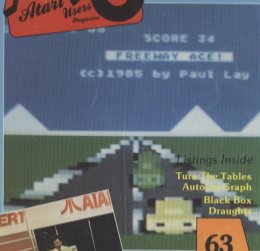


Page!

Atari Users Magazine

Issue 16

90p



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Atari Users Magazine

July/August 1985

Editor & Publisher
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Correspondence
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HANNOVER REPORT 40

LISTINGS

BLACK BOX by Paul Ford	14
FREEWAY ACE by Paul Ley	18
DRAUGHTS by Graham Walters	22
TURN THE TABLES by Jim Flouker	32
AUTOCAR GRAPH by Peter Froney	46

PROGRAMMING

CHARACTER PLOTTING by Phil Griffin	16
---	----

REVIEWS

130XE	10
COLOURSPACE	12
SPARTANOS by R.A. Matalio	30
ATARI BASIC Faster and Better	35
THE SOFTWARE REVIEWS	36

FEATURES

ADVENTURE - BEHIND THE SCENES by Garry Francis	20
THE ATARI BOOK OF BOOKS by Kevin Fleming	25
ATARIWRITER AND THE 1027 by Phil Roe	28
FIRST STEPS by Mark Hutchinson	43
BEYOND ATARI by John J. Smith	50

Editorial	4
News	5
Letters	6
Listing Conventions	7
Contact	8

GOTO DIRECTORY 42

BACK ISSUES 45

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Editorial

MORE BUT LESS?

Several software companies who have not previously supported Atari are now writing or converting programs for the 1300CE or the 800XL - at long last. That's the good news but the bad news is that they may well find it more difficult to get their products to you.

Since the last issue of PAGE 6 no less than six of the retailers to whom we supply the magazine have gone into liquidation or have 'disappeared' and the situation may well take some time to settle as the genuine retailers try to hang on whilst the 'get rich quick' merchants or the plain incompetent bite the dust in a market which has proved to be smaller than many people dreamt. The sudden overnight disappearance of Software World in Birmingham unfortunately affects more than those to whom they owe money, as many owners begin to wonder who they can trust. Part of the problem is just human nature for we tend to be impressed by the big and the flamboyant and assume that the retailer with the biggest shop is the best. When we see a small retailer or mail order company operating from a house in the suburbs we tend to be wary and wonder whether they can be trusted when in fact it should be the reverse. There are good independent retailers with big shops - a few - but many in this day and age will struggle to meet the overheads. If you can pay your money and take the goods, fine but what about Mail Order? The small mail order company operating, perhaps from home does not do so because it does not want a big impressive shop but simply because the owner realises that he cannot afford a shop. Lower overheads mean a greater chance of success and providing the company gives a good service why should the situation or premises matter?

Of course there will be small companies who have problems too but the problem for all who have been stung is who to trust. There are mail order companies who feel are conducting their business in an efficient way and you should not automatically fear mail order - it is unfortunately the only way that many owners can get Atari software. The ones who disappear towards those who continue to provide a good service and only time will settle the dust.

I don't know the answers but I feel that it is high time that legislation was introduced to make it more difficult to start a business and high on impossible without guarantees to start another after going into liquidation. You may argue that in these days of high unemployment every opportunity should be given to those who want to start businesses but make it too easy and the cowboy and the plain tramp will take a lot of genuine small businesses down with them.

We must all keep supporting those whom we can trust but need to tread more warily.

Enough said. Enjoy this issue

Les Ellinger

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NEW BUSINESS SOFTWARE FOR XL AND XE

Precision Software Ltd. are to convert several successful business software packages to the Atari 800XL and 1300XE for marketing in September.

The titles which are currently available for the Commodore 64 and Apple are Superscript, Superbase STARTER and SuperType which are, respectively, a word processor, database and typing trainer. The Database, in particular, if it lives up to the specifications of the existing versions, promises to be what serious users in the UK, have waited many years for. There have been few serious products for the Atari with such high specifications and certainly none easily available in this country to the home user.

Prices are not yet finalised but will be affordable to any user interested in a database or word processing applications.

BASIC XE!

Users of C-64's BASIC XL will be more than pleased to know that BASIC XE for the 1300XE will be available in mid-July from Software Express International in Birmingham. BASIC XE will contain all of the commands of BASIC XL, with the addition of an EXTEND command allowing access to 62K of the top 64K of memory. In addition the features of the TMD, RTE, previously available separately, will be built in to the cartridge. Price in the UK will be £99.99.

For new owners, BASIC XE will add several new commands to ATARI BASIC allowing greater control over Rayex Modules, string handling and many other features. It is highly recommended to any owner seriously interested in programming.



What's this? It's a Disk Notcher enabling you to use the other side of single sided disks with great ease. You can fiddle around with a hole punch or use a scalpel/blade (and damage disks!) but with this little device you just slip your disk in and get a neat square notch identical to the one on the other side, first time every time and in exactly the right position. Price is just £5.99 plus £1.50 p.p.h. from Western Computers, 116 Edgemoor Road, Dewey, CW9 7ND.

TWO MORE COMPUTERS!

ATARI AT CES

Despite several reports from the 'ATARI brockers' the Company did make an appearance at the Summer Consumer Electronics Show in Chicago and showed two more models of the ST. The 260 ST is a 256K model and the 260 STD comes with a built in 3 1/2" disk drive. Prices are said to be \$399 and \$499 respectively. After seeming to have abandoned the 'middle' market by dropping the 1300E, Atari may well have something up its sleeve after all.

Also strongly rumoured for many months and finally shown at CES is a Compact Disk ROM unit for a search the ST capable of holding 500 MM. Atari are said to have purchased the rights to a 25 volume encyclopedia for use with this unit. The unit will allow searches down to word level throughout the encyclopedia with an access time of something like 3 seconds to find over 50 references! The encyclopedia takes only 120MB of the available disk space!



Miracle Technology could well put the final nail in the coffin of the 850 interface with their new DATARI 85232 interface. Available as a package with MULTI-VIEWTERM software it will enable any readers to be used with your ATARI. Whilst access to 300 baud Bulletin Board Systems has been relatively easy to date, DATARI will open up the full world of VIEWDATA systems including PRESTEL, TELECOM GOLD and others. Price for the complete software and interface package is £25.95 from your retailer or, by adding £3.15 p.p.h. from Miracle Technology, (100 Ltd, St Peters Street, Ipswich, IP1 1AB).

News

DOS 2.5 AVAILABLE

DOS 2.5 is currently being widely circulated in the States but at the time of writing availability in this country is not known. ATARI are said to be sending copies to User Groups in the U.S. for 'non-commercial' distribution and it is to be hoped that it will be available here at very little cost. This new DOS is fully compatible with both the 810 and 1050 drives and will automatically use the enhanced density of the 1050 if available. Another feature is that the manual is on the reverse of the disk thus cutting down costs and making distribution much easier.

DOS 2.5 will become the new standard for all ATARI 8-bit micros and existing DOS 2.0 owners are strongly recommended to get a copy as soon as possible.

Readers Write

THANK YOU

Dear Les,

You kindly published a letter of mine at the beginning of the year asking for software for the new computer in the childrens ward of the hospital where I work.

The response has been splendid and we have received many useful items from all parts of the country and even from Italy! I have personally replied to all those who included their address but several items were sent anonymously and I wondered if you would publish a small note of thanks on behalf of the children of ward C2 to all those who have been so generous.

Best wishes and many thanks,

Paul Boggart
Beckenham, Kent

WHY SO EXPENSIVE?

Dear Sir,

I notice that BOUNTY BOB STIRES BACK is currently available on a 40k ROM costing £49.95. This is absolutely ridiculous as the game is available on cassette for the Commodore 64 at only £23.95.

Why is it that Atari owners are always being asked to pay these ridiculous prices? There is no reason why this game should not be available on cassette as anybody who is willing to pay £50 for a game has surely appreciated their machine to 48k? The new Atari's look set to take off in a big way but will only do so if they have a solid range of cheap cassette software to equal the Commodore and Spectrum. What is the point of buying a reasonably priced computer if the software is too expensive? Granted much Atari software is coming down in price but there is still a tendency for many games to be on disk only. The average Commodore and Spectrum owner runs a cassette based system and, if the SE range is to lure these potential customers away from their existing systems then the software

companies must stop this disk only bias. Why on earth should games like Ghostbusters, Mr Robot, Flak and Louieanna etc. be available on cassette for the Commodore but not the Atari? And why do games such as Boulderdash, Beasts and Flip 'N Flop cost twice as much for the Atari than the Commodore?

I sincerely hope that BOUNTY BOB does not sell. If any owner buys it he must have more money than sense as you can buy a new BORKL for barely twice the price of this cartridge.

Steve Craig
Motherwell

** Most people tend to blame the retailers for such high prices but the blame really lies with those companies such as U.S. Gold who have licensing agreements with the U.S. software companies. In the case of BOUNTY BOB those retailers who sold the ROM (imported from the U.S.) did so partly as a service to those who had waited a long time for its release when there was no indication of an Atari release from U.S. Gold. Granted they make more profit from a £50 item but most retailers would prefer to sell lower priced software (a volume that take chances on stocking high priced items).

So who is to blame? The answer is complex but the only companies that can change the situation are those who negotiate the U.K. licensing rights to U.S. software. Unfortunately their argument for higher prices for Atari, or non-availability, is that the products do not sell in enough quantity to justify the expense in producing and promoting them. Part of this is history but the blame also lies with owners and Atari themselves. Any owner who has a protected copy of a program, for whatever reason, is to blame. Atari is to blame for still failing to advertise their products or re-think their marketing.

How about a radical step? What about Atari writing up or backing a company to negotiate the U.K. rights

to software that the other companies are not interested in? Sell these on cassette to retailers or good margins and get them in the shops alongside their computers. It would probably cost no more than a major hardware advertising campaign and would certainly lure other computer owners away from their systems. Probably easier said than done but worth investigating?

Probably the only thing you and I can do is to write to U.S. GOLD and BEYOND Software and other companies every time they advertise software and ask them for the Atari version. If enough people write then they will be released and at the right price. But will enough people write? Must will feel that they shouldn't have to and maybe they are right.

THANKS AGAIN

Dear Les,

As FIRST STEPS recently running the A Z of BASIC I wondered if I could use the letters page to thank all those who voted for the column in the last Readers Poll. Your support is much appreciated. I will reply to all readers who write with queries provided they enclose a stamped addressed envelope but I now have several letters from people who did not enclose one. If anyone has not had a reply from me could I ask them to please write again assuring that they enclose a stamped addressed envelope.

Mark Hutchinson
BASIC Software
P.O. BOX 123
BELFAST, BT10 9CB

** Mark has spent a great deal of his own time in helping readers with their problems. If you write to anyone for advice and expect a personal reply you should enclose a stamped addressed envelope. It is really fair to ask someone to spend an hour of their time giving free advice if you can't be bothered to spend 17p on the return postage?

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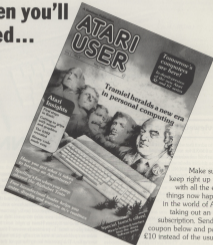
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130XE



Reviewed by Les Ellingham

I have to admit that when Siles Distribution Ltd offered to loan me a 130XE for review I was extremely concerned. It wasn't that I did not want to see the machine, it was just that I had grave doubts about whether I could write a review of what is basically an 800XL in a new case, with a bit more memory for which there is no software! Now I have no doubts. While I would never have recommended that anyone trade in an 800 for an 800XL, I would certainly advise owners to think about trading in for a 130XE. It's not that you get a great deal more, it's just that what you do get is quality, top quality.

I will assume that most of you are already familiar with one of the existing Atari computers and will not therefore go into detail about what the machine can do. The basic machine is an 800XL, with some changes in the chips and circuits which mainly allow the machine to run more smoothly and efficiently. There are no extra graphics modes or commands although the machine comes with Revision C BASIC which should iron out all the remaining bugs. The major changes are the casing, the keyboard, the cartridge slot and the screen display. Some are good, some are not. Let's start with the good.

THE GOOD POINTS

The first obvious change is the style of the casing which is smaller than before and is finished in light grey with an ivory keyboard and with ventilation slots and 'junction' keys set at a 45 degree angle. It certainly looks classy and design-wise will hold its own against any computer you care to name.

Cheap, so it looks good but what does it look like? Beautiful, just beautiful. General consensus amongst those who own several computers is that the keyboard is very good indeed. The keys are 'dived' in that they curve away and up to the

A WINNER?

top row which at first looks as though it may be difficult to handle, but in use it is simplicity itself. The keys have an excellent feel and, whilst I am not a totally competent typist, they allowed entry of text at a much faster rate than either an 800 or an 800XL. It is certainly a keyboard that a qualified typist/writer would feel at home with. The 'function' keys look as though they could be dangerous because set at that angle it looks too easy to press the wrong key by mistake and as System Reset is right next to Option that could prove fatal. In practice however I found that there were no problems, it was actually quite hard to press the wrong key. The position along the top of the keys is not as convenient as before especially when using Atariwriter as it is virtually impossible to press the Select or Option keys with Insert or Delete without changing hands over or doing some contortionist tricks.

A SUPER SCREEN

The screen display is brilliant. I have spoken to several people who use more than one computer and they have all confirmed that the clarity of the video image of the 130XE is amazing. The colours are less saturated, which may require some adjustments to your set, but in return you get an amazing quality image. I had been displeased with the screen image on my 800 for some time and had thought that my TV (a 10 year old Sony) was on its last legs. But hooking up the 130XE dispelled this. The difference in quality was as great as using a monitor with the 800. If you

had been thinking of buying a monitor, you may be better off looking at a 1300E first.

WHAT'S NOT SO GOOD?

Now on to the bad points. The cartridge slot is at the rear of the machine just right of centre and quite low down and is, frankly, a real pain. Indefinite part of the object in having a compact unit for you have to allow five or six inches of space behind the computer to plug and unplug ROM cartridges and most of the time you are forced to pick up the machine to see what you are doing. Maybe it is no problem if you plug in a game and play away all right but if you are using Asterix and a few utilities it becomes extremely tedious to keep trying to find just where that slot is.

The other irritation I found with the machine is that it takes a long, long time to recycle when switched off and on. Cassette seems will probably not notice but if you try to re-boot a disk by just flicking the switch off and on, nothing will happen. It takes something like five seconds to set itself up again and, if you are used to a quick flick of the switch to re-boot, this is a long time to wait. You literally have to sit and count to five or get extremely frustrated and annoyed.

THAT EXTRA MEMORY

The major difference with the machine is of course the extra 64k of memory. Let you be misled, this does not mean that you can type ? FREE! and get something like 128,000 bytes; being an 8-bit micro, the 1300E can only access 64k at one time. Atari's solution is to enable the extra 64k to be bank-switched in 16k blocks to either the main processor or to the ANTIC video chip or both. This means that the processor can continue to run your main program while graphics information is displayed from the top 64k of RAM. Very clever and with a lot of potential.

Accessing the extra RAM is very easy from BASIC requiring just a single POKE and a small mathematical calculation. This is clearly explained in the manual (What an Atari with a manual! Yes, but more of that later). I had thought at first that the extra 64k would be something of a white elephant but having seen how it works all sorts of intriguing possibilities are opened up. The most obvious is the storage of extra program information such as used in text Adventures or graphics which could cut down or eliminate disk swapping on larger games. For cassette users it would be possible to use the top 64k as a 'disk-drive' thus opening up many of the various access capabilities of databases and the like. Information could be stored, worked on, sorted or randomly accessed from memory and saved to tape only when it was in a finished condition. Many of the more serious applications which are cumbersome or impossible for tape users will be made available and this is even within the realms of the 'do-it-yourself' BASIC programmes.

SUPER FAST UTILITIES

The most immediate advantage of this extra memory is already with us in the shape of DOS 2.5. This new Disk Operating System has a 'RAMDISK' option which allows the top half of memory to be set up as Drive #8 which means that you can have DUPSYS resident in memory for

immediate access. Halfway through a BASIC program and need DOS? Just type DOS, use the utility, and go back to your BASIC program without accessing physical disk! The top half of memory can be used exactly like a disk drive. You can save or delete files, rename them and generally do what you can with a physical disk. When you are happy with your 'memory disk' just copy the contents of 'Drive #8' to Drive #1. What a time saver!

EVEN A MANUAL!

What else? Oh yes, you actually get a manual. 130 pages of information about the 1300E with example programs, explanations of the BASIC words and more. It even gives you a sample program of Player Missile Graphics which the 'old' Atari didn't even seem to know existed. Not the best manual in the world - you will still need to go on to other books - but at least a positive step in the right direction.

FINAL THOUGHTS

Several steps in the right direction is just what Jack Tramiel seems to be achieving. First class styling, extra money ahead of the competition, a reasonable manual and the promise that future Atari label software will use the full potential of the machine. Atari are looking ahead whilst still thinking of existing owners. Most of the available software will run on the 1300E and if it doesn't, the Translator works just fine.

From a sceptical beginning I am now hooked on the 1300E, despite its one or two drawbacks. Nothing would have made me part with my beloved old 800 for an 8000L, but going back to it now seems like jumping off a thoroughbred to take a ride on an old, but loyal and faithful, cart horse.

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Due to some changes in distribution your retailer may no longer stock PAGE 6. The only SURE way to get it is to SUBSCRIBE. Do it now.

Review

COLOURSPACE is the Atari development of Psychodelia which is available for other systems. Jeff Minter changed the name because the program grew in stature so much on its translation to the Atari that Jeff virtually considers it to be a new program. He states in the manual that "The difference between Colourspace and Psychodelia is as pronounced as the difference between a Mini and a Ferrari!" That's what translation to the Atari should be. It is about time programmers realised just how much more powerful the Atari is.

Colourspace is going to be difficult to put into words. It is easier to describe what it is not. It is not a game, it is not a utility, it is not an adventure, you do not score points, there is no goal, no competition, no final outcome. What on earth is it then? It is what an software company has come up with for many years - something quite unique. I don't know of any other program quite like it or any program that will show off the Atari's colour and hardware capabilities in such a dynamic way.

Let's start by saying that you will either be mightily impressed or utterly under-impressed with Colourspace, it depends on your own sensibilities, on the way you perceive light and sound, on whether you can 'see' sounds and 'hear' colours. The best analogy is with the live performance of rock music, but if that term you will read on anyway for you can use the program in any way you wish. If you have ever been to a rock concert where the stage lights and effects enhance the performance and create a new sense of 'sight and sound' combined, you will know exactly what Colourspace is. Stick on some headphones or turn the stereo up loud and you will have your very own light show, controlled entirely by you in any way your mind takes you. On its own Colourspace is pretty - very pretty - but marry it with music and get the thing just right and something magic happens. Something that does not exist in either the music or in the program but which you will feel intuitively when you create just the right blend.

If you do not understand all this business of lights and music, maybe Colourspace is not for you but try it anyway. Light and movement enhance any type of music - that's what ballet and opera and stage shows are all about - and you may well find that your favourite music takes on a new character and has new depth. At some



you will end up with a truly amazing demonstration of the capabilities of your Atari and that can't be had any other way.

The manual for Colourspace runs to 14 pages and only tells you how to use the various facilities of the program. It does not explain what you can achieve for only you can determine that. The results depend on your own imagination and ability. The program is described as a 'light synthesiser' and it is exactly that: an instrument producing colour and light which you can learn to 'play' like any other musical instrument. The more experienced you become the better will be the results but, unlike conventional instruments, you can gain enjoyment from it even if your talents are very limited - so you can just sit back and watch someone else play.

The range of light and colour and movement is enormous, from pre-set patterns to user defined colours or graphics. Foreground patterns overlaying dynamic effects, 'curved' screens, multiple images and more. Literally thousands of combinations and every one controlled by you using the joystick. You can record sequences in memory and play them back or save sequences on tape. You can use the program with another person each creating their own patterns or you can interact with the computer.

You can create the gentle and soothing or the dynamic and aggressive. Pretty patterns or meaningful colour 'lyrics'. In short you can come close to experiencing in a tangible form what you feel from music.

The program has far too many possibilities to go into great detail and will finish with a recommendation. If you are into rock music, buy it without hesitation. If not, try it as something quite unique and you may end up with experiences you did not expect. If you are still unconvinced, try to get along to the PCW Show in September where Jeff Minter promises something quite spectacular.

Just one gripe. Colourspace is available only on cassette which is just plain crap particularly as it has the facility to save individual sequences. The Atari owners likely to be most impressed by the program will be sufficiently committed to their system to require it on disk. Why spoil a graphic masterpiece by putting it in the wrong frame?

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Great value for games addicts who appreciate high quality graphics and exceptional sound. Perfect package for £69. You can buy a 1MB Atari 600XL Computer with two 5.25" floppy disks, 100KB RAM and a keyboard for £100. Add the optional mouse for £10 more and you have the Atari 600XL Entertainment Pack. The Atari 600XL is a compact, powerful computer with a 640K RAM, 100KB ROM and a keyboard. It's the perfect package for the serious gamer. The Atari 600XL is a compact, powerful computer with a 640K RAM, 100KB ROM and a keyboard. It's the perfect package for the serious gamer.



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BLACK BOX

by Paul Ford



BLACK BOX is based on an original board game which I once purchased several years ago but which now no longer seems to be on sale. I felt that it was a good game for computerisation and decided to write a version for the Atari to enable me to play the game once more. The resulting program was written entirely on New Year's Day. What a way to start the year!

The game seems at first sight to be quite complicated but a study of the 'rules' and a few practice games should make things clear. The object is to deduce the position of four 'ATOMS' placed at random on the grid, by firing 'RAYS' into the box. The ATOMS will affect the RAYS in one of three different ways depending upon their position on the grid and the position of an ATOM can be deduced by the path the RAYS take which is indicated by entry and exit points. The movement is similar to the actual technique used to determine atomic structure.

Use a joystick in port 1 to position the green cursor on the perimeter of the box at a point where you wish to fire a RAY. Press the joystick button and watch for the exit point of the RAY if there is one. The RAY may be affected by the ATOMS in any of the following ways:

- 1) DEFLECTED off an ATOM (Path 1)
- 2) ABSORBED by an ATOM in a direct collision (Path 2)
- 3) REFLECTED back along its path (Paths 3 & 4)



Markers will appear on the perimeter of the grid depending on the action occurring. ABSORPTIONS will be shown by a red asterisk at the entry point only. REFLECTIONS are shown by a white asterisk at the entry point and a coloured symbol will indicate both entry and exit points for a RAY which exits from a different point.

Once you think that you know where an ATOM is placed you may move the cursor inside the grid and press the fire button to mark the position. There are four ATOMS in all and once you have marked four positions you may press START to see if your guesses are correct. A yellow ATOM will indicate a correct position while any ATOMS you failed to find will be shown in blue. Any markers incorrectly placed will remain red.

SCORING The object is to obtain the lowest score. One point is scored for each RAY marker and five points for each incorrectly placed marker. A full game consists of 5 rounds.

```

00 0 000 *****
01 1 000 *                               (RAYS)
02 2 000 *
03 3 000 *
04 4 000 *   by PAUL FORD - 1/1/85
05 5 000 *
06 6 000 *
07 7 000 *
08 8 000
09 9 000 *****
10 0 000 *****
11 1 000 *****
12 2 000 *****
13 3 000 *****
14 4 000 *****
15 5 000 *****
16 6 000 *****
17 7 000 *****
18 8 000 *****
19 9 000 *****
20 0 000 *****
21 1 000 *****
22 2 000 *****
23 3 000 *****
24 4 000 *****
25 5 000 *****
26 6 000 *****
27 7 000 *****
28 8 000 *****
29 9 000 *****
30 0 000 *****
31 1 000 *****
32 2 000 *****
33 3 000 *****
34 4 000 *****
35 5 000 *****
36 6 000 *****
37 7 000 *****
38 8 000 *****
39 9 000 *****
40 0 000 *****
41 1 000 *****
42 2 000 *****
43 3 000 *****
44 4 000 *****
45 5 000 *****
46 6 000 *****
47 7 000 *****
48 8 000 *****
49 9 000 *****
50 0 000 *****
51 1 000 *****
52 2 000 *****
53 3 000 *****
54 4 000 *****
55 5 000 *****
56 6 000 *****
57 7 000 *****
58 8 000 *****
59 9 000 *****
60 0 000 *****
61 1 000 *****
62 2 000 *****
63 3 000 *****
64 4 000 *****
65 5 000 *****
66 6 000 *****
67 7 000 *****
68 8 000 *****
69 9 000 *****
70 0 000 *****
71 1 000 *****
72 2 000 *****
73 3 000 *****
74 4 000 *****
75 5 000 *****
76 6 000 *****
77 7 000 *****
78 8 000 *****
79 9 000 *****
80 0 000 *****
81 1 000 *****
82 2 000 *****
83 3 000 *****
84 4 000 *****
85 5 000 *****
86 6 000 *****
87 7 000 *****
88 8 000 *****
89 9 000 *****
90 0 000 *****
91 1 000 *****
92 2 000 *****
93 3 000 *****
94 4 000 *****
95 5 000 *****
96 6 000 *****
97 7 000 *****
98 8 000 *****
99 9 000 *****

```


CHARACTER PLOTTING

by Phil Griffin

Many of the games designed for the Atari computers use GRAPHICS 1 and 2 as the basis for the screen display. These are multi-coloured text modes and the normal method of placing characters on the screen is by using the "PLOT" instruction. To obtain the full range of colours available you have to use lower-case and inverse video versions of the character required. Try typing in the following and then press RETURN:

```
MC 1 GRAPHICS 1:P 00;"ABCDEF"
```

The top portion of the screen should contain the letter A in the four default colours - orange, blue, purple and yellow. You will find that all of the letters of the alphabet will give the full range of colours by this method but what about the remaining characters? Well - unfortunately not! The problem is that the operating system does not support lower-case versions of the other characters and consequently you can only print directly in two colours - orange (upper case) and blue (inverse video upper case). In order to print in the remaining colours, you have to use the CHR\$ statement. Try running Program 1.

```
CP 10 GRAPHICS 1:POKE 756,1
VM 20 FOR I=0 TO 255:POKEFROM P,I:PLOT P,I:P 0:INVERSE
  OFF:PRINT CHR$(I);:IF "CDEF" VALUE = "1111"
  THEN POKE 756,255
PP 30 IF PEEK(756)=255 THEN 10
V0 40 NEXT I:POKE 756,255:GRAPHICS 0:END
```

The normal GRAPHICS 1 and 2 character set is available in the full range of colours although Program 1 only displays the first half of the character set. The second half can be seen by adding the following line to Program 1.

```
00 15 POKE 756,256
```

The order of characters and colours is a bit jumbled but Table 1 should help a little.

Printing using CHR\$ can become a little cumbersome but there are other alternatives. The first is by POKEing values directly to the screen memory locations as outlined in my earlier article "Memory Mapped Screens" in issue 4 of BYTE. This is, unfortunately, a little complicated but can be extremely useful, especially in screens containing mixed graphics modes. There is, however, a much easier solution which is also very versatile.

You may not be aware of it but you can actually PLOT and DRAWTO in GRAPHICS modes 1 and 2. You still need to specify a COLOR before you PLOT and DRAWTO but this does much more than just select a colour as all values from 0 to 255 are valid. Make the following changes to Program 1, and then re-run it.

```
00 20 FOR I=0 TO 255:COLOR I:PLOT P,I:P 0
  INVERSE:PRINT "COLOR VALUE = ";I:IF I
  MOD 16=0 THEN POKE 756,255
```

You will see that by specifying a COLOR value you can PLOT a specific character in the assigned colour. The figures shown in Table 1, are also the values required when using this method of producing characters. The DRAWTO instruction is just as easy to use. Try typing in Program 2.

```
00 10 GRAPHICS 1:IN:COLOR I:PLOT 0,0:DRAWTO
  0,0,0:DRAWTO 0,0,0
05 20 000,00 170:PLOT 1,1:DRAWTO 10,10:PLOT
  1,10,0:DRAWTO 1,10
0C 30 GOTO 10
```

ATASCH CHARACTER DECIMAL CODE

VALUES REQUIRED TO OBTAIN THE ATASCH CHARACTERS IN THE COLOURS SHOWN

DEFAULT	POKE 756,256	YELLOW	ORANGE	PURPLE	BLUE
32 - 63	0 - 31	0 - 31	32 - 63	128 - 159	160 - 191
64 - 95	96 - 127	96 - 127	64 - 95	224 - 255	192 - 223

Table 1

NOTES:

- The table should be used in conjunction with a list showing the ATASCH character set (normally included as an index in most books).
- The figures above show the range of values for each character set and colour.
- Inverse-video versions of the characters are not available in Modes 1 and 2.

Redesigned character sets will work in exactly the same way and it should be easy to build up quite complex playfields by this method. Once you have designed your playfield, there is no reason why you should not move a character around the screen in a similar way. Program 3 is a GRAPHICS 1 version of the 'Spider' demonstration program from my earlier article.

```

EE 10 M001Y0:R1K1Y0Y1ARW0R0E0 1416
FA 20 COLOR B0L0T 00_Y1C0L0R 1010T 0.
Y
EZ 30 R00V1L-Y-Y-0-Y00000 1E 5-15 TR00 3
0
04 40 0F 01L0 TR00 Y0F-01F Y00 TR00 Y00
00T0 00
06 50 0F 01L0 TR00 Y0F0:1F Y00 TR00 Y-0
3:10T0 00
YF 60 0F 01L0 TR00 N0R-01F N00 TR00 N00
00T0 00
08 70 0F 01T TR00 M0F0:1F 010 TR00 010
1:0T0 00
0T 00 00T0 00
  
```

I hope that this outline of 'character plotting' has given you some ideas and set you thinking. Give yourself a break from playing those expensive bought games and write your own, just think of the money you will save! When you have finished to send it to PWZEE for other enthusiasts to share and enjoy seeing your own name in print. Happy computing!

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Freeway Ace!



Requires 32k

FREEWAY ACE! is a 3D racing game with scrolling background for one player. It is written in BASIC but contains a substantial amount of machine code. Listing 1 is the BASIC program whilst listing 2, which does not need to be typed in, is the source code for the machine code part.

The player controls the car nearest to him at the bottom of the screen using a joystick in port 1. Only left and right movement is permitted and the object is to avoid fatally crashing into one of the vehicles ahead as you try to overtake. Hitting the kerbs is possible but this will result in the loss of points. Just last as long as possible and obtain the highest score.

The engine warms ... red light ... green light ... go!

by Paul Lay

```
01 0 REM *****
02 0 REM *
03 0 REM *           FREEWAY ACE
04 0 REM *           by
05 0 REM *           PAUL LAY
06 0 REM *
07 0 REM *           PAGE 2 MAGAZINE - ENGLAND
08 0 REM *
09 0 REM *****
10 0 REM PLAY$=CHR$(65)+CHR$(66)
11 0 REM PAL$=CHR$(192)+CHR$(193)+CHR$(194)
12 0 REM WCC=CHR$(65)+CHR$(66)+CHR$(67)+CHR$(68)
13 0 REM *** game play ***
14 0 REM POK=CHR$(65)+CHR$(66)+CHR$(67)+CHR$(68)
15 0 REM POK=CHR$(65)+CHR$(66)+CHR$(67)+CHR$(68)
16 0 REM IF POK=CHR$(65)+CHR$(66)+CHR$(67)+CHR$(68)
17 0 REM POK=CHR$(65)+CHR$(66)+CHR$(67)+CHR$(68)
18 0 REM SC=CHR$(65)+CHR$(66)
19 0 REM POK=CHR$(65)+CHR$(66)
20 0 REM IF POK=CHR$(65)+CHR$(66)+CHR$(67)+CHR$(68)
21 0 REM SC=CHR$(65)+CHR$(66)+CHR$(67)+CHR$(68)
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99 0 REM POK=CHR$(65)+CHR$(66)+CHR$(67)+CHR$(68)
100 0 REM POK=CHR$(65)+CHR$(66)+CHR$(67)+CHR$(68)
```

Listing 2

1000	W710000	1000	CURRENT	0	000	1000	IMP	1700	100	000
1010	W00	1070	W7000	0	00000	1010	100	0000	0	000
1020	W00	1000				1020	CLC	1720	100	000
1030	W00	1070	W00000000			1030	000	0000	1740	000
1040	1000	CURRENT	1000			1040	010	10000	1750	100
1050	1000	CURRENT	1000	PLA		1050	000	1760	1000	000
1060	1000	CURRENT	1000	000	0000	1060	000	1770	000	
1070	010	W7000	1030	010	000	1070	IMP	1780	000	0000
1080	010	W0000	1040	010	000	1080	IMP	1790	000	0000
1090	010	W7000	1050	000	0000	1090	000	1800	000	0000
1100	010	W7000	1060	000	0000	1100	000	1810	000	0000
1110	010	W7000	1070	000	0000	1110	000	1820	000	0000
1120	010	W7000	1080	000	0000	1120	000	1830	000	0000
1130	010	W7000	1090	000	0000	1130	000	1840	000	0000
1140	010	W7000	1100	000	0000	1140	000	1850	000	0000
1150	010	W7000	1110	000	0000	1150	000	1860	000	0000
1160	010	W7000	1120	000	0000	1160	000	1870	000	0000
1170	010	W7000	1130	000	0000	1170	000	1880	000	0000
1180	010	W7000	1140	000	0000	1180	000	1890	000	0000
1190	010	W7000	1150	000	0000	1190	000	1900	000	0000
1200	010	W7000	1160	000	0000	1200	000	1910	000	0000
1210	010	W7000	1170	000	0000	1210	000	1920	000	0000
1220	010	W7000	1180	000	0000	1220	000	1930	000	0000
1230	010	W7000	1190	000	0000	1230	000	1940	000	0000
1240	010	W7000	1200	000	0000	1240	000	1950	000	0000

01	000	POSITION	0,0	IT	"FROM	0000	0"	W0	1000	FOR	000	TO	0
02	000	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
03	000	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
04	010	0	0000	0000	0000	0000	0000	W0	1000	FOR	000	TO	0
05	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
06	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
07	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
08	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
09	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
10	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
11	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
12	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
13	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
14	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
15	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
16	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
17	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
18	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
19	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
20	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
21	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
22	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
23	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
24	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
25	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
26	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
27	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
28	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
29	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
30	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
31	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
32	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
33	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
34	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
35	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
36	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
37	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
38	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
39	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
40	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
41	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
42	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
43	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
44	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
45	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
46	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
47	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
48	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
49	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
50	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
51	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
52	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
53	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
54	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
55	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
56	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
57	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
58	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
59	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0
60	010	FOR	000	TO	0,0	POSITION	0,0	W0	1000	FOR	000	TO	0

continued on page 45

13060 17940

29750 33560

8. Behind the Scenes



When I play an Adventure, I judge it according to the time frame in which it was originally written. For example, when I wrote about Scott Adams' Adventureland, I described it in superlative terms because that's what it deserved when you consider that it was written in 1978.

However, times change and the old Scott Adams series seem really crude compared to the likes of Infocom. If anyone brought out a Scott Adams quality Adventure today, it would surely be a flop... unless of course your name happens to be Scott Adams!

The only reason I mention this is that I recently played *The Sorcerer of Clapnetog Castle* and boy, was I ever disappointed! I couldn't understand why all the reviewers had raved over it. Sure it had nice graphics, but the Adventure itself was downright lousy. It never told you the full story, the spelling was atrocious, the puzzles were logical and the solutions were unfair. And from what I've read, *The Hulk* is similarly afflicted. Why?

I think there are two simple reasons. Firstly, Scott Adams boasts that he never plays other people's Adventures in order to avoid any subliminal influence. What if an Adventure author should keep track of all new games in order that his own creations will be state-of-the-art. Apart from which, Adventures of Infocom's quality are the greatest inspiration that anyone could hope for. Secondly, he's still using the same antiquated Adventure editor and interpreter that he's been using since Adventureland. Come on Scott. It's a great fan of yours, but this is 1985, not 1978!

Now that I've got that off my chest, let's turn to this month's topic... how Scott Adams writes an Adventure! Despite what I've said above, I thought I'd cover this topic for two reasons. Firstly, even though it's of general interest, it is especially useful to all those budding Adventure writers who are currently fiddling with Adventure Master, Adventure Writer or Adventure Construction Set. Secondly, an appreciation of the inner workings of an Adventure makes the game make a little more sense and hence, easier to play.

How Scott Adams Writes Adventures

Scott Adams says that he begins an Adventure by picking a subject such as *Dungeons* or the Old West. He decides whether to make it treasure oriented or mission oriented, then builds the landscape. This will include a skeleton of the problems and obstacles to overcome. As he dots the landscape with objects, further problems present themselves and are incorporated into the structure. At this point, he

uses a program called an Adventure editor to build the Adventure database. When the database is complete, it is merged with another program called an Adventure interpreter.

By this time, the Adventure is probably 50 percent of its final size. It is play tested by Scott and others who provide him with numerous ideas on how to fill the gaps in the structure. Using these ideas, the database is modified and re-tested until the Adventure is finally complete. This whole process takes anything from one week (for *Mystery Fun House*) to one year (for *Adventureland*), but one month is the average. The final product that you buy consists of the interpreter and the database.

Structure of the Database

The database consists of five tables - vocabulary, objects, rooms, messages and commands. The vocabulary table stores the first three letters (or four in the later Adventures) of every legal word that the player can use in the Adventure. This table is divided into verbs and nouns stored in ASCII format. If any word is preceded by an asterisk, it means that it is a synonym for the previous word. When the interpreter runs, it scans the verbs to find a match for the player's first word. If a match is found, the player's word is converted to a number representing the offset into the verb table and the process is repeated for the noun. If no match is found for either the verb or the noun, then an error message is printed.

The objects table contains descriptions of each of the objects as well as the room number where the object resides. The description is in ASCII, but is optionally followed by the take/drop control. The latter is not relevant to our brief discussion, but may be identified by a 3 or 4 character abbreviation of the object description enclosed by slashes. If the object's room number is zero, then it is in links. If the object's room number is minus one, then the player is carrying it.

Each location in an Adventure is known as a room and is given a unique number greater than zero. (Remember that room zero is used for objects not currently in play. The player can never get to this room.) The rooms table contains descriptions and directions for each of the rooms. The descriptions are again in ASCII. If a description is preceded by an asterisk, the description is assumed to be complete.

by Garry Francis of Sydney, Australia

DRAFTS

For example, "I'm under a bed" will be printed out as 'I'm under a bed'. If the description is not preceded by an asterisk, then the description will automatically be preceded by 'I'm in a' when printed. For example, 'You're' will be printed as 'I'm in a forest'.

There are six possible directions from every room (i.e. north, south, east, west, up and down), but not all of these will necessarily be valid for a particular room. There is one entry in the table corresponding to each of the possible exits from each room. If an entry is zero, it means there is no exit in that direction. If an entry is non-zero, it indicates the room number that the player will end up in if he goes in that direction.

The message table contains all the Adventure's messages and these are again in ASCII. Each message is given a number in the range 1 to 51 (or 102 to 149).

The command table is the core of the Adventure. This contains one entry for each of the auto-commands (explained in a moment) and each of the valid commands that a player may use. Each entry consists of a verb number, a noun number, a logic section and an action section. Remember here about that the player's input is converted into a verb number and a noun number. When this is complete, the player phase begins, whereby the command table is searched for a match on the verb/noun combination. If a match is found, the logic section is checked.

The logic section consists of 0 to 6 conditions. If these are all satisfied, the actions in the action section are executed. If they are not satisfied, then the search continues for another match on the verb/noun combination.

Once the search is exhausted or all necessary actions have been carried out, the auto phase is executed. This is the background processing. It is carried out the same way as the player phase, except that the verb is zero to denote an auto-command and the noun is a number from 1 to 100. The noun number represents the percentage chance of an action being carried out if the logic section of the auto-command is satisfied. For example, if the logic section is satisfied and the noun number is 20, then there is a 20% chance of the action being carried out. If the logic section is satisfied and the noun number is 100, then there is a 100% chance of the action being carried out.

The auto-commands are quite an essential feature of the Scott Adams adventures. They allow all the seemingly random events to occur - like the tide going in and out in Prince Adventure or the bell ringing at various intervals in Ghost Town or the bear deciding to eat you in Savage Island Part 1. Yet at the same time, these in their logic allow for some extremely interesting moments. For example, it is possible (though unlikely) that you could play Ghost Town for a thousand turns without the piano playing ghost ever making an appearance.

The one Adventure where bad logic in the auto-commands is particularly evident is Savage Island Part 1. Even if

you know the game inside out, there's a good chance that you'll be killed through no fault of your own. When I first played the game, I was killed by the bear immediately upon entering the volcano. This happened three times in a row with absolutely no opportunity to save myself. Similarly, I know I needed a pain log, but I could wait anywhere from 1 to 50 moves for it to appear. And those recurring nightmares about the raft that randomly took me everywhere except where I wanted to go until the raft would eventually fall apart. Very annoying.

Anything Else?

In addition to the five tables, the interpreter sets up a number of control flags. There are 15 special flags which may be set or cleared by the various actions. Initially, they are all clear. There is also a 'dark flag' which indicates whether or not it is too dark to see. And finally, there is a counter which tells how many turns are left before the light source goes out. Incidentally, the light source is always object number 5.

Hints

I didn't have enough time to prepare any hints this month, so I'll try to make up for it in the next issue - but no promises. I also have to write an Adventure column and a Question and Answer column for my own users' group, as well as run the Software Exchange. Other recent events included participation in the Australian Personal Computer Show and lecturing/teaching in a country area on how to use the Atari. I barely have time to scratch myself anymore!

HAVING PROBLEMS?

Unfortunately there were one or two problems with the listings in issue 12. A few TYPO codes did not match in lines with REM statements due the fact that I spotted spelling mistakes after having done the coding and corrected them forgetting that the code would be wrong!

KANGA will not run in 16k.

THE WANDERER, Line 1310 should end with BANTOP=4. The TYPO code will not match and you must abbreviate commands and leave out all spaces (or split the line to two lines).

AUTOCAR. To use TYPO II you must type the listing in two parts. LIST each to disk and then ENTER each part to obtain the final listing.

DRAUGHTS

This game for two players follows all the normal rules of Draughts except that there are no "hails", that is, you are not obliged to jump when you are able to do so.

Movement of the draughts is by positioning the cursor over the piece you wish to move and pressing the RETURN key. When a piece has been selected the cursor is moved in the direction that you wish the piece to be played. If your opponent's draught is able to be jumped, your piece will move past your opponent's and his piece will be removed from the board. When a move which involves jumping is completed, press RETURN to pass play to your opponent. Any illegal moves will be indicated by an appropriate sound and flashing border.

The cursor is controlled by the four arrow keys on the keyboard although the diagonal movement may take some getting used to.

```

80 0 000 *****
81 1 000 #          DRAUGHTS          #
82 2 000 #          by                 #
83 3 000 #          C. WALTERS        #
84 4 000 #          *****          #
85 5 000 # FACE 5 MAGAZINE - ENGLAND #
86 6 000 *****
87 7 000 00000000000000000000000000
88 8 0000 000000000000000000000000
89 9 000000 4,0,0,0 00,0,0,0,0000 10,04
90 10 7 00,0,0,0,000 000 0 0,000000 0,0,
    0,0000 0
91 15 POSITION 0,1,0 00,0,0,0,0,0,0,0,0,0
    0,0 0 POSITION 0,1,0 00,0,0,0,0,0,0,0,0,0
    0,0
92 17 POSITION 0,1,0 00,0,0,0,0,0,0,0,0,0,0
    7 00,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
    00 14,0,0 00,0,0,0
93 20 POSITION 0,1,0 00,0,0,0,0,0,0,0,0,0,0
94 25 000 0,0 0 0 0 000 0,0,0,0,0,0,0,0,0,0
    00,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
    0,0 000 0,0 0 14 000 0,0,0,0,0,0,0,0,0,0
    0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
    0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
95 30 000 0,0 0 13 000 0,0,0,0,0,0,0,0,0,0
    0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
    0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
96 35 POSITION 00,0,0,0 00,0,0,0
97 38 POSITION 0,1,0 00,0,0,0,0,0,0,0,0,0,0
98 40 POSITION 1,1,0 00,0,0,0,0,0,0,0,0,0,0,0
    0,0 00,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
    0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
99 45 000 0,0 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
    0,0 1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
100 50 000 000 000000000000000000
101 55 000 000-01
102 60 000 000 000,000

```



by Graeme Walters

```

103 65 000 0000000000 00 0000 000 110
104 70 117 00 0,0 000 000
105 75 000 00 0,0,0 00 0,0 00 00 0000 00 000000
    0000 000
106 80 000 000,0 00 0,0,0,0-0,0,0 00 0,0,0,0,0,0,0
    00 00 0,0,0-0,0,0,0 00 0,0,0,0
107 85 0000 00,0,0,0,0,0,0,0,0,0,0 110 0000 0,0,0
    0000,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
108 90 000 0000 000,0,0,0,0,0,0,0,0,0,0 110
109 95 000 0000 0000,0000,0,0,0,0 110
110 100 000 0000 000,0,0,0,0,0,0,0,0,0,0 110
111 105 000 000,0,0,0,0,0,0,0,0,0,0 110
112 110 000 000,0,0,0,0,0,0,0,0,0,0 110
113 115 000 000,0,0,0,0,0,0,0,0,0,0 110
114 120 000 000,0,0,0,0,0,0,0,0,0,0 110
115 125 000 000,0,0,0,0,0,0,0,0,0,0 110
116 130 000 000,0,0,0,0,0,0,0,0,0,0 110
117 135 000 000,0,0,0,0,0,0,0,0,0,0 110
118 140 000 000,0,0,0,0,0,0,0,0,0,0 110
119 145 000 000,0,0,0,0,0,0,0,0,0,0 110
120 150 000 000,0,0,0,0,0,0,0,0,0,0 110
121 155 000 000,0,0,0,0,0,0,0,0,0,0 110
122 160 000 000,0,0,0,0,0,0,0,0,0,0 110
123 165 000 000,0,0,0,0,0,0,0,0,0,0 110
124 170 000 000,0,0,0,0,0,0,0,0,0,0 110
125 175 000 000,0,0,0,0,0,0,0,0,0,0 110
126 180 000 000,0,0,0,0,0,0,0,0,0,0 110
127 185 000 000,0,0,0,0,0,0,0,0,0,0 110
128 190 000 000,0,0,0,0,0,0,0,0,0,0 110
129 195 000 000,0,0,0,0,0,0,0,0,0,0 110
130 200 000 000,0,0,0,0,0,0,0,0,0,0 110
131 205 000 000,0,0,0,0,0,0,0,0,0,0 110
132 210 000 000,0,0,0,0,0,0,0,0,0,0 110
133 215 000 000,0,0,0,0,0,0,0,0,0,0 110
134 220 000 000,0,0,0,0,0,0,0,0,0,0 110
135 225 000 000,0,0,0,0,0,0,0,0,0,0 110
136 230 000 000,0,0,0,0,0,0,0,0,0,0 110
137 235 000 000,0,0,0,0,0,0,0,0,0,0 110
138 240 000 000,0,0,0,0,0,0,0,0,0,0 110
139 245 000 000,0,0,0,0,0,0,0,0,0,0 110
140 250 000 000,0,0,0,0,0,0,0,0,0,0 110
141 255 000 000,0,0,0,0,0,0,0,0,0,0 110
142 260 000 000,0,0,0,0,0,0,0,0,0,0 110
143 265 000 000,0,0,0,0,0,0,0,0,0,0 110
144 270 000 000,0,0,0,0,0,0,0,0,0,0 110
145 275 000 000,0,0,0,0,0,0,0,0,0,0 110
146 280 000 000,0,0,0,0,0,0,0,0,0,0 110
147 285 000 000,0,0,0,0,0,0,0,0,0,0 110
148 290 000 000,0,0,0,0,0,0,0,0,0,0 110
149 295 000 000,0,0,0,0,0,0,0,0,0,0 110
150 300 000 000,0,0,0,0,0,0,0,0,0,0 110
151 305 000 000,0,0,0,0,0,0,0,0,0,0 110
152 310 000 000,0,0,0,0,0,0,0,0,0,0 110
153 315 000 000,0,0,0,0,0,0,0,0,0,0 110
154 320 000 000,0,0,0,0,0,0,0,0,0,0 110
155 325 000 000,0,0,0,0,0,0,0,0,0,0 110
156 330 000 000,0,0,0,0,0,0,0,0,0,0 110
157 335 000 000,0,0,0,0,0,0,0,0,0,0 110
158 340 000 000,0,0,0,0,0,0,0,0,0,0 110
159 345 000 000,0,0,0,0,0,0,0,0,0,0 110
160 350 000 000,0,0,0,0,0,0,0,0,0,0 110
161 355 000 000,0,0,0,0,0,0,0,0,0,0 110
162 360 000 000,0,0,0,0,0,0,0,0,0,0 110
163 365 000 000,0,0,0,0,0,0,0,0,0,0 110
164 370 000 000,0,0,0,0,0,0,0,0,0,0 110
165 375 000 000,0,0,0,0,0,0,0,0,0,0 110
166 380 000 000,0,0,0,0,0,0,0,0,0,0 110
167 385 000 000,0,0,0,0,0,0,0,0,0,0 110
168 390 000 000,0,0,0,0,0,0,0,0,0,0 110
169 395 000 000,0,0,0,0,0,0,0,0,0,0 110
170 400 000 000,0,0,0,0,0,0,0,0,0,0 110
171 405 000 000,0,0,0,0,0,0,0,0,0,0 110
172 410 000 000,0,0,0,0,0,0,0,0,0,0 110
173 415 000 000,0,0,0,0,0,0,0,0,0,0 110
174 420 000 000,0,0,0,0,0,0,0,0,0,0 110
175 425 000 000,0,0,0,0,0,0,0,0,0,0 110
176 430 000 000,0,0,0,0,0,0,0,0,0,0 110
177 435 000 000,0,0,0,0,0,0,0,0,0,0 110
178 440 000 000,0,0,0,0,0,0,0,0,0,0 110
179 445 000 000,0,0,0,0,0,0,0,0,0,0 110
180 450 000 000,0,0,0,0,0,0,0,0,0,0 110
181 455 000 000,0,0,0,0,0,0,0,0,0,0 110
182 460 000 000,0,0,0,0,0,0,0,0,0,0 110
183 465 000 000,0,0,0,0,0,0,0,0,0,0 110
184 470 000 000,0,0,0,0,0,0,0,0,0,0 110
185 475 000 000,0,0,0,0,0,0,0,0,0,0 110
186 480 000 000,0,0,0,0,0,0,0,0,0,0 110
187 485 000 000,0,0,0,0,0,0,0,0,0,0 110
188 490 000 000,0,0,0,0,0,0,0,0,0,0 110
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The ATARIBOOK of BOOKS

compiled by
Kevin Fleming

It is very easy to criticize the writers work of others and I acknowledge that it is much more difficult to originate. I must therefore state that the critiques given here are a personal assessment of my collection and are highly subjective. Other people could easily come to a completely opposite view. I hope that any reader reading this review (don't you take it too much to heart if I have given him/her a bit of a 'slapping'), because I have 'reviewed' 62 books in this article, the comments being, respectively, been extremely superficial and, at times, erratic. However, I hope it encourages you to buy some of these excellent books rather than 'hate' your money away on non-Atari specific periodicals.

EXPENSIVE

The problem with non-Atari magazines is that they are just not cost-effective. For around 95 pence you usually get 2 to 4 pages of relevant material. If you're lucky and only one page if you're not!

At an estimated average of 25 pence per page, this is equivalent to an Atari-specific computing book, normally about 150 pages, being priced at over £25, so don't have clearances if you find that, thanks to the dollar exchange rate, some of the paperbacks I'm about to recommend, come into your local bookshop at around the 20 pound sterling mark!

Those purposely left the American books at their dollar prices so that you won't be upset by the local sterling price which tends to be increasing ever as you read this . . . and gives the time it takes for your bookdealer to order books from the U.S., don't be too surprised if you're being asked to part with 20-25 pounds sterling! Books with a sterling price should be easily available in the U.K.

ESSENTIAL

How to maintain and service your small computer (A/C) by Stephenson & Cahill published by Howard W. Sams & Co., Inc. \$17.95. You know you're going to need this and it may be sooner than you think. Get it now, it could save you a fortune in computer-time costs, never mind service charges. Very accessible, even to non-electronic types like me.

ABCs of Atari Computers (A/C) by David E. Mentley published by Datamation \$14.95. Super snippets. Plenty to dip into. As a bonus, there is a type-in language APPROM/Ver 4.1. By an enthusiast for enthusiasts.

The Creative Atari (A/C) by Small, Small & Black published by Creative Computing Press \$15.95. Yes, it is a good as they claim it is. Mind-blowing insights.

The Amazing Commodore (A/C) by the editors of Amazing \$14.95. The best of their first two issues. Some great programs. You won't want to be without Black Rabbit 2.0.

Your Atari Computer (A/C) by Paula McNair & Cook published by Osborne/McGraw - Hill \$17.50. As another reviewer once said, 'the one they should have boxed with the Atari'. That says it all!

The Master Memory Map for the Atari (A/C) by Pancher & Shoner published by Reston \$25.95. They go on about Mapping the Atari (see below). Forget it, this is the one you want. Much more user-friendly.

CLASSIFICATION

I propose to classify the books into the following categories

- ESSENTIAL** - go into debt for these!
- DESIRABLE** - good if you can afford them.
- ACCEPTABLE** - alright if you like the look of them.
- RESPONSIBLE** - hopefully returnable!
- DISPOSABLE** - is there a shoulder in the house?!

I must emphasize again that the classifications are my own personal opinion.

I also intend to distinguish between books by using combinations of the following codes:

- A - Atari specific
- N - Non-Atari specific
- G - For the general Atari user
- E - For experienced Atari users

DESIRABLE

The Best of Ataris - Volume one (A/C) by Capparello & DeWitt published by Ataris \$12.95. Some very good programs, some of which have flowed through to PAGE 6 Library disks.

The Atari User's Encyclopedia (A/C) by Phillips & White published by The Book Company \$19.95. Another good selection of snippets.

Mapping the Atari (A/C) by Ian Chisholm published by Computer Books £10.95. Good stuff but aimed more at the experienced user.

Technical Reference Notes (A/C) published by Atari \$27.00. Computer, Operating System, User's Manual - Operating System, Source Listing - Hardware Manual. A treat for the 'serious' user.

Programmer's Reference Guide for the Atari 400/600 Computers (A/C) by David Heisterman published by Howard W. Sams & Co., Inc. \$21.95. A wealth of tabulated information. Some are saying errors e.g. Appendix D - Atari Keyboard Codes (in no way do these codes correspond to my 800 which is in complete accord with page 23 of the above Technical Reference Notes).

Atari Basics (A/C) by Mark Andrews published by Datamation \$14.95. The first guide available on Atari assembly language.

Comped's Third Book of Atari (A/C) published by Computer Publications Inc. \$10.95. In my view the best of the series so far. A word of warning, before you dive in and spend three hours typing the non-lexicon 'Wedge' by Charles Marston, he advised that an updated version by Michael Hayman was published in the May 1983 issue of Computer! It includes a SPRENT command that sends an entire screen to the printer.

Easy Programming for the Atari Macros (A/C) by Eric Lawson published by Shiva Publishing Ltd. \$6.95. At last, a British book and the most cost-effective of the lot! Very friendly and supported by Jon Deane of Atari, sood I say more!

ACCEPTABLE

De Re Atari (A/C) by the Software Development Support Group of Atari published by A.P.C. \$29.95. What do I mean acceptable? Don't I remember Chris Crawford, Jim Davies and several luminaries of the Atari movement were members of that Group? Yes, and I refuse to be over-avoid. This book may be very highly thought-of by some keyboarded Muskrat Carrels, but in my opinion, it is a book which by moving live-ups its advance publicity it misleads all over the place, very easily getting to the point for the cautious amongst you, I would direct your attention to Appendix B - Human Engineering and rest my case!

Atari Games & Recreation (A/C) by Reid, Kahn, Lindsay & Cleland published by Reston \$34.95. An often under-valued book with some excellent appendices, in particular Appendix I - Errors and Error Messages.

Programming the 6502 (A/C) by Rodney Taha published by Sybex \$7. A very clear exposition of a fairly dry topic.

Machine Code for Engineers (A/C) by Watts & Whetton published by Ultron \$2.25. Forget the fact that it's in children's format, it gets the point across, and at this price!

Mastering the Atari (A/C) by Daniel Severin published by Interface Publications \$5.95. More of an intermediate level book. Some good explanations of the Input/Output procedures.

Best of PCW Software for the Atari XL/A/C edited by Jane Brad published by Century Communications Ltd \$5.95. Some delightful programs - e.g. Haslell's Annual of the Queens of Sheba, and also some snappy tips & tricks.

I Speak Basic to my Atari (A/C) by Audrey Jones & published by Hayden Book Company Inc. \$75. If you're just starting out and you haven't a clue about Basic, this is the one for you!

Some Common Basic Programs - Atari Edition (A/C) by Probe, Newman & Cook published by Gilman/MS/Ginn-PH \$14.99. Various business, mathematical & statistical program listings. Get it if you need them.

CompuTel's Second Book of Atari (A/C) by the editors of CompuTel magazine published by CompuTel Books \$70.95. A good compilation of some of the better articles in CompuTel magazine.

Microsoft Basic - Second Edition (A/C) by Eric Knerr published by Microsoft Press \$15.95. This is the definitive third-party version for those of you with Microsoft Basic.

Atari Player-Miscellaneous Graphics in Basic (A/C) by Philip C. Soren published by Reston \$14.95. Slightly over-priced, but if you're into P/M graphics you'll pay anything, won't you?

Talking to the World (A/C) by John Newport published by Century Communications Ltd \$5.95. A very succinct introduction to the world of the MODEM. Although aimed at all main stream, it does not ignore the existence of the Atari and even includes a type-in listing of that well-known terminal program JTEHM (Ver.3.0). Worth buying for this program alone!

The One Line Handbook (A/C) by Ray Harwood published by Fontana \$4.95. Once the MODEM revolution starts, you're going to need this book. Poor quality paper, but what do you expect for this price?

The Ultimate Book - Atari Edition (A/C) by Donald H. Bell published by Reston \$14.95. If you managed to look out for Ultimate, you should know at this price Aged! clear explanation of how to handle this desperately laconic program, which somehow loses some of its speed on the Atari (even with MATCHP).

Atari Programming with 35 Programs (A/C) by Linda M. Schreiber published by TAB Books Inc. \$15.95. A very straight straightforward account. All right, but not very exciting!

Fun Mathematics on your Microcomputer (A/C) by Carl Kosonowski published by Cambridge University Press \$5.95. For those of you who find maths enjoyable! Yes, we even find ourselves amongst Atari owners!

Programming your Atari Computer (A/C) by Mark Thompson published by TAB Books Inc. \$11.50. Some good fundamental stuff here, it even gets down to Boolean algebra, Venn and Vitch diagrams, something you don't often find in the other books!

CompuTel's First Book of Atari Graphics (A/C) by the Editors of CompuTel Magazine published by CompuTel Books £10.95. Some very useful programs such as Textplot and Superdot are included.

CompuTel's Second Book of Atari Graphics (A/C) by the Editors of CompuTel Magazine published by CompuTel Books £10.95. More graphic utilities like Fontbyte and Screenwriter make this a reasonable buy.

Making the most of your Atari (A/C) by Paul Barry published by Interface Publications \$5.95. What lets this book down is that it needs a 200 page manuscript as a 176 and 184k capacity professional! A pity because Paul has included some little gems of programming here.

Learning to use the Atari 400/800 Computer (A/C) by Susan Fry published by Gower Publishing Co. Ltd \$8.95. A good elementary introduction to the intricacies of the Atari.

Basic Exercises for the Atari (A/C) by J. P. Lerothier published by Sybex \$12.95. A series of programs for a number of financial and statistical applications. Clear but unimpressive!

Maths Computer Fun (A/C) by G. T. Childs published by Sigma Technical Press \$5.25. Although in Sharp and Apple Basic, the programs are easily translatable into our version. The level of maths ranges from primary to sixth form. A very enthusiastic approach has been adopted which works well.

Atari Adventures (A/C) by Tony Bridge published by Fontana Books \$5.95. A good introduction to adventuring, particularly of the D&D genre. A full length graphics/text adventure game 'The Eye of the Star Naxaria' may be typical. I must get around to it!

Handbook for your Atari Computer (A/C) by H. C. Wagner published by Holbeck Genui \$8.95. Strictly for the 'dead in the wood' machine language programmer.

How to program your Atari in 6502 machine language (A/C) by Sam D. Roberts published by Holbeck Genui \$8.95. An expensive but necessarily clear explanation of this difficult topic.

DISPENSABLE

Atari Basic - Learning by Using (A/G) by Thomas E. Rowley published by Hester/Gardner \$9.95. Another book with a surfeit of blank space! Very long!

Games for the Atari (A/G) by Sam D. Roberts published by Hester/Gardner \$7.95. Some of this book isn't all that bad. Despite the title, there are a few sections concerned with game programming theory, which are quite useful.

Computer's First Book of Atari (A/G) by the editors of Computer Magazine published by Computer Books £18.95. Computer's first attempt at anthologizing articles from the magazine which wasn't completely successful. The inclusion of the then Marketing V.P.'s views are a gem, and the comparison between Atari Basic and PET Microsoft Basic seems positive, to say the least. Such articles may be profitable in the monthly magazine, but in an anthology?

Machine Language for Beginners (A/G) by Richard Harefield published by Computer Books £11.95. Here Atari has to share the book with VIC, C64, Apple II, PET. Scott is not too supporting that there are better books of this kind available in the U.S.

The Atari Basic Source Book (A/G) by Bill Millican et al. published by Computer Books £20.95. Definitely for the neophytes amongst us. This one gets a lot of rave reviews elsewhere, so be warned!

Inside Atari DOS (A/G) by Bill Millican published by Computer Books £14.95. You may blanch at this price for 104 pages. However, 100% of Atari users will find it essential.

Advanced ATARI BASIC Tutorial (A/G) by Robert A. Park published by Howard W. Stern & Co. Inc. \$11.95. Tends to labour some of its points too much with consequent loss of interest.

Getting started on your Atari (A/G) by Harriet & Berni published by Futaba Publishers £2.95. This approach has been done so much better elsewhere. It has all the signs of a 'read' job!

The Atari Assembler (A/G) by James & James published by Bantam \$12.95. A straightforward account and don't forget you'll need that Atari Assembler cartridge!

Home Applications and Games for the ATARI Home Computers (A/G) by Timothy F. Barnes published by Little, Brown & Co. \$14.50. A large format book, presumably to justify the price! Some useful, but not exceptional games and applications programs.

Basic Computer Simulation (A/G) by Lawrence L. McNeil published by TMI Books Inc. \$15.50. Over 300 pages of simulation programs in TRS-80 Basic which are easily convertible to Atari Basic. This could have been a much more interesting book considering the simulations selected.

Writing Strategy Games on your Atari computer (A/G) by John Miller published by Sandstone Books £3.95. If you're into strategy gaming, then this one is for you. I must type to Megg. They sometimes!

Games for your Atari (A/G) by Paul Barn published by Virgin Books £2.95. A reasonable set of games listings at a most competitive price.

The Atari Book of Games (A/G) by James Cox & Deborah published by Granada Publishing £5.95. 21 international games despite what it says on the back cover!

Get More Power The Atari (A/G) by Lee Street published by Granada Publishing £3.95. Done so much better elsewhere.

DISPENSABLE

Computer Tutor - Atari (A/G) by Oring & Hodges published by Little, Brown & Co. \$19.95. Another 300 page/large format book. Programs in both Basic and Microsoft, but boring listing!

Awesome Games for your Atari Computer (A/G) by Kenick & Edwards published by Addison-Wesley Publishing Co. £2.95. 'Awful Games Need I say so?'

Sixty Programs for the Atari 400/400XL/800 (A/G) by Erikine et al. published by Pan Books £5.95. Only one program interesting enough to type it in. It wouldn't run, hence no support from me!

32 Basic Programs for the Atari computer (A/G) by Bagg et al. published by Dillinger Press \$19.95. At first sight a very good book, then you type it in and the illusion is soon shattered!

Anthology - A look into the future (A/G) by Sam D. Roberts published by Hester/Gardner \$29.95. I typed it in, it wouldn't run and so I complained to the publishers who sent me a cassette which did. I had to polish my own systems to get rid of the Asterisks and Truncated lines, but it works ok now. Having said that, the total chart is screened in blue and white with graphics 8. To deny the Atari the chance of computing this chart is 'glorious technology' seems very ironic. disappointing!

Simulator Simulations (Atari version 2nd Edition) (A/G) by C. W. Engel published by Hayden Book Company Inc. \$5.95. Well! Another simulator should be brought to the attention of the Advertising Standards Authority! It's unrecognisable listing.

Atari Sound and Graphics (A/G) by Albrecht et al. published by John Wiley & Sons \$9.95. Avoid this one, you won't regret it. Very mediocre.

101 ATARI Computer Programming Tips & Tricks (A/G) by Alan North published by McGraw-Hill Publishers \$8.95. The average length of these 'programs' is about 10 lines. Imagine how interesting they can get. EZZZZZ. Semp!

BIBLIOGRAPHY

1. ATARI Books Reviewed by Cita Pappas & Lee Pappas ANALOG computing - No. 12 JULY/AUGUST 1983 pp76 - 79
2. ATARI Book Reviews by Lee Pappas ANALOG computing - No. 18 APRIL 1984 pp17 - 19
3. ANTIC Bookshelf (New Books for ATARI) by the ANTIC staff ANTIC (the ATARI newsletter) - Vol. 3 No. 9 JANUARY 1985 pp61 - 67
4. Ample ATARI Literature Personal Computer News - PCN Micropanels Vol. 17 Part 2 pp412 - 413
5. Book Reviews by Jack Schindler Practical Computing - OCTOBER 1984 pp179 - 180

ATARIWRITER

and the 1027

Now that several shops are offering package-deals on Atari equipment, it is reasonable to assume that there are some of you out there who find yourselves in possession of an Atari computer, disk-drive, 1027 printer and the ATARIWRITER word-processor cartridge.

One of the first things that you will have noticed whilst unpacking the equipment, is that the manual supplied with the 1027 is ludicrously inadequate. It is basically of little help in any respect. Whilst ATARIWRITER comes with quite a good manual, possibly due to the Datascout connection, it was in fact published before the introduction of the 1027, and so makes no reference to this printer.

So whilst these manuals mutually ignore one another, you are left wondering how best to use the equipment.

Having used this combination now for some months, I feel able to offer a few tips. If these are read in conjunction with the article entitled 'Secrets of ATARIWRITER' from *Atari* vol.3 #11, then some of the mysteries may be solved.

When ATARIWRITER prompts you to select a printer, use selection 3 (the ATARI 820).

1) PRINT FORMATTING BLOCK

It is advisable to change the bottom margin value to [CTRL] [B], the top margin to [CTRL] [T], and the page-length to [CTRL] [V]126. This will prevent the 1027 from starting to print too far down the page. More importantly, as it has no way of knowing whether or not the paper has run out, it will prevent the printer from printing off the bottom of the paper and onto the platen. When the paper is inserted, it should be lined-up using the plastic edge of the top cover, and then several back to the metal guideline.

It would be a good idea at this point to add a second line of commands to the print-formatting block. Here would be a suggestion:

```
[CTRL] [Q]27 [CTRL] [Q]25 [CTRL] [C] [CTRL] [I] @ [CTRL] [W]
followed by [RETURN].
```

The cumulative effect of this is that the international character-set-intension- ([CTRL] [Q]27 [CTRL] [Q]25), - and each page of the document is automatically numbered and printed at the bottom- ([CTRL] [C] [CTRL] [I] @). Additionally [CTRL] [W] will set up the 'page-wait' command which will make the 1027 stop printing at the end of a page, and wait for the RETURN key to be depressed before continuing. The insertion of the 'page-eject' code [CTRL] [C] at any point in the text will, of course, still cause the 1027 to cease printing at that point, and continue when a fresh sheet of paper has been put in place and the [RETURN] key has

been pressed.

Before saving this amended print-formatting block to disk, it may also be worth your while to add your address immediately underneath any text, possibly justifying each line of the address to the right margin, with the [CTRL] [C] [CTRL] [C] command. If this is saved with the file name LETTER, much time is saved by not having to type it out on every occasion.

2) THE INTERNATIONAL CHARACTER SET

Initially, this may not seem to be of too much importance, unless you are prone to bursts of French or Spanish for unaccountable reasons. However, the pound-sign also comes into this category, and that might be of more interest. It is always a good idea to put the control codes for the I.C.S. at the beginning of every document. It does no harm, and can be useful. Having done this (see above), the pound-sign can be called up by typing [CTRL] [Q]008. All of the other international characters can similarly be printed by typing [CTRL] [Q] followed by the appropriate decimal-code, as given in the 1027 manual.

3) THE SEARCH & REPLACE FUNCTION

This function is easy to use and is explained thoroughly in the ATARIWRITER manual. It is generally used for correcting spelling errors in a document, by replacing every occurrence of the misspelt word with the correct version. However, it has more uses than that alone. For example, if you are producing a document which necessitates great use of a printer control-code, much of the labour can be reduced by universally replacing the code throughout the document by a single character.

Using the pound-sign as an example, you could type [CTRL] [Q] wherever you wanted the pound-sign to appear, and then, at the end of the document, you would be able to replace, at a stroke, every asterisk with 008. The time saving can be considerable over the course of a large document. Do not however try to replace the [CTRL] [Q] itself, as this will not work unfortunately!

4) THE UNDERLINING FACILITY

Doubtless you will have tried to underline text, using ATARIWRITER and the 1027, by switching to inverse video as suggested in the ATARIWRITER manual. This will not have worked. The best way to start underlining is to

insert control codes [CTRL] Q27 [CTRL] Q25. To stop underlining, insert control codes [CTRL] Q27 [CTRL] Q26 - or simply hit the [RETURN] key. Note that ALL text (including spaces between words) will be underlined, using this method.

5) DOUBLE-COLUMN PRINTING

At first sight this would appear not to be possible with the 1027, as the second column requires the printer to reverse directions, and print from the bottom of the page to the top.

There is a way round this on the 1027, but it can be a little tricky. Firstly, change the left margin in the formatting block to [CTRL] L0, and the right margin to [CTRL] R38. Once you have inserted your text, enter the 'page-off' command-[CTRL]E - at the point where you would like the first column to end. Also this, insert control codes [CTRL] L42 and [CTRL] R50. Whilst printing, the 1027 will now stop at the end of the first column, allowing you to put THE SAME PAGE back into the printer. In order to get the second column, this technique can be continued throughout the document, alternating between the two sets of codes for the left and right margins as necessary.

If you use this method, please remember that ATARI-WRITER will consider each of the two columns to be a separate page, therefore page numbering will not be possible, and print-preview will require you to scroll across the screen to find your text. Additionally, if you will be using the International character set, it may be necessary to repeat the codes [CTRL] Q27 and [CTRL] Q25 after each column.

6) THE INK-ROLLER

Replacements ink-rollers for the 1027 may be difficult to find. However, if the roller is not damaged, or badly worn, it is quite possible to re-ink it, using ordinary stamp-pad ink, evenly spread. Be careful not to apply too much ink, and remove any excess with an absorbent tissue. The quality of print will now be as good, if not better, than with a new ink roller.

7) THE PRINTER TIME-OUT

If you are using the 1027 in conjunction with ATARI-WRITER, you may well have experienced the strange phenomena of the printer suddenly stopping all activities for a period of about three minutes, and then continuing as though nothing had happened.

I have heard a wide range of possible reasons for this. It has been suggested that a certain combination of characters causes the printers 'lock-up'. This is an unlikely explanation, as it seems to happen entirely at random. It has also been suggested that a bug in the operating system of the ATARI computers is to blame. This is more likely, but again, not entirely convincing, as it seems to happen irrespective of which version of the G.S. is used. It could be entirely to do with the printer itself, allowing it time to 'cool down'. Whatever the reason, it is irritating - but I know of no guaranteed way of preventing this from happening. ATARI themselves cannot suggest a cure. Just spend the time quietly contemplating what you can do with the money you saved by not having to buy an interface unit and a printer-driver!

IMPORTANT INFORMATION

```
10 GRAPHICS 0:0L=PEEK(500)+256*PEEK(501)
20 SETCOLOR 1,15,15:SETCOLOR 0,3,3:PAGE 02,0:PAGE
500,0:PAGE 700,200
30 PAGE 0L*0,7:PAGE 0L*7,0
40 T IT 00:" HIF HJH0000 SUBS J      PDEF07"
50 T IT IT " 000001001001001 00 0000 J"IT IT
   " 1000001" 000 1000000 000000"
60 T IT "      JO 10001/"
70 T IT " 000 0010- 0010000 100000 0100 "IT I
  " " 112,704 (211/"IT IT "  P0 0000 JO 00
0 100 00 00 J"IT
80 T "      120 0000 100000-"IT "
C100J001000"IT "      C10 100/"
90 SC=PEEK(0L+40)+256*PEEK(0L+30)
100 FOR A=50 TO 50+700:IF PEEK(0L+0) THEN FOR B,PC
ER(0)=1
110 NEXT B
120 FOR A=1000 TO 1000+7000 B:PAGE 0,0:NEXT A:PAGE
507,40:0=050(0500)
130 DATA 100,170,11,212,100,20,141,10,212,141,20,2
00,141,24,200,70,1,0
```

To find out what is important just type in and RUN the above.

Atari International

SPARTADOS

Fortunately for all us Atarians there is a growing interest in the supply market for all types of programs, games, utilities etc. and enhancements. I wrote last time about the US Doubler product, published by ICD Inc., which converts the 1050 disk drive to double density. Included in the package was SpartaDOS.

SpartaDOS joins the disk operating systems already on the market, the three published by Atari (sealed), DOS-XL by C.S.S., TOP-DOS by Eclipse Software and there are probably others of which I am not aware. I consider this new DOS to be another step forward and may prove to be the best so far.

SpartaDOS supports single, dual 1050 and true double densities, single and double sided, 5 1/4 in. and 8 in. disk drives and even a hard disk drive. Apparently the new 3 1/2 in. drives are not supported and this may be a serious error. I expect that ICD are not unaware of the situation and that they will issue an enhancement as soon as the new drives become available.

SpartaDOS is a mainly memory resident disk operating system in that it resides in RAM and is therefore always available. This means that no programs or data is lost when you switch to another DOS or if the DOS: MEM.SAV file, which always seemed to me to take ages to load, is not used or necessary. Unlike DOS:2, SpartaDOS is command-driven which means that you simply type a command, and then leave the DOS to it. DOS:2 uses a menu structure from which you make your selection and this is somewhat time consuming. Not all the commands, however, are RAM resident. Most of the commonly used ones are, such as ERASE, RENAME, DIR (for directory of files), CMT (to run a cartridge and return to program), LOAD, SAVE, APPEND and RUN (binary files) and others. It is a pity but some other DOS utilities that you will use here to be loaded from a master disk. These include FORMAT, INIT, SPCOPY, UNERASE (yes), DUPDISK etc. which ICD call external commands. You could, of course, copy some of these on to your working disk and then they would be almost immediately available. All the necessary DOS:2 functions are included on SpartaDOS along with a lot more. I shall only describe the additional features and differences and not waste your time with the familiar ones.

Unusually SpartaDOS requires that you give each disk a 'volume' name at format time such as ADVENT1, DISK12, 01234 etc. which I guess ensures that disk insertion errors are not made when duplicating a disk on a single drive system. I cannot think of any other valid reason for this requirement. Note that DOS must be written to each disk at format time where it acts as a boot file. The DOS is available indefinitely, the normal full DOS, and secondly, a special short DOS, using very little memory for loading game disks that do not require to be written to, and each can be used at normal or high (about) speed. You can only use the high speed DOS if your drive is equipped with the US Doubler or Archiver II chips, and as I showed last time, reading is performed at about three times faster and writing at

between two and five times faster than other DOSs.

Sector links are handled differently than DOS:2 or DOS-XL with the result that, in single density format with full DOS, 665 sectors, (or 687 sectors, with the short DOS) each of 128 bytes, are available for your use compared to 707 125-byte sectors in DOS:2. In double density full DOS:689 256-byte sectors are available. This represents a data storage capacity of over 172K bytes.

The number of files you can have on a disk is virtually unlimited through the use of sub-directories. There is one main directory and this can have up to 128 files or sub-directories, each of which in turn can be subdivided into 128 further sub-directories and so on. This is obviously intended for hard-disk drives which are capable of storing in excess of 15 megabytes (and soon to be available from that if Jack Tramiel's statements are anything to go by). Files will have to be very small for this to be effective on 5 1/4 in. drives. None of my disks have more than 35 files, but the facility is there should you need it.

On my 48K 800 the standard speed SpartaDOS has a LOWEM of \$2000 and that of the high-speed \$2300, which means that some non-SpartaDOS utilities that load at below \$2300 will crash (or lockup your system). To avoid this you would have to use a non-high speed DOS or relocate the utility. You will therefore understand why the high speed DOS leaves you with only 30734 bytes for BASIC programming use. On the 64K XL machines it should be possible to move the DOS into the otherwise unused RAM under the operating system ROM and thus recover most of the lost RAM. XL users may therefore have about 37K bytes free for BASIC if ICD or a clever programmer can come up with the goods.

AUTORUN.SYS is not used in SpartaDOS, instead a more flexible and easy to implement STARTUP.BAT file is used to load any number of machine code files in sequence, for example you could have a batch file load an English language error message file, then go to the BASIC cartridge and run a program, all automatically on switching on the computer. However if you should have a disk containing such a batch file or type CAR when in DOS without having inserted the BASIC cartridge the system crashes forcing you to reboot. I would much prefer the system to switch back to DOS or to an error message to be printed to screen rather than just freezing.

To execute a machine code file that has been saved under the name filename.COM with the INIT/RUN pointers, you only need type its name without the extension LOAD filename.EXT is used to load and run a machine code file, in the same way as the BASIC LOAD command, for example if you want to load a special character set, and HLEN is used to execute a file that is already in memory or RUN [address] to run a file starting at that byte. All this seems very sensible to me.

SPCOPY is used to copy files from any disk of any density

Book Reviews

ATARI BASIC FASTER AND BETTER



ATARI BASIC *Faster and Better* is one of those American books that I have had my eye on for some time but with many books the advertising blurb turns out to be more interesting than the book itself, so I hold off sending for it. Now that I have a copy, I wish that I had sent for it earlier. The title really does say it all.

The Introduction states 'Learning to program the 800 is like learning to play the piano. It's easy to play simple tunes from the very first day but you can spend a lifetime improving your technique and expanding your repertoire.' That sums up nicely just what this book helps you to do.

The author Gail Evans has collected together hundreds of lines and tips and small (and not so small) routines in both BASIC and machine language to enable you to get the best from your programming efforts. The book started life as the author's own personal notebook of routines which were meticulously sorted down each time something new was developed. Routines such as dates, formatting screens, sorts, memory saving techniques, keyboard handling and many more were saved by him on disk as separate 'LIST and ENTER routines so that each time a program was developed he merely had to ENTER the routines needed. Over 60 of these routines are presented in this book with explanations to enable you to use them in your own programs. Uniquely, every routine is numbered in sequence throughout the book so that you can save them all to disk and call any routine into your program without fear of contradicting line numbers.

Aside from the routines, which alone justify the purchase, both simple and complex programming techniques are explained and unless you really do know it all you are sure to learn at least a little and probably a great deal. There are several appendices including a complete explanation of all the error codes with explanations and examples of why they occur and how to put them right. With one or two minor exceptions, such as the use of 'space' locations in page zero, the book applies to the entire range of Atari 8-bit micros and is a worthwhile investment that will have you producing far superior programs without having to work out all the details. You will most probably also include several routines that you might never have otherwise thought of.

The book is not primarily concerned with games programming so Player Missile Graphics are not covered but many of the techniques will be useful in introductions, scoring and general 'non-play' routines. If you want to write serious or educational or 'non-jokeish' programs you will find much helpful advice packed into 300 pages of this large format book.

ATARI BASIC *Faster and Better* is priced at £16.95 and should be available from your dealer or from the Importers, Software Express International.

COMPUTE!'s ATARI COLLECTION Volume 1 published by COMPUTE! Price £10.95



Reviewed by Alan Paterson

The latest title in COMPUTE!'s series of Atari-specific publications comprises a mixed bag of games, applications, utilities, educational programs and tutorials. All the articles in this collection have the distinction of appearing in print for the first time. I do not know why this book is not titled 'COMPUTE!'s Fourth Book of Atari', as it is presented in the same successful format as the previously published First, Second and Third Books of Atari. Perhaps someone thought contributing the numbering sequence would create the impression that this was a book about Forth on the Atari!

The selection of articles is well balanced covering a wide range of subjects for the beginner up to intermediate level Atari enthusiasts. There are games, including a scrolling tank game, a Reversi variant, a 'Dungeons & Dragons' style adventure and notably a game with a somewhat different theme of 'Take a photo of the Loch Ness Monster!'. Coincidentally, as I was preparing this review I was looking through some recent issues of *ANALOG* magazine, and in the 'Our Games' column was a suggestion for a 'Nessie' based game from Trevor Slagge of Milton Payne. Someone thought it was a good idea, then?

On the applications front, those lucky enough to possess a printer may find the Shopping List program a means to justify their Atari system to their wives. The program allows for the production of neatly formatted shopping check lists. Different lists for different shops may be set up and called in as appropriate. There is a chance to overcome the difficulties with those cryptic notes which your other half calls a shopping list. No more problems thinking that the text 'I S.R.' means a tube of toothpaste when in fact you are being asked to get a bag of Self Raising Flour!

If you are musically minded there are three music editors to enable you to write the sound capabilities of your ATARI. Also presented is a routine which will generate music, generated by your Atari, to be played whilst your own BASIC programs is running. There are also eight programs in the educational category included.

Overall, the thirty articles in this collection make another fine book from COMPUTE! for Atari owners contributing the excellent standard already set. What next? How about a collected edition of Bill Wilkinson's 'Bright Atari' columns. That would be worth ordering right now!

THE SOFTWARE REVIEWS

JUGGLES V PROTO

One parents view of the educational programs **JUGGLES HOUSE** and **JUGGLES RAINBOW** from Atari and the **PROTO** series from Educational Software.

The games reeds cutting the home needs printing, but there are more important things to do. Your foot is tapping uncontrollably to a jazy version of Rocky Top and Paganin D'Moreau... **CYBRUSS**... You're on your last life and only one warp from Earth... **SCORES** 210,000... when suddenly the door bursts open and a voice shouts "Daddy, can I have a go on the computer?"... **24P**... **Gamma Ooze**. Familiar scene?

My daughter is four and a half years old and she wants to do it, press the letters on the keyboard and get that little beeping sound. So I thought I would get Juggles House and Juggles Rainbow to enable her to play on the computer while I was out at work or on the golf course. Then I could try for Earth again in peace.

Juggles House and Juggles Rainbow are supposed to 'introduce spatial concepts' to 3 to 5-year olds. Another visualist shows them the differences between inside and outside, left and right and above and below. They are simple and colourful and use 'mouse' to relate areas on the keyboard to areas on the screen. The accompanying documentation is excellent. My daughter loved them. Both games are similar and take the form of a very junior quiz. You start by placing your mouse on the keyboard to match the screen. A message appears on screen asking you to 'Press Right' - she presses right. Then there follows a series of similar questions like 'Press Above' etc. If the child does not make more than two mistakes in a row, there is a graphic picture at the end. Great, so why do I not see how a single figure handicap is golf?

Finally, my daughter got nearly all the questions correct first time! More importantly she is unable to read (age range 5 years?) which means that I have to be present because she has no idea what to do until she is shown for the first time. Having to play with her means I have to listen to the soundtracks which I find intensely annoying but which she loves! and I have so many kept going by the time she can read and to tell alone, she will not be interested in anything so simple.

The games are around £19 each and are so simple you wonder why you did not write them yourself. Remember kids will love things that you might consider too simple.

At that price I was very disappointed. My daughter was entertained but had to be present at the time which defeated the original purpose.

ENTER PROTO

So I tried the 'PROTO' series from Maple Electronics consisting of three cassettes, or disks, containing in total 10 semi-educational games. They were available at a special price of £29 for the lot! The cassettes were individually boxed and each with their own 16 page booklet which is written so clearly that I could trust my wife to load the games.

Games is just what they are. Not so-called down versions of popular adult games but 'arcade' type games specially written for children. They range from extremely easy to almost adult level each with several levels of difficulty. The series

has therefore a wide age appeal from 4 to 10 years. What Juggles is a question and answer session with no movement on the screen, all the games in the PROTO series are joystick controlled with movement, better sound, nice colours and, more importantly, a goal, usually a score. One minor drawback is that you load the cassette versions with RUM 'C' and therefore have to wait some time for them to load.

Verdict - intrinsically impressive but excellent quality. My daughter loves them and will sit by herself quite happily for a long time. So maybe now I can get out onto the golf course. First though I must try to get to that last warp.

The last starts tapping... **24P**... one more life... **SCORES** 210,000... surely there suddenly "Daddy...". You are the only game to urge to play on the computer when it's using it OK well, sufficient handicap not too bad! Anyone want to buy a copy of Cypruss?

Reviewed by C. Laing

OIL'S WELL Sierra/Vision ROM or Disk £18.95

If you have ever fantasied following in the footsteps of the Drags or the Cartographers this game from Sierra/Vision gives you that chance. Mind you, you will have to use a bit of a bit of imagination!

OIL'S WELL is, basically, a maze game. Your gaffer has come in and you are on the way to becoming a multi-millionaire but first you must mine the oil rich deposits of petroleum that lie underground. You do this by sinking your drill bit and then guiding it around the maze with a joystick to gobble up all the oil. The drill bit has a pipe so it moves which causes problems as the pipe is liable to be attacked by the 'corros'! These cross the maze at random intervals from left to right and vice-versa. Luckily they have no defence against your drill bit and you can gobble them up for extra points. Pressing or holding down the fire button allows you to retract your pipe to avoid the corros. Really (yes, bomb!) wonder across the screen occasionally. They will destroy your drill bit but they pass harmlessly through your pipe.

Naturally it wouldn't be a maze game without the customary 'secret weapon' or power pill as they are more modestly termed. You get one of these on each level of play and it has the effect of slowing the corros down for a limited period of time, giving you the chance of clearing the maze unharmed. Measurably you gain large bonus points for collecting the golden goblets which appear rather infrequently.

You must complete each individual maze before the timer runs out. Once you do this, you advance on to the next level of play and a new maze. There are 8 different mazes in all and after each is completed, extra buildings are added to the construction site at the top of the screen. By the end of level 7 there is quite a huge complex up there. That's if you manage to get that far!

OIL'S WELL is one of my favourite games at the moment. It has more variety than the average maze game and, once you get used to it it is not really all that difficult to play. On the minus side, it is rather pricey at £18.95.

Estimated how a similar game on the market called **ARBY THE ARMY ARK**, but **OIL'S WELL** is the better and more playable of the two. I saw both watching Dallas employ, but then doesn't anything?

Reviewed by Jim Short

THE SOFTWARE REVIEWS

GHOSTBUSTERS

Activision
DISK only
£14.95

You've seen the film and bought the hit record, now play the game! Activision's latest release follows the film plot faithfully so if you have seen the film, you know exactly what to expect.

The game fires up with an impressive title screen complete with Ghostbusters symbol and theme music which is first class. The lyrics are displayed so that you can sing along if you wish. If you are by now heartily sick of the Ray Parker Jr. original press start and play the game!

Ghostbusters is played over three different screens - the street map, the driving screen and finally the ghost-busting screen. Before you start you must purchase a vehicle with the money available to you by the bank and load it up with your ghost-busting equipment. You then advance to the street map screen and have to guide your mischievous ghost-busters symbol around the maze-like pattern of streets searching for buildings which are being haunted by ghosts. Fortunately, the buildings flash crimson when a ghost is present so this task is not particularly difficult. After selecting the building via the joystick, you progress through the driving screen where you guide your vehicle across the city to the haunted building. While on your way you must vacuum up any 'Street Roaches' that you encounter. If it is beginning to sound complicated, leave yourself - there is more to come!

When you reach the building you must drop one of your traps on the ground and try to entice the ghost over it with the aid of your laser backpacks. This is quite a tricky operation as the ghost has no intention of being caught quite so easily and first about the screen is quite an erratic manner in a bid to avoid you. Once you think the ghost is in a catchable position you must press the trigger to release the trap and, hopefully, it will spring up and catch the ghost. If you miss the ghost will zoom down and knock out one of your men before disappearing. You begin with three men and you need at least two men to function properly so missing a ghost on consecutive occasions means a return to GHQ for extra back-up men. You will also have to return to GHQ periodically to empty your traps



GHOSTBUSTERS



Reviewed
by
Jim Short



Drawing
by
Ronald Hill



and replenish your backpack power.

All the time the game is in progress, the city's PK Energy! is mounting up at the bottom of the screen. You must keep a sharp eye on this as the dreaded Marshmallow Man appears when the PK Energy is in excess of 5000. He will attempt to stomp down the buildings which, in turn, will cost you money to repair, so you must stop him at all costs by laying ghost-bait to attract him away from the buildings. The Mayor of the city will reward you 2000 dollars each time you hit the Marshmallow Man but you will lose 4000 dollars each time you allow him to stomp down a building.

Catching a ghost earns you a set amount of money. The idea is to try and make more money than you started with and you have to do this before the city's PK Energy level reaches 9999. If you manage it you will be given the chance to enter the Temple of Zuul, where the ghosts emanate, and close the portal to the spirit world. This involves the frustrating process of trying to get into it your men just a ghost. Marshmallow Man as he guards the doorway to the Temple. If you are successful in this you will witness the closing of the portal and will receive a special commendation together with a personal Award number from the bank which you can use in future games allowing you to start with more money than usual. Score raised by leading your way through all this!

On the surface GHOSTBUSTERS seems like a very good game, but I do have a couple of minor quibbles. Firstly there is no facility to turn off the background music. It does grate after a while and there are precious few other sounds to compensate. Secondly, the game is rather too easy and can become boring too quickly. I completed the game on only my fourth attempt and now have little incentive to play it again. The seasoned games player will have to spend money about at the start of the game purchasing as much expensive equipment as possible, unless or otherwise, in order to make the game more challenging.

Finally, GHOSTBUSTERS is available on disk only for the Amib. Yet another example of an American company ignoring the British cassette market to which this game in particular is more suited.

THE SOFTWARE REVIEWS

HARD HAT MACK Electronic Arts Disk only

HARD HAT MACK comes from the same company who were responsible for Pebble Construction Set and Archon. The company has a good reputation for high quality software and, in most cases, the reputation is well deserved. So what about HARD HAT MACK?

The game is basically a platform game with the action taking place on a construction site. On Level 1, MACK has to travel up and down the various girders, plugging the gaps with small metal plates which he has to step in place with the aid of a pneumatic drill. At the same time he must avoid the clutches of the evil Cms.

Level 2 finds MACK trying to collect all the lunch boxes at the end of the break-break before making his way to the top of the screen on a convenient moving girder. The Vandal makes his first appearance on this level, looking a lot like Vader's punk rocker from The Young Ones. A real video-crazy, if ever I saw one. On Level 3, MACK must gather up the loose bricks and deposit them in the slots at the bottom of the screen. What comes after that is anybody's guess as I have not managed to complete that level.

There is to say that I found HARD HAT MACK to be a very ordinary game which does not stand up well against superior platform games like MINECROWT and MONTEZUMA'S REVENGE. The program seems to be in Graphics II using anti-aliasing for the colours which just does not work on the PAL system. The game objects are hard to make out and only become visible when you turn off the colour and play in black and white.

The trouble with setting high standards is having to maintain them and I'm afraid that Electronic Arts have not made their own grade with this one.

Reviewed by Jim Short

SHADOW WORLD Synopsis 32K Cass./Disk 1/2 Players (Not XL compatible)

Scrolling games are very popular on the Atari which is not surprising when you consider the powerful facilities of the Atari which enable games to run both fast and smooth. Needless to say, the scrolling in SHADOW WORLD is well up to standard. It is eight-directional but unlike almost any other game of its kind, it features eight screen scrolling over different directions at the same time, but none of that later.

The idea of the game is to protect the planet Juvica, a Terra Transcendent Colony. Transcendent is the wonder kind of the future, it powers starships and planetary defence systems but more importantly it makes replication possible. These can duplicate anything from an atom to a spaceship. With properties like that you can bet that there are going to be a whole bunch of nasty buggies/aliens who want to get their hands on it. These aliens come in the form of Replicants who drop 'seed ships' into the atmosphere which in turn drop starships called which scour the planet's surface for Transcendent resources. If they find one, they bring it back to a seed ship where again the seed ship replicates itself and

heads for the planet's surface. If it reaches the surface it mutates into a coloniser which can only be destroyed by dropping a Transcendent nugget on it. You must stop all this happening by shooting the seed ships while in the air.

Unfortunately the seed ships are constantly producing large numbers of guardian drones which will stop at nothing to kill you. Also making life difficult is the fact that if five ships reach the surface the planet will blow up.

The 1 player game involves you piloting a hovercraft interceptor against the Replicants in a pretty standard version of Defender but with eight-directional scrolling, twenty times more aliens and a highly detailed landscape. A very good shoot-out but it tends to get impossible after the seventh wave.

The 2 player game is however totally amazing, imagine Defender with both players playing at the same time. The top half of the screen shows player one's viewpoint and the bottom half shows the view of player two. Player one controls the hovercraft interceptor with the other player controlling a helicopter. Both screens scroll independently of each other in response to each player's control. The effect is incredible. The two players can work together or shoot it out with each other. Either way it's great fun.

SHADOW WORLD is another winner from Synapse and one of the best two player arcade style games for the Atari.

Reviewed by Gavin Moran

SNOKIE Funsoft Cass./Disk £8.45/£11.45

SNOKIE is one of two games by the American company Funsoft which are currently available here, the other being FLAK.

SNOKIE, the character, belongs to a strange breed called tin-birds who are directly related to the penguins. They live deep in the lands of the frozen north. They are highly intelligent and good at jumping but they cannot fly and are afraid of water.

In this game, SNOKIE's girlfriend, CARA, has been captured by the evil Tivakans and if SNOKIE cannot find her and rescue her in time she will be forced to marry the despicable MAX, leader of the Tivokans. This is where the fun begins. SNOKIE must travel through many screens to reach CARA facing a host of dangers such as snow-boulders, glacier caverns, moving ice blocks, falling icicles, ice lasers and cold rays. There are several distinct game phases and each one is a complicated puzzle in itself. None of them are particularly easy to master and so do do you will experience more than a little frustration as you attempt to battle your way throughout the game. On top of all this, time is very critical and you must complete each game phase before the timer runs out or lose a life. It's no picnic, this game!

I found the ICE FLIGHT to be the most difficult phase of the lot with the other phases not far behind. Funsoft do allow a certain amount of leeway though. They have incorporated a 'Just for Fun' mode which allows you to steal the game from any phase you have completed in a previous game. You do not score any points when playing in this mode but it does give you the chance to practice the various game phases. A most welcome feature I can tell you!

If you do manage to reach CARA, prepare yourself for a shock. She is ten times the size of little SNOKIE and looks something like the penguin version of a lady scientist. MAX is quite welcome to her if you ask me!

SNOKIE is another great 16K program and is available at only £8.45 on cassette and £11.45 on disk. Note that it is extremely difficult to play and may not therefore appeal to everybody. If you get a chance have a look before you buy it.

Reviewed by Jim Short

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AND THEN THERE
WERE TWO...

ATA



Most of the talk in Hannover, where the 1300XE and 520ST had their first European showings, was not about what was there but more about what was not. For the uninitiated it was probably quite an eye-opener but aside from actually seeing several 520STs and 1300XEs and a few peripherals I did not really find anything new to report.

Nothing that is about what will be happening but it looks now as if the 1300ST will not be released and that the 1300XE may be the only 8-bit micro. Still that is not as bad as it might seem at first sight. Two excellent and powerful machines have a much better chance in the market than an assortment of machines that seem may or may not be interested in.

The ATARI stand featured a small display of 1300XEs and six 520STs in various configurations hooked up to hard disks (just), 500k and 1Mb 3.5" floppies, a synthesiser and various monitors. The 1300XE is reserved elsewhere so let's concentrate on the machines that caused the most excitement.

The 520ST really does work and is very impressive. The demos being shown were mainly sixteen colour 'low-resolution' pictures that had been designed on an 800XL and downloaded via the HSC22 port. Colours were added after with a utility program and although the graphics were excellent they only really gave a hint of what might be produced by using the ST class. There were no software packages on show although the graphics of a spreadsheet were used to demonstrate the ability to take any part of the image and blow it up to different sizes. Another demo showed a multi-layered pie chart which drilled apart to segments and smoothly reformed. The watching crowd were impressed. Jack Tramiel was impressed too!

HANNOVER

Two 3.5" drives were shown, the 500k SF204 and the 1Mb SF314 which both appeared to be working well. The advantage of 3.5" disks was shown by an Atari employee judiciously grabbing a flight bag full of them which he grabbed and threw back as needed. Try to do that with a 5.25" floppy! Several prototype hard disks in adapted 1050 cases were being used although nobody would say what for. I suspect that part of the Operating System or GEM was actually on disk. There were also a number of printers but none of them were shown working as I could not tell how good or otherwise they might be.

Three monitors were on display, including one with built in disk drive that may never be produced, and they were all excellent in both style and display. That goes for all the range. It has class.

As regards the hardware, although everything was new, nothing much was 'new' but what did impress me was the way Jack Tramiel showed the ST and the future. His image is built up as the hard-hitting, anything-goes, businessman who just wants to make money but the way he stood and advised the ST along with the general public showed that he cares about much more than the money. He knows that



Jack Tronick looks on impressed...



While
Sig Hartman
demonstrates

the ST is a great computer and even though he may not know how it works, he is really proud of having achieved a major breakthrough in personal computing. Sure he wants to make money but he is also enjoying every minute of

producing some great computers and that is important to every existing and future Atari user. He kept standing there as the demos were coming up saying "Show 'em the one I like. Look at that, isn't it great?".

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A-Z OF BASIC PART 3

OPEN (O)

This command will open a designated channel for input or output to a peripheral, or to the screen itself. A mode number is used to determine the operation to take place. The 0 is usually a closing.

Example: `OPEN #2,0,"D:FILENAME"`

The second parameter is as follows:

- 0=INPUT
- 1=DISK DIRECTORY INPUT
- 2=OUTPUT
- 9=END OF FILE (allows input from screen editor)
- 12=INPUT AND OUTPUT

OR

A logical operator. It will return 1 if any one of certain conditions are true.

Example: `A=(B=2) OR (C=3) REM *** A=1 if either bracketed statement is true, else A=0`

PADDS

This will read the (numbered) paddle controller and return a number between 0 and 255. The paddles can be read directly from locations 624-631, which are the shadow locations for 5280-52767. They can be used with conditional statements (IF/THEN).

Example: `? PADDLE(0)`

PEEK

Used to look into a memory location without changing what is stored there. The location asked for can be an expression or a decimal number (0-65535). A decimal number (0-255) will be returned.

Example: `10 P=PEEK(100) REM *** Last key pressed`

PLOT (PL)

Used to display a point on the graphic mode screen. The X-coordinate is given first followed by the Y-coordinate. The colour of this point is determined by the last COLOR statement, which is changed by the comparable SETCOLOR. It is normally used with DRAWTO.

Example: `PLOT 10,10`

POINT (P)

Used with NOTE as disk operations to read a file into RAM, in a changing random access to the way. The first variable is the DDCR, the second is the sector, and the third is the byte within the sector. More detail can be found in the DOS manual.

Example: `POINT =2,320,12`

POKE (POK)

Associated with PEEK, it will store a given number (0-255) in the specified (RAM) memory location. System Reset will restore the memory locations to their default positions.

Example: `POKE 710,32`

POP

The ATARI stores the number of loops to be executed by a FOR/NEXT command, the return address for a GOSUB etc, in what is termed a STACK. If a GOSUB does not have a RETURN, for instance, the stack will still hold the return address. This can be cleared with POP so as not to cause confusion later. It must be used in the execution path of the program, and never follow a GOSUB not using a RETURN. It is normally the sign of a badly designed program, but is useful in debugging.

Example: `100 POP`

POSITION (POS)

This will set the cursor (on or off) to the co-ordinates X,Y in any of the graphics modes. It is normally used with PRINT, but can be used with PUT and GET.

Example: `POS X,Y`

PRINT (PR, or P)

Can be used in direct or deferred mode. The command will print exactly what is in between the quotation marks/entering quotation marks unless quotation marks will cause an error, or the value of a variable at the time of asking. When used with an (D) it will print from the file designated (ie, #). Print statements can be spread over several command lines performing will appear continuous unless a new colour (C) is used to denote that the next PRINT is a continuation of the last line. Commas will cause tabbing to the next TAB position. The screen margins may need to be changed by ROWS:82 and83 to accommodate the tab positions (these can be read by PEEKing location 200 to set the TAB width). PRINT by itself will skip a line.

by Mark Hutchinson

The normal screen editing functions can be used to move the print statement around the screen. For instance, ?ESC-TAB ESC-TAB PAGE#, will print PAGE# at the second tab position. The functions can themselves be printed by preceding them with the ESCAPE character. For example, PRINT ?ESC-ESC ESC-TAB, will print the tab sign. For more details about this, please refer to FIRST STEPS, PAGE 6, issues 9 and 12.

```
Example 10 ? THIS IS:
20 ? ONE LINE
30 ? COMMAS, "CAUSE," TABbing
40 FOR I=1 TO 10: FOR N=1 TO 20: N,
NEXT N
45 REM *** Try this without the FORSE to
change the range.
50 ? VALUE =
60 ? =3, AS
```

PTR#

This returns the value of the designated paddle trigger (0=pressed, 1=not pressed). Can be PEEKed from addresses 624-644, the first four are shadowed for S4016 and the last four are S4017.

```
Example 10 IF PTR#(63)-1 THEN ? "0"
```

PUT (PU)

Opposite of GET. This will place a byte (0-255) in the file designated by #. If it is 0, then the byte will be placed on the screen and appear as a character in the text modes, and a colour in the graphic modes. In this case PUT is normally used with POSITION.

```
Example: PUT #6,ASC("A")
```

RAID

Opposite of DEL, will set the computer to random mode.

READ (REA)

Used with DATA. The number of READs must not be more than the amount of DATA, which can be in the form of numbers or words (strings). READ must have an associated variable or string (previously dimensioned) to place the data into. If used in the direct mode, the data must be directly associated with the program, i.e. on the same command line.

```
Example: 10 DIM A(10): FOR I=1 TO 5: READ A(I)
A(I)=TEXT
20 DATA READ AND PRINT THE
DATA
```

REM (R, or space)

Used to place statements or remarks in the program for easier understanding. They do take up space and, if RAM is critical, they can be left out. Good programmers tend to use REMs on lines ending in non-zero, usually 9 (ie 9,19,29,39 etc). Never ever send a GOTO or GOSUB to a REM. They are usually starred, or have a single REM on the line before and after, to make them more noticeable. Anything after

REM will not be executed, so you can add comments that will be valid later in the life of the program, ie after debugging.

```
Example: 8 REM *** DELETE REM IN LINE 10
AFTER DEBUGGING.
10 REM *** RUN "D:NEWPROG"
```

RESTORE (RES)

Used with READ/DATA. The current position of the data to be read is noted by the computer. This can be reset to another line number by using RESTORE. This means that DATA need not be read sequentially. Thus, if you have several bits of data to place into a program, they can be read in any order to suit the program. Unfortunately this is not often used when not needed, ie bad programming.

```
Example: 10 RESTORE 100: READ A
20 RESTORE 90: READ B
```

RETURN (RET)

Used with GOSUB to return to the main program from a sub-routine. The return address is held on the program stack. Trouble can occur if a sub-routine is not exited correctly. See GOSUB and POP.

RND

Returns a randomly generated number between, but not including, 0 and 1. To get other ranges, just use a multiplier or divider. INT will delete the numbers after the decimal point to give a whole number. The number in brackets is a divisor and must be used. You can also RND (3.777) to give a random number in the range 0-255, which is far better than INT(RND*256).

```
Example: X=RND(10)
X=INT(100*RND(10))
```

RUN (RU)

This will begin the execution of a program at the first line. It can be used in deferred or direct modes. It will run all variables, close all files and channels (including sound), and eliminate all strings, arrays, and matrices. However, if the program is remote you may find that the arrays may contain spurious data, ie garbage. This may have to be cancelled on the proper data re-input. If this is needed, it will load and run that file. To run a program from some other entry point use GOTO with the required line number, although this can cause errors such as a file not opened yet, no OR mode, etc.

```
Example: RUN
RUN "D:NEWPROG"
```

SAVE (S)

Similar to CHAVE but used with a drive. If only one drive is used then the drive identifier can be left out. Unfortunately, this type of save will not clear out unused variables, so backup can still occur.

```
Example: SAVE "D:NEWPROG"
10 SAVE "D:NEWPROG"
```

Concludes Next Issue



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AUTOCAR GRAPH



by Peter Franey

This program is the second part of the AUTOCAR listing in issue 15 although as it's appropriate amendments the graph functions could be used in other programs.

The program is loaded and run from the main AUTOCAR program by selecting item two from the special calculations menu. It should be saved to disk using SAVE "D:GRAPH". Please note that there must be at least three entries in the data before the program will produce any graphs worth studying. All the graphs produced are of the "LINE" type.

PROGRAM OPERATION

When graphical analysis is selected, the program will display "LOADING DATA MENU". When the program has loaded it will display "LOADING DATA". The program will load data from the data file. Then "CALCULATING PLEASE WAIT" will appear. The screen will then be turned off while the program calculates all plot points and ratios to fit into a graphics 24 display. The length of this time will be approximately one to two minutes. When the process is complete, the menu will appear.

There are two graphs in this routine - 1. PRICE/GALLON AND MILES/GALLON and 2. PRICE/PINT AND MILES/PINT.

PLOT OPTIONS AND AXES

For each set of two graphs there are two options. The first is shading. If this is chosen the program draws vertical lines from each plot point to the horizontal axis. The purpose of this is that each point plotted can be traced to the scale on the vertical axis and the value read off it. The second choice is to plot each graph separately, or on the same axis. If it is chosen to plot both graphs on the same axis, then the shading option is not as effective.

The vertical axis scale for the first graph will appear on the left side of the screen while the scale for the second will appear on the right. All the scales are calculated by the program, with reference to the data. The horizontal axes are divided evenly into the number of plot points, and represents time, or distance, between fill-ups. As more data is entered, the program will continue to divide up the horizontal axes, to allow for the number of plot points. Please bear in mind that as the number of entries grows the plotted points will become closer together. This means that there is a limit to the number of plot points that the program can handle. In

its present form the maximum number of entries is two hundred, which means 199 plot points. If you wish to increase this number then however, the program may crash or a point will be reached when the plot will not be clear.

The graphics routines presented in this program actually give the plotted form of the figures displayed by the COST ANALYSIS section of the SPECIAL CALCULATIONS option from the main menu of the AUTOCAR program.

EPSON PRINTER DUMP

To the prompt HARD COPY (Y/N) answer Y if you do not have a dot matrix printer. The routine uses bit image mode to dump the screen to the printer.

```

00 0 000 *****
01 0 000 * AUTOCAR GRAPH *
02 0 000 * BY *
03 0 000 * PETER FRANAY *
04 0 000 * SEE ME AT AUTOCAR - LONDON IS *
05 0 000 * *
06 0 000 * PAGE 6 MAGAZINE - ENGLAND *
07 0 000 *****
08 0 000
09 02 FLOWB F12400F12500F000F001F
10 05 000 0475 02400 02512000 251011 000
11 00 000F0 000F0 000F0 000F0 000F0 000F0
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13 00 000 0001 00 F10000000000000000
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Beyond ATARI

A series by John J. Smith looking at aspects of communication

FIRST TELETEXT

When BBC and ITV teletext software was being experimentally transmitted during Christmas 1981 I stumbled across it accidentally on a decoder I had built at that time.

The first teletext transmissions were made in February 1977 using simple programs in the form of machine code employing pages of ASCII characters. From 1977 to 1980 further development was carried out and with the cooperation of Muland, who built 12 specially converted TV sets supplied to Brighton Polytechnic and others around the country, the refined system of Teletext and Teletextware appeared. Unfortunately for those who do not have a BBC/ACORN computer it cannot be used. ITV seemed to have abandoned the idea and CHANNEL 4 now seems to have opted for Commodore and Sinclair for their photon light pen type decoders. Also it would seem that once again an opportunity of manufacturing has been missed.

A similar thing happened with the original 1974 Kansas City cassette interface which was based on pages of hobbyists' experiences and discussions and which several manufacturers started using but then other manufacturers came up with different methods. Even the speed of recording the data on cassette varied from 300 / 600 / 1100 / 1200 baud depending on which micro computer you had and this often meant that you had to buy a specially adapted cassette recorder from the makers of the computer. The MSX idea might have worked but it has come too late.

DATA ON THE RADIO?

A few years ago the BBC did some tests with a system called S.C.A. (Station to Stationing in the U.S.A.) which is a system thought of long before Teletext existed. This is a method of putting a subcarrier onto a radio signal (VHF/FM) which sits on the sideband where space is available and can contain additional background music. In America, and increasingly here, shops or stores, hotels, restaurants, motor buses, have background music. Sometimes tapes are used but it is often cheaper and certainly more convenient to use the radio. For background music in, say, a restaurant or hotel you do not want to be blasted with the top 40 hits and have adverts and so on disturbing you, but nice gentle background music is acceptable. The hotel or restaurant rents or buys a decoder in separate part of the signal so they only hear the background music. You or I who may be travelling nearby the same radio station, will hear the usual top 40 with jingles adverts and all.

The system is similar in some respects to Teletext. It is there all the time but only the signal but you don't know it there unless you have a decoder. Many of the American radio stations have been doing this for about 25 years so why hasn't anybody thought of using this to broadcast database type information? I asked BBC if they had carried out any 'teletext like' transmissions on radio using this SCA technique and received a brief reply saying that they had not but they gave some brief details of 1935/1936 tests

which confirmed I understood that these tests were not using the normal 419KHz mono and 67.7KHz stereo subcarriers as used in U.S.A. but in U.K. our broadcast networks inside the sets is different so people who tune to the normal signal had a variety of problems such as cross-talk and sideband splatter (usually). It soon became apparent that with even a low spectrum rate of signal it was not workable in U.K. Maybe we missed the opportunity of suggesting improved modifications to set manufacturers before the numbers of VHF sets grew to today's proportions. I am disappointed especially as the system of decoding was so simple.

A NEW BBC SYSTEM

Things may however be looking up and recent discussions with the BBC reveal that they have not been idle and a system called RDS (Radio DATA SYSTEMS) has not only been built and tested using a microprocessor built into a radio but was displayed at the Ideal Home Exhibition in March 1985. I understand that only 2 receivers have been built but tests have been carried out in various parts of the country and are currently continuing on Radio London and BBC Radio 2, 3 and 4. The BBC are said to be pleased with how things are going.

The RDS system operates on a carrier of 578KHz embedded in the main body of the signal similar to SCA but the similarity ends there. RDS can be likened to Teletext because it contains a signal which cannot vary into noise (only SCA can do that) but which has many other uses. Amongst these that have proved to be workable are signals that contain information to switch your car radio to another transmitter as you drive from one end of the country to the other. You would still hear uninterrupted Radio 4 for example even though that station is transmitted on different frequencies in different areas. As you get further away from one transmitter and the signal gets weak the receiver is automatically switched to another transmitter broadcast on the same signal. This is similar to the cellular radio concept now being set up for 2 way communications. Another thing that it can do is receive instant news of, say, an accident on the motorway or sudden bad weather. At the moment the information appears on a small screen like a calculator type display and appears no matter what station you are listening but it could also actually switch the radio on if important news is being broadcast.

A WORLD STANDARD?

One very important piece of news is that this system has in fact been accepted as the European standard and maybe, one day, it will become a world standard. Congratulations to the BBC and I hope that those that have the prototypes will not take too long to get them to the market place.

Finally note that G25 line UHF are the only TV transmissions in U.K. and the old TV405 lineband 1 (49MHz) and band 3 (approx 200MHz) have at long last been closed down, what, if anything, is being done with these available frequencies? Maybe we could have a DATA channel to pick up information on our micros?

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