**
* **The widest range of Atari public domain software available anywbere**

Phone us on 0785 57005 for further details or visit your local newsagent today

CHRISTMAS JUST WOULDN'T BE CHRISTMAS WITHOUT THE

ATARI USER SHOW

ALEXANDRA PALACE
WOOD GREEN
LONDON N22

NOVEMBER
25–27
1988



Too early to think about Christmas? Not when it comes to the Atari User Show

For this is the festive event that has it all

LOADSA exhibitors (around 70)
LOADSA hardware
LOADSA software
LOADSA new products
LOADSA games
LOADSA happenings
LOADSA technical advice

and most important of all for you, the visitor —

LOADSA bargains!

With hundreds of special show offers to choose from, here's one place you can do your Christmas shopping and end up in pocket

You can even save £1 a head before you get there by using this advanced ticket form

If you enjoy computing with Atari, you'll be thrilled with the Atari User Show!

SHOW HOURS

FRI–SAT 10am – 6pm
SUN 10am – 4pm

No matter which Atari machine you use from the 8-bit through to the mega ST you'll find just what you are looking for. And even some exciting things you didn't know existed!

For all the leading companies in the Atari market will be out in force to demonstrate their latest developments.

Traditionally the liveliest Atari event of the year, this pre-Christmas show is shaping up to be the most entertaining of them all

Don't miss it — and make sure YOU enjoy a Merry Christmas!

How To Get There

Alexandra Palace is so easy to get to by car, rail, underground or bus. It has its own British Rail station, just nine minutes away from King's Cross and there's a free bus service shuttling between the station and show every 10 minutes.

If you're travelling by road, the show is only 15 minutes away from Junction 25 on the M25. Car parking is free

SAVE £1

ADVANCE TICKET ORDER

Post to: Database Exhibitions, Europa House, Adlington Park, Adlington, Macclesfield SK10 4NP

Please Supply
☐ Adult tickets at £4 (save £1) £ ....
☐ Under 16s tickets at £2.50 (save £1) £ ....
TOTAL £ ....

☐ Cheque enclosed made payable to Database Exhibitions
☐ Please debit my credit card account
☐ Access ☐ Visa

Expiry date / /

Name .....

Address .....

Signed .....

Admission at door £5 (Adults) £3.50 (Under 16s)
Advance ticket orders must be received before November 18 1988

Phone Orders: Ring Show Hotline 0625 879920
Prestel Orders: Key *89 then 614568383
Micronet/Telecom Gold Orders: Mailbox 72: MAG001
Please quote credit card number and full address

DATABASE EXHIBITIONS

ATI63

Software Scene

Hopping mad!

Product Leapster
Price £1 99 (tape)
Supplier Atari World, 15 Fennel Street Manchester
Tel 061 834 4941

THIS is one of the strangest games I have ever played on an Atari You are a young schoolboy called Henry Leapster bent on getting to school on time

To do so you must travel across the town, through the missile base – very strange town this is – and the graveyard When I went to school I only got the bus I must have been missing out on something when I was a young lad

On each screen you must collect several items which will allow you to progress to the next one

On the debit side you have to avoid cars missiles, troops and a number of unfriendly zombies – and before you ask, they aren't retired teachers

Most of the objects up for collection are located in very difficult positions so you'll find you have to leap on to other things to reach them – hence the name of the game. Be very careful before you jump as a mistake can result in sudden death

You control Henry using a joystick plugged into port one If you want to take a coffee break press the Start function key – pressing it again will restart the game Select will turn the sound effects on or off and Option will toggle the title music on or off The graphics are



nicely presented and the sound effects well implemented.

Playability caused me some concern though Although I started off enjoying this very original game I quickly tired of it. This is unfortunately a problem with a lot of budget games today

If Leapster cost £9 99 I would have to think very carefully about recommending it. As it's priced at £1 99 give it a try

Neil Fawcett

Sound	6
Graphics	7
Playability	5
Value for money	7
Overall	6

Not so ferocious

Product Airwolf
Price £1 99 (tape)
Supplier Atari World 15 Fennel Street Manchester
Tel 061-834 4941

IN this game from Encore you take the role of Stringfellow Hawke, a former Vietnam chopper pilot and the only man in the free world trained to fly the billion dollar helicopter Airwolf, the latest in hi tech killing machine

You have been recruited by the Firm to undertake a dangerous rescue mission Five important US scientists have been taken hostage and are being held in a subterranean base beneath the Arizona desert

You must guide Airwolf through enemy defences – using its special stealth capabilities – on a series of night time missions Only the destruction of the defence control boxes – strategically positioned deep within the enemy installations – will allow you to descend into the heart of the base where the scientists are being held

It s not an easy task and I found this game rather difficult to master although it has a certain addictiveness

The graphics disappoint – being rather dull and colourless I don't think the programmers have ever heard of Display Lists or Vertical Blanks Versions for other micros are vastly better

There were also times when I couldn t figure out just why my helicopter exploded On mission two I flew into a cloud and blew up – have clouds suddenly become man s adversary?

Enemy guns fire bouncing bombs When they reach the edge of the screen they don t go past but just bounce down again – yet another miracle of modern technology

The cassette inlay boasts the game has frantic arcade action built in I became frantic trying to figure out why all the laws of nature had suddenly changed

The sound effects are absolutely terrible A bleep here and a boop there are all you get – not a great deal when you consider that the Atari has four sound channels and not a keyboard speaker like the BBC Micro

Airwolf is playable



providing you ignore the occasional and inexplicable destruction of your helicopter

Neil Fawcett

Sound	3
Graphics	4
Playability	6
Value for money	3
Overall	5

Software Scene

Heavy metal

Product Kampfgruppe
Price £19.99 (disc)
Supplier SSI/US Gold Units 2/3 Holford Way Holford Birmingham B6 7AX
Tel 021 356 3388



THE expanse of land dotted with rubble is quite still, save for a distant clanking which soon becomes a crescendo of straining gears, of giant treads crushing rocks into dirt.

These are the pride of Germany's armoured force – the dreaded Panthers.

This is the way SSI gets you into the mood to play Kampfgruppe, a tactical wargame simulating tank warfare on the Eastern Front. Spanning the years 1941-45, it puts you in command of either a German or Russian battle group.

Available only on disc, you load it by removing all cartridges from old Atari micros or holding down the Option key and switching on with your game disc in drive one. Once loaded you choose what game you want from the options menu and away you go.

Your commands to your motorised units are sent via a status window at the bottom of the screen.

The action is split into several phases and you will have to read the manual carefully before you can understand their operation fully.

All game play takes place on a full colour map. This is composed of a 60 by 60 grid, of which 20 by 10 squares may be viewed at one time. By pressing keys 1 to 8 you can move your cursor around the map.

When this cursor highlights an armoured unit a description of it will be displayed in the status window.

You have a quick reference chart to identify the terrain and units I found it useful to place sticky backed plastic around it to stop it getting dog-eared.

Many historical scenarios are detailed within the booklet supplied, and as with all SSI products, it is very well written.

At the end of it is a short story about Ivan and the Valkyries.

This makes for very interesting reading and adds a feeling of reality to the packaging.

Kampfgruppe is an excellent tactical simulation and will provide many interesting hours of enjoyment as you re-enact momentous battles from WWII.

Dave Manning

Sound	*N/A*
Graphics	*8*
Documentation	*8*
Playability	*7*
Value for money	*6*
Overall	*6*

Great quartet

Product Four Great Games III
Price £5.99 disc, £3.99 tape
Supplier Microvalue/Tynesoft Unit 3, Addison Industrial Estate Blaydon Tyne and Wear NE21 4TE
Tel 091-414 4611

FOUR Great Games III is the latest budget package to come from Tynesoft/Microvalue.

The four games you get are pretty varied and one of them is an old full price best seller. However, I found **Rebound** the best, a game I previewed in the March 1988 issue of *Atari User*.

The title screen uses varying text fonts and colour to good effect and the accompanying music is a superb percussion piece which really gets your foot tapping. As you play, the music can be heard in the background – a feature that I really like.

As to the game itself, imagine that you cut a tennis court, in half along the net, then place one half at the top of the screen and the other at the bottom. You have a bat at each end moving left and right. Add a ball and build the sides of the court up so the ball can rebound off them and there you have it.

There are three levels of play. The first is just right for the novice, but don't try level three unless you have the speed and reactions of Boris Becker.

The object is to score seven points, or goals, accomplished by making your opponent miss the ball so it passes his bat.

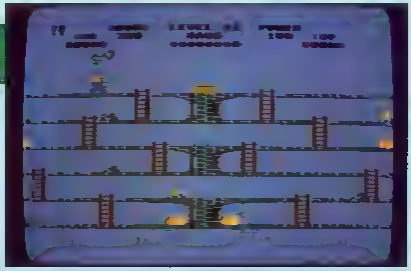
The game has all the features needed to make it a winner were it released as a full price game. As a budget offering it's wonderful value for money.

Next comes **Phantom**. You play the part of a professor of astrophysics interested in psychic phenomena.

You just happen to be in possession of a nuclear accelerator. You arrive at Ye Olde Inn and are met with a plan view that looks more like a maze. Scurrying around are ghosts who, when they see you, begin to converge. So with reactor in hand you are well prepared for the horrors that face you.

The graphics used throughout are first rate and

Deep in a hole



Product Desmonde Dungeon
Price £1 99
Supplier Atari World 15 Fennel Street, Manchester
Tel 061-834 4941

THE fiendish Alfonso Schwarz has found the ideal place to hide his plundered gold He's stashing it in an underground dungeon, a labyrinth of connecting passageways

Than one day our hero Desmond – that's you – out for a walk stumbles across Alfonso's hiding place Realising that the vast fortune could be his, he descends into the depths to seek out all the loot.

The gold is scattered around the dungeon in bags which you collect one at a time before returning to the surface with it As usual there are a multitude of nasties lurking around the corner waiting to do you no and of harm

Large, furry spiders want to tear your throat out and deadly plungers will stun you if you get stuck underneath one

Each time Desmond is stunned his strength is reduced If it reaches zero he will automatically be given another re-charge unit You start with three and when they have all gone the game is over

Occasionally Alfonso flies overhead to drop off some more loot If he sees you he will attempt to dive bomb you and drop a bag of gold on your head This also will reduce your energy level

The game is split into two sections – the dungeon and the vault In the dungeon you must collect bags of gold from the floor When you reach the vault you have to catch the bags when they are dropped Then you have to throw them back into a grab which passes overhead

On later levels some gold is hidden behind locked doors and you have to find the key before you can get to it

You control Desmond using a joystick plugged into port one Pressing the Select key will pause the game and you just move the joystick to restart If you get tired of the music press Return to switch it off

The sound and graphics are superb Coupled with the overall addictiveness, this budget game is a definite winner in my book – buy it

Neil Fawcett

Sound	*8*
Graphics	*8*
Playability	*9*
Value for money	*10*
Overall	*9*

coupled with the wonderful background music add a splendid feel to the game Phantom is also well worth buying on its own

Now on to the two new games on the compilation pack – **Countdown** and **Cannibals** The former is based on the exploits of Commander Zakarius Fitzwilliam – played by you

Apparently an American B52 bomber has lost one of its AZ Stratohawk bombs It has been located but unfortunately its casing has been damaged and it is leaking radioactive particles

You have already sent in a TP1 remote droid unit but it has been damaged by the radiation To add to your troubles, the tools you need to repair the bomb have been lost by the TP1 when it went berserk

You have to collect the four tools you require – in the correct order – and disarm the bomb before the timer reaches zero

However the TP1 is still roaming around and if it touches you it'll disarm you – permanantly And if you make any contact with the radiation particle cloud you'll die

If you move on to the bomb before you have collected all four tools you will also lose a life

Countdown isn't a bad game, neither is it anything to write home about Reasonable sound and graphics make it fair value on a budget compilation

Now on to the last of the four, **Cannibals** The plot revolves around the exploits of Arthur who is having a nightmare, pursued by robots, ghosts, aliens and cannibals

You take Arthur's part as he scrambles around several platforms trying to escape Armed with a shovel, you must dig a hole in which to trap the monsters and then bash them over the head

All in all this package is wonderful value for money

Neil Fawcett

Sound	*7*
Graphics	*7*
Playability	*8*
Value for money	*10*
Overall	*8*

Figures are an average taken for all games



Link your Atari to the outside world with...

MicroLink

When you join MicroLink you've got the world of communications at your fingertips – 24 hours a day. You'll have immediate access to ALL the facilities offered by Telecom Gold ... and a great deal more besides.

Electronic mail – The cheapest and fastest form of communication possible. It costs the same to send a message to one mailbox as to 500!

Telex – Link up with 96,000 telex subscribers in the UK and 1.5 million worldwide. You can even send and receive telexes after office hours or while travelling.

Telemessages – Type in your message before 8pm and delivery is guaranteed by first post the next day (except Sunday) anywhere in the UK and USA.

Tele-booking – Reserve train and theatre tickets, check flight details worldwide, or order from a vast range of products – from flowers to floppy discs.

Telesoftware – Download directly into your Atari any program from the ever growing library now available on MicroLink – both games and utilities.

Company searches – Obtain facts about any British limited company in seconds, and fully analysed financial information on over 100,000 major companies.

Translation – Access the biggest and most up-to-date multi lingual dictionary in the world, with over 400,000 words.

News – Use the powerful search commands to pinpoint vital business information from the world's leading news services, newspapers and periodicals.

Radiopaging – If you also have a pocket radiopager you'll be alerted each time an urgent message arrives in your mailbox. So you're always in touch.

Gateways – Get through to New York in just five seconds – or key into the EEC computer in Luxembourg, which links you to 600 databases throughout Europe.



Two recommended packages

If you have an 850 interface
Pace Nightingale manual modem + cable (£116.15) PLUS Mini Office II (£19.95)
Total price £136.10

If you don't have an interface
Miracle WS2000 V21/V23 modem + Datatari interface + cable + Datatari software
Total price £149.95

With either combination you can also log on to other databases and bulletin boards all round the world.

All you need – apart from your Atari – is a modem, which plugs into your telephone wall socket, plus suitable communications software.

We have provided two possible options on the left.

Whichever equipment you use, you will be able to call MicroLink, open your mailbox, save to disc any messages waiting for you, and disconnect in as little as two minutes.



More than 90 per cent of subscribers can connect to the MicroLink computer at local call rates

TO FIND OUT MORE
Fill in the coupon and send it to the address below. You will receive full details of services and costs, together with an application form. Complete this and within days you and your Atari will be able to use all the services of MicroLink and Telecom Gold.

Please send me full details about MicroLink and information sheets about the following hardware and software options (please tick)

☐ Pace package ☐ Miracle package

Name_____

Address_____

_____

Postcode_____

Send to MicroLink, Europa House, Adlington Park, Adlington, Macclesfield SK10 4NP

ATUS

IT is the year 2367 and the world is under the threat of total destruction from a danger created by its inhabitants themselves

Their mistake was a simple one. All they had wanted was the perfect civilisation, so to make it possible they perfected the positronic brain, the ultimate synthetic personality.

But as with all dreams of perfection something was bound to go wrong – and it did. In 2365 a group of synthetic people – androids – rebelled against their owners and caused a number of deaths as they escaped.

Now, they have returned and plan to destroy mankind so that they can rule the Earth.

The military minds, at a loss as to what to do, called in you, bounty hunter Chuck Masters. You have a reputation as a violent, shoot first, think-later killer. Just the qualifications for the assignment.

The Earth Intelligence Department has correlated months of reports of sightings and fed them into Zig, your ship's computer. After your briefing you transport on to the mother ship and set course for the Nala caverns where you believe the androids to be hiding out.

Once there you board your own ship and discover that the androids already know of your presence and are waiting for you.

You control your ship with a joystick plugged into port one. Up, down, left and right move you in the desired direction, while the fire button operates the thrusters which accelerate your craft.

Your prime directive is to destroy eight android vessels, two of which are located on each of the four levels. Each level gets consistantly more difficult, with mines, laser barriers, falling bombs and narrow passageways to navigate.

Located around the caves are a number of fuel dumps – marked with an F. By landing on them you can refuel and continue your search.

You ram an android craft to destroy it and once you have blown up all the enemy vessels you must leave the tunnels and dock with the mother ship to complete your mission.

The game can be paused at any time by pressing the Option key. If during the pause you hold down all of the function keys – Start, Option and Select – you can move on to the next level.



Can you destroy the robot killers? Find out in DEREK THOMPSON's fast-action game of survival

VARIABLES	
A$	Holds instructions
B$	Holds the rank for your final score
MIS$	Guns on
OFF$	Guns off
SHIPPOS	Moves the mother ship
FUEL	Fuel left
GUNS	Subroutine for guns
MSHIP	Subroutine to move the mother ship

100 120	Set up strings
250-480	Main loop
490-590	Collision detection routine
690-800	Drop bombs routine
810-880	Guns on routine
900 950	Guns off routine
970 1030	Move the mother ship
1040 1080	Plot mines routine
1090-1350	Player missile movement routine
1360-1900	Redefine the character set
1610-1740	Main screen
1750-1870	Docking tune routine
1880-2420	Level complete routine
2430 2490	Title screen and instructions

Turn to Page 49 ▶

COMPUTER-WIZE

YOUR LOCAL SUPPLIER FOR ALL MACHINES

AMIGA ATARI Acorn

SUMMER SPECTACULAR

Amstrad complete Office System – £589 inc. VAT
Save over £400
Contains PC 1640 DD with twin disc drive and mono monitor. Complete with DMP 4000 printer and Wordstar, Accounts Master DD and also Super Calc

Atari 520 STFM Summer Package £359 inc. VAT
Save over £50
Contains 512K computer with 1Mb built-in disc drive, mouse, joystick, manual and £400 worth free software

Commodore Amiga 500 Package – £369 inc. VAT
Save over £40
Contains Amiga 500 with built-in 1 meg disc drive, mouse. Complete with Deluxe Paint (TV modulator – £22.45)

Acorn Master Compact TV System – £579 inc. VAT
Save over £40
Contains machine complete with 3.5" 640K disc drive. View 3.0 ABC, and knows full logo, pull down menu. BBC Basic 4 & ADFS and utilities. Welcome suite and tutorials/manuals

Amstrad PPC 640DD – £679 inc. VAT

WE STOCK

3.5" branded DS DD with labels – £10 for 10
Bulk 5.25" DS/DD with labels – £8 for 10
The first 10 orders get a free library case

Cumana 1 Meg 3.5" Disc Drive	£129.95
Cumana 2 Meg 3.5" Disc Drive	£230.00
Eidersoft 1 Meg 3.5" Disc Drive	£134.95
3.5" Lockable Disc Box (Holds 80 discs)	£13.95
3.5" Disc Cleaning Kit	£4.95
Atari 12" High Res Mono Monitor	£129.99
Atari 12" Medium Res Colour Monitor	£254.00
Philips 8833 14" Colour Monitor	£283.95
Amstrad CMP 8000 Printer	£256.95
Amstrad LQ3500 Printer	£350.00
Cumana CZ2300 M-S Keyboard	£265.50
Pro 24 V2.1 Steinberg 24 Track System	£227.95
CZ Android Keyboard Controller	£79.99
ST Mastersonic Clockcard	£23.95
Mouse Mat	£9.95
Dust Covers	£4.95
Joystick Extension Lead	£4.95

ALL GAME SOFTWARE TITLES SUPPLIED WITH 30% DISCOUNT

WE ALSO STOCK PRINTERS, MONITORS, DUST COVERS, CLEANING KITS, JOYSTICKS AND ANY OTHER COMPUTER REQUIREMENTS

FREE **PHONE FOR FREE CATALOGUE**
NEXT DAY COURIER SERVICE ON ALL STOCK ITEMS

COMPUTER-WIZE, No 10 WISEMAN GROVE, NEW OSCOTT, SUTTON COLDFIELD, BIRMINGHAM B23 5YG

ACCESS

021-377 6698 24 Hr Hotline

VISA

The truth about TELEX

How much does it cost to go on Telex?

You could go the conventional way and buy a dedicated Telex machine. The cheapest will cost you £1,604 (the Whisper) the dearest £2,892 (the Cheetah). You will also need a separate telephone line, costing £101 to install, plus £404 a year rental. That's a total outlay over the first year of a minimum of £2,109. (All prices include VAT.)

Or you could do what more and more Atari users are doing – use your computer to double as a Telex machine. And don't use your ordinary telephone!

How do I turn my Atari into a Telex machine?

All you need is a modem and appropriate communications software (see the advertisements in this issue), a telephone, and a subscription to *MicroLink*.

Telex is just one of a growing number of services available to Atari users on *MicroLink*. With MicroLink you can also read the news as it happens, go teleshopping, create your own closed user group, send telemessages and electronic mail right round the world, download free programs directly into your micro ... and much more.

But why use Telex?

Because it's a standard means of instant communication between businesses. Today there are 150,000 Telex machines in use in Britain – and more than 2 million worldwide. Telex dramatically speeds up business communications – it's just as quick as using the phone but far more efficient, because you have a hard copy of every conversation for your records.

But there's a big bonus you get when you use *MicroLink* for Telex that the conventional way doesn't offer.

With *MicroLink* you don't HAVE to be in your office to send or receive Telex messages. You can just as easily use your computer at home (or even a portable) anywhere, anytime. How's that for your business efficiency?

How to join
See Page 14

Wishful thinking



Rouloc reminisces on an old much loved adventure

NOT a lot is happening in the adventure world as I write, so I'll gratefully seize the opportunity to reminisce about one of the older but much-loved adventures in my collection, Infocom's Wishbringer. With the price of 8 bit Ataris and disc drives being quite low these days, more and more people are playing adventures. It's very likely that many of you have never tried any of the Infocom text adventures, let alone Wishbringer. For those who have, I'm sure you'll enjoy a wallow in nostalgia – and who knows, you may even decide to play them all over again.

Wishbringer is available on disc only and was written by Brian Moriarty, who was later to go on and write the excellent Trinity adventure for the same company.

The game is aimed at the novice adventurer but still offers a great deal of pleasure to even the most seasoned of players. What it may lack in difficulty for the experienced adventurer, Wishbringer more than makes up for in wit, originality and charm.

You begin as an assistant in the local post office of Festeron. Your boss, Mr Crisp, a cantankerous so and so, sends you off to deliver a letter to the old woman who owns Ye Olde Magick Shoppe at the top of the hill at the north end of town. It's well worthwhile spending some time exploring the town, even though your boss does tend to shout at you from afar when he sees you dawdling.

The reason for the reconnoitre is that things will change very suddenly once you've delivered the letter. So it's best to have a good look while you still can. In any case, there are a certain number of items you'll need to find to help your progress later.

The cemetery is always a good place to start, and particularly so in Wishbringer. The graveyard sports such appropriately named places as Spooky Copse, Creepy Corner and Twilight Glen.

You may not find the strange gravedigger or the open grave very welcoming, but persist and you will find something to your advantage.

There's a snappy poodle not far from the post office and you'll need to

HINTS AND TIPS

This month's hints and tips concentrate on Jinxter, the popular Rainbird and Magnetic Scrolls follow up to The Pawn and Guild of Thieves.

Their latest, Corruption, should be with us any time now and there's also Lancelot, Mandarin Software's newest product from Level 9 to look forward to as well.

Jinxter

● *Bull a problem?*

Try acting like a matador with something red.

● *Batty gardener keeps running off when you approach?*

The squeaky doors alert him. Get the plastic bottle and put the contents in a bigger container then freeze it to get the oil. Put the oil on the runners of the boathouse door.

● *Canoe got a hole in it?*

Wrap your sock round the bung and bung it in.

● *Baking a loaf proving difficult?*

Sieve the flour to get the charm. Shove it in the baking tin with the dough then overbake it in the oven.

● *Mound of dirt in the way?*

A pair of gloves and a can of worms is all you need.

● *Want to see in the dark?*

Stand under the holly bush near the herb garden and listen to the magpie – he'll give you something spectacular!

● *Can't open the mailbox?*

Tricky one this. You need to warm the plastic key – twice – with the candle before putting the key in the lock.

◄ From Page 17

do something about the ankle biting mutt if you're not to be forced to take a detour round it. The video game arcade and pleasure wharf are also worth a visit.

When you finally deliver the letter to the old lady, you'll discover what you have actually handed over is a ransom note. "Deliver the Magick Stone to me before the moon sets or you will never see your cat again. Signed. The Evil One."

Well, never one to fail to help a fellow human being in distress you offer to assist in finding the good woman's cat with the aid of the legendary Wishbringer stone. Once you return down the hill, things have taken a serious turn for the worse. The whole town has altered – and not for the good.

A sort of decaying evil influence has affected every place, object and human in Festeron. For instance, where once goldfish swam in the pool in the park there is now a piranha. The poodle has become a hellhound, the post office a tower – no, not the Post Office tower – complete with torture chamber and laboratory, and there is now a Grue's nest under your favourite hillside beauty spot.



Magic features strongly in Wishbringer. "Seven is the number of the wishes bound into the stone. And if ye speak a wish, that wish is spent and lost forever. Also know that ye must hold the wishing stone within thy hands to wield its magick. In fact not all the wishes are usable only once."

A wish will only work if you are also carrying a special object that relates to it. For example, a broomstick must be held when making the wish of flight. The other six wishes are for rain, advice, darkness, foresight, luck and freedom. One of the interesting features of the game is that you can complete it without using all of the wishes – it's up to you how you go about achieving your objectives.

There are many funny moments in Wishbringer, not least when a formerly inanimate mailbox suddenly becomes alive and tries to eat you. I loved the Grue puzzle. Fans of Infocom games will know that Grues are creatures who dwell in the dark and are the scourge of lamp less adventurers. They appear in many of Infocom's adventures, and in Wishbringer there's even a baby one the puzzle revolving around a bottle of Grue's milk.

While most of the puzzles are fairly easy to solve, one or two will have even the most skilled of adventurers scratching their heads for a while. The atmosphere and wit are what make this adventure so enjoyable, so if you haven't yet played Wishbringer I hope I've whetted your appetite enough for you to go and try it.

SAVE ££££'s SAVE ££££'s SAVE ££££'s SAVE ££££'s SAVE ££££'s SAVE ££££'s SAVE ££££'s

WHOLESALE PRICES – DIRECT FROM THE WAREHOUSE!

Importers . . . Manufacturers . . . Distributors . . .
Beware of pale imitations . . . Buy from the Best
Telephone: 0664 410666

BULK PACKED OFFERS – BEST VALUE IN TOWN

[illegible] 3½" T.P.	Disks with our [illegible] box — £1.[illegible]
50 Double Sided 5.25" 96T.P.I.	Disks with our storage box — £17.39
75 Double Sided 5.25" 96T.P.I.	Disks with our storage box — £22.36
100 Double Sided 5.25" 96T.P.I.	Disks with our storage box — £28.36

You can choose either 50 capacity storage box or 100 capacity storage box to go with your disks.
If you want a 100 capacity storage box just box a further £2.00

30 Double Sided 3.5" 135T.P.I.	Disks with our storage box — £19.47
60 Double Sided 3.5" 135T.P.I.	Disks with our storage box — £37.47
90 Double Sided 3.5" 135T.P.I.	Disks with our storage box — £49.47
120 Double Sided 3.5" 135T.P.I.	Disks with our storage box — £65.47

You can choose either 40 capacity box or 80 capacity storage box to go with your disks.
If you want a 120 capacity storage box just box a further £2.00

ALL BOXES COME WITH LOCK 2 KEYS DIVIDERS AND ARE ANTISTATIC

ALL DISKS COME WITH LABELS AND ARE 100% GUARANTEED ERROR FREE

ALL DISKS COME READY SUPPLIED WITH ENVELOPES AND A FULL USER SET

STORAGE BOXES



3.5" Lockable – Holds 40	£4.35
3.5" Lockable – Holds 80	£5.35
3.5" Lockable – Holds 120	£6.35
5.25" Lockable – Holds 50	£4.95
5.25" Lockable – Holds 100	£5.97
5.25" Lockable – Holds 140	£6.97

ALL WITH LOCK & TWO KEYS DIVIDERS & ANTISTATIC!

ACCESSORIES

Mouse Mat	£4.95
RS232 Printer Cable	£5.95
Atari etc Printer Cable	£6.95
3.5" Cleaning Kit (fluid)	£4.95
5.25" Cleaning Kit (fluid)	£3.95
Disk Notcher (doubler)	£4.95



Space Saver Printer Stand (80 col) £29.95

Space Saver Printer Stand (132 col) £24.95

!!! FLOPPY DISKounts!!! THE MORE YOU BUY – THE MORE YOU SAVE!!!

5.25" Bulk Packed–					
Price each disk	25+	50+	75+	100+	150+
Sing e Sided 135 T.P.	54p	50p	60p	70p	75p
Double Sided 135 T.P.I	67p	54p	52p	50p	75p

ALL D SCS ARE SUPPLIED WITH LABELS AND ARE CERTIF ED 100% ERROR FREE

5.25" Bulk Packed–					
Price each disk	25+	50+	75+	100+	150+
Single Sided 48 T.P.I	42p	37p	32p	30p	29p
Double Sided 48 T.P.I	44p	39p	34p	32p	31p
Double Sided 96 T.P.I	46p	41p	36p	34p	33p
Double Sided Qu 96 T.P.I	54p	49p	45p	39p	38p
Double Sided Rev 96 T.P.I	57p	52p	47p	39p	38p
DI Sided Qu Rev 96T.P.I	59p	49p	45p	42p	39p

COLOURED DISKS COME IN FIVE COLOURS (RED BLUE WHITE YELLOW GREEN)

REVERSIBLE DISKS HAVE TWO INDEX HOLES AND TWO NOTCHES!

ALL DISKS COME WITH ENVELOPE AND LABEL SET AND HAVE A HUB RING AND F... GUARANTEE

MOUSE BRACKET – £5.95

All Disks are sent by Trackback or Courier Service at no extra cost!

MELTON COMPUTER SUPPLIES
PO Box 2, Melton Mowbray, Leics, LE13 1YG
Tel: 0664 410666 (24 hrs). Fax: 0664 410221
Phone for our best price before placing your order
EDUCATIONAL & GOVERNMENT ORDERS WELCOME

10 Sony MF2/DD 3.5" DISCS £10.95

E&OE Remember the price you see is all you pay (U.K. only). Prices include VAT and carriage

SAVE ££££'s SAVE ££££'s SAVE ££££'s SAVE ££££'s SAVE ££££'s SAVE ££££'s SAVE ££££'s

SOFTWARE Solutions

THE XIO – Extra Input-Output – command is probably the Cinderella of Atari Basic. This extremely versatile tool is actually 29 commands rolled into one, but very few people know how to use it. This letter from Jasper Coombes of Bristol highlights the confusion caused by Atari's failure to provide a comprehensive Basic instruction manual

This month MICK RANDLE takes over from ANDRÉ WILLEY to provide more help for puzzled programmers

I am writing a program which displays high resolution graphics and I believe Atari Basic has a Fill command. But after wasting hours trying to get it to work I resorted to using Plot and Drawto commands, which take ages to type in.

I mentioned my problem to another customer when I visited a local computer shop and he said something about a complicated Basic command called XIO. I did not really understand what he was trying to tell me but I hope you can shed some light on it.

Your acquaintance at the shop was quite correct in suggesting that you use XIO – and like most commands it isn't particularly complicated once you understand it.

Let's examine each component of the command syntax in turn:

XIO code,#IOCB,expr1,expr2,device

The first item after the XIO is the code number which represents the operation to be performed. Although a variety of options are supported, many are duplicated by standard Basic commands – such as Input – and others which relate to the configuration of the 850 interface's RS232 ports.

If we disregard these we are left with the list shown in Figure I. Disc users will already be familiar with most of the options since they are available from the Dos 2.5 menu, but it is not generally realised that they are also available from Basic. As you can see, code 18 indicates the graphics fill operation.

The next component of the XIO command represents an IOCB channel number. Since the operating system always uses IOCB six for graphics output, we must also use it for the graphics fill operation. Any IOCB from one to seven may be used for the disc options, provided it is not already in use.

The next two components are only important when using the RS232 ports and they should be set to zero for all the options we are discussing. What could be easier?

The final component is the name of the device which is to be the subject of the action. The Atari considers almost everything to be a peripheral device – even the keyboard and monitor screen – and each device is given a name such as K: for the keyboard and S: for the screen. When using the graphics fill option we must use the screen device name. Disc users must use the full disc filename to enable access to individual files.

Disc users should also be aware of a special feature of XIO. Normally it is necessary to issue an Open command before a disc file can be accessed. This is not the case with XIO which automatically opens the IOCB, performs its task and then closes the IOCB afterwards. Program I is an example of what can be achieved from Basic. Note the neat little trick which writes DOS.SYS to the disc. Unfortunately this does not work with the DUP.SYS file.

The graphics fill option is slightly more involved, but all will become clear when you understand why certain actions are necessary. The easiest way to explain this is to describe

Turn to Page 20 ▶

CODE	PURPOSE	EXAMPLE
18	Graphics colour fill	XIO 18,#6,0,0,S:
32	Rename disc file	XIO 32,#1,0,0,"D:NAME1,NAME2"
33	Delete disc file	XIO 33,#2,0,0,D2:FILENAME.EXT"
35	Lock disc file	XIO 35,#4,0,0,"D:ATARI.USR"
36	Unlock disc file	XIO 36,#2,0,0,D4:MYFILE.OBJ
253	Single density format	XIO 253,#1,0,0,"D:" (XL/XE only)
254	Disc format	XIO 254,#2,0,0,"D2:"

Figure I Table of XIO commands and their function in Atari Basic

```
10 REM PROGRAM I
20 REM SOFTWARE SOLUTIONS
30 REM DOS 2.5-XIO DEMO
40 REM
50 REM
60 REM This program formats a disc
70 REM so ensure that you use one
80 REM containing no useful data
90 REM
100 GRAPHICS 0
110 ? "PRESS RETURN FOR DISC FORMAT
120 POKE 764,255
130 IF PEEK(764)=255 THEN 130
140 ? "PLEASE WAIT"
150 REM
160 REM Format disc in drive 1
170 XIO 254,#7,0,0,"D1:"
180 REM
190 REM Write DOS.SYS to disc
200 OPEN #1,8,0,"D1:DOS.SYS":CLOSE #1
210 REM
220 REM Lock the DOS.SYS file
230 XIO 35,#7,0,0,"D1:DOS.SYS"
240 END
```

Program I Format a disc using the X10 command

```
10 REM PROGRAM II
20 REM SOFTWARE SOLUTIONS
30 REM XIO COLOUR FILL DEMO
40 REM
50 REM
60 GRAPHICS 7
70 DELAY=1000:GOSUB DELAY
80 REM
90 REM Draw a triangle
100 COLOR 1:PLOT 50,20:DRAWTO 100,70
110 DRAWTO 0,70:DRAWTO 50,20
120 GOSUB DELAY
130 REM
140 REM Colour the triangle
150 PLOT 50,20:POSITION 0,70
160 POKE 765,1
170 XIO 18,#6,0,0,"S:"
180 GOSUB DELAY
190 REM
200 REM Draw a square
210 COLOR 2:PLOT 95,0
220 DRAWTO 159,0:DRAWTO 159,60
230 DRAWTO 95,60:DRAWTO 95,0
240 GOSUB DELAY
250 REM
260 REM Colour the square
270 PLOT 95,0:POSITION 95,60
280 POKE 765,2
290 XIO 18,#6,0,0,"S:"
300 GOSUB DELAY:RUN
310 REM Slow down the action
1000 FOR A=1 TO 400:NEXT A:RETURN
```

Program II X10 fill demo

◀ From Page 19

what happens when the Atari is told to fill a pre drawn shape with colour

Colouring begins at the top left corner of a shape and continues horizontally until it hits the right hand boundary of the shape It then drops down a line and, beginning at the left edge repeats the process until it has finished colouring the last line

Before we can begin colouring we must tell the computer where on the screen to start and where to stop and which colour we want it to use These three instructions should be executed in the correct order to avoid unpredictable results

- Define the top left point by using the Plot command
- Define the bottom left point by using the Position command
- Define the fill colour by poking the colour register number into address 765 – in the form Poke 765 2

Program II draws and fills two shapes so you should have no difficulty in following the process

Now that we know how to fill existing shapes with colour we can proceed to the next stage – which provides us with a short cut. Since we use Plot and Position to indicate the top left and bottom left points of the shape, it does not matter if the left edge is not pre drawn on the screen Similarly, since the colour fills from left to right, any existing bottom edge will be overwritten by the XIO process

Program III is the short cut version of Program II Notice we don't use the Position command to define the top left corner this time – Drawto performs the same function

As usual there are a couple of things to bear in mind when using XIO graphics fill The left edge of a shape must be a straight line If you have an irregularly shaped polygon you must divide it into smaller sections, each having a straight left edge and perform several XIO commands to fill the entire shape

Finally, since the colouring stops when it hits the right hand edge, you can only colour an area which contains the background colour – Color 4 Any other colour in the shape will be assumed to be the edge and the colouring will stop at that point

```
10 REM PROGRAM III
20 REM SOFTWARE SOLUTIONS
30 REM XIO COLOUR FILL DEMO
40 REM SHORTER VERSION OF PROGRAM 2
50 REM
60 GRAPHICS 7
70 DELAY=1000:GOSUB DELAY
80 REM
90 REM Draw right edge of a triangle
100 COLOR 1:PLOT 100,70:DRAWTO 50,20
120 GOSUB DELAY
130 REM
140 REM Colour the triangle
150 POSITION 0,70
160 POKE 765,1
170 XIO 18,#6,0,0,"S:"
180 GOSUB DELAY
190 REM
200 REM Draw top and right edge
210 REM of a square
220 COLOR 2:PLOT 159,60
230 DRAWTO 159,0:DRAWTO 95,0
240 GOSUB DELAY
250 REM
260 REM Colour the square
270 POSITION 95,60
280 POKE 765,2
290 XIO 18,#6,0,0,"S:"
300 GOSUB DELAY:RUN
310 REM Slow down the action
1000 FOR N=1 TO 400:NEXT N:RETURN
```

Program III Shorter version of Program II

MILES BETTER SOFTWARE

221 Cannock Road Chadsmoor, Cannock,
Staffs WS11 2DD Tel (0543) 466577 8

US GOLD	Cass	Disc
Gauntlet	9 95	
Gauntlet Deeper Dungeons	4 99	6 99
Leaderboard	7 95	11 95
Leaderboard Tournament	4 99	6 99
Silent Service	7 95	11 95
Super Cycle	7 95	11 95
Winter Games	7 95	11 95
World Games	7 95	11 95
Gauntlet	9 95	11 95
Impossible Mission		11 95
Spy vs Spy		11 95
Spy vs Spy II		11 95
Spy vs Spy III		11 95
Super Huey		11 95
Super Huey II		11 95
Sentinel		11 95
Solo Flight		11 95
Solo Flight II		11 95
Star Fleet I		11 95
Star Raiders II		11 95
Tenth Frame		11 95
Top Fuel Eliminator		11 95
Up Periscope		11 95
Winter Games		11 95
World Games		11 95
Alternate Reality The City		14 95
Alternate Reality The Dungeon		14 95
Ballblazer		11 95
Championship Wrestling		11 95
Destroyer		11 95
Fight Night		11 95
Gunship		11 95
Hacker		11 95
Hacker II		11 95
Mercenary		11 95
Mercenary Second City		11 95
Rescue on Fractalus		11 95
Skyfox		11 95
Strike Force Harrier		11 95
Tomahawk		11 95
Tracker		11 95
Ace of Aces		22 95
Battle Cruiser		22 95
Carrier Command		22 95
Chuck Yeager's AFT		22 95
Elite		22 95
F15 Strike Eagle		22 95
Flight Simulator II		29 95
Gato		22 95
Jet		22 95
Kennedy Approach		22 95
Pinball Construction Set		22 95
Silent Service		22 95
Solo Flight		22 95
Strike Force Harrier		22 95
Tomahawk		22 95
Top Gunner		22 95
Ultima III		29 95
Ultima IV		29 95
Universe II		29 95
Universe III		29 95
Acrojet		11 95
Advanced Tactical Fighter		14 95
Airborne Ranger		14 95
Backlash		11 95
Bards Tale		14 95
Bards Tale II		14 95
Bards Tale III		14 95
Battle Chess		14 95
Battle Droidz		11 95
Battle Front		14 95
Battle Tank		14 95
Bismarck		14 95
Blue Angels		14 95
Buggy Boy		14 95
Captain Blood		14 95
Carrier Force		14 95
Chessmaster 2000		14 95
Chessmaster 2100		14 95
Chuck Yeager's AFT 2.0		14 95
Combat Leader		14 95
Combat Leader Pack		14 95
Conflict in Vietnam		14 95
Crossbow		14 95
Dambusters		14 95
Defender of the Crown		14 95
Destroyer		14 95
Dive Bomber		14 95
Dungeon Master		14 95
Elite		14 95
Empire		14 95
Epyx Collection		14 95
Fight Night		14 95
Flight Simulator II		29 95
Football Manager		14 95
Gato		14 95
Gauntlet		14 95
Gauntlet II		14 95
Gauntlet Deeper Dungeons		14 95
Gee Bee Air Rally		14 95
Gettysburg		14 95
Gunship		14 95
Hacker		14 95
Hacker II		14 95
Halley Project		14 95
Hardball		14 95
Heroes of the Lance		14 95
Hitchhikers Guide to the Galaxy		14 95
Impossible Mission		14 95
Impossible Mission II		14 95
Infiltrator		14 95
Infiltrator II		14 95
Jet		14 95
Jinxter		14 95
Kennedy Approach		14 95
Kings Quest I		14 95
Kings Quest II		14 95
Kings Quest III		14 95
Leaderboard		14 95
Leaderboard Tournament		14 95
Leaderboard Birdie		14 95
Leaderboard Par 3		14 95
Leaderboard Tournament		14 95
Mean 18 Golf		14 95
Mean 18 Golf Course Disc		14 95
Mercenary		14 95
Mercenary Second City		14 95
Mercenary The Wilderness		14 95
Microprose Soccer		14 95
Mig Alley Ace		14 95
Mini Putt		14 95
Mini Putt Course Disc		14 95
Nebulus		14 95
Nigel Mansells Grand Prix		14 95
Pawn		14 95
Pinball Construction Set		14 95
Pirates		14 95
Police Quest		14 95
Power at Sea		14 95
Rescue on Fractalus		14 95
Road Runner		14 95
Roadwar 2000		14 95
Roadwar Europa		14 95
Scrabble Deluxe		14 95
Scrabble Deluxe Course Disc		14 95
Sentinel		14 95
Shanghai		14 95
Silent Service		14 95
Sinbad		14 95
Skyfox		14 95
Solo Flight		14 95
Solo Flight II		14 95
Space Shuttle		14 95
Space Shuttle II		14 95
Star Fleet I		14 95
Star Raiders II		14 95
Starglider		14 95
Strike Force Harrier		14 95
Strip Poker		14 95
Strip Poker Data Disc		14 95
Strip Poker Data Disc 2		14 95
Sub Battle Simulator		14 95
Super Cycle		14 95
Super Huey		14 95
Super Huey II		14 95
Tass Times in Tonetown		14 95
Tenth Frame		14 95
Tetris		14 95
Tomahawk		14 95
Top Fuel Eliminator		14 95
Top Gunner		14 95
Tracker		14 95
Trivial Pursuit		14 95
Trivial Pursuit Baby Boomer		14 95
Trivial Pursuit Genus Edition		14 95
Trivial Pursuit New Beginning		14 95
Ultima III		29 95
Ultima IV		29 95
Universe II		29 95
Universe III		29 95
Up Periscope		14 95
Vampires Empire		14 95
Video Vegas		14 95
Video Vegas Deluxe		14 95
Wargame Construction Set		14 95
Winter Games		14 95
World Games		14 95
Zorro		14 95

DATASYTE	Cass	Disc
Spy V Spy	4 99	6 99
Spy V Spy II	4 99	6 99
Spy V Spy III	7 95	9 95
Aztec	4 99	6 99
Pro Rata		6 99
Boulder Dash Construction Kit	4 99	6 99

IMAGINE/OCEAN	Cass	Disc
Arkanoid	6 95	9 95

INFOCOM	Cass.	Disc
Station Fall		19 95
Hitchhikers Guide to the Galaxy		19 95
Ballyhoo		12 95
Deadline		12 95
Suspect		12 95
Witness		12 95
Hollywood Hijinx		12 95
Infidel		12 95
Sorcerer		12 95
Starcross		12 95

GREMLIN GRAPHICS	Cass	Disc
Basil the Mouse Detective	6 95	12 95
Footballer of the Year	6 95	12 95
Trail Blazer		6 95

MICROPROSE/ORIGIN	Cass.	Disc
Silent Service	6 95	10 95
Sword	6 95	10 95
Sir = Flight I	6 95	10 95
Conflict in Vietnam	10 95	10 95
Ultima III		10 95
Ultima IV		10 95
Ogre		12 95

TYNESOFT	Cass	Disc
European Soccer	6 95	12 95
Winter Olympiad '88		12 95
Winter Olympiad		

Mean Fe	6 95	6 95
DATABASE	Cass	Disc
Mini Office II		16 50

ACTIVISION	Cass	Disc
Enchanter		9 95
Hacker		6 99
Rescue at Fractalus		6 99
Ski Star		6 99
Ghost Buster	6 95	9 99
Cross Country Road Race	1 99	5 95

XL/XE CARTRIDGE	Cass	Disc
Rally Speedway	6 95	
Designer Pencil	6 95	
River Rescue	6 95	
Pitfall	6 95	
Pitfall II	9 95	
Space Shuttle	6 95	
Dreadnaught	6 95	
Blue Max	14 95	
Ball Blazer	14 95	
Final Legacy	12 95	
Lode Runner	14 95	
Music Composer	6 95	

THE ODD BIN	Cass.	Disc
Spindizzy	4 99	6 99
Jinxter		16 95
The Pawn		16 95
International Karate		5 99
Colossus Chess IV	8 95	12 95

RED RAT SOFTWARE	Cass	Disc
Ultra Devils	6 95	9 95
Night Mares	6 95	9 95

SUBLOGIC		Disc
Flight Simulator II		29 95
Scenery Disc 7		16 95
San Francisco		21 95
Japan		

BUDGET TITLES

	Cass.	Disc
Pot-Holing Pete	1 99	
Death Race	2 99	
River Raid	2 99	
Pitfall	2 99	
Daylight Robbery	1 99	
Matts Mania	1 99	
Soccer	1 99	
War Hawk	1 99	
Football Manager	2 99	
Air Wolf	2 99	
Speed Ace	2 99	
Ten Dun	2 99	
Pitfall Start	1 99	
Ninja	2 99	
Rupert Carnals	1 99	
Ball	1 99	
Harvey Smith	1 99	
Super Gel	2 99	
Ninja	2 99	
Monkey Castle	1 99	
League Challenge	1 99	
River Rescue	1 99	
Flying Shark	2 99	
Kellys House	1 99	
Jet Pac Davis Snooker	1 99	4 99
Grand Prix Simulator	1 99	
Mix & Muester	1 99	
Dan Dare	1 99	
Ironmaster	1 99	
Marauda Man	1 99	

All prices are correct at time of going to press
Cheques or Visa orders welcome
Please add £1 per item for overseas orders
Please make Cheques or Postal Orders payable to

MILES BETTER SOFTWARE

Phone or write for comprehensive stock list for Atari and ST software & hardware

WHILE STOCKS LAST



Create your own crosswords with JASON PEASGOOD's excellent routine

```
0 REM X-WORD
1 REM By JASON PEASGOOD
2 REM (c)ATARI USER
10 GOSUB 2880 REM TITLES
20 GOSUB 2850 REM SOUND
30 GOSUB 1620 REM SET UP
40 GOSUB 1570 REM INSTR COMMANDS
90 REM MAIN LOOP
98 X=3:Y=3
70 GOSUB 210
80 GOSUB 230
90 S=STICK(0)
100 R=X+((S=7)*10)+((S=6)*10)+((S=5)*1
0)-((S=10)*10)-((S=11)*10)-((S=9)*10)
110 Y=Y-((S=10)*10)-((S=14)*10)-((S=6)
*10)+((S=9)*10)+((S=13)*10)+((S=5)*10)
120 IF X>XMAX THEN X=MIN
130 IF X<XMIN THEN R=XMAX
140 IF Y>YMAX THEN Y=YMIN
150 IF Y<YMIN THEN Y=YMAX
```

Turn to Page 22 ▶

X-WORD is a program which allows you to make a crossword up to a maximum grid size of 19 by 10 squares. Once completed it can then be printed out to an Atari 1029 dot matrix printer.

Type in the listing, check it with Get It Right! and save a copy before running it. Plug a joystick into port one then run it. The title screen will now start to draw – if you don't want to look at it press the fire button to bypass it.

Next you are prompted to enter the size of the crossword you want to design. Your X coordinate must range from 3 to 19 with your Y entry between 3 and 10. Your crossword grid will then be drawn on screen. A menu of commands appears below and a flashing cursor will be drawn in the bottom left hand corner of the grid.

Move it to the square you want to position a word and press W for write word. When you have input a word press Return and it will be drawn horizontally on the grid.

If you want to place a word vertically press D and you will be prompted for your input. The program automatically checks to see if a word will fit, so you can't really go wrong – famous last words!

To place a block square on your crossword just move your cursor to the desired square and press F. To cancel it press F again. If the computer encounters a black square while plotting a word it will place as much of it as it can on the grid and then tell you there is a block in the way.

You can quit at any time by pressing Q to start all over again. If you forget the correct key presses, the Help key will reveal the command menu.

Once you have completed your crossword you can initialise the printing routine by pressing Start. Press any key when the prompt appears to print out the solution. After printing is completed you will be asked if you want to print out the final crossword which will appear as the grid and numbers with no words.

Finally you will be prompted to enter the clues for each word – across first followed by clues for words down. You are reminded what each word is and are allowed up to 50 characters in which to describe it.

If you don't have an Atari 1029 printer you can replace the screen dump routine in the program – lines 2980 to 3140 – with a suitable Graphics 8 dump routine for your own printer. The clues are all printed using the standard LPRINT command.

◀ *From Page 21*

```
160 IF PEEK(768)<>255 THEN 120
170 IF PEEK(53279)=6 THEN 2400
180 IF NOT(X=1 AND Y=1) THEN 650:DR
AW 7,2,0
190 GOTO 70
200 REM CURSOR
210 LOCATE X,Y,Z:COLOR Z+1:PLOT X,Y+50
ANTO X,Y+14:DRAWTO X+14,Y+14:DRAWTO X+
14,Y:DRAWTO X,Y
220 RETURN
230 COLOR Z:PLOT X,Y:DRAWTO X,Y+14:DRA
WTO X+14,Y+14:DRAWTO X+14,Y:DRAWTO X,Y
240 RETURN
250 REM CALCULATE PLACE
260 XZ=((X-51)/16)+1:YZ=(Y/16)+1
270 RETURN
280 REM CALCULATE PLACE
290 X=((INT(INT(X)/5)*5)-17)/16
300 RETURN
310 REM COMMAND
320 KEY=PEEK(764):POKE 764,255
330 IF KEY=47 THEN 400
340 IF KEY=46 OR KEY=12 THEN 440
350 IF SEY=63 THEN 650
360 IF KEY=58 THEN 720
370 IF KEY=56 THEN GOSUB 770
380 GOTO 150
390 REM QUIT
400 ? "Are you sure (Y/N) ???";:INPUT A
$
410 IF A$="Y" THEN GOTO 450
420 ? "Okay.":END
430 REM HOME
440 LOCATE X,Y,Z
450 IF Z=1 THEN GOSUB 2140:GOTO 670
460 GOSUB 2250:GOSUB 210
470 ? "Input word --)";:INPUT BL$,IEX1
$:IF TEXT$="" THEN GOSUB 2140:GOTO 670
480 IF BL*OCROSS AND (LEN(TEXT$)>X$IZ-(
X-5)/16) THEN ? "Too Long":GOTO 670
490 IF BL<>0 AND LEN(TEXT$))YSIZ-(Y/1
6) THEN ? "Too Lung":GOTO 670
500 FOR I=1 TO LEN(TEXT$)
510 CH=ASC(TEXT$(I,I))
520 IF CH<65 OR CH>90 THEN ? "Use alpa
bhetic upper-case letters only.":POP :
GOTO 670
530 NEXT I
540 XI=X:YI=Y
550 XI=X+64:YI=Y+8
560 FOR I=1 TO LEN(TEXT$)
570 D$=TEXT$(I,I)
580 CH=ASC(D$):GOSUB 760
590 IF NWORD(XI,YI)<>0 THEN POP :GOSU
B 2150:? "Don't fit":GOTO 660
600 IF XDORD(XI,YI)=0 THEN POP :BOSUN
2150:? "Don't fit ";:GOTO 500
610 XWORD(XI,YI)=CH
620 SOSUN 2250
630 IF BL<>0CROSS THEN XI=XI+16:N=N+0
640 IF BL=0 THEN YI=YI+16:Y=Y+16
650 NEXT I
660 N XI:Y=YI
670 GOSUB 230:GOTO 150
680 REM ACROSS
690 ? "Direction = Across "
700 BL=ACROSS
710 GOSUB 2490+GOTO 150
720 REM DOWN
730 ? "Direction = Down."
740 BL=DWN
750 GOSUB 2090:GOTO 150
760 REM FILL
770 LOCATE X,Y,Z
780 COLOR Z+1
790 FOR I=Y TO Y+16
800 PLOT X,I:DRAWTO X+14,I
810 NEXT I
820 CH=(CH*65)-11)*4+32+12
830 GOSUB 280 XWORD(XI,YI)=CH
840 RETURN
850 REM NUMBER
860 CH=1
870 FOR J=1 TO Y5IZ
880 FOR I=1 TO X5IZ
890 IF XWORD(I,J)<>0 THEN 920
900 IF BL=0 THEN YDO(I,J)=CH:XDORD(I,J
)=100 THEN NO(I,J)=CH:CH=CH+1:GOTO 9
20
910 IF XWORD(I+1,J)<>100 AND NO(I+1
,J)<>0 THEN NO(I,J)=CH:CH=CH+1 GOTO 9
20
920 NEXT I
930 NEXT J
940 CH=1
950 FOR J=1 TO Y5IZ
960 FOR I=1 TO X5IZ
970 IF NO(I,J)<>0 THEN 1060
980 A2=1:Y2=J:GOSUB 770
990 N=X+I:Y=Y+4
1000 SUM=CH
1010 IF NUM(10 THEN GOSUB 2750+GOTO 10
50
1020 D$=STR$(XWORD:NUM=VAL(D$(1,11)+GOS
UB 2750:N=N+2
1030 IF D$(1,11)="0" THEN N=N+2
1040 NUM=VAL(A$(2,Z)):GOSUB 2750
1050 CH=CH+1
1060 NEXT I
1070 NEXT J
1080 RETURN
1090 REM CLUES
1100 GRAPHICS 0:SETCOLOR 2,0,15:SETCOL
OR 1,8,8:POKE 82,2 POKE 752,0:POKE 16,
64:POKE 53770,64
1110 ? :? "Please enter clues for A WO
rd 1"
1120 LPRINT "              ACROSS :"
1130 ? :? "ACROSS :"
1140 P$(1)=" ":P$(90)=" ":P$(11)=P$:CH
=1
1150 FOR X=1 TO Y5IZ
1160 FOR J=1 TO X5IZ
1170 IF NO(J,I)<>0 THEN 1190
1180 CH=CH+1
1190 IF NWORD(J,I)=100 AND XWORD(J+1
,I)<>100 THEN 1210
1200 GOTO 1280
1210 ? :? "Enter Clue for ";CH-1;" Ac
ross (";
1220 FOR K=0 TO X5IZ
1230 IF XWORD(J+K,I)<>150 THEN ? CHR$(
XDORD(J+K,I)),:GOTO 1250
1240 POP :GOTO 1260
1250 NEXT K
1260 ? ")":INPUT CLUE$
1270 IF CLUE$="" THEN 1260
1280 P$(2)=STR$(CH-1):P$(5)=CLUE$
1290 LPRINT P$
1300 NEXT J
1310 NEXT I
1320 LPRINT
1330 LPRINT "              DOWN :"
1340 ? :? "DOWN :"
1350 P$(1)=" ":P$(90)=" ":P$(11)=P$:CH
=1
1360 FOR I=1 TO Y5IZ
1370 FOR J=1 TO X5IZ
1380 IF NO(J,I)<>CH THEN 1510
1390 CH=CH+1
1400 IF XDORD(J,I-1)=100 AND XDORD(J,I
)<>150 THEN 1420
1410 GOTO 1510
1420 ? :? "Enter Clue for ";CH-1;" DWN
 (";
1430 FOR K=0 TO Y5IZ
1440 IF XWORD(J,I+K)<>150 THEN ? CHR$(
XWORD(J,I+K)),:GOTO 1460
1450 POP :GOTO 1470
1460 NEXT K
1470 ? ")":INPUT CLUE$
1480 IF CLUE$="" THEN 1470
1490 P$(47)=STR$(CH-1):P$(50)=CLUE$
1500 LPRINT P$
1510 NEXT J
1520 NEXT I
1530 ? :? "Okay. X-word Completed.":SO
SUB 2830
1540 FOR I=1 TO 500:NEXT I
1550 END
1560 REM LIST COMMANDS
1570 ? '       Move Word Across Down Ed
it "
1580 ? "       (HELP) to show Command
s."
1590 ? "       (SYSOT) to Print O-Wor
d."
1600 RETURN
1610 REM SET UP
1620 ? GR,"H":POP :GOTO
1630 ? "What sizes for your crossword
 (X x Y) ?"
1640 ? "X ";:INPUT N16,X5IZ
1650 IF X5IZ>15 OR X5IZ<3 OR X5IZ<>INT
(X5IZ) THEN 1640
1660 ? "Y-";:INPUT N15,Y5IZ
1670 IF Y5IZ>15 OR Y5IZ<2 OR Y5IZ<>INT
(Y5IZ) THEN 1660
1680 XD=(X5IZ*16)+4
1690 YD=Y5IZ*16
1700 GOSUB 2700
1710 DIM BWORD$(20,11),CLUE$(100),TEXT$
(30),O$(21,80(15),NOC20,11),P$(50)
1720 TRAP 4500:
1730 FOR I=1 TO Y5IZ
1740 FOR J=1 TO X5IZ
1750 XDORD(J,I)=32
1760 NEXT J
1770 NEXT I
```

```
1700 FOR I=0 TO YSIZ
1710 ADDR(I,1)=INT(XMOUSE(XSIZ+1,I)*16
0
1720 NEXT I
1730 FOR I=0 TO XSIZ
1740 XMOUSE(I,0)=INT(XSIZ*I/XSIZ+1)*16
4
1750 NEXT I
1760 DCOPY$=0:GOSUB 1:OX=OCOPY$
1770 MAGX=XB*15.9:MAGY=YB*16:XMIN=-5*YMIN
=0
1780 RETURN
1790 REM GRAPHICS
1800 GRAPHICS 8+16:SETCOLOR 2,0,15:SETCOL
OR 1,1,1
1810 POKE 752,1:POKE 82,0:POKE 16,64:P
OKE 53774,64
1820 ? #;" X-Board"
1830 ? "                By Jason Pearsond "
1840 COLOR 0
1850 DRAWTO X+XSIZ,Y+ADY
1860 NEXT I
1870 RESTORE 2060
1880 FOR I=1 TO 16
1890 READ A,T:X=X+5:Y=Y+5
1900 IF  NOT SIRIGIN THEN RETURN
1910 DRAWTO X+XSIZ,Y+ADY:GOSUB 1:GOTO 1
```

```
1920 NEXT I
1930 NEXT J
1940 DOC=INT(A/4214:ADY=DOC(0)*54
1950 GOTO 1940
1960 DATA 0,28,38,50,0,66,0,100,28,100
,50,28,00,100,100,100,100,00,70,50,100
,28,100,0,00,0
1970 DATA 50 30,28,0,0,0
1980 REM SOUND
1990 FOR I=14 TO 0 STEP -2
2000 SOUND 0,50,10,2
2010 SOUND 1,49,12,I
2020 NEXT I
2030 RETURN
2040 SOUND 0,55,12,15
2050 GOSUB 2220
2060 SOUND 0,0,0,0
2070 GOSUB 2220
2080 SOUND 0,55,12,15
2090 GOSUB 2220
2100 SOUND 0,0,0,0
2110 RETURN
2120 FOR I=0 TO 5:NEXT I
2230 RETURN
2240 REM TEXT
2250 SCRN=PEEK(88)+256*PEEK(89):OIS IX
I/81+IYT 41#40
2260 LCN SCRN+DIS
```

```
2270 FOR CHAR=1 TO LEN(A$)
2280 A$=A$(CHAR,CHAR):V=ASC(A$)
2290 IF V)127 THEN V=V-128
2300 IF V)31 AND V(96 THEN V=V-32 GOTO
 2320
2310 IF V(32 THEN V=V+64
2320 CL=57344+8*V
2330 FOR BYTE=0 TO 7
2340 POKE LCN+BYTE+40,PEEK(CL+BYTE)
2350 NEXT BYTE
2360 LCN=LCN+1
2370 NEXT CHAR
2380 RETURN
2390 REM PRINT XMODE
2400 FOR I=1 TO YSIZ
2410 FOR J=1 TO XSIZ
2420 IF XMODE(J,1)=32 THEN ? "Please f
ill all spares first.":GOSUB 2140:GOTO
 190
2430 NOTJ,I)=0:NEXT J
2440 NEXT I
2450 ? "Okay. Press any key to print s
olution."
2460 ? "Press ESC to abort or 0 to pri
nt X-Word ";
2470 CLOSE #1:OPEN #1,4,0,"K "
2480 GET #1,GET
```

Turn to Page 24 ▶

SUNARO

FREEPOST, PD BDX 78, MACCLESFIELD, CHESHIRE SK10 3YB
Telephone (0625) 25228 (no stamp required)

RAMPAGE
C £8.95 D £12.95

ROM CARTRIDGES

Arcon	14.95
Ball Blazer	14.95
Blue Max	14.95
Dreadnought Factor	9.95
H.E.R.O.	9.95
Loderunner	14.95
Pitfall	9.95
Pitfall II	9.95
River Raid	9.95

ATARI BUDGET CASSETTES

Arwolf (Blue Thunder)	1.95
Amercan Road Race	1.95
Cops & Robbers	1.95
Decathlon	1.95
Exterpator	1.95
Grand Prix Simulator	1.95
League Challenge	1.95
Pot Hole Pete	1.95
Pro Golf	2.95
Revenge II	1.95
Spead Ace	2.95
Zybex	2.95

ATARI CASSETTES

Ace of Aces	8.50
Atari Aces	8.95
Four Star Games II	8.95
Basil Mouse Detective	8.50
Druid	8.50
European Super Soccer	8.50
Football Fortunes	12.75
Four Star Games I	8.95
Gauntlet (64K)	8.50
Jewels of Darkness 64K	12.75
Kennedy Approach	8.50
Leaderboard	8.50
Little Devils	8.95
Mirax Force	8.95
Nightmares	8.95
Platform Perfection	8.95
Red Rat Double I	3.95
Red Rat Double II	3.95

Rescue on Fractalus ROM £14.95

Shoot em Ups	8.95
Silent Service	8.50
Silicon Dreams 64k	12.75
Spy Trilogy	8.95
Winter Olympiad 86 64K	8.50

ATARI DISKS

Basil Mouse Detective	12.75
Druid	12.75
European Super Soccer	12.75
F-15 Strike Eagle	12.75
Four Star Games I	8.95
Four Star Games II	8.95
Gauntlet 64k	12.75
Guild Thieves 64k	16.95
Gunslinger	12.95
Jewels Darkness 64k	12.75
Kennedy Approach	12.75
Knight Orc	12.75
Leaderboard	12.75
Little Devil	8.95
Mirax Force	8.95
Mini Office II	16.95
Nightmares	8.95
Red Rat Double Pack 1	8.95
Red Rat Double Pack 2	8.95
Silent Service	12.75
Spindizzy	12.75
Spy Trilogy	12.95
Winter Olympiad 86 64K	12.75

TIME & MAGIK
C & D £12.95

ORDER VIA MicroLink 72:MAG00623

Please add 50p handling to all orders under £5
Cheques/PO's payable to **SUNARO SOFTWARE (AU)**
Girobank Transcash to account 664 6638

SUNARO

◀ From Page 23

```
1450 IF KEY=27 THEN ? "Aborted.":GOTO
190
1500 IF KEY=81 THEN GRAPHICS 0:SETCOLO
R 2,0,15:SETCOLOR 1,0,0:POKE 752,1:POS
E 16,04:POKE 51774,64:GOTO 2540
2510 COLOR 1:PLOT 4,0:DRAWTO X0,0
2520 ? "Printing Selection. .."
2530 GOSUB 2990
2540 GOSUB 2780
2550 FOR K=1 TO Y5IZ
2560 FOR L=1 TO N5IZ
2570 IF NUMBER(L,K) 100 THEN X1=1 Y2=K:
GOSUB 290:GOSUB 270
2580 NEXT L
2590 NEXT K
2600 GOSUB 800
2610 ? "Okay. Press any key to print N
ORD ":
2620 COLOR 1:PLOT 4,0:DRAWTO X0,0
2630 CLOSE #1:OPEN #1,4,0,"K:"
2640 GET #1,KEY
2650 ? "Printing N ORDS ..."
2660 GOSUB 2990
2670 ? "Okay. Completed "
2680 GOTO 2100
2690 REM SCREEN DUMP
2700 COLOR 1
2710 FOR I=15 TO Y0 STEP 16
2720 PLOT 4,I:DRAWTO X0,I
2730 NEXT I
2740 EDD I=4 TO 80 STEP 16
2750 PLOT I,0:DRAWTO I,Y0-1
2760 NEXT I
2770 RETURN
2780 REM PLOT NUMBERS
2790 IF NUM(0 OR NUM)29 OR NOR(2)INT(NU
M) THEN RETURN
2800 RESTORE 2800+(NUM*10)
2810 READ B,X1,Y1:COLOR 1
2820 PLOT X*X1,Y*Y1
2830 FOR L=1 TO 8
2840 READ N1,Y1
2850 DRAWTO X*X1,Y*Y1
2860 NEXT L
2870 RETURN
2880 DATA 4,1,1,1,5,1,5,1,1,1,1
2890 DATA 3,1,1,1,5,5
2900 DATA 5,1,1,1,1,1,2,1,1,2,1,5,2,5
2910 DATA 6,1,1,1,1,2,1,1,1,3,2,2,5,1,
5
2920 DATA 4,1,1,1,1,3,3,3,1,1,5
2930 DATA 5,2,1,1,1,1,1,2,3,1,5,1,5
2940 DATA 5,2,1,1,1,1,1,5,3,5,3,1,3,1
2950 DATA 7,1,1,1,1,1,1,3,1,1,1,2,1,5,1,
5,1,1
2960 DATA 5,1,5,1,5,1,1,1,1,1,2,1,1,1
2970 DATA 5,1,5,1,5,1,1,1,1,1,1,2,1,1
2980 REM SCREEN DUMP 1050
2990 TRAP 2990
3000 SCREEN=PEEK(88)+256*PEEK(89):IOCO
=1:LP=1:SIZ42 4
3010 OPFSET=60
3020 OR PEEK(1570)=6 GOTO 3010 RESIDUE
 3000:FOR I 0 TO 171 READ A POKE 1536+
I,A:NEXT I
3030 FOR PR=0 TO LP:CLOSE #IOCO:OPEN #
IOCO,8,0,"P:" ? #IOCO CHR$(27);"9";CHR
$(27);"M";CHR$(13);CHR$(64+OFFSET);
3040 ON OFFSET=0 GOTO 3050 FOR I=1 TO
OFFSET ? #IOCO,CHR$(10) NEXT I
3050 DUMMY=USR(1536,IOCO SCREEN: SCREE
N=SCREEN+280:NEXT PR CLOSE #IOCO TRAP
40000:RETURN
3060 DATA 104,104,104,10,10,10,10,141,
182,6,104,141,177,6,104
3070 DATA 141,172,6,109,6,141,183,6,32
,54,6,24,122,74,6,105,1,141,172,6,173
3080 DATA 96,6,105,0,141,122,6,230 182
```



LINE	CHSUM
0	CAM (V)
1	CAJ (T)
2	CAK (T)
10	SNL (9)
20	SAM (Y)
30	SCN (9)
40	SFP (8)
50	CP5 (3)
60	KMS (C)
70	DFA (8)
80	AKA (4)
90	ISP (N)
100	PE1 (M)
110	S70 (V)
120	J08 (Y)
130	J70 (A)
140	JEK (K)
150	JMA (V)
160	SN9 (Y)
170	L85 (W)
180	UCA (C)
190	A97 (Y)
200	CUT (K)
210	MSW GR1
220	AF6 (K)
230	AT2 (M)
240	AFD (W)
250	JG1 (K)
260	NXR (M)
270	S26 (W)
280	JSA (C)
290	J5A (G)
300	A67 (S)
310	CYU (9)
320	TOF (9)
330	ES5 (A)
340	TYK (T)
350	ELL (6)
360	EW3 (C)
370	WAL (N)
380	RG9 (S)
390	DYU (9)
400	PUM (3)
410	PJO (K)
420	6L5 (W)
430	N7V (W)
440	UWT (S)
450	4IO (9)
460	AAV (Z)
470	TTK (P)
480	OL2 (H)
490	BMH (L)
500	C84 (W)
510	C1F (H)
520	CVA (S)
530	NU5 (X)
540	X9U (9)
550	UHP (S)
560	BQ4 (F)
570	YM9 (A)
580	FA3 (G)
590	AY% (M)
600	2F0 (F)
610	76J (K)
620	AG6 (P)
630	HV5 (F)
640	1TA (D)
650	P3B (C)
660	YNF (A)
670	6A4 (F)
680	DUX (3)
690	X6M (D)
700	Y5R (F)
710	8M6 (A)
720	D3Y (E)
730	NRX (5)
740	PDK (2)
750	944 (A)
760	DLY (1)
770	V9W (E)
780	AY6 (E)
790	75N (G)
800	TOF (3)
810	NL8 (D)
820	ESN (D)
830	N69 (D)
840	AF0 (C)
850	0H0 (F)
860	OSF (M)
870	0TY (E)
880	9XV (L)
890	VH5 (N)
900	WAH (U)
910	R8J (J)
920	N49 (Y)
930	MY9 (H)
940	DJ6 (C)
950	9L0 (7)
960	VPW (C)
970	N40 (S)
980	RPF (P)
990	X4M (M)
1000	SF0 (E)
1010	D5A (R)
1020	X50 (4)
1030	MA0 (9)
1040	UTG (E)
1050	TAX (V)
1060	N3S (W)
1070	N7S (W)
1080	VTK (U)
1090	BHM (Y)
1100	JK5 (J)
1110	IPF (4)
1120	4LW (5)
1130	Y7J (K)
1140	WPA (1)
1150	FCF (L)
1160	FJN (L)
1170	S0J (U)
1180	TNX (9)
1190	CK6 (A)
1200	P5V (K)
1210	CY2 (L)
1220	FHN (1)
1230	L5W (2)
1240	685 (1)
1250	NE5 (1)
1260	A22 (M)
1270	0W6 (2)
1280	04Y (P)
1290	XHK (R)
1300	N5S (9)
1310	N5S (8)
1320	VNX (H)
1330	4K1 (H)
1340	U9P (6)
1350	X0A (W)
1360	FNF (F)
1370	FUN (W)
1380	S6J (4)
1390	TXX (U)
1400	AKH (L)
1410	PK0 (8)
1420	CT5 (S)
1430	FTP (9)
1440	LLE (C)
1450	76U (E)
1460	NW5 (F)
1470	A02 (R)
1480	0T2 (3)
1490	DFY (R)
1500	XA5 (C)
1510	NG5 (9)
1520	NG5 (C)
1530	X6W (1)
1540	L02 (6)
1550	S4J (Y)
1560	DXN (T)
1570	PC0 (F)
1580	L3F (H)
1590	KF6 (M)
1600	W2K (L)
1610	BRN (F)
1620	AJT (M)
1630	446 (M)
1640	PDE (C)
1650	AR2 (K)
1660	PHH (2)
1670	AW9 (N)
1680	AK0 (S)
1690	OHV (X)
1700	T8K (W)
1710	3P5 (H)
1720	09C (K)
1730	FYP (2)
1740	G5M (L)
1750	ZMP (8)
1760	P1S (W)
1770	P1S (8)
1780	GRP (D)
1790	RRA (3)
1800	N0S (7)
1810	FXN (J)
1820	SPL (5)
1830	WWS (W)
1840	245 (7)
1850	JFE (N)
1860	UPK (M)
1870	E0N (W)
1880	U95 (F)
1890	BME (G)
1900	M1H (5)
1910	J43 (C)
1920	U5D (L)
1930	UGR (9)
1940	YUN (5)
1950	7H6 (L)
1960	UPK (D)
1970	O4U (K)
1980	6NF (4)
1990	7AN (5)
2000	YWK (P)
2010	KTV (2)
2020	AUT (1)
2030	MYI (2)
2040	VAG (2)
2050	PEW (R)
2060	800 (2)
2070	29J (5)
2080	DFF (4)
2090	GT5 (G)
2100	415 (1)
2110	S6C (C)
2120	MYT (1)
2130	VWL (7)
2140	SEL (1)
2150	SAJ (N)
2160	OST (W)
2170	SVJ (J)
2180	5NL (C)
2190	TOJ (6)
2200	TUT (E)
2210	VWL (A)
2220	E25 (M)
2230	VRL (L)
2240	DFP (P)
2250	TS0 (C)
2260	YW4 (T)
2270	L5A (O)
2280	1AR (W)
2290	K05 (6)
2300	FHN (H)
2310	7MR (O)
2320	SU5 (W)
2330	0KF (O)
2340	SEA (O)
2350	SK2 (E)
2360	X1G (5)
2370	S2T (C)
2380	S6J (4)
2390	9VP (6)
2400	FEQ (T)
2410	FLP (B)
2420	JLU (S)
2430	9AJ (E)
2440	N6T (E)
2450	E5P (K)
2460	0B5 (4)
2470	LX4 (L)
2480	82 (M)
2490	90W (P)
2500	M8K (H)
2510	U40 (6)
2520	G85 (1)
2530	19S (O)
2540	1RJ (A)
2550	63U (1)
2560	69P (A)
2570	M2E (P)
2580	P1T (M)
2590	P11 (A)
2600	T41 (F)
2610	72N (3)
2620	UA0 (V)
2630	LX4 (8)
2640	A52 (D)
2650	3Y6 (O)
2660	1L5 (1)
2670	05A (O)
2680	45W (U)
2690	6BP (Y)
2700	TNE (9)
2710	S94 (W)
2720	03T (U)
2730	N5T (U)
2740	LH6 (V)
2750	N57 (7)
2760	MYT T61
2770	WML (2)
2780	EAP (6)
2790	VV0 (D)
2800	J9K (V)
2810	9K8 (O)
2820	8H9 (S)
2830	WA0 (8)
2840	196 (C)
2850	JE9 (C)
2860	P9Y (O)
2870	WAL (G)
2880	FHY (B)
2890	O9V (G)
2900	41K (S)
2910	5VF (M)
2920	F67 (O)
2930	DXN (C)
2940	WAH (9)
2950	2WZ (W)
2960	32D (A)
2970	8QK (N)
2980	ERP (P)
2990	R2V (2)
3000	C59 (S)
3010	W7Z (B)
3020	107 (M)
3030	ACE (X)
3040	A45 (V)
3050	MCA (F)
3060	YPU (4)
3070	LXW (C)
3080	S1C (2)
3090	1KM (6)
3100	QN4 (6)
3110	UOM (7)
3120	APT (8)
3130	V4S (9)
3140	U0R (W)

Computerhouse UK are proud to announce the most powerful fully integrated business system for the Atari 8-Bit computers

TURBOBASE

FEATURES

Fully integrated package Standard U K defaults
3 relational databases word-processor,
Spreadsheet, Graphics facility
Full accounts system Report generator
Calendar with R TIME 8 support
Open invoicing, Inventory/Stock control system
Payroll system Flexible mailing system
User designer forms Generator Complete system error checking,
File Management system Customizing utilities
40 column or emulated 80 column
Easier to use than Dbase III/Rbase Lotus etc.
Detailed 700 page manual, includes a Quick course and Cookbook
Supports all memory/hardware upgrades ie. disk drives,
MIO board, hard disks, U.S Doubler/Super Archiver
R-Time Cartridge etc

U.S. version reviews

Computer Shopper	'the most powerful business package for any 8-bit computer and that includes the 8-bit IBMs
Antic magazine	'Outstanding Product award MAY 88
Acorn User Group (U.S.)	'Until you have Turbobase you don t have a database'
Atari Explorer	'By Christmas another million or more Atari 8-Bit computers will be purring away

How powerful is Turbobase?

Turbobase has successfully replaced a $37 000 air conditioning application and is now being used in many med/large U.S stores as an alternative to spending $20,000 on and IBM system

Retail Prices
40 column – £119 95/80 column emu – £129 95
Release date 15th August 88

SUMMER SALE SPECIAL
THE 1050 SUPER ARCHIVER II £59,95

The 1050 SUPER ARCHIVER obsolates ALL DISC DUPLICATING DEVICES currently available for the Atari 1050 It ELIMINATES the need for patches, and PDB files etc Copies are EXACT DUPLICATES of the original and will run on any drive Without exaggeration the SUPER ARCHIVER is the most powerful PROGRAMMING/ DISK DUPLICATING device available for the 1050!!! Installation consists of a plug-in chip and six simple solder connections

FEATURES INCLUDE

BUILT IN UI
DOUBLER
TRUE DOUBLE
DENSITY
SUPPORTS EXTRA
MEMORY
TOGGLE HEX/DEC
DISPLAY
SECTOR OR TRACK
TRACING
AUTOMATIC
DIAGNOSTICS
DISPLAYS HIDDEN
PROTECTION
ADJUSTABLE/
CUSTOM SKEWING
THE ONLY SYSTEM
THAT COPIES,
CREATES
PHANTOM/FUZZY
SECTORS
ELIMINATES
ARCHIVER
COMPATIBLE
PRINTER SCREEN
DUMP FACILITY
BUILT IN EDITOR
read, track
edit/35 sectors per track
AUTO-SPEED
COMPENSATION
HARDWARE/SOFTWARE
EXPANDABLE
BUILT IN CUSTOM
FORMATTER
up to 40 sectors per track
BUILT IN TRACK
MAPPER up
to 42 sectors per track
DISPLAYS/COPIES
D/D HEADERS
AUTOMATIC
FORMAT LENGTH
CORRECTION
SYSTEM
BUILT IN
DISASSEMBLER

*** SPECIAL OFFER ***
PURCHASE 1 SUPER ARCHIVER AND BUY THE SECOND FOR £55 00

NOTE. Many drive enhancements offer archiver emulation, this is the old 810 archiver The 1050 super archiver cannot be emulated due to it s highly advanced features

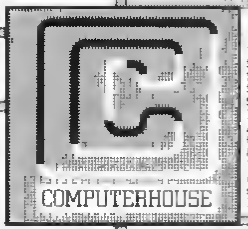
Includes Free 'OMNIMON' MONITOR OPERATING SYSTEM

THE CONTROLLER CARD P.P.B. II

XL £59.95 **XE £64.95**

BREAKAWAY FROM YOUR ATARI'S CONVENTIONAL COMPUTING ENVIRONMENT WITH THE CONTROLLER CARD PROGRAMMABLE PERSONALITY BOARD AN INTERNAL HARDWARE ADD-ON SPECIFICALLY DEVELOPED FOR THE ATARI 800XL/XE COMPUERS. The Controller Card allows you to add, from an impressive and expanding library utilities/enhancements that reside in memory above commercial/home produced software Activating any of these utilities will temporarily freeze the main program until the utility has completed it s task or act as an in line enhancement, and to impress you even further many of the utilities/ program enhancements are currently not available on any other business or home computer system! Take for instance:
The hardware is supplied with a free master disc which has the following facilities/utilities

SHQ ™ Snapshot Printer Dumper
14 System Programmable character sets
Superdump II + Memory Dumper
Colour Controller with lock
Auto-Scroll Control
I/O Noise Shutoff
Key Click Control
Inverse Flash control
Fast Cursor Control
Programmable Cassette Baud Rates
O.S Boot Menu Creator
400/800 Operating System Converter
Disk/Memory I/O Analyser/Tracer



ADDITIONAL SOFTWARE DISKS
For the Controller Card P P B. II

1029 Snapshot screen printer dumper	£12 95
SHQ Graphics/text enhancers	£9 95
Superdump III Toolkit	£16 95
Superdump IV Toolkit extension disk	£10 00
Superdump III and IV together	£19 95
Drop down help menu editor/designer	£12.95
Auto-menu 800 Emulator	£4.95
Omnimon resident monitor (P D)	£4.95
80 Column Emulator	£4.95
Ultramon monitor with Dos/Hex-dec converter/ compact screen dumper/full memory support	£4.95
Programmers guide source code disk	£12.95

SUMMER SALE SPECIAL
80 COLUMN
"RICHMANS' WORD PROCESSOR!"

Now! An 80 column word processor that works with any XL/XE Atari computer (it will also operate on any 400/800 computer having 52K or more of memory (special 4K static ram-packs are available for £39 95 which enhance the memory capabilities of 48K 400/800 computers!) The 80 column

RICHMANS WORD PROCESSOR is one of the most powerful yet simple to use word processors currently available for your Atari computer and it displays 80 columns on your screen!

JUST A FEW OF AVAILABLE FEATURES
Super simplicity true footnotes subscript superscript, underline printer driver creation, page numbering, margin and header adjustments endfill tab adjust view and preview block delete or insert DOS functions, available memory merge colour change (background, luminence and border) number of lines per page, a unique recover an accidentally deleted line facility and much much more (most of which is automatic or set to a standard default!)

A TRULY GREAT WORD PROCESSOR AT A FANTASTIC PRICE!
£25.00

1050 **THE "SILENCER"!** **810**

Dramatically quietens your disk drive and allows you to WRITE to BOTH SIDES of any disk! Eliminates annoying chunk-chunk-chunk while formatting and the LOUD grinding noise when reading BAD SECTORS and REDUCES head wear by approximately 50% Also allows writing to both sides of any disk WITHOUT dangerous cutting or notching. Five minutes installation No soldering

Intro price £17.95

14 Romily Court, Landridge Road, Fulham, London SW6 4LL. Tel: 01-731 1276
Partnership: JL May, C Lakey

COD terms available

BIG SCREEN ACTION



VCS 2600 GAMES CARTRIDGES
FOR USE WITH THE ATARI VCS 2600 GAMES CONSOLE

OVER 40 TITLES AVAILABLE
FOR MAIL ORDER ENQUIRIES PLEASE CONTACT

SILICA SHOP

1-4 THE MEWS HATHERLEY ROAD SIDCUP KENT DA14 4DX
TEL: 01-309 1111

RRP £9.99



PRO WRESTLING
RRP £9.99

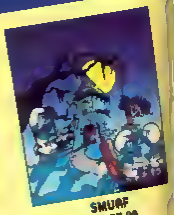

CARNIVAL
RRP £7.99



SKATE BOARDING
RRP £9.99



GHOSTBUSTERS
RRP £9.99


SMURF
RRP £7.99


RIDDLE OF THE SPHINX
RRP £9.99


WIZARD OF WOR
RRP £7.99



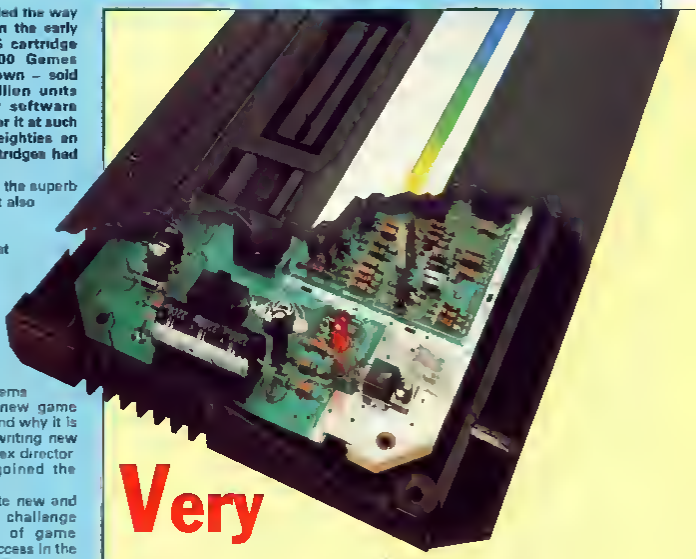
COMMANDO
RRP £14.99



PRIVATE EYE
RRP £9.99


ATLANTIS
RRP £9.99

EXCLUSIVELY DISTRIBUTED BY PALAN ELECTRONICS LTD TRADE ENQUIRIES PLEASE CONTACT
PALAN ELECTRONICS, PRESTWICH HOUSE, BRUNSWICK INDUSTRIAL PARK, BRUNSWICK WAY, LONDON N11 1HX
TEL: 01-368 5545 TLX: 925430 PREST G FAX: 01-361 2054



Very Clever System

In Part 1 of his new series NEIL FAWCETT reveals the facts about the 2600 Games System

OVER the years Atari has led the way in home entertainment. In the early seventies the Atari VCS cartridge game system – or 2600 Games System as it is now known – sold between 35 and 40 million units worldwide. Third party software houses produced games for it at such a rate that by the late eighties an estimated 150 million cartridges had been sold

Not only does this show the superb ahead-of its time design, it also says something for Atari's ingenious sales strategy, which swamped the market

To back this up it is estimated that one million 2600 systems were sold last year, more than 100,000 of them in the UK

With companies like Epyx, Activision and CBS supporting it with what seems a continuous stream of new game titles it's easy to understand why it is so popular. Atari is also writing new games for the 2600 and an ex director Nolan Bushnell has rejoined the company

His main aim is to create new and more exciting games to challenge today's growing breed of game players. Judging by his success in the past, you never know what's going to come out next

What is the VCS?

The most common mistake people make when buying the 2600 is that they think it's a programmable home computer, which it is not. It's basically a dedicated box of electronics to be attached to your television to play games plugged into it. You can't attach a disc drive or tape deck, nor can you type in the listings which appear in *Atari User*

What you CAN do with it is have a lot of fun. It makes an ideal companion for any 8 bit Atari home computer. If dad's busy typing away and the kids want a to play a game just plug the VCS into the TV and away they go

And that's the most endearing feature of the 2600, its ease of use. You plug a 9v DC adapter into the mains socket, a jack plug into the 2600 and an aerial lead into the television. Tune it in and you can have hours of fun playing your favourite game. *Atari User* will be taking a look at the games available – both old and new – and reviewing them each month as we do the 8 bit computer games

Each month we will be talking to different suppliers about what cartridges they stock. To start with we've compiled a list from the catalogue of Palan Electronics

● *Palan Electronics can be contacted at Prestwich House, Brunswick Industrial Park, Brunswick Way, London N11 1HX. Tel: 01 361 2054*

Boxing
Chopper Command
Subterranea
Enduro
Private Eye
H.E.R.O
Freeway
Star Voyager
Sky Voyager
Sky Jinks
Cosmic Ark
Beamrider
Quick Step
Tennis
Laser Gates
Seahawk
Nightmare
Skate Boardin
Ghostbusters
River Raid
Fire Fighter
Wing War
Kung Fu Master
Riddle of the Sphinx
Atlantis
Moonsweeper
Demon Attack
Skindiver
Space Shuttle
Exocet
Pro Wrestling
Laserblast
Quest for Quintans Roo
Grand Prix
Megamania
Keystone Kapers
Dragster
Spider Fighter
Seaquest

Turn to Page 28 ▶

California dreamer

Product California Games
Price £9.99
Supplier Epyx/US Gold Units 2/3 Holford Way, Holford Birmingham B6 7AX
Tel 021 356 3388

'Hey, thrasher! Don'tcha ever wear knee pads?'

'Didja see that? He caught some air on the half pipe! Radical!'

MEET the wonderful world of the half pipe skateboarders – just one of four events on this new California Games cartridge from Epyx. The others are footbag, BMX bike racing and surfing. Together they make a compendium of the most exciting street sports to sweep across America.

You compete for a trophy in each event. The first, footbag, is described as being the most laid back event. Basically it's like juggling with your feet. You have to keep a bag in the air for 90 seconds without using your hands.

I found this to be one of the hardest events, but great fun. If you get your timing right you can keep the bag high in the air – and score extra points for performing stunts.

Next comes half pipe skateboarding. This is one of the most exciting sports to watch and the mixture of strength and coordination can result in some awesome results.

You are given 90 seconds to perform as many stunts as possible. Timing is all important – from getting on to the skateboard (as long as you don't fall off the pipe. Speed is another important factor, if you're not going fast enough you won't be able to perform a jump of a useful size.

Once you've completed the skateboarding it's time to use your pedalling foot to use my skills in the BMX race. The idea is to cover the course – avoiding the obstacles – in the fastest time.

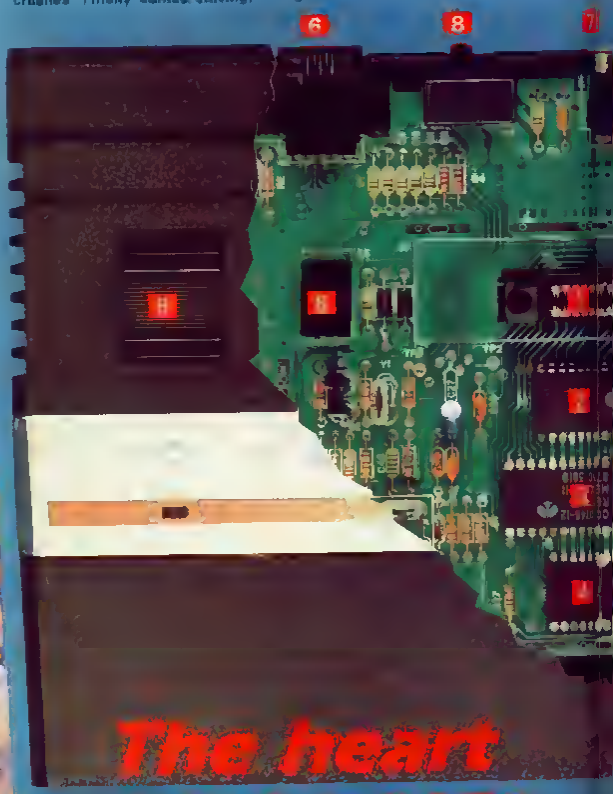
Ramps, logs, tree stumps and trees make life difficult and going too fast can result in some nasty crashes. Finally comes surfing, which started life as the entertainment of the Hawaiian kings but now rules the Californian coastline.

The art of competition surfing lies in keeping as near to the curl of the wave as possible and manoeuvreing your board smoothly at high speeds.

I found finishing this event very complicated but I still enjoyed playing it.

Overall, California Games is an excellent cartridge and well worth the £9.99 price tag. Nice graphics and neat sound effects add a wonderful feeling of reality to each game.





The heart of the VCS

The ghost with the most

Product Ghostbusters
Price £9.99
Supplier Atari World 15 Fennel Street, Manchester
Tel 061-834 4941

"HEY, anybody seen a ghost"? Do you remember the superb film with Bill Murray and Dan Akroyd? You do? Well in that case you're bound to enjoy this superb game for the 2600 which is based on the film.

For £9.99 you get paranormal activity, franchise applications, ghost catching gear, one hit song, slime, laser stream throwers, a street map, the temple of Zuul and a zillion ghosts. That's what I call value for money.

I remember playing the 8 bit Atari version of Ghostbusters when it first came out and thoroughly enjoyed it. The story line is very simple. Hundreds of evil ghosts and ghouls are heading for the centre of the city in an attempt to turn it into Spook Central. Luckily for the city you and your friends have just decided to form your own Ghostbusters franchise.

The bank has loaned you $5,000 to start the company. It has also told you to earn as much money as you can busting ghosts or it will close you down.

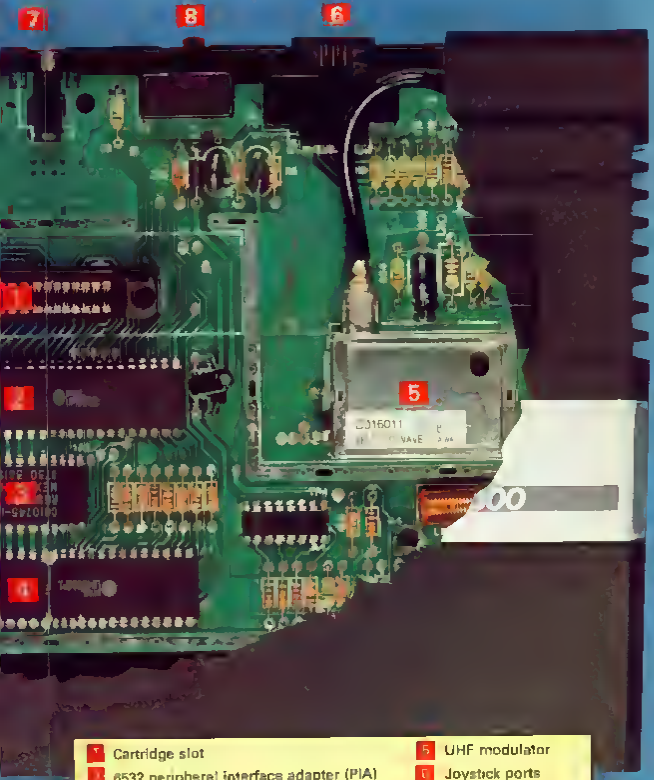
You have until the city's PK energy level reaches 9999. After this point it won't make any difference what happens because the spooks will have taken over.

You must buy all your equipment and a vehicle to transport yourself from one location to the next. Equipment ranges from an image intensifier for $800 to a ghost vacuum for $500. Don't squander your money, think very carefully about what you will need to bust the ghosts.

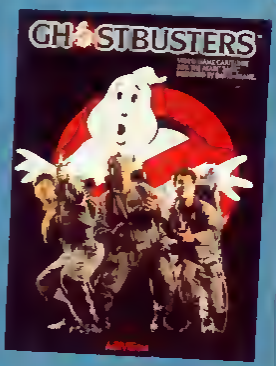
Having chosen everything you can begin the game. Your ghostbusters symbol will appear on a map of the city and several haunted houses will be revealed. Drive as quickly as you can to the haunted house and deploy your traps. Then activate your laser stream throwers and bingo you've trapped a ghost. Don't cross the beams – that would mean disaster.

Although it sounds very easy you'll find the game gets harder as it goes along. Considering the 2600 is only a games system the standard of Ghostbusters is superb.

Neat graphics and excellent sound effects give you wonderful value for money. If you haven't got it go and buy it now.



1. Cartridge slot
2. 6532 peripheral interface adapter (PIA)
3. 6507 central processor unit (CPU)
4. TV interface adapter (TIA)
5. UHF modulator
6. Joystick ports
7. DC power input
8. Control switches



Turn to Page 30 ▶

Rom chop

Product Kung Fu Master
Price £9.99
Supplier Palen Electronics Ltd, Brunswick Industrial Park, Brunswick Way, London N11 1HX
Tel 01 361 2054



DEEP within the temple of the evil wizard lies the weeping Princess Victoria. Held against her will she awaits a young hero to rescue her. Charged with the task of retrieving her, you as a Kung-fu master are the only one strong enough to defeat the evil one's minions.

Trained in the art of karate you must penetrate the five treacherous levels and battle with the tireless army of enemy soldiers.

Using your superb martial art skills you oust tough henchmen, knife-throwers, dragons and a few other not very nice types.

If you do manage to defeat everybody on a level, you'll automatically move to the next. In the upper left quarter of the screen you'll see some numbers and bars holding the current status of several game variables.

They are the timer, your and your enemy's energy bar and lives remaining.

Watch your energy bar carefully, because when it runs out so does your life. That of your enemy only indicates the strength of certain soldiers, usually the mean-looking one at the end.

A number of contrasting monsters and soldiers await you – henchmen, knife throwers, midgets, dragon balls, snake baskets, killer moths and the five biggies. All use different fighting techniques, so be very careful when engaging them.

Of all the people you must fight the biggies are the toughest. They appear at the end of a level and when they hit you they make a large dent in your energy level.

I remember Kung-fu Master from the arcades. The 2600 version may not be as graphically good as the arcade version but it has the atmosphere and playability of the original.

I can recommend this cartridge to anyone who likes sport simulations – if you can call a karate game this.

Our hero

Product H.E.R.O.
Price £9.99
Supplier Palen Electronics Ltd, Brunswick Industrial Park, Brunswick Way, London N11 1HX
Tel 01 368 5545

DUTY calls and Roderick Hero – or R. Hero to his friends – is always at your service. Being an outward going, all-around good guy and idol to fledgling heroes around the world, he is always there when trouble looms.

In this superb arcade adventure game you take the role of Roderick and rescue trapped miners lost in the subterranean catacombs of Mount Leone. Decked out with the latest and most up-to-date rescue equipment – personally designed by Roderick – you must enter this underground world and find those lost men.

Several starting levels can be chosen by pressing the game select button. This means you don't have to start on level one all the time. You can jump to level 17 if you want, but be careful it's a deadly serious level. The only way to explain the various pieces of equipment you have is to let Roderick do it himself.

Prop-pack – *My greatest inspiration, to which I'm very attached. This propeller pack allows me to fly where I wish.*

Microlaser Beam – *"The helmet comes equipped with a microlaser beam. With it I can blast vile vermin. The beam can also slice through walls, but this takes time and time costs precious power.*

Dynamite – *"You begin each game and each mine shaft level with six sticks of dynamite, each of which can demolish a small wall."*

A number of possible deaths await as you explore the labyrinth, so you'll have to keep on your toes. Walls which glow red contain magma and will burn you to death if you touch them.

Killer creatures inhabit every tunnel and they tend to be found in the most awkward places – like the bottom of a shaft when you drop down it. Some areas are illuminated by lanterns but if you land on them the lamps will go out and you'll have to continue in the dark.

The graphics are absolutely astounding for a 2600 cartridge – this is the best conversion of a home computer game I have seen for the VCS. Sound effects are very well done, and when combined with the quality of gameplay you get excellent value for money.



Our thanks to Atari World Manchester for supplying the 2600 hardware used in this article.

Mini Office II



6 powerful home and business programs in just ONE package – at a price that simply can't be matched!

WORD PROCESSOR
Compose a letter, set the print-out options using embedded commands or menus, use the mail merge facility to produce personalised circulars – and more!

SPREADSHEET
Prepare budgets or tables, total columns or rows with ease, copy formulae absolutely or relatively, use a wide selection of mathematical and scientific functions, recalculate automatically – and more!

GRAPHICS
Enter data directly or load data from the spreadsheet, produce pie charts, display bar charts side by side or stacked, overlay line graphs – and more!

DATABASE
Build up a versatile card index, use the flexible print-out routine, do powerful multi-field sorting, perform all arithmetic functions, link with the word processor – and more!

COMMS MODULE
Using a modem you can access services such as MicroLink and order a wide range of goods from flowers to software, send electronic mail, telex and tele-messages in a flash – and more!

LABEL PRINTER
Design the layout of a label with the easy-to-use editor, select label size and sheet format, read in database files, print out in any quantity – and more!

DATABASE SOFTWARE Europa House, Adlington Park, Adlington, Macclesfield SK10 4NP

ORDER FORM

Please send me Mini Office II for the Atari 400/800/XL/XE (48k required) on 5¼" disc for £19.95

I enclose cheque made payable to Database Software or debit my Access/Visa card

Exp. date

Signed

Name

Address

ORDER HOTLINE: TEL: 0625 879920

SEND TO: Database Software, FREEPOST, Macclesfield, Cheshire SK10 4YB

ATUS



Getting to the root of the problem

Better disc handling with PHILIP DOBSON's suparb program

IF you have ever had to take directory after directory of successive discs in ordar to find a particular file or program – and who has not? – this utility could ssve you a lot of time, disc changing and the odd expletive as well

It s designad to help you keep a better track of which files or programs are on which of your discs and does so in a simple way In principle the program mimics to a limited extent the type of file handling directory found on most Desktop PCs However, if you have never used one this will mean nothing to you so let me briefly explain it

The Dos on a PC usually allows you to split a disc into a number of different areas – directories – at will each area being an independant section from others on the disc These directories are given a unique name when they are created, usually somathing meaningful For example, a directory holding files created by a word processor might be called WORDPRO

These directories can have files and programs saved in them in the same way we Atarians would use separate discs to save different types of files or programs on

However the beauty of a multiple directory system is that in order to find out what is in another directory – in our case on another disc – you d

DCS command syntax

Where DIRNAME is used in the following list of commands you should define a word or name of your choosing up to eight characters in length The printer routines have been written for an Atari 1029 and will have to be modified to work with a different printer

D \ROOT>	The program prompt The name displayed between \ and > is always that of the active directory
CD\DIRNAME	Changes the active directory to that nominated after the \ to the one you want to investigate
CD\	Returns you to the ROOT directory.
MKDIR\DIRNAME	Used when you wish to add another disc directory to the ROOT disc Once you have created a directory with this command label the correspon ding disc with the same name It removes the need to be prac ticed in the art of small writing in order to squeeze the disc contents on to the disc label When DCS prompts you to *Insert SOURCE Disc* in this procedure, the disc you wish to take the directory from should be put into drive one
RMDIR\DIRNAME	Deletes or removes a DIRectory from the root disc
MFDIR\DIRNAME	Modifies the contents of the nominated directory to be re written after the original has been altered
PNDIR\DIRNAME	Prints a hard copy of a nominated directory
DIR	Displays the contents of tha active directory
DIR\	Displays tha contents of all direc tories filed on the ROOT disc
FORM	Formats a disc Ensure it is a blank disc you put in the drive as any data pressant will have vanished forever after it has been formatted
QUIT	Causes the program to modify ROOT DIR if directories have been created or dalated on the ROOT disc It also exits you from the Root program

PROGRAM BREAKDOWN

20 – 50	Initialises program	1880 – 1900	Tell the user certain operations may only been done at the D \ROOT>" prompt
70 – 200	Main control loop	1920 – 2010	Amend ROOT DIR file if any creation or deletion of directories takes place
230 – 600	Extracts new directory filename, reads in directory from source disc, writes new directory file and modifies an existing directory	2030 – 2090	Deal with errors which may occur
620 – 860	Delete an existing directory from Root disc	2110 – 2430	DIMension variables opening screen and date input routine
880 – 1300	Deal with DIR requests from the user	2430 – 2510	Decide course of action, access exisiting Root disc or creates a new one
1320 – 1590	Print a hard copy of directory	2520 – 2660	Create a new Root disc
1610 – 1760	Format disc routines	2690 – 2890	Access an existing Root disc directory
1760 – 1790	Validate the directory and stop any file duplication		
1810 – 1860	Test the Root disc is in the drive when required		

simply key in a command to change the active directory to the one you wish to interrogate and then enter DIR – the same as option A on DOS 2.5 – to find out what files exist on the disc

When run, this program will allow you to use one disc as a ROOT directory – one containing all other directories you have chosen to create.

The way DCS does this is to read a directory – not on a commercial disc as this may be unreadable – from a disc of your choice and place a copy of its directory into a file on the disc you use to run the program from. From now on I will refer to this as the Root disc

Next, by entering one of the various commands available within DCS at the program prompt, you will be able to perform a number of operations as outlined in the command syntax table including getting a hard copy of any disc's directory

Printed directories are not only formatted far more neatly than choosing the A **P option on Atari Dos but are also date stamped. If you are using DCS simply to trace a particular file or get a hard copy of a disc's directory, there will be no disc changing involved once the Root disc is in the drive, even though you will be able to access directories for as many discs as are handled by DCS

However there are times when some disc changing is unavoidable such as adding new directories to the Root disc and deleting or modifying an existing directory record

Modification of an existing directory has to be performed when a disc's content has been altered, but as in all these instances, it is a matter of following several on-screen prompts. You can exit from the procedure at any time by pressing a key other than Escape or one required by the program.

The DCS program doesn't have to reside on the disc it uses to store information. What I do is notch the opposite edge of the disc the DCS program is on and use side two to create the Root disc required.

Note that in this case DCS will handle a maximum of 59 directories from other discs. This figure is determined by the limits of the 1050 drive, since it can only handle 64 files a disc. Two Dos files, plus the DCS program file and two files that DCS itself requires, makes up the difference.

The *nuts and bolts* of the program are probably best explained by stepping through what it does the first time it is run.

The opening screen will ask you for the date which is used to date stamp newly-created directories and also hard copies of any directory you choose. You are then asked if you wish to access an existing root disc or create a new one. In both instances all you are required to do is follow the prompts.

If you are making a new root disc DCS will automatically create the two operating files it requires – ROOT DIR and DISKNAME.DTA.

The latter file simply contains the word ROOT and is used in the various I/O routines to ensure the correct disc is being used – this prevents the program from writing files to any other disc but the Root disc. The former holds a list of user defined directory names.

Once the program has initialised the prompt D:&ROOT> will be displayed and the program will wait for you to enter one of the available commands. Like most software which deals with user input/output, DCS is pedantic about syntax, so care should be taken when entering a command.

You can find out from the command table exactly what the syntax for each is and what the command will do. I have also included a command which will format discs in single or enhanced density. Finally, the Disc Cataloging System has one golden rule you must observe at all times. Key in the QUIT command at the program prompt after you have finished editing a disc. If you don't and you have created or deleted directories the file – ROOT.DIR – will not be amended and new directories you thought you had created will not be shown.

```
1 REM ****************************
2 REM *  D;sk CatalogU;ng System  *
3 REM *           by             *
4 REM *     Ph;l;p Dobson         *
5 REM *     (c) ATARI USER        *
6 REM ****************************
10 MEM=0:DB=0:OLD=0
20 GOSUB 2110
30 TRAP 40:A$=" PRG:"+D:\ROOT}"
40 ? :? "Remember to ";CHR$(34);"UNIX
";CHR$(34);" at the end OF this sessIOn
 ;F you have deleted, or"
50 ? "created any directories "
60 REM ADD MORE LOOP HERE
70 ? :? POS; INPUT N1$:DSC$=N1$:IF DSC
 THEN 150
80 IF LEN(DSC$)<3 THEN 190
90 IF DSC$(3,3)="\" THEN GOSUB 700:G
OTO 70
100 IF DSC$="DIR" THEN GOSUB 880:GOTO
 70
110 IF DSC$="UNIX" THEN GOTO 1920
120 IF DSC$="FORM" THEN GOSUB 1610:GOT
O 70
140 IF LEN(DSC$)<5 THEN 150
150 IF DSC$(1,3)="MKD"OR" THEN GOSUB 2
30:GOTO 70
160 IF DSC$(1,3)="RMD"OR" THEN GOSUB 6
20:GOTO 70
170 IF DSC$(1,3)="MFD"OR" THEN MAP-I G
OSUB 230:GOTO 70
180 IF DSC$(1,6)="PUDIR" THEN GOSUB 1
320:GOTO 70
190 ? :? "Syntax Error "
200 GOTO 70
210 REM MAKE WORK OUT NEW DIR NAME AN
220 REM ***  MKDIR  MFDIR        ***
230 IF PRS()"D:\ROOT}" THEN GOSUB 1800
```

Turn to Page 34 ▶

◀ *From Page 33*

```
DEFUNC
240 DIS$=DS$(7,LEN(DS$))  IF LEN(DIS
$)<40 THEN DIS$=DS$+LEN(DIS$)*" "
  ":REM 8 SPACES
250 GOSUB 1760:IF FLAG 640 NOF=1 THEN
270
260 IF FLDG THEN ? "Directory Alre
ady exists" DEFUNC
270 IF DIS$<>'GOOI    " THEN ? :? "Y 0
OOF Directory Not User Alterable " DEF
UNC
280 FN$ "D:"+FN$(LEN(FN$)+1)-DIS$
290 ? :? "Insert FUNCTION Disk, Press R
ETURN";
300 GET #4,SP:IF SP <> 27 THEN ? :? .? "O
peration Aborted ":DEFUNC
310 IF SP()32 THEN 300
320 REM NOW GET DIRECTORY FROM DISK S
330 TRAP 340:OPEN #7,6,0,"D:* *":FOR=0
 TO 720 I60
340 GOSUB 2830:CLOSE #7:? :DEFUNC
350 TRAP 40000:? "  ;? ;DR$ ""
360 REM DR CONS  EOS SHIFT-DELETE
370 FOR I = 1 TO 64
380 IF GET #7,F$ :LEN(F$)=1 "Y":F$;
390 IF F$(8,16)="FREE SECTORS" THEN EO
F=I*F$(LEN(F$)+1)-"  "
400 GOSUB(LEN(DR$)+1)-F$ IF EOF THEN POP
 :GOTO 420
410 NEXT I
```

```
420 ? "Dir" CLOSE #7
430 ? :? "Insert FUNCTION Disk  Hit RETURN
";
440 GET #4 KEY IF KEY=27 THEN ? :? :?
"Operation Aborted ":DEFUNC
450 IF KEY()32 THEN 440
460 ? :GOSUB 1010 IF  NOT OK THEN ? :?
 :? "    Operation Aborted " ? :DEFUNC

470 IF NOF THEN 510
480 REM UP SET FLAG TO OC WRITE DIR UP
        UP ONLY UPD CREATE          UP
490 OPEN(LEN(DIS$)+11=DIS$ DIS(LEN(DIS$)
)-1:=6A)ES UP=1
500 ? :? "Creating New Directory ",DIS
$,
510 OPEN #7,8,0,FN$
520 ? :? :? "Writing New Directory ";
530 REM
540 FOR I= 1 TO 64
550 POKE #7 DR$(I*16-15,I*I+7)
560 NEXT #:CLOSE #7
570 ? :? :? "Directory Written."
580 NOF = DR$=""
590 ?
600 DEFUNC
610 REM ****   ******      ********
620 DIS$=DS$(7,LEN(DS$))
630 IF DIS$<>'GOOI' THEN ? :? "Impass
ible to Delete ROOT Directory,":" REFUN
C
640 IF DIS$<>POS(4 LEN(POS) 1) THEN ?
```

```
 ? "Cannot Delete Active Directory ":
DEFUNC
650 IF LEN(DIS$)<(0 FOR DIS$(LEN(DIS
$)+1)="          ":REM 8 SPACES
660 GOSUB 1760:IF  NOT FLDG THEN ? :?
"      Directory Does'not Exist " DEFU
NC
670 FN$="D:" FN$(LEN(FN$)+1)=DIS$:FS=
""
680 ? :? "Delete Directory ",FN$(3);"
 (Y)? ";GET #4,YN IF YN<>89 THEN ? :D
EFUNC

690 GOSUB 1010 IF  NOT OK THEN ? :DEFU
NC
700 ? :? :? "Deleting Directory ",
710 TRAP 720:XIO 33,#7,8,0,FN$:GOTO 73
0 REM DELETE FILE
720 GOSUB 2810 ? :DEFUNC
730 TRAP 40000:IF (NP+I*17)<LEN(DIS$) T
HEN DI$=DI$(1,NP+I*17-1)!GOTO 760
740 DI$(NP+17 LEN=DI$((NP+1)*17-16,LEN
(DI$))
750 ? :? :? "Directory Removed":DLO=I
760 DEFUNC
770 REM UP CHANGE RETURN DIRECTORY DR

780 IF DS$="D:\" THEN DD$="D:\ROOT":
DEFUNC
790 DIS$=DS$(6,LEN(DS$))
800 IF DIS$ POS(6,LEN(POS) 1) THEN ?
:? "In that Directory Now !" DEFUNC
```


GET AHEAD OF THE REST WITH PULSAR

SPEED UP YOUR PROGRAMMING with

FIG FORTH



THE NEXT DIMENSION

THE NEXT DIMENSION

The fast and versatile language for the 8 bit Atari with a minimum of 48k memory

FIG FORTH comes with useful sample programs and can also be used with an ST MOUSE with no hardware modifications

FIG FORTH DISK
£14.95 inc. Postage

FIG FORTH
£35 inc. Postage

See Review in next month's issue

NEW ON THE MARKET

MOUSE HANDLER

CAPABLE OF SMOOTH PRECISION DRAWING

ST MOUSE with no hardware modifications for use on any 8 bit Atari

ST MOUSE + HANDLER DEMO PROGRAMME
£24.95 inc. Postage

See review in next month's issue

PUBLIC DOMAIN SOFTWARE
ALL DISKS £2.50

Send S.A.E. for full Price list.

OUR LATEST RELEASE

PROCOPY

If you are tired of waiting for your games to load

PROCOPY IS THE ANSWER!

Procopy will copy tape/disk/ ROMS and save them to disk for SUPERFAST LOADING

REQUIRE XL/XE

DON'T PLAY THE WAITING GAME

ORDER PROCOPY NOW!

PROCOPY (disk)
£14.95 inc. Postage

PULSAR SOFTWARE LTD

4 Church Hill Road
East Barnet
Herts EN4 8TB

TEL:
01-441 0799

Allow 28 days for delivery

```
810 DNL=LEN(DIR$):IF DNL(8 THEN DIR$=
CLEAR:DIM DIR$(DNL):"          ":REM 8 SPACES
820 GOSUB 1780:IF FLAG THEN 840
830 ? :? "Directory Doesn't Exist":
RETURN
840 DIR$=DIR$(1,DNL)
850 PRS="8 \".POS(LEN(POS$)+1)-DIR$:RD
S(LEN(PRD$)+1)="\"
860 RETURN
870 REM ON OPEN NOTE DIRECTORY  800
880 OLL=8:DIR$=PRS(4,LEN(POS$)-1):IF D
IR$()"@DOT" THEN 1000
```

VARIABLES

RT$	Holds the names of each directory file created by the program
PR$	Holds the program prompt including the name of the active directory
DR$	Temporarily holds any directory read from a disc or from a directory file
F$	General purpose string which holds individual filenames
ND	If set, signifies a new directory file has been created. Causes ROOT DIR to be amended
DLD	As for ND but only for directory files deleted
MFD	If set tells the program the operation is only a modification to a directory file

```
890 IF DSC$(LEN(DSC$))<>"\" THEN OLL=5
900 ? :? "Directory of Files in ",DIR$
;? :?
910 P=8:FOR DR=8 TO LEN(DIR$)/17
920 FREE 85,8:? #1;DOS(P+17-16,P+17 9);
" ";DIR$(P+17-8,P+17);" (DIR)"
930 IF P=2 THEN P=8:?
940 DEC: DR=DR-1:IF P>2 THEN ?
950 ? " ? :? #8;1;" Directory(s) "
960 IF OLL THEN ? :? :? " More ~"; GET
#4,SP:? :GOTO 990
970 RETURN
980 REM 00 DIRECTORIES FROM ALL DRV
990 IF LEN(DIR$)/17=1 THEN RETURN
1000 FOR DR=2 TO LEN(DIR$)/17
1010 DIR$=RT$(DR*17-16 ,DR*17-9) :IF LE
N(DIR$(DR*17-8,DR*17-1))=8 THEN DIR$(LEN(DIR$)+1)="
    ":REM 8 SPACES
1020 ? :? "Directory is :8 ";DIR$ ? :
?
1030 GOSUB 1880
1040 ? :? :? "- More -"; GET #4 KEY:IF
 KEY=27 THEN POP :? :RETURN
1050 ? :NEXT DR:? :RETURN
1060 DIR$=DOS(P+17,P+17+DOS(P+17)-1):IF LEN(DI
R$)<8 THEN DIR$=DIR$(LEN(DIR$)+1)="
    ":REM 8 SPACES
1070 ? :? "Directory is :8 ";DIR$ ?
1080 FOR F=P TO P+16 STEP 8:P=F
1090 IF DOS(LEN(DOS$))<>"\" THEN F=F+1
:GOTO 1090
1100 IF F=P THEN RETURN
1110 F$=DOS(P+1,F-1):P=F+1:RETURN
1120 FOR RE=1 TO 8
1130 TRAP 1140 OPEN #3,8,8,F$:CLOSE #3
:? :RETURN
1140 GOSUB 2830:CLOSE #3 :? :RETURN
1150 FOR RE=1 TO 8
1160 TRAP 1190 OPEN #3,8,8,F$:CLOSE #3
:? :RETURN
1170 NEXT RE
1180 CLOSE #3
1190 IF RE=8 THEN RETURN
1200 P=1:? #3;"Directory of Files on ",
DIR$
1210 FOR RE=1 TO RE-1:P=P+17
1220 ? DOS(P+17-16,P+17 7);" ";DOS(P
+17-8,P+17);:P=P+17:IF P=1 THEN ? " |
";
1230 IF P=2 THEN P=8:?
1240 IF P=17 THEN P=1:? " More -
";:GET #4,SP:? :?
1250 NEXT P8
1260 IF P>8 THEN ?
1270 FREE 82,2:? :? SQR(PRN17-16,P+17
),"  "P+17;" Files."
1280 IF DEL THEN RETURN
1290 DEL=8
1300 REM ***********************
1310 IF LEN(DSC$)<>8 THEN ? :? "Remain
ate Directory Please ":DEL=8
1320 IF P$(2)="@:\ROOT" THEN GOSUB 140
0:RETURN
1330 DIR$=DSC$:? LEN(DSC$):IF LEN(DI
R$)<8 THEN DIR$=FLEN(DIR$):REM 8 SPACES
1340 GOSUB 1780:IF  NOT FLAG THEN ? :?
 "Invalid Directory " DEL=8
1350 ? :? "Ready Printer - Press ANY K
ey ", GET #4,YN:?
1360 TRAP 1300 OPEN #3,8 8,"P:":GOTO 1
390
1370 GOSUB 2830:CLOSE #3:? :RETURN
1380 ? :? "Printing Directory " DIR$?
1400 ? #3;" #3:? #8;" ":?
                DISK CATALOGUING UTILITY
  ":? #3 :? #3
1410 IF DIR$(1,4)="@DOT" THEN GOTO 15
20
1420 P=8:I=GOSUB 1000 FN=8:IF DRS="" TH
EN ? :CLOSE #3,RETURN
1430 ? #3;"     Directory of Files on
 Disk named ";DIR$;"   Os of ";DOS(P8:
? #3
1440 P=8 FOR P8=1 TO LEN(DIR$)/17 1
1450 ? #3;"                 ";DIR$(P8*17-16
P8*17 7),"  ",DOS(P8*17-8 P8*17),.P=P+1
1460 IF P=2 THEN P=8:? #3
1470 NEXT P8 ? #3 :? #3
1480 ? #3;"     ",DOS(P8*17-16,P8*17);
"        ";P8-1;"  Files on Disk"
1490 ? :CLOSE #3
1500 RETURN
1510 REM SORT UP TO 00*OT 0001 DIR AR
1520 ? #3;"   Directory of Files in ",
DIR$;"  Os of ",8*17;" :? #3
1530 P=8:FOR R3=1 TO LEN(DIR$)/17
1540 ? #3;"          ";DIR$(R3*17-16,R3*1
7 9),"  ",0;$(0*17-8,R3*17)," (DIR)"
;:P=P+1
1550 IF P=2 THEN P=8:? #3
1560 NEXT R3:? #3 :? #3
1570 ? #3;"     ";P-1;"  FILES AVAILAB
LE      ";8-1;" Directories on File "
:? #3
1580 ? :CLOSE #3
1590 RETURN
1600 REM ***********************
1610 ? :? "Format Single or Double S/8
 ":
1620 GET #4,A#:IF A#=A1 OR A#=A6 THEN
1630
1640 A#=27 :REM GET#88
1650 ? :? :? "Insert DISK Disk  Pres
s ENTER",
1660 GET #4,SP IF SP=27 THEN ? :RETURN
1670 IF SP(31 THEN 1580
1680 ? :? :? "Formatting Disk "|
1690 IF A#=A6 THEN F#=34
1700 IF A#=A1 THEN F#=8
1710 TRAP 1730 BIO 251,N7,P8,8,"D1:":8
EM PRINT
1720 ? :? :? "Disk Formatted"; GOTO 17
40
1730 GOSUB 2830
1740 ISAV 40000:RETURN
1750 REM RD DELETE DIRECTORY ***
1760 FLAG=8 FOR I=1 TO LEN(DT$)/17
1770 IF DIR$(I*17-16,I*17 9)=DIR$(P FREE
 FLAG=1 POP :RD=I:GOTO 1790
1780 NEXT I
1790 RETURN
1800 REM ERASE FILE 8001 DIR IN 00IRED
1810 RE=8
1820 TRAP 1850 OPEN #3,4,8,"D:":DIR$=NAME
$(4)" ERASE #3,F$ CLOSE #3
1830 TRAP 40000 IF F$="@DOT" THEN A#=1
:RETURN
1840 ? :? "  Oddment from Disk in
Drive ":RETURN
1850 GOSUB 2830:CLOSE #3
1855 RETURN
1870 REM RD 001 ED 0001 DIRECTORY ***
1880 ? :? "  All Directory Operation
s must be"
1890 ? "   performed from D:\@DOT)"
1900 RETURN
1910 REM ***** RUN ***********************
1920 IF  001 OR 000  NOT BIG THEN 1810
1930 ADDR 1810.IT HE THEN 1900
1940 ? :? "DATE 78
1950 ? :? "Remember 0001 Directory "(
1960 CLOSE #8 OPEN #8,8,8,"D:DOT DIR"
1970 FOR N#=1 TO LEN(DIR$)/17
1980 F$=DIR$(N#*17-16,N#*17)
1990 ? #8;F$
2000 NEXT #8 CLOSE #8
2010 ? "D" END
2020 REM 00 ERROR HANDLING ROUTINE RD
2030 TRAP 40000 ED PEEK(195)
2040 IF E#=144 THEN ? :? :? "Drive 8
 of Unsupported ",
THEN IF E#=170 THEN ? :? :? "Wrong D
isk in Drive ";
2050 IF E#=173 THEN ? :? :? "Disk I/
O Error ";
2070 IF E#=138 THEN ? :? :? "Device
 not Available ";
2080 IF E#=162 THEN ? :? :? "Disk Fu
ll";
2090 RETURN
2100 REM ********OPENING SCREEN*******
2110 DIM DR$(856111),DT$(65*818),F$(17),
D1$(5):D FES(16),DS$(16)=DR$(32),DA1E
$(9) NUM$(4)
2120 GRAPHICS 8 POKE 16,64 POKE 53774,
```

Turn to Page 38 ▶

◄ From Page 35

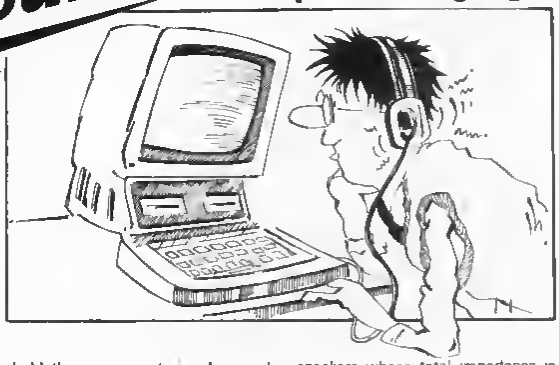
```
0):REM NEUTRALISE BREAK KEY
2120 OPEN #4,4,0,"K:":POKE 702,64:REM
POKE SETS KEYBOARD TO UPPER-CASE ONLY
2140 POKE 712,96:POKE 710,90:POKE 709,
206
2150 POKE 565,0:POKE 82,1:? "

2160 FOR I=1 TO 20
2170 ? "|
     |" REM 37 SPACES
2180 NEXT I
2190 ? "
"
2200 POKE 82,4:POKE 84,3:?
2210 ? "
"
2220 ? "                    Disk
 " REM Character before closing " is
INVERSE CONTROL T
2230 ? "                  Cataloguing
 "
2240 ? "                    System
 "
2250 ? "                      by
 "
2260 ? "                 Phil Dobson
 "
2270 ? "
"
2280 ? :? :POKE 85,9:? "Todays Date 01
 Jan 87"
2290 POKE 84,10:? "Enter Date (01/01/8
1)    ":POKE 85,24:DATE$=""
2300 POSITION 30,10:? "4444444444444";:
INPUT #16;DATE$
2310 IF DATE$(3,3)="/" AND DATE$(6,6)=
"/" THEN 2330
2320 GOTO 2290
2330 TRAP 2290
2340 IF VAL(DATE$(1,2))>31 THEN 2290
2350 MON=VAL(DATE$(4,5)):IF MON>12 OR
MON<1 THEN 2290
2360 DATE$(9)=DATE$(6,8):DATE$(6,6)=DA
TE$(7,7):DATE$(7,7)=" "
2370 RESTORE :FOR I=1 TO MON:READ MON$
:NEXT I
2380 DATE$(3,3)=" ":DATE$(4,6)=MON$
2390 POSITION 22,12:? DATE$
2400 POKE 84,18:? "Confirm Date (Y)
";
2410 POSITION 30,18:? "44444444444444
4";:GET #4,YN:IF YN<>89 THEN ? :GOTO 2
290
2420 TRAP 40000
2430 POKE 82,2:FOR I=2 TO 19
2440 POSITION 2,I:? "
            ":REM 35 SPACES
2450 NEXT I
2460 POSITION 5,8:? "Access Existing D
irectory (D)"
2470 POSITION 6,12:? "Create New Root
Directory (C)",
2480 GET #4,CA
2490 IF CA<>65 AND CA<>67 THEN 2480
2500 FOR I=0 TO 22:POSITION 2,I:? "
                              ":NEXT I
2510 IF CA=68 THEN 2680
2520 POKE 82,6
2530 POSITION 6,8:? "Format New Root D
isk (Y/N) ";:GET #4,YN:IF YN<>89 AND Y
N<>78 THEN 2420
2540 IF YN=89 THEN ? :GOSUB 1810:IF OK
=27 THEN 2420
2550 IF YN<>78 THEN 2500
2560 ? :? :? "Insert FORMATTED Disk":?
 :? "Press Any Key ";:GET #4,YN
2570 REM ** CREATE DIRECTORY FILES **
2580 ? :? :? "Creating Directory Files
 ";:DI$="ROOT     ":DI$(LEN(DI$)+1)=DAT
E$
2590 TRAP 2600:GOTO 2600
2600 GOSUB 2620:GOTO 2490
2610 REM
2620 OPEN #7,8,0,"D:ROOT.DIR":? #7,DI$
:CLOSE #7
2630 OPEN #7,8,0,"D:DISKNAME.DIR":? #7
;"ROOT":CLOSE #7
2640 ? :? :? "Press Any Key ";:GET #4,
YN
2650 POKE 82,2:? "K"
2660 RETURN
2670 REM ** ACCESS EXISTING DISK **
2680 POSITION 5,8:? "Insert ROOT Disk
in Drive "
2690 ? :? "Press Any Key ";:GET #4,YN
:IF YN=27 THEN 2420
2700 GOSUB 1810:IF OK THEN 2740
2710 FOR D=1 TO 150:NEXT D
2720 ? :? "
          ":REM 38 SPACES
2730 GOTO 2680
2740 TRAP 2780:OPEN #7,4,0,"D:ROOT.DIR
"
2760 FOR I=1 TO 03
2760 INPUT #7,F$:DI$(LEN(DI$)+1)=F$
2770 NEXT I:CLOSE #7
2780 TRAP 40000:IF PEEK(195)<>136 THEN
 ? :? "Unexpected Disk Error ":END
2750 POKE 82,2:? "K"
2800 RETURN
2810 DATA Jan,Feb,Mar,Apr,May,Jun,Jul,
Aug,Sep,Oct,Nov,Dec
```

1 CAJ (W)	310 Q7F (P)	670 527 (4)	1030 SHD (X)	1390 WSM (7)	1750 E4N (S)	2110 RU9 (P)	2470 3G5 (Y)
2 CAK (3)	320 N3U (U)	680 HNE (9)	1040 631 (A)	1400 6RF (N)	1760 16C (N)	2120 14J (S)	2480 QLX (N)
3 CAL (Y)	330 K58 (L)	690 J09 (U)	1050 FUD (W)	1410 ADO (O)	1770 MF8 (V)	2130 XAQ (E)	2490 2EN (Y)
4 CAM (4)	340 SNJ (Y)	700 NK8 (S)	1060 KYD (H)	1420 C4Y (T)	1780 P35 (W)	2140 1AP (6)	2500 HKL (3)
5 CAN (W)	350 PNE (P)	710 EX4 (A)	1070 6UG (7)	1430 DPE (P)	1790 WRK (S)	2150 CAP (D)	2510 AB4 (7)
6 CAP (7)	360 BLU (G)	720 7RS (H)	1080 W4C (G)	1440 25J (C)	1800 BXN (U)	2160 2MK (S)	2520 Q3J (B)
10 SNU (U)	370 TYM (P)	730 NB8 (8)	1090 57B (A)	1450 U97 (D)	1810 E5Y (3)	2170 XTR (K)	2530 3VE (V)
20 H7K (K)	380 WXF (L)	740 FJP (6)	1100 VF1 (G)	1460 CK4 (N)	1820 HCN (2)	2180 NET (L)	2540 5NK (B)
30 G55 (C)	390 H78 (J)	750 YJC (M)	1110 B4Y (H)	1470 7G4 (P)	1830 RAD (C)	2190 1B0 (P)	2550 F2L (T)
40 14R (W)	400 515 (J)	760 RKC (S)	1120 7FY (O)	1480 NNS (J)	1840 F35 (6)	2200 J7H (B)	2560 RNS (9)
50 GM6 (5)	410 NL4 (P)	770 B87 (K)	1130 78U (C)	1490 JH6 (K)	1850 EDJ (N)	2210 TQR (H)	2570 E0P (6)
60 CP6 (W)	420 WWA (U)	780 SFG (7)	1140 Y67 (J)	1500 YKK (N)	1860 WPK (M)	2220 D17 (S)	2580 A91 (S)
70 002 (K)	430 E1J (1)	790 R05 (S)	1150 3BB (E)	1510 BMN (J)	1870 E8N (Q)	2230 17F (Q)	2590 59P (M)
80 E41 (Y)	440 7N3 (Q)	800 60X (3)	1160 W6S (5)	1520 EHG (W)	1880 ROE (M)	2240 667 (G)	2600 E28 (C)
90 F2J (8)	450 TXY (N)	810 79P (4)	1170 557 (X)	1530 NVY (P)	1890 9PP (J)	2250 VH6 (V)	2610 DRP (E)
100 BKS (W)	460 UAX (3)	820 LNH (L)	1180 M83 (7)	1540 BXB (W)	1900 WFK (H)	2260 FPP (C)	2620 RFS (2)
110 VJE (B)	470 5J7 (C)	830 0X2 (V)	1190 5N3 (E)	1550 D0G (B)	1910 E6N (K)	2270 SDW (P)	2630 4VY (B)
120 ADN (2)	480 BUV (4)	840 A45 (X)	1200 F1G (S)	1560 774 (5)	1920 CFF (S)	2280 9Y6 (C)	2640 Q8R (L)
130 E2N (H)	490 7C2 (1)	850 2VK (H)	1210 D8N (X)	1570 3DJ (A)	1930 RJK (H)	2290 JOP (3)	2650 5EG (T)
140 PK4 (E)	500 P91 (5)	860 R8A (K)	1220 XWF (F)	1580 YK6 (P)	1940 TCY (M)	2300 9CL (7)	2660 WFL (U)
150 TCD (4)	510 37L (B)	870 DR0 (P)	1230 7VV (H)	1590 WHK (E)	1950 R7B (M)	2310 1LB (A)	2670 E6P (V)
160 TVB (G)	520 VSU (7)	880 CLK (K)	1240 CF9 (J)	1600 BPN (9)	1960 34J (B)	2320 PLE (1)	2680 PG1 (O)
170 4EY (W)	530 B7W (R)	890 854 (3)	1250 6B1 (N)	1610 LB3 (K)	1970 WPM (J)	2330 P0V (L)	2690 YDJ (Z)
180 S4B (M)	540 1LG (Q)	900 7WM (Q)	1260 RC3 (J)	1620 EUN (J)	1980 LH3 (D)	2340 YUW (1)	2700 BDC (7)
190 F1G (1)	550 HWE (U)	910 DAQ (X)	1270 4NJ (W)	1630 KCD (H)	1990 TG3 (W)	2350 12B (E)	2710 RNJ (K)
200 #5B (F)	560 6ML (2)	920 W2E (4)	1280 C50 (E)	1640 91V (C)	2000 BNL (U)	2360 C47 (A)	2720 MWA (D)
210 FYT (3)	570 GEY (W)	930 73P (D)	1290 JW7 (F)	1650 WMD (L)	2010 9TC (B)	2370 X89 (B)	2730 Q8W (N)
220 B3T (G)	580 VHU (R)	940 616 (C)	1300 VPX (4)	1660 9JL (A)	2020 B2P (E)	2380 A66 (9)	2740 6YU (5)
230 TQ7 (K)	590 9ES (C)	950 OPA (N)	1310 B8N (E)	1670 FTD (4)	2030 MYA (N)	2390 A59 (7)	2750 3TM (K)
240 Q30 (W)	600 R6A (4)	960 E6V (6)	1320 S99 (L)	1680 76H (E)	2040 Y24 (Q)	2400 AEW (H)	2760 CXV (R)
250 SVP (R)	610 CYX (E)	970 S2E (5)	1330 1S2 (D)	1690 F7P (W)	2050 P8F (N)	2410 Y6U (N)	2770 1XJ (B)
260 VXS (E)	620 P4X (D)	980 BV1 (7)	1340 EXQ (1)	1700 ENK (T)	2060 GVS (J)	2420 PND (N)	2780 YG8 (M)
270 X80 (N)	630 3RL (J)	990 SJE (R)	1350 P71 (1)	1710 DYE (K)	2070 VP4 (Q)	2430 HJL (6)	2790 556 (U)
280 X57 (1)	640 P1D (7)	1000 RJD (A)	1360 CPV (D)	1720 KDQ (J)	2080 VUV (U)	2440 UWB (J)	2800 NAL (S)
290 HY3 (G)	650 9KH (E)	1010 KEB (W)	1370 SUF (F)	1730 TCR (K)	2090 VVL (T)	2450 NJT (5)	2810 E6J (Q)
300 LKK (Y)	660 B6V (1)	1020 H4U (A)	1380 6U3 (M)	1740 A51 (W)	2100 U2P (T)	2460 Y34 (Y)	

Sounds spectacular

Improve the sound quality of your Atari with LEN GOLDING's superb D-I-Y gadget



MODERN games make increasingly impressive use of sound, but unfortunately the average small TV can't reproduce computer audio at its best. The trouble is that TV speakers are usually quite small low quality units and poor at handling bass frequencies. Consequently explosions tend to sound more like waves on the shore, while background music lacks any body and presence.

It's even worse with monitors, especially the cheaper ones, where the sound output is often too tinny for anything other than beeps and whistles. In fact, some inexpensive monitors designed originally for the communications field don't contain an audio channel at all.

This gadget will let your computer drive a large hi-fi speaker to give you better quality sound, or to produce a realistic stereo effect in conjunction with the existing TV system. It will also drive certain types of headphone, so you can blow your mind without upsetting the neighbours.

The amplifier plugs into the monitor socket on your 600 XL or XE console – sorry 400 users – and will work in addition to the TV or monitor's existing sound system.

Figure I shows the circuit, which is based upon the TBA820 power amplifier chip. It's particularly suitable for computer applications, since it will work on five volts and takes relatively little current. You can power it by battery or even from the computer's own internal supply.

The gadget is very easy to build using a printed circuit board supplied by RH Design. Alternatively you could etch your own PCB from the foil pattern in Figure II. Because all the component connections are already made for you on the board, you need only plug in the various components and solder them to the tracks under their mounting holes. It could hardly be easier – this gadget is a good project for beginners.

The component layout is shown in Figure III. Start by soldering the three resistors and the IC socket, all of which can go either way round. A good tip is to insert the components, then invert the whole assembly on to a foam pad 25mm or more thick. This will help hold the components in place and prevents the assembly from sliding around on the table while you're soldering it.

The capacitors go in next. C3 and C4 can go either way round, but C1, C2 and C5 must be fitted as shown. The negative side of these polarised capacitors is marked by black chevrons and – usually – the number 0. The 5 pin DIN sockets, volume control (VR1) and PCB terminal blocks are soldered last.

The speaker can be connected either way round to the two terminals marked + in Figure III. The amplifier will drive a speaker or combination of speakers whose total impedance is not less than 4 ohms. 8 ohm types work satisfactorily, but produce slightly less volume with this particular amplifier.

Most hi fi speakers are suitable, and the ones designed for car radios will also give satisfactory results.

Now we have to think about a power supply, and there are several options open here. You could, of course, use a properly stabilised mains power pack, but these are expensive and introduce an extra mains lead to fall over. Ni cad batteries are suitable – four C size cells

Turn to Page 38 ▶

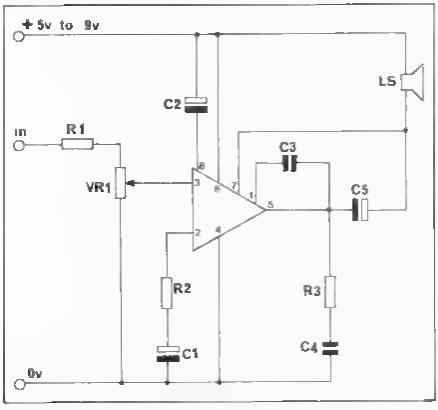


Figure I The amplifier circuit

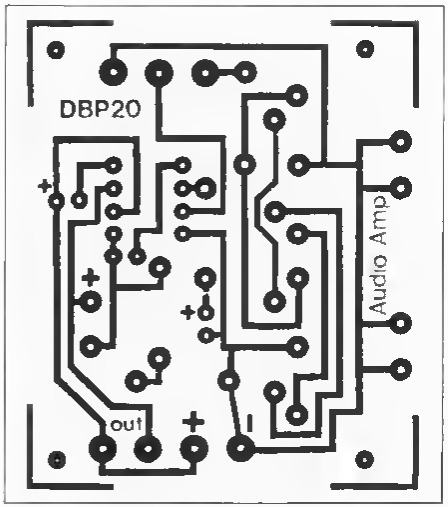


Figure II The foil pattern (not actual size)

◀ *From Page 37*

will produce an adequate voltage and will last about 20 hours before they need recharging. Even a 9v PP3 type will give several hours continuous listening.

One thing you must never do is to try taking power from inside the TV or monitor, for three good reasons:

- A TV tube employs extremely high voltages
- The chassis is not usually isolated from the mains
- You can't subscribe to *Atari User* from the afterlife

The simplest and cheapest option is to draw power from the computer itself via a joystick port. You can't get quite so much volume using this method, but there's still enough for comfortable listening. Cut the joystick lead to length, and strip back about 10cm of the outer black sheath. Now use some kind of continuity tester – a bulb and battery arrangement will do – to identify the two leads which go to pins seven and eight.

Figure IV shows the pins as they appear when you're looking into the moulded plug. Pin seven carries the

****FANTASTIC OFFER****

Only to ATARI USER readers!

100 5 25' DS/DD 48/96TPI DISKS WITH

FREE!!! 100 CAP LOCKING DISK BOX and one of the following dust covers 130XE, 800XL or 1050

ONLY £29.99 ! ! !

COMPUTER ACCESSORIES

5.25 LOCKING DISK BOX CAP 50	£6.95
Special offer 2 for	£12.95
5.25 LOCKING DISK BOX CAP 100	£8.95
Special Offer 2 for	£18.48
5.25 DISK NOTCHER	£2.75
5.25 DISK CLEANING KIT (FLUID)	£2.95
5.25" DISK CLEANING KIT (DRY)	£2.80
BOX OF 10 5.25" DS/DD 48TPI BRANDED PRECISION DISKS	£4.36
TRACKER 10 DS/DD 96TPI in plastic case	£7.50
TRACKER 10 DS/DD 48TPI in plastic case	£6.50
*THING! (copy holder (left or right hand versions)	£4.50

FLIP SIDED (REVERSIBLE 2 NOTCHES & 2 INDEX HOLES) DS/DD 48 & 96TPI BOX OF 10 ONLY **£4.50**

THE 1050 SUPER ARCHIVER – THE BEST BACK UP UTILITY FOR THE ATARI

Hardware mod for your 1050 drive. Includes built in U.S. doubler custom formatter copies Phantom/Fuzzy sectors up to 40 sectors per track, built in habit mapper, print screen dump facility, built in sidesswapper and much much more. Includes software.

R.R.P. £29.95 SPECIAL INTRODUCTORY PRICE £20.95

THE CONTROLLER CARD P.P.B. II XL & XE

The controller card allows you to add from an impressive and expanding library, utilities and enhancements that can be in memory slaves pen mar dial/home produced software. Activating any of the utilities will temporarily freeze the main program until the utility has completed it's task or set as an in-line enhancement. The system also incorporates a unique SAVE GAME IN PROGRESS facility and a menu file back-up management system. Sentah Rescue and all will. Various of control or card library tasks available. Comes complete with Master utility disk.

R.R.P. XL £59.95 XE £84.95 Our Price XL £54.95 – XE £54.95

ATARI 8 BIT DISK PUBLIC DOMAIN SOFTWARE – TOP SELLERS - ALL £2.50

TURBO BASIC (XE/XL only) About three times faster than Atari Basic. More features inc. DOS operations direct from Basic. Comes with a compiler that speeds up Turbo Basic by 3-5 times and Atari Basic by 10-15 times. Runtime package enables you to sell/work compiled programs. Some features include better string handling commands inc. circle, paint, blink, beep, do, loop, repeat and more. Comes with an excellent art program and text editor. FANTASTIC VALUE.

TEXTPRO 100% Machine code WORDPROCESSOR that is equal to most and better than some of the commercial WPs. All the facilities you would expect from a top quality program including cut and paste, search and replace, word count and a full keyboard macro feature so that you program keys with individual commands. Comes complete with a manual to be printed out on your own printer.

GAMES DISK 3 A) Sir Kingfu a brilliant downhill skiing game for up to four players. You negotiate various obstacles and judge jumps in this great exciting game. Three different courses to select and an editor so that you can create your own courses from an icon driven menu. ABSOLUTELY SUPERB GAME FROM THE P.D. LIBRARY. A MUST! – MANY OTHER PROGRAMS AVAILABLE

PUBLIC DOMAIN NOW AVAILABLE ON TAPE RING OR WRITE FOR DETAILS

JVC Tapes – suitable for use on all computer tape decks

FI-60 (C60)	£3.50 for 5	or £6.50 for 10
FI-90 (C90)	£5.60 for 5	or £9.50 for 10

ATARI 13 PIN – 13 PIN MOLEX 2 metre CABLE for DISK DRIVE/ TAPE/PRINTER Input/Output port £8.50

520 STFM £359.95

WITH INTEGRAL 1 MEG DRIVE

INC. MOUSE, BASIC DISK MANUALS AND THE FOLLOWING SOFTWARE

Starlight, Enduro Racer, Tetris, Rampage, Arkanoid, Marble Madness, Mercenary, Trap, Pitstop, World Championship Soccer, 3D Galaxy, Trailblazer, Defender of the Crown, Strike Force Harrier, Eagles Nest, International Karate, Supersprint, Chopper X, Warlock, Road Wars, Golf, Ball, Leviathan and Panarama.

Plus 5 Public Domain Disks

FREE JOYSTICK AND 20 CAP. DISK BOX!

Just write for more information. Cheques etc. payable to STORT SOFT (International orders add 10% and remit in pounds Sterling by bank draft or international money order. Write for quote in any other currency).

ACCESS/MASTERCARD/EUROCARD/VISA accepted. CREDIT CARD ORDER LINE – 0279 46000

24 HOURS A DAY 7 DAYS A WEEK – VAT & P&P INC. NO HIDDEN EXTRAS – WHAT YOU SEE IS WHAT YOU PAY

GOVERNMENT, LOCAL GOVERNMENT AND EDUCATIONAL ORDERS WELCOME

ASHLAW HOUSE, EUXIMOOR DROVE, CHRISTCHURCH, WISBECH CAMBRIDGESHIRE

0945 400 ☎ 03540 500

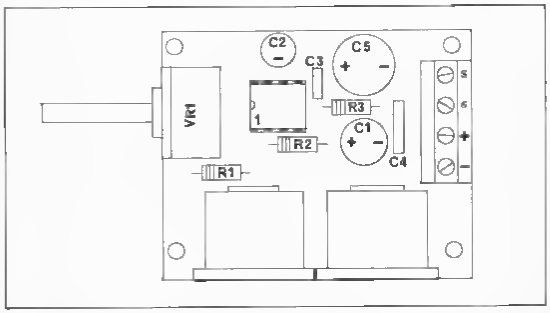


Figure iii Component layout

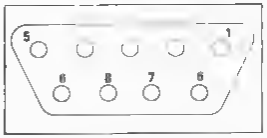


Figure iV Pin numbering – view into the end of the joystick extension lead

positive 5v supply and pin eight the negative It s very important not to reverse these connections nor to let them touch each other when your gadget is plugged in to the computer

With this method you will need to de-couple the power supply, otherwise all you ll get is an unpleasant buzz Do this by fitting a 220 ufd capacitor across the supply lines at the connecting block taking care that the 0v side (marked with chevrons and 0) goes to the 0v line

When everything appears to be wired correctly, insert the amplifier chip, ensuring that it goes the right way round and that all eight pins sit firmly into their sockets Turn the volume control to its half way position and connect the power – you should now hear a low hum from the speaker

If not, disconnect power at once, and check all your joints making sure you haven t missed soldering any and that no stray blobs or threads of solder have accidentally bridged any tracks

Also double-check that the positive and negative supply wires are fitted firmly and the right way round When all is well, plug one end of the 5-pin to 5 pin cable into one of the PCB's 5 pin sockets – it doesn t matter which – and the other end into your computer's monitor jack If you're using a monitor as opposed to a TV, plug the monitor lead into the other 5-pin socket on the PCB

Any sound produced by your computer will now be heard from the new speaker as well as from your TV If you like this stereo effect use the volume controls to balance the channels, otherwise turn the TV volume off Incidentally, you may get a slightly better stereo effect if you reverse the speaker connections at the PCB Try it and see

It only remains to mount the whole assembly in a suitable box and fit some kind of output socket for the speaker A 3 5mm jack socket is suitable and will accept many types of headphone as an alternative to speakers However, most headphones these days are stereo types, so you ll need a stereo-to-mono converter plug if you want sound in both ears

Also you'll find that the lower the headphone impedance the better the sound quality and the lower the background hum

TIN SOLDERS

It s a while since we said anything about soldering technique so if you re new to the game here are a few tips Choose a modern electric soldering iron rated between 15 and 25 watts with a 1mm or 2mm bit Also use 22 SWG multicore solder if you can get it – it is thinner than the more common 18 SWG type and less likely to form untidy blobs

When the iron is hot enough, tin the bit by melting a small amount of solder on to its working surface

Make sure the component you are soldering is correctly inserted and sitting tightly up to the board surface, then apply the soldering iron so that it touches both the component lead and the PCB track simultaneously Now touch the solder to the lead/track junction – not to the soldering iron – and watch until it flows smoothly around both lead and track

You're unlikely to damage any of the components in this project by excess heat so don't be in too great a hurry to remove the iron A good solder joint can be recognised on sight – it has a triangular profile, not a blob or hemisphere, and it should be smooth and shiny

If you've never done any electronics soldering before, it s worth spending an hour or so practising on an odd scrap of Veroboard – all electronics shops sell this – before tackling the PCB

Parts required for the audio amplifier

Component	Description	MES Code
R1	22k	M22K
R2	120k	M120R
R3	1 ohm	M1R
VR1	10K Lin Potentiometer	FW02C
C1	100 mfd 10v	FF10L
C2	47 mfd 25v	FF08J
C3	220 pF (marked n22)	WX60Q
C4	0 22 mfd Polyester layer	WW45Y
C5	220 mfd 16v	FF13P
IC1	T8A820M	WQ63T
	8-pin DIL IC socket	BL17T
	4 way terminal block	RK73Q
	Two 5 pin 180 degree DIN sockets	YX91Y

All components are available from M E S P O Box 3 Rayleigh, Essex, SS6 8LR Tel 0702 552911

Printed circuit board (order code DBP20) Price £3
Joystick extension lead (order code AT111) Price £2 99

Available from R H Design, 137 Stonefall Avenua, Harrogate, North Yorkshire, HG2 7NS Tel 0423 508359

Prices include VAT and postage

ATARI USER Classifieds

Has upgrading your computer given you hardware you no longer need? Or have changing interests left you with unwanted software? Then THIS is the place to advertise your surplus items. *Atari User* readers are always on the lookout for a bargain and this is the first place they look!

An added bonus!

Your advert will also be automatically displayed on MicroLink, the electronic mail service operated in association with Telecom Gold. This means it will be seen by thousands of computer enthusiasts who can send an instant response

Classified advertisements will be accepted under the following conditions:

- This service is EXCLUSIVELY for the use of private readers. No trade ads will be allowed
- To avoid encouraging software piracy, all ads will be carefully vetted before they are accepted.
- Ads can only be accepted on this form (or a photocopy of it)
- There is no maximum to the number of words you include in your ad. If there is insufficient room on the form, continue on a seperate sheet of paper
- The cost is 20p per word, with a minimum of 10 words
- We GUARANTEE your ad will appear in the next available issue of *Atari User*

● Various utility discs and cassette games. All at cheap prices Tel Peter Sollnett 743 8653

● Atari 65XE 1050 Laser disk drive disk box £280 software Joystick and data cassette recorder £195 O N O Tel 0602 632143

● Original discs and cassette games. Hundreds at low low prices Too many to list Tel 021 5623714 after 3pm for list.

● 1050 drive Xmas present, fully boxed all manuals, £200 quality software Immaculate £130 Tel 051 263 5628

● Autoduel Silent Service Paint Encounter Centipede many more! Tel 0243 3736695

● 800 XL 1050 disk drive 1010 tape deck 1027 printer Mini Office II many magazines and discs. £275 Tel 0270 663106

● 800XL 1050 disk drive XC11 and 1010 data recorders 170 games on disc ROM and cassette joystick £200 O N O Tel Canvey Island 0268 695635

● Atari tape software for sale worth £130 sell for £20 Write Andre 67 St Johns Walk St Ives Cornwall.

● For sale 1029 printer as new with Mini Office II and Ten print £90 Tel 0424 872716 evenings buyer collects.

● Swap my 800XL for 130 interfaces Wanted adventure writer manual Tel Tamworth 250785 5pm-8pm

● 1029 1027 printer wanted fair price paid Tel Essex 0268 756717

● Wanted Frogger on ROM cartridge for XL Tel Chesterfield 235032

● Two 1050 disk drives, 1027 printer 1010 tape rec and a carrier bag full of software on disk, Rom and tapes. Package offer bargain at £350 Tel Ipswich 0473 690282 any day

● Collectors item Atari User first 38 issues plus folders mint condition Offers. Tel 0277 216112.

● 800 XL Computer house modified 1050 drive 850 interface Pavo Linnet modem two joysticks two miles touch-tehaus, lockable disk box, 80 disks software galore £300 O.N.O Tel Jeff Wallis 547

● 800 XL 1050 drive XC12 Lots software, mags joysticks £280 O N O Tel Owen 0603 880121

● Atari 800 XL 256K disk drive xeon printer and software £250 Tel 061 8080188

● For sale 24 tape games most half price includes Zybex, Druid Arkanoid etc Tel 01 4068187

● 800XL 1010 tape, loads joystick £100 games £30 O N O Tel Burnley 0282 27087

● 800XL, 1050 drive joystick over 30 disks. Worth £500 sell £280 O N O 800XL 1050 recorder joystick over 30 disks Worth £250 sell £130 O N O Tel David Larkhall 0698 886252

● Wanted 1050 disc drive Reasonable price. Tel 0273 834110

● 800XL 256K RAM upgrades with O.S controller card £100 also Atari 800 with Axiom 880K RAM £80 Tel Ian 0633 860714

● 800 1050 disc drive 850 interface recorder discs ROMS tape software books and mags. All in good condition £220 Tel 0525 838014

● 800XL computer Phonemark modem two joysticks 20 games £60 Tel Johns 0382 81245

● Atari 130XE 1029 printer 1000 drive XC12 recorder joystick games mags, everything an inactical Tel 0243 865899 £250 O N O

● 800XL 1050 drive games + magazines £200 TEl 061 3038171 O N O

● Wanted 1050 disc drive reasonable price. Tel 0537 533232.

● 800XL 1050 disc drive, 1010 recorder OID 19" colour TV as monitor many cassettes and discs. £260 Tel 0296 712173.

● Will swap Spectrum 48K with games and tape player for 1050 drive with instructions and DOS disc Contact Simon Foley 15 Bay Gardens Eastville Bristol.

● 800XL boxed and cover 1010 recorder boxed Atari writer cartridge complete board volumes 1 2 3 plus to August plus subscription expiring April 89 Atari User Magazines, programming course Basic, Atari XL handbook with tape other books, all as new never used for games atari outfit for beginner owner new business user £110 Tel Kenilworth 512986.

● Atac 800 1010 datarecorder 25 games 60 magazines (Atari User C + VG) still use, speech synthesiser £60 O.N.O David Tel 01 808 9768

● Selection of 8 bit disc based software from £5 each including Ghosthunters Eidolon Pawn Leaderboard Flight Simulator II all programs with documentation Tel 0656 871504 Evan Rae

● Oriental Emerald and Dungeon adventures (cassette) £4 each. The Slave (disc) £10 Mapping Atari not revised) £4 Writing strategy games £2 Computer first book £5

Basic tra-al cartridge £4 Tel 031 3321943

● Atari software all originals various Roms many tapes cassettes and discs Tel 0780 56137 (David) mornings.

● 800XL 800 48K 810 drive Arab var 1050 drive 1029 printer 822 printer WS2000 with Datacable 410 recorder Trakball software, lots of Atari Users Tel David on 068 277 3380 Hexham northumberland 7pm

● 800XL 1010 modem 1050 disc drive joystick, software, mags all boxed, excellent condition £175 Write Alan Wainwright 122 Thirlmere Gardens Northwood Middx HA6 2NS

● Wanted 1050 disc drive in good condition any reasonable price considered Tel Hitchin (0462) 37606

● 800XL 1050 software joystick 4 roms, manuals £170 Books and tapes from £1-£5. Tel Pete 0536 710514 after 6 30pm

● 800XL 1050 disc drive, true double density discs £130 Tel (030) 742151

● Miracle Technology WS2000 modem perfect condition £80 Tel 0458 73425.

● 1029 printer original box and manual £75. Ts Shrewsbridge 365953.

● Atari 130XE 800XL 1050 1010 blank memorex discs. Over £1800 worth of original software on cassette disc. 2nd cartridge plus disc box cleaner and duster-vers. No splits sales Tel 34427 8868

● Atari Mega ST4 + SC1224 monitor plus software books and business computer mint condition £200 ono Tel Bradford 0274 543883 after 6pm ask £1800

Fill in now for the next issue

					10 words £2.00
					15 words £3.00
					20 words £4.00
					25 words £5.00
					30 words £6.00

Cheque enclosed for £_____

I certify that any software offered for sale is original and not a copy

Signed_____

Name_____

Address_____

POST TO Atari User Classifieds Europa House FREEPOST Macclesfield Cheshire SK10 6YB

The American experience

NEIL FAWCETT takes a look at how American 8 bit users are fering compared to their UK counterparts

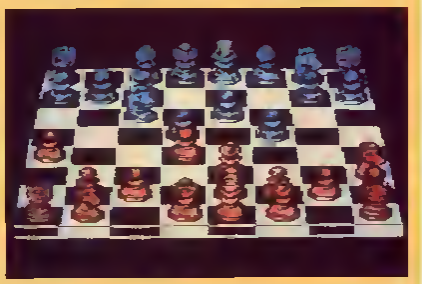
FOR a number of months we have been printing letters from concerned readers wondering what the future has in store for the Atari 8 bit market. Admittedly, several of the major software houses have stopped producing games, due to external pressures mainly directed from distributors who will not stock 8 bit products any more.

Apparently they feel the market isn't profitable enough for them to continue supporting. So where does that leave the average 8 bit owner? How can he get the games he so desperately wants?

To whet your appetite let's take a look at some hardware and software products available in the USA and where possible give addresses and phone numbers of the distributors.

Some problems arise when buying hardware from the States and the major one concerns the voltage of US electrical equipment. In the UK we employ a 240 volt system, whereas the Americans use 115 volts. So if you buy an Indus GT disc drive as a replacement for your old 1050 you'll have problems. Also the British mains frequency is 50Hz but in the US it's 60Hz, which can upset timing circuits.

Luckily it's not too difficult to modify, or scratch build, your own power supply. And if this is too complicated a local electrical shop could do the job for a small fee, say around £20.



The superb 3D perspective created by Chessmaster.

Hardware

If you would like to turn your Atari into the ultimate system, take a look at the BTL customised parallel interfaces. For those of you with an 800XL there is the BTL 2001 interface or the 2002 for XE systems. Both attach to the computer's parallel bus slot.

You can also buy the 2004 hard disc adaptor which attaches to a standard SASI hard disc controller. This will allow you to control one or two hard drives, giving a massive 128Mb of storage. BTL sells complete packages with up to 85Mb or you can just buy the interface and controller and supply your own hard disc.

Prices? You can get a 10Mb system complete with MYDOS for $550 – that's around £395. But remember you will have to add postage, package and import duty.

For more information write to William Lurie & Associates, P.O. Box 7548, Van Nuys, CA 91409. Or telephone 0101 818 780 1723.

Atari has released the long awaited XEP 80 plug in 80 column video module. According to Atari it boasts a razor sharp text display, plugs into a joystick port and has its own Centronics parallel printer interface.

We took a look at the XEP 80 in the January 1987 issue of *Atari User* while it was under development. Unfortunately no software has been released to use the display it produces but we live in hope. One important factor to take into consideration is that you need a composite video monitor to view the display – it will not work on a TV or RGB monitor.

If you are interested in buying the XEP 80, get in touch with Silica Shop – 01-309 1111 – who sell it for £59.

Earlier I mentioned the Indus GT disc drive. I don't know too much about it except that it looks very sleek with its shiny black finish. Priced at $179 – around £128 – you can get more information from CMO, 477 East Third Street, Dept. B601, Williamsport, PA 17701 or you can ring them on 0101 1717 327 9575.

If you use your Atari as something more than a games machine, why not take a look at the Covox Voice Master. It allows you to digitally record and

Turn to Page 42 ▶



Checkmate!

◄ From Page 41

manipulate your own voice

For a cost of $89 95 (around £65) you get a small white box, headset connecting cables, program disc and documentation

Also included on the disc is a game of Blackjack – or Pontoon as we call it – which uses voice recognition to understand your commands

Games

The games market in America seems as strong as ever Over the years I have played several chess simulations on my Atari, but never have I seen one as good as Chessmaster 2000 by Electronic Arts It offers a superb 3D perspective of the board and plays a really mean game

As you can see from the screen shots, it's graphically superior to any other chess game you'll see on any 8 bit micro today Packed with a multitude of features It will keep you happy for months Priced at $25 99 (£19) you can get it from CMO – same address as for the Indus GT disc drive

If you've bought the new XE Games System you will have received a free cartridge containing Flight Simulator II Now Sublogic the master of aircraft simulations, has brought out several new scenery discs which add to the enjoyment and playability of this superb program

You have a number of choices, so I recommend you write to the Sublogic Corporation, 713 Edgebrook Drive, Champaign IL 61820 for more information on its products

If you're into sport simulations you'll love World Karate Championship from Epyx An excellent piece of music accompanies the superb graphical representation of the oriental martial arts Fighting in several locations around the world you have to defeat your opponents in a flurry of moves before you can be crowned champion of the world

There is a similar game already available – International Karate – but it doesn't appear to be the same as World Karate Championship The music is different and I don't remember International Karate having as many locations

Available from CMO again it retails at $18 99 (around £12) That's knockout value for a game of its quality

MicroProse has put together a trio of its best selling flight simulators on the Atari Top Gunner gives you all the excitement of Hellcat Ace, Mig Alley Ace and Air Rescue The first two are familiar to me but the last is a mystery

Apparently you take the part of a chopper pilot who has to rescue a team of trapped archaeologists in North Africa A two dimensional third person view is used to display the treacherous underground labyrinth For more information write to MicroProse Software, 120 Lakefront Road, Hunt Valley MD 21030 or telephone 0101 301 771 1151

When contacting the companies mentioned above please tell them you read about the products in *Atari User* You should allow up to a month for delivery of anything you order – overseas mail can be a pain at times

● *Next month I'll take a look at some more products and hopefully show you a few screen shots of Infiltrator – an animated graphics adventure from Mindscape*

ATARI The leading North West Specialist ATARI Dealer

LADBROKE COMPUTING INTERNATIONAL

33 Ormskirk Road
Preston, Lancs.
Tel: (0772) 21474 (1 line)
(0772) 203166 (5 lines)
Bul/Board 27236 6pm to 9am

ATARI

SPECIAL OFFER ON DISKS
5.25" DS D/D 96 TPI (QUAD DENSITY)

10	£5.99	10+BOX	£6 99
100	£49.99	100+BOX	£59 99

These are top quality products, not cheap seconds. All disks come with an unconditional lifetime guarantee

MACHINE CODE MONITOR BOARD

Suitable for 130 XE and 800 XL this useful add on provides the user with a machine code monitor+old Operating system with on screen 80 column mode and existing Operating System. The Monitor includes standard search functions and direct disk access.

£79 99

DUST COVERS

Computers	£3 99
Monitors	£4 99
Disk Drives	£2 99
Printers	£7 99

Please state for which model you require a dust cover

HARDWARE

130 XE Computer	£119
XF 551 Drive	£169 99
XC 12 Recorder	£32

PRINTERS

Star LC10	£225
Star LC10 Col	£275
Citizen LP10	£199
NEC 2200	£429
Epson LQ500	£429
Star LC10/24	£429
Epson LQ800	£570
Gachca	£199

All printers come complete with cables ETC. interfaces are separate.

LADBROKE COMPUTING SOFTWARE CLUB

Just £10 annual membership entitles you to a GUARANTEE OF 15% off MRRP. We will also keep you up to date on new software releases and any special offers, up to 30% in the future.

Phone for application form or write to above address.

All Hardware/Software is tested prior to selling to ensure satisfaction Hardware is supported by on site engineers All prices include VAT

We stock a wide range of dedicated books and magazines

TO ORDER Simply send, or phone your order, stating Full Name, Address, Visa or Access Nos, Cheque or Money order. Make Payable to Ladbroke Computing International. Send SAE for Catalogue.

Putting in a good word

THANK you for the superb article in the June 1988 issue of Atari User about the foreign language tutorial programs for the Atari 8 bit. Unfortunately, they are only available on tape and I only had a 1050 disc drive.

So after paying my local Atari dealer a visit, I bought an XC 12 cassette deck together with French and German language courses at a very reasonable price of £9.95 each.

They are wonderful value for money and a doddle to use – and the XC 12 is a very reliable cassette deck.

The reason I bought them is because I am in the process of taking a night school language course and felt I needed some extra practice with the oral side of learning a language. With the help of the Longmans tapes I have now improved my spoken French and German and can follow conversations in these two languages an awful lot better than before.

It was also nice to see that a woman had written the article. I would like to thank Ruth James and Longmans for the article and recommend the tutorials to everyone. – **Miss Sarah Smirthwaite, Aberdeen, Scotland**

● It's always nice to hear from happy readers and we'll pass your comments on to the individuals concerned.

Faster than it seems

AT last, the XF 551 disc drive review we had all been waiting for. After all of the months Atari kept us waiting we were finally allowed to see an in-depth article about it.

However, after looking at the accompanying timing tables the drive seems to be identical to a standard 1050.

I thought that after all this time Atari could have pulled its finger out and done a good job. – **Graham Saunders, London**

● If you take a close look at the review you will see a panel next to the timing tables which explains all. The Dos used for the revisw was a prototype and there was no way to switch the verify off when the drive was in write mode.

Because of this the results make the drive seem very slow but believe us it is a superb machine and works an awful lot faster than the older 810 and 1050 drives.

Stealth is out

I WAS recently reading another computer magazine and I came across a review of Project Stealth Fighter by MicroProse. According to the magazine it is available for the Commodore 64 and Atari micros, but on the main MicroProse advert only the Commodore 64 version is mentioned.

I have also seen the manual for the game Gunship and there are loading instructions for the Atari XL/XE computers. So now to my question. Where can they be found?

Moving away from games software, I'm glad to see Atari is advertising on TV and backing the 8 bit again. I certainly hope it will boost the sales of Atari micros. If this happens software houses may well resume writing programs for the best 8 bit computer.

Well done with the new look mag. I especially like the games reviews and the Gallup Chart. Keep up the good work. – **Stuart Ewen, Kirkintilloch, Glasgow**

● Well Stuart you had quite a lot to say there. As to Stealth Fighter coming out on the Atari, they were probably referring to the ST version – and made a mistake by not putting ST after Atari.

MicroProse told us last time we contacted them that they were dropping their support of the 8 bit Atari.

Now on to the second game from them. Gunship appears to have been released in America for the 8 bit Ateri according to several advertisers in American magazines. We'll try to get hold of one and report on it in our new series on American products.

And, yes it is nice to see Atari supporting the 8 bit again!

Games galore

I HAVE come to the conclusion that some software houses have rejoined the land of the living. A few weeks ago I went to Bristol with my father to buy a new computer game with my pocket money.

We went into Virgin Games expecting to see a few crummy offerings on a shelf. When we saw four shelves packed with games we were amazed.

There were loads of new

Turn to Page 44 ▶

CLASSIFIED INFORMATION COMES IN USEFUL

AFTER seeing an advert in the classified section of Atari User about somebody selling Atari hardware, I went round to see them. I was interested in buying the PR Connector by ICD because I was in the process of buying a Star LC-10 printer.

As well as this the advertiser was selling the Atari Writer Plus program and Print Shop which I thought was yet another word processor.

When I found out it was a graphic designer I was over the moon. It's just what I have always wanted but never knew existed.

Its features include making cards, letterheads, banners, kaleidoscopes and a facility to make your own symbols and logos.

I have never been so pleased with a program and I've had an 8 bit Atari computer for five years now. If I hadn't seen the advert and gone to see the person concerned I don't think I would ever have discovered this absolutely excellent program from Broderbund Software. – **Ben Sherpe, Emsworth, Hants**

● Thanks for the letter Ben and for readers who haven't seen Print Shop in action here are some examples of what it can do.



ATARI USER

◀ From Page 43

titles I had never seen before My dad gave me an extra £3 to go with my pocket money and I bought a pack of four games for £5

So, all you other Ataris out there, get down to the Virgin Games store in Bristol – but don't buy them all because I still want a few – **Kara Ball, North Bristol, Avon**

Retrieving lost files

I WAS wondering if you could provide me with a solution to a little problem I have I recorded another program over the end of Cavern Escape – from the May 1986 issue of Atari User

The worst thing about it is that it has almost finished loading when it errors Is there any way I can load what's left and then type in the missing lines? – **Peter Gibbs, Herne Bay, Kent**

● Why not try the Recovery program we printed in the July 1988 issue of *Atari User*? It will read in as much of a damaged file as it can and re-save it for you

A good Recovery

THANKS for the very good Basic Recovery program in the July 1988 issue of Atari User

I have had two programs which failed to load for some time now But after running them through the recovery program I managed to get at least 80 per cent of them back It was a great relief I can tell you

I enjoy your magazine and type in all of the cassette orientated listings – **L Heppenstall, Heanor, Derbyshire**

● We try our best to help all of our readers, Mr Heppenstall Thanks for the letter

Compatible printers

COULD you please tell me if the Star LC 10 printer is compatible with the Atari XE computer systems? And could you also give me a list of other printers which are compatible with the 8 bit Atari? – **David Ponsonby, Buxton, Derbyshire.**

● The answer to your question is yes The LC 10 is Epson-compatible and with the aid of an interface the Atari can be made to communicate to its Centronics parallel printer port

The list of printers you could use is rather long, but here are a few Panasonic KX P1080 Epson FX 80, Epson LX-80 Epson LX 86, Epson LX 800, Epson LQ 1050 Citizen LSP 100 Star LC 10

WIN A TENNER!

EACH month we will award £10 prizes for the most interesting letters sent to us

So now there's more reason than ever to contribute to our lively mailbag pages

Get your pens out, start writing and you could be one of the winners The address

Mailbag Editor
Atari User
Europa House
Adlington Park
Adlington
Macclesfield SK10 4NP

Backing at last

£10 LETTER

WHAT a relief it was to me to read the news story in the August 1988 issue of Atari User about Atari supporting the 8 bit in full

I had begun to worry about the future of my micro I know I may sound biased when I say this, but my Atari 130XE is the best 8 bit micro ever to be designed, built and sold

It's brilliant, stupendous but unfortunately underrated It has been demeaned for its poor Basic and for the lack of support it has had over the years in the UK

Usually when entering into a conversation of this nature with another computer owner – you know the types – BBC Micro, Commodore, Amstrad and so on – I begin to lose my temper

But no more I have recently obtained Turbo Basic – readily available in the public domain – and I am very impressed with it

Not only is it a correctly structured programming language it also has a compiler program which will compile TB files and old Atari Basic programs as well

So with Atari backing the games scene and such a wonderful program as Turbo Basic available free, the future looks healthier – doesn't it? – **Stephen Pratt, Kingston-upon-Hull**

● Hopefully Stephen this will be the start of better things for the Atari 8 bit micro And maybe it will be given some credit for its quality and ahead-of its time design

As to your reference to Turbo Basic, we at *Atari User* are interested to know how many of our readers have this superb programming language

Switched cartridges

I HAVE a 130XE and constantly use the Mac/65, Basic XE and Action! cartridge-based languages The wear and tear on these very expensive items caused by plugging and unplugging them is causing me some concern

Recently you published two letters from other readers on the same subject I would like to add my voice to theirs and ask you to come up with something that would hold all my cartridges and allow me to switch them in and out individually

Such a gadget is available for the Commodore and it would be nice to see one for the Atari – **D Howell, Woolwich, London**

● It appears that with the introduction of the new games console and the re-release of games on rom cartridge a device of this nature would be very useful Peripheral manufacturers please note

Saving to disc

IN the March 1988 issue of Atari User there was a letter concerning Boulderdash Construction Kit on tape It appears the writer was having problems saving newly-created levels to disc Here is the solution

● Turn on your disc drive insert a Dos disc that you want to save the levels to and plug your cassette deck into the back of the drive.

● Load the game as normal When it has loaded the screen will go blank and boot up Dos The construction program will then run.

You can now create your new levels and save them to disc using the cassette-based main program – **Shek Cheung, Luton, Bedfordshire**

Don't miss this great offer!



SAVE £3 ON THE

ATARI USER TOOLKIT

For a limited period we have reduced the price of one of the most popular offers we have ever run. Now, with a saving of £3, the *Atari User* Toolkit represents incredible value and is an offer you should not miss!

With the *Atari User* Toolkit, programming becomes so much easier – adding ten new commands to Atari Basic and dramatically improving your performance. As an extra bonus, Toolkit gives you meaningful error messages, instead of cryptic numbers.

Toolkit automatically boots from cassette or disc and makes use of normally unused memory. It consists of stunning utilities – specially commissioned by *Atari User* – complete with comprehensive instructions, telling you how to get the most from each utility.

TOOLKIT'S COMMANDS

CLICK	Turns that sometimes annoying keyboard click on or off
DEL	Instantly removes single lines or blocks of unwanted Basic lines
REN	Renumbers your Basic programs in any line increment
DIR	Displays a directory of any drive without having to enter Dos
VAL	Converts numbers between decimal, hexadecimal and binary
GIR	Calculates and displays the useful *Atari User* checksums
LVAR	Lists all the variables used by a program and shows you where they occur
CHANGE	Alters the name of every occurrence of a variable in a program
STRIP	Reduces the size of a program by removing all REMs
LISTING	Prints all the Atari's special characters on an Epson compatible printer

Special saving!

Tape ~~£5.95~~ **£2.95**

Disc ~~£7.95~~ **£4.95**

TO ORDER PLEASE USE THE FORM ON PAGE 47

SAVE UP TO £25!

...when you subscribe to ATARI USER

Any or all of these items can be yours for 99p each when you take out a new subscription or renew an existing one

Starquake

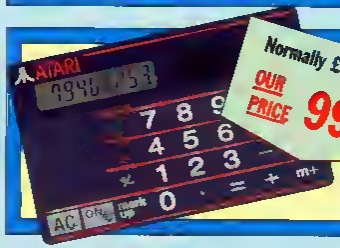
In this delightful game you have to navigate through 500 action packed screens.

Starquake, one of the biggest selling games for home micros due to its incredibly addictive gameplay and cleverly-animated graphics, has received such accolades as Game of the Month in *Computer and Video Games*, and was awarded a *Crash Smash*

● *What reviewer Bob Chappell said about the Atari version*
'Starquake is top-notch fare quality dripping from every byte'

Normally £8.95 TAPE £12.95 DISC
OUR PRICE 99p





Normally £5.99
OUR PRICE 99p

EXECUCARD

This ultra-slim, solar powered credit card sized Atari ExecuCard is a five-function calculator with an eight-character display showing a comma after every three digits And it comes with a smart protective wallet

FIREBIRD Silver Collection

Five of the best games in the Firebird Silver range:

- ☆ Thrust
- ☆ Ninja Master
- ☆ Space Shuttle
- ☆ Micro Rhythm
- ☆ War Hawk

Each game normally costs £1.99 but you can have all five for 99p when you take out a subscription!

Normally £9.95
OUR PRICE 99p



TO ORDER PLEASE USE THE FORM ON PAGE 47

EXCLUSIVE OFFER

POCKET POWER!

The DB2100R Data Bank stores 150 sets of data, each with seven alpha numeric characters and 12 numbers. There's a fast search facility, a secret mode protected by a user-defined password and an eight-digit calculator. Battery included



SAVE £3!

RRP £19.99
Our Price **£16.99**

Valid to 30/9/88

All prices include postage, packing and VAT
Overseas orders despatched by Airmail

(✓) £ p

Annual subscription

	NEW		RENEWAL	
UK £18	7001		7002	
Europe (incl Eire)£18	7003		7701	
Overseas (Airmail)£32	7004		7702	

Commence with _____ issue

Get any of these for only **99p** each when you subscribe

Atari ExecuCard	7023	
Starquake disc	7024	
Starquake tape	7029	
Firebird Silver Collection	7059	

Back Issues

£1.50UK
£2.00Europe & Eire
£3.25Overseas

January 1988	7421	
February 1988	7422	
March 1988	7423	
April 1988	7424	
May 1988	7425	
June 1988	7426	
July 1988	7427	
August 1988	7428	

Ten of the Best (see page 2)

Games Vol 1 disc	£4.95	7014	
Games Vol 2 disc	£4.95	7053	
Utilities disc	£4.95	7018	

Add £1 for Europe inc Eire/Overseas

Jinxter

Atari 800XL/130XE disc £14.95 7058

Add £2 for Europe inc Eire/Overseas

Mini Office II (see page 31)

Disc 400/800XL/XE (48k) £19.95 7050

Add £2 for Europe inc Eire/£5 for Overseas

ORDER FORM

Atari Data Bank (see above)

£16.99 7088

Add £1 for Europe inc Eire/Overseas

Atari ExecuCard (see opposite)

£4.99 7048

Add £1 for Europe inc Eire/Overseas

Starquake (see opposite)

Tape	£4.95	7030	
Disc	£6.95	7047	

Add £1 for Europe inc Eire/Overseas

Atari User Toolkit (see page 46)

Tape	£2.95	7021	
Disc	£4.95	7022	

Add £1 for Europe inc Eire/Overseas

Firebird Silver Collection NEW

(see opposite)

5 Tapes £4.95 7051

Add £2 for Europe inc Eire/£5 Overseas

Disc storage box

Holds up to 50 5.25" discs £4.95 7039

Dust cover

130XE	£3.95	7031	
800XL	£2.95	7060	

Add £1 for Europe inc Eire/Overseas

Atari User binder

£4.95 7029

Add £2 for Europe inc Eire/£5 Overseas

Readers in Europe (inc Eire) add £2 per item. Overseas add £4 per item unless otherwise indicated

TOTAL

Send to Database Publications FREEPOST, Macclesfield Cheshire SK10 4YB

(No stamp needed if posted in UK) *Please allow up to 28 days for delivery*

Order at any time of the day or night

Credit Card renewal phone 0625 879920

For Orders	Orders by Fleece	MicroLink/Telecom Gold
0625 878888	Key "89 then 614568383	72:MAG001

Don't forget to give your name, address and credit card number

MAIL ORDER ENQUIRIES ONLY 0625 879940 9-1pm 2-5pm

Payment: please indicate method (✓) Expiry Date ___/___

☐ Access/Mastercard/Eurocard/Barclaycard/Visa

No ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

☐ Cheque/Eurocheque made payable to Database Publications Ltd.

Address (please print and use your postcode)

Name _____ Signed _____

Address _____

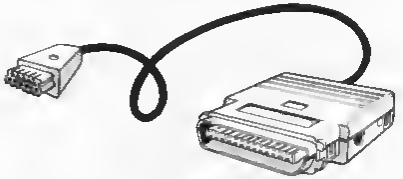
_____ Post Code _____ Country _____

Daytime telephone number in case of queries _____

ATU

STACK COMPUTER PRODUCTS

CENTRONICS PRINTER INTERFACE
400, 800, XL, XE (Any 8 Bit Atari)



TYPE 72000

- ANY CENTRONICS PRINTER
- NO SOFTWARE NEEDED
- ALL CABLES SUPPLIED
- EASY TO USE – JUST PLUG IN AND GO
- TRANSPARENT & CONVERSION FEATURES INCLUDED
- FULL YEARS WARRANTY

£39.95

FREE 40 PAGE CATALOGUE ON REQUEST OR WITH ORDER

MEEDMORE LIMITED
28 Farriers Way, Netherton
Merseyside L30 4XL
Tel: 051-521 2282

FREE

GREMLIN GRABBER III
TO ALL 1050 OWNERS
WHEN YOU PURCHASE THE
1050 I.S. PLATE.

Innovated Software and CHIPS bring you
THE ULTIMATE DRIVE ENHANCEMENT

- Plug in, **easy to fit PCB** with full instructions
- Will run Happy,US doubler,Archiver,Laser and Warp drive software
- Will run **all** available disk operating systems
- ***HI–SPEED*** reading & writing gives an increase in speed by a factor of **SIX!**
- **Built in** diagnostic tester sector copier and special back–up menu
- Full **16K of RAM** on the PLATE
- Comes with **FREE Gremlin Grabber III** the most comprehensive ***HI–SPEED*** backup utility disk on the market complete with manual

NOW £20 OFF at £69 95 inc VAT and EEC postage

Only available from

'CHIPS'
DATA DIRECT LTD
53 RUGBY ROAD,
WORTHING,
WEST SUSSEX
BN11 5NB.
TEL.: (0903) 700804

ATARI ONLY — MAIL ORDER ONLY

STOCKSOFT
SUPPORTING THE EIGHT BIT

WORLD FAMOUS HAPPY!
DISC DRIVE ENHANCEMENTS
HAPPY REV 7 1
This is the latest enhancement for the 1050 disc drive to come from the world famous "Happy" people in the USA
It is a replacement chip/chips board for your 1050 drive, full fitting instructions supplied which are basically remove drive cover unplug 2 chips plug in Happy
GIVES THE FOLLOWING
Makes your drive Read/Write faster
Back up includes B/Sectors
True Double Density
Fast sector copy a 128k
Warps speed D O S
Compactor of Files
Drive Diagnostic
D I Y Kit only £109 POST FREE

DISCO
Wil play your music cassette through your computer using TV speakers and giving a sound to light show on screen through 256 shades 16k on TDK Cassette
£10 post free

SPECIAL OFFERS
D O S 2.5 ONLY £2 POST FREE
D O S 4 ONLY £2 POST FREE
Art D O S ONLY £2 POST FREE
D O S 2 ONLY £2 POST FREE
Graph o Demo D sk ONLY
£2 POST FREE

SOUND AMAZING
DOUBLE SIDED DISK OF TRUE DIGITISED SOUND ONLY £3

TAPE CRACKER – REV 2 – 48k
SIDE A Will list M/C progs to screen you edit download your personalised version with or without M/C knowledge Hours of fun changing text to leave personal messages on screen Stuck on an adventure search for clues
SIDE B For the advanced user contains a meaty assembler A utility for only £10 on T D K tape post free

DISK CRACKER 64K
SIDE A Contains a sector editor disassembler Check disk speed repair bad links map disks
SIDE B Contains 40k disc copier 128k disc copier plus a true double density disc speeder Comes complete with full instruction manual on double sided disk
£20 post free

DISK UTILITY PACK No 1 64K
4 disk pack with over 40 progs for beginners to advanced works out at less than 50p a program Power without the price Comes on two double sided disks £25 post free

GAMES SALE
TOP NAME GAMES
TAPES £5 DISKS £8
POST FREE

5 25" GOLD STAR DISKS
ONLY £7 BOX OF 10

ATARI ONLY* MAIL ORDER ONLY
(All software and hardware sold subject to not infringing copyright.)
For free 20 page catalogue of tapes and disks send large SAE

STOCKSOFT (DEPT 8 BIT)
15 Woodbrooke Road, Birmingham B30 1UE

ARE YOU MISSING OUT?

You've got lots of questions about your computer but don't know who to ask! We do! You're not sure which software is best for your application! We do! You'd like to keep up to date with new releases and be sure they are a good buy but who's going to tell you? We will! You would love to get to know other Atari enthusiasts but you don't know how! We do! You want to get some of that Public Domain software you've heard about, but where from? We know! You don't want to feel like you're the only Atari owner in the world but where can you turn too! Well we can help! Great but who are you??

We are the largest (and oldest) Atari Computer Owners Club in the U.K. For just £5.00 per year you get help assistance hints tips friends, pen pals access to PD software up to date information games utilities hardware projects software reviews programming tutorials and a glossy club magazine every quarter

A club magazine as well!! One of those photocopied things that is unreadable, oh! Well no it's professionally produced, just like this magazine you're reading It's called MONITOR, you may have heard of it? Yes friends of mine have read it and say it's great! How do I join the club and get my copy of MONITOR? Easy just send a cheque or postal order for £5.00 to the address below requesting a four issue subscription Overseas membership is £8.00 (surface) or £12.00 (Airmail)

You won't be disappointed!!

The U.K. Atari Computer Owners Club
P.O. Box 3, Rayleigh, Essex, SS6 8LR
Independent User Group

◀ From Page 15

```
10 REM ************************
20 REM *    CAVERNS OF MALA    *
30 REM *     BY D THOMSON      *
40 REM *   (C) ATOMIC USER     *
50 REM ************************
100 GRAPHICS 17:POSITION 4 10 ? #6;"PL
EASE WAIT"
110 DIM A$(176),D$(11),MISS(10),OFFS(10
)
120 A$="$$$$$$$$$$" OFFS="
"
130 REM RELOCATE CHARACTERS + JR CRASH
TO A TITLE SCREEN
140 GOSUB 1370:POSITION 4 10 ? #6;"rea
rig down"
150 GOSUB 1100 GOSUB 2560 GOSUB 2440
160 SETCOLOR 4,0,0
170 SHIPS=6:LEVEL 1:SC=0
180 SETCOLOR 0,5,4 SETCOLOR 1 11,6 SET
COLOR 2 7,6
190 GOSUB 2560
200 GOSUB 1020
210 POKE 53277,1 NB 126:Y6=50 XE=60 XI
 100
220 MSHIP 900 FUEL=200:GOMS=020 DOMO=4
0:SHIPPOS=0
230 POKE PL1,0:POKE PLL+1,0 POKE PLL+2
,8:POKE PEL+1,8
240 IF LEVEL>.5 THEN GOSUB 1000
250 REM MAIN LOOP
260 POKE 705 FLAS0 POKE 711 FLA90+14
270 FLASH=FLA50+7 IF FLASH)=245 THEN F
LOSH=0
280 S=STICK(0) IF STRIG(0)<>0 THEN SOU
ND 3,0,0,0
290 SP.1=TF STRIG(0)=0 AND S<15 THEN S
=.2 SOUND 3,3,8,7
300 IF S<15 THEN POKE 77,0
310 IF S=14 THEN Y0=Y0-SP
320 IF S=8 YOCH X0=X0+SP Y0=Y0-SP
330 IF S=7 THEN X0=X0+SP
340 IF S=5 THEN Y0=Y0+SP X0=X0-SP
350 IF S 11 THEN Y0=Y0+SP
360 IF S=9 THEN X0=X0-SP Y0=Y0+SP
370 IF S=11 THEN X0=X0-SP
380 IF S=10 THEN X0=X0-SP Y0=Y0-SP
390 IF S=15 THEN SP=0 25
400 IF Y0( 40 THEN Y0=40
410 IF X0(=48 THEN X0=40
420 IF X0)=206 THEN X0=206
430 POKE PL%,X0 POKE PL%+1,Y0 POKE PLT
 Y0 POKE PLY+1,Y0
440 IF PEEK(53273)=3 THEN GOSUB 770
450 FUEL=FUEL SP/2
460 POSITION 0 0 ? #6;"Fuel " INT(FUEL
) " "
470 IF FUEL(=0 THEN 1920
480 POSITION 12 0 ? #6 "Ships ",SHIPS
490 REM COLLISION DETECTION
500 COSN PEEK(53252)
510 IF Y0-12 AND CRASH=2 THEN POSITIO
N 1 12:? #6;"  " SOUND 0,10,1,0
520 IF Y0=123 AND CRASH 0 THEN POSITIO
N 16,17 ? #6," " SOUND 0,10,1 0
530 IF Y0=162 AND COOSH=1 THEN FUEL=FU
EL+10 SOUND 0 50 10 5
540 IF FUEL) 250 THEN FUEL=250 SOUND 0
 255,0,16
550 IF N0 142 AND CRASH 0 THEN POSITIO
N 11,19:? #6;" ":AL=1+SC-SC+50:GOSUB 6
60
560 IF N0=36 AND CRASH 0 THEN POSITION
 6,19:? #6 " " AL=AL+1 SC SC+60 GOSUB
600
570 IF Y0(=59 AND CRASH=0 AND AL=2 THE
N SC=SC+100 AL 0 GOTO 1770
580 IF PEEK(53960)=4 THEN GOTO 1930
590 IF CRASH()0 AND CRASH()2 AND CRASH
()0 THEN GOTO 1920
600 POKE 53278 0:SOUND 0 0 0 0
610 POSITION SHIPPOS,1 ? #6;" "
620 POKE PAUSE+1 IF PAUSE 2 THEN GOSU
B 45MIP
630 IF LEVEL3=1 THEN WAIT=WAIT+1 IF WA
IT)10 THEN GOSUB GUNS
640 IF LEVEL=4 THEN GOSUB 700
650 GOTO 260
660 FOR A=0 TO 200 STEP 5
670 SOUND 0 A,10,10 NEXT A
680 RETURN
690 REM PROGRAMS
700 B=00 B=B+6
710 D RND(0)*10
720 POKE PLR+2 W2+D:POKE PLY+2,B+D
730 POKE PLR+5,W2+D POKE PLY+1,B+D
740 IF B+D)=210 THEN B=B-40 B2=INT(R
ND(0)*140)+50 XI=INT(RND(0)*140)+50
750 SOUND 2,B+D+ 10,1
760 RETURN
770 FOR S=0 TO 5 SOUND 5,8,0,0 NEXT S
780 IF PEEK(53279)=6 THEN RETURN
790 IF PEEK(53279)=8 THEN POP :GOTO 10
 30
800 GOTO 700
810 REM GUNS ON
820 SOUND 1 150 0,5
830 POSITION 1 12:? #6;MISS
840 POSITION 12,19 ? #6;MISS(1,8)
850 POSITION 2,19 ? #6;A$(1,4)
860 X=X+1 IF X=2 THEN X 0:GOTO 860
870 RETURN
880 WAIT=0:GUNS=200 RETURN
890 REM GUNS OFF
900 SOUND 1 0,0,0
910 POSITION 1 12 ? #6 OFFS
920 POSITION 12,19 ? #6;OFFS(1,8)
930 POSITION 2,19 ? #6;OFFS(1,4)
940 OPE=OPE+1 IF OPE 2 THEN OPE=0 GOTO
 900
950 RETURN
960 ROTT=0 GUNS=820 RETURN
970 REM MOVE ROTPOL SHIP
980 SHIPPOS SHIPPOS+1:PAUSE=0
990 IF SHIPPOS=10 THEN MSHIP=1010
1000 RETURN
1010 SHIPPOS=SHIPPOS I:PAUSE=0
1020 IF SHIPPOS=9 THEN MSHIP=900
1030 RETURN
1040 REM PLOT POWER
1050 FOR MIVE 0 TO 50
1060 POSITION INT(RND(0)*20),INT(RND(0
)*14)
1070 ? #6 "M" NEXT MIVE
1080 RETURN
1090 REM VERTICAL BLANK INTERRUPT
       MOVEMODE MACHINE CODE
       ATARI USER MAGAZINE MAY 1984
1100 RESTORE 1220 FOR I=1536 TO 1706 R
EAD A:POKE I,A NEXT I
1110 FOR I=1704 TO 1707:POKE I 0 NEXT
 I
1120 PM=PEEK(106)-16 PMBASE=PM*256:POK
E 106,PM
1130 FOR I PMBASE+1023 TO PMBASE+2047
POKE I,0 NEXT I
1140 FOR I=PMBASE+1035 TO PMBASE+1032:
READ A:POKE I A NEXT I
1150 FOR I PMBASE+1201 TO PMBASE+1208
READ A POKE I A NEXT I
1160 FOR I=PMBASE+1537 TO PMBASE+1548
READ A POKE I A NEXT I
1170 FOR I=PMBASE+1793 TO PMBASE+1880
READ A POKE I,A NEXT I
1180 POKE 704,28 POKE 705 84 POKE 706
 16 POKE 707 28
1190 PLH=53248 PLY=1700:PLL=1704
1200 POKE 559 62:POKE 821 0 POKE 1700,
PM+4 POKE 53277,2 POKE 54279,PM
1210 R=USR(1696)
1220 RETURN
1230 DATA 162 2 189,244,0 240 85,56,22
1,240 6 240,83 141,254 6 105 141
1240 DATA 250 6,142 252 0,24 165,0,105
,253,6 24,105,252,6,141 204,133
1250 DATA 200,169 240 0 133 202,173,25
4,5 133 205 169,240 0 178 232 40,295
1260 DATA 6,144,16 160,177 203,145,205
 169 6,145,201 136 202,200 244 76 87
1270 DATA 6,160,0,177,201,105,205 105,
0,145 201 200,202 240,244,174,291,6
1280 DATA 175,254,0,157 240,0,109,216,
0,240,40,133,193,24,120,141,255,6
1290 DATA 105,235,6,123,904,24,173,105
,5 105 252 6,132,100,109,240,6,132
1300 DATA 200,102,240,0,179,160,0,177,
207,145,200,208,202,240,174,263,0
1310 DATA 161,0,157,238,6,202,48,1,76
2,0,70,90,220,0,0,104,165
1320 DATA 7 162 6 160 0 32,32,220,96
1330 REM PM SHAPE DATA
1340 DATA 129,90 60 211,168,209 128,24
,0,0,0,24,90 0,0,0
1350 DATA 130,165,180,110,50,44,52,24,
105 105 255,171,52,110 52,24
1360 REM RELOCATE CHARACTER SET
1370 PMB PEEK(106)-8 CHBASE PMB*256 PO
KE 106,PMB
1380 POKE 16 68:POKE 53774,64
1390 RESTORE 1420
1400 FOR I=0 TO 1023:POKE CHBASE+I,PEE
K(57344+I) NEXT I
1410 FOU CHSET=CHBASE+24B TO CHBASE+40
0+7 READ A POKE CHSET,0 NEXT CHSET PO
KE 755 PMB RETURN
1420 DATA 0,0,0,170,80 0,0,0,0,105,195
,181,171,195,255,0,0,56,100 235,171,13
5,230,124,6,20,54 235,247,235,56,62
1440 DATA 129,231,229,255,255,255,255,
255,255,255,253,255,805,253,231,137,19
3,224,224,240,240,240,264,260
1450 DATA 1,7,31,63,63,63,127,260,284,
228,265,252,254 255,219,102,233,121,25
5,255,255,955,935,73
1460 DATA 0,0 0,0,24 66,56,0 254,256,2
54 252 254 252,228,128,82,99,102,211,1
15,102,62,0
1070 DATA 24,58,24,28,28 28 126,0,127,
```

Turn to Page 50 ▶

◀ *From Page 49*

```
99,3 I4 1Z0 112,127,0,1Z 99,I,II,7 10
I 1IZ 0
1400 0010 96,102 102,127 14 14 14 0,12
7 96 126,Z Z,102 127,0,62 40 40 1Z,11
6 115 127 0
1450 0A10 12Z,I 6,24,70 20 20 0 62 54,
54 127,115,115,127,0,126,102,102 127,7
,103,122,0
1500 0B10 254,202,240,252,254,252,254,
256,256,122,63,127,265,63,127,61,0 0 I
6,24,20,20 0 0
1510 0B14 266,255,255,255,205,255 255
255,0,200,156,116 115,160,240 0 0 15,6
7,215,215,52,15,0
1520 0C10 17,119,255,63,127,255,247,10
2,126 102,102,119,112,119,119,0,124,16
2 106 127 119,119,126,0
1530 0C10 63,115 112,112,96 95,61,0 12
6,104,103,103 99,99,126 0,63,40,40 124
,112 112 127,0
1540 0C10 61,40,40,124,112,112,112,0,0
7,50,40 11Z,119,115,127,0,51,51,52,127
,119,119,149,0
1550 0D10 02,0Z,02,20,20,20 20,0,00,12
6,Z2Z,Z35,Z34,Z29,Z39,265,51,51,56 124
,124,140,145,0
1560 0D10 40,40,40 112,112,11Z 127,0,9
9,119,117,107,99,103 103,0,51,51,59,12
7,119,115,115,0
1570 0E10 0Z,35,96,103 103 6Z,0,0Z
,51,51,115,126,112,112,0,0 60 102,219,
211 109,36,120
1580 0E10 62,51,51,115 126,130,115,0 1
20,192,96,122,Z,103,127,0 12Z,24,20,20
20,20,20,0
1590 0E10 99,95,99 103 103 103 126,0,1
15 115,115,99,103,0Z 26 0,135,115,99,1
0Z 1ZZ 119 99 0
1600 0610 165,255,215,165,219,195,215,
0 99,99 64 20,12,20,20 0,0,24,36,90,II
I 219 120 36
1610 REM MAIN SCREEN
1620 POSITION 0,12
1630 ? #6;"                    9 ";
1640 ? #6;" CAV------Mq +}~~~~E@~~E";
1650 ? #6;"                 @3~/      %3 ~",
1660 ? #6;"~~*                        N~";
1670 ? #6;"=:  +-[#      +EEE@    ,"
1680 ? #6;"          ~/ @}C@;+}}}~~ZZ~ "
1690 ? #6;"~/      N==/   N/    ,"
1700 ? #6;"%[      @+}}#@          @ "
1710 ? #6;"=:   @E /  N=[@          "
1720 ? #6;"=:    N/     @}}-,
1730 ? #6;"=:#      +#          +=="
1740 ? #6;"      ((((( ~(((((((===~"
1750 REM JUMBLED TUNE
1760 RETURN
1770 FOR 0=0 TO 3:SOUND 0,0,0,0 NEXT 0
:RESTORE 1870
1780 READ C,E
1790 IF C=0 AND E=0 THEN 1860
1800 GOSUB 1810 GOTO 1780
1810 SOUND 0,C,10,15 FOR D=0 TO 10 STE
P 0
1820 SOUND 1,C+1,10,15
1830 POKE 20,0
1840 A=PEEK(20)
1850 IF A<E THEN 1840
1860 SOUND 0,0,0,0:SOUND 1,0,0,0 RETUR
N
1870 DATA 72,30,64,30,81,26,162,10,108
,50,0,0
1880 REM LEVEL CONTENTS
1890 POKE 53277,0:POKE 53278,0
1900 LEVEL=LEVEL+1:GOTO 4960
1910 REM SHIP DESTROYED
1920 POKE 53277,0:POKE 53278,0
1930 SHIPS=SHIPS-1:FUEL=0
1940 FOR A=0 TO 10:SOUND A,A*10+A,0,15:S
OUND Z,0,0,0:NEXT A
1950 SETCOLOR 4,0,0
1960 GOSUB 2540
1970 REM SCORE
1980 FOR S=0 TO 3:SOUND S,0,0,0:NEXT S
:SETCOLOR 4,0,0
1990 SC=SC+INT(ABS(FUEL))
2000 IF SHIPS=0 THEN 2290
2010 IF LEVEL=5 THEN 2470
2020 POSITION 2,4:? #6;"SCORE      ";S
C
2030 POSITION 2,8:? #6;"SHIPS LEFT
";SHIPS
2040 A=SIZE(0):Z=12:? #6;"LEVEL
";LEVEL
2050 POSITION 4,15:? #6;"press fire"
2060 FOR C=0 TO 15:SETCOLOR 0,0,C:SETC
OLOR 1,C+4,C
2070 IF STRIG(0)=0 THEN SETCOLOR 4,0,0
:GOTO 2110
2080 SOUND 1,C*4 10,4
2090 SOUND 0,C*4+10 10,4
2100 NEXT C:GOTO 2060
2110 GOSUB 2540
2120 SOUND 0,0,0,0:SOUND 1,0,0,0
2130 POKE PLX,125:POKE PLY+1,120:POKE
PLY,50:POKE PLY+1,60
2140 IF LEVEL<4 THEN POKE PLX+2,80:GOT
O PLY+2,50:POKE PLX+1,160:POKE PLY+1,5
0
2150 GOTO 180
2160 REM ALL SHIP DESTROYED
2170 POSITION 0,1:? #6;"CONGRATULATIONS
```



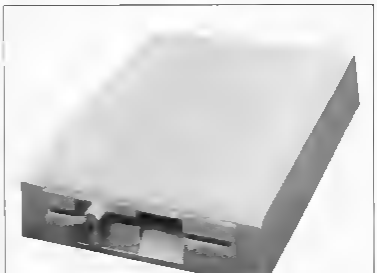
LINE	CHSUM	LINE	CHSUM	LINE	CHSUM
10	CM1 (X)	580	P4V (T)	950	PTE (L)
20	CP= (B)	510	WE2 (6)	960	RN0 (M)
30	CP5 (X)	520	Q7M (M)	970	DA1 (J)
40	CP4 (A)	530	AAW (W)	980	A8R (P)
50	CP5 (Y)	540	QHC (B)	990	Y8H (K)
100	TN9 (G)	550	9LD (M)	1000	VAK (0)
110	SA7 (R)	560	RAF (0)	1010	6M6 (L)
120	HTV (Y)	570	LEP (W)	1020	W9Q (L)
130	RPS (H)	580	SW8 (G)	1030	VNK (P)
140	B11 (Y)	590	GC9 (S)	1040	B5N (J)
150	SU4 (W)	600	RNA (S)	1050	E4E (A)
160	S8A (D)	610	R00 (A)	1060	PMC (P)
170	C1A (R)	620	WL6 (M)	1070	F13 (W)
180	ON8 (S)	630	156 (W)	1080	VTK (T)
190	REJ (L)	640	T0L (S)	1090	BHN (K)
200	P7K (Z)	650	N10 (R)	1100	FAJ (X)
210	CTW (7)	660	7NO (W)	1110	H7U (G)
220	349 (S)	670	DT2 (A)	1120	0V5 (9)
230	F1A (M)	680	S6A (T)	1130	4HA (K)
240	X9F (1)	690	DYX (D)	1140	DTP (B)
250	BGT (F)	700	WCM (7)	1150	EA0 (L)
260	2HT (S)	710	PWY (I)	1160	EH0 (B)
270	W1C (S)	720	FRE (Z)	1170	EPD (H)
280	M9Q (N)	730	FVS (U)	1180	XGU (4)
290	6AR (X)	740	RQT (2)	1190	WS6 (D)
300	JTC (Y)	750	3OY (W)	1200	YCM (5)
510	C4Q (G)	760	RXC (N)	1210	VBM (G)
520	174 (0)	770	E9E (P)	1220	VPK (C)
350	86K (4)	780	4HL (0)	1230	FOE (B)
340	TAX (Q)	790	814 (C)	1240	A55 (P)
350	UJH (U)	800	R5F (J)	1250	K7W (J)
360	U3F (R)	810	DOD (P)	1260	WE4 (I)
370	CJH (T)	820	YHW (S)	1270	0BT (9)
380	SWN (A)	830	ARN (7)	1280	AYC (K)
390	BN8 (S)	840	WAU (A)	1290	8GK (A)
400	ALL (A)	850	UNX (E)	1300	KL5 (0)
410	AU1 (0)	860	5S9 (6)	1310	0EP (A)
420	J8D (9)	870	S2D (A)	1320	SK3 (V)
430	WTH (G)	880	MND (A)	1330	DHM (U)
440	0QT (B)	890	E00 (9)	1340	N05 (C)
450	SF8 (W)	900	PCW (J)	1350	A3H (T)
460	MN1 (A)	910	PVY (K)	1360	DPN (V)
470	EVN (J)	920	UVX (W)	1370	0D9 (M)
480	0JF (M)	930	STO (S)	1380	N25 (H)
490	07V (7)	940	P5V (X)	1390	YHU (L)

LINE	CHSUM	LINE	CHSUM	LINE	CHSUM
1410	AKC (5)	1950	862 (F)	2300	NVJ (Z)
1410	AN9 (H)	1940	8UL (I)	2310	KN8 (X)
1420	A5F (C)	1970	UV6 (F)	2320	XFW (D)
1430	77R (Z)	1980	EFN (F)	2330	GKQ (P)
1440	RF9 (A)	1890	NES (Z)	2340	GGW (C)
1450	EJT (Y)	1900	SFA (G)	2350	V6A (X)
1460	5Y5 (B)	1910	E4N (E)	2360	YEY (L)
1470	YWV (Y)	1920	N35 (G)	2370	2SG (4)
1480	57A (M)	1930	FRR (0)	2380	520 (S)
1490	SJA (7)	1940	WLT (Q)	2390	GCC (D)
1500	9KU (J)	1950	NS1 (V)	2400	U7B (O)
1510	GF9 (0)	1960	TVM (J)	2410	VLP (S)
1520	T2F (K)	1970	EHN (K)	2420	P0E (E)
1530	AYV (6)	1980	CXM (L)	2430	DMP (A)
1540	A2U (J)	1990	FA9 (0)	2440	S7V (9)
1550	DU0 (1)	2000	0SS (J)	2450	WA7 (2)
1560	FDX (8)	2010	G80 (C)	2460	21K (7)
1570	EHU (3)	2020	9GA (G)	2470	9A5 (F)
1580	5S5 (C)	2030	OU9 (S)	2480	TCX (6)
1590	J5M (J)	2040	VI7 (Z)	2490	TRV (H)
1600	3L5 (L)	2050	XHU (X)	2500	05C (A)
1610	3RN (P)	2060	6XG (A)	2510	TKB (A)
1620	AN5 (D)	2070	W9R (A)	2520	YN2 (7)
1630	9A8 (K)	2080	5LK (3)	2530	7WF (U)
1640	LP2 (A)	2090	67S (A)	2540	TEM (K)
1650	AFE (C)	2100	47H (L)	2550	58F (X)
1660	6JH (3)	2110	SKJ (R)	2560	DAP (H)
1670	DU2 (5)	2120	M52 (Y)	2570	OUR (0)
1680	55X (U)	2130	FAQ (6)	2580	5KJ (W)
1690	DR8 (E)	2140	T5W (W)	2590	049 (Q)
1700	9FH (N)	2150	P4W (E)	2600	FH0 (4)
1710	FKX (C)	2160	DFP (E)	2610	DT5 (R)
1720	F4T (N)	2170	SE4 (E)	2620	SUN (L)
1730	A0H (W)	2180	PLE (O)	2630	3JU (P)
1740	GHE (Y)	2190	DMP (7)	2640	796 (O)
1750	E4N (U)	2200	TVU (6)	2650	DNX (S)
1760	WEK (W)	2210	9PK (C)	2660	W7W (K)
1770	98X (C)	2220	10W (9)	2670	J82 (K)
1780	R5C (U)	2230	3G3 (7)	2680	W80 (F)
1790	N6S (5)	2240	8WH (8)	2690	N3M (L)
1800	EE7 (F)	2250	BA8 (E)	2700	SEM (7)
1810	4N0 (J)	2260	Y5R (P)	2710	XS2 (D)
1820	6L7 (J)	2270	S0S (3)	2720	05H (G)
1830	028 (T)	2280	S5R (B)	2730	90R (H)
1840	WAP (P)	2290	EC4 (Y)	2740	WFL (D)

```
    YOU HAVE DESTROYED  ALL 8 SHIPS AN
D THE EARTH IS NOW SAFE "GOSUB 2710
2100 GOTO 2230
2190 GEM FAILED TO DESTROY ALL SHIPS
2200 POSITION 0,1 ? #6;" YOU HAVE FAILED
ORD THE EARTH WILL NOW  BE DESTROYED
    " GOSUB 2710
2210 IF LEVEL=1 THEN ?#6;"granny"
2220 IF LEVEL=2 THEN ?#6;"space cadet"
2230 IF LEVEL=3 THEN ?#6;"space pilot"
2240 IF LEVEL=4 THEN ?#6;"captain"
2250 IF LEVEL=5 THEN ?#6;"admiral"
2260 POSITION 8,7:? #6;"RANKING"
2270 POSITION (19-LEN(A$))/2,9
2280 ? #6;A$
2290 IF SC)HI THEN HI=SC
2300 POSITION 8,11:? #6;"LAST SCORE "
;SC
2310 POSITION 4,16:? #6;"DESTROY ";8-I
2320 POSITION 0,20:? #6;"PRESS START T
O PLAY"
2330 POKE 764,255:IF PEEK(53279)=6 THE
N GOSUB 2540
2340 FOR I=255 TO 0 STEP -5
2350 SOUND 0,0,0,I:SOUND 1,0,5,I:SOUND
2,0,0,I
2360 NEXT I:SOUND 0,0,0,0:SOUND 1,0,0,
0
2370 FOR I=0 TO 15
2380 IF PEEK(53279)=0 THEN GOSUB 2540:
POKE PLX+2,0:POKE PLX+3,0:SOUND 1,0,0
,0:GOTO 160
2390 IF PEEK(53279)=1 THEN GRAPHICS 0:
END
2400 SETCOLOR 0,C,C:SETCOLOR 1,C+4,C-5
:SETCOLOR 2,C+8,C:SETCOLOR 3,C+12,C
2410 SOUND 0,C+200,10,15:SOUND 1,C+240
,10,15:NEXT C
2420 GOTO 2370
2430 GEM TITLE SCREEN
2440 SETCOLOR 0,1,12:SETCOLOR 1,7,0:SE
TCOLOR 3,0,15:SETCOLOR 2,1,0
2450 POSITION 2,4:? #6;"CAUSES OF DEF
@"
2460 POSITION 5,10:? #6;"by"
2470 POSITION 5,12:? #6;"D.WINCHESTER"
2480 POSITION 8,14:? #6;"1988"
2490 POSITION 8,19:? #6;"press start t
o play"
2500 POSITION 2,11:? #6;"POESS SELECT
FOR      INSTRUCTIONS"
2510 IF PEEK(53279)=6 THEN GOSUB 2540:
GETHON
2520 IF PEEK(53279)=5 THEN GOSUB 2540:
POP :GOTO 2520
2530 TE=TE+1:SETCOLOR 1,TE,0:GOTO 2500
2540 FOR C=0 TO 15:POSITION 0,C:? #6;"
                    ":GEM RE SPACES
2550 NEXT C:RETURN
2560 GEM INSTRUCTIONS
2570 POSITION 0,1:SETCOLOR 4,I,12:SETC
OLOR 0,0,0
2580 A$="ON THE PLANET HALA  THERE ARE
 8 SHIPS  THAT CAN DESTROY THE" :GOSUB
 2210
2590 POSITION 0,0
2600 A$="THE EARTH  YOUR MISSION IS TO DES
TROY THE   SHIPS  TO ENTER THE ":GOSUB
 2210
2610 A$="CAUSES DOCK WITH   THE TOWER
S ON THE   SURFACE THESE WILL  ' :GOSUB
 2210
2620 A$="WHEN OPEN THE GATES OFFUEL BY
 LOADING ONTHE FUEL GUNS AND    ":GOSUB
 2210
2630 A$="DESTROY THE SHIP BY TOUCHING
THE SIDES  AFTER DESTROYING THE":GOSUB
 2210
2640 POSITION 0,16
2650 A$="SHIPS RETURN TO THE CENTER OF
 THE UNIVERSSHIP  PRESS FIRE TO INCREAS
E SPEED " :GOSUB 2710
2660 POSITION 2,22:A$="option to pause
" :GOSUB 2710
2670 POSITION 3,23:A$="start to play":
GOSUB 2710
2680 FOR C=0 TO 16:SETCOLOR 1,C,7
2690 IF PEEK(53279)=6 THEN GOSUB 2540
:GOTO 160
2700 NEXT C:GOTO 2680
2710 FOR N=1 TO LEN(A$):POP :I = 1:NEX
T I
2720 SOUND 1,100,10,I:? #6;A$(N,N):
2730 SOUND 1,0,0,0:NEXT N
2740 RETURN
```


Upgrade from Tape to Disk!

with the new Atari XF551 Disk Drive and Transdisk IV



Upgrading from the slow Atari cassette system to a fast reliable disk set up is certainly desirable but what do you do with all the games you have on cassette? Wouldn't it be nice if you were able to transfer your collection of tapes to disk for faster more reliable loading? With the new Atari XF551 disk drive and Transdisk IV you can do it!

Atari XF551 Disk Drive Features.

- Double Sided Double Density for maximum data storage
- Easy connection and quiet operation
- Smart styling to match your Atari Computer
- Suitable for 800XL 65XE and 130XE Computers

Transdisk IV Features:

- Easy transfer of latest cassette games to disk
- Aimed at the first time disk user
- Step-by Step instruction booklet supplied
- Completely self-contained – No other programs required
- For more info see Ad elsewhere in this issue

To Order phone with credit card no or make Cheque or P O payable to Digicomm Computer Services Ltd and send to

DigiComm, 170 Bradwell Common Boulevard, Milton Keynes, BUCKS MK13 8BG

Credit Card Orderline (0908) 663708 VISA

Normal Price For XF551 Disk Drive	= £179.00
Normal Price For Transdisk IV	= £24.95
Together Normally	= £203.95

Atari XF551 Disk Drive + Transdisk IV Our Offer Price = **£195.00**

Inclusive of VAT and Next Day Delivery

Your HINTS & TIPS

ONE of the most popular adventures to come out of the Infocom stable is Mindshadow. Our trusty cartographer Bryen Stevens, of Andover, Hants, who spent many hours drawing the map on the facing page, was surprised at just how easy the adventure is to complete when you tumble to one all-important fact.

Unfortunately he wasn't willing to disclose it, even though offered a bribe of a year's free subscription to *Atari User*.

Now on to Bryan's complete solution. Remember that once you have used something you should drop it, because you can only use each item once.

THE ISLAND

- Go N, E, E and get vine
- Go W, W, S, S, E and tie vine to rock
- Go down, W, get rock, dig ground and get the steel
- Go West and enter the hut before you get the straw
- Go S, N, N, E, N, E, E, S, S, E and get the rum
- Go W, N, N, W, W, S, W, S, S, S and get the shell
- Drop the straw, hit the rock with the steel and give the rum

THE SHIP

- Go N, W and talk to the doctor. Then think gash
- Go S and hit the man
- Go S again and get the cleaver
- Go N, N, E, N, W, S and get the canvas. Now wear it.
- Go S, E and cut the chain with the cleaver
- Go E, N, N, E and enter the boat

LONDON

- Go E, E, E, S and search the man before you get the hat
- Go N, W, N, E and give the hat
- Go E and examine the drink. Follow the man and think tycoon
- Go S, W and get the hat. Now examine it
- Go W, S, W, S and buy the pole.
- Go N, W to the fish debris and read the newspaper. Now think Arcman
- Go E, N and pay the man
- Go S, E, N, N, E and buy the ticket. Type Chandrail and buy the ticket
- Go W, S, S, W, N, N and enter the plane

LUXEMBOURG

- Go N, E and enter booth 11. Search the man and get his ID. Read it and think Bob
- Get the note and read it. Now think Jared
- Go E, E, N, E, E, S, E and dig. Get the leaflet and read it
- Go W, N, W, W, W and talk to the clerk. Get the box and examine it before you get the gun
- Give the box and go E, N, W. Now go up then N, W and get the parchment. Now read it.
- Go E, N, N, N, E and shoot the man. Then think William. And that's all there is to it

Transdisk IV

Now Only £19.95!

Now's your chance to upgrade your cassette games to disk with the most powerful tape to disk utility for the Atari – and at a special summer offer price!

What makes Transdisk IV so powerful? It's the ONLY tape to disk utility for the Atari that will

- Handle any type of cassette format
- Handle cassettes that load extra levels (multi load)
- Remove protection from cassettes automatically
- Transfer more than one game to one disk
- Use all available memory on XL and XE computers
- Handle cassettes that require all 64K of memory
- Support the Atari 1050 disk drive density
- Support modified double density disk drives

Requires Atari 600XL, 65XE or 130XE Computer with disk drive and cassette recorder.

Transdisk IV is supplied on disk and comes complete with step by step instruction booklet. No other programs are required – the system is completely self contained.

Price £19.95 (save £5.00) inclusive of first class delivery.

Also available:-

The Freezer!

- Freezes tape or disk programs
- Outputs copy of frozen program to a blank disk
- Copy runs on any computer independent of Freezer

Requires Atari 600XL, 65XE or 130XE with disk drive.

Price £14.95 inclusive of first class delivery.

Transdisk IV and The Freezer together £30.00 – save another £5.00

To order send cheque or postal order or phone with credit card number.

DigiComm

170 Bradwell Common Boulevard, Milton Keynes, Bucks MK13 8BG. Tel: (0908) 853708

SOFTSCAN

SOFTSCAN (Dept. AU)
P.O. BOX 84
HEREFORD HR4 8YU
WEST MIDLANDS
☎ 0432 50836

Sole distributors of the following Atari XL/XE utilities:

KASS-KOPY – a NEW compilation tape that offers single and multistage tape to tape duplication of cassettes tape read/write speeds a custom tape editor that enables you to EXAMINE & MODIFY Machine Code and Basic program tapes. A must for anyone who uses tape based Atari system. **ONLY £16.95 inc. P&P.** Supplied on Cassette.

SCANDISK – a NEW compilation disk featuring: (1) Game Menu System – puts up to TEN games on to ONE side of a disk (2) Tape Copier (3) Formatter (4) Disk Mapper (5) Disk Copier (6) CRC-er or Bad Sector Creator (7) S.S. Tape to Disk Transfer (8) S/S Disk to Tape Transfer (9) Sector Dumper (10) Sector Editor (11) Basic Cassette Boot Creator (12) FREE 100% Machine Code Game. **ONLY £19.95 inc. P&P.** Supplied on Disk.

ALCHEMIST – A superior tape to disk transfer system. Can convert single and multistage cassette games to disk, including cassette only budget titles. The utility will pay for itself in no time. **ONLY £18.95 inc. P&P.** Supplied on Disk.

Same day despatch guaranteed on the above utilities. **FREE GAMES DISK or QUALITY GAME TAPE** supplied with all orders over £29.!!

TEN x 5.25" DISKS Only £5.95 Post Free. Supplied with FREE SoftScan items on request.

SOFTSCAN retail software for most popular computers including the **ATARI XL/XE, ATARI ST** and the VCS 2600 Games System! Send a 20p stamp for our latest catalogue stating your computer model.

IN A HURRY? PHONE SOFTSCAN TELESALES ON 0432 50836 AND ORDER USING YOUR ACCESS CARD

DISCOUNT COMPUTING – BUSINESS OR LEISURE

Fast Mail Order Service on:
Games, Software, Hardware and Utilities

SPECIAL MONTHLY OFFERS!

Amstrad, Apple, Atari, BBC, Commodore, Electron, IBM, Spectrum

Send A4 SAE for catalogue – state which make

Engineering and Software Projects and Design Ltd
16 Orchard Close, Southwick, West Sussex, BN4 4NJ
Telephone: 0273 591026 (24 hours)


MINDSHADOW
by Bryan Stevens
OS
OS
OS
OS
OS
Quick sand ahead
Beach Rum
Strew
(in hut)
Dory
Steel
Oasis
Vine
Beach
Shell
Rocky cliff
Cave
Map
Rock
Down
Up
Island
208
207
Message
206
206
204
203
Hall
202
Parch ment
201
Lift
Down
Hall
Luxembourg
Lift
Up
2nd floor
Down
Up
Up
Lobby
Bank
Box
Pistol
Booth 11
ID
Note
Inn
Strausbahn
Leaflet
Airport
Poop deck
side
Sick bay
Canvas
in boat
Crews qtrs
Starboard side
Plank
Galley
Cleaver
Port
Ship
Stern
Airport
Store
Ticket
Rest room
Airport way
Baker Street
Rick's cafe
London
Pier
Paper
Docks
Alley
Docks
Pole
Hat
£210
ATARI USER

SDL

Silica Shop are the UK's No. 1 Atari VCS specialists, with a range of nearly 100 games cartridges plus the largest selection of joysticks and accessories in the country. If you would like to receive a copy of the latest VCS price list and brochure, complete and return the form below. You may also use this form to order any of the cartridges reviewed in this months Atari User or any of the selection listed below

Title	Code	Price
California Games	ATC1771	£9.95
Ghostbusters	ATC3871	£9.95
H.E.R.O	ATC4201	£9.95
Kung Fu Master	ATC5172	£9.95

ATARI

Title	Code	Price
Yars Revenge	ATC 3481	£6.95
Star Raiders	ATC 5501	£7.95
Centipede	ATC 1961	£9.95
Crystal Castles	ATC 2281	£9.95
Jetset	ATC 4751	£9.95
Kangaroo	ATC 3361	£9.95

ABSOLUTE ENTERTAINMENT

Skate Boarding	ATC 2481	£9.95
Title Match Pro Wrestling	ATC 6141	Ind.

ACTIVISION

Beamrider	ATC 1901	£9.95
Skiing	ATC 1861	£9.95
Chopper Command	ATC 2101	£6.95
Dragster	ATC 2481	£9.95
Freeway	ATC 3441	£9.95
Grand Prix	ATC 3481	£9.95
Keystone Kapers	ATC 5101	£9.95
Laser Blast	ATC 5251	£9.95
Pitfall I	ATC 6701	£9.95
Private Eye	ATC 6951	£9.95
Star Cluster	ATC 7451	£9.95
Sky Jinks	ATC 7561	£9.95
Space Fighter	ATC 8251	£9.95
Tennis	ATC 8001	£9.95
Pitfall II	ATC 6751	£12.95
River Raid	ATC 7451	£12.95
Space Shuttle	ATC 8251	£12.95
Enduro	ATC 3091	£12.95

EPYX

Summer Games	ATC 8781	£12.95
Winter Games	ATC 9181	£12.95

IMAGIC

Atlantis	ATC 0951	£9.95
Cosmic Ark	ATC 2381	£9.95
Demon Attack	ATC 2481	£9.95
Fire Fighter	ATC 3351	£9.95
Laser Gates	ATC 5301	£9.95
Moon Stepper	ATC 5951	£9.95
Quickdraw	ATC 7101	£9.95
Riddle of the Sphinx	ATC 7501	£9.95
Star Voyager	ATC 8181	£9.95
Subterranea	ATC 8581	£9.95
Wing War	ATC 9471	£9.95

SEGA

Exocet	ATC 3181	£9.95
Nightmare	ATC 6101	£9.95
Skin Diver	ATC 7731	£9.95

TELEGAMES

Gates for Quantamania	ATC 7071	£9.95

PRIORITY ORDER FORM

Silica Shop Ltd, 1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX Tel 01-309 1111

NAME & ADDRESS DETAILS

Mr/Mrs/Miss

Initials ... Surname ...

Address ...

Postcode ...

Do you Own

A VCS ☐

Atari 8 bit computer ☐

Atari ST computer ☐

Date of order

Daytime Phone No

	CODE	QTY	DESCRIPTION	PRICE	TOTAL
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
				£	

HOW TO PAY

CASH: We would recommend that you do not send cash through the post. However if you label no other notice please send it by registered mail for your own peace of mind and protection.
POSTAL ORDERS: All postal orders should be crossed and made payable to Silica Shop Ltd.
CHEQUES: Please retain your cheque(s) payable to Silica Shop Ltd. If applicable please write your cheque guarantee or credit card number on the back. If you have a personal Cheque Card you can have an extra over payment by quoting your card number.
CREDIT CARDS: We accept all of the major credit cards, which include ACCESS, BARCLAYCARD, EUROCARD, VISA, AMERICAN EXPRESS and DINERS CLUB. Please write your credit card number in the box to the right or telephone us quoting your number.

PAYMENT METHODS

☐ Enclose a CHEQUE for £ ... CHQ

☐ I enclose POSTAL ORDERS for £ ... P.O

☐ I enclose CASH for £ ... CASH

☐ Please send me a BROCHURE

☐ I wish to pay by CREDIT CARD £ ...

☐ ACCESS/EUROCARD ☐ AMERICAN EXPRESS

☐ BARCLAYCARD/VISA ☐ DINERS CLUB

CARD NUMBER ... EXPIRY DATE ...

ADVERTISERS' INDEX

Amathyst Software	54	Meadmore Distribution	48
Atari Computer Show	10	Melton Comp Supplies	18
B Bytes Computer Stores	54	MicroLink	14
Chips	48	Miles Better Software	20
Computer House	26	Monitor Magazines	48
Computerwise	16	Page 6	9
Database Software	31	Palan	26
Digicomm	51, 52	Pulsar	34
E & SP & D	52	Silica Shop	54 55
Ladbroke Computers	42	Stocksoft	48
Manderin Software	58	Stortsoft	38
		Sunaro Software	23

B. BYTES COMPUTER SYSTEMS of Hinckley

FULL SUPPORT FOR ATARI ST AND XL/XE

Atari ST from £269 inc VAT Ring or Write for details

Software 520 STFM PACK
£400 Free software ..22 special titles
Mouse Mat ..screens and 8-Byte Software
1Mb Double sided disc drive fast in only £300.00

Word Processing Pack
Atari ST Computer MP 135 Printer and High Res
Monitor & First Word Plus
Word Processor From £399 to £700

Friendly and expert advice to help you get the most out of your computer and 8 Bytes customised mouse mat

5.5" DS/ DD disks only £1 each! If you buy 40 or more
90% off selected software (top titles not rubbish)
Up to 75% off software for all titles machines
Extensive ranges of Atari Accessories, interfaces, Joysticks and Books
XF551 advice expert disc titles for 8 bit Atari. Ring for advice

Printer write or phone for free information pack. Please state computer

8 Bytes Computer Systems
Dept AU 10 Southfields Road, Hinckley Leicestershire LE10 1UA Tel (0455) 613377
All Prices include VAT P&P may be extra

Amathyst Software

PRESENTS

1. PAINTBOARD
2. NETWORK & KING'S PERIL

Features of Paintboard include
- 128 colours displayable at ins same time
- High resolution graphics mode 15 usad
- 3 Brush speeds
- 11 pre-defined brush shapes
- User defin shapes
- 30 commands available (inc. zoom fill colour line seal circle airbrush pen lead, save, gallery, etc)

Paintboard can be used to doodle as an electronic paintbox or to design electronic circuits etc. Supplied on TDK cassette together with demo pictures picture viewer format converter picture dumper and a help program

The Network is an interesting and challenging puzzle which will give you hours of fun trying to complete

The King s Peril is also an interesting puzzle with many variations (knowledge of chess useful here)

PAINTBOARD PACKAGE £9.99
NETWORK & KING'S PERIL £1.99

Both programs run on any Atari except the ST with at least 48k
Prices inc postage & packaging
Make cheques/POs payable to Amethyst Software and send with your address to

AMETHYST SOFTWARE
Dept. AU, 3 Oben Avenue, De La Pole Avenue, Anlaby Road, Hull, North Humberside HU3 6SB

NEW LOW PRICE ST!

From Only **£2.51** Per Week
Return Coupon for details



ONLY FROM SILICA

Rightly there's a personal purchase that has truly served purchasing like other computers and enjoys the one brand with has other computers have ceased. Affordability. Silica Shop are pleased to launch the ST range of personal/business computers from Atari. The ST and are indeed creating the more recent model brought to user computer technology producing a systems computer that performs more than Week home. With ST desktop, video lead to make. And best of all. The latest ST range are now available built in power supplies and by in or pay to use. The FREE operating programs and TEM monitors are and the more on MIDI there who is are a hobby equipped in the ST category. The studios are more at the box, by when you switch on. Since Shop are pleased at other the complete Atari ST range. The machine is designed to be used in business and home. Extra memory, Low costs (Telephone) and Techniques (Control Keys). We have eight years experience of Atari computers and have over UK customers and are well acquainted as the UK's No. 1 Atari computer. With a turnover of over £6 million and, it is part of its size we offer you unbeatable service and support. We pledge to help you before which you will find competitors putting your Atari computing the best used of these facilities are available **ONLY FROM SILICA**. We suppose that you need enough what we have to offer. Please you decide where to purchase your Atari ST.

FREE STARTER KIT - Only From Silica

When you purchase any Atari ST hardware you will not only receive the best value for money purchases on the market, but you will also receive the following from Atari Corporation as part of the package:

BASIC Language Disk · BASIC manual · ST Owner's Manual · TOS/GEM on ROM

As you buy your ST from Silica Shop you will also receive:

Multi-function ergonomic · mouse graphics program · for more · about Amsterdam

no equipment are all about what you need to see you get off to a flying start with your new computer. So we have put together a packed ST STARTER KIT worth over £100, which we are giving away FREE the moment you purchase your computer from one of our three retail stores. This kit is available **ONLY FROM SILICA** and is ideal for complete users with it includes introduction to the digital of computing. We are confident in supporting the ST Starter Kit, which contains publications not and other publications. We have not chosen magazines and accessories all dealers to ST computing provide the you start afresh, for full reasons.

DEDICATED SERVICING - Only From Silica

At Silica Shop we have a specialist team and department of dedicated Atari trained computer staff. The team is fully dedicated to servicing Atari computer products. Their dedicated knowledge, and and technicians include them received no come of their finish. You can be sure that any work carried out by them is of the highest standard. A standard of servicing which we ensure you will **ONLY FROM SILICA**. At last item of property full servicing provision for Atari ST computers (both in and out of warranty), our team is also able to offer contract and maintenance agreements to ST computer users.

1Mb RAM UPGRADE Our upgrade on the memory Atari 520ST-M to 520ST-FM personally we increase the memory from 512K to a standard 1024K. It has a full 1 year warranty and is available from Silica at an additional trade price of only £60 (£51.07 + VAT).

TV MODULATOR UPGRADE. Since late summer the 1040ST-F is pre-start a TV demodulator on and you can then use it without a TV set. This is an internal upgrade that 1040 the monitor any cable, standard shows. It costs to connect your ST at any domestic TV is possible at the price of the upgrade which is only £49 (inc VAT). This is a simple to fit and requires no soldering for easy 520ST.

THE FULL STOCK RANGE - Only From Silica

We aim to keep stocks of all Atari related products and our specialist dealers a point of open 6% dealer. We current many software titles and are constantly adding new titles as they become available. A full selection of many of the computers. Unless dealers who may only stock premium since we have the full range. In addition, we carry a complete line of all Atari related hard ware written among the Atari ST. A range of which is more is something you will find it is available from Silica Shop.

AFTER SALES SUPPORT - Only From Silica

Rest assured that when you buy you ST from Silica Shop you will be fully supported. Our free support give have of dealers and developments. This will help to keep you up to date with the latest Atari developments as well as what's happening in the Atari market. And of premium our after sales is of the and of a commitment that is across all to you. Atari representatives. If you purchase your ST from Silica Shop you will be fully backed by our dedicated after sales team. Our technical support helps to help you get the most from your computer. In addition, our team have been for start and the customer specifically dedicated to providing after sales support on Atari ST computers are the dedicated that our sales enjoy an exceptionally high speed of service. This can be obtained **ONLY FROM SILICA**.

FREE CATALOGUES - Only From Silica

At Silica Shop we specialise in Atari computers and our sales enquiries are trained to provide a service, which is why we have and independent and price lists on the ST dealers. These are up of 64 pages long and are crammed with technical information as well as pricing offers and product descriptions of the complete range of ST and related. We do have you receive dealer of our mail list, please complete the coupon at bottom of the page. This information is available **ONLY FROM SILICA**.

FREE OVERNIGHT DELIVERY - From Silica

Most orders are processed through our computer within 24 hours of receiving order, most necessary orders are sent by the overnight courier service. Delivery is normally FREE OF CHARGE to customers within the UK. There are optional delivery charges for overseas customers.

PRICE MATCH - Only From Silica

We hope that the combination of our low prices, FREE UK overseas service, FREE starter Kit and FREE after sales support will be able to persuade you to buy your Atari computer from Silica. However, there is occasionally you wish to purchase and you find any of our competitors offering it at a lower price, then please contact our sales consultants providing us with the competitor's name, address and telephone number. If our competitor has the goods in stock, we will normally match the offer on a same product, same price, and then provide you with our normal fast delivery. We realise that we are in an very competitive environment & competitive demands · you deserve to be in a price match will also be aware of a business purpose. This means that we are unable to match prices quoted to customers outside the UK, those under special offer, prices quoted by mail order companies who do not provide any after sales service to their customers and normally those which are clearly mistaken. We do not match prices quoted by other retailers who refuse to honour their prices or who sell goods which are not of current manufacture. We will not match prices quoted by companies who are not in a position to supply goods at the time of the purchase. We reserve the right not to match prices in other circumstances which we feel are unreasonable. Please call our sales department to discuss your requirements.

£260 +VAT=£299

SO MUCH FOR SO LITTLE!

There is nothing that can compare with the incredible value for money offered by Atari's 520ST FM. For only £260 (+VAT £299) you can purchase a powerful 512K RAM computer with a 95 key keyboard (including numeric keypad) MIDI interface, GEM a palette of 512 colours, mouse controller and a 512K built in disk drive. The 520ST-FM has a TV modulator built in and comes with a lead to allow you to plug it straight into any domestic colour television set. The mains transformer is also built in to the keyboard, so there are no messy external boxes. You couldn't wish for a more compact, powerful and stylish unit. Atari ST computers are now firmly established in the UK, there are nearly 600 software titles already available for a wide variety of applications and the list is growing all the time. And that's not all. When you buy your new 520ST FM (or any Atari ST computer) from Silica Shop you will get a lot more including a FREE Silica ST Starter Kit worth over £100. Read the ONLY FROM SILICA section on the left to see why you should buy your new high power, low price 520ST FM from Silica Shop, the UK's No.1 Atari Specialists. For further details of the range of Atari ST computers and the FREE Silica ST Starter Kit, complete and return the reply coupon below.

ATARI 520ST-FM NOW ONLY £260 (+VAT=£299)

520ST FM with 512K RAM & mono monitor £399 inc VAT · Upgrade from 512K RAM to 1024K RAM £100 inc VAT

ATARI 1040ST-F - NEW PRICE

We are a dealer of announce a new reduced price panel on the 1040ST-F which is now available for only £449 (inc VAT). This built in powerful specifications as in built of RAM and a as on sales a built in Mb double word 3.5" disk drive. This 1MB has been designed for use on business and professional applications most is written programs a to get more utilisation memory or computers more as it does not therefore have an RF modulator for use with a greyscale TV set, information can be found for £49 (inc VAT) added for purposes. [illegible] £449 inc VAT

1040ST-F package · High Res colour/b mono monitor · £599 inc VAT

This would the perfect package to the 1040ST-F return the [illegible] below

MEGA ST's NOW IN STOCK

The user who requires even more RAM than the 520 or 1040 ST's offer the new MEGA ST computers are now available. These are the MEGA ST's and with 2Mb of RAM and the same standards 4Mb. Both new computers are fully compatible with as existing ST's and run currently available ST software. The MEGA ST's are styled as an expansion of the existing ST's. Unit is an open architecture and a detachable keyboard. They are supplied with 3Mb a free mouse controller and all models as with the 520 or Atari printers are as follows:

MEGA ST 2Mb package (inc VAT) £999.00 inc VAT
MEGA ST 2Mb package (inc VAT) £999.00 inc VAT
MEGA ST 4Mb package (inc VAT) £1299.00 inc VAT
MEGA ST 4Mb Keyboard (inc VAT) £1299.00 inc VAT

You [illegible] other models in the ST's return the [illegible] at

ATARI ST

SIDCUP (& Mail Order) 01-309 1111
1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX

LONDON 01-580 4839
Lion House (1st floor), 227 Tottenham Court Rd, London, W1P 0HX

LONDON 01-629 1234 ext 3914
3rd Floor (1st floor), Oxford Street, London, W1A 1AB

To: Silica Shop Ltd, Dept ATUSR 0888, 1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX

PLEASE SEND ME FREE LITERATURE ON THE ATARI ST

Mr/Mrs/Ms: Initials: Surname:

Address:

Postcode:

Do you already own a computer
If so, which one do you own?

Time and magik

The trilogy



Interactive fiction from **Level 9**

Three of Level 9's most acclaimed adventures – Lords of Time, Red Moon and The Price of Magik – come together in one package. Each has been enhanced and enlarged with more text than ever before – 60,000 mind-expanding words creating magik and mystery round every corner. There's a powerful new parser, and most disc versions include stunning digitised pictures that help to dramatically heighten the atmosphere.







Screens shown from Spectrum and Amstrad versions

What the press have said:

LORDS OF TIME: "Everyman to become a classic" – Computing with the Amstrad

RED MOON: Best Graphical Adventure or Best Adventure of the Year – Crystal, Commodore Amtix, C&VG, Sinclair, Amstrad Computer User

THE PRICE OF MAGIK: "More than up with adventure ... their finest yet" – Commodore User. Also a Crash Smash

MANDARIN SOFTWARE

Europa House, Adlington Park, Adlington, Macclesfield SK10 4NP.

Spectrum (cassette) £14.95
Commodore 64 (cassette) £14.95
Amstrad CPC (cassette) £14.95
Atari XL/XE (cassette) £14.95
Amstrad PCW £14.95
Apple II (disc) £14.95

Atari ST £19.95
Commodore Amiga £19.95
Macintosh £19.95
Amstrad PC, IBM PC and compatibles £19.95

Access/Visa card holders can order on 0625 878888 by quoting number and address. Please allow 28 days for delivery. Please state which machine you require. Mandarin cheques and postal orders payable to Mandarin Software.