

A Database Publication

ATARI USER

Vol. 4 No. 4

August 1988

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How to give all your games infinite lives

Take your Atari
on a tour of
the universe



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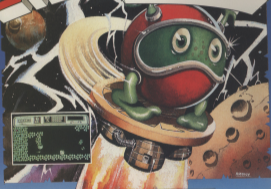
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Starquake



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Bubble Bus' Starquake is one of the biggest-selling games for home micros, due to its incredibly-addictive gameplay and cleverly-animated graphics. It has received

such accolades as Game of the Month in Computer and Video Games, and was awarded a Crash Smash.

● What reviewer Bob Chappel said about the Atari version:

"Starquake is top-notch fare... quality dripping from every byte"

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1988



Vol. 4 No. 4 August 1988

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All major listings in this issue are accompanied by checkmarks to help you overcome typing mistakes. For full details of how they work, see the article on Page 36 of the July issue.

Gallup Software Chart

THIS MONTH	LAST MONTH	TITLE (Software House)	COMMENTS	PRICE
1	▲	GRAND PRIX SIMULATOR Code Masters	Replaced from its number one spot by Zebes, this month sees its return to the pole position.	2.99
2	●	GREAT AMERICAN ROAD RACE Silverbird	18 drivers await you in this fast crossing the USA. You can read out reviews in this issue.	1.99
3	▼	ZYBEX Zeppelin	An excellent shoot-'em-up, worth more than its budget price. Good graphics.	2.99
4	▲	NATTA BLATTA Silverbird	The Falcon Birds are doing well this month with two of their Silverbird budget titles in the Top Ten.	1.99
5	▶	SPEED ACE Zeppelin	Zeppelin's first release for the Atari. Good use of the split screen in this marvellous simulation.	2.99
6	●	TANJUM Players	Another split screen game, but this time a shoot-'em-up. Nice music. Reviewed this issue.	1.99
7	●	DECATHLON Firebird	Returns to the charts, this is good value and enjoyable, with multiple events to choose from.	1.99
8	▲	COPS 'N' ROBBERS Atlanta	Sublime content both as a game and as a concept. Playable but not for long. Poor graphics and sound.	1.99
9	▼	SPOOKY CASTLE Atlanta	This one starts difficult to play and rapidly becomes impossible as Guinness Gory avoids the bats.	1.99
10	▼	REVENGE 2 Mastertronic	Golf Minter's long-awaited sequel to Revenge of the Mutant Carnies. As strange as ever.	1.99
11	●	PRO GOLF Atlanta	Another nice budget title from Atlanta. An enjoy-able stroll around the links. Pacey a round.	1.99
12	▼	RIVER RESCUE Alternative	This re-release of an old title has proved very popular. Coming down the stairs, but still fun.	1.99
13	▼	STEVE DAVIS SNOOKER Blue Ribbon	As expected to coincide with the last snooker championships, good for its genre and hasn't dated.	1.99
14	●	ROCKFORD Mastertronic	Returns to the chart this month - your mining title friend is well worth adding to your collection.	2.99
15	●	AIR WOLF Encore	Translated from the TV programme. You fly a helicopter with a mission to complete.	1.99
16	●	ATARI ACES US' Golf	This compilation finds its way back into the charts. Good value and a chance to see some old friends.	9.95
17	●	SOCCER Alternative	One of many types of football games around. At the price there can be little said against it.	1.99
18	●	FEUD Mastertronic	Addictive and interesting - battling warriors in colourful surroundings. Action packed.	1.99
19	●	HENRY'S HOUSE Mastertronic	If you haven't already got this platform game add it to your collection, stunning graphics.	1.99
20	▼	BMX SIMULATOR Code Masters	Code Masters is renowned for its simulations, with nice graphics and good sound.	1.99

Gleadow's vision of the future

BOLD initiatives that will take Atari UK into the 1990s as undoubted leader in home computing have been revealed by general manager Bob Gleadow.

He sees his company breathing new life into the 8 bit market and leaving its competitors trailing behind.

Gleadow unveiled his vision for the future during a visit to the Atari User offices in Adlington, Cheshire.

"The XE console will carry the Atari flame in the 8 bit marketplace. It will be closely followed by the VCS 2800", he said.

"Already the US games market has burst into life

Atari market leader in home computing

and the UK will not be far behind in this long-awaited revival.

"Nothing could be more pleasing for those of us who work for Atari - everyone here still has their heart in entertainment, which is where it all started".

Gleadow feels a prime reason for games success is making a big comeback is that "as parents want to buy their kids a tool they can't share

with them - and entertainment is a fundamental aspect of western civilisation".

The Atari boss is currently considering a major project that would shake the world of software retailing.

His plan is to set up a dedicated Atari Games Centre in 30 to 40 of Britain's biggest cities and towns, where game players could go and try out the new releases for themselves.

"The centres would mainly be based on existing Atari retail outlets but would be unique in that the customer would have a real choice of what to buy", said Gleadow.

To supply the increased demand for entertainment software that would stem from such a project, Atari is encouraging all software houses to port ST games to the XE system.

In the meantime more and more major outlets are being persuaded to carry XE games. Among them are Smiths, Comet - and maybe Dixons - according to Gleadow.

While he was in Adlington, Gleadow quashed rumours that Atari is planning to build its own computer show.

"We were extremely pleased with the obvious success of the spring Atari User Show and are committed to making Database Exhibitions' November event an equally impressive statement of Atari's presence in the UK market", he said.



Bob Gleadow... talks to games computer

T shirt boost for sales

THE summer sales promotion that leading Atari 8 bit games distributor Microdealer has just launched was being hailed as a success before it even started.

One of its features is a unique range of T shirts - each bearing a colourful graphic design depicting a specific game or software house.

They carry an rrp of £5.99 and are available from all retailers supplied by Microdealer 0208 746001.

"I can honestly say these are really exciting T shirts - the kids will love them", said Microdealer sales manager Les Sinclair. "Even before the promotion began we had to order massive extra quantities to meet the demand from enthusiastic retailers".

The promotion also involves free gifts and a draw with computers as the main prizes.

All games and peripherals supplied by Microdealer will carry a label for each £5 of value and three can be collected on a special card.

Depending on how many stickers you collect - 10 is the minimum needed to claim a prize - you can win a mouse mat, T-shirt, Chessch 128 joystick and tiles from the Microdealer Top 30.

ATARI IS RACING AHEAD IN USA

All the signs from America are that Atari is on the verge of a new and prosperous era fuelled by a games systems revival.

At the summer Consumer Electronic Show in Chicago the impressive Atari stand was built around the 2800, 2802 and XE machines.

Lower priced consoles and software, and an open arms policy towards third party developers - who have responded with growing enthusiasm - have placed Atari firmly in the US computing spotlight.

A new resurgence within four years of the company having been virtually written off as a company history following its disastrous slump in fortunes when the before shipped out of the

video games market.

But now everything has changed. A report in *Marketing Week* said: "Comebacks are part of the American way and games software's return to glory is right up there with Lotus."

"A resurgence in video game sales has pushed Atari into the golden circle of Fortune 500 companies".

The UK computer industry newspaper CTH is forecasting: "It ought to be an Atari Christmas - it has managed to release 88 new products recently and soon more allow awards than any other company".

Atari UK spokesman Peter Walker told Atari User: "The reports speak for themselves - we're very confident about the future".

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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.



Two recommended packages

If you have an IBM interface
Faxo Nightingale manual modem
+ cable BT18.70 PLUS Mini
Office II £179.00
Total price £138.50

If you don't have an interface
Mitsuba V92000 V91, V92 modem
+ Datanet interface + cable +
Datanet software
Total price £248.00

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

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

We have provided two possible options on the left.

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



More than 50 per cent of subscribers can connect to the MicroLink computer at local call rates.

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Name: _____

Address: _____

Postcode: _____

Send to: MicroLink, George House, Aylington Park, Aylington, Mansfield NG20 4HP

Birthday competition winners

BATY marked the third birthday of Atari User, an event which we celebrated with Atari and Tyresoft in a birthday competition with over 20 prizes.

The response was astounding, but the first correct answer out of the sack was from L. Clarke from Yardley Wood. He will soon be receiving an Atari XE Game System - 65XE console, light gun, joystick which comes with three games.

Runners-up prizes - copies of Tyresoft's superb Winter Olympics 86 - were won by: S. Newen, Warrley; M. Rodgers, Edinburgh; D. Middlemass, Waddon; S. Gregory, Hellingworth; D. Parker, Millfield; A. Dillon, Preston; M. Johnson, Bristol; D. Goldstone, Hutton; R. Redford, Colham; P. Gooding, Lowestoft; A. Chidgey, Wellington; S. Armstrong, Westfirth-on-Sea; S. Dickinson, Rosemole; S. Miles, St Austell and R. Thoney.

Third prize copies of Mixx Force go to: A. Limon, York; P. Brind, Bexley Heath; D. Barnfield, Tipson; P. Danzas, Knowle; K. Parrell, Swadincote; C. Gilchrist, Kings Norton; S. McDowley, Eglington; S. Green, Hornchurch; J. Barnett, Underwood; P. Fox, Broadstairs; M. Harris, Sheppoy; D. Harvill, Suditon; B. Jeffrey, Leigh-on-Sea; P. Fisher, Maldenhead and S. Forsyth, Wrothing.

A further 15 games - copies of Phantom - are on their way to: B. Arnold, Ebbwasi; G. Simpson, Harold; R. Hall, Crossgate; J. Felt, Maidstone; C. Smith, Welling; J. Kelly, Carlton; P. Deason, Dillingstone; S. Wood, Llanidloes; M. King, Drington; J. Willis, Haywards Heath; C. Swaddon, Rife; M. Jones, Farnham; T. Wyatt, Plymouth; M. Harrison, London and M. Helles, Tingley.



Focus on the VCS 2600

ATARI User will be ready for the massive boost to the entertainment scene that will be created by the revitalised VCS 2600.

The September issue will contain a comprehensive guide to the games world which took the computer industry by storm when it was originally introduced - and which has now sold

over 15 million units worldwide. And there will be a regular section in future issues devoted purely to new games coming out for the VCS 2600.

But first of all, Atari User reviewers will be ranking the best of the existing games that have helped sell more than 15

million ram cartridges to date. With Atari founding father Nolan Bushnell now writing for the machine, and leading UK supplier Palen Electronics promising no less than 18 new titles, the VCS 2600 looks set for a stunning return to the forefront of computer gaming.

And it will all be reflected in the pages of Atari User.

Swedes scuttle pirates

BRITISH software circles have welcomed a crackdown on games piracy in two Scandinavian countries as "a step in the right direction".

But in Europe, particularly in the Mediterranean countries, piracy of entertainment software remains rampant.

Several cases have recently been before the courts in Sweden and Denmark where an estimated 85 per cent of all games bought are pirated.

The prosecutions have been inspired by SUG, the Union of Software Distributors and Retailers active in Scandinavian countries. It has been investigating cases of piracy and putting pressure on governments to enforce the copyright laws.

Swedish computer maga-

zine editor Christian Mattsson says: "Piracy is being driven underground - people are starting to be nailed".

He estimates that Scandinavian sales of legitimate games - mostly imported from the US and UK - could increase threefold if the pirates are forced to curtail their activities.

The UK anti-piracy organisation, the Federation Against Software Theft (FAST), said the news from Scandinavia was most "heartening".

Bob Hay, FAST's co-ordinator of anti-piracy enforcement, told Atari User: "We warmly welcome the Scandinavian initiative and are in touch with SUG, offering whatever help we can."

However, entertainment

software piracy remains primarily a southern European problem - with Spain, Italy, Portugal and Greece the main concern.

"The situation is particularly worrying in Greece - the only EEC member country that doesn't even recognise copyright laws as a form of protection for computer software".

Anne Crossley, export sales manager for Mandarin Software - a major UK supplier of games to continental markets - said: "The Scandinavians have taken a step in the right direction, but the problem is so widespread in Europe it almost defies description."

"I've had Italian retailers tell me they won't even stock entertainment software any more because piracy is so rife in that country".

constant byte, set it to -1.

❖ **Check bytes should equal:** This is the value that the check bytes should be before any modifications are made to it during the game. If, however, you have to set the check byte to -1 set this to -1 so that the check will be ignored. ❖ **Byte base:** This is the first byte in the sector to be changed.

❖ **Next** you have to enter the number of bytes to be looked at in the sector. They can either be changed or skipped over, and this is done by the data which follows it. If a byte is set to -1 then the item is skipped over, but any number other than -1 will change the byte in the sector.

To clarify this rather complicated process let's take a look at line 2000 of the program:

```
2000 :S01 2,1,2,3,3,3,3,1,1,1,1,1
```

which can be explained as follows:

```
Sector to edit: 2
Check byte number: 1
Check byte: 55 - the ASCII for A
Byte base: 3
Number of bytes: 3
Data:
255 - change byte 0 to 255 (hex FF)
-1 - skip the 10th byte
-1 - skip the 11th byte
-1 - skip the 12th byte
255 - change byte 13 to 255 (hex FF)
```

If at this point you find yourself totally confused, don't worry, you can still use the program with the existing cheats. In the near future we will include more for you to enter.

The process of finding the correct sector to alter is a little involved and can take some getting used to but here

are a few general hints and tips.

Using a sector editor search for your character's name on the disc. You will usually find the values you want to edit very close to it - often in the same sector or at the most one or two either side.

Games programmers use several different methods of storing gear characteristics on discs. They can be in decimal, hex or low and high byte, and finding them is just a matter of trial and error. Once you have found them just run Cheat and away you go.

WARNING: Never make any modifications to a number disc. Always create a backup and please don't modify it if you already own an original disc. Software license won't replace it for you.

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2000 :S01 2,1,2,3,3,3,3,1,1,1,1,1
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2001 :S01 2,1,2,3,3,3,3,1,1,1,1,1
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AFTER reading the letter from John Upton in the October 1987 issue of *Star User* asking for information about astrology programs for the ill-fated Atari, and knowing from bitter experience how rare they are, I decided to write this program to calculate a necessary figure called the sidereal time.

We all have a birth time, but this is given as solar time, and is based on the Earth's rotation around the Sun.

However, the Sun is moving as well, so the stars and the zodiac appear to move a small distance westward each night.

The duration of the Earth's rotation with respect to the stars is about 23 minutes 56 seconds shorter every day. To attempt to standardize everything, astrologers use sidereal time, which is based on the movements of the planets relative to Earth.

When calculating a horoscope, tables known as Ephemeris are used. These are compiled by the *Astronomer Royal* and are based on sidereal time. So, if you want to produce a horoscope for yourself you have to change your birth time to sidereal time — not an easy task.

Many calculations are used to find the sidereal time and reference to various tables is required. However, this program only requires to know four things to work it out for you:

- Date of birth.
- Time of birth.
- Longitude of birth place in degrees.
- Direction of birth place — east or west.

The first thing you have to decide is whether your birth date falls inside British summer time (BST) — or double British summer time (DBST) during the years 1947 to 1947. Lines 100 to 220 sort this out.

This is achieved by converting your birth date to the number of days in that year — for example, February 7, 1958 will become 38 days (31 for January + 7 for February).

The program then uses a READ command in line 160 to find the two numbers for the year of birth and checks to see if the figure falls between them. For example, for 1958 the two numbers are 49 and 366 (February 18 to December 31). Our figure for the 7th — 39 — doesn't fall between them so BST doesn't apply.

This figure is then subtracted from the birth time — the routine between lines 230 to 280 does all this for you.

Next you have to find an Ephemeris

— the sidereal time for midnight on January 1 — in the year of your birth. This is always six hours and several minutes.

The final calculations

The extra minutes are found by lines 400 to 480. By referring back to our Ephemeris we would now have to add figures for the month (lines 490 to 550) and the day (lines 560 to 610).

Now we have to either add or subtract an allowance of four minutes for each degree of longitude East or West — lines 620 to 700 accomplish this.

Finally, you have to convert the minutes to hours. If this is over 24 hours you have to subtract 24 to give the sidereal time.

The program will calculate the BST for the years 1933 to 1977 only. Additional data may be added if required by converting the first date of BST and the last date of BST to the total days of the relevant year. For 1929 the dates were April 21 (111 days) and October 6 (270 days).

If these figures were entered at the beginning of the data statement in line 200 the dates covered would extend from 1929 to 1977.

However, remember to add one to your figures if it is a leap year and if your dates are after February 28.

The stars fortell

Calculate your astrological birth time for use in horoscopes.
DAVE BALL shows you how

Any alterations to the data statements will require a suitable attention to line 90 — which stops the program accepting a date it cannot deal with — and line 180, where Q is the year at the start of the data.

I have deliberately not limited the read statements in lines 190, 400, 490 and 560 to keep them within the amount of data, so that the program can be extended to other people's requirements with the minimum of alteration.

Open for expansion

In lines 450 to 490 the program contains the data for sidereal times from 1930 to the year 2000. So there is no need to alter or extend this if you alter the BST data.

The program leaves itself open for expansion, but it does do its job well and is accurate to plus or minus 30 seconds.

If it is beyond the scope of this article to explain how to draw up a horoscope using the sidereal time, but your local library will have books on the subject containing all the help you will need.

Autoload your Toolkit...

MICK RANDLE presents
a utility to enhance the
capabilities of the
Atari User utility



THERE was a utility program called Load'n'Run in the June 1988 issue of Atari User. It provided a quick and easy way to Autoran a Basic program from a Dos 2.5 disc via a machine code AUTORUNSYS file.

Dos only allows one Autoran file per disc, and this can sometimes cause problems. Although it is possible to combine two or more such files, it's very much a hit or miss affair and isn't recommended.

So where does that leave the owner of the Atari User Toolkit which is in itself an Autoran file? Wouldn't it be nice to be able to load Dos 2.5, install a ramdisk, load Toolkit and run a Basic menu program, all on power-up?

Well it can be done. A program as user friendly as Toolkit couldn't leave out such a useful feature. The necessary code is built into the program and all that is required is a key number in the right place to invoke the Autoran routine. This is where our short program comes in.

Type it in and use Get It Right II to check your work. All lines from 2000 onward were published as part of the Load'n'Run program last month. If you typed it in you can save yourself some work by listing those particular lines to disk by typing LIST "D:" 2000,3200.

Then type NEW and enter "D:" to transfer them back into memory and begin typing in this program. You can then save a copy of the complete program on disc before running it.

You will be prompted to insert a Toolkit master disc into drive one and press Return when ready.

Don't try to alter the Toolkit master disc — only use a Toolkit utility disc. Some error checking is built into the program but it is best not to tempt fate.

The program will then open an IOCB

channel to update the Toolkit file, use the POINT statement to position the file pointer to the correct position and write the key number to make Toolkit Autoran a program.

Every time you boot the disc in future this customised version of Toolkit will print a Ready screen message while it is loading and running the first Basic program it finds on the disc. The only stipulation is that the Basic program's filename must contain the .BAS extension.

The Load'n'Run program from the June issue offers a greater scope for creative introduction screens, where

as Toolkit offers a bare bones facility. Both approaches have their merits, so you have not wasted your time if you entered Load'n'Run.

Finally, a note of caution. Feel free to adapt the program for your own use, but remember that messing about with disc files using WRITE and POINT can be potentially disastrous. It's very easy to scramble a file, or even an entire disc, thus making it impossible for Dos to read it.

If you wish to experiment, do so on backup copies only. If you don't, and lose valuable programs, don't blame me or Atari User!

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Utility

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1 141 131	171 919 111	436 989 101
1 141 173	186 147 111	500 010 101
4 138 143	183 080 111	318 441 191
5 136 120	199 137 111	338 784 121
78 836 001	197 138 110	338 214 111
28 836 071	196 132 110	348 898 111
87 809 111	199 125 110	358 239 181
91 895 111	200 997 001	3697 104 111
91 878 111	218 480 001	3898 578 110
100 844 111	238 044 001	3999 148 101
101 846 111	257 017 101	2000 549 001
118 868 110	256 017 111	2018 791 101
111 870 111	259 017 110	2028 907 101
118 868 110	248 546 110	2038 230 101
125 877 110	238 824 110	1848 781 111
138 878 110	228 762 110	1911 124 111
148 880 111	238 762 110	1918 149 111
158 882 111	287 824 110	2000 149 111
168 884 111	298 824 110	2018 149 111
178 886 111	288 824 110	2018 149 111
188 888 111	278 824 110	2018 149 111
198 890 111	268 824 110	2018 149 111
208 892 111	258 824 110	2018 149 111
218 894 111	248 824 110	2018 149 111
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Locate that faulty heart...

LEN GOLDING continues his look at Atari Basic with another peek at the LOCATE command

MOST of the keyboard characters you need for drawing dragons, glass, terrain maps and other works of art are looked away in the lower case character set and getting at them is a bit difficult.

It's easy enough to flip between upper and lower case sets while you're in any of the new text modes. Use POKE 756,224 to select the lower case set and POKE 756,220 to return to upper case. But there's a snag. Try this:

```

10 PRINT "I"
20 POKE 756,224
  
```

What happens? The screen fills up with orange hearts. This could be the end of a beautiful friendship...

Actually, your computer is not to blame — it's simply following instructions to clear the screen by printing a space at every position. Unfortunately, when the lower-case set is selected, the space character turns into a heart.

There are two ways round this. The first is to make the hearts invisible by turning them to the same color as the background — SETCOLOR 2,0 will do the trick. The hearts are still there, but now you can't see them and any other orange characters will disappear too. However all the yellow, blue and violet characters — including hearts — remain available.

The second method is to modify the character set, replacing the heart with a blank space. Program 1 will perform the necessary cardiac surgery for you. It uses machine code, so just treat it as a block box routine which can easily be incorporated into your own Basic programs.

Line 60 is there simply for illustration — it lets you type numbers from 0 to 255 and prints the corresponding character on screen. It also keeps the communication channel open by preventing the program from ending in a real program of course, line 60 should be deleted.

After running Program 1 your charac-

```

1 DIM Program 1: GOTO 100
2 PRINT "I"
3 POKE 255,0
4 PRINT "CLEAR SCREEN"
5 POKE 255,0
6 POKE 255,0
7 POKE 255,0
8 POKE 255,0
9 POKE 255,0
10 POKE 255,0
11 POKE 255,0
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14 POKE 255,0
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54 POKE 255,0
55 POKE 255,0
56 POKE 255,0
57 POKE 255,0
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60 POKE 255,0
  
```

Program 1: Getting rid of the heart character

ter set will be completely heartless, but every other lower case character is available in any of the four colors. You can flip between upper and lower case character sets at any time — use POKE 756,224 to select upper case characters, or repeat the POKE call at line 60 to install the new lower case set. This can produce some intriguing effects on screen.

Now back to LOCATE, which you will certainly need for any Basic arcade games.

As you might have guessed, when the computer is in Graphic modes 1, 2, 17 or 18, the LOCATE command requires the letter/color code, not just an ASCII number. See Table 1 for more.

For example:

```

LOCATE 1,1
  
```

will store in 0 the letter/color code for the character which is currently residing at screen co-ordinates 0,0. If it's a yellow I symbol — a torpedo, maybe? 0 will take the value of one.

If you're using lower case letters and the character at 0,0 is a blue diamond, then 0 will contain 192.

You should have no great difficulty converting our previous joystick control routines for use with Graphic Modes 1 or 2. However, there are

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```

1 REM Program 2: Instructional screen
2 over a background
3 @DRAW=0:1000:8000:10:10:100:100
4 @XY=10:10:1000:10:1000:1000:1000:1000
5 @X=1000:8000:1000:1000:1000:1000
6 @Y=1000:1000:1000:1000:1000:1000
7 @X=1000:8000:1000:1000:1000:1000
8 @Y=1000:1000:1000:1000:1000:1000
9 @X=1000:8000:1000:1000:1000:1000
10 @Y=1000:1000:1000:1000:1000:1000
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95 @X=1000:8000:1000:1000:1000:1000
96 @Y=1000:1000:1000:1000:1000:1000
97 @X=1000:8000:1000:1000:1000:1000
98 @Y=1000:1000:1000:1000:1000:1000
99 @X=1000:8000:1000:1000:1000:1000
100 @Y=1000:1000:1000:1000:1000:1000

```

Program 2: Instructional movement over a background.

other ways of programming joystick-controlled movement.

Program 3 shows one of the shortest possible routines, using a system known as Boolean logic. Lines 48 and 58 perform all the joystick reading, boundary checking and position updating functions, in a fraction of the space required by conventional BASIC.

We'll explain Boolean techniques in detail at a later date. For now, just treat the routine as a useful building block, without worrying about how it

works. The screen boundaries — XMAX, XMIN, YMAX, YMIN — are set at line 20, and will need changing if you want to use a different graphics mode.

The moving character's initial position depends upon the values of X and Y, again at line 20. This routine is a little slower than our previous ones, but the reduction in program length and complexity is worth a small sacrifice in speed.

To round things off, Program 41 shows all the new techniques in action. It provides the framework for a game based on the specifications we suggested previously. You use the joystick to fly an aircraft around the screen, dropping invisible bombs on various objects.

Although it's very simple and hasn't much play value as it stands, the program illustrates many of the features found in real arcade games. It uses sound, colour and movement with successful hits removing the target from the screen. The number of minutes is limited and the program has a built-in scoring system. If working also, it will serve as a useful example when you come to write your own games.

Next month we'll show you how to produce a different playfield every time using random numbers — and how to make your targets smile back.

```

1 REM PROGRAM 3: Simple search and
2 1000:8000:1000:1000:1000:1000
3 @XY=10:10:1000:10:1000:1000:1000:1000
4 @X=1000:8000:1000:1000:1000:1000
5 @Y=1000:1000:1000:1000:1000:1000
6 @X=1000:8000:1000:1000:1000:1000
7 @Y=1000:1000:1000:1000:1000:1000
8 @X=1000:8000:1000:1000:1000:1000
9 @Y=1000:1000:1000:1000:1000:1000
10 @X=1000:8000:1000:1000:1000:1000
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16 @X=1000:8000:1000:1000:1000:1000
17 @Y=1000:1000:1000:1000:1000:1000
18 @X=1000:8000:1000:1000:1000:1000
19 @Y=1000:1000:1000:1000:1000:1000
20 XMAX=8000:YMAX=1000:XMIN=0:YMIN=0
21 @X=1000:8000:1000:1000:1000:1000
22 @Y=1000:1000:1000:1000:1000:1000
23 @X=1000:8000:1000:1000:1000:1000
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96 @Y=1000:1000:1000:1000:1000:1000
97 @X=1000:8000:1000:1000:1000:1000
98 @Y=1000:1000:1000:1000:1000:1000
99 @X=1000:8000:1000:1000:1000:1000
100 @Y=1000:1000:1000:1000:1000:1000

```

Program 3: Simple search and display game.

IAN SHARPE tests out the latest joysticks

THERE is a bewildering array of joysticks on the market, and often you don't get a chance to test your choice before parting with your money. To help you decide we've been putting a collection of killing machines through their paces.

It would be impossible to test every joystick available, so we picked a representative sample. I don't know if we were particularly lucky with our selection, or whether standards have improved a lot recently, but none of the sticks could be described as really bad.

The first thing to emerge was that joysticks are a very personal thing. We all agreed that some were good, but there were others that one person liked but another didn't. So to get a broad opinion our testers took part, all comments are a consensus, and ratings have been averaged.

Table 1 gives our order of preference, regardless of price. The order is based on personal choice after extensive play testing. This is a highly subjective assessment, so in an attempt to be a bit more scientific we devised some programs to put a figure on aspects of performance. The first two measured how many times we could press the fire button or wiggle the stick in 10 seconds. The third test recorded how precisely we could control a moving cursor to trace the path of a wavy line.

Test results

Surprisingly the test results didn't bear much relation to personal preference. We think this is due to the fact that the sticks which performed better had greater potential than is required in most games. Also, when playing, a lot depends on comfort and feel, though how you quantify that we don't know.

Another possible reason is that when performing a test the tendency is to concentrate on the stick, whereas in a game you concentrate on the screen and your joystick control becomes less self-conscious.

Some sticks come in two versions, with and without autofire. All are operated by either leaf switch or microswitch. There is another type of switch found in joysticks, the sort that looks like a metal bubble. These were quite common at one time, but they are not very robust and none of the sticks had this type fitted.

The leaf variety is a piece of spring steel pushed against a contact, while



micro switches are a proper self-contained switch unit. In general micro switches are more expensive, last longer, and give better feel.

Long term durability is hard to test. Common sense says that a steel-shafted microswitch joystick should last longer than an all-plastic leaf switch one, but in our experience unless you give a stick rough treatment this only shows up after a very

Choose your



long period of use, by which time advances in design might make you want to upgrade anyway.

Of course your final choice would be modified by how much money you want to spend, whether you prefer a hand-held or tabletop model, and your liking for the ball-on-a-stick type or those with a moulded grip.

Arm Deft

Angular styling and gear-lever type shaft distinguish Arm's offering. A rubber bush around the shaft provides just the right amount of resistance and springiness. Precision is very good, and the overall feel is very smooth.

our weapon



Kovik Speedking

This is purely a hand-held device which has been carefully designed to fit your hand. The action is fairly short travel and very precise. You are forced by the shape to hold the base in your left hand, and move the stick with your right. It's a pity a left-hand version isn't available.

The only other quibble is that for

some people the base unit is a little on the large side, and the unaccustomed position of the fire button might make your hand ache slightly at first. However after a couple of days you'll find your grip strengthening, and the Speedking then becomes a very efficient tool indeed.

We were very surprised it didn't do better in the speed and precision tests because we got some impressive scores with it.

Competition Pro Extra

We didn't have to take this one apart to look at the construction because it's got a very see-through case. It is very like the Euramax Professional except for a rubber bung round the stick to give better response.

The one complaint with the review model was that if pushed hard against the stop, the stick squeaks against the

switch casing. Perhaps the switches aren't mounted with total rigidity, but having used this stick for several months it hasn't given any reliability problems.

Euramax Professional

At first this one seems unremarkable, but we all turned in some respectable scores with it. Perhaps it's the full-

mark of a good design that you don't have to pay much attention to the stick when you first use it. Of all the models on test, this one felt the most robust, though we can't say if the impression would be borne out after a lot of use.

Cheetah Mach 1+

It's hard to define quite why this one feels right. Fundamentally the design is the same as many other sticks, but unlike many what happens on the screen matches what you are doing with your hand. We were never left puzzling why the sprite went one way when we meant it to go another. An excellent weapon.

Cruiser

Apart from not being coloured black and red, Cruiser's claim to fame is an adjustable collar allowing three stiffness settings. Like the Competition Pro, we found it had a nice firm precise feel and managed some good scores with it. It needs to be fixed to a surface for best results and doesn't make any concessions to hand holding.

Euramax Elite

The unusual shape fitted some hands well while others found it not to their taste. In play the Elite feels quite good and we've had one knocking about in the office for the past year. It is used regularly and has stood up to some heavy punishment.

Cheetah Special

Something of a contradiction, this one. Cheetah bills it as a breakthrough in joystick technology. As well as the normal rotation and fire controls, the stick can rotate slightly. Inside is an extra pair of switches which respond to the rotation. For this to work you need a two-joystick adapter to take the second plug.

You also need a game that is specially written to take advantage of the feature (we don't know of any) or at least has definable keys. Unless this idea catches on in a big way we can't see software houses writing games so

JOYSTICKS

From Page 18

that they aren't playable without this type of stick.

The contradiction is that for a joystick being billed as a break-through there isn't a microswitch in sight. In all other respects it feels like Chestah's 125+, so you've got to decide whether the twist feature outweighs the otherwise average performance.

Chestah 125+



A basic twist switch joystick with working axes/line suitable for hand or tabletop. The action is not bad, but put alongside some of the microswitch models it seems a bit limp. If we hadn't tried it alongside other sticks, the 125+ would have made more of an impression. As far as scores went, we were no worse off with this one, and given that it's cheaper than all the rest it probably the best value for money.

Phazor One



On the face of it the pistol style is a good idea, and holding it in your hand before testing a game it feels good. However, after 10 minutes in action we found that the fire button is not well placed for repeated use and we all got sore hands. Eventually your hand might strengthen sufficiently to compensate, but this still leaves another problem: We found that the narrowness of the grip made it easy for the stick to twist slightly in the hand and it was difficult to judge exactly which direction we were piling the stick. This often led to the on-screen movement being not what we expected.

Terminator



Shaped like a hand grenade, the fire button is a metal strip bearing on a button set in the casing. The stick is a relatively thin metal rod. After the initial bluntness on its appearance had died down, one person really liked it while the other three gave it the thumbs down. Overall it doesn't feel as good as more conventional sticks, and it is not easy to play well with. Taking into account the price, this is the only one of the bunch we'd definitely avoid.

TEST RESULTS

	Stick speed	Fire speed	Precision	Price	Autofire	Stick type	Joystick type
Konic Speaking	120	40	40	£11.99	N	Stick	M
Chestah Mach 1+	120	40	41	£14.99	F	Stick	M+L
Ham Delta	142	80	34	£5.99	F	Stick	M
Competition Pro Extra	120	63	65	£10.99	F	Stick	M
Cruxor	120	60	40	£9.99	N	Stick	M
Eurocom Professional	120	60	50	£15.99	N	Stick	M
Baronix Elite	140	67	61	£19.99	N	Stick	M
Chestah 125 Special	142	47	51	£19.99	F	Stick	L
Chestah 126+	120	47	41	£8.99	F	Stick	L
Phazor One	120	40	44	£12.99	N	Stick	M
Terminator	120	47	40	£14.99	N	Stick	M

Table 1. Joysticks in order of preference

M = Microswitch L = Leafswitch

CONTACTS

Konic Speaking

Konic Computer Products, Units 13/14, Sirhowy Hill Industrial Estate, Tredegar, Gwent NP23 6LE. Tel: 0486 382191

Chestah 125+, 125 Special, Mach 1+

Chestah Marketing, Railway House, Railway St., Paternoster, Cardiff CF2 3AS. Tel: 01222 556625

Ham Delta

Ham Electronics (Ham), Units 21/21B, Redlands Industrial Park, Redford Lane, Church Crookham, Hampshire GU13 0RH. Tel: 0703 886950/1

Competition Pro Extra

Eurocom Marketing, Coin House, Coin St., Ruston, Deltam OLP 6UE. Tel: 061-626 1200

Cruxor

Cruxorsoft (Pleasant), Unit 2, Southborough And Trading Estate, Northampton NN6 8UN. Tel: 0302 605647

Baronix Elite and Professional

Baronix Electronics, Perford Lane, Studdings, North Humberdale YO19 5AN. Tel: 01924 602940

Phazor One

Baronix Software, Unit M25, Cardiff Workshops, Llynfi Rd., Cardiff CF1 1BB. Tel: 01222 481125

Terminator

Relect, Unit 4, Inverloch Business Complex, St Johns Rd., Inverloch, Middlesbrough TS1 5AL. Tel: 01647 44507

CONCLUSION

Terminator and Phazor One shouldn't be dismissed out of hand because they might suit some people, but do make sure you spend 10 minutes with them before stubbing your puppy back in the back.

The Chestah 125+ is well worth considering if money is tight. It has a very light action and can't quite match the feel of microswitch models, but it's cheap, has a working autofire, and is certainly competent.

Whether it's worth paying extra for the Special feels less clear. For the same price you could keep one of the microswitch models. Baronix Elite

and Professional, and Cruxor are good reliable pieces of kit, and you won't be disappointed with them. We thought the Competition Pro had a slight edge, but there isn't much in it and you might think differently. The Ham Delta was that bit better again.

For us, though, Chestah Mach 1+ and Konic Speaking were top of the heap. The choice is down to your preferred type, and how important autofire is to you.

Such is the difference in personal opinion over joysticks, we think it is vital that you try your choice before parting with any money.

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Prints and includes the Atari special characters on an Epson printer.

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Gives the name of all used variables and a list of all their occurrences.

£5.95 tape
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TO ORDER PLEASE USE THE FORM ON PAGE 53

And boldly go where no man...

Take a trip around the milky way with NEIL FAWCETT as he evaluates an astronomy program for your 8 bit Atari

THE Atari Planetarium is an educational package designed to bring the wonders of the cosmos into your own front room - or at least your computer room.

For £29.99 you get one 5.25in disc and a comprehensive 119 page instruction manual. After tearing up the disc - remember to hold down Start while switching on and remove all cartridges from older machines - you will be thrust into the main viewing screen.

Study it for a few minutes, and when you fail to understand what it all means this might be a good time to read the manual.

The first section details what the program can do - which is display the locations of more than 1,200 stars, 66 constellations, more than 300 deep sky objects and Halley's Comet during its 1985-86 appearance.

A special Help function will identify any displayed object for you on a status line which scrolls along the bottom of the screen.

The ability to accelerate time allows you to view cosmic events in minutes rather than hundreds of years. You can also view the position of star fields 10,000 years in the past or future. And if you have a printer you can make a permanent record of any screen display you create.

The section on loading the main program is very well written and makes it impossible for you to go wrong. When loaded, the program defaults to Washington D.C. on January 1, 1985. But since it may not be New Year's Day and you don't

Turn to Page 26 in



The loading screen



You can go on a guided tour of the universe.



A view of the Earth in map mode.

4 From Page 23

happen to live in Washington you'll want to change the default settings. Because the program has to be very precise when calculating event objects you must enter the latitude and longitude of your present location—found via the Planetarium's built-in map of the earth. Just move the cursor to where you think you live and press Return.

Then you enter the correct time and date of the day you wish to view. Again, this simple task is well explained in the manual.

Now the program has all the rele-

vant user information it will calculate the positions of the sun, moon, planets and stars.

Four screen modes are used—Sky, Map, Set and Chart—accessed by highlighting the one you want in the data window to the right of the screen.

Once you have become accustomed to the commands and viewing modes you can move on to a guided tour of the universe. It starts off with a history of few ancient civilizations based religions on the stars and goes on to explain Earth's orbit around the Sun, celestial and eclipse spheres and many other astronomical subjects.

The program can simulate just

about any specific event you would want to watch. If you wish to see how the stars looked when Copernicus viewed an almost total eclipse on June 21, 1499 BC just key in the date and location and up it comes.

There is even a section dealing with the art of navigating using the Sun and Stars, which was developed by ancient mariners.

Print out an easy and Planetarium works with the Atari XBM501 printer or any Epson-compatible.

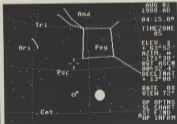
It was here I found the only error in the manual. It states that you have to press Control+P for an Epson and Shift+P for the XBM501. Don't, it's the opposite way round.

Dumps usually take around five minutes to complete and come out around A4 size.

The back of the manual houses numerous tables, future astronomical events, mathematical equations and places all over the world to experiment with. Did you know that there are 8,480,721,786,000 km in one light year? Neither did I.

The Atari Planetarium is easy to use and user-friendly. An excellent manual, plenty of on-screen prompts and a multitude of examples make traversing the universe very simple.

Even though £29.99 seems a hefty price tag it isn't. Programs written for the ST at the same technical level retail for nearly £80. So, if you buy one for your Atari it bit you'll save £56.



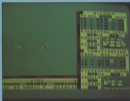
Dumps usually take about five minutes to complete.

Product: The Atari Planetarium
 Price: £29.99 (Suggested)
 Supplier: Atari World, 17 Parnell Street,
 Manchester M2 3JL
 Tel: 061-624 4547

Software

SCENE

Fight old battles again



All naval combat is displayed in colour.



You can get your ships to cut them down.

Product: Broadside
Price: £19.95 (retail)
Supplier: SSSI Ltd, Data Links
 20 Marlborough Way, Moulton,
 Birmingham B3 7AS
 Tel: 021-266 2388

“Bear to quarters!
 Run out the guns
 and clear for action!”

THESE are the commands issued by many a sea captain in the 18th century as his ship came under attack from an enemy vessel.

Now SSI gives you the opportunity to take command of some of the most famous of these ships and recreate historical sea battles of old.

Designed for two-player or solo mode, your vessels must be rigged, manned and armed just like the real thing. And they handle in the wind exactly the same as you would expect from one of the great wooden warships of yesteryear.

Due to its size and

complexity Broadside is also only loading in straightforward. Remove all cartridges from older Atari micros, or hold down the Option key on newer models. Then switch on, remembering to place your disc in drive one.

After the loading sequence—which is accompanied by a superb high-resolution picture of a warship—the options screen is displayed.

You can choose whether you want to use a joystick or the keyboard, the skill level of the gameplay or whether you want to play an arcade or tactical simulation.

The first offers a faster and more exciting game with fewer decisions to make. Those preferring a more thoughtful version should opt for tactical. This allows you much more control over the proceedings—but it can get complicated.

There is also the choice of a naval battle or a reconstruction of a boarding party. I found this a very

useful option when I found myself tiring of watching ships float around the screen.

A number of famous ships have been faithfully recreated and saved on to your data disc, but if you tire of them you can always create your own. I recommend you read the player's manual fully before attempting to do so—it can get little involved.

All naval combat is displayed on a colour, high-resolution graphics screen which depicts speeded up sequences of the action.

A clever feature of this display is that when your ships get closer together, the on-screen size increases proportionately, giving a very realistic feel to the proceedings.

When you opt to board another vessel another animated graphics sequence is used. In this you can make your men charge your enemies or you can get your sharpshooters to cut them down with a hail of gunfire.

Sound is put to good use

throughout the game and is sea shanty is played at the end of a session.

Whenever an encounter is played—slightly out of tune.

Luckily SSI has done its usual best within the documentation and included a number of easy look-up tables. At a quick glance you can get a rough idea as to which commands and keys do what. Very useful.

The player's manual is a mine of information and is produced with the usual classy style we have all grown to expect from the master of strategy games on the Atari micros.

Overall Broadside is one of the best simulations from SSI and is a pleasure to play.

Mark Austin

Sound	5
Graphics	5
Documentation	5
Complexity	5
Value for money	5
Overall	5

Software

SCENE

Battleground Europe

Product: *Battleground Europe*
Price: £79.99 (inc. tax)
Supplier: Strategic Simulations
 20 Millers Way, Holford,
 Birmingham B3 9JX
 Tel: 021 359 1099

SSI has come up with yet another warlike simulation. This time you have an opportunity of controlling some of the most powerful modern military hardware ever built.

The scenario for the combat is a hypothetical war between the Nato forces and the Soviet Union.

As with all SSI games, you are greeted with a menu screen from which you must enter a number of variables that affect the coming battle.

Available only on Disc, the game can be loaded 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 your options and away you go. I found it great fun to let

the computer randomly generate its own map, as this adds a dimension of the unknown.

Your commands to the squadrons of vehicles are entered via a status window at the bottom of the screen. The action is split into several phases. However, you will have to read the manual carefully before you can understand their operation fully.

The full colour map display used is composed of a 68 by 40 grid, of which 20 by 18 squares may be viewed at one time. By pressing keys 1 to 8 you can move your cursor around the map. If the cursor is moved off the edge of the display the map will scroll to reveal the hidden portions.

When you play an assault type battle — selected from the options menu — the map is reduced in size to a 30 by 20 grid.

You are provided with a quick reference chart to help you identify the terrain and units on the map. I found it



useful to place sticky backed plastic around it to stop it getting dog-eared after constant use.

In the middle of the booklet is a section detailing interesting facts about a number of armoured vehicles from both sides.

Not only can you control all the ground vehicles but helicopters and infantry can also be deployed.

Basically you have every form of weapon of destruction at your fingertips.

Several historical scenarios are included on your main disc and it is very interesting to play.

Overall an excellent simulation from the experts in wargames on the Atari.

Dave Manning

Sound	9/10
Graphics	8
Documentation	7
Playability	7
Value for money	8
Overall	8

Call for double vision

Product: *Tarion*
Price: £79.99 (inc. tax)
Supplier: Atari Works, 15
 Farnell Street, Man-
 chester.
 Tel: 061 434 4941

It has been six years since you took on the alien armada single-handedly in an attempt to save the universe. You managed to destroy their asteroid bases and launch the motherships into expanding clouds of vapour.

You ride certain valuable pieces of hardware for your trusty old ship and retired to the planet Slos — which is inhabited by small furry

animals — to spend your last few years playing sport simulations and arcade games.

But you have become restless and yearn for the thrill of battle against incredible odds — you must be stupid. But guess what? — the Intergalactic Federation needs your help in saving the universe — again!

The enemy — unspecified by the cassette inlay — has captured the second most strategically important planet: this side of the Sannivograd Rift.

You have to fly your super-speed Quarkid class stealth fighter over the

surface of the planet and destroy as many of the enemy ships as you can.

Not a very original storyline perhaps, but the actual game has had a little more thought put into it.

The action takes place on two screens which show plan and side-on views of your ship simultaneously. By watching both screens and controlling the ship that appears in each, you negotiate a tricky route through all the levels.

All movement is executed via the joystick plugged into port one. Controlling both ships takes some getting used to because up and

down move one while left and right move the other.

Two excellent pieces of music have been written for the game and the sound effects are of a high standard.

The game is very playable and great fun. The perspective caused me some confusion at times and there were several occasions when I wasn't sure which collision wiped me out.

John Batters

Sound	7
Graphics	7
Documentation	8
Value for money	7
Overall	7

Burning rubber

Producer: American Road Race
Price: £199 (paper)
Distributor: Atari World 15
 Palace Street, Manchester
Tel: 061-626-6261

OVER the last few months several classic games have been re-released as budget titles. Now from Firebird comes American Road Race, formerly an Atarisision full-price car game which I believe was originally called The Great American Cross-Country Road Race.

You drive a very fast sports car across North America in one of four races - which you select when the game loads.

On offer are Los Angeles to New York, Seattle to Miami, San Francisco to Washington or the US tour. In the latter you race through every city marked on the map.

Once the route has been selected the map screen will appear and you have to check road and weather conditions and set your time of departure.

Watch out for police

speed traps, night driving, bad weather, collisions with other drivers and a multitude of other obstacles placed in your path. My major problem was over-revving the engine and blowing it up.

The joystick controls take a little getting used to. By pressing the fire button and moving the joystick several variations on movement and changing gear come into play.

You must also make sure you refuel your car at regular intervals. Gas pumps appear every 100 miles, and all you have to do is stop next to one and wait.

If you run out of fuel don't worry too much. A gas pump will appear sooner than the normal 100 miles.

The gameplay is all right, but I wouldn't class it as one of the most addictive games I have ever played. The car's movement reminded me of a game I bought several years ago called Baja Buggies - which was adequate but not brilliant.

Sound effects are not stimulating, but again I can't really criticise them because a car engine can only really sound like a car engine. The



police car's siren was a random noise that got on my nerves very quickly.

The feature I liked the most appeared with the credits. A car zooms on from the left of the screen creating a massive dust cloud which clears to reveal another set of credits.

As a budget game, Road Race offers excellent value

for money if you are new to Atari computers and don't already own a number of car racing games.

Pam Williams

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



Slow down for the curves...

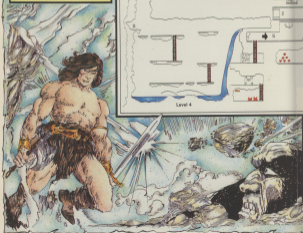


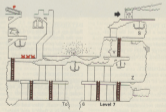
...speed up on the straight

CONAN THE BARBARIAN

By Bryan Stevens

See also Hints and Tips on Page 45
for further information and solution





Key

-  Start of level
-  Jewel
-  Holder
-  Direction of movement
-  Transporter
-  Key to door

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Driven to madness...

ANDRÉ WILLEY takes a look at the long-awaited XF-551 disc drive

FOR some time now it has been almost impossible to beg, borrow or steal – let alone buy – a disc drive of any sort to plug into an 8 bit Atari release. This has left many new XT system owners wondering whether they made the right decision in buying Atari.

Fortunately this is about to change with the arrival of the new XF-551 floppy disc drive from Atari. The very fact that it is available at all bodes well for the survival of a thriving 8 bit market, but it's even more exciting when you take a closer look at the specifications.

Outwardly the XF-551 is a sleek grey unit, similar in size to an old 1080 drive, but matching perfectly the colouring and styling of the XT system. As always there is yet another external power supply to clutter up your desk, but that's a problem users normally learn to live with.

Inside the casing is a very much more powerful engine than the old faithful 1080s we have come to know and love. Not only is the new drive capable of operating in true double density – the 1080s made previously available only with a US Doubler chip installed – but there is also a completely new format available: Double sided, double density. This new mode automatically gives 180k on each side of a floppy, a grand total

of 360k on each 5.25in disc.

Of course there's always a catch – and in this case it's that good old Dos 2.0 wasn't designed to be able to access more than 128k of data, so you'll have to switch to a new Dos to get the most from the drive. Despite this, XF-551s have been shipping in the States for some time now, packed with Dos 2.0 and a very comprehensive Dos 2.0/1080 instruction manual.

This gives a step-by-step guide to using Dos 2.0 and is packed with sample programs – which is rather ironic as we have been waiting two years for such a manual and so soon as it becomes available it is obsolete.

Atari UK has decided to hold shipment of the drives until its brand new Dos XT is complete, and it is this which has been holding up delivery for so long. I was lucky enough to obtain a great preview copy of Dos-XT, and while it performs its tasks admirably, I do have a few reservations about its ease of use.

In order to pack everything in, Dos-XT uses a bank-switching technique to store large parts of its code underneath the operating system rom – which unfortunately means that it won't work with old 480 or 680 releases.

The advantage is that, once it's loaded, you won't need to re-insert the Dos master disc because everything you'll need is already waiting in

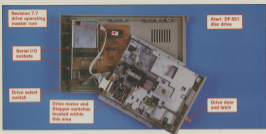
memory. When you load up Dos-XT without Basic you are greeted with three menu options: File access, Machine language access or System function.

If you have come from Basic – or some other language cartridge – you will also see an Exit to Basic or Exit to Cartridge option on this screen. Pressing Escape at any time will return you to this top level menu, which is quite handy.

Each of the three sub-menus may be accessed by pressing the highlighted first letter and hitting Return, although why the much more elegant single-key entry mode was not employed completely baffles me. Each menu covers a specific area of a disc user's requirements, basically to avoid cluttering up a single screen with too much information.

All three menus allow you to get a list of the files on a disc, plus the option of setting or changing the current working directory. This step is necessary because Dos-XT is capable of using sub-directories – or folders as they are known on the ST – to help you use your 360k of disc space more efficiently. These are single entries on a file listing, but may contain many more files or even other sub-directories. For example, the way of

Turn to Page 32 ▶



From Page 27

saying that the program `BOOGS.BAS` is stored inside the sub-directory called `MYPROGS` on the drive one would be to use the path:

```
D:\MYPROGS\BOO1.BAS
```

In fact, `DOS-XE` is quite flexible in its use of directories, and you could use `D1:\MYPROGS` or `D1:\MYPROPDS` or even just `:\MYPROGS`.

If you had already selected the current working directory as `D1:\MYPROGS` then all you need to type to access the file would be its name, `BOO1.BAS`.

The three menus are laid out as shown in Figures 1, 2 and 3 and provide every feature that was available on `DOS 2.0` — plus quite a few extras. Probably the most notable is the facility to initialise the disc in any one of four formats: 819 mode, 1056

mode, `XP-561` mode or single sided double density (SDD), giving 656, 1304, 3556 and 1828 respectively on each disc.

`Dos 2.0` or `2.5` discs may be used if you first select the Allow `Dos 2.x` Access option for a given drive. Then you may use `A:filename` to refer to this disc. I'd have preferred it to be automatic as with `SpartaDos`, but it's certainly better than nothing. It is only possible to use one disc at a time in `Dos 2` mode — preventing you from copying between two `Dos 2.5` discs, for example.

While it's impractical to go into all the extra menu items, the most interesting are the availability of date stamping on files, the Display and Change memory options on the Machine language menu and the facility to run batch files.

Batch files allow you to execute a number of more commands which you have previously stored in a file

and they are a powerful way to automate often repeated tasks. There is a batch facility available from the menu system too, which enables you to enter the various commands and parameters on one line without waiting for all the prompts to appear.

For example, to access the files menu and send a directory of drive two to the printer you could type:

```
FILEMENU FILELISTING DRIVE P1
```

or even abbreviate the command to:

```
F L D P1
```

Unfortunately this technique is hampered by the time-wasting necessity of watching all the interim menus re-drawing themselves painfully slowly before the command can execute. Perhaps the final version will allow batch commands to go straight to the relevant item without displaying the menus.

On the whole a quite possible `Dos`, but not without its faults. Weighed against the advantages of better menus, sub-directories and the extra density modes are the facts that the menu system is too slow and laborious. Also too much emphasis is made of the Start, Select and Option keys — leaving cluttered, confusing and messy screens. Why not use a simple and far more meaningful Yes or No system rather than Push Start to Continue, Push Select to stop now which serves only to confuse both new and existing users?

Overall the `XP-561` drive itself performs very well indeed — significantly faster than a 1056 in many cases — and is generally pretty quiet in operation. I



Figure 2: File system menu



Figure 8: Machine language access menu

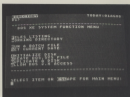


Figure 9: System function menu

suppose it would have been nice to have a power light as well as a busy light, but otherwise I've no complaints other than a slightly excessive price tag.

As far as Dos-XE goes, however, my own preference is still for HD's excellent and far superior SpartaDos,

already quite capable of working in all four densities, its support of Dos 2.x files is automatic – just put one into the drive and SpartaDos will recognise and handle it accordingly.

Also I much prefer using a command processor to Dos-XE's rather peculiar batch-processing

menu system – but of course SpartaDos does have a very powerful menu too, so the choice is always there if you happen to prefer menus.

★ Let's hope that the final release of Dos-XE might clear up some of these color problems and leave us with a new standard for the storage to go with an excellent new drive. Until then, my advice to those considering moving up from cassette is to go out and buy an XF-551 at once – but you might find that you prefer to use it with SpartaDos.

Density	Total Bytes	XF-551 time	1080 time
Single density	32,768	29.5	30.9
Enhanced density	32,768	29.5	31.2
Double sided	65,536	49.5	n/a

256 sectors of data transfer (read or write)

Disk density	Dos 2.0 XF-551	SpartaDos XF-551	Dos-XE XF-551	Dos-XE 1080
Single	27.2	25.7	27.1	24.5
Enhanced density	27.4	25.6	27.3	25.5
Double density	n/a	26.3	27.0	25.1
Double sided	n/a	49.8	52.3	n/a

Format times (seconds)

Density of test disk	Dos 2.0 XF-551 (10000)	SpartaDos XF-551	Dos-XE XF-551	Dos-XE 1080
Single/enhanced	18.8	17.9	25.3	27.5
Double/double sided	n/a	19.3	22.3	23.0

Boot-up times (seconds)

Drive type/Density	Dos 2.0	SpartaDos	Dos-XE
1080 Single density	22.5	22.5	24.9 *
XF-551 Single density	19.9	20.4	23.0 *
XF-551 Double density	n/a	17.3	48.4 *
XF-551 Double sided	n/a	17.3	42.6 *

Drive strings: Open file, write 20,000 bytes, close file

Drive type/Density	Dos 2.0	SpartaDos	Dos-XE
1080 Single density	30.3	29.0	27.0
XF-551 Single density	18.6	18.0	19.3
XF-551 Double density	n/a	15.2	16.2
XF-551 Double sided	n/a	15.2	16.4

Drive strings: Open file, read 20,000 bytes, close file

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Problem the size of a planet...

THEM once again to free last month's captured Orcs - they do nothing on a day if they don't get fed seven times a day on the dot - put aside the trusty broadsword and battle-scared shield, turn up the wick on the old brass lamp and get down to relaxing with some of your recent correspondence.

Jon Ward is having problems with High-Kier's Guide to the Galaxy. He rates it as his favourite adventure in his personal top ten although as he hasn't got very far, I wonder if he will still hold to that view when he's finished. I guess he will, since H4G3 gets better and better and in my opinion also, is one of the best adventures ever.

Having spent ages working out how to get past the two bulldozers without being hit on the head by a brick, Jon reached the pit. Then after drinking three pints of beer he arrived at the point where the Vogan ships come to destroy the planet. Fand stopped a device at his feet but having pressed

by
Rouloc



the green button - the correct action - Jon is now stranded in the dark room.

He can't see, hear, or feel anything and wants to know what on Earth - or, because Earth has been destroyed,

what in space - to do next.

Well Jon, a lot of adventures have been caught by this one. What you

HINTS AND TIPS

Ultima IV

- To get a ship into Looch Lake sail into a whirlpool.
- The Rune of Compassion lies at the end of a passage in Britannia.
- The Rune of Spirituality is in the Hidden Treasure Chamber in Britannia Castle, under a chest. To

List of Mantras

Amor - AMM
Compassion - MMU
Justice - MMU
Harmony - MMU
Peace - MMU
Spirituality - MMU
War - MMU

locate the chamber, peer at a gem. When you have found the pit of the chamber, walk straight into the wall which will then give way.

- The Gate Spell requires oak, pearl and mandrakes.
- The secret entrance to Mythloch is at the foot of Britannia Castle.
- You will need the balloon to get the white stone on top of the Serpent's Spine ridge.
- The eighth member of the party is a shapeless creature called Karkina living in Magincia. When standing outside the tower, do not cross the bridge but go south to find her.

Goal of Thrones

- Go to the hot house to get rid of the snake.

Use the skeleton's finger to open the sarcophagus.

● To get the pearls from the wax, hold the mirror in the beam and reflect it on to the wax. Then catch the pearls as it falls.

● To use the scabbard, put the eye, skin, head, berries and color in it and open the scabbard.

● To get above the thin shaft, slip in the sand to find the boots. Then wear them and make sure you've got a lamp.

● How do you get the honey from the beehive? It's impossible.

● To deal with the spider, open the jar in the stable to attract some flies.

Close the jar and leave three jars at the spider.

4 From Page 27

should do when you first reach the dark room is read the description very carefully. Type WAIT a few times, and you will notice a subtle difference in the text – suddenly one of your senses is not mentioned.

So in this particular instance try typing SMELL. The DARK after the text has changed. The same principle applies whenever you again find yourself in this dark room as you surely will – just watch for changes in text.

Christopher Beard of Newthorpe,

North, wonders if Infocom has finished with the 8 bit Atari as no new adventures from that company have appeared for a while. Well, I'm afraid it does begin to look a bit that way. Christopher – most of the latest Infocom adventures have been converted for the Atari 8 bit format, as far as I know. If they have, Infocom is keeping awfully quiet about it.

But all is not gloom and doom – three exciting others for Rainbow, which has picked up the mantle and has not forgotten we Atari adventurers. Rainbow has followed up the excellent Guild of Thieves with the

even funnier Jinxer, one of the best you'll see on your machine. It's out on disc now. Make sure you don't miss it or you'll look pleased!

My thanks to C.H. Seymour of Liverpool and B.H. Standing of Port Talbot who have supplied much help with Ulthra. Well done, faithful adventurers.

I shall put your guidance to good use, starting with this issue. In addition, I hope the tips on Guild of Thieves let many of you who have requested them make further progress with this superb adventure. Until next month, have fun.

JON WARD'S RAVES

- 1 Hitch-Hiker's Guide to the Galaxy
- 2 Starfall
- 3 The Play Off
- 4 Jinxer
- 5 Lurking Horror
- 6 Red Moon
- 7 The Pawn
- 8 Warm in Paradise
- 9 Lords of Time
- 10 Guild of Thieves



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Turn to page 53 to take advantage of this superb offer

Conquer the Barbarian

OUR expert map this month shows the intricate levels to this wonderful graphical adventure from Dataeast. The game features excellent graphics and sound effects. But above all it has that all important factor needed to make a game — timeless playability.

Because a map isn't of much use on its own we are also offering some help on how to kill Volta and his evil minions.

● **Level One:** Very simple to complete this one. Just kill the hawk creature that attacks you and make your way to the top.

● **Level Two:** A bit of pixel-perfect leaping is needed on this level. Jump from the castle battlement to the tree, then to the ground. Collect the key from the niche in the wall and jump over the river.

Climb up the ladder, go through the door, on to the next ladder and go down the next ladder to the branch marked A. Stand with your back to the tree, take one step and jump to the other tree.

Any slight mistake and you will end up in the stake pit. When you have passed this, go through the locked door and into the cave.

● **Level Three:** Go down the ladder and, avoiding the scorpions, use the transporters to get to the jewel. Take

care, for the scorpions can be transported as well. When you have the jewel go back through the transporters — avoiding the scorpions again — and place it in the holder.

A large bubble will appear. Jump into it and when it is near the top of the cave jump out. You will tumble down the hole and end up on level four.

● **Level Four:** Here's your chance to collect more swords and gems. Every now and then they will appear in random positions around the screen. Take the gems — one at a time — to the gem holders. When you have done this twice you are allowed to take the key.

If you avoid around and collect another gem it will save you a bit of time on the next level. Collect as many swords as you can — you'll need them.

● **Level Five:** The six gems at the bottom of the screen will change into dragons when they disappear. If you stand in front of the first transporter door you can shoot the dragons just as they enter the second one.

Once you have killed them all, place the gem in the holder. This turns off the electricity so you can get the key.

● **Level Six:** On this level the sphere in the middle of the screen produces little charges of static which can kill you. If you stand at the edge of the platform marked X they won't touch you.

When the eyeball comes along shoot it and the ladder at the end of the platform grows. Keep shooting the eye until the ladder touches the lower platform. Climb up it and shoot the chandelier. It will fall on the sphere and destroy all the static, turn off the electricity and allow you to go to the next level.

● **Level Seven:** Climb down the ladder and stand with your back to the wall at position Y. Volta will send a lightning bolt after you. When it reaches the top

Your HINTS & TIPS

WE welcome letters from readers giving their help with games on the Atari that they would like to pass on to other readers. The address to write to is:

Hints and Tips

Atari User

Europa House

Addington Park

Addington

Wokingham

Hampshire RG10 4EP

of the ladder, throw a sword and it will hit the bolt on its way back, turning it into a jewel. You must then place it into the holder — which is easier said than done.

The bounty thing at Z puts you back to position Y. When you have collected three jewels your avian ally will pick up Volta and drop him in the volcano. It will then return for you and drop you at the exit. — Bryan Stevens, Andover, Hants.



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SOFTWARE Solutions

Your programming problems solved by **ANDRÉ WILLEY**

Let's start off this month with a couple of questions from Carlos Jorge Sousa, who unfortunately didn't provide his address.

« I've been told that my 1300SE hasn't got a voice synthesiser, but now I'm not so sure. My doubt occurred while playing the budget game *ET Phone Home*, and after I had collected all the pieces of the phone I heard her say "ET Phone Home" twice, and the game would proceed. Is there really a voice synthesiser incorporated in my Atari machine, and if so could you please tell me how I use it? »

Seriously, is it possible to create more than two colours on a Graphics II screen by using machine code? I ask because I saw a photo in a recent issue of Atari User of the title screen to *Gauntlet*, and there appear to be about 15 colours on it.

I thought the only mode which allows 16 colours was Graphics II, but I'm sure that the *Gauntlet* screen can't be using it because the picture seems too highly detailed.

Modes 7 and 8 - which give more detail - can only display four colours. Could you explain how these screens are created? »

The simple answer to the first part of your letter is that your information is quite correct. The Atari 8 bit micros don't have a built in speech synthesiser.

There was a period when Atari developed several new machines which contained extra chips to perform various tasks.

The 1300XL, which was never released in the UK, did have a speech synthesiser built into it. But the 1300SE

doesn't have one. However, it does contain a very powerful music and sound chip called POKEY, and this can be used to great effect in producing voice-like sounds.

What happens is the voice - or any other sound required - is first played into a microphone attached to the Atari's joystick port. Then some machine code software scans the incoming signal and records it as a series of digital numbers representing tiny snapshots of the sound wave - in much the same way as a compact disc is created.

The quality of the final recording depends on the number of samples you make - the greater the number, the closer to the original sound you get. A compact disc, for example, makes tens of thousands of samples every second and can thus reproduce the original sound very accurately.

The Atari can't work quite that fast, and even if it could you would use up the whole of your memory to store a single second of recorded sound.

So a compromise must be reached and a sample rate of perhaps a couple of thousand per second will have been used. Once a sound has been digitised in this way it can be replayed by the POKEY chip which uses the sampled data to create a digital version of the sound.

Obviously this requires some very complicated software, but you can buy an interface and the necessary programs from 2 Bit Systems. It's called *Play*, and you can use it to record, playback and even adjust real sounds inside your Atari.

Now on to the second part of your letter and multi-coloured graphic displays. This one is a little trickier as the programmers of the game have

created and used some machine code libraries to get more colours from a Graphics II screen than you can normally obtain.

The first thing they did was to use a character screen, like Graphics 12 but without the blue text window at the bottom, and convert the picture into little blocks the size of a single character - a total of 40 blocks by 24 for this type of screen.

Each block was then converted into colour character information and stored just like an ordinary character set would be. When displayed side by side, they make up the picture onscreen - rather like putting a jigsaw puzzle back together.

This method has the advantage of allowing four main colours plus the background one as opposed to the usual three plus background given by Graphics 16. They then use another machine code routine to create the amazing scrolling colours effect which you will no doubt have seen used in other games.

So the answer to your question is really that you CANNOT get that many colours on a normal graphics screen - but it's amazing what a bit of hi-tech cheating can do.

String array problems

Finally this month, a problem from Mr. K. Richards of Lower Sodenham in London:

« I am in the process of writing a program which requires many names to be entered into memory. I am using a FOR-NEXT loop to enter

Go to Page 48 >

4 From Page 47

Here is comparison with this subroutine:

```
1000 OPEN #2:J=J+1:GOTO 10
1100 TO 10
1000 PEEK LOC:LOC=GET AL
1000 IF #2=55:GOTO 1000:GOTO 10
1000
1000 IF #2=11:GOTO 1000:GOTO 10
1000 LOC=LOC+1:LOC=LOC+1:GOTO 10
1000
1000 IF #2=11:GOTO 1000:GOTO 10
1000 PEEK LOC:LOC=LOC+1:GOTO 10
1000 LOC=LOC+1:LOC=LOC+1:GOTO 10
1000 GOTO 10:GOTO 10:GOTO 10
```

The problem arises when I try to print them out again. Whenever I try to do this, either in order or as they were entered, I can only get the last name I entered. Your assistance would be much appreciated.

Your problem is quite a common one, and stems from the fact that Atari Basic does not support arrays of strings in the same way as it does for numbers.

You have got most of the code correct for making your own pseudo

SOFTWARE Solutions

array, but you are storing each name in the same 15 locations within a long string, and so each entry overwrites the previous one. What you must do is move further up into the string for each new entry.

I assume you are calling the subroutine with something along the lines of:

```
10 FOR I=1 TO 100
20 GOTO 10000
30 NEXT I
```

which gives each entry a unique number between 0 and 100. This number should be used to tell your routine how far into the string it must go before storing the entered text. The first name will be stored in elements 1 to 75, the next in 16 to 30, the next in 25 to 40 and so on.

You will note that each start position is in fact one greater than fifteen times the element number - thus element

zero starts at position 1, element one starts at position 16 - (15*1)+1 - with element two starting at 31 - (15*2)+1 - and so forth.

Since M, varies from 1 to 15, you should change line 10000 to the following:

```
10000 PEEK LOC:LOC=LOC+M
10000 LOC=LOC+1:LOC=LOC+1
10000 GOTO 10:GOTO 10
```

This will now place each entry into the correct point in the long string and you can print them out again by altering the relevant routine in the same way. Simple really - well, almost!

That's it for another month. As always, we are interested to hear from our readers - old and new - who are experiencing problems with their Atari.

If you need help write to:
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I WOULD like to make a complaint about your magazine. Why is it that you do never go to class with your software reviews?

In the June 1988 issue you only reviewed three games when there were at least 10 new ones available?

You could have reviewed *Indoor Sports (Databyte)*, *Spy vs. Spy II (Databyte)*, *Special Run (Red Hat)*, *Space Wars (Red Hat)*, *Jackal (Korams)*, *Scorpion (Tynesoft)*, *Rampage (Activision)*, *Freeway (Activision)* and *Cybernoid (Newson)*. Why not review more games for the readers and stop being lazy? — **Allen Parker, Spalding, Lincolnshire**

Well Alan, let's take a close look at the games you mentioned. The two Databyte games are available in the USA, but aren't over here yet.

Special Run hasn't been completed by Red Hat and it'll be a few months before it arrives on the scene. The Newson game that you mentioned is for the ST only

FIRST GET YOUR GAME...

and won't be coming out for 8 bit Atari micros. Rampage has been written for the 8 bit Atari micros but at the moment Activision can't make its mind up about releasing it on the UK market. Freeway isn't actually a game, it's a programming structure designed for the ST and Amstrad CPC computers.

Review hasn't made its mind up about bringing Jackal out yet.

Now we move on to the interesting game you mentioned — Scorpion. Tynesoft shelved the idea of bringing this game out over a year ago and never publicly said it was going to appear.

David Croft, head of software development at Tynesoft, is very curious how you got to hear about

it. As you see at Atari User, in the May 1988 issue of Atari User we took a look at *Space Wars* from Red Hat — why don't you try taking a peak at page 28?

Hero has a flaw

I WAS very pleased with myself at having cracked the computer lock in *Universal Hero*. But when I used the disc and plug the computer displayed "New logging in". I thought, wow, great I've done it. Then underneath it said "Error 1429 file does present" and my plug disappeared.

I was really upset as I was enjoying the game and had just got. Please tell me what to do because I am utterly stuck. — **Russ Ball, Kynslem, Bristol**

Sorry to disappoint you Russ but this particular game has a bug and you can't finish it. We've had rather a lot of complaints about it.

Friendly Geordies

I RECENTLY bought *Minor Computer '88* from Tynesoft Software. Unfortunately, I had some loading problems with it. As I was going to the Atari User Show at the Alexandra Palace I decided to take it with me and see what they would do about it.

With no questions asked they happily replaced it and I returned home very content. However, I had problems loading this copy as well. So I phoned them on the Monday and by Wednesday of the same week they had sent me a

fresh working copy.

I would just like to say thank you to Tynesoft for their sterling work and let their readers at their friendly and professional attitude. — **S. Jenkins, Ealing, London**

A day well spent

I ENJOYED the Atari User show last April with some misgivings as to the best way to travel to the Alexandra Palace. But I needn't have worried. A train journey to London followed by a short walk to the underground got the last say.

Then came another short train journey and then, by the courtesy of the show organisers, a free ride to the front door of the Alexandra Palace. It was a lovely day out and I completed it with some superb purchases.

Please pass on my thanks to all concerned. — **G. Harvey, Fleet, Hants/Berkshire/Beds**

Thanks for the letter. We'll see you at the next Atari User show.

Missing line in the mine

AFTER recently trying in the excellent *Mine Runner* program from the May 1988 issue of Atari User I found a mistake in the listing. Line 1530 reads:

```
1530 FOR C=0 UNTIL 10:GOTO 1540
1540 GOTO 1540:GOTO 1540
1540 GOTO 1540
```

However, when you enter a line at the listing there isn't a line 1530. Even though the program works perfectly I began to wonder if I was missing out on something.

So to give the peace of mind, was there anything missing from the published listing? — **Jonathan Marlow, Liverpool**

Don't worry Jonathan, the

ON THE CREST OF A WAVE

I WAS delighted to find the *Shoobyshoo* program in the May 1988 issue of Atari User, as I have been looking for such a routine for some time.

After having to type it in twice, due to my clumsiness, I got it working. It was at this point I wondered if you'd like some printouts of my *Shoobyshoo* cycles. As I

own a 1020 printer/plotter I had to write the routine myself.

So, for other owners of a 1020 here are the modifications you need to make to the original program that will allow you to produce your own *Shoobyshoo* dumps. — **Stephen Shephard, Chappington, Northumberland**

```
1000 T=0:GOTO(123)I:GOTO 1000
1010 GOTO 1000:GOTO 1000:GOTO 1000
1020 GOTO 1000:GOTO 1000:GOTO 1000
1030 GOTO 1000:GOTO 1000:GOTO 1000
1040 GOTO 1000:GOTO 1000:GOTO 1000
1050 GOTO 1000:GOTO 1000:GOTO 1000
1060 GOTO 1000:GOTO 1000:GOTO 1000
1070 GOTO 1000:GOTO 1000:GOTO 1000
1080 GOTO 1000:GOTO 1000:GOTO 1000
1090 GOTO 1000:GOTO 1000:GOTO 1000
1100 GOTO 1000:GOTO 1000:GOTO 1000
1110 GOTO 1000:GOTO 1000:GOTO 1000
1120 GOTO 1000:GOTO 1000:GOTO 1000
1130 GOTO 1000:GOTO 1000:GOTO 1000
1140 GOTO 1000:GOTO 1000:GOTO 1000
1150 GOTO 1000:GOTO 1000:GOTO 1000
1160 GOTO 1000:GOTO 1000:GOTO 1000
1170 GOTO 1000:GOTO 1000:GOTO 1000
1180 GOTO 1000:GOTO 1000:GOTO 1000
1190 GOTO 1000:GOTO 1000:GOTO 1000
1200 GOTO 1000:GOTO 1000:GOTO 1000
```

```
2000 GOTO 1000:GOTO 1000:GOTO 1000
2010 GOTO 1000:GOTO 1000:GOTO 1000
2020 GOTO 1000:GOTO 1000:GOTO 1000
2030 GOTO 1000:GOTO 1000:GOTO 1000
2040 GOTO 1000:GOTO 1000:GOTO 1000
2050 GOTO 1000:GOTO 1000:GOTO 1000
2060 GOTO 1000:GOTO 1000:GOTO 1000
2070 GOTO 1000:GOTO 1000:GOTO 1000
2080 GOTO 1000:GOTO 1000:GOTO 1000
2090 GOTO 1000:GOTO 1000:GOTO 1000
2100 GOTO 1000:GOTO 1000:GOTO 1000
2110 GOTO 1000:GOTO 1000:GOTO 1000
2120 GOTO 1000:GOTO 1000:GOTO 1000
2130 GOTO 1000:GOTO 1000:GOTO 1000
2140 GOTO 1000:GOTO 1000:GOTO 1000
2150 GOTO 1000:GOTO 1000:GOTO 1000
2160 GOTO 1000:GOTO 1000:GOTO 1000
2170 GOTO 1000:GOTO 1000:GOTO 1000
2180 GOTO 1000:GOTO 1000:GOTO 1000
2190 GOTO 1000:GOTO 1000:GOTO 1000
2200 GOTO 1000:GOTO 1000:GOTO 1000
```

◀ From Page 49

listing that appeared in complete. When the programmer was developing the game he had an extra routine located at line 3805.

However, when he finished it he realised he didn't need it so he just removed it — leaving the ROM statement the same.

Lost in the dungeon

AFTER reading the review of *Alternate Reality: The Dungeon In Atari User* I decided to go out and buy it. Being new to this sort of adventure, I followed the main rules and attempted to make a map.

In the March 1988 issue of *Atari User* you printed various hints and tips which helped me back on to the right tracks. Then in the April issue you asked if some maps of the *Dungeon* you had received.

And so to my plea: Can you please print the maps and help me complete this challenging adventure? — **Nigel Barker, North Gosington, Hampshire.**

• Without promising too much, we'll get our mapping expert to take a look at the ones we received. If he can do anything with them we'll print sections of the rather large *Dungeon* to help you.

Double the praise

I AMNE just bought *Double Risk 2* from Red Hat Software — reviewed in the April 1988 issue of *Atari User*.

I am amazed at the value for money it gives, and I think your review of it was a little too conservative.

One thing is the best game I have for my Atari — even better than some Atari ST games I have seen. I would like to thank Red

Roulette solution

£10 LETTER

HERE is my solution to your superb Programmer's Challenge where the roulette wheel is followed all of the guidelines stipulated by Mike Cook in the March 1988 issue of *Atari User*. — **A.W. Gidding, Ramat, Herts.**

• Mr. Gidding wins the £10 prize for the best solution sent in. In a future issue of *Atari User* we'll be giving you another Programmer's Challenge to solve.

```

10 *****
20 # Roulette Solution #
30 # by A. W. Gidding #
40 # 10/10/88 AWG #
50 *****
60 000 000 000 000 000 000 000 000 000 000
70 000 000 000 000 000 000 000 000 000
80 000 000 000 000 000 000 000 000 000
90 000 000 000 000 000 000 000 000 000
100 000 000 000 000 000 000 000 000 000
110 000 000 000 000 000 000 000 000 000
120 000 000 000 000 000 000 000 000 000
130 000 000 000 000 000 000 000 000 000
140 000 000 000 000 000 000 000 000 000
150 000 000 000 000 000 000 000 000 000
160 000 000 000 000 000 000 000 000 000
170 000 000 000 000 000 000 000 000 000
180 000 000 000 000 000 000 000 000 000
190 000 000 000 000 000 000 000 000 000
200 000 000 000 000 000 000 000 000 000
210 000 000 000 000 000 000 000 000 000
220 000 000 000 000 000 000 000 000 000
230 000 000 000 000 000 000 000 000 000
240 000 000 000 000 000 000 000 000 000
250 000 000 000 000 000 000 000 000 000
260 000 000 000 000 000 000 000 000 000
270 000 000 000 000 000 000 000 000 000
280 000 000 000 000 000 000 000 000 000
290 000 000 000 000 000 000 000 000 000
300 000 000 000 000 000 000 000 000 000
310 000 000 000 000 000 000 000 000 000
320 000 000 000 000 000 000 000 000 000
330 000 000 000 000 000 000 000 000 000
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410 000 000 000 000 000 000 000 000 000
420 000 000 000 000 000 000 000 000 000
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460 000 000 000 000 000 000 000 000 000
470 000 000 000 000 000 000 000 000 000
480 000 000 000 000 000 000 000 000 000
490 000 000 000 000 000 000 000 000 000
500 000 000 000 000 000 000 000 000 000

```

Hat for supporting the *Atari User* values with such quality software. — **Bryan Hunt, Bolton.**

• Everyone has different views towards games Bryan. You must remember that over the years our reviewers have seen an awful lot of games and programs. But as you say, this

compilation pack does offer excellent value for money.

Kidding around

CONGRATULATIONS on an excellent magazine. I particularly like the software

reviews section and the utility programs — please keep it up.

Now a question for you to answer for me: Are there any educational programs available for young young children? I would like to introduce my 18 month old son to the computer as soon as possible — he already likes the click caused by banking my joystick. — **Andy Walker, Elmwood Park, South West.**

• Obtaining educational games for a child so young is going to be a problem for you. Since they don't even speak a few of Alan's old resources but none of them are divided at the age group you are after.

However, some titles to look out for are:

- Juggles House
- Juggles Mansion
- Money in the Great Outdoors
- Mr First Alphabet.

If all else fails..

CAN you please help me with a problem I am having with the *Fun of the Best* utilities disc I recently bought? When I load and run five of the programs I constantly get errors.

The programs are: **DISERRORS, ACTOBY, FILES, DISKREPAIR, SDC, SDC:MAK, SDC:STARRER, SDC:MAK**. Have I got a damaged disc or am I loading them wrongly? — **P. Tuland, Moulton, Northants.**

• Your disc is working perfectly and you aren't loading them wrongly. Your problem is that you haven't read the instructions that come on the flip side of your master disc.

Take a look at the help file and all will be revealed. Most of the programs on that particular disc create an **AUTOPUN.SYS** file when they are run.

Sorry for any confusion, but the instructions do tell you so.

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