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

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 traditional 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
News
All the latest from the ever-changing world of the Atari 8 bit.

Character Designer
Having printer problems? Our easy-to-use routine will help you.

Games reviews
Under the microscope: Compilation III, Leapster, Airwolf and more.

Nala
Beat the men from outer space in this exciting type-in game.

Rouloc
Your favourite resident Atari adventurer dreams of days of yore.

Software Solutions
More programming problems solved by our technical wizard.

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

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

Disc management
Get to the root of the problem with our handy utility program.

Gadget
Plug in your cans and blow your mind with a DIY amplifier.

US products
We take a brief look at the latest State-side games software releases.

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

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

Map
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.
<table>
<thead>
<tr>
<th>THIS MONTH</th>
<th>LAST MONTH</th>
<th>TITLE (Software House)</th>
<th>COMMENTS</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td><strong>GRAND PRIX SIMULATOR</strong>&lt;br&gt;Code Masters</td>
<td>The ultimate in simulators stays at the front of the field. This can be played again and again.</td>
<td>1.99</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td><strong>GREAT AMERICAN ROAD RACE</strong>&lt;br&gt;Firebird</td>
<td>Ten drivers await you in this race crossing the USA. Beware of the police, your speed and the obstacles.</td>
<td>1.99</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td><strong>DAYLIGHT ROBBERY</strong>&lt;br&gt;Atlantis</td>
<td>From the same stable as Cops 'n' Robbers - a fun, value for money romp on the wrong side of the law.</td>
<td>1.99</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td><strong>LEAPSTER</strong>&lt;br&gt;Alternative</td>
<td>Great if you enjoy jumping over cars and lorries while collecting items from open windows.</td>
<td>1.99</td>
</tr>
<tr>
<td>5</td>
<td>15</td>
<td><strong>AIR WOLF</strong>&lt;br&gt;Encore</td>
<td>Translated from the TV programme. You are a man with a mission flying a helicopter.</td>
<td>1.99</td>
</tr>
<tr>
<td>6</td>
<td>13</td>
<td><strong>STEVE DAVIS SNOOKER</strong>&lt;br&gt;Blue Ribbon</td>
<td>Re-released to coincide with the last snooker championships; good for its genre and hasn't dated.</td>
<td>1.99</td>
</tr>
<tr>
<td>7</td>
<td>9</td>
<td><strong>ZYBEX</strong>&lt;br&gt;Zeppelin</td>
<td>An excellent shoot-'em-up, worth more than its budget price. Good graphics.</td>
<td>2.99</td>
</tr>
<tr>
<td>8</td>
<td>5</td>
<td><strong>SPEED ACE</strong>&lt;br&gt;Zeppelin</td>
<td>Zeppelin's first release for the Atari. Good use of the split screen in this motorbike simulation.</td>
<td>2.99</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td><strong>POTHOLE PETE</strong>&lt;br&gt;Atlantis</td>
<td>Good price and clean graphics in this adaptation of a common platform game.</td>
<td>1.99</td>
</tr>
<tr>
<td>10</td>
<td>20</td>
<td><strong>BMX SIMULATOR</strong>&lt;br&gt;Code Masters</td>
<td>Code Masters is renowned for its simulations. This one is no exception with nice graphics and sound.</td>
<td>1.99</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td><strong>DESMOND'S DUNGEONS</strong>&lt;br&gt;Alternative</td>
<td>Join this little fellow as he struggles to gain points, wealth and safety. Platform games are in this month.</td>
<td>1.99</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td><strong>EXTIRPATOR</strong>&lt;br&gt;Firebird</td>
<td>Another release from the British Telecom budget label. No complaints at the price.</td>
<td>1.99</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td><strong>LEADERBOARD</strong>&lt;br&gt;US Gold</td>
<td>Making a comeback - so if you missed out at St Anne's cross the Atlantic for this golfing spectacular.</td>
<td>9.95</td>
</tr>
<tr>
<td>14</td>
<td></td>
<td><strong>BOULDERDASH</strong>&lt;br&gt;Prism</td>
<td>Your chance to play the diamond chasing, rock-eating fiend. Add it to your collection if you haven't already.</td>
<td>2.99</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td><strong>FOUR GREAT GAMES</strong>&lt;br&gt;Micro Value</td>
<td>Superb value especially as it includes Phantom and Rebound. Not one to be missed.</td>
<td>3.99</td>
</tr>
<tr>
<td>16</td>
<td>19</td>
<td><strong>HENRY'S HOUSE</strong>&lt;br&gt;Mastertronic</td>
<td>If you haven't already got this platform game add it to your collection; stunning graphics.</td>
<td>1.99</td>
</tr>
<tr>
<td>17</td>
<td>10</td>
<td><strong>REVENGE 2</strong>&lt;br&gt;Mastertronic</td>
<td>Geff Minter's long-awaited sequel to Revenge of the Mutant Camel. As strange as ever.</td>
<td>1.99</td>
</tr>
<tr>
<td>18</td>
<td>9</td>
<td><strong>SPooky CASTLe</strong>&lt;br&gt;Atlantis</td>
<td>This one starts difficult to play and rapidly becomes impossible as Gormless Gary avoids the bats.</td>
<td>1.99</td>
</tr>
<tr>
<td>19</td>
<td>7</td>
<td><strong>DECATHLON</strong>&lt;br&gt;Firebird</td>
<td>Exercise without leaving your chair with multiple events to choose from in your quest to head the field.</td>
<td>1.99</td>
</tr>
<tr>
<td>20</td>
<td>4</td>
<td><strong>Matta Blatta</strong>&lt;br&gt;Firebird</td>
<td>Fallen from last month, but Firebird is holding its own in the market with four games in the chart.</td>
<td>1.99</td>
</tr>
</tbody>
</table>
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, Bab 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 XUXE 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 floppy, 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 & Magic 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 Quicksuck, insider-dealing lord of Ridley's Manor who's planning to steamroll the gnome belt for a Yuppies Homes development. Price £14.95 on tape, £19.95 on disc.

September 1988 Atari User 5
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 result 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, subscript 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: 27,56,0,0,0. The Epson manual suggests this way of sending them to the printer:

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

Unfortunately, it won’t work on the
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 o 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, providing 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 you 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 I 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 ▶
| LINE 15H   | 50  | V80 (G)   |
| LINE 16H   | 50  | U27 (G)   |
| LINE 17H   | 70  | WRC (U)   |
| LINE 18H   | 80  | V4 (G)    |
| LINE 19H   | 90  | V16 (G)   |
| LINE 20H   | 100 | MEC (G)   |
| LINE 21H   | 110 | VXL (L)   |
| LINE 22H   | 120 | CLV (V)   |

2.169.10,141,255,6,200,22,172,120,2  
119 0BA 43,2,200,15,175,255,6,24,105,  
0,281,74,144,2,169,74,141,255,6,171  
120 0BA 210,2,4,14,200,17,173,254,6,5  
6,233,4,281,100,176,2,169,100,141,254  
130 0BA 6,283,22,173,120,2,4,1,200,1  
5,171,254,6,24,165,4,281,140,144,2  
140 0BA 169,140,141,254,6,177,255,6,1  
69,32,145,205,280,145,255,280,163,245  
150 0BA 1,200,169,32,145,205,280,145,2  
7,23,145,280,145,255,280,163,245,705  
190 0BA 1,200,169,32,145,205,280,145,2  
7,23,145,280,145,255,280,163,245,705  
210 0BA 1,200,169,32,145,205,280,145,2  
7,23,145,255,280,145,255,280,163,245  
220 0BA 1,200,169,32,145,205,280,145,2  
7,23,145,255,280,145,255,280,163,245  

Program 1: Defines end prints four demonstration characters

| LINE 23H   | 50  | V80 (G)   |
| LINE 24H   | 50  | U27 (G)   |
| LINE 25H   | 70  | WRC (U)   |
| LINE 26H   | 80  | V4 (G)    |
| LINE 27H   | 90  | V16 (G)   |
| LINE 28H   | 100 | MEC (G)   |
| LINE 29H   | 110 | VXL (L)   |
| LINE 30H   | 120 | CLV (V)   |

1 REM PRINTER CHARACTER DESIGN OTO  
2 REM BY LEN GOLING  
3 I REM (C) ATARI USER  
4 REM  

18 OPEN MI,8,0,"M:"  
30 M:CHR$(27:"1":CHR$(O):REM Specify which characters are to be re placed (MP = MP)  
40 REGO DIP D=1 THEN 110  
50 M:CHR$(D):DOTO 40:REM New character shapes from lines 60-90  
60 DATA 11,1,124,0,4,0,4,0,120,4,0  
70 DATA 129,0,0,12,64,38,224,38,64,12,0  
80 DATA 139,8,18,1,36,152,96,152,38,1  
90 DATA 158  
100 DATA 1,159,254,0,15,64,2,70,6,142  
40 110 DATA 1  
110 M:CHR$(27:"1":CHR$(13):CHR$(O):REM Select ROM character set  
120 R:CHR$(O)  
130 PRINT the four new characters

8 Atari User September 1988
MUCH MORE THAN A MAGAZINE

PAGE 6 has been supporting Atari computers for 5 years – coverage now includes both 8-bit and ST. Get the 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 with bonus programs included

* Books for beginners to experts

* Dust covers for all Atari equipment

* The widest range of Atari public domain software available anywhere

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

ADVANCE TICKET ORDER
Post to: Database Exhibitions, Europe House,
Ardington Park, Ardingly, Macclesfield SK10 4NJ.
Please Supply:
☐ Adult tickets at £4 (save £1)
☐ Under-16s tickets at £2.50 (save £1)
☐ Cheque enclosed made payable to Database Exhibitions
☐ Please debit my credit card account
☐ Access ☐ Visa
Name
Address
Expire date:

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.
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 £3.99 I would have to think very carefully about recommending it. As it's priced at £1.99 give it a try.

Neil Fawcett

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 bounding 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 inexplicable destruction of your helicopter.

Neil Fawcett

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

Sound................. 3
Graphics.............. 4
Playability........... 6
Value for money...... 6
Overall............... 5
Heavy metal

Product: Kampfgruppe
Price: £19.99 (disc)
Supplier: SSIUS Gold, Units 2/3 Holford Way, Holford, Birmingham BS 7 8AX.
Tel: 021-386 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................ 5
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 are at 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: Desmonds 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.

Then 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 nasts — 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................................ 9
Graphics................................ 7
Playability.............................. 9
Value for money...................... 10
Overall................................. 9

Sound................................ 7
Graphics................................ 8
Playability.............................. 9
Value for money...................... 10
Overall................................. 8

Figures are an average taken for all games

Neil Fawcett

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 A5 Stretchawk bombs. It has been located but unfortunately its casing has been damaged and it is leaking radioactive particles.

You have already sent in a T62 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 T62 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 T62 is still roaming around and if it touches you it’ll disarm you — permanently. 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

September 1988  Atari User  13
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.

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.

**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:
  **Total price:** £149.95.

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

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

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.
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 civilization, 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 2355 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 consistently 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.

**CAVERNS OF NALA**

**Can you destroy the robot killers?**

Find out in DEREK THOMPSON's fast-action game of survival

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS instructions</td>
<td>Holds instructions</td>
</tr>
<tr>
<td>AS final score</td>
<td>Holds the rank for your final score</td>
</tr>
<tr>
<td>MISS</td>
<td>Guns on</td>
</tr>
<tr>
<td>OFFS</td>
<td>Guns off</td>
</tr>
<tr>
<td>SHIPPOS</td>
<td>Moves the mother ship</td>
</tr>
<tr>
<td>FUEL</td>
<td>Fuel left</td>
</tr>
<tr>
<td>GUNS</td>
<td>Subroutine for guns</td>
</tr>
<tr>
<td>MSHIP</td>
<td>Subroutine to move the mother ship</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Score Range</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>100-120</td>
<td>Set up strings</td>
</tr>
<tr>
<td>250-480</td>
<td>Main loop</td>
</tr>
<tr>
<td>490-590</td>
<td>Collision detection routine</td>
</tr>
<tr>
<td>690-800</td>
<td>Drop bombs routine</td>
</tr>
<tr>
<td>810-980</td>
<td>Guns on routine</td>
</tr>
<tr>
<td>900-960</td>
<td>Guns off routine</td>
</tr>
<tr>
<td>970-1030</td>
<td>Move the mother ship</td>
</tr>
<tr>
<td>1040-1060</td>
<td>Plot mines routine</td>
</tr>
<tr>
<td>1080-1350</td>
<td>Player missile movement routine</td>
</tr>
<tr>
<td>1360-1600</td>
<td>Redefine the character set</td>
</tr>
<tr>
<td>1610-1740</td>
<td>Main screen</td>
</tr>
<tr>
<td>1750-1870</td>
<td>Docking routine</td>
</tr>
<tr>
<td>1880-2420</td>
<td>Level complete routine</td>
</tr>
<tr>
<td>2430-2490</td>
<td>Title screen and instructions</td>
</tr>
</tbody>
</table>

Turn to Page 49 ▶
Summer Spectacular
Amstrad complete Office System -- £889 inc. VAT
Save over £400
Contains PC 1640 DD with twin disc drive and mono monitor. Complete with CPM 4000 printer and WordStar. Accounts Master DD, and also SuperCaps.

Atari 520 STFM Summer Package £350 inc. VAT
Save over £50
Contains 512K computer with 1MB built-in disc drive, mouse, joystick, manual and £600 worth of software.

Commodore Amiga 500 Package -- £360 inc. VAT
Save over £50
Contains Amiga 500 with built-in 1 meg disc drive, mouse. Complete with Deluxe Paint (TV modulator -- £29.45)

Acorn Master Compact TV System -- £375 inc. VAT
Save over £40
Contains machine complete with 3.5" 640K disc drive. View 3.0 ABC, card index full logo, pull down menu, BBC Basic 4.0 ADSP and utilities. Welcome tune and tutorials/manuals.

Amstrad PPC 6400D -- £670 inc. VAT

We stock
3.5" branded DS/DD with labels -- £13 for 10
Bit 5.25" DS/DD with labels -- £8 for 10
The first 10 orders get a free library case

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 Groove, New Oscott, Sutton Coldfield, Birmingham B23 5YG
021-377 6698 24 Hr Hotline

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 of over the first year of a minimum of £2,109. (All prices include VAT.)

Or you could do more and more Atari users are doing -- use your computer to double as a Telex machine. Just 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 customised user group, send telemessages and electronic mail night and day, 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). So now you can check whether there have been any Telex messages waiting for you any time, anywhere, anytime. How's that for your business efficiency?

How to Join:
See Page 14
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

Rouloc reminisces on an old much loved adventure

HINTS AND TIPS

This month’s hints and tips concentrate on Jinxer, 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.

Jinxer

- 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.
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 pool 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. "Seventy is the number of the wishes bound into the stone: And ye may 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 magic." 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 moments in Wishbringer, not least when a former 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 lampless adventurers. They appear in many of Infocom's adventures, and in Wishbringer they're 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

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

<table>
<thead>
<tr>
<th>Product Description</th>
<th>Price £</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 Double Sided 5.25&quot; HD W.D. Disks with our box</td>
<td>£11.39</td>
</tr>
<tr>
<td>50 Double Sided 5.25&quot; HD W.D. Disks with our box</td>
<td>£17.59</td>
</tr>
<tr>
<td>75 Double Sided 5.25&quot; HD W.D. Disks with our box</td>
<td>£22.39</td>
</tr>
<tr>
<td>100 Double Sided 5.25&quot; HD W.D. Disks with our box</td>
<td>£28.39</td>
</tr>
</tbody>
</table>

You can choose either 50 capacity storage box or 100 capacity storage box to go with your disks.

If you want a 140 capacity storage box just add a further £2.96.

<table>
<thead>
<tr>
<th>Product Description</th>
<th>Price £</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 Double Sided 3.5&quot; 120M T.P. Disks with our box</td>
<td>£19.47</td>
</tr>
<tr>
<td>40 Double Sided 3.5&quot; 120M T.P. Disks with our box</td>
<td>£37.47</td>
</tr>
<tr>
<td>60 Double Sided 3.5&quot; 120M T.P. Disks with our box</td>
<td>£49.47</td>
</tr>
<tr>
<td>80 Double Sided 3.5&quot; 120M T.P. Disks with our box</td>
<td>£66.47</td>
</tr>
</tbody>
</table>

You can choose either 40 capacity storage box or 80 capacity storage box to go with your disks.

If you want a 120 capacity storage box just add a further £2.95.

ALL BOXES COME WITH LOCK, 2 KEYS, DIVIDERS AND ARE ANTISATIC

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

---

STORAGE BOXES

<table>
<thead>
<tr>
<th>Product Description</th>
<th>Price £</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.5&quot; Lockable - Holds 40 ...</td>
<td>£4.96</td>
</tr>
<tr>
<td>3.5&quot; Lockable - Holds 80 ...</td>
<td>£5.96</td>
</tr>
<tr>
<td>3.5&quot; Lockable - Holds 120 ...</td>
<td>£6.96</td>
</tr>
<tr>
<td>5.25&quot; Lockable - Holds 50 ...</td>
<td>£4.96</td>
</tr>
<tr>
<td>5.25&quot; Lockable - Holds 100 ...</td>
<td>£6.97</td>
</tr>
<tr>
<td>ALL WITH LOCK &amp; 2 KEYS DIVIDERS &amp; ANTISATIC</td>
<td></td>
</tr>
</tbody>
</table>

ACCESSORIES

<table>
<thead>
<tr>
<th>Product Description</th>
<th>Price £</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mouse Mat ...</td>
<td>£4.95</td>
</tr>
<tr>
<td>BCG Printer Cable ...</td>
<td>£5.96</td>
</tr>
<tr>
<td>April etc Printer Cable ...</td>
<td>£5.95</td>
</tr>
<tr>
<td>3.5&quot; Cleaning Kit (fluid) ...</td>
<td>£3.95</td>
</tr>
<tr>
<td>5.25&quot; Cleaning Kit (fluid) ...</td>
<td>£3.95</td>
</tr>
<tr>
<td>Disk Notcher (doubler) ...</td>
<td>£4.95</td>
</tr>
<tr>
<td>Space Saver Printer Stand (80in) ...</td>
<td>£22.95</td>
</tr>
<tr>
<td>Space Saver Printer Stand (102in) ...</td>
<td>£24.95</td>
</tr>
</tbody>
</table>

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

---

MELTON COMPUTER SUPPLIES
PO Box 2, Melton Mowbray, Leics. LE13 1YH
Tel: 0664 410666 (24 hrs). Fax: 0664 410221

**Free** Phone for our best price before placing your order

EDUCATIONAL & GOVERNMENT ORDERS WELCOME

---

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

---

10 Sony MF250 3.5" DISCS £16.95

**PLEASE ENSURE ALL ITEMS ARE IN SELLABLE CONDITION BEFORE RETURN**
THE XIO—Extra Input-Output—command is probably the Cinderella of Atari Basic. This extremely versatile tool is actually 20 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.

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 1. 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 of the XIO 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

**Figure 1: Table of XIO commands and their function in Atari Basic**

<table>
<thead>
<tr>
<th>CODE</th>
<th>PURPOSE</th>
<th>EXAMPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>Graphics colour fill</td>
<td>XIO 18,#6,0,0,&quot;S:&quot;</td>
</tr>
<tr>
<td>32</td>
<td>Rename disc file</td>
<td>XIO 32,#1,0,0,&quot;D:NAME1,NAME2&quot;</td>
</tr>
<tr>
<td>33</td>
<td>Delete disc file</td>
<td>XIO 33,#2,0,0,&quot;D2:FILENAME.EXT&quot;</td>
</tr>
<tr>
<td>35</td>
<td>Lock disc file</td>
<td>XIO 35,#4,0,0,&quot;D:ATARI.CPU&quot;</td>
</tr>
<tr>
<td>36</td>
<td>Unlock disc file</td>
<td>XIO 36,#2,0,0,&quot;D4:MYFILE.OBJ&quot;</td>
</tr>
<tr>
<td>253</td>
<td>Single density format</td>
<td>XIO 253,#1,0,0,&quot;D: (X:U:V:EXT)&quot;</td>
</tr>
<tr>
<td>254</td>
<td>Disc format</td>
<td>XIO 254,#2,0,0,&quot;D:2&quot;</td>
</tr>
</tbody>
</table>

**Program I: Format a disc using the X10 command**

10 REM PROGRAM 1
20 REM SOFTWARE SOLUTIONS
30 REM DOS 2.5-X10 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 X1O 254,#7,0,0,"91:"
180 REM
190 REM Write D0S.SYS to disc
200 OPEN #1,8,0,"D1:DISK.SYS"CLOSE #1
210 REM
220 REM Lock the D0S.SYS file
230 X1O 35,#7,0,0,"D1:DISK.SYS"
240 END

---

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

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.
Create your own
crosswords with JASON
PEASGOOD's excellent routine

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 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 black 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 B dump routine for your own printer. The clues are all printed using the standard LPRINT command.
690 "Direction = Across."
700 DI:ACROSS
710 GOSUB 2890:GOTO 190
720 REM ""
730 "Direction = Down."
740 DI=DOWN
750 GOSUB 2890:GOTO 190
760 REM ""
770 LOCATE X,Y,Z
780 COLOR Z1
790 FOR I=1 TO Y+14
800 PLOT X,I:DRAWTO W14,I
810 NEXT I
820 CN: (60552)=12:Z1:128
830 GOSUB 2860:XMORD(I,N2):CH
840 RETURN
850 REM NUMBER
660 CH=1
870 FOR J=1 TO YSZ
880 FOR I=1 TO XSZ
890 IF XMORD(J,I)=160 THEN 920
900 IF XMORD(J,I)=116 AND XMORD(J,I-1)=160 THEN 950
910 IF XMORD(J+I+1,J)=160 AND XMORD(J-1,J)=160 THEN 960
920 NEXT I
930 NEXT J
940 CH=1
950 FOR J=1 TO YSZ
960 FOR I=1 TO XSZ
970 IF XMORD(J,J)=16 THEN 980
980 H=I+Y:V=J
1000 NUM=CN
1010 IF NUM=10 THEN GOSUB 2790:GOTO 10
1020 A$=STR$(NUM):NUM=VAL(A$(1,1)):GOSUB 2790:K=K+1
1030 IF A$(1,1)="" THEN GOTO 1000
1040 NUM=VAL(A$(2,2)):GOSUB 2790
1050 CN=CH
1060 NEXT J
1070 NEXT I
1080 RETURN
1090 REM ""
1100 GRAPHICS 0:SETCOLOR 2,0,15:SETCOL
1110 OR 1,8:POKE 62,4:POKE 752,8:POKE 16,
1120 64:POKE 53746,64
1130 IF ? : "Please enter clues for X-Wo-
1140 rd :"
1150 1220 PRINT " " ACROSS :"
1160 1120 ? "GCR05 :"
1170 1220 PRINT " " ACROSS :"
1180 1120 ? "GCR05 :"
1190 1220 PRINT " " ACROSS :"
1200 IF I=1 TO YSZ
1210 IF J=1 TO XSZ
1220 IF XMORD(I,J)=16 THEN 1300
1230 IF XMORD(I,J,I)=16 AND XMORD(J+1
1240 ,I)=16 THEN 1200
1250 GOTO 1200
1260 IF I=1 TO YSZ
1270 IF J=1 TO XSZ
1280 XMORD(I,J,I)=22
1290 NEXT J
1290 NEXT I
1300 RETURN
1310 REM ""
1320 INKEY$ 3;I,J,K,L,M
1330 IF I=1 THEN 1320
1340 REM ""
1350 PRINT " " DOW:N:""
1360 PRINT " " DOW:N:""
1370 PRINT " " DOW:N:""
1380 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
1390 PRINT " " DOW:N:""
<table>
<thead>
<tr>
<th>ATARI CASSETTES</th>
<th>ATARI DISKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ace of Aces ........... 8.50</td>
<td>Basil: Mouse Detective .... 12.75</td>
</tr>
<tr>
<td>Atari Acos ........... 6.95</td>
<td>Druid ................ 12.75</td>
</tr>
<tr>
<td>Four Star Games II .... 6.95</td>
<td>European Super Soccer .... 12.75</td>
</tr>
<tr>
<td>Fruit Machine ........ 6.50</td>
<td>F-15 Strike Eagle .... 12.75</td>
</tr>
<tr>
<td>Stuntman ............. 6.50</td>
<td>Druid ................ 8.95</td>
</tr>
<tr>
<td>European Super Soccer .... 8.95</td>
<td>Four Star Games I .... 8.95</td>
</tr>
<tr>
<td>Football Fortune .... 12.75</td>
<td>Gauntlet 64k .... 12.75</td>
</tr>
<tr>
<td>Gauntlet 64k ........ 6.95</td>
<td>Guild Thieves 64k .... 16.95</td>
</tr>
<tr>
<td>Jewels of Darkness 64k .... 8.95</td>
<td>Gunslinger ........... 12.95</td>
</tr>
<tr>
<td>Kennedy Approach .... 6.50</td>
<td>Jewels Darkness 64k .... 12.75</td>
</tr>
<tr>
<td>Leaderboard .......... 6.50</td>
<td>Kennedy Approach .... 12.75</td>
</tr>
<tr>
<td>Little Devils .......... 6.95</td>
<td>Knight Orc .... 12.75</td>
</tr>
<tr>
<td>Mirax Force .......... 6.95</td>
<td>Leaderboard .... 12.75</td>
</tr>
<tr>
<td>Nightmarez ............ 6.95</td>
<td>Little Devil .... 8.95</td>
</tr>
<tr>
<td>Platform Perfection ... 6.95</td>
<td>Mirax Force .... 8.95</td>
</tr>
<tr>
<td>Red Rat Double I ...... 3.95</td>
<td>Mini Office II .... 16.95</td>
</tr>
<tr>
<td>Red Rat Double II .... 3.95</td>
<td>Nightmares .... 8.95</td>
</tr>
</tbody>
</table>

**Rescue on Fractalus ROM £14.95**

| Shoot 'em Ups ........ 6.95 | RED ROLLING ........ 8.85 |
| Silent Service ........ 8.50 | Red Rat Double Pack 1 .... 8.95 |
| Shovel Knight ........ 8.50 | Red Rat Double Pack 2 .... 8.95 |
| Silicon Dreams 64k .... 12.75 | Silent Service .... 12.75 |
| Spy Trilogy ........... 8.95 | Spindizzy .... 12.75 |
| Winter Olympiad 88 64k .. 8.95 | Spy Trilogy .... 12.95 |

**TIME & MAGIK**

C & D £12.95

---

Sunsoft Adelaide
FREEPOST, PO BOX 78, MACCLESFIELD, CHESHIRE SK10 3YB
Telephone (0625) 25228

(No stamp required)

**RAMPAGE**
C £3.95 D £12.95

**ROM CARTRIDGES**
- Acorn ................ 14.95
- Ball Blazer ............ 14.95
- Blue Max ................ 14.95
- Draughtsman Factor ...... 9.95
- H.E.R.O ................ 9.95
- Laderunner ............. 14.95
- Pitfall .................. 9.95
- Pitfall II .............. 9.95
- River Raid .............. 9.95

**ATARI BUDGET CASSETTES**
- Airwolf (Blue Thunder) .... 1.95
- American Road Race .... 1.95
- Cop's & Robbers .... 1.95
- Decathlon ................. 1.95
- Extirpator .............. 1.95
- Grand Prix Simulator .... 1.95
- League Challenge .... 1.95
- Pot Hole Pete .... 1.95
- Pro Golf ................ 2.95
- Revenge II .............. 2.95
- Speed Ace .............. 2.95
- Zybez ............... 2.95

**ORDER VIA**
Please add 50p handling to all orders under £5.
Cheques/P.O.'s payable to: Sunsoft Software (AU)
Girobank Transcash to account: 664 6638
2500 GOSUB 2990
2500 GOSUB 2700
2550 FOR K-1 TO YSZ
t
2550 FOR L-1 TO XSZ
t
2570 IF XHORD(L,K)=160 THEN X2=L:Y2=K:
GOSUB 2900:GOSUB 770
2570 NEXT L
2570 NEXT K
2570 GOSUB 650
2570 ? "Okay. Press any key to print X-
"Word."
2600 COLOR 1: PLOT 4,0: DRA W O, X, 0
2620 COLOR 1: PLOT 4,0: DRA W O, X, 0
2620 CLOSE M: OPEN M,1,4,0,"X"
2640 GET M,KEY
2650 ? "Printing X-Word..."
2660 GOSUB 2990
2670 ? "Okay. Completed."
2680 GOSUB 1100:GOSUB 2700
2680 REM 30703
2700 COLOR 1
2710 FOR I=15 TO VD STEP 16
2720 PLOT 4,1:DRA W O, X, 0
2730 NEXT I
2740 FOR I=14 TO XD STEP 16
2750 PLOT I,0:DRA W O, X, 0
2760 NEXT I
2770 RETURN
2780 REM 30718056
2790 IF NUMO OR NUMO2 OR NUMO3 OR(MIN(UW)
THEN RETURN
2800 RESTORE 2880+CHUN(M)
2810 INCH(X,Y),COLOR 1
2820 PLOT XAY, YAY
2830 FOR L=1 TO N
2840 READ N,X,Y
2850 DRAW MAC,XY,1
2860 NEXT L
2870 RETURN
2880 DATA 4,1,1,1,5,5,5,1,1,1
2890 DATA 1,1,1,1,1
2900 DATA 5,1,1,1,5,5,5,1,1,5,5,5
2910 DATA 6,1,1,1,3,1,3,1,3,5,5,5,5,5
2920 DATA 4,1,1,1,3,1,3,1,3,5,5,5,5,5
2930 DATA 5,3,1,1,2,2,2,2,2,2,2,2,2
2940 DATA 5,3,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1
2950 DATA 2,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1
2960 DATA 7,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1
2970 REM SCREEN DUMP 1053
2970 TRAP 2980
2980 SCREEN PEEK(BB)+256*PEEK(OCD)+1:OCD 1:LP:Y5Z2W.4
2980 OFFSET=68
2980 OPK 1576:GO TO 171:READ A:POKE 15167
1:NEW Y

DEDICATED ATARI 8-BIT SUPPORT

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-TIM 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 Dibase III/Rbase, Lotus etc.
- Detailed 700 page manual, Includes a Quick course and Cookbook
- Supports all memory/hardware upgrades i.e. disk drives, MIO board, hard disks, U.S. Doubler/Super Archiver, R-Time Card etc.

U.S. version reviews

Computer Shopper
'the most powerful business package for any 8-bit computer that includes the 8-bit IBM'.

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 Atori 8-Bit computers will be purrewing away'

How powerful is Turbobase?
Turbobase has successfully replaced a $700 air conditioning installation and is now being used in many med/avg.
U.S. stores as an alternative to spending $20,000
on and IBM system...

Retail Prices
40 column - £19.95/80 column emu - £129.95
Release date 15th August 88

SUMMER SALE SPECIAL
THE 1050 SUPER ARCHIVER II £59.95

The 1050 SUPER ARCHIVER replaces ALL DISC DUPLICATING DEVICES currently available for the Atari 1050. ELIMINATES the need for patches, and POB file etc. Copies are EXACT DUPLICATES of the original and will run on any drive.

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 specular 4K static ram-packs are available for £99.95 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 column on your screen!

JUST A FEW OF AVAILABLE FEATURES
Super simplicity, true footnote, subscript, superscript, underline, printer driver creation, page numbering, margin and header adjustments, endfile, tab adjust view and preview, block delete or insert. DOS functions, available memory, image, colour change (background, luminance 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

14 Romilly 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 4DU
TEL: 01-309 1111

KUNG-FU MASTER
NOW FOR THE ATARI 2600

RRP £9.99

TITLE MATCH
Pro Wrestling
PRO WRESTLING
RRP £9.99

SCOPE
CARNIVAL
RRP £7.99

BOARDIN'
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
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 1RX
TEL: 01-368 5545 TLX: 925430 PREST G FAX: 01-361 2054
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 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 Jinx
Cosmic Ark
Beamrider
Quick Step

Tennis
Laser Gates
Seahawk
Nightmare
Skare 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 Quintana Roo
Grand Prix
Megamania
Keystone Kapers
Dragster
Spider Fighter
Seaqued

Turn to Page 28
California dreamer

Product: California Games
Price: £3.99
Supplier: Epyx/US Gold, Units 20
Holford Way, Holford, Birm-
ingham BS 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 Califor-
ia 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 de-
scribed as being the most laid
back event. Basically it’s like jugglin-
g 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 skate-
boarding. This is one of the most
exciting sports to watch and the
mixture of strength and coordi-
nation can result in some awesome
results.

You are given 90 seconds to per-
form as many stunts as possible.
Timing is all-important — if you hold
on to the skateboard too long you’ll
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 or a aerial turn.

Once you’ve completed the
skateboarding it’s time to put your
pedalling foot to use and join 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 rather nasty
crashes. Finally comes surfing,
which started life as the entertain-
ment 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 man-
oeuvring 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 won-
derful 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: 061-934 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.

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 must outmanoeuvre 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’s why 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:** 01-361 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 flegde 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!

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!

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.
### Getting to the root of the problem

**Better disc handling with PHILIP DOBSON's superb program**

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

It's designed 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 independent section from others on the disc. These directories are given a unique name when they are created, usually something 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

---

<table>
<thead>
<tr>
<th>Command</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>D: \ROOT&gt;</td>
<td>The program prompt. The name displayed between \ and &gt; is always that of the active directory. Changes the active directory to that nominated after the \ to the one you want to investigate. Returns you to the ROOT directory.</td>
</tr>
<tr>
<td>CD \DIRNAME</td>
<td>Used when you wish to add another disc directory to the ROOT disc. Once you have created a directory with this command, label the corresponding disc with the same name. It removes the need to be practiced in the art of small writing in order to squeeze the disc contents on to the disc label.</td>
</tr>
<tr>
<td>RMDIR \DIRNAME</td>
<td>Deletes or removes a Directory from the root disc.</td>
</tr>
<tr>
<td>MFDIR \DIRNAME</td>
<td>Modifies the contents of the nominated directory to be rewritten after the original has been altered.</td>
</tr>
<tr>
<td>PNDIR \DIRNAME</td>
<td>Prints a hard copy of a nominated directory.</td>
</tr>
<tr>
<td>DIR</td>
<td>Displays the contents of the active directory.</td>
</tr>
<tr>
<td>DIR \</td>
<td>Shows the contents of all directories filed on the ROOT disc.</td>
</tr>
<tr>
<td>FORM</td>
<td>Formats a disc. Ensure it is a blank disc you put in the drive as any data present will have vanished forever after it has been formatted.</td>
</tr>
<tr>
<td>QUIT</td>
<td>Causes the program to modify ROOT.DIR if directories have been created or deleted on the ROOT disc. It also exits you from the Root program.</td>
</tr>
<tr>
<td>Program Breakdown</td>
<td>1880 - 1900</td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Initializes program</td>
<td>1920 - 2010</td>
</tr>
<tr>
<td>Main control loop</td>
<td>2030 - 2090</td>
</tr>
<tr>
<td>Extracts new directory filename, reads in directory</td>
<td>2110 - 2420</td>
</tr>
<tr>
<td>from source disc, writes new directory file</td>
<td>2430 - 2510</td>
</tr>
<tr>
<td>modifies an existing directory</td>
<td>2520 - 2660</td>
</tr>
<tr>
<td>Deletes an existing directory from Root disc</td>
<td>2680 - 2800</td>
</tr>
<tr>
<td>Deal with DIR requests from the user</td>
<td></td>
</tr>
<tr>
<td>Print a hard copy of directory</td>
<td></td>
</tr>
<tr>
<td>Format disc routines</td>
<td></td>
</tr>
<tr>
<td>Validate the directory and stop any file duplication</td>
<td></td>
</tr>
<tr>
<td>Test the Root disc is in the drive when required</td>
<td></td>
</tr>
</tbody>
</table>

Tell the user certain operations may only been done at the 'D: \ROOT> ' prompt.

Amend ROOT.DIR file if any creation or deletion of directories takes place.

Deal with errors which may occur.

DiMension variables, opening screen and date input routine.

Decide course of action, access existing Root disk or creates a new one.

Create a new Root disk.

Access an existing Root disk directory.

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 file on 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 on 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 runs.

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 MAXIMUM LOOP \38
78 ? ? P@S$: INPUT MIS:DISC:IF DISC:="": THEN 190
89 IF LEN(DISC)<C THEN 190
90 IF DISC="": THEN GOSBD 780:GOTO 70
100 IF DISC="": THEN GOSH 880:GOTO 70
110 IF DISC="": THEN 780:GOTO 70
120 IF DISC="": THEN GOSUB 880:GOTO 70
130 IF DISC="": THEN GOSUB 1680:GOTO 0:70
140 IF LEN(DISC)<8 THEN 190
150 IF DISC="": GOSUB 780: THEN GOSUB 280:GOTO 70
160 IF DISC="": GOSUB 880: THEN GOSUB 6:GOSUB 70
170 IF DISC="": GOSUB 280:GOTO 70
180 IF DISC="": THEN GOSUB 1680:GOTO 0:70
190 IF DISC="": THEN DISK:="": THEN DISK:="": GOSUB 780:GOTO 70
210 REM REM WORK OUT NEW DIR NAME \42
220 REM REM MODES:MFIDIR \43
230 IF DISC="": GOSUB \44
240 GOSUB 1880

Turn to Page 34 ▶
GET AHEAD OF THE REST WITH

SPEED UP YOUR PROGRAMMING WITH FIG FORTH

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

PULSAR SOFTWARE LTD.

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.

4 Church Hill Road
East Barnet
Herts EN4 8TB

TEL:
01-441 0799
Allow 28 days for delivery

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.
Sounds spectacular

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 800, 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 onto a foam pad 25mm or more thick. This will help...
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... £0.55
- 5.25" LOCKING DISK BOX - CAP 100... £0.95
- Special offer: 2 for £1.90

- 5.25" DISK NOTCHER... £2.75
- 5.25" DISK CLEANING KIT (FLUID)... £2.95
- 5.25" DISK CLEANING KIT (DRY)... £2.95

- BOX OF 10 5.25" DS/DD 48TPI BRANDED PRECISION DISKS... £2.00
- BOX OF 10 5.25" DS/DD 96TPI BRANDED PRECISION DISKS... £4.95

- TRACKER 10 DS/DD 96TPI in plastic case... £7.50
- TRACKER 10 DS/DD 48TPI in plastic case... £6.50

- "THING" copy holder (for right hand versions)... £4.50

- FLIP SIDED (REVERSIBLE 2 NOTCHES & 2 INDEX HOLES) DS/DD 48 & 96TPI BOX OF 10... £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. double, custom formatter, copies Phantom/Fuzzy sectors up to 40 sectors per track, built-in track editor, print screen dump facility, built-in disassembler and much much more. Includes software.

R.R.P. £79.95 SPECIAL INTRODUCTORY PRICE £59.95

THE CONTROLLER CARD P.P.R. £19.95

The controller card allows you to add, from an impressive and expanding library, utilities and enhancements that reside in memory above commercial/home produced software. Activating any of the utilities will temporarily freeze the main program until the utility has completed its task or act as an on-line enhancement. The system also incorporates a unique SAVE GAME IN PROGRESS facility and a menu/file/backup/management system. Switch Basic in and out as well. Variety of controller card library disks available. Comes complete with Master utility disk.

R.R.P. XL £59.95 — XE £45.95  Our Price XL £34.95 — X £39.95

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

**TORBO BASIC** (TURBO BASIC 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 1 10-15 times. Runtime packages enable you to auto-locate compiled programs. Some features include better string handling, commands inc. circle, paint, fill, if else, do-loop, repeat and more. Comes with an excellent art program and test editor. FANTASTIC VALUE.

**TEXTPRO** (100% Macintosh compatible) WORD/PROCESSOR that is equal to and better than some of the current commercial WPSs. All the features 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 the side.

GAMES DISK 3: A) Ski King is a brilliant downhill skiing game for up to four players. You navigate various obstacles and judge jumps in this great skiing game. Three different courses included 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

- FL-50 (C60) £3.50 for 5 — or £6.50 for 10
- FL-90 (C90) £5.00 for 5 — or £9.00 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: Spright, Enduro Racer, Tennis, Rampage, Arcadian, Marble Madness, Mouse Trap, Plutos, Winter Olympiad 88, 3D Galaxy, Trail Blazer, Defender of the Crown, Strike Force, Eagles Nest, Inl Kayak, Superprint, Cooper X, Warlock, Road Wars, Q Ball, Levathan and Ranarama

Plus 5 Public Domain Disks

FREE JOYSTICK AND 20 CAP. DISK BOX!

Just write for more information. Chances 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 03799 85929
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, EUXMOOR Drove, CHISTCHURCH, WISBECH CAMBRIDGESHIRE

03548 5900
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 into the computer.

With this method you will need to decouple 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 clip, 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

**TIN SOLDERING**

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 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**

| R1 | 22k |
| R2 | 120k |
| R3 | 1 ohm |
| VR1 | 10K Lin. Potentiometer |
| C1 | 100 mfd 10v |
| C2 | 47 mfd 25v |
| C3 | 220 pF (marked n22) |
| C4 | 0.22 mfd Polyester layer |
| C5 | 220 mfd 16v |
| IC1 | TBA820M |
| 8-pin DIL IC socket |
| 4-way terminal block |
| Two 5-pin 180 degree DIN sockets |

**M.E.S. Code**

| R22K | M22K |
| M120R | M120R |
| M1R | M1R |
| FW02C | FW02C |
| FF10L | FF10L |
| FF08J | FF08J |
| WX60Q | WX60Q |
| WW45Y | WW45Y |
| FF13P | FF13P |
| WQ63T | WQ63T |
| BL177 | BL177 |
| RK73Q | RK73Q |
| YX91Y | YX91Y |

All components are available from M.E.S. P.O. Box 3, Rayleigh, Essex, SS6 8RJ. 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 Avenue, Harrogate, North Yorkshire, HG2 7NS Tel: 0423 508359

Prices include VAT and postage

---

**Figure III: Component layout**

**Figure IV: Pin numbering — view the end of the joystick extension lead**

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.
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.

- Various utility discs and cassette games. All at cheap prices. Tel: Peter Solihuld 743 8653.
- Atari 85XK 1050 Laser disk drive disk box £260 software. Joystick and data cassette recorder £190 O N O Tel: 0922 522142.
- Original discs and cassette games. Hundreds at low, low prices. Too many to list. Tel: 0215 522374 after 9pm for list.
- 1050 drive, Xmas present, fully boxed, all manuals, £250 quality software, immaculate £130. Tel: 0931 265 4829.
- Autodidact. Silent Service, Paint, Encounter, Centipede, many more! Tel: 0240 370606.
- 800xL 1050 disk drive 1010 tape deck, 1027 printer, Mini Office II, many magazines and discs. £275. Tel: 0279 683616.
- 800XL, 1050 disk drive, X11 and 1010 data recorders, 176 games on disc, ROM and cassette. Joystick £200 O N O Tel: Canvey Island C03B 0HH.
- For sale 1029 printer as new with Mini O f f i c e II and Ten print £50 Tel: 0474 872715 evenings, buyer collects.
- Swap my 860XL for 850 interface. Wanted adventure writer manual Tel: Tamworth 260798 9pm-8pm.
- 1019, 1027, printer wanted fair price paid Tel: Essex 2648 7617.
- Wanted F로그거 on ROM cartridge for XL Tel: Chesterfield 206562.
- Two 1050 disk drives, 1027 printer, 1010 recorder and a carry bag full of software on disk. Rom and tapes. Package offer bargain at £350 Tel: Ipswich 0473 680292 any day.
- Collection item. Atari User, first 26 copies plus folders mint condition. Offers Tel: 0277 21617.
- 800 XL Computer house modified, 1050 drive, 880 interface, Paco Linnet modern, two joysticks, two mice, touch- tablet, locked disk box. 40 disks, software package. £330 O N O Tel: Jeff Maris 637.
- 800 XL 1050 drive, XC12. Lots software, maps, j o y s t i c k £250 O N O Tel: Green 0963 880121.
- Atari 800 XL 290K disk drive, case, printer and software £250 Tel: 061 6825416.
- For sale, 54 tepe games most half price, includes Zybox, Druid, Akaneced etc Tel: 01- 3469187.
- 800XL 1010 tape, leads, joystick £100 games £60 O N O Tel: Bury 0322 279787.
- 800XL, 1050 drive joystick, over 30 disks. Worth £500, sell £250 O N O Tel: Colour, Laleham 0900 882862.
- Wanted 1050 disk drive. Reasonable price. Tel: 0737 043110.
- 800XL, 944k RAM upgraded with O S controller card £100 also Atari 800 with Aallon 28kC RAM £30 Tel: 0963 880714.
- 800XL 1050 disk drive 850 interface, recorder, d o c s , R O M S , tape software, books and maps. All in good condition Tel: 0989 839814.
- 800XL computer, Phonemark recorder two joysticks, 20 games £80 Tel: Johns 0382 81325.
- Atari 1020C, 1029 printer, 1950 drive, XC12 recorder, joysticks, games, maps, everything on tape South Tel: 0403 922848 £250 O N O.
- 800XL 1060 drive games + magazines £200 Tel: 061-30838171 O N O.
- Wanted 1050 disk drive, reasonable price. Tel: 0297 0525222.
- 800XL, 1050 disk drive, 1010 recorder, DID 19" colour TV am monitor many cassettes and discs £750 Tel: 0285 719173.
- 800XL boxed and cover, 1010 recorder boxed, Atari writer cartridge, complete boxed volumes 1-3 plus to August plus subscription including April 89. Atari User Magaret, programming course Basic, Atari XL handbook with tape, other books, all as new, never used for games, ideal outfit for beginner, owner now business user £110 Tel: Kenilworth 512986.
- Atari 800, 1010 data recorder, 23 games, 40 magazines (Atari User, C + V) utilities, speech synthesizer £90 D N O Tel: David 081 609 9768.
- Selection of 8 bit disc based software from £3 each including Ghostbusters, Fist poker, Leaderboard, Flight Simulator II all original with documentation Tel: 0468 871584.

Basic (rev a) cartridge £4. Tel: C03-373164.
- Atari software all originals, various ROM cartridges, cassettes and discs. Tel: 0780 58117 (David) evenings.
- 800XL, 800 48K 810 drive Archiver, 1050 drive, 1027 printer, 822 printer, W2000 with Datascape 410 recorder, Trandyball software, lots of Atari Users Tel: David on 096 779 3390 Hampshire after 7pm.
- 800XL, 1010 recorder, 1050 disk drive, joystick, software, maps, all boxed, excellent condition £175. Write Alan Wainwright, 122 Thirlmere Gardens, Northwood, Middle, HA6 7TB.
- Wanted 1050 disk drive in good condition any reasonable price considered. Tel: Hitchin (0462) 37986.
- 800XL, 1280, software, joystick, 4 roms, manuals £170. Books and tapes from £1-45. Tel Pete 0935 710954 after 8.30pm.
- 800XL, 1050 disk drive, true double density discs £130. Tel: 0322 742151.
- Miracle Technology WSS2000 modern, perfect condition £30. Tel: 0458 734249.
- 1028 printer, original box and manual £75. Tel: Bournbridge 389363.
- Atari 1295X, 800XL, 1050, 1010, blank memorex discs. Over £150 worth of software on cassette disc 2nd cartridge plus disc box, cleaner and dust covers. No splits £45 Tel: 0447 45858.
- Atari Mega ST + 1 SCC1224 monitor plus software, home and business computer, mint condition £90 o n o. Tel: Bradford 0224 62893 after 6pm cost £1600.
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.

# 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 $560 – 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 7546, 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, Wilkinsport, 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

---

The American experience

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

---

The superb 3D perspective created by Chessmaster

---

Checkmate1

---

Turn to Page 42
manipulate your own voice.

For a cost of $89.95 (around £85) you get a small white box, headset, connecting cables, program disc and documentation.

Also included on the disc is a game of Blackjack or Puntoon 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've got 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 knock-out 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 America. 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.
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 £3.99 each.

They are wonderful value for money and a doddl 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 Smithwaite, 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-561 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 review 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 in the main MicroProse advert only the Commodore 64 version is mentioned.

I have also seen the manual for the game Gunship and they are adding 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', Auchinleck, Kirkintilloch, Glasgow.

Well Stuart you had quite a lot to say the 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 Atari according to several advertisers in American magazines. We'll try to get hold of a copy 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...
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.

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.

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

Back ing at last

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.

We hope that Stephen 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.

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.

Special saving! Tape £5.95 £2.95
Disc £7.95 £4.95

TO ORDER PLEASE USE THE FORM ON PAGE 47

September 1988 Atari User 45
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'

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.

FIREFBIRD 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!

TO ORDER PLEASE USE THE FORM ON PAGE 47
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.

Valid to 30/9/88

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

<table>
<thead>
<tr>
<th>Annual subscription</th>
<th>NEW</th>
<th>RENEWAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK £1.5 7001</td>
<td></td>
<td>7002</td>
</tr>
<tr>
<td>Europe (incl. Eire) 7003</td>
<td></td>
<td>7701</td>
</tr>
<tr>
<td>Overseas (Airmaill) 7004</td>
<td></td>
<td>7702</td>
</tr>
</tbody>
</table>

Comes complete with Atari ExecuCard 7023
Starquake disc 7024
Starquake tape 7025
Firebird Silver Collection 7059

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

<table>
<thead>
<tr>
<th>Back Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1988 7421</td>
</tr>
<tr>
<td>February 1988 7422</td>
</tr>
<tr>
<td>March 1988 7433</td>
</tr>
<tr>
<td>April 1988 7424</td>
</tr>
<tr>
<td>May 1988 7425</td>
</tr>
<tr>
<td>June 1988 7426</td>
</tr>
<tr>
<td>July 1988 7427</td>
</tr>
<tr>
<td>August 1988 7428</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ten of the Best (see page 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Games Vol 1 disc 7014</td>
</tr>
<tr>
<td>Games Vol 2 disc 7053</td>
</tr>
<tr>
<td>Utilities disc 7018</td>
</tr>
</tbody>
</table>

Add £1 for Europe inc Eire/Overseas

<table>
<thead>
<tr>
<th>Jinxter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atari 800XL/30X disc 7058</td>
</tr>
</tbody>
</table>

Add £2 for Europe inc Eire/Overseas

<table>
<thead>
<tr>
<th>Mini Office II (see page 31)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disc 400/800/XL/XE (48k) 7050</td>
</tr>
</tbody>
</table>

Add £2 for Europe inc Eire/Overseas

ORDER FORM

Atari Data Bank (see above) [£16.99] 7028
Add £1 for Europe inc Eire/Overseas

Atari ExecuCard (see opposite) [£4.99] 7026
Add £1 for Europe inc Eire/Overseas

Starquake (see opposite) Tape 7030
Disc 7047
Add £1 for Europe inc Eire/Overseas

Atari User Toolkit [see page 45] Tape 7021
Disc 7022
Add £1 for Europe inc Eire/Overseas

Firebird Silver Collection [see opposite] 5 Tapes 7061
Add £2 for Europe inc Eire/Overseas

Disc storage box: Holds up to 60 5.25" discs 7029

Dust cover 130X£ 7031
Add £1 for Europe inc Eire/Overseas

Atari User binder 7050
Add £2 for Europe inc Eire/Overseas

<table>
<thead>
<tr>
<th>Send to: Database Publications, FREEPOST, Macclesfield, Cheshire SK10 4YB</th>
</tr>
</thead>
<tbody>
<tr>
<td>(No stamp needed if posted in UK) Please allow up to 25 days for delivery</td>
</tr>
<tr>
<td>Order at any time of the day or night</td>
</tr>
<tr>
<td>Credit Card holders phone: 0625 879800</td>
</tr>
<tr>
<td>Far Orders: 0625 879966</td>
</tr>
<tr>
<td>Orders by Prestel: Key '69, item 014589383</td>
</tr>
<tr>
<td>MicroLink: Telecom Gold 72-MA001</td>
</tr>
<tr>
<td>Don't forget to give your name, address and credit card number</td>
</tr>
<tr>
<td>MAIL ORDER ENQUIRIES ONLY: 0625 879940 9-10am, 2-6pm</td>
</tr>
<tr>
<td>Payment: please indicate method (l)</td>
</tr>
<tr>
<td>Access/Mastercard/Visa/Barclaycard/Visa</td>
</tr>
<tr>
<td>No.</td>
</tr>
<tr>
<td>Cheque/Eurocheque made payable to Database Publications Ltd.</td>
</tr>
<tr>
<td>Address (please print and use your postcode)</td>
</tr>
<tr>
<td>Name</td>
</tr>
<tr>
<td>Address</td>
</tr>
<tr>
<td>Post Code</td>
</tr>
<tr>
<td>Country</td>
</tr>
<tr>
<td>Daytime telephone number in case of queries</td>
</tr>
</tbody>
</table>

"SAVE £3!"
STACK COMPUTER PRODUCTS

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

TYPE 72000
baum
£39.95

FREE 40 PAGE CATALOGUE ON REQUEST OR WITH ORDER

MEEDMORE LIMITED
28 Farriers Way, Netherton
Merseyside L30 4XL
Tel: 051-521 2202

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

STOCKSOFT
SUPPORTING THE EIGHT BIT

WORLD FAMOUS HAPPY!
DISC DRIVE ENHANCMENTS
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 controller board for your
1050 drive. New fitting instructions supplied,
which are basically removal drive covar,
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 copier 128k.
Warp speed 1.5 M.S.
Compositor of Files.
Drive Diagnostic.
D.I.Y. Kit £169 POST FREE

DISCO
Will play your music cassette through your
computer using TV speakers and giving a
sound to light show on screen through 556
colours. 16k on TDK Cassette.
£19.95 POST FREE

SPECIAL OFFERS
D.O.S. 25K ONLY £2 POST FREE
D.O.S. 4 ONLY £2 POST FREE
Arc D.O.S. ONLY £3 POST FREE
D.O.S. 2 ONLY £2 POST FREE
Graphic Demo Disk ONLY £3 POST FREE

SOUND MAGNIFICENT
DOUBLE SIDED DISK OF TRUE
digitised sound OND

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 FD software, up to date
information, games, utilities, hardware projects, software
reviews, programming tutorials, and a glossey club magazine
every quarter.

A club magazine as welll! One of those photocopied things
that is unreadable, eh? 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
ONE of the most popular adventures to come out of the Infocom stable is Mindshadow. Our trusty cartographer Bryan 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 tune it 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 only can use each item once.

THE ISLAND
- Go N, E, E and get the vine.
- Go W, W, S, E and tie vine to rock.
- Go south, W, get rock, dig ground and get the steel.
- Go West and enter the hut before you get the straw.
- Go N, N, N, E, N, E, S, S, E and get the rum.
- 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, 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, F 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 Chandler 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 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.
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 month's Atari User or any of the selection listed below.

<table>
<thead>
<tr>
<th>Title</th>
<th>Code</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>California Games</td>
<td>ATC171</td>
<td>£9.95</td>
</tr>
<tr>
<td>Ghostbusters</td>
<td>ATC387</td>
<td>£9.95</td>
</tr>
<tr>
<td>H.R.O.</td>
<td>ATC420</td>
<td>£9.95</td>
</tr>
<tr>
<td>Kung Fu Master</td>
<td>ATC572</td>
<td>£9.95</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Title</th>
<th>Code</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atari</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revell</td>
<td>ATC751</td>
<td>£12.55</td>
</tr>
<tr>
<td>Space Shuttle</td>
<td>ATC825</td>
<td>£12.55</td>
</tr>
<tr>
<td>Enduro</td>
<td>ATC305</td>
<td>£12.55</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Title</th>
<th>Code</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolutely Entertaining</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skate Boarding</td>
<td>ATC768</td>
<td>£9.95</td>
</tr>
<tr>
<td>Title Match</td>
<td>ATC914</td>
<td>£9.95</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Title</th>
<th>Code</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activision</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beamrider</td>
<td>ATC1301</td>
<td>£9.95</td>
</tr>
<tr>
<td>Biker</td>
<td>ATC2101</td>
<td>£9.95</td>
</tr>
<tr>
<td>Drifter</td>
<td>ATC2901</td>
<td>£9.95</td>
</tr>
<tr>
<td>Freeway</td>
<td>ATC3901</td>
<td>£9.95</td>
</tr>
<tr>
<td>Grand Prix</td>
<td>ATC856</td>
<td>£9.95</td>
</tr>
<tr>
<td>Keytop Kapers</td>
<td>ATC5101</td>
<td>£9.95</td>
</tr>
<tr>
<td>Laser Blast</td>
<td>ATC525</td>
<td>£9.95</td>
</tr>
<tr>
<td>Planetoid</td>
<td>ATC6701</td>
<td>£9.95</td>
</tr>
<tr>
<td>Private Eye</td>
<td>ATC7001</td>
<td>£9.95</td>
</tr>
<tr>
<td>Sea Quest</td>
<td>ATC7651</td>
<td>£9.95</td>
</tr>
<tr>
<td>Sky Jinks</td>
<td>ATC7801</td>
<td>£9.95</td>
</tr>
<tr>
<td>Spider Fighter</td>
<td>ATC8351</td>
<td>£9.95</td>
</tr>
<tr>
<td>Tennis</td>
<td>ATC9001</td>
<td>£9.95</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name &amp; Address Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
</tr>
<tr>
<td>Address:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>QTY</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How To Pay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash: We recommend that you do not send cash through the post. However, if you have no alter-</td>
</tr>
<tr>
<td>native please send it by registered mail for your own peace of mind and protection.</td>
</tr>
<tr>
<td>Postal Orders: All postal orders of any description are accepted. Please make sure you retain</td>
</tr>
<tr>
<td>the counterslip and quote the order placed to Silica Shop Ltd.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Payment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include a CHEQUE for the amount due</td>
</tr>
<tr>
<td>Include POSTAL ORDER for the amount due</td>
</tr>
<tr>
<td>Please send me a BROCHURE</td>
</tr>
</tbody>
</table>

B. BYTES COMPUTER SYSTEMS OF Hinckley

Full support for Atari ST and XT/XE

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

Summer STC STFM PACK

£30.50 40K STC STFM, 800K Enhancer, 6502 Emulator, Mouse, Joystick and 3500+ page manual.

Friendly expert advice to help you get the most out of your machine and: B. Bytes' customised mouse mat

B. Bytes Computer Systems

Dept AA 19 Southfield Road, Hinckley, Leicestershire, LE10 1UA. Tel: (0455) 613377

All Prices Include VAT, P&P may be extra.

PRIORITY ORDER FORM

Silica Shop Ltd, 14 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX Tel: 01-309 1111

NAME & ADDRESS DETAILS

Mr/Mrs/Miss: ____________________________

Initials: ____________________________

Surname: ____________________________

Address: ____________________________

Telephone No: ____________________________

CODE | QTY | DESCRIPTION | PRICE |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HOW TO PAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash: We recommend that you do not send cash through the post. However, if you have no alter-</td>
</tr>
<tr>
<td>native please send it by registered mail for your own peace of mind and protection.</td>
</tr>
<tr>
<td>Postal Orders: All postal orders of any description are accepted. Please make sure you retain</td>
</tr>
<tr>
<td>the counterslip and quote the order placed to Silica Shop Ltd.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PAYMENT METHODS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include a CHEQUE for the amount due</td>
</tr>
<tr>
<td>Include POSTAL ORDER for the amount due</td>
</tr>
<tr>
<td>Please send me a BROCHURE</td>
</tr>
</tbody>
</table>

Amethyst Software

PRESENTS

1. PAINTBOARD

2. NETWORK & KING'S PERIL

Features of Paintboard include:

* 128 colours displayable at the same time
* High resolution graphics mode 15 used
* 3 Brush speeds
* 11 pre-defined brush shapes
* User defin. shapes
* 30 commands available (inc. zoom, fill, colour, line, box, circle, airbrush, pen, load, 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 £5.99

Network & King's Peril £1.99

Both programs run on any Atari, except the ST, with at least 48k of memory. Prices inc. postage & packaging.

Make cheques/PoS payable to Amethyst Software and send with your address to:

AMETHYST SOFTWARE

Dept. AA, 3 Oban Avenue, De La Pole Avenue, Anlaby Road, Hull, North Humberside HU5 6SB

ADVERTISERS' INDEX

Amethyst Software ... 54
Atari Computer Software ... 10
B.Bytes Computer Stores ... 54
Chips ... 48
Computer House ... 25
Computerwise ... 16
Database Software ... 31
Digitcomm ... 51, 52
E & SP & D ... 52
Ladbrooke Computers ... 42
Mandarin Software ... 56
Sunaro Software ... 23

Meedmore Distribution ... 48
Melton Comp Supplies ... 18
MicroLink ... 14
Miles Better Software ... 20
Monitor Magazines ... 48
Page 6 ... 9
Palan ... 26
Pulsar ... 34
Silica Shop ... 54, 55
Stocksoft ... 48
Stortsoft ... 38
NEW LOW PRICE ST!

From Only

£2.51 Per Week

Return Coupon for details

ONLY FROM SILICA

If you're looking for a powerful computer that not only sells at a lower price than other machines on the market, but also serves the needs of the most sophisticated software applications, you've found the solution. At Silica, we specialize in producing the most efficient and cost-effective computer systems available. Our ST range is designed to meet the demands of both small businesses and home users, offering superior performance at an affordable price.

FREE STARTER KIT - Only From Silica

When you purchase any Atari ST keyboard, you will also receive the basic software required to get started. This includes a comprehensive User's Manual, detailed instructions on how to install and use the keyboard, and a complete tutorial on how to use the Atari ST operating system. The keyboard is designed to be user-friendly, with clear, easy-to-read instructions that help you get up and running in no time.

DEDICATED SERVICING - Only From Silica

At Silica, we have a dedicated service department to ensure the highest level of technical support. Our team is trained and experienced to provide fast, efficient service, whether you need help with installation, troubleshooting, or any other issues. We're committed to ensuring your satisfaction with our products, and we're always available to provide assistance and answer any questions you may have.

FREE OVERNIGHT DELIVERY - From Silica

With Silica's free overnight delivery service, you can expect to receive your computer within 24 hours of ordering. This ensures that you receive your unit quickly and efficiently, allowing you to start using your Atari ST immediately. Our fast and reliable delivery service guarantees that you'll have your computer when you need it.

SILICON CHIP
developer magazine

Silicon Chip is the leading magazine for hobbyists and professionals interested in electronics and computer programming. Each issue is packed with practical projects, technical articles, and news from the world of electronics. Whether you're looking for a new project to build or just want to keep up with the latest advancements in the field, Silicon Chip has you covered.

LOW PRICE ST - Now Only £260 (+VAT £299)

SO MUCH FOR SO LITTLE!

There is nothing that can match 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, and 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 main 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 now 500 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 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)

Upgrade to 1M K RAM to 1024K RAM £100 (+VAT)

ATARI 1040ST-F - NEW PRICE

£650.00 includes 1M K RAM. Now only £599.00 (+VAT £699.00). Are you in the market for the ultimate Atari ST? The 1040ST-F is a powerful computer with 1M of RAM, and includes a built-in 160K double sided 5 1/4 disk drive. The 1040 has been designed for use in business and professional applications, and includes a high resolution monochrome or colour monitor. A 1M RAM computer does not therefore have an ST modulator for use with a domestic TV set. Modulators can be fitted for £95 (+VAT) if required.

MEGA ST's NOW IN STOCK

These are the most powerful STs available and offer the ST's full range of features, plus a number of extra features. MEGA ST's include enhancements such as extra RAM, faster CPUs, and improved graphics capabilities. The MEGA ST's are a great choice for anyone looking for a powerful and reliable computer at an affordable price.

PLEASE SEND ME FREE LITERATURE ON THE ATARI ST

To: Silica Shop Ltd, Dept ATUSR 0688, 14 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX

Mr/Mrs/Ms: Initials: Surname: 
Address: 
Postcode: 

Do you already own a computer? 

If so, which one do you own?
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.

What the press have said:

LORDS OF TIME: “Destined to become a classic” – Computing with the Amstrad.

RED MOON: Best Graphical Adventure or Best Adventure of the Year – Zzap 64, Crash, Amtix, C&VG, CCI, and Amstrad Computer User.

THE PRICE OF MAGIK: “Another superb adventure . . . their best yet” – Commodore User. Also a Crash Smash.

**Interactive fiction from Level 9**

**Mandarin Software**

Europa House, Adlington Park, Adlington, Macclesfield SK10 4NP.

ENQUIRIES: 0625 878888 ORDER HOTLINE: 0625 879920

| Spectrum (cassette) Plus 3 (disc) | £14.95 |
| Commodore 64 (cassette or disc) | | £19.95 |
| Amstrad CPC (cassette or disc) | | |
| Atari XL/XE (cassette or disc) | | |
| Amstrad PCW (disc) | | |
| Apple II (disc) | | |

Available from all good stockists or order direct by sending a cheque or postal order made payable to Mandarin, together with your name and address. Price includes P&P. Access/Visa owners, phone our hotline or send your card number with your order.