

# PAGE 6

Issue 50

The Magazine  
for all ATARI  
computers

November/December 1987

£120

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*ST section*

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Includes  
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COMPETITION  
ON PAGE 11!

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## ATARI USERS MAGAZINE

Issue 30

November/December 1987

'The Magazine for the Dedicated Atari User'

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**ORIGINAL SYNTH** - a totally new way to get sound from your Atari keyboard, complete with light show!  
**CONTACT** - a character set designer for programmers from a young lady in Belgium  
 First issue out early. On sale 17th December. Copy date 1st November.

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PAGE 6 is a users' magazine which relies entirely on reader support in submitting articles and programs. The aim is to provide a user-to-user computing through the exchange of information and knowledge. We welcome all articles and programs to be reprinted and we hope that readers will enjoy seeing their work published. In turn we hope that other readers will learn from the articles and programs submitted and receive their requirements of their computing.

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ATARI USERS MAGAZINE

Issue 48 Nov./Dec 1987

"The Magazine for the Dedicated Atari User"

ISSN No. 0932-6767

## THE CREDITS

Full "official" credits are on page 6, here are the people who made it possible.

Lee Ellingsham did the editing.

Neville Perry looked after the ads.

Phil Cardwell gave valuable Editorial Assistance.

The Regular Contributors are ...

Garry Francis  
Mark Hutchinson  
Martyn Jones  
John Harrison  
John Harrison Jr  
John Swainby  
Paul Khan

The regular Cover Illustration and many other illustrations (this issue) are by Harvey Armstrong.

All other contributors for this issue are credited alongside their articles or programs. Thanks to everybody for contributing and also helping others.

Inspiration for this issue came from Van Morrison, Sekouy, Steve Goffish, Harvey Jackson, Pat King (Bop), Phil Floyd, John Lewis, Alpha Malibu, Gary Campbell, Harvey, Ken Young and others. Also, and especially, from Steve who not only just delivers the typing material!

Serious! Yes, but that Atari is supposed to run as well as it is!

The next issue of PAGE 6 could feature YOUR article or program. So, send it!

PAGE 6 is a regular about weekly and about equipment and software. Hardware used: 1000K, 100K disk drive, 800K disk drive, 800 keyboard, monitor, DEC 8015 printer, 38600T, 5.25 1/4 monitor, Atari 500/504 hard disk drive, Atari 800 1/4 printer, Atari/Apple II/Apple II software and peripherals, Turbo Basic, TALK, TALK, TALK, PASCAL 80 and various custom systems and more in the 3.5" 800/504, PC, Amstrad, Zenith and Plus Series Publishers on the ST.

COPY is prepared on a 1000 using a printer and various custom systems programs and that transferred to the ST via the Atari and PC. Connections. It is then split into disk and Plus Publishers. Final copy is printed and then from Publishers. Final copy is copied from the ST to a Komori 1/4 printer monitor and then by a Minolta LaserSharp system.

# Editorial

Five years! It seems almost unbelievable but this issue is our fifth birthday issue. It's a shame that we don't have time for a birthday party but the truth is that the world of Atari seems to be faster now than it has ever been and that can't be too bad can it? By the time you read this, the PCW Show with its Atari Village will have come and gone but as I write it is only a few days away and I have to complete most of this issue beforehand, spend a week at the show, and then finish it in two days after we come back! After that there is The Atari Christmas Show to look forward to at the end of November and it looks as if that might be just as hectic to fit in too!

Considering that the only first Atari-only show was only last year, it seems amazing that we now seem to have two regular Atari Shows a year plus the largest presence of any manufacturer at the PCW Show. Things must be good in the world of Atari, or are they? It is a pity that all this show activity is not reflected elsewhere. Atari still doesn't have the same profile in the shops as certain other companies despite the fact that the ST seems to be the machine of the moment. It is still hard to find a decent range of Atari software, especially if it is, unless you happen to be lucky enough to live near a good established retailer who has good stock with Atari all along. There are not enough of these to cover the country though and the Atari bit of software makes become almost exclusively mail-order long ago. Dooms of "computer" goes on in the net in the daily class but today only a few (the best or the best) survive and, if you have not got a local shop, they deserve your support. What is worrying now is that these companies, and the shop retailers, are being hit hard by all the "bright boys" who are jumping in to sell ST software at ridiculously discounted prices. How you can buy many there now in the short run the ST public might get a good deal, providing they get in quick enough before these boys disappear but in the long run we all might end up losing. Most of the "cut price mania" will disappear quickly because the market is just not big enough to support them all but what is worrying is that some of those who have supported Atari for a long time may be forced to go and that is not right. Get a good price if you must but don't start complaining when (not if) one day you send off your money and

don't get a reply.

Five years is a long time and I have seen it all happen before. If you don't believe me, make a list of all the really cheap places and then make another in six months time. I bet it won't be the same.

## A NEW EDITORIAL ASSISTANT!

Let's get on to more pleasant things. This issue we have a new Editorial Assistant or perhaps you would welcome Phil Cardwell. He claims he's a real wizen on the good old Atari 8-bit and we will hopefully see his wisdom in coming issues. We might also get a bit more ahead in planning each issue and dealing with your contributions as I have always been promising! We should also have just a little more time to address particular topics in the pages of PAGE 6 so if there is something you would like to see in future issues drop Phil a line and we'll see what can be done.

## THANKS TO SOFTWARE EXPRESS

Here's a little tale. About two months ago my Atari Hard Disk drive died. I switched it on one morning and it didn't come off. If you know anything about Hard Disks you will know that they are delicate beasts and I did not want to send it through the post (God forbid) so I dropped it into Software Express in Bournemouth to see if they could repair it. It needed a new power supply, so they asked a few friends from Atari (as did I) and a mere two months later the part arrived. In the meantime I desperately needed a Hard Disk on two occasions so Software Express kindly loaned me one they had on loan on the first occasion and then cleaned everything off so that they saw themselves in the shop so I could borrow it to get the subscription out for the last issue and I didn't even buy my drive from them in the first place!

Obviously they can't do the same in everybody but it does illustrate a point I have often made before. Can you imagine getting that sort of support from the local Dinsor or Ross? Do you see what I am getting at? I hope so.

Anyway, thanks to Software Express without whose help these long nights would have been even longer!

Lee Ellingsham

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This facility will allow you to save the O.S. from the 800/800 Atari computers to create true simulations or upgrade customized ones such as OPERATOR to disk or even on the 800XL/1300E computers via the Desktop.

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## SHE LOOKED DEEP INTO HIS SULTRY BLUE EYES ...

Infocom are a strange company aren't they? Following her on the heels of *The Lurking Horror*, complete with shiny "thing" in the box, comes *Plandread Hearts* a story of "romance and adventure" which they claim is aimed specifically at the female market. Unfortunately, this means that they will sell about six copies so they have cleverly designed the game to be appealing to men as well and the pre-release testers (mostly men) have pronounced it quite acceptable.

*Plandread Hearts* is an adventure which "provides the salt air, steamy tropical nights and transference obscenity essential to a heart-pounding adventure on the high seas. Little do you know that your innocent journey will soon turn to dangerous adventure. Explosives, rocky reefs and the vicious crocodiles are obstacles which you must overcome. Yes, it's not easy but at least you can control your fate. What you cannot control is much more dangerous, your passion for Michaela Jenkinson, the handsome pirate captain. When you are in his arms you are apt to forget your mission! Yuck! I hope they give you a sick bag in the box. Now where did I put that horrible stinky thing from the last one?"

*Plandread Hearts* is available on the XL/XE for £24.99 and the ST for £29.99.

## PCW STOP PRESS

The PCW Show occurred just as we went to press so we are unable to bring you a full report. Atari 8-bit software was thin on the ground but it was there with several re-releases on budget labels and a number of new titles.

**STARS OF THE SADDLE** - back for the ST. **WORD PERFECT** is "back to six weeks away" and really is THE word processor all serious ST users have been waiting for. Complete with 115,000 word UK dictionary and thesaurus at £99. Expensive but worth it. **COMBIBON BASIC** is the first Basic for the ST that retains the "Yee" of Atari 8-bit Basic but with some incredibly powerful programming and editing features and a "library" of routines similar to C. A full review of this one will be included as soon as possible.

## SORRY, JEFFREY, NOT A PENNY MORE ...



"If we can't get into movies with James Bond, let's cheer up some bloke with influence in case he might make a movie of his latest book". Remember those two guys from last issue posing as James Bond? Well, now they have this new idea of producing a graphic adventure about a guy called *Spartacus Bradley* who loses a small fortune by investing in a franchise of company set up by multi-millionaire Harvey Metcalf. They are going to call this

unlucky computer game *Not a Penny More Not a Penny Less*. Haven't I heard that somewhere before?

Mark Strachan and Dominic Wheeler of Domark are seen here discussing the fine details with the chap who is going to design the packaging, so is it the guy who wrote the book? Anyway the ST version of the game was demonstrated at the PCW Show and there will, hopefully, be an 8-bit version later in the year.

## NEW FRONTIERS

Excellent news for Atari 8-bit owners comes from Frontier Software who have recently signed a sole distributor agreement with ICD of Illinois, U.S.A. In case you don't know, ICD are responsible for *Spartacus* and the U.S. *Doublet* among many other fine products.

The **U.S. Doublet Chip** is a simply installed two chip upgrade for the 1050 disk drive giving true double density and an accelerated I/O rate designed to triple the speed of disk operations. It will cost just £29.99. Used the way with the U.S. *Doublet*, but also a stand alone program is *Spartacus*, widely acclaimed as the best DOS for the 8-bit Atari. *Spartacus* supports everything from 512 to double density 1050 to RAM disks and Hard Disks. A special menu allows rapid transfer, storage or backing of files using only the Space Bar, Option, Shift

and Select keys. There are several bonus features including a 32 character keyboard buffer, intelligent switching between drive densities, a binary file game menu, subdirectories and time and date stamping. *Spartacus* also costs £29.99 or you can get a special double package with the U.S. *Doublet* included for £49.99. Following the distribution agreement, *Spartacus* will now come as standard on all Super 8-bit Hard Disk drives.

Another product from ICD is **P-B**: *Converster* which is an interface unit designed to replace the obsolete RS-16 interface. The unit includes a Commodore parallel port and two RS-232C ports enabling the device to be used with any Commodore printer and modems. Price is £39.99.

These products should be at your local dealer now and most of ICD's range will be available shortly.

## USER GROUPS GET TOGETHER

Ken Ward, long time champion of Atari and leading light behind the Norwich User Group has finally got together The Association of Atari Users which is a body whose aim are to represent Atari Users in consultation and discussion with software houses and Atari themselves. Ken has always been outspoken in his support for Atari Users and now with the backing of the Association we may well see more benefits for Atari Users in the U.K.

Already 17 Users Groups have become affiliates and the first newsletter has been produced but the Association wants to ensure that as many Atari owners as possible are represented so other Groups who have not yet affiliated are urged to get in touch with the AAUG as soon as possible. If you run a User Group, and you are serious about it, it will be in your interest and, more importantly, in the interests of your members to contact



the AAUG right away. You can do it simply by writing to The Association of Atari User Groups, 49, Colburn Road, Lakesham, Norwich, NR1 2NS or by telephoning Ken Ward on 0693 581149.

## SOFTWARE SHORTS

Mastertronic and its associated labels keep the budget titles coming with September releases of Flash Gordon at £2.99 and Predator at £1.99 on the MSX label. On Bullseye is £1.99 comes Storm, an arcade adventure of sword and sorcery, magic and mysticism, based which features a magical connection between two worlds and Revenge at Rigel which is a "thrilling and adventure with user-active graphics". This last one was voted a C&EG Hit. Is that good or bad?

Blackbird have now released Guild of Thieves, the follow up to The Power, on the Atari 8-bit. There are many clever puzzles and surprises and 29 atmospheric scenes with illustrations on the two-disk set which costs at £19.95.

No more, everybody's keeping quiet and the PCW Show which is yet to come but will be gone by the time you read this, if you get the meaning!

## ATARI CHRISTMAS SHOW

After weeks of speculation,

Databases have announced that there will be an Atari Christmas Show this year to be held on November 20th to 22nd in The National Hotel, Hammersmith, London, some of this year's previous Atari shows. There was speculation that the show would be held in October but many exhibitors would still be trying to recover from the PCW Show and probably wouldn't have turned up! There was also speculation that this show would be for ST only but, thankfully, this is not the case. While there may not be anywhere as near as much support for the 8-bit machines as these shows, it does represent one of the few opportunities for some 8-bit owners to see software that they cannot get locally. PAGE 4 will be there and will welcome 8-bit owners with open arms!

All that is news now is the Database to organise a show in the North for all those users who can't afford to travel down to London every year. How about it?

## MICROPROSE GUNSHIP FINALLY HERE!



Here is the ultimate in computer flight simulators from Microprose, a complete AH-64 Apache Gunship helicopter simulator on disk for your Atari with all manuals and associated hardware in the box. It is incredible value at around £18.95 but because of problems with carrying it home from your local shop (it weighs over 1.5 tonnes) you will have to pay a delivery

charge of around 2 million dollars! Seriously though, this is what Microprose had at the PCW Show to promote Gunship and it is a genuine helicopter flight simulator specially adapted to work with Microprose's Gunship program. Now that just has to be the ultimate in interactive computer simulators!



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# THE LIVING DAYLIGHTS COMPETITION

This time we have another FREE to enter competition with prizes courtesy of Domark. Just answer five simple questions and you could be part of the world of James Bond!



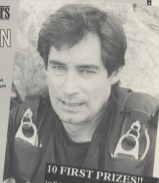
## THE QUESTIONS

1. How many Bonds so far? Be careful!
2. Who wrote the Bond movie theme?
3. Who is the top villain in THE LIVING DAYLIGHTS?
4. Who is Bond's boss?
5. How many levels in Domark's THE LIVING DAYLIGHTS computer game?

That's it. Rack your brains, look up the answers or go and see the film. It's easy really!

## RULES

1. One entry per reader only
2. The winners will be drawn from all correct entries received on or before 17th December 1987



## 10 FIRST PRIZES!!

1st Prize is a copy of THE LIVING DAYLIGHTS Soundtrack album PLUS a copy of the super, new JAMES BOND MOVIE BOOK detailing 25 years of Bond movies AND a James Bond Whistling Key Ring as featured in the film! Great value for any Bond fan and there are TEN of these prizes available!

## 20 RUNNERS UP PRIZES!!

If you are not among the lucky 10, you may still get a James Bond Whistling Key Ring as a runner-up. We have 20 of these on offer so you have a good chance of winning a prize.

## HOW TO ENTER

Write your name and address on a postcard (preferably) or on a plain sheet of paper and alongside write the numbers of the questions above with your answer alongside. Just send it to BOND COMPETITION, PAGE 4, P.O. BOX 54, STAFFORD, ST16 1DR. Closing date is 17th December 1987.

## COMPUTER GAMMON - BUGS SOLVED?

Dear PAGE 8,

Having read Chris Blakemore's plea for help in "Computer Gammon - The Bugs", issue 25, I feel I may be able to shed some light on the problem.

Looking at the sample VBI code, there was no sign of a CLD instruction to set addition to binary mode. What was probably happening was that Basic was changing the mode continually thus causing inconsistent results from addition in the VBI code.

The solution to this is to save the processor status register flags at the start of the VBI and restore them before returning to Basic. You are then able to close or set decimal mode within the VBI, as you require, without affecting Basic.

The VBI code might read as follows:

```
PHP      (Save Flags to stack)
CLD      (Set binary mode)
:
:        (VBI code required)
:
PLP      (Restore Flags)
IMP EXIT (Return from VBI)
```

I hope this is of use to Dave, and if he specifies the problem with DBL% a little more precisely, I would be glad to try and figure it out.

Keith Mayhew  
Rayleigh, Essex

## MORE FOR CASSETTE

Dear Sir,

In the Letters page of issue 27 you asked "Is there enough will for a cassette based version of Revision C?".

There are still quite a number of us out here who know, who are solely cassette based! And it is amazing to find that so many things are

for disk only. Apart from the time factor, surely the only real value of a disk drive is its search facility which is rarely used on home machines.

I think that you should make a condition of acceptance that any program should be capable of storing on both disk and cassette. From the listings in your magazine it is obvious that the contributors are experts in their field capable of converting their programs to both disk and cassette. Not so easy for the poor cassette based beginner.

D.H.Pogarty  
Salisbury, Wilt.

Point taken. Wherever possible we try to ensure that programs accepted for publication are suitable for both cassette and disk but there are often cases

where excellent programs, such as *The J-D Almanac* in this issue, are simply not suitable to run on cassette. This particular program runs in other versions of the program from a menu as required and also serves our individual files which are occasionally updated. This might just be possible with tape but it would be in combination that I doubt whether anybody would actually be able to use the program successfully! We would not exclude a program from publication because it was written specifically for cassette and someone feel that we should publish good programs even if they are only suitable for disk users. Don't be disappointed, you should find several programs in each issue which will run on cassette and next issue we'll put in that current dated *Revision C* Basic!

## SOME OLD STORY

Dear PAGE 8,

I have just returned home after three years abroad and am disappointed, yet not really surprised, to find that the plight of the 8-bit *Acad User* is as before as it was when I left. The absence of any software on the shelves of the high street shops, even in London, is matched by the non-existent hardware - Sinclair, Commodore, Amstrad, etc., are everywhere but no *Acad*, though there is a scattering of ST's.

I tried to purchase a 1050 disk drive but was told, as was being reported in the press, that stocks had been sold out and a new double sided drive was expected soon at around £180. I also read that with the introduction of the Mega Attack the basic ST is likely to be reduced in price while the SE is reportedly going up in price.

It is clear that the SE is being overlooked yet again,

presumably because the ST range represents bigger profit margins. The 8-bit market is basically dead and only when overheads are low, therefore your reporting of the "computer cowboys" is a valuable warning, and I would like to relate to my own "mail order cowboy" experience.

Finally, would whom it is due, I have found PAGE 8 to have the best public relations department I have experienced. Orders have been despatched promptly and queries always answered. This is not one of certain other publications whose organizations is appalling even if well meaning, or who do not bother to respond at all.

The worst English company I have dealt with has been "Car Price Software", from Halifax, who have had my money for six months without responding to any of my letters. A solicitor have obtained a response that I had not responded to any of their letters explaining the

## DOS MYSTERY?

Dear PAGE 8,

A minor query regarding DOS 2.1.

I am constantly SAVING programs, modifying, saving, etc. then deleting all the unwanted bits from the disk. Occasionally a program appears with a "<" at the end of the filename and a ">" at the other. What is the significance of these two characters?

A. Gidding  
Barnet

There are nothing to worry about. They simply mean that either part of, or the whole of, a program is stored in sectors that are numbered greater than 100, the enhanced density feature. If you knowed up with a DOS 2.0

problem (I have heard that reverse before), and a promise to return my money, which they have not since done, I can accept that one letter may go wrong in the post but not every one! I am currently talking them to court, however, they are no longer resident at their mailing address. "Car Price Software" are not the recent company I have dealt with however, they become gone to "White House Computer", in America who have had my money for two years! Though the story is complicated it is true to say that they have also ignored the considerable number of letters I have written to them with the exception of one. About a year ago I wrote a particularly rude letter questioning their payments and they did write back. Guess what they said? Correct, they told I had not responded to any of their letters explaining their problems. Again a promise to return my money but no cheque. None of these errors

disk and expanded a directory, the programs in the '1' or '2' would not appear as DOS 2.0 uses single density only.

## KILL THAT QUERY!

Dear Les,

I am writing a small program that needs quite a bit of input, and needless to say all those horrible question marks make the display rather tricky. Is there a way of inputting without the '?'

F. Armitage  
Bathford

This is something that I would almost everybody for years and many people will tell you that it is not possible to get rid

of the question mark when jumping for user input without some complex programming. But it is possible! And it is easy! Just try the following lines:

```

1:RDIM A(10):
2:P"ENTER
SOMETHING":INPUT
A(1),A(1)
3:P"OK"

```

So just use INPUT #10 when you don't want the '?' but don't use one only!

## STOP THAT ST SCREEN

Dear Les,

As I am new to the ST and computing in general would you answer the a question?

I have various data disks that have a file called READ.ME. But when I load it to read, it whizzes down the screen and I don't get a chance to read it! Sometimes I have managed to stop it by pressing a key, but by then half of the message has disappeared! What do I press so it is still at the beginning and then what do you press to make it show up a screen at a time?

Patrick Dixon  
York

The correct procedure for reading a text file on screen is to attach a key to the file and then enter Show. If the file has been correctly stored on the disk the key should be shown one screen at a time, passing each line with a "More..." message.

Henry Roberts will advance the text one line at a time and the space bar will scroll another full screen into view. If you wish to quit back to the desktop, just press Q. That's how it should work but problems can arise as

the result of the file not being properly saved in the first place or being formatted for 80 column output and being read in low resolution which only has a 40 column screen. The solution to the latter is simply not attach to medium resolution and then the file again. If it has been properly printed and formatted in 80 columns you should have no problems in reading it. If you still get the same problem, the only answer is to load the file into a word processor like ST Writer and then PRINT it to disk under the name ST10. If you also set the right margin to less than 40 you should be able to read the file in low-res at will.

## VIDEO TITLES

Dear Les,

I have just purchased a Jony Video 8 Camera and have some video magazines

advertise "telling" programs for Amstrad, Commodore etc., for writing titles to your video programs. Do you know of any program to do this for the Amstrad? Or is there anyone out there who has the "know-how" to do it?

H. W. Clark  
Barking, Essex

Several readers have asked this over the years and the good news is that *Demosty* have just started advertising an Amstrad *NYLIFE* version of their Video Title Shop program. Hopefully this will be released in the U.K. shortly through the licensing agreement with U.S. *Amstrad* but it should be available anyway from those specialist retailers who normally import *American* titles.

## AIN'T WE GOOD ...

Dear Les,

Having received my latest copy of *PAGE 6* I feel that I must express my appreciation at the quality and value for money. I compared Issue 29 with Issue 1 and the improvement in the standard of the magazine itself, as well as the listings, is vast.

I say that the listings have improved but this is no criticism of the early programmers. Indeed, because of them (and of course *PAGE 6* Amstrad enthusiasts world wide have learnt and developed their skills. I would also like to thank you for publishing screen shots of the listings.

May *PAGE 6* continue to give help, encouragement and enjoyment for years to come.

Mr. A.J. Wright  
Ipworth, Suffolk

## ... SURIE ARI!

Dear *PAGE 6*,

I am the newsletter editor and vice president of our local users group. We've received two issues of *PAGE 6* on exchanges and to be quite honest, it is probably the best 8-bit Amstrad publication in existence. The type-in programs rival many commercial programs and the amount of information presented is excellent.

Thanks for an excellent magazine and if there is anything we can do for you here in the States, don't hesitate to ask.

Genette Murray  
Midwest Amstrad Group - Iowa Chapter  
Ames, Indiana, U.S.A.

Got anything interesting to talk about? Or some questions to ask? Or some tips to pass on? Write to **Readers Write, PAGE 6, P.O. Box 54, Stafford ST16 1DR**

Ray Pinches  
Teddington, Middlesex

# G

No. 19

# GUNSLINGER

North American history is a fascinating subject which is liberally sprinkled with potential scenarios for the budding Adventure writer. An imaginative author could draw from the diverse cultures of the various Indian tribes, their battles with the land and their battles with each other. These tribes included the Navajo, Hopi, and Ute of the Rocky Mountains; the Aztec, Maya, and Inca from near the Great Lakes; the nomadic Kiowa, Sioux, Arapaho, Cheyenne, Kiowa, Comanche and Apache of the Great Plains; the Oregon, Shoshone, Cherokee, Seminole, Choctaw and Chickasaw of the other land systems of action.

Following the Spanish invasion and the later expansion of the white man, there were numerous territorial conflicts such as those between the Spaniards and the Comanches in the southwest; the British, French and Provincials around the Great Lakes; the War of Independence; the War of 1812 and the Mexican War. Perhaps a more inspiring one for Adventure is that of the first great explorers such as Lewis and Clark, the mountain men such as Smith and Bridger, the early settlers or pioneers as they were known, and the heroes of the slave trade.

As the nation grew, it was the emergence of the nineteenth, the gold rush of 1849, the Stagecoach Age, the short-lived Pony Express, the Civil War, the construction of the great transcontinental railroads and the growth of the cattle industry which gave rise to the cowboy as a national figure. Then there's the Wild West!

The Wild West is usually taken to mean the time—1850 through 1890 or 1900. Strictly speaking, it means a "wild" or state of the earlier period, two in that its stage of violence and lawlessness. This is the period that is beloved for cowboys, lawmen and vigilantes, gambling, fights and justice scenes which define the heroes of Hollywood.

Despite the risks taken of ideas, there are very few Adventures which take advantage of North America's colorful history. The only ones that come to mind are *Seven Adams' Wild/Earned Adventure's International* and Peter Kraft's *The Dallas Gang* (Solo Solo Adventure of the Month). Now, at long last, *Gunslinger* has come up with a new Adventure filled straight out of Hollywood's Wild West.

## THE REVIEW

*Gunslinger* is an illustrated Adventure developed by Imagination Development Systems (whenever they are not distributed in Asia via the local distributors under the Diamond label, U.S. Gold will be releasing this version in the U.S. in October as it should be widely available by the time you read this).

It would appear that *Gunslinger* was originally written for the Apple II. This is probably a good sign as Apple Adventures tend to be top-notch. The game has since been

*Garry Francis ventures as far as he could possibly go from his native Australia — to the Wild West where he discovers fact and fiction in an adventure ideally suited to beginners*

translated for the Atari XL/XE and the Commodore 64. The Atari version comes on three double-sided disks! That's a lot of Adventure!

In *Gunslinger*, you play the role of Rip Stone, a former Texas Ranger who has to rescue his old pal James Redford from the hangman's noose. The Texas Rangers were raised when the Texas Revolution broke out in 1835 and were active well around 1870. They were famous for their courage, determination, endurance and leadership.

## HOLLYWOOD CLICHES

In your search for James, you will encounter all the Hollywood clichés that you can possibly imagine. There's everything from doctors, priests and rivers to an underground mine, an Indian camp and a U.S. Cavalry fort. There's also three towns, each with a mixture of buildings lifted straight out of a John Wayne movie. There's a barber shop, a general store, a trading post, a stagecoach office, a blacksmith, a stable, banks, hotels, saloons, jails and much more. Your transportation from place to place includes a mule, a horse, a oxen, a recovery mine cart, a stagecoach and a train. *Whoo! Get On!* There's also a cracked poker game, a fight on the railroad tracks, three potential hangings (one is James' and two are you!) and the inevitable gunfight. And while all this is going on, the Dallas brothers are out to get you. There are six Dallas brothers in the game, but only three are introduced by name — Jerry, Hiram and Luke. The names are fictitious, although they may be inspired by famous gamblers of the period such as Jack, James and Luke Stone, Menace is a recovery unless it is a mis-spelling of Men. (What were the names of the three Garfield brothers in *Demolition*?) The objective of Dallas is a personal or professional as it comes confusion with the real Dallas — that, Dimmer and Oppener. The real Dallas brothers formed a gang in 1870 and were gunned down by the local posse after making the first attempt to rob the Santa Fe train. *Demolition* is at the very least a good idea for a game.

Designed by  
Dennis Gassler



## SEVEN SCREEN WINDOWS

After you've booted the game and been through the obligatory titles, you get your first glimpse of the unusual screen layout. The screen is divided into seven windows. The three in the top-left corner give you a brightly coloured picture of the current location, four little pictures of any visible items and a one-line description of the current location. The graphics are quite good.

The windows at the bottom of the screen is where you type your commands and get the program's responses. The unusual part of the screen layout is the windows in the top-right corner. The main one shows you a list of 13 verbs. You can use a joystick to move through the verbs until the one you want is highlighted, then press the joystick button and it appears in the bottom window just as though you had typed it from the keyboard. If the verb you want isn't shown, you can use the joystick to page up and down through the rest of the verbs. Once a verb is selected, the nouns appear automatically. This is followed by pronouns, then back to nouns. You can also use vice verbs, nouns and pronouns in a different order if you wish. You can terminate your command at any time by highlighting the 'CF' and pressing the joystick button.

One notable omission from the vocabulary is the compass directions which are normally used to move about in a game. Movement is achieved by placing the cursor in the bottom-right-hand corner of the picture of the current room. When you do, a compass appears. Highlight the direction you want to go and press the joystick button. Hey presto!

This whole concept is not new. I've seen it on ST games, but it's a novelty on 8-bit machines. Unfortunately, it is horribly slow and cumbersome to use. I don't think a normal person could use it for very long without going mad, but it may be of some use to disabled people who can use a joystick, but can't use a keyboard. The bottom line is that you can use keyboard only, joystick only or a combination of both. The choice is up to you.

## EASY PUZZLES

After experimenting with all the controls, you can get into some serious adventuring. You'll find that the game is quite pleasant to play. It has a small, yet adequate vocabulary and it always tells you when a word is not understood or if you're using it in the wrong sense. The puzzles are all relatively easy, but some require a hell of a lot of trial and error. There are usually situations where you die if you make a wrong move, so frequent game saving is the order of the day.

The game has a few minor bugs (don't they all), but nothing really drastic. There were at least three situations where a word began with a lower case letter rather than upper case (or vice versa), but otherwise the spelling was excellent—provided you speak American! A few of the American spellings that cropped up were fibres instead of firesh, an instead of one, corner instead of corner and fall instead of foal. Also Giddy Lucks should have been spelt Giddilucks and oh should really be O.K. or okay, but this is nit-picking. More important perhaps were the two occasions where the male was called a donkey. Oh dear! The poet created! A male is actually a cross breed between a horse and an ox (or donkey, depending what country you live in), used as a beast of burden and it usually roars.

My only real complaint is a lack of coherence. When playing the game, I had an uncomfortable feeling about it, but I couldn't place my finger on it at the time. It was only while doing research for this article that I suddenly realised what was wrong. The authors have deliberately incorporated all the Hollywood Wild West clichés that they could possibly think of without giving any consideration to authenticity. As a result, we have a kind of business characters using the names of real people, real events that have been distorted to fit a business story, a dubious time scale and geography ranging from Canada to Mexico. This is a personal gripe and most people wouldn't even notice it, but it makes for interesting discussion. Some of the more interesting points are printed in italics throughout this article.

Overall, I thought Gasslinger was a thoroughly enjoyable game. It's fairly easy to play and would probably suit a beginner providing he or she exercised a little patience and saved the game frequently.

## GAME PLAYING STRATEGY

The first location in Gasslinger has you stranded in the blazing hot desert beside your dead horse. Even before you've got time to read the captain, a lone horseman appears over the horizon and gives you a ride to Dawson City. It is here that your Adventure begins. The only Dawson City that I know of is the one at the fork of the Klondike and Yukon Rivers on Canada's Yukon Territory. Dawson was the local town from 1868 during the last great gold rush in the following winter of 1898 – not exactly a desert! If this assumption is true, then it sets the period at no earlier than 1898. This places it right at the end of the Wild West era, which fits in well with the rest of the game.

Dawson is an interesting little town. It is full of colourful characters and all of them are willing to talk to you. You can get a trim and a shave at the barber shop, buy something to eat at the general store or take a shot of whiskey at the saloon.

Unfortunately, some of these actions are very helpful in getting you to Mexico to rescue James from the hangman's noose. It's a 1-0-0-0 walk from Canada to Mexico, so maybe you should find some transportation. If only you had enough money! What about trying your luck at the poker table? The popularity of poker is a Hollywood myth. The most popular card game amongst frontier gamblers are actually *Pure and Mean*.

Aha! Your first encounter with one of the Dalton brothers. Can you beat him at poker and live to tell the tale? The solution to this problem is typical of all the major puzzles in the game. You must do exactly the right thing at exactly the right time or you'll get killed. A lot of trial and error and careful timing is in order. You'll only find the correct sequence of moves by doing a few times, so make sure you save the game first. If you need a hint, check the instructions that came with the game and the excellent artwork on the packaging.

If you play your cards right at the poker table, you should find yourself with enough money to buy a stagecoach ticket. The stagecoach seems a little out of place in the Yukon. Not only is the terrain unsuitable for stagecoaches, but the Stagecoach Age had gone and gone by 1898.

Unfortunately for you, your trip is not without incident. True to Hollywood style, the stagecoach is attacked by bandits and you are shot before you reach your destination in Carson City, Nevada. When you awake, you find yourself in a dead end street on one side of the dirt. Your wounds have miraculously healed, but all your belongings are gone. You are miraculously located in California, in these is an old Spanish well and an abandoned mining town nearby. The town's only inhabitant is a weather-beaten old prospector who owns a shiner boy and a mule. The shiner boy could come in handy, but it's the mule that attracts your attention. After all, it's still a long way to Mexico!

Unfortunately, the grizzled old prospector is not about to relinquish his precious belongings, at least not unless you've got something valuable to offer. Perhaps a search of the town is in order.

The town contains a couple of deserted buildings and a few seemingly useless objects, but nothing to offer the old prospector. If you follow the road north out of the town, you'll discover a washed mine entrance, but try as you may, you can't get in. It'll seem lost, go to the other end of the town and give some thought to this... When is a dry river bed not a dry river bed? The answer is crystal clear. I'm damn sure of it.

Entering the mine takes you to disk C. I'd suggest you ignore the mine car for the moment and explore everything else first. You should find a few useful objects including something that may interest the old prospector. When you're satisfied that you've been everywhere, hop in the mine car for the ride of your life. Actually 'life' may not be quite the right word to use! This is another situation where you will probably get killed off a lot while trying to find the right combination of moves.

If you survive the mine car incident, you'll soon find yourself on a ledge overlooking the ghost town at one end and an Indian camp at the other. The Indian camp is inaccessible at the moment, but at least you know where to head next. In the meantime, it's back to the ghost town to tussle with the old prospector.

Damn if life will soon part with its trials. You'll have to find something more valuable. But what? Diamonds? Silver? Gold? Gold? Of course! A little prospecting and a little more trading and you should find yourself mounted on the

prospector's crusty mule, ready to venture into Indian territory on disk D. Three disks down and three to go, but the hardest is yet to come!

The mule cannot take you beyond the Indian camp, so it's time to look for another means of transport. The Indians are a powerful lot, so you can explore the camp unafraid. Aha! The river looks promising, but there's only one canoe and it's not yours to take. You might be able to trade with one of the Indians, but which one owns the canoe? Try talking to them all and you'll soon be directed to the canoe's owners. But what can you offer them? I hope you were thorough in your exploration of the ghost town because there's no going back! The instructions and artwork may be useful here.

Before you know it, you'll be peacefully drifting down the river in the canoe. Oh, old There's Horner Dalton! And he's pointing a gun in your direction. You'd better think fast and act fast. I don't think he's here for the DUCK shooting!

Even if you avoid getting shot, the next move finds you on the brink of a waterfall. Should Talk about one of the trying puns and into the fire! The box artwork provides a solution for the third and final time.

If you survive the waterfall, you'll find yourself in the middle of a prairie somewhere on disk E. There's a U.S. Cavalry fort nearby, but some of the soldiers are particularly friendly. As a matter of fact, if you hang around for one long day they throw you in the stockade for consorting with the Indians. After 4 moves, the guard puts in and gives you your last meal. Things don't look real promising! After 12 moves, the guard gives you a cigarette and after 20 moves, you get dragged off to the gallows. (I know smoking was a health hazard, but this is ridiculous.)

When you're first thrown in the stockade, all your belongings are taken except for what you're wearing. It's possible to escape from the stockade, but you must do so with only the items you find after your imprisonment. Timing is also important. If the guard leaves in at the wrong time, you'll be killed straight away. If you break out too early, you could miss out on an important item.

If you manage to escape, you'll find yourself on top of the fort's wall. However, the alert has been raised and soldiers are closing in from all directions. The only escape route is down, but it's no fun to jump and survive the fall. Did you explore the fort before you were captured? If not, ensure a saved game and go back to the warehouse. Here you'll find an item which may help your escape attempt. All you've got to do is to somehow struggle it into the stockade without it being taken from you!

After you escape from the fort, the soldiers continue to close in on you. The only way to escape them is to burn your bridges behind you (so to speak) and run like blazes. If you don't waste any moves and you don't run straight into the soldiers' arms, you'll get a chance to jump aboard a moving train before the soldiers can catch up.

Even if you make it to the train, there's no time to rest. Seconds later, the train comes to a screeching halt and the however swishes the horses to make sure there's no free loaders. If you hang around, the however will surely find you and beat your brains out with his billy club. The only alternative is to try and hide, but this brings you face to face with Luke Dalton. Not much of an alternative is it? Timing is crucial once again, but if you can survive the encounter with Luke, you finally get a chance to rest.

Hours later, the train pulls in to the station at Tillam.



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Tlaxcala is on the west coast of Mexico, immediately south of the border with the U.S.A. It is here that James Ballard is to hang.

Leaving the train takes you to club P. From the train station it is a short walk through the desert to the streets of Tlaxcala. A quick exploration of Tlaxcala reveals its Spanish influence including an arboretum, a cinema, a cathedral, the El Banco Nacional and the local hotel where James is imprisoned. If your attempt to rescue James is to succeed, you're going to need a lot of careful planning and, of course, the usual experimentation and game saving helps. I'd suggest you pay James a visit and have a talk to him before you try anything. This at least gives you access to his home and rifle.

When the bell starts ringing, you know that the end is near. James is taken to the gallows and a crowd gathers near the central place. When the bell stops ringing, James will be hung. Timing is crucial. You have to save James before the bell stops ringing. Maybe you could position yourself somewhere that gives you a good view of the gallows and use your Texas Ranger marksmanship to clear the hangman of his quarry. (Don't be careful not to shoot James.) The bloodthirsty mob will not take kindly to this move and you'll have to set fire to create your own escape. The secret is to have everything planned in advance.

The very last move of the game turns out to be a real disappointment as the program takes over and everything happens automatically. In one move you save your own skin, snatch James from the gallows and together you ride out of town.

The game should end at that point, but it pushes the friendship by extending the automatic scenario so that after a two day ride, you and James find yourselves at the O.K. Corral in Tombstone, Arizona. The game finally ends as you gun down the three remaining Dalton brothers (despite the fact that you have only one rifle between you). The scenario at the O.K. Corral is the most notorious in the history of the Wild West. It occurred in October 1881 when Wyatt, Wyatt and Morgan Earp and a gambler friend known as Doc Holliday (from his profession as a dentist) exchanged gunfire with four local cowboys, the and Billy Clanton and Frank and Tom McLeary. Wyatt and Morgan Earp and Doc Holliday were wounded during the fight. Billy Clanton and both the McLeary brothers were killed. Only Wyatt Earp and the Clanton escaped unscathed.

### NEXT ISSUE

Well, as much for Chivalger. Next issue promises to be another interesting one. If all goes well, I'll be taking a look at The Neverending Story - the book, the movie, the Adventure. I've been looking forward to this one for a long time. See you then.

Garry Francis  
26 Harington Road,  
Barnwood,  
N.S.W. 2206  
Australia



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# TUTORIAL SUBROUTINES

## 3. HIGH SCORE SAVE

by Ian Finlayson

Many games for your computer have a high score feature to ensure you play again and again to try and improve on your previous performance, but few games will remember your high score from one playing session to the next. The subroutines which follow will allow you to add a high score save feature to any basic game. Before going any further I must first sound a warning – as the subroutines will write to your tape or disk do not add them to your original program, work on a copy!

### FORCED READ MODE

The technique used is called "forced read" and is a very powerful feature of 8 bit Atari computers which allows a program to modify itself by automatically writing program lines on the screen and then reading them as if they were typed in manually. The forced read mode is used here to change line 31200 so that the variable TTT is set equal to the highscore of your completed game. In a more complex application one of the early graphics programs for the Atari called Demopak used this technique to store pictures by first transforming the screen data into ATASCII characters in a long string and then adding the string to the program by using forced read.

### THE SUBROUTINES

Two subroutines are required for the high score save. The first is very short, only two lines – 31218 is the line which will be modified and 31220 will set HIGHSCORE equal to the saved variable at the beginning of a game. You will have to change the variable name that I have called HIGHSCORE to the name that is used to store the high score value in your game program.

The second subroutine is the one which reserves line 31210. As this also saves the game I have included versions for tape and disk. Keep line 31270 for use with disks or alternatively delete line 31270 and remove the KRAM from lines 31280 and 31290 for cassette use.

### SUBROUTINE ANALYSIS

The first subroutine requires no explanation but I will expand on the second. When we call this subroutine game play is over and we wish to save the game complete with the new high score.

**Line 31218** - In this line we check to see if the new high score (HIGHSCORE) is better than that saved last time (TTT). If it is not there is no need to save it and the subroutine returns immediately to the main program.

**Line 31210** - First select Graphics 0 to allow the required text to be written to the screen. This is necessary as most games

*In the third of our Tutorial Subroutines Ian Finlayson provides a means of saving high scores in your program – not just for one game but as part of the actual program*

will be in other graphics modes. Then move the cursor down three lines and print line 31218 showing the variable TTT equal to the new value of HIGHSCORE.

**Line 31290** - Move the cursor down again and print "CONF" line 31280 - Put the cursor back to the top of the screen. Poke 842 with the value 13 to enable forced read mode and STOP the program to start the forced read. At this point the computer will scan the screen and implement what is there so it will read the new line 31218, including it in the program, and then read the CONF command which restarts the program at line 31270. If you use this technique in your own program remember to leave a blank line or two before the "CONF" statement or the forced read will sometimes skip over it and go into an endless read which can only be stopped with the RESET key.

Remember also that the program will restart at the line after the line where it stopped, any further statements after STOP at this line would be missed.

**Line 31270** - Poke Ding 842 with 13 disable forced read, otherwise the computer will try to read the screen again next time the program is stopped (e.g. at the end, after the game over). Now we save the game back to disk complete with the new line 31218 and high score value.

**Line 31280/90** - These lines replace 31270 for cassette users. I have included a prompt to remind the cassette as this is often forgotten when your game is loaded initially.

If you do not want to return to the main program to finally exit the game then replace RETURN in line 31270 or 31290 with END.

### USING THE SUBROUTINE

To use the high score save you will have to add two subroutines calls to your game program. The first will be GOSUB 31200 which must be in the initialisation sequence of your game. If your game program contains a statement which gives an initial value to your HIGHSCORE variable then GOSUB should replace it. The second will be GOSUB 31210 and this should be near the end of your program after a prompt such as "PLAY AGAIN? (Y/N)" so that you only



# LETTER CASTLE

I never thought it that I would consider to be somewhere in between a game and professional software and the aim of it is there simply "You set in "The Cellar" of the old Letter Castle and have to play all the way to "The Roof Garden". This would be really simple if there was not a problem with the staircase. It is, of course, a very old building unfortunately most of the steps leading up have been destroyed during centuries of warlike play, so to reach each floor you have to rebuild the stairs.

All the steps need to be rebuild (they are not all there, but you cannot bring them up to the top, they have to be supported by something. Unfortunately you will not find any suitable construction materials for this task, because since you are in a "Letter Castle" you should find probably only one of the letters that are hidden in each floor of the castle. You have to find them, bring them to the staircase and place them in suitable places under the stairs. Why these places have to be suitable will be explained. It has something to do with the fact that the letters are not your magic letters, so if the staircase has somewhere to have a missing step you have built up a complete staircase, return them to the stairs floor where you will face the same problems. The weathering, you know?

Finally you will reach the top floor, where you give up letters, and then you will have built the first and oldest war zone in constructing the stairs.

This is all I have to tell you about the aim of Letter Castle. Now I hope to tell you how to play it.

## HOW TO PLAY

I realize that the description, given about how to construct the stairs will make rather formidable work of being in the long listing. Before you start, have a look at the large number of "letters" DATA files at the end of the listing and make sure that you are using TYPES 1 to about your system. You are lucky, I could not see it when developing the program and the DATA files! Quite frankly, I regret to find several words and had a correction afterwards in the information I would still be busy correcting these DATA files!

Once you have typed in the listing and have checked it with TYPES 1, save a copy to disk or tape and the RUN of the main screen will appear and as the program continues the screen will change. Now a short while you will see a short explanation of the program and are asked to choose from:

1. STATES
2. STATES
3. SPORTS
4. ANIMALS
5. PEOPLE

Your choice will determine whether the letters required to

*Hidden on various floors of an old castle are letter puzzles which you must solve to get to the top of the castle. Peter Ohlmeyer provides an original, thought-provoking, puzzle game that will challenge you for hours*

reconstruct the stairway form a city or state, an animal name or a celebrity. This is something particular about the names of people. They may either be only the surname or a combination of the first name and the surname. In the latter case, an "open step" is left between the names, e.g. Henry Nelson would read HENRY N\_\_\_\_NELSON when building new steps.

Your choice is made by pressing the appropriate number key and then play will commence. A screen will be drawn around THE CELLAR. You will see eight stairs, an arrow and an information bar at the bottom that displays from the left to right the content of your choice, the time left for your construction, the letter you are actually drawing (once you have chosen one) and your actual score.

## PRACTICE FIRST

In this you may be able to see it, when to have a practice round, you are provided with the letters and objectives. You will find a large state name waiting to be formed with the given material, though not long one. Move him by pushing the top bar in the desired direction. You will not see any letters in the bar, pushing over a letter field makes the letter automatically appear. When a letter appears you have two possibilities. You may either leave the letter unattached and move around to search for more letters or you can decide that you want to use the letter for the construction of the state, if so, push the letter over the letter and push the bar back to the left. You hear a beep and the letter changes its colour to be you know when you return to the floor that you have already taken it.

Once you have chosen a letter you must carry it to the screen. Move the letter over the arrow and THE CELLS will appear on the screen. Let's first try the ladder. Move it first really fast down in the top left corner. This will allow you to "Give Up" the puzzle you are working on by pushing the top button with the little man placed on the screen. Your score is reduced by 200 and you will proceed to

the next floor. Sometimes it is wiser to give up because if the time runs out you will proceed to the next floor but your score will be reduced by 250.

Now go back down the ladder to where you came onto the screen and move straight to the right. You will reach the edge of the wall and just fall down. The only consequence is that you reduce your score by 50 points. You may choose this possibility for speed or use the downward ladder to reach the path underneath the triangles marking the step positions. Ascending you are carrying a letter, move the little man under the triangle where you want the letter to be placed and push the fire button. The step falls into its proper position and is held by the letter.

## GET SOME MORE LETTERS

To collect more letters you leave **THE STAIRS** by moving over the arrow in the right corner. Now pick up a new letter and repeat the procedure of placing it in empty positions of the stairs. Once you have placed a number of letters you can check whether they belong to the puzzle word or not. Climb up the steps and the correct letters will change colour whereas letters not required will disappear and the triangles will replace them again. Upon returning to the floor screen, the correct letters are now shown underneath the floor's name.

It should be explained that 'correct' only means that you need the letter to solve the puzzle, it does not necessarily mean that the letters are already in their proper positions.

Let us return to the floor screen and have a closer look at it. After placing a few letters you have to continue to find the letters and carry them to the entrance. I forgot to mention that only on the first two floors can you reach all rooms to collect letters. In the following two floors, one part of the castle is locked and you have to find the key first that will open the door. In the two remaining floors, you have to find two keys before you can reach all the letters available. Each floor holds 20 letters of which you need only 10 to solve a puzzle but once a letter has been checked correct and the same letter appears in another location on the floor you are highly advised to take it because it is definitely in the puzzle word.

## IS IT RIGHT?

Now let's go back to **THE STAIRS**. If you have managed to place letters in all the five places in the staircase, climb up the steps and check whether the door to the next floor will open. As you climb, correct letters will stay in their places while letters not required will disappear and the triangles will fall down again to indicate where new letters have to be placed. It is essential that you go all the way up to the steps in front of the door because if you return before you have reached the upper step, the triangles will remain in their position and you cannot place new letters.

## SOLVE THE PUZZLE

Once you have found all the letters of the puzzle and checked them to be correct, you will have to check whether they are in the proper positions. Once all the letters are correct, a new ladder will appear and you are asked to 'CHECK'. Climb the new ladder until you reach the 'Y' before you start checking and then return to the stairs and go up until you reach the door. Letters that are already in the

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98 0 000 ~~~~~
99 0 000 ~~~~~
100 0 000 ~~~~~

```



right position will change colour. It is your task now to change the positions of the other letters. Simply move underneath the stairs and place the little figure under the letter you want to place elsewhere. Push the button and move to the location where you want to place the letter. Push the button again and the two letters will fall down and change their positions. Just move the little man and the letters will automatically be placed in the new locations. Repeat this procedure until the letters under the steps make sense when read from left to right. It is wise to remember the letters carefully before starting the exchange procedure, because every exchange will reduce your score. You may check any time how many letters are in their proper positions by simply moving up the stairs again.

Once you think you have found the correct answer climb the stairs again and you will find that the door to the next floor will open upon reaching it, otherwise you will see a 'SORRY' message and you will have to change some more letter positions.

Having successfully solved six puzzles you will reach 'THE ROOM CHAIRMAN' where your final score will be shown and you will be asked whether you are want to try another puzzle. A 'Y' would be fine.

## HAVE FUN!

There are many puzzles in the Letter Castle and you will find yourself busy for many hours. I hope that I have managed to combine the right elements of gaming and education and that The Letter Castle will continue to challenge and puzzle you.

---

*Dr. Peter Oltmann is of German nationality and works in the German Embassy in Amman, Jordan. He has had several other excellent programs published previously in P-WORD. He was, sadly, never to have departed the 8-bit world for the 3.5."*









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## GENEALOGY and your ATARI

The combination of the study of one's genealogy with the power of the computer makes for a fascinating hobby. I have traced my line back to that great British hero, Admiral John Benbow (1653-1702), and written and published his biography. All on my AMIG 130 SE.

If you are interested in learning more about your roots, about your family history, then you should know about some very practical ways your Atari can help you.

The task of searching for and finding your ancestors is much like that of solving an Agatha Christie mystery. You start with some known facts, find clues along the way, and piece together a picture much like you would a jigsaw puzzle. With genealogy however, you feel very quickly that you are overwhelmed with data and spend most of your time searching through your own notes. The computer can be invaluable in this chain. It is especially suited to search databases for search for relationships, and print reports.

Over the years genealogists have developed techniques to organize family history data. The first is a Family Worksheet which is used to record essential identifying information for each nuclear family. This is their birth, work and children. Included in each is their date of the names of their parents and dates and places of events such as birth, marriage, and death. The family file also includes addresses such as occupations, hobbies, and military service. If you are truly long in developing hundreds of these family worksheets, your ancestral tree doubles with each generation. I would like to see a second form, the Pedigree Chart, to show three generations pictorially. Such a chart usually has room for only a few generations starting with you and working backwards through your parents, grandparents, etc.

### USING YOUR ATARI

With a bit of imagination you can modify any standard database program like *Quicksort* to store your data. All of the information leads itself to being stored and sorted in fields. The drawback is that a standard database program is not designed to sort genealogical data in a program format, so several programs have been developed specifically for Atari 8-bit computers, all for that.

The simplest is **FAMILY TREE** by Harry Saxon and available through *Amiga Magazine* for \$19.95 US plus \$6 for outside or \$10 for Air Mail shipping. Write to The Catalog, 344 Second Street, San Francisco, CA 94102, USA. This program is excellent for beginners as it is quite user friendly. It is written in Basic, requires 128K RAM, and produces two generation pedigree charts. Detailed and clear documentation is provided on the back of the disk. It states: "THE FAMILY TREE program lets you enter and display the names, births,

*William A. Benbow reviews three software packages for your 8-bit Atari that will help you trace your ancestors*

marriages, deaths, and a short biographical note for each person in your family pedigree. The screen displays a tree with a unique cursor. You move the cursor about the tree using a joystick or the keyboard to select a person from the chart. Their historical data can then be displayed or edited on the screen."

Although a total of 24 generations may be stored on one disk, they must be looked down into separate files of 4 each. Pedigrees cannot be made which overlap files, so it is not possible to make a chart of your great-grandparents unless you start a new file with file. This involves a fair bit of duplication. Also, although charts may be printed in 10 characters per inch, they are best printed in compressed mode (17 characters per inch) for readability. The greatest limitation is that it is not really a database program. Data cannot be sorted by birth and is static prepared. Family worksheets are not subject to modification except information on siblings. Disk #105-8708 FAMILY TREE you are limited to pedigree charts.

### MORE POWERFUL PROGRAMS

To enhance your genealogy with more powerful programs, **BRANCHES** and its companion program **TWIGS** is just what all organizing database programs spiritually developed for Atari computers by Spore Software, 899 Brock Street, Longwood, CO 80501, USA. Costs \$29.95/BRANCHES \$49, TWIGS \$27. I am a devotee of searching charts.

The program is developed in Basic and requires 40K RAM plus a floppy, writes the pedigree BRANCHES is the right database program and utilizes both individual and family worksheets. From this information it produces two generation pedigree charts, however anywhere from five generations can be stored on a disk, so pedigree which overlap disks will involve a logical file numbering. On the positive side disks can store a large number of children's records, including up to 180 children for the 18 great-great-grandparents families. Disk space is also committed to a unique time line feature which gives brief accounts of selected events for dates between 1400 and 1999, to provide historical perspective.

The companion program **TWIGS** is designed to produce a descendant chart which shows children, grandchildren and great-grandchildren of a given individual. It can also store data on names, dates, addresses, etc. and allows you to find the relationship of two or more people on the same disk.

This is an easy to operate and view program well written, with complex say by very means. The main limitation is the restriction to five generations per disk and, being written in Basic, you may find searching a bit slow.



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### NO LIMITS

A third program available for Atari computers, has been produced by William C. Waiden of Direct Laser Software, 4075 Bamboo Way, San Diego, CA 92108, USA. Titled **FAMILY HISTORY**, it is available for \$39.95 U.S.

It requires 192K RAM and is the most powerful of these programs. There is no limit to the number of family member records you can keep. Multiple disks are possible, with each disk capable of storing 192 individual records of 41 fields each. Each record can contain up to four spouses and 15 children per marriage. It produces a five generation pedigree chart for any individual in the database, and a Family Group Chart on any individual, including all immediate family member's names. As well it will print a report of all data from all records in the file and an index sorted by individual number or name.

A nice feature of this program is its easy to use menu and its capacity to compare data by removing the empty spaces between records when you make a back-up-copy. The main advantage, however, is its open-ended storage capacity. It is not limited to five or six generations so it can be more flexible. Speed is another asset, since the original Basic program has been 'compiled' and now runs ten times faster. It also supports double density.

The pedigree chart is a bit disappointing in that it does not include place names or marriages. The **FAMILY TREE** pedigree chart is much superior, but is limited to four generations. Also I had difficulty figuring out a good numbering system. The computer will assign numbers to individuals automatically, but since it allows a personally devised system, some greater instruction would be helpful.

Of the three programs, I prefer **FAMILY HISTORY** because of its open-endedness. However, **BRANCHES AND TWIGS** has the added features of a time line to give context to one's ancestors and also offers more in terms of tracking indirect relations such as cousins. **FAMILY TREE** is the easiest to use program and produces the best pedigree charts.

### GET SEARCHING!

So that you have these programs which you can use on your 8-bit Atari to help in researching your ancestors. Perhaps you will find the search for your roots an exciting mystery to solve first, and you too may find an ancestor, such as my Admired Ancestor, worth writing about.

*William A. Rowson is from British Columbia in Canada and is indeed a descendant of the famous Admired Ancestor. He has written several articles for genealogical journals and computer magazines and recently published a biography of his famous ancestor produced entirely on his 800K.*

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The PAGE 6 ST section

November-December 1987



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## F-15 FOR ST!



Micropress have some great news for ST flight simulator fansatics with the conversion of F-15 **STERIK EAGLE** to the ST in late September at a price of £24.95. F-15 has already been written about extensively in many publications and fully reviewed in *PAWEE* but it will be exciting to see it using the full power of the ST.

Mastertronic have begun to ship their ST games which all retail at £9.99. September releases were **CHOPPER X** and **STERIK**. If the quality is good and they sell well, maybe it will persuade other manufacturers to offer games software at more reasonable prices.

**Inflotron** have a third seasonal offering of right short stories that are not so much adventures as a series of wacky little puzzles. Even the title will get you thinking. **NORD AND BERT COULDN'T MAKE HEAD OR TAIL OF IT!** Written by Jeff O'Neill, author of *Ballroom*, it contains all the humour and intellectual challenge of *Inflotron's* adventures but is designed for those who fancy solving a puzzle in an evening. Each of the right tales will only take a few hours to solve but will challenge you to the full. Price is £29.99.

**English Software**, once well known for its support of Atari, is slowly coming back to the Atari field with a new ST release, **LEVIATHAN**, which is not, as you might expect, about whales, but is an arcade style shoot 'em up which looks from the screen shots to be quite similar to *Zaxxon*.

**Missionman** have been busy upgrading various products and now have **LATTICE C Version 1.04** which seems to have all features necessary to make it the leading C development system for the ST. The new version costs £99.95 but upgrades are available to existing owners for £26. Also released is **PASCAL 2** which provides an IBM standard core but with a large range of extensions for programmers who wish to access the power of the ST. There are many other releases to the program and a new manual of over 700 pages giving program developers another powerful tool for the ST. Price is £99.95.

A new budget range for the ST comes from ANCO who have a cross-licensing deal with Kingsoft of Germany. Kingsoft have a large number of games and utilities for various machines but at the time of writing it was not clear what would be available for the ST. If the quality is good, it looks like 'budget' software for the ST has finally arrived.

**ANTIC Software** has released **BASE TWO**, a new database which is essentially a powerful extension of *DE Manor One* which many owners received free with their ST. **BASE TWO** is entirely RAM based for speed and has many powerful features together with a flexible report generator that is compatible with all ST word processors.

**Electronic Arts** recently launched their U.K. subsidiary Company with a little party on the Thames at which they announced a new marketing strategy for the U.K. whereby the Company will distribute direct to retailers thus ensuring that there is a greater awareness of Electronic Arts products at the level where it is most important. Electronic Arts will be supporting the ST with titles such as **BARDS TALE**, **CRUSSMASTER 2000**, **HARLE MADNESS** and **DEGAN ELITE** which will all be repackaged and re-priced for the U.K. Electronic Arts will also distribute its affiliated labels and have agreements already with *CDL* and *Neuman* whose titles **ACADEMY** and **SKULLDUGGERY** for the ST are already in the shops.

**Electric Distribution**, who already handle Antic Software's products in the U.K. now have a special "bundling" deal with Timeworks whose three business packages **WORD WRITER ST**, **DATA MANAGER ST** and **SYNTHCALC ST** can be had for only £149 for all three, a saving of £130! Also included in the deal is a subscription to *Softline*, a software support service for these products.

**Inflagonics** have an enormous range of entertainment software lined up for the ST. Many of these have a typically French style and some unusual themes. Here we go: **SIDEWALK** is a memo program in which you have to carry on you take, maintain and collect your girlfriend with some tickets for a concert **L'AFFAIRE** is another in the successful *Crime* series where you travel across European Cities trying to prove your innocence having been accused of a crime you didn't commit. **THREE MUSKETEERS** is based on the famous book and is an adventure set in highly graphical locations. **OH YOU GO**, *D'Amagnot* **PASSINGERS ON THE WIND II**, it naturally the sequel to the first graphic adventure and continues the tale to regain the love of a deposed noble lady. Following in October is **CHAMPIONSHIP WATER SKI** in which you can take part in three events in the World Championships. *Phoenix* is a shoot 'em up game where you have to keep the space lanes open fighting pirates and intercom. **HYPHOC** promises to be one of the most unusual and interesting games being a mountain climbing simulation. Now you will be able to find out what Chris Remington does with his computer! There's more! In November you should see **SPACE RENEGADE**, **PROHIBITION 1**, **THE GRAND VEER** - *ESNOGOD*, **BUBBLE GUMBOAT**, **STRIFE 1**, **CRASH GARRATT**, **CRAPTON 2**, **ANACONDA III**, **BOB WORMANI** and **CAPTAIN BLOOD**. More details as they are released. Talk about prolific output!



• **Printers.** Since Calligrapher works under DOS, it will work with any printer supported by DOS. At the moment we supply DOS drivers for Epson FX and compatibles (9 pin), Star 8441 24 pin. Printer supplies from the Epson and Star lines are available on request. Hopefully the range of DOS printers and fonts will increase over time and these will be made available to Calligrapher users as and when we receive them.

• **Boxes and line styles.** This simple, but very effective, feature enables boxes to be placed around any part of the text, such as headings. Also a variety of column line boxes can be placed in the text to direct up the appearance of documents.

• **Multi-page preview.** One, two or eight page preview facilities are available. This shows an accurate scaled down image of the final page, including graphics etc., and enables the overall document layout to be checked prior to printing.

• **Auto page and paragraph numbering.** Page numbering is, of course, supported, but in addition there are facilities for automatically numbering any sequence of objects such as paragraphs, or chapters etc. If a new paragraph is inserted then all subsequent paragraphs can be automatically re-numbered.

• **Powerful search and replace.** Calligrapher provides very extensive search and replace facilities, allowing single and multiple wildcards and the ability to search for multi-byte codes for font changes, graphics, tables etc.

• **Import and export.** A variety of utilities are supplied so that data files can be imported from ASCII or to Word files and exported to ASCII. It is also possible to convert Tables and Footnotes to the required IBM macro-command format.

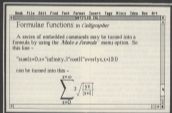
• **Keyboard shortcuts.** Being menu driven makes Calligrapher easy to learn. But the experienced user will probably find these time-consuming. Therefore the program supports keyboard shortcuts in all the common Calligrapher functions.

• **On the page graphics.** Calligrapher can import both IBM and IBM graphics files and display them anywhere on the page. The user may create any graphics images (either salvaged or redrawn) to fit the required screen. Conversion utilities are provided from other Design and Macintosh files to be used. If you don't want to change the graphics from other programs then Calligrapher contains its own drawing tools.

# for the Atari ST

• **Formulas functions.** Complex formulae are difficult if not impossible to create in most word processors. Calligrapher has a special formulae creation mode that supports most of common mathematical symbols and Greek letters etc. See examples.

• **Spelling checker.** A 60,000 word dictionary allows very fast spelling checking/insertion checking as you type with no loss of typing speed (IBM only). Misspelt words are shown highlighted in context, and Calligrapher will suggest some alternatives, so this point the correct word may be ignored, corrected or added to the user dictionary.



• **Outlining facilities.** Calligrapher supports a highly graphical outline, or idea processor. This helps in the creation of complex documents and helps the user create the correct structure for a document before writing to screen. The outline for a document may be displayed graphically as a tree structure or may be placed into the document in a more traditional spread way with each 'level' of the structure being further indented.



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# Using GEM from the C language

## Graphics and Random Numbers in the third part of Steve Pedler's series



Demo 4 - Globes

This is the third part of this series which looks at the use of the ST's GEM interface from C. In it we shall take a third (and for the moment final) look at the graphics functions available from GEM and add another demonstration to the program we have been developing.

The accompanying listing is for the fourth demo. You will see that there are two additional global declarations for functions concerning WINDOWS and a few lines added to main() to allow the new demo to be called. Once you have got this typed in and successfully compiled, pressing any key (other than the space bar) at the end of the third demo will call the function demo4(). To exit this demo, press either mouse button to screen the whole program, or both buttons together to exit back to the desktop.

### DEMONSTRATION 4

The purpose of this demonstration is to draw a series of "wireframe" globes having a 3D effect. To make things more interesting the globes will be of different sizes scattered randomly over the screen. It starts off with the declaration and initialization of some auto variables. The variables color and max\_color limit the colors used in drawing the globes, so that only the color indices 0 to 7 inclusive are used. This is solely out of personal preference, and you can use the full range of colours (1 to 15) if you wish. Variables max\_x and high\_x and high\_y impose limits on the size and position of the globes and again can be changed if you wish.

The next five lines should be familiar by now as we have used these functions before. The function `rs_lookup()` is one of the arbitrary functions, and sets `line` (as opposed to `text` or `fill_color`). It has the same parameters as the related functions `rs_color()` or `rs_fill_color()`. The next group of lines use a function we have not met so far. The problem with this demonstration is that we don't know exactly where a globe is going to be drawn, since we are using random numbers to determine size and position. The result is that a globe drawn near the example) the left or right edge of the screen might "spill over" the edge. In this case part of the globe will be drawn on the opposite side of the screen, which doesn't look very impressive.

Alternatively a globe at the bottom of the screen would overwrite the title of the demo. We could get round this by ensuring that the positioning of the globes was such that they could never approach the edge, but then they would tend to all be concentrated in the centre of the screen. What is needed then is a method of restricting `x` or `clipping` - graphics output to a defined area of the screen. It won't come as a surprise to find that GEM provides exactly that facility.

The function `rs_clip()` sets up a graphic clipping rectangle. It is called with the following parameters:

```
rs_clip(device handle, clipping flag,
rectangle-coordinates array)
```

The coordinates array is an array of four sixteen-bit words. The first two words contain the `x` and `y` coordinates of the upper left corner of the clipping rectangle, while the second two words contain the coordinates of the diagonally opposite corner. When the function is called, it will receive graphics output to within this defined rectangle. The clipping flag simply tells you if clipping is enabled or disabled. If it has the value 1, clipping is enabled; if 0, clipping is disabled. Note that on first opening a visual workstation clipping is disabled. The clipping rectangle used in this demo uses the whole screen except for 10 pixels at the bottom, which is where the title is printed.

We now enter the main loop of the function. Each pass through the while loop draws another globe, then checks to see if the user has pressed one of the mouse buttons. If a button has been pressed, the while loop is terminated and the function waits in another loop until the button is released again. It then disables the clipping rectangle to see if it interferes with the output of one of the other demos and finally returns the number of the button(s) pressed to `main()`.

### THE MAIN LOOP OF THE DEMO

This is straightforward. Each pass through the loop, the size of the globe and its position on the screen is determined by three calls to `rnd_max()`, discussed further below. The fill colour







## LATTICE C Version 3.04 Metacomco £99.95

Reviewed by  
Matthew Jones.

Some time ago I reviewed the Lattice C compiler but Metacomco have now released a new version which is a major revision, including many more features. As a regular user of the compiler, I was very pleased to receive the new version as it has many new and very powerful facilities.

The manual is now a massive 300 page thick, with about 700 pages. It covers all the new features starting with general information about using the compiler, the language definition and the way it uses the computer, the compiler options, and how to use each of the new utility programs - Debug+, RM, KRC, Link, Make and Meta+.

The complete C system library is covered together with GEM library functions and there is a bibliography, error messages, recent changes, example programs and finally customer support.

The three disks supplied provide a complete C programming environment. Two automating systems are provided: Meta+ which is related to development of single source file programs (lots of them), the latest version of which solves minor problems that have been found as well as adding more functionality (like a program path) and Make which is the only new way of managing a multiple source file program - again it has been improved.

A new GEM version of RM2 uses all the old keystrokes of the text mode version, but allows editing of four files simultaneously - generally a great improvement. It does have some problems however, like the inability to copy a block from one buffer to another - you have to write it to disk then read it back. The compiler has more facilities to improve it, and it now supports the proposed ANSI standard 'void' and 'near' types, argument type checking, and complete structure passing (call by value).

KRC is a GEM resource editor, written by Koma, as reviewed by myself in a previous issue. As I said then, KRC is a very capable program. Link is the linker from GST, as supplied in the previous version.

Debug+ is totally new. It is a

symbolic machine level debugger. It has definable macros, which allow you to perform complex interrogations of your data, and the best thing of all is the 'breakpoint' macro which allows you to wait for your program to locate, and then find out the sequence of calls and parameters which caused it. I cannot give a complete description, but if you are stuck with KID, buy this - it's invaluable.

Over half the manual is used to describe the library functions. All sorts of really useful functions have been added, which I became aware of on the IBM PC, and now have full access to on the ST. New functions include: `quest()` - open any disk array, `getdir()` - gets filename list (reads a directory in one go), `close()`, `open()` - open a file with environment: `search`, `goals()` - get disk free space, `getB()` - get a file's time. Many of these can be done yourself with Genesis calls, but isn't it nice to have it done for you? There are many more - about 340 functions altogether.

Also included on disk is the source for the overlay code so that you can customise it. The libraries are provided in two forms, one for GST Link, and one for Link86 - the rival linker (not supplied).

If you don't already have a C compiler, then you cannot get better value for money than Lattice C version 3.04. If you already have Lattice C, then you can upgrade for a reduced fee to a much improved package. If you already have a compiler, and are looking to a more capable compiler than that, look at Lattice. Note that while Lattice C is not the fastest to compile, it does produce code that is generally very fast. Personally, I have found it very reliable, and the support is good.

Overall, Metacomco have produced a very professional system. ■

## SUPER DIRECTORY Michtrom U.K. £34.95

Reviewed by  
Matthew Jones

It came as a bit of a surprise to me to find that Super Directory from Michtrom U.K. (formerly Mikrodat) is actually quite good. As regular readers will know, I have become rather disenchanted with their earlier products

(especially Sprint Construction Kit), but this is an exception. Super Directory is a disk organisation program, allowing the quick location of a file in a collection of disks.

Don't think that I am totally won over though! The same old manual writer has had a go at this manual which starts off by explaining a few terms, like records and fields, but explains it all backwards. Also included is an awfully off-putting mathematical explanation of 'sets' which adds to the confusion. Once it has passed the silly stage however it does have useful information, covering the main features.

Super Directory is a GEM based application. The main operation involves around dialog boxes. The main dialog has a list of files in a large box, with buttons on the right hand side to select options. To add a disk to the directory the ADD button is used. This produces another dialog with a 'disk number' field in which you can enter a three letter code to identify the disk with, a 'disk to read' field, and the number of records file (depends on memory - 4415 records (files) on my 11k machine). When you click on OK, it reads each directory on the disk, and reads all the disk file information. You are then left in the ADD dialog ready to add another disk. When you have added your disks, you are given a sorted display of the files. The sort can be done according to various categories, including disk, filename, extension, and time. You can scroll up and down the display, and select individual files. Each file can have a remark and a category added (to facilitate sorting by user type). You can FIND a particular file, or type of file, and then move to the first in the list found.

The most useful is the PRINT button which allows you to get a printout of your information in various formats: full performance, full remarks, filename 1 across, pathname 2 across, remarks 3 across, and according to the current search pattern. The printout allows you to refer to the information outside of Super Directory.

The information read from the disks can be stored on disk for later retrieval. If the file gets too big, subentries can be allowed off into other files.

Super Directory is not brilliant, but does do its job, and is not hindered too much by the manual. If you need a program to keep track of your disk directory, this program certainly merits examination. ■

## FLASH ANTIC Software \$39.95

Reviewed by  
John S. Davison

Isn't it strange how some software feels "right" almost as soon as you boot it up? I had that feeling with FLASH, a communications program from Antic, and after using it for a while I can honestly say that my initial impression was correct.

For \$39.95 you get a handsome look-alike package containing a single 5.25-inch disk and a 56-page instruction manual. The latter is clearly written, but I did find some topics a little fragmented. The program disk isn't copy protected, so you can easily make a backup copy or install it on a hard disk. Thank you, Antic, for this sensible policy.

Installation is simple, in fact you could, if necessary, run a course session with the disk as supplied, however, you'll probably want to personalize it to suit your way of working and that's very easy to do.

Like most communications programs, FLASH has two modes of operation, known here as terminal mode, and capture/buffer mode. You can quickly switch between the two with the press of a mouse button. It's from terminal mode that you conduct an online communications session with a remote computer system. Capture/buffer mode is FLASH's offline control mode, where you can examine and manipulate the contents of the capture buffer, set up and edit various control files and parameters, and so on.

FLASH can be driven in several different ways: through the keyboard, using full command words, abbreviations, or Alt/Key combinations, or by using GEM's mouse and menu facilities. As you become familiar with FLASH's facilities you can progress to quicker ways of working—a nice design feature.

There are over 60 commands to learn, but you'll only regularly use a small subset of these. The manual includes an alphabetically organized reference section, which lists files and explains them all and there's also a Help command available giving on-screen assistance with the most often used features.

### TERMINAL MODE

On startup, you find yourself in terminal mode. This screen isn't a GEM screen, so there's no mouse and menu options. Normally, anything you type in here gets transmitted. Current terminal parameter settings (such as baud rate, duplex, etc.) are shown on a status line at the bottom of the screen. This line also displays a real time clock, which can show either time of day or elapsed time—an extremely useful feature.

You may wish to issue a FLASH command from this screen, so to talk to FLASH rather than the remote system you have to first press the INSERT key. This turns the status line into a command input line. Following input of the command, the line moves back into a status line again. Nice design and quick to use!

FLASH's terminal mode screen is a true 80 x 24 configuration in medium resolution. It can also operate at 80 x 48 in high resolution, but I couldn't try this as I don't have a monochrome monitor. I found the display to be clear and perfectly legible, thanks mainly to a sensible choice of screen colors and text font.

### CAPTURE BUFFER MODE

Capture/buffer mode presents you with a GEM screen, so permitting mouse and menu control. Its duplex function is to give you a window onto the capture buffer. This is a large area in memory into which you can choose to automatically save anything appearing on the terminal mode screen (either keyed in by you or received from the remote system). You can switch into capture/buffer mode at any time and view anything that has scrolled off the terminal screen.

But capture/buffer mode gives you much, much more than this. It has built-in word processor-like facilities, allowing you to insert, edit, and save or reinsert all or selected parts of the buffer, those parts being defined by both start and end facilities. You can then save, delete, print, rename, copy, move, or even append a block to an existing file. There's also a search feature, permitting you to quickly locate a specified character string in the buffer. And you can insert an existing file into the buffer at the current cursor location. All this gives you fantastic flexibility for offline preparation of

files for transmission, saving you money on expensive connect time and phone charges.

Capture/buffer mode is also used to maintain FLASH for your own use. It has facilities for writing up one or more "data directories", which hold the names and phone numbers of your favorite bulletin boards and services. Assuming you have an extended feature on your modem, dialing a service is reduced to a couple of mouse clicks. Obviously, different services have different terminal configuration requirements, so FLASH allows you to define configuration files and load them in when needed.

### AUTOMATIC

Probably the most impressive features of FLASH are its built-in automation facilities. Rather than try to command singly, you can batch them together in "DO files" using capture/buffer mode facilities, so they look like a program at macro. They may then be saved on disk and executed when required via the DO command. DO files may be nested to three levels, giving the potential for some pretty fancy processing.

A DO file can be linked to a phone number by the dial directory, and is executed automatically following successful connection with that number. You can also arrange for a DO file to be automatically executed immediately following boot-up.

The DO file can contain a mixture of FLASH commands, modem commands (for intelligent modems) and data to be sent to the remote system. You can also perform such things as initial or engaged numbers, test for character strings received from the remote system, pause for a specified time interval, wait until a specified time, and many other useful functions. It's possible to completely automate an online session, for instance to-dial a service on a given time, log on, look for your mail, download it, save it to disk, log off, and send a bill to tell you it's finished. I've used many of these functions and they all seem to work. Now I know why it's called FLASH!

Another way of automating FLASH is via programmable function keys. You can define up to 28 of these, each one having a string of characters assigned to it. These can be FLASH commands, or anything else you want. The manual won't deal on maximum length allowed, but it appears to be

around 80 characters. If you need a longer length you can link function keys together using a 'GO function key' command in the last part of a given function key string. The end result is that you can input the whole character string in terminal mode by pressing just one function key - very useful for log-on sequences, for instance. The definitions may be saved to disk and loaded in whenever required.

## BULLETPROOF ...

FLASH is advertised as having 'bulletproof' file transfer facilities. It handles ASCII or XMODEM transfers directly to/from disk, and has facilities for saving parameters to suit a wide range of remote system requirements. I can't verify it is bulletproof in all circumstances, but it has certainly worked successfully on the downloads I've tried so far.

Another feature worth mentioning is FLASH's translation table facility. This allows you to do such things as access bulletin boards designed for specific non-Azari machines, and to handle any strange control characters which might otherwise drive your Azari crazy. Another use would be to implement a simple form of encryption/decryption between two FLASH users having the same translation table, i.e. a basic security system. Translation tables, like all other customisable features in FLASH, may be saved to disk and loaded in as required.

## IN CONCLUSION...

My overall assessment of FLASH is that it's an inspired piece of programming. It's reliable, easy to use, offers useful features rather than gimmicks, and sells at a reasonable price.

The main fly in the ointment is that it doesn't support PRISTEL type systems. However, it works OK in VDI mode (1280/75) based-on-text only systems - at least, it does with my Mitelco W34000 modem. The other (admittedly expensive) missing feature is the ability to handle non-Azari - you can't dial into your own system from elsewhere to access or upload your own files. However, Aztec have recently released an accessory package which adds exactly this feature and much more besides. If they could do the same with PRISTEL type support, FLASH would be unbeatable. But if you don't need this, it's a winner anyway!

## K-ROGET Kuma Software £49.95

Reviewed by  
Matthew Jones

For many years I have had by my desk both a dictionary and a thesaurus. For what I am writing. Every so often, I find myself thinking 'is that really how it is spelt?', but even more often, 'there must be a better word'. A thesaurus is a dictionary of synonyms - words with similar meanings. The thesaurus I have is small, never seems to have the word I require and it takes time to search for more alternatives. I have always thought that this was an obvious task for my computer.

K-Roget, by Kuma, is designed to provide just such a facility. I started eagerly by loading the 38 page manual but soon became lost as it switched from topic to topic so let me try and give you an idea of the program without the manual. K-Roget is installed as a Desk Accessory. To select a word, you select the K-Roget option in the desk menu and then type in your word. If you have K-Word 2, you can use a menu option to send the current word to K-Roget automatically but this option is not available with other software. K-Roget will search its files, and produce a list of similar words. Three slider bars allow access to more words, the top bar selecting alternative references (e.g. broadside is in with synonyms like flank, salvo and great gun), another bar selecting different paragraphs about the current reference, and the third selecting new 'bonds'. The 'bonds' next to that located for you are generally related to the subject. For instance the 'bonds' next to 'marat' are 'wrest' and 'maison', followed by

'society' and 'apronman'.

You can move around in the subject you are interested in quite easily. Another nice feature is that some of the suggestions are multiple words, e.g. 'roboter' has the suggestions 'man or woman of letters' and 'academic circles'. If K-Roget cannot find the word you are looking for, it lists words that are spelt similarly, so you do not have to know the precise spelling to use it.

Once you find a word, you can find more alternatives by clicking on it in the window to select it. Also available is an history feature, which allows you to see all the words you have looked at in this session. If you are using K-Word 2, then you also have the option to send the current word to replace the existing one but with other applications you will have to note the word and insert it manually.

I have recently used the new Wordstar Professional 4 which comes with Word Finder and is, to my mind, very much easier to use than K-Roget, but it is harder to look around similar subjects. I find the controls of K-Roget frustrating, as the slider bars are not fully implemented (you can drag, and click on arrows at the end, but not click on the shaded part) and you cannot double click to select and find a new word.

The manual is adequate but a bit of a struggle - everything you need is there but it seems very disorganised - but once you have the program installed and can understand the terminology, use is intuitive. K-Roget needs two 1 megabyte disks or a hard disk, or a RAM disk, (though it is supplied on three single sided disks).

Overall, K-Roget provides some good alternatives to most words, and if you do any writing, it is well worth looking at.

## 1ST STOP for PD SOFTWARE

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# CYBERSTUDIO

Cyberstudio CAD 3-D may be the most advanced of the many graphics packages currently available for the Atari ST. It is a program which allows one to draw 'flat' two dimensional shapes and objects and transform them into 'real' three dimensional objects with depth. For those who may have logged a few dozen hours on the original CAD 3-D (version 1.0) there should be little difficulty in adjusting to the new version. Version 2.0 requires one megabyte of RAM, therefore if you own a half-megabyte Atari you will need a memory upgrade in order to run this program. It's not an unreasonable suggestion, for this program it's worth buying a memory upgrade!

CAD 3-D 2.0 is an 'object-oriented' graphics program which allows one to create three dimensional drawings and place them in a three dimensional universe. CAD 3-D creations may also be output as screen images and saved in either Degas, Neochrome, or C-D-L-R Object Editor formats. They may even be printed as hard copy. Then, using the Cyberbase animation editing program, which is included with CAD 3-D 2.0, groups of sequential frames can be created and your objects can move with smooth animation. Using the optional new Screenshot Liquid Glasses, objects may also be viewed in head-wearing views.

When the program is first booted-up we see the familiar drop-downs, pop menus across the top of the screen. The left third of the screen is the ICON CONTROL PANEL and the right two-thirds of the screen consists of the four VIEW WINDOWS which are used to look at the 3-D Universe. The CAD 3-D Universe is a transparent cube and all objects created by CAD 3-D appear inside the cube. The windows labelled TOP, RIGHT, and FRONT (which can be flipped to BOTTOM, LEFT and BACK) correspond to the various faces of the cube. These windows are fixed and cannot be moved, unlike the fourth window which is labelled CAMERA. The CAMERA window is



## Has ANTIC Software developed the ultimate ST Graphics package?

like an actual movie camera on a 'boom' located outside the universe's cube. It is able to move to any position - zoom, fly, cross, rotate or around.

There are three ways to begin to create a new object. The first way is to use the PRIMITIVES ICON. It allows you to create basic shapes and offers you the choice of SPHERE 1, SPHERE 2, SPHERE 3, TORUS, CUBE, or WINDOZ. You may also choose to create an original object through the EXTRUDE or SPIN functions. EXTRUDE operates like a

object of greater accuracy. Once an object is created it can be rotated, manipulated or placed in a group of one or more other objects as a single element of a greater construction. After your object is created the RESTATE and SCALE sliders (seen at the top of the screen) allow you to restate your object (or objects) either vertically or horizontally and then scale them to be either smaller or larger.

Using the camera's window, you can ZOOM in or out, change the PERSPECTIVE or ROTATE the camera. These functions only affect the camera's point of view and don't change the actual objects. Using the OBJECT JOIN icon, you can join objects together in a variety of ways to create a child, unique, object.

The next set of icons allow for moving objects within the 'cube' universe. You can DRAG objects to any location within the non-camera windows as well as reposition them in relation to any other object. You can also rotate objects in three different ways. Center Pivot Point Rotation is used to rotate objects around the imaginary center point of the 3-D universe, Group Pivot Point is used to rotate objects around an imaginary point in the center of the object, and Arbitrary Pivot Point allows one to rotate objects around any selected point

## 'worth buying a memory upgrade'

figure, allowing a shape to be cut-out as if you were cutting a shape from a piece of wood. After fit inside into the shape, it adds depth. You can then alter the thickness and size using the scaling tools. SPIN creates an object of revolution as if you were to create it by using a lathe. After the outline of an object is drawn on the Spin screen, it is spun to create depth.

When using Spin or Extrude you are brought to separate work screens. These work screens contain their own sets of drop-down windows which provide tools to aid in producing



# Zoomracks II

Zoomracks, the innovative database program for the ST, first appeared over a year ago. Its flexibility and unique visual interface based on the idea of cards in racks (like those used by employees for clocking in and out at work) made it very easy to use. Now Microsoft are marketing a file II version offering even more facilities. They've also described a companion series of 'Zoomie Kits' designed to get similar versions of Zoomracks into productive use in double quick time.

Zoomracks II is supplied in a substantial A4 ring binder containing a complete reference card, a function key template, a single sided disk, and a fully indexed 190 page User Guide. The Guide's tutorial style is designed to get you using the package quickly, and the disk contains online tutorial and help facilities for use if you get stuck later.

The program is driven mainly by menus appearing across the bottom of the screen. Selections operate as 'couples' - making a given selection a second time reverses the action of the original, returning you to your starting point. Selections may be made with keyboard or by positioning the cursor over the required item with cursor keys or mouse. Certain features are implemented via function keys, which can be a little confusing until you're familiar with the program.

A card holds up to 27 data fields, each up to 250 lines by 80 characters long. Each card is held in a slot in a rack with just the top line showing, so you can see what is contained. A rack can hold thousands of cards, with actual capacity depending on the amount of data on each card and your ST's memory size, as a rack has to be completely into memory. A gauge at the bottom of the screen shows how much free memory remains at any time.

A rack may be named and stored on disk just like any other file, but with an extension of ZRK. When opened, Zoomracks displays the rack name - in a rack, of course! So the overall Zoomracks database structure is as follows: a disk is a rack of ZRK files, a ZRK file is a rack of card records, and a card is a rack of data fields.

John S Davison takes a look at the latest version of one of the most original computer databases

## CREATING A DATABASE

A rack is created by defining a 'template', which names and positions the card's data fields. Field type and length don't have to be specified, as all data is ASCII, and the length is... well, as long as you want it! The template processes blank cards into which you simply key the data (of any length) when prompted by fieldnames. This is repeated until all required cards have been set up. It's unbelievably easy!

Zoomracks II's editor has a number of wordprocessor-like facilities to help you enter and edit data. In fact, you can use it like a simple wordprocessor for producing notes and letters. Input mode is switchable between insert and overwrite; you can delete data by character, word or line; there are cut, copy, paste and replace facilities at rack, card, field or line level; margins can be adjusted and text reformatting to fit; lines can be split and joined at any point and tabs can be set. Also, there's a facility for pasting cursor data and data into a field.

## RETRIEVAL AND UPDATE

Data retrieval is where the 'zoom' part of the program's name becomes evident. You use the program rather like a zoom lens on a camera, in this case to get closer and show more detail of your subject data. After loading a disk you select a rack from the displayed disk rack. This rack then loads and shows you into rack level detail, showing the top line of each card in the rack. If you then select a card the program zooms you into card level detail, showing individual data fields. Finally, if the field holds more data than actually shows on the screen, you can zoom in again to display the whole field.

If a rack, card or field is too big to fit on one screen, you can scroll up and down to find the part you want.

Unfortunately, Zoomracks isn't GEM based so there are no scroll bars. Scrolling is performed by different methods depending on the current zoom level - very annoying in practice.

With many database programs, making changes to an existing database can be a painful experience. Not so with Zoomracks. You have complete flexibility to change field positions, add/delete fields, and alter the amount of data displayed for each field, as well as altering its length or content. And if you mess up the format changes there's an 'Undo' command to put everything back as it was. Cards may be added and deleted easily, too.

Up to nine racks may be loaded into memory at any one time. You can quickly switch between them, or even display multiple racks on the screen simultaneously, with Zoomracks automatically compressing the data to make this easier, if required.

## MATHS AND MACROS

Zoomracks II's mathematical capability is restricted to the four basic arithmetic functions. You can use it like a calculator, with numeric data input from the keyboard or picked up from any field on the card. A semi-automatic mode permits the summing of all numbers in a field or the same field across cards. Results may be put back into the card if required. Further automation may be obtained using the macro facilities described below.

A macro is a collection of commands or frequently used text which can be set up in a special macro rack and invoked by a row key abbreviation. The rack holds up to 27 macros, and may be saved the famous way. A disk may hold multiple macro-racks, but only one may be loaded in at any given time. Creating macros is very easy - the first one I tried (administered a simple trailing operation) took about 30 seconds, and it worked first time.



# SUPERTEC COMPUTERS

## SOFTWARE FOR THE AT

### ZOOMRACKS STARTER KITS

Macros operate on single cards or a specified number of cards from a given starting point — you don't have to process the whole rack in one go. Zoomracks can also automatically load a default macros rack and even associate a specific macro at boot-up time. A simple macros language is included to help you produce quite slick macro procedures, as demonstrated convincingly by the online manual supplied.

#### PRINTING

Zoomracks can print to a screen for checking layouts, a printer for hard copy, disk (in ASCII format) for input to other programs such as a wordprocessor, or internal field buffer for posting elsewhere in the database.

Print layout is specified by the use of 'forms', allowing you to customise the printer's appearance. A default form (name as the card layout) is automatically provided, and this may be edited to produce your own customised version. Page layout parameters such as page length, margins, offset, headers, footers, page numbering, and spacing may be specified as well as positioning of fields anywhere on a page. Data may be printed one card per page or as a continuous report. It's not quite as sophisticated as some database programs, but adequate for most purposes.

#### CONCLUSIONS

Zoomracks II represents a refreshingly different approach to ST database applications. Once you've mastered its quirky mix of keyboard, function key and mouse input it becomes simple to create, use, and maintain many basic home or business applications. A quick look at the contents of the Starter Kits should give a good idea of what's possible.

For more advanced applications its limitations in the search, sort and arithmetic areas could cause problems. Also, I found the lack of disk utilities a pain. You can't even list a complete disk directory from within Zoomracks — the disk rack facility shows only Zoomracks files! But having said that there's still an awful lot to CAN do. In fact, it could well be the only database program you ever need.

If you're a Zoomracks user and can't spare the time to set up your own database applications, then these inexpensive starter kits from Microcad at £9.95 each could be just what you need. Basically, they're sets of Zoomracks templates, sample data, macros, output forms and hints files which you can load and use straight away. They're designed to work with Zoomracks I or II.

Each disk holds a large number of different application units, with each rack being pre-loaded with a few sample data cards for that application. You build on these to form your own customised databases.

Each rack includes a comments card describing each field in the supplied template for that rack. If a template doesn't quite fit your requirements, the amazing flexibility of Zoomracks allows you to immediately add to, delete from, or otherwise modify it — even though it already contains data.

Having a database doesn't necessarily mean you've got a usable application. You need to be able to rapidly manipulate the data, produce reports from it and maintain it. This is where the supplied macros and output forms come in. Once again these may be modified and your own added until the applications are exactly as you want.

If you put off the home applications on your ST you'd spend all your waking hours updating them! Still, they give ideas of what can be done, and all of them are probably useful in one way or another, somewhere, sometime. The odds of interest in me turned to work OK, and were adequate for their purposes. In addition to the templates there are 43 output forms provided for producing reports and listings from the different racks, but only three macros.

There's a list in the Business Starter Kit also with most of it looking suitable for general office use or at least providing the basis for developing your own applications. Some areas (such as invoicing, for instance) would probably require considerable modification to meet individual needs. The kit also includes 47 output forms and 10 macros, the latter handling such tasks as adding items and calculating the remaining balance on an invoice.

Overall, I think the Starter Kit concept is excellent. Not only does it provide ready-made applications for your ST, but it could also give you ideas for using your ST in ways you'd never previously dreamed of. At £9.95 each the kits are great value and I'm sure all Zoomracks owners will find something in the notes to interest them.

#### HOME STARTER KIT

Contains templates for:

- Appliances Records
- Appointment Calendar Diary
- Book Catalogue
- Checkbook Balancing
- London Map
- Company Disk Index
- Cookery Recipes
- Culinary Recipe Index
- Correspondence Log
- Credit Card Records
- Family Contacts
- Family Health Records
- Financial Summary
- Form Creating Records
- Golf Log
- Home Inventory
- Information Sources
- Inventories
- Invoice Generated Log
- Names and Addresses
- Newspaper Clipping Index
- Post and Reply Log
- Phone Call Log
- Prescriptions Log
- Recent Catalogues
- Restaurant Log
- Shopping Index
- Shopping Lists
- Special Order Computer Log
- Storage Log
- Telephone Call Log
- Travelogue Catalogue

#### BUSINESS STARTER KIT

This one includes templates for:

- Appointment Calendar Diary
- Auto Codes (FEMA)
- Assets
- Checks
- Company Profile
- Correspondence
- Customer Details
- Customer Orders
- Employee Records
- Expenses
- Inventory
- Inventory List
- Invoices
- Shipping Agenda
- Mailbox
- Names and Addresses
- Office File Index
- Office Forms Catalogue
- Office Procedures
- Payables
- Payroll Records
- Phone Log
- Phone List
- Preprint List
- Purchase Orders
- Shipping Log
- Things To Do Log
- Vendor Quote Details

# GFA BASIC COMPILER

Glentop Press Ltd.

Reviewed by Matthew Jones

## THE BASIC

As a programmer who learnt the BASIC language many years ago but then left for the brave new world of C, the opportunity to review GFA BASIC was an interesting chance to see what BASIC has been getting up to since I left.

GFA BASIC comes in a video cassette style box, and includes a 293 page ring bound manual and a single floppy disk. The disk contains two versions of the BASIC (both unprocessed - please don't abuse), a full featured one for program development, and a run-only version to allow you to give away or sell your programs.

## IT DOESN'T USE GEM

Being a natural user, the first thing I did was not study the manual but run the BASIC program. I have had my ST since the first shipment to the U.K., and since then have become very familiar with the GEM interface, using windows, icons, menus and mice. When I ran GFA BASIC therefore I had quite a shock. GFA BASIC is a standard run mode program, though it does use a mouse. I fully expected to find GFA BASIC using windows, but having used it for a while, I have to admit that even without windows, it still presents a good environment to work in. GFA uses a 'Command line' menu at the top for mouse selections which is similar to a drop down menu but nothing drops down! There are ten options, doublet up to make twenty. Clicking on the command line, or pressing a function key (added for the extra ten), activates the command. Comments include line, save, run, program check, search, replace and block functions, as well as options like insert and concrete mode toggles, and (on monochrome screens) a 90 line mode.

The BASIC program is not entered in the traditional form with line numbers, but is entered with one command to a line and automatically 'added' within loops (GFA is a procedural BASIC, also incorporating DO...LOOP, REPEAT...UNTIL, and WHILE...WEND). A nice touch is that keywords can be differentiated by automatically capitalising the first letter. I did miss a scroll bar to reflect the current position within the program, and to provide easy movement to anywhere in the program, but for those who do not like GEM, this may be not be a problem.

## IT DOES USE GEM

GEM is not neglected by the program though, for whilst the programming environment is not GEM based, very good provision has been made within the commands for incorporating GEM into a user's program. As an example, it is possible to define an array of font settings, which can then be used with a command to build a proper GEM menu bar across the top of the screen. Automating the menu is then just a case of using the command %ON MENU GOSUB. The user must

know a bit about the GEM system, but other commands allow much more transparent access to GEM facilities, like the window commands, and an alert handler. So the programmer who wants to use GEM is not held back by GFA (an interface to the heart of GEM is provided if you want to sidestep or enhance the standard facilities).

GFA BASIC is not just about working GEM however, as a list of new and useful functions have been added to make programming in BASIC a lot easier and more powerful. I cannot include them all, but for a few examples scores to the address of a variable, and passing of pointers to procedures, single operand maths functions like ADD  $A^2$ ,<sup>3</sup> (which is twice as fast as LET  $A^2 = A^2$ ), graphics primitives (lines, boxes, circles, ellipses), chaining of other programs, data and disk functions, structured file read/writing and random access files, PRINT USING, form inputs (limiting input to a set length), local variables in procedures, reading of all mouse actions (x,y, buttons, hovering/entering boxes), sprite definition, sound commands, upper/lower case of a string, binary type block moves, screen save/restores, an 'approximately' equal to comparison, and both user and supervisor mode POKE functions (byte, word and long word) for reworking within the computer. I can't cover them all here, and I haven't included the more basic (as you intended) functions that have been added. Overall this is a fantastic ported BASIC.

## THE MANUAL

Considering the number of functions and the general power of GFA BASIC, it is a great pity that it is let down by the manual.

Despite its size, and at least one page per command, it does not give as much information as I would have liked, and it is often not very clear, partly because of its (obvious) German translated origin. Another point is that it has been printed on a bright red paper, a technique used to stop photocopying. I tried this and found that with a bit of experimentation, the photocopy was easier to read than the original manual! Glentop told me they were doing a new manual, and may be dropping the red paper. I hope that existing owners will be able to send back their manual with a SMALL fee to upgrade to a new one. At the current time, the manual is a disappointment, but it does contain all the information - you just have to spend a long time finding it as there is no index.

## CONVERTING PROGRAMS

My experiments with the system included an attempt to convert an old 8 bit Atari BASIC program ('Matthews Label Maker') to run on the ST. GFA provides a program which converts Atari ST BASIC programs (with line numbers and multiple statements per line), and converts it to a file suitable

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for GFA BASIC (single command per line, using labels in goto). After a few unsuccessful runs (the program picks up on FORs in REMs), the program was in a firm state; the reading line GFA BASIC. It seemed too good to be true, and was, for my original program seems to have had some convoluted system of conditional NEXT's in it, and I got a 'procedure in a loop' error, which meant I was totally unable to use my original G can't remember how it works any more). This may not be typical though, and if I were to write it again today, I would make much more use of the structuring capability of languages like GFA BASIC.

A set of public domain programs for GFA BASIC is also included, which really show off the program to its best. Some are quite astonishing (the instance an animation of a horse by blowing), and if I hadn't run them myself I might not have believed they were written in BASIC (and interpreted BASIC at that). More GFA BASIC programs are available from other public domain sources.

## THE COMPILER

The separately bought compiler comes in the same style box, with a 31 page manual and disk. Compiling is very simple. A dialog is generated which shows the possible options, and when you have chosen you select a file to compile, then a file to save it as, and then it is done. Simple as that. The available options are: whether the program can be stopped by pressing the Shift/Alternate/Control keys together (and how often checks are made for them), whether integer overflow will be trapped, whether run-time error messages are sent and

number or number only, whether locals are to be trapped in a erroneous instructions which cause those locals can be stopped and made to create an error log, and then detected by ON ERROR GOTO. All the options can be specified in the source code if desired.

Only a few commands cannot be compiled, and they are only because they are not applicable-like LIST and SAVE. No separate compilation is possible, so it is not possible to split your code up into smaller files, but this is not too much of a drawback. The only requirement for distributing the compiled code is that you acknowledge GFA BASIC.

## CONCLUSION

GFA BASIC is a very capable programming system, and would be quite suitable for any level of programming, from beginner to very advanced. It is a pity that GEM is not used when writing programs, but not having it probably contributes to the claimed inexpensive size of only 52K, and the program is quite usable anyway. The only drawback to GFA BASIC is the manual, but this may be replaced soon. The compiler is a nice option, but with the run-only version of the interpreter supplied, only the recommended user will need it as the interpreter does a very fair job on its own. If GFA BASIC is representative, BASIC has come a long way in the last few years.

GFA BASIC interpreter and compiler cost £45.00 each, and are available from: Clonise Press Ltd, Sandford House, Bird Place, Banast, Here, EN5 1EE

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## JUPITER PROBE

Microdeal  
£14.95Reviewed by  
John Davidson *for*

Your mission in Jupiter Probe, the latest release from Microdeal is to fly above the surface of Jupiter sending back photographs. However, a hostile race of beings whose only desire is to destroy Earth is trying to stop you from discovering the dark secrets of Jupiter.

The mightiest powers on Earth have united and supplied three scout ships with whisks to sense the surface of Jupiter. These ships are equipped with only laser cannons and a limited number of 'advanced features'. These advanced features are Ultrasonics, which sense a disturbance in the area around your ship, thus destroying all aliens in your vicinity, and Shields which protect your craft from enemy fire for a short period of time.

As you can probably tell from the above, this is yet another shoot 'em up game. In fact it is very much like many other games of this type. Vertical scrolling, nice bold graphics, neat sound-effects, lots of aliens and plenty of action. Considering this game is yet another vertical scrolling shoot 'em up' it does have a surprisingly impressive pedigree. It was programmed by Steve Bab who was responsible for many superb games including Goldrunner and Karate Kid II.

The graphics were done by someone I've not heard of before, Chris Kay. Now don't get me wrong, they're good but there's just something not quite right about them. The many craters, mountains, rivers (on Jupiter!) and ground bases are all well drawn and very colourful, however they appear to be very 'chunky'. They're good, but on the ST I suspect something a little better.

The sound is, in most respects,



excellent. Like many other games at the moment, Jupiter Probe contains sampled speech, however it is not very clear and only says a few things. The speech warns you whenever a formation of aliens or a mutant space craft (one which can't be destroyed by the Ultrasonics) is approaching. It also tells you which advanced features have been awarded at the appropriate moments. The Jupiter Probe theme music was written by Rob Hubbard, and is considerably better than his last attempt on the ST - Goldrunner.

The game is very playable as it is just above the right difficulty level for most people, making it fairly hard but not impossible to control with either mouse, joystick or keyboard. Jupiter Probe is a good value for money game, the price (£14.95) being something which I hope to see more often from both Microdeal and other software companies.

'a good  
value for money  
game'

LIBERATOR  
Microvalue/Tynesoft  
£11.95Reviewed by  
John Davidson *for*

Liberator is yet another vertical scrolling shoot 'em up at a reasonable price. This time your job is to "search the five Colonial prison planets and free the Federation refugees who are being held captive by the evil Arabian Bases Troopers and mutants."

Before loading the game I was not really sure what to expect. I read through the instructions, which incidentally are a bit longer than your average MicroValue instructions (almost a whole sheet!), and discovered that it really was just another shoot 'em up. You must guide you T.H.G.C. (Technical Heavy Gun Craft) through the enemy controlled terrain and liberate the imprisoned Federation members. Basically what you have to do is to shoot at all of the aliens that descend on you from all directions, and never over large ammo boxes to

## CRAFTON & XUNC ERE/Infogrames £34.95

Reviewed by  
John Davison *for*

The year is 2012 AD and the possibility of a global war breaking out on Earth is high. All of the spatial colonies are threatened, and if the Central Galactic Control Computer is destroyed all life will disappear on the dependent planets.

You play the part of Crafton, an Android who operates in dangerous missions and you are accompanied by Xunc, a creature known as a polycephaly who is like a head sitting on top of a lion. Your mission is to penetrate the research centre protecting the Central Computer and avoid the catastrophes. Well, there you have the basic story behind the game.

In play, 'Crafton & Xunc' is fairly good. The screen layout is similar to that of many arcade adventures, showing the proceedings in 3D. You view each of the many rooms within the



research centre from above one of the corners, making the rooms look like a diamond shape. The rooms each contain many objects, such as tables, chairs, screens, plants and usually something hostile, be it alien robots or green haired punk! All of these objects are very colourful and well drawn, thus giving the game a very pleasing look.

The sprite which you control is fairly well defined, as you can see all the major features such as his face, eyes, legs and his red bubble hat wobbles about when he walks. 'What?' you may well ask, 'an Android wearing a bubble hat?' Yes, Crafton wears the bubble hat to cover up his topless head. According to the comic book which accompanies the instruction sheet, Crafton's

bubble hat was misplaced, and then stolen by Xunc your (friendly?) companion. Not enough of that, it is not really important to the game.

As you roam about the research centre you will come across many different objects (as mentioned above). Most of these objects are movable, so moving explosions away from walls can sometimes reveal hidden doorways. Also, hostile robots which chase you around can be stopped by cutting off passageways with tables or chairs. In addition, you will meet a few people during your exploration, including green haired punks and various blonde haired women, who will do their best to stop you doing any more exploration. Furthermore, there are some ancient looking scientists who must each be interrogated to obtain part of a secret eight figure code, which will eventually give you access to the central computer.

The sound in 'Crafton & Xunc' on the whole is not bad, the music at the beginning is fairly catchy, and the sound effects throughout the game are above average.

Overall not a bad game with some nice touches and new ideas, although I do think that it is a little overpriced. ■

replenish your supply of 'bombs'. When you eventually reach the prison cell you must shoot out the red game to release the prisoners. You must then teleport to the next planet avoiding the Time Space Gates (at least that what the instructions say, I've never actually seen the Gates).

The graphics in *Liberator* aren't bad, but as with many of the budget games they are not amazing. As you fly above the surface of the planet the rather dull background scrolls by fairly smoothly. I think that possibly the most graphically impressive things in *Liberator* are some of the alien creatures. Each sprite, although not very well animated, is very well drawn and extremely colourful, especially the large spherical orange alien which looks suspiciously like the old 'Corona' aliens on TV.

The sound in the game is fairly bad. There is a pretty awful multi voice background tune, which fortunately can be turned off and some pretty sound effects which aren't really worth mentioning.

*Liberator* isn't bad, but it isn't a game I would rush out and spend thirteen pounds on. ■

## TEE UP Anco/Artworx £9.95

Reviewed by  
John Davison *for*

*Tea Up* is a game with an identity problem. The box claims to be 'TEE UP from Anco' and the title screen of the game claims to be 'HOLE IN ONE from Artworx'. Oh well, never mind.

*Tea Up*, as you can probably tell from the title is a golf game, and to be quite honest, it is not very good. When most ST owners think of golf games the first to spring to mind are 'Leaderboard' from Access/UK, Golf or 'Hole 18' from Amstrad. Well, *Tea Up* is absolutely nothing the status of these. No fancy animation or three dimensional graphics here! Your view of the proceedings is from above (is very long way above) and you cannot actually see your golfer, just the ball.

Each hole is one screen in size and usually has a good scattering of trees and water. I say usually because that is only in the eighteen holes provided on



the program disk. It is possible to create your own holes with the supplied construction kit. The 'fairway editor' as it is called, is possibly the only interesting feature of *Tea Up*. Creating a hole is just like painting a picture. You can have different sized brushes for drawing the water, rough, sand, fairway and green, and you have preset shapes for the various trees, etc. The different holes you create can all be saved out to disk so you can make up your own course or copy real courses.

Apart from the construction kit, I can't really say much more about *Tea Up* which is positive, other than the fact that it is cheap. I don't really think it is really worth trying to save a few pounds in this case, if you want a good golf game even a little more and buy either *Leaderboard* or *Hole 18*. ■

## TNT Infogrames £24.95

Reviewed by  
John Davison for

TNT is the latest release from the French company Infogrames and is possibly their most impressive yet. Those of you who have played 'Commander' or 'Burt Warriors' in the arcade or on other means will probably feel at home with TNT as it's a sort of cross between the two.

My copy was a pre-release version so I didn't get any documentation, and therefore I'm not sure what the ultimate aim of the game is, however your primary task would appear to be



to shoot, kill or grenade anybody who moves. Upon loading the game you are greeted by a reasonable picture of a soldier with the game logo.

Accompanying this picture is a very good piece of music, in fact it is some of the best I've heard so far on the ST. The French composer, Charles Gallet would appear to be perfectly capable of equalling anything which either Rob Hubbard or David Whittaker have

produced and these are two of Britain's foremost computer musicians!

You move onto the first game screen, a very pretty swamp, dirtier in some nice pastel shades. The swamp water appears to move slightly around the rocks, and then a large helicopter flies in from the bottom of the screen, dropping a lone soldier and then flying off. This lone soldier happens to be real. Selecting a machine gun using F1 you move on into the jungle, and suddenly enemy soldiers start running towards you from all sides shooting and lobbing grenades. You move down a few with your trusty machine gun and then finish off a small group with a well aimed grenade. Continuing on you come across many more soldiers and eventually you reach the end of the swamp. The helicopter then picks you up and takes you to level two. The next level leads to crossing a jungle in the middle of the night along with another very good piece of music. In all there are four levels, each graphically more impressive than the previous one, and each level having it's own exceptional piece of music before you begin.

In the final version you will have five weapons, a machine gun, a rifle, grenades, a knife, and a flame thrower. You can only carry a limited amount of ammunition and grenades, so you must use your weapons carefully. The flame thrower can be used only once per level, however it was not implemented on my copy. I understand that on the production version it will act as a form of 'smart bomb', firing all of the enemy soldiers that are on the screen at that particular time.

The sprites in TNT are more 'in proportion' than those in other games of this type. Each soldier can be seen carrying his weapon and wearing camouflage gear, with a back pack and beret. My only complaint about the game is that the sprites sometimes flicker a bit.

The scrolling is superb, because whereas most scrolling games at the moment only scroll a relatively small proportion of the screen, TNT manages to scroll the full screen extremely smoothly. When I see scrolling of this quality it sometimes makes me wonder what other software companies must be doing!

TNT, in fact, plays and sounds superb and I expect that the finished version with the simultaneous two player option should be even better. By the time you read this it will probably be out, so save your pennies!

More on page 52

## PLUTOS Microvalac/Tycomsoft £14.95

Reviewed by  
John Davison for

Yet another 'budget' release from MicroValac, this time it's a vertically scrolling shoot 'em up, and not a bad one either!

This game will be a right dobbie to all the GoldenAge freaks out there, but it is still quite an enjoyable game. The graphics are quite good, showing the large mother ship you are flying over mostly in different shades of grey. On later levels you will fly over large framework structures and around built up areas creating long lowering shadows. The alien machines are each very well drawn, especially the circular shaped ships on which the shooting changes as they rotate, making it look as if the light is just catching the far side of the craft. All of the alien ships fly in formation and are very smoothly oriented. The scrolling is very good, the huge mother ships move slowly by without any flicker whatsoever.

The sound in Plutos leaves a little to be desired. The low sound effects that exist are not terribly good but they serve their purpose. Some music might have been nice, though.

The main selling point of Plutos will be the fact that it is extremely

playable. One of the main reasons for this playability is that upon losing a life you do not die. Instead, your small spaceship becomes a 'shadow' (just an outline) and you may continue playing the game, until a few seconds later you run back into your spaceship again. This is a great idea, as with most shoot 'em ups it is most annoying to have to go back to the beginning of a level if you lose a life.

As with most games of this type, there is not much of a plot. Just a typical 'you must fly above the enormous mother ship destroying the weapons installations and the enemy spacecraft'. To finish a level in Plutos you must 'blow the bastards'. The bastards in the very last part of each mother ship, and here you must blast away at its eyes whilst it is trying to go to you. If you fail, you will have to repeat the previous level, however if you succeed you will be awarded a few thousand point bonus, and you progress on to the next level.

Two player action in Plutos is simultaneous, i.e. both players act on the screen at the same time. Players cannot shoot each other but they must compete for fuel and points. This little feature makes two player games much more enjoyable, as you fight it out for the sparsely distributed fuel icons.

Overall, Plutos is a fairly good game with several nice little features not found in other games. I quite like it, but it's not amazing though, so check it out before buying.

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## Hacker II Action/Adventure \$24.99

Reviewed by  
John Sweeney

Hacker II starts just like Hacker. You are presented with a blank screen handset:

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Fortunately you don't need to travel to Siberia yourself - they have managed to infiltrate the complex with three MRUs (Mobile Remote Units - remote control robots really) which you can use from the comfort of your own home computer.

After a sample of screens of introductory information you are presented with the display you will see for the rest of the game. This consists of four small screens arranged in a square and taking up most of the screen, and a control panel at the bottom. Apart from a few keyboard inputs at particular places in the game all interaction is performed by pressing the buttons on the control panel. For this purpose they provide a small hand at the bottom of the screen which can be controlled by whichever input device you prefer - keyboard, mouse, joystick depending on your machine and your mood.

The four screens can be used to display a number of different views. You can look at the current view from any of the 36 cameras placed at strategic points in the corridors and rooms of the military complex. You can look at what either of the monitors is showing, as they view through all the camera views. You can look at a video recording of what any of the cameras recorded previously. Or you can get a bird's eye view of your MRU and the surrounding rooms and corridors.

The game takes place in real time. As the seconds tick away on the various

on-screen clocks you can see the guard making his rounds, the monitor activating the cameras, your MRU as it paces in front of a camera, and the destruction of your MRU as it is turned into scrap metal by the Amalibator!

Your MRU starts in a safe room. You can take control of one and move it one to explore, but there are lots of ways of triggering alarms - the result is always the same - the Amalibator! Once you have worked out where you are and how to control all your systems by use and get the stabilisation score up on one of your screens so you can view your domain.

The game has a number of stages. First you must master all the controls. The introductory screens give you a little help, the 16 page manual (Multi-Function Switching Matrix Operator's Manual Volume 1) will also help a little, but mainly you have to find out for yourself! Second you need to learn how to survive outside your initial safe room, avoiding the guard, the cameras and the amalibator. Third you need to map the complex. Once you have done all that, you can get down to the serious business of trying to solve the game!

Solving the game basically requires working out how to open the vault unattended. There are codes to crack and traps to avoid, and you are not helped by the fact that your equipment is faulty and breaks down bit by bit so that you end up having to drive your dead in the dark! You will need to understand ALL the controls on your Multi-Function Switching Matrix, study the introductory screens in detail, and work out how to manage with only four displays - to start with four screens more than enough but you'll soon wish you had more. Even when you think you have finished there is a sting in the tail which will keep you busy for another hour or two.

My only slight quibble would be with the price. I usually reckon I am getting my money's worth if it works out in a pound an hour or less. Maybe I was lucky in working it all out, but Hacker II cost me well over two pounds an hour. However I thoroughly enjoyed Hacker II and have no hesitation in recommending it to all thinking game players. One of its best aspects is its sheer originality. It is so refreshing to find a game which can't really be fitted into any existing genre.

## Shuffleboard/Pool Diamond Games \$14.95

Reviewed by  
John Davison jr

Two games on one disk for \$14.95 on the ST? What a bargain! you may think to yourself. Well, er, sorry folks but this isn't really a bargain, because the games themselves seem to have something but not quite right about them.

**POOL** looks very nice, in fact the graphics of the table and everything on it look most impressive. There are plenty of options to choose from including loading different games from the disk and changing the colour of the table. The balls are all animated very nicely and the direction algorithms all seem to be fairly accurate as the balls are almost exactly as you would expect them to. So what's the problem? Well, it's playing the game, and above all the control of your cue, as it's so difficult. The review copy I received didn't have any instructions with it so I had to work it out for myself. It would appear that first you move the cue up to the ball and rotate the cue around it (by moving the mouse left or right), then move the cue in its position you want pull back on the mouse to define the amount of power required, and then push the mouse forward! You may be thinking, "what's so difficult about that?" Well just you try at it's VERY difficult to get used to.

**SHUFFLEBOARD**, I am led to believe is like curling. The screen layout is very pleasing with a three dimensional view of the alley taking up most of the screen and an overhead view on the right hand side. Now, from what I can make out you have to slide weights down an alley (similar to a bowling alley) into scoring zones at the far end. If your opponent's weights get in the way then you can knock it out of play. Whatever I play it I can't help thinking, "well is that it?" - and it always ends at the same answer - YES! Shuffleboard isn't a bad game but I would imagine that the real thing is much more enjoyable than the computer version.

It's a pity really because these two games could have made an excellent package if it wasn't for Diamond would had spent a little longer on them.





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# SUPER CONDUCTOR

## Microdeal

£49.95

Atari's decision to fit a MIDI interface as standard to their computers has led to the ST becoming quickly established as the premier musician's micro. Products now cover the whole range - from the full spec systems used by top producers and musicians, down to simple programs for the novice.

Unfortunately most professional MIDI packages have a suitably professional price tag, while the low cost packages on offer tend to offer only the most basic facilities. Microdeal's Super Conductor is a MIDI sequencing package aimed at the low end of the market but with many features which are compatible with the more upmarket products.

### TEN SONG BUFFERS

Super Conductor's first screen displays a list of the songs currently held in the ten song buffers. You can switch between these buffers with the function keys F1 to F10 at any time during editing. It is possible to play these songs in sequence which could be very useful for live performance or demo!

Whenever Super Conductor needs a reference to a position in a block or song, the Bar (Beat/Click) format is used. Every bar of the song is divided into beats, and every beat is divided into 80-clocks. That is three times the resolution of the MIDI standard, so it should be good enough for most people!

### RECORDING AND PLAYBACK

Unlike many sequencer packages, Super Conductor does not attempt to simulate a cassette recorder with the familiar 'PLAY', 'STOP', and 'FAST FORWARD' type buttons. Instead, Super Conductor takes advantage of the fact that most music is structured in some way, verse 1, verse 2, chorus, verse 2 and so on. These sections are called 'blocks' and you simply record a block for the chorus, and use for the verse and repeat them as many times as necessary.

A Super Conductor block contains any type of MIDI data including note events, alterations, controller changes, program changes and pitch bends. Normally, these events are accompanied by a MIDI channel number but Super Conductor removes the channel information when the track is recorded and so is able to manage the MIDI channel on playback. Each of Super Conductor's sixteen tracks can be assigned to any of MIDI's sixteen available channels (including bank'd). It is possible to assign any of the channels to the internal speaker during playback if you should run out of synthesizers although the usefulness of this facility is restricted by the limitations of the ST's sound capability. Personally, I would happily forego this option in exchange for a microphone as playback since without one I found it difficult to decide how accurate the timing of my finger movements was (or wasn't).

Each track can be individually muted (silenced), but the program lacks a 'solo' facility to enable you to quickly listen to a track in isolation.

The Super Conductor editing screen displays sixteen bars which represent the contents of each of the sixteen available tracks. As blocks are entered into these tracks, you get a visual

display of the structure of your song.

In use, I found it best to initially record very small blocks which could be later combined into larger groups as the song required. You can insert, delete and copy blocks simply by pointing to the required position and clicking the left mouse button - couldn't be easier!

### EDITING

Super Conductor provides a comprehensive editing facility which enables you to examine and alter the MIDI data contained within a given block down to the finest detail. You are presented with a screen which displays, in chronological order, all of the MIDI events contained in a block. You can insert, delete and edit these events as desired.

Although the editing facilities are very thorough, many musicians are likely to be absolutely horrified by the sight of all these numbers. I can't help feeling that a graphical display such as that used by the Steinberg Pro 24 would have been a much better solution.

---

### Paul Huggert takes a look at one of the most economical software packages for musicians. Can good MIDI software be had at a reasonable price?

---

After a block is recorded, you can filter selected types of MIDI data, transpose it, and quantise it (convert it to timing notes). Quantisation is a very useful tool which can make the difference between a song sounding like ordinary or being 'tight'. However, if you overdo it, you can easily end up with something that sounds stale and mechanical. The ability to filter data from a block can be especially useful if you have a keyboard which transmits other such information - which often wastes a vast amount of memory. Although these functions perform their designated task perfectly, they suffer from the disadvantage that they operate Destructively *IN* the data itself. Once you have quantised or filtered a block, your original data is irrevocably altered. The events may be to save your data first!

### DOCUMENTATION

Super Conductor is supplied with a comprehensive manual which does an excellent job of guiding the user through the program. It includes the complete MIDI 1.0 specification, an index and an appendix containing descriptions of all of the possible event messages - all of which are very welcome.

### VERDICT

There is no denying that this is a capable package. For a low-cost MIDI sequencer it provides a comprehensive range of facilities and good use of the GEM environment. On my wish list would be the ability to have a microphone click on playback - without one it is difficult to tell just how accurate your recorded performance was. I would also have liked to see the ability to synchronise with an external clock - without it, synchronising to tape is virtually impossible.

A professional musician or producer would probably do better to look at one of the more upmarket packages such as the Steinberg Pro24 or the Hybrid Arts systems, but for the amateur, the simply curious or for those who lack deep pockets, I would not hesitate to recommend Super Conductor.



# SEE 23

A neat little utility from Gavin Jones that will give you instant information on your keyboard status.

SEE23 is basically an extension of the Atari's already powerful *E:* device. The same means 'Screen Editor' (Revision version 2.0) and the program will add information to the normal Graphics 0 screen so let you know the status of various keys and in addition will allow you to use a joystick for quick movement of the cursor, including a 'home' facility similar to that found on many other machines.

The status line at the top of the screen will tell you whether the machine is in Caps, Control or lower case, whether the text is in inverse and whether the start/stop flag (CONTROL-0) is on. The joystick will enable the cursor to be moved anywhere and the fire button will return it to the top of the left most column on screen.

## GET IT RUNNING

So how do you get it running? First you should copy in the BASIC listing onto TWO 5 1/4 inch disks if you go, and then SAVE disk listing to disk. Get a floppy disk with DOS written both put it in drive 1, and run the SEE23 listing. This will write an AUTORUN.BY5 file to your disk and this disk can then be used to re-load. You will see the screen change colour and SEE23 will be up and running.

## SOME TECHNICAL NOTES

The program reconfigures the system in four ways.

Firstly it sets up a new Graphics 0 display list which, instead of having three 112 (3 blank scan lines) instructions at the top of the screen, has one 112, one 96 (7 blank scan lines), one 2 (Graphics 0 line) and one 0 (1 blank scan line). Secondly, it sets up a VBI to handle the cursor movement, the definition of upper/lower case etc. and to update the status line. Thirdly the ROMEM pointer is altered so that all RESETs are trapped to re-initialise SEE23. Finally LOMEM is raised to protect the program.

## SOLVING A COUPLE OF PROBLEMS

During the VBI the Display List pointers are changed to point to the new display list which is used to create the extra line. I believe that this is the easiest way to do it, certainly much easier than re-writing the *E:* handler but, obviously, if the user issues a graphics call, e.g. CR, R, he will only be in this mode until the next VBI - approx 1/50th of a second! To solve this I thought that as location 87 contains the BASIC mode number, all I have to do is check location 89 and if it is equal to 0, change the Display List, otherwise leave it alone. It turns out however that this location is always set to 0 during the VBI (either that or my code is rubbish so it wouldn't work). The solution I came up with was to look at the Display List and see if it contained an Atari mode 2 two lines down the screen. If it did, I would change the screen otherwise I would assume that the screen was not GR, 0 and so leave it alone.

There might of course be a problem with a custom written Display List as, sometimes, the Display will get corrupted but this doesn't matter too much as, if you are using a simple Display List, you probably won't want SEE23 running anyway and all you have to do is press OPTION and RESET together, re-run your program and it will think fine.

DOS is a major problem. I had two choices about where to place SEE23. I could have placed it at the top of RAM, and have it handling a CR-R call, or I could put it at the bottom of RAM and just pretend to be DOS. I chose the latter so my code starts at \$1000 and changes the LOMEM pointer to point just after it. If you call DOS however, while the program is running it will crash the machine as DOS overwrites the VBI code but there is, fortunately, a way round this. If you hold down OPTION and press RESET the SEE23 program will start itself off and you can go to DOS as many times as you like. To get back to SEE23 type X=U967990 and press RESET.

## SUMMARY

The status line will show the effect of the Caps, Inverse and CONTROL-0 keys. Play around with them to see the effect.

The joystick moves the cursor and the fire button will 'home' the cursor to top left. On the 400/800 machines you will hear an awful buzzing sound from the console speaker and the cursor may disappear sometimes. This is not a program fault, it happens because the K: handler is making a click using STA CONSOLE and STA WHYSNO. STA WHYSNO waits for a horizontal sync, so if you move the cursor past the line waiting to be drawn, the cursor seems to disappear. On the XL/XE machine the problem is solved by mashing off the key click.

If you get fed up with the new screen colour, pressing START and RESET will return the colours to the normal default.

To go to DOS, turn off SEE23 by pressing OPTION and RESET. If you want to boot up directly to DOS, hold the OPTION key down until after the 'trapezoidal' sound and this will prevent the program from ever being activated.

```

00 1 000 *****
00 2 000 *          *
00 3 000 *          *
00 4 000 *          *
00 5 000 *          *
00 6 000 *          *
00 7 000 *****
00 8 000 *****
00 9 000 *****
00 10 000 *****
00 11 000 *****
00 12 000 *****
00 13 000 *****
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00 15 000 *****
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00 97 000 *****
00 98 000 *****
00 99 000 *****
00 100 000 *****

```

```

77 1174 DATA 0,001,0,000,0,00,0,00,01,000,
000,00,000,000,00,000
78 1188 DATA 000,0,000,000,00,000,01,000,
000,00,000,000,00,000,00
79 1192 DATA 0,000,000,000,0,000,0,000,0,00,
000,000,0,00,000,00
80 1206 DATA 0,000,000,000,000,000,000,000,00,
000,000,0,00,000,00
81 1220 DATA 000,00,00,00,000,000,000,000,000,
000,000,000,000,000,000
82 1234 DATA 000,00,00,00,000,000,000,000,000,
000,000,000,000,000,000
83 1248 DATA 000,00,00,00,000,000,000,000,000,
000,000,000,000,000,000
84 1262 DATA 000,00,00,00,000,000,000,000,000,
000,000,000,000,000,000
85 1276 DATA 000,00,00,00,000,000,000,000,000,
000,000,000,000,000,000
86 1290 DATA 000,00,00,00,000,000,000,000,000,
000,000,000,000,000,000
87 1304 DATA 000,00,00,00,000,000,000,000,000,
000,000,000,000,000,000
88 1318 DATA 000,00,00,00,000,000,000,000,000,
000,000,000,000,000,000
89 1332 DATA 000,00,00,00,000,000,000,000,000,
000,000,000,000,000,000
90 1346 DATA 000,00,00,00,000,000,000,000,000,
000,000,000,000,000,000
91 1360 DATA 000,00,00,00,000,000,000,000,000,
000,000,000,000,000,000
92 1374 DATA 000,00,00,00,000,000,000,000,000,
000,000,000,000,000,000
93 1388 DATA 000,00,00,00,000,000,000,000,000,
000,000,000,000,000,000
94 1402 DATA 000,00,00,00,000,000,000,000,000,
000,000,000,000,000,000
95 1416 DATA 000,00,00,00,000,000,000,000,000,
000,000,000,000,000,000
96 1430 DATA 000,00,00,00,000,000,000,000,000,
000,000,000,000,000,000
97 1444 DATA 000,00,00,00,000,000,000,000,000,
000,000,000,000,000,000
98 1458 DATA 000,00,00,00,000,000,000,000,000,
000,000,000,000,000,000
99 1472 DATA 000,00,00,00,000,000,000,000,000,
000,000,000,000,000,000
100 1486 DATA 000,00,00,00,000,000,000,000,000,
000,000,000,000,000,000

```

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# The 3-D

Have you ever wanted to sit in front of your computer, sketch a simple outline of an object, rotate it, and then watch as your computer turns the outline into a full 3-D image complete with hidden surfaces? The 3-D Animator will do this for you but it will also allow you to view the 3-D image at any orientation and scale with a variety of surface textures and it will automatically calculate and record different views of the image and play them back at high speed to produce full 3-D animation!

Sound interesting? Type in the listings, following the instructional pieces carefully, and you will then be ready to follow the Tutorial which will teach you how to use The 3-D Animator fully. After that, use your imagination to create and animate some beautiful objects of your own.

The 3-D Animator will only run on 800k disk based systems and uses virtually all of the facilities necessary, in order to have as much flexibility as possible in creating images. The individual modules are quite flexible where required and there is a lot of user control, especially when generating animations. Note that even small changes to the listings may result in the program not running.

## TUTORIAL

The easiest way to learn how to use The 3-D Animator is to follow a tutorial, so boot up your 3-D Animator disk and follow each of these steps which will take you from drawing a simple image and rotating it with a fully animated image file. Before beginning, make sure that your 3-D Animator disk must be left in the drive at all times and must not be write-protected. Note also that error trapping in the program is minimal and it is particularly important to include the drive specifier (D:) in all filenames.

### 1. GENERATING AN IMAGE

Let's begin by creating a simple image. Select Option 1 - Generate an Image from the main menu and the Graphics Editor screen will appear. A joystick plugged into port 1 will control a small simple plot window which can be positioned anywhere on the right hand side of the screen. The space bar will toggle between a fast or slow cursor. Try it.

Our first object will be a square loaded and as shown in Figure 1. This shows the Graphics Editor screen with an outline drawn on it and a view of the 3-D settings that will be generated when the window closes. Position the cursor at point A and press the right button to place that point to avoid rotating the view twice. Move the cursor to point B, press the left button when the prompt 'add the second point C and D' flashes. Use the button with a dot. Press the key

*In Issue 26 Philip Robinson presented Solid Modelling which allowed you to create complex objects with shading to give a three dimensional effect. Now he goes further with a super program that not only allows you to create true 3-D objects but also allows you to animate them at high speed!*

# ANIMATOR

on the keyboard and you will be prompted for the 'Number of sections' required.

This represents the number of 'steps' taken in rotating the window around the central axis when forming the 3-D image. In this case a square loaded and is required so enter 4 in response to the prompt and press Return. A prompt for the filename =)1 now appears. Enter the drive and a filename in the normal way but do not specify any extension. Note you must include the drive specifier. For our tutorial use the filename INMAIL.

Four files will now be created. Using the example given these will be MAIL, MAIL.XYZ, MAIL.PAC and MAIL.CTL. You will see messages as each section is processed and information is stored into two of the files (MAIL.XYZ and MAIL.PAC). When all the sections have been processed a message will appear showing the number of coordinates required to represent the 3-D image. The number of coordinates is calculated as follows:

$$[\text{Number of points}] \times [\text{numbers of sections} + 1]$$

The 3-D Animator can only display images with up to 99 coordinates due to memory limitations so you must not exceed this limit or the display function will crash! With our square loaded and, the number of coordinates message should be  $20 \times (4 + 1) \text{ points} = (4 + 1) \text{ sections} = 20$ .

Following this message will be a prompt asking if more sections are to be added to the image. Enter Y and then add point B, B,0) from Figure 1 in that order. Next press any key on the keyboard and the prompt for 'Number of sections' will appear again. This time we require a more rounded shape for the shaft of the coil so enter 6.

Each section will now be processed and messages will be displayed as further information is stored into the two files



**NAIL.XYZ** and **NAIL.PAC**. The number of coordinate message which appears after processing is complete should not be 0:

A,B,C,D (8 points) + (4 + 1 sections) = 28  
E,F,G (3 points) + (3 + 1 sections) = 21  
Total = 49

Now enter **N** to the prompt asking if more outlines are to be added to the image and a message 'Completing Image file' will appear. Information will be stored in the **NAIL.CTL** file and you will be returned to the main menu.

At this stage details of the 3-D image are stored in the three files **NAIL.XYZ**, **NAIL.PAC** and **NAIL.CTL**. These three files are collectively called the Image File. The fourth file (**NAIL**) is empty, ready to be used for storage of views of the 3-D image.

**TWO SIMPLE RULES:** When drawing outlines you must conform to two simple rules:

1. Outlines must be drawn in a clockwise direction. In the **NAIL** example you did that by drawing the points in the order A,B,C,D for the first outline and E,F,G for the second outline.
2. Outlines must be 'closed'. They can be closed either by the central axis being part of the outline or, if drawn away from the central axis, by closing the outline itself (i.e. a square, triangle etc.) The outlines for the **NAIL** are closed by the central axis along the lines AD and DG.

## 2. DISPLAYING, FILING VIEWS OF AN IMAGE

Now you have drawn an image in outline which has successfully been saved to disk, it is time to have a look at what the 3-D image looks like. Select Option 2 - Display File Views of an Image from the main menu. A prompt will appear asking for the name of an Image File. This can be any image that you have created and which is on your 3-D Animator disk. Remember to enter the drive specifier followed by the filename of your image but do not specify an extension. In this tutorial example you enter **D:MAIL**. The image will be read from the **NAIL.XYZ**, **NAIL.PAC** and **NAIL.CTL** files into memory and the screen will blank.

The following control keys are now active.

- D** - Display File views of an image
- V** - Viewing specifications for an image
- I** - Initialize (to null) settings for rotation, scaling and transformation of image
- R** - Specify rotation of image
- S** - Specify scaling of image
- T** - Specify transformation of image
- E** - End (Returns to main menu)

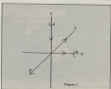
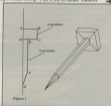
The first thing to do is see what our image looks like so press the **D** key and you will see a prompt for the 'number of displays' required. For the time being we only want to see the image on screen so enter **1** and you will then be asked if you want 'filling'. Enter **N** and press Return. If you enter **Y** the resulting image will be saved to disk and will overwrite any existing image.

The 3-D Animator will now start generating the display. There are many calculations involved so the screen is 'turned off' allowing more CPU power to be devoted to the calculations. So that you will know that the computer is still working, it will 'beep' once after each of the three major sets of calculations it performs and after the third 'beep' the display will be turned on and the image will be drawn. A fourth 'beep' will indicate when the image is complete.

### Selecting a Different View

You should now have a front view of your nail but this doesn't show the 3-D nature of the image very well so we will rotate it into a better viewing position. Press the **I** key which will initialize all the rotation, scale and transformation settings so null. A message will be briefly displayed indicating that the settings are initialized. Press the **R** key and you will be prompted to enter the rotation (in degrees) that you require for each axis. Positive values will rotate the image in the directions shown in Figure 2, negative values in the reverse directions. Enter **-30,45** to rotate the image around both the **X** and **Z** axes and wait for the prompt to disappear.

Each time you change the image you must select by pressing the **D** key. You will know when the image is ready because any on screen prompts will disappear, so now and then press **D**. Repeat **I** display and so filling and after the calculations (beep screen, three 'beeps'), the image will be drawn. If you watch the image you will notice how it is built by drawing the most distant parts first with the nearest parts being overlaid on top. This is the so-called 'Painter's



Algorithm" and provides the correct display of the image with regard to "hidden surfaces". You now have the image of the wall viewed from a different angle.

### Scaling and Moving the Image

Suppose you want to enlarge or reduce the image? No problem, just press the S key and you will be prompted to enter the scaling factor that you require for each axis. You may scale each of the three axes independently allowing you to make, for instance a "taller" or "longer" image. Enter 0.5,0.5,0.5 to reduce the size of each axis to 50% of its original size and wait for the prompt to disappear. Press the D key, request 1 display and no filling and the reduced image will be drawn. You will see that the image has reduced in size but it has also rotated. Why?

An important point to remember regarding rotation, scaling and transformation is that such change is "added" to any previous change unless the settings are initialized first. If only scaling had been required, the I key should have been pressed prior to setting the scaling factors.

Now, let's put the image back to its original size. Press the I key followed by the S key and enter 1.0,1.0,1.0 to scale the image up to its original size. Press the D key, request 1 display and no filling and as the image is drawn you will notice that it doesn't rotate this time.

So far we have changed the viewing angle of the image and enlarged and rotated it, but suppose we want it move to another part of the screen? This is where "translation" comes in. The T key works in a similar way to the examples given so far but moves the image along its axes with the values entered representing the distance moved in pixels. Positive values cause movement in the directions shown in Figure 2 and negative values will move in the reverse direction.

**A WARNING!** No "clipping" of the image is performed and the program may crash if the image overflows the screen boundaries of Graphics II (i.e. 320(X) by 192(Y)). This option has been omitted in the interests of speed and to allow maximum use of memory for images. If you do crash, you may start again by entering RUN "D:MENU.3D". When the main menu appears you must start right at the beginning with Option 1 - Generate an Image, however if you hadn't filed any views of images before the crash you can start at Option 2 - Display/File Views of an Image. With a little care you can easily avoid this problem anyway.

### Adding Textures

Having got this far you should be able to draw any image and manipulate it on screen as you wish, so let's take a look at one final option before finding out how we can animate the object we have created.

The images displayed so far have been white with black edges (the initial default) but many more options are available. Press the V key and you will be prompted for a shade value. This value determines the density of pixels that are set on the surfaces of an image. The value can range from 0 for all pixels on (white) to 64 for no pixels (black). Enter a shade value of 90 (almost black) and you will be prompted for the texture of the surfaces. A response of Y will give a regular effect known as a Half-Tone and a response of N will give Random effect. Enter Y for Half-Tone. You will now be prompted for white or black edges. Enter Y for white edges. The image will now be drawn again (no rotation, scaling or transformation is performed) using the new specifications.

Try some of your own settings to see the effects. For a "wire-frame" image enter 64 for Shade, Y for Half-Tone and Y for White Edges. To return to the default settings enter 0 for Shade, Y for Half-Tone and N for White Edges.

## 3. MAKE IT MOVE!

You should now be able to display an image at any orientation, scale and translate so now comes the big moment! Let's produce a moving image.

Firstly you should position the image using the features you have learned so far, so that it looks roughly as in Figure 1. You should have white surfaces and black edges. If you can't manage to get back to that view, don't worry, it is not that important as long as you have a good view of the image otherwise the animation could be disappointing.

Animation consists of creating the image through a number of steps. Press the I key to initialize all rotation, scaling and transformation and then press the R key. Enter 0,0,0 to rotate the image around the Y axis and then press the D key and request 2 displays with filling.

The next process will be automatic and in this example will take around five minutes. Five displays will be generated and filed on disk (in the MAIL file) and after filing each display, a message will briefly appear showing the total amount of data written to disk so far and the number of displays still remaining to be generated and filed. Keep an eye on the amount of data written for each image as it will show you how many displays you can have in the Image File if you should want to change it later.

When all displays have been filed the image will remain on screen but the "Filing - Please wait" message will disappear. The process is virtually complete so press the R key and after a little more file activity you will be returned to the main menu. You can now use Option 3 to view your animated sequence. Simply enter D:MAIL when prompted for a filename.

That's just about it, except for one final option when you are viewing an animated sequence. Pressing any key apart from F will show the image and return you to the menu but the F key allows you to adjust the speed of the animation. The speed is initially set to the maximum of 256 (approximately 1/256th of a second) which is the slowest animation. Try a delay of 100, or less, for some really fast moving shapes!

**TWO SIMPLE RULES FOR ANIMATION!** When producing animated sequences you must conform to these two simple rules.

1. The first and last display in the animated sequence must be the same. In the MAIL example you did that by rotating the image through 90 degrees five times - think about it!
2. The animated sequence file must not contain more than 32,000 characters of data due to memory limitations, which is why it is important to note the amount of data written for each image. When producing an animation, it is wise to generate and file a few displays to start with so that you can judge the likely size of the final file by watching the data written messages. Obviously simple shapes can be animated through more stages than more complex ones.

There you have it! You should be able to create some useful objects and animate them as you wish. Use your imagination to combine as many of the features as you can and have fun! I hope that you have as much enjoyment using The 3-D Animator as I did in developing it.









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# THIS is the 21st CENTURY ... THIS IS WAR!

This is the 21st Century when the right of way goes to the biggest gun. The roads are controlled by warring gangs. No travel is safe. To survive a journey between cities you need a heavily armed car bristling with weapons. Your destiny is depending on you. You will need to learn how to survive in this harsh new world, indeed not only survive, but make enough terrifically good to ensure you can create a powerful enough force to fulfil your many wishes. You will need to learn about the routes and cities of this future time, how to get what you need without making too many enemies, how to follow the clues which will take you to your final mission, how to handle the detailed road fights when you are attacked by a gang of enemy vehicles, probably outnumbered and outgunned. If you have learned your skills well you can still triumph.

So, which game am I talking about? *Roadwar 2000* or *Autoduel*? Well, both, actually. This is a prime example of how two different groups of people can take the same theme and create two entirely different games. Both are excellent games and will appeal to a very wide audience. Both are sophisticated war games with a heavy emphasis on learning how to survive and grow, while surviving the cities for what is that you can complete your final quest. All the details and game play are, however, very different in the two games and one over-riding difference is how detailed combat takes place. In *Autoduel* fighting is done either randomly in the city areas or forcibly while travelling between cities. You have a single car which you control until a joystick, shooting with the fire button and switching weapons with the space bar.

The fights are, basically, sophisticated arcade games. *Roadwar 2000* does not use a joystick at all. The most detailed fights, which can take place in a variety of terrain, involve movement cars on each side and are controlled by single key commands to accelerate, brake, turn and move each car during the movement phase and single key commands to choose a target and fire in the firing phase.

If you are hopeless with a joystick and can never successfully display the motor (no pun intended!) skills necessary to win arcade games you should avoid *Autoduel*. If you don't have the patience to read and understand some fairly sophisticated movement, firing and handling rules and comprehension (21 per cent!) vehicle statistics, or the patience to spend half over five minutes (and quite possibly half an hour!) on a single fight, then you should avoid *Roadwar 2000*. Otherwise, you may still enjoy both - read on and try to decide which one to buy first!

Where did it all start? It took some time - *Mad Max* or *Judge Dredd*? Well, neither is new, the idea of a future controlled by warring road gangs seems to have gained significant popularity in gaming circles. Apart from the computer variations you can also buy board games such as *Thunderbirds* (MB Games), *Roadwar* (Games Workshop) and *Car Wars* (Steve Jackson Games). *Autoduel* is actually based directly on *Car Wars*, so let's look at that first.

---

*John Sweeney takes a look at a new genre of computer software - the futuristic wargame. Autoduel and Roadwar 2000 are leading examples of the genre and John has delved deep into both*

---

## AUTODUEL

"Drive aggressively - The life you save may be your own".

You start by creating a new character and allocating 90 points between Driving, Mechanism and Mechanical skills. Slightly thereafter you will be presented with a bird's-eye view of your character walking round New York. Car-ID will show you your current statistics: \$2000, low skills, no armour, and so close to take over if you get killed. In order to win you will have to improve all of these areas. You should ignore the rather complex section in the middle of the excellent instruction manual for the moment. This covers all the details of how to design your own car, how to arm it, and how to use the varied weaponry but you can't afford it yet! If you see the gambling type you could hop on a bus to Atlantic City and try your hand at Black Jack or Poker, otherwise you should head for the Arms, passing only long enough to buy some body armour at the Truck Stop. Provided you haven't wasted too much time you should find that it is *Amateur Night* - the only night you can get in without your own car. They will lend you a Killer Kari - a fairly low grade machine with little armour and only one weapon, a three mounted machine gun. Fortunately your opponents only get Killer Kari too!

So far, apart from using the joystick to move around the streets of New York (which seems to have struck a bit by the year 2000 - it only takes up one screen!) you will have been using the keyboard to enter items from numbered lists in the establishments you have visited. Now the fun starts - you are into an arcade game driving your Killer Kari around a vast winding area searching and destroying the other armours. The borders of the screen are a mass of control panels indicating your weapons, your battery charge, your speed and the remaining hit points on the front, back, left, right, and

# WHAT HAVE YOU CHOSEN?

THE ANSWER TO THAT QUESTION WILL DETERMINE YOUR SUCCESS IN THE GAME.



underside armor of the car, each wheel, your power plant and VCL! You also have a small radar screen to help you find the enemy. As you drive around the arena, avoiding the mines and obstacles you will eventually come face to face with the enemy - blast and dodge and may the best man win! Unfortunately there are five of them and only one of you - not very fair really. You have limited ammo, the status of which you can check with a CRT-C (which will tell you all about the car design as well, but don't worry about that yet - survival is all you should care about at this stage).

## FIRST GET SOME MONEY

Getting started at Assault is not easy - you are unlikely to emerge as an Assault Night Champion on the first few tries, but once you get the hang of it you will earn yourself \$1500 and some prestige. Prestige and your various skills will normally increase whenever you succeed in anything. This is important as you need prestige to get some of the important jobs, driving skills to get better control of your car, mechanical skills to enable better salvaging of wrecks (both for spare ammo and to make money), and marksmanship to improve your shooting - it is worth noting that the computer is obviously 'throwing lots of dice' to decide whether or not you hit since sometimes a shot will miss on the screen but still have devastating effect, and vice versa - since 'dice throws' are heavily biased by your marksmanship.

Assault Nights takes place round fairly frequently as you should soon be able to access enough money to go and build your own car, unfortunately there is an Assembly Line in New York, so you don't have far to go. (Your prestige will probably have reached six by now, so you can forget about Assault Nights unless you run low on cash.) Now you need to read about car design. You have to choose from seven body types,

then decide on the quality of the chassis, the suspension, the power plant, the tyres, the weapons and the armour! Fortunately the program understands the principles of car design even if you don't and will keep constant track of the spare, weight and cost of your new car.

You first need to decide what you want the car for - the game allows plenty of scope in what you do next. There are sixteen cities scattered across the Northeast of the USA which you can visit. Nine of these have arenas for you to fight in, eight have branches of the AADA (the American Assaulted Association) which will offer you combat jobs which can be extremely lucrative (up to \$15000) if you get the goods to the right destination in one piece and on time, and there are also the roads between the cities, which need clearing of obstacles. On the field-of-war map you get with the game the roads are shown as nice straight white lines - don't be fooled by these. All 'roads' are made-time again and are actually tangled masses of roads, some dead ends, some emergency with forests or littered with boulders - making a wrong turning can add 400 miles to your journey and if your power supply isn't fully charged that probably means you won't make it. These roads are NOT safe for pedestrians! (Actually, if you do run out of gas you can cheat a little - just Quit and save) and remember you will find yourself back in the previous city! The roads are also the natural habitat of the deadly road gangs. Those guys aren't limited to Killer Karts with machine guns - here you will meet lunatics armed with lasers, rocket launchers, minishoppers and anything else that money can buy!

## WHAT ARE YOUR PLANS?

The arena likewise offers a lot more than just amateur nights, there are Division 5, 16, 17 and 18 for cars of total value up to \$9,000, \$10,000, \$13,000 and \$20,000 respectively, plus unlimited nights and, every three months, the City Championships.

So, before you build your car you must decide - are your initial plans to be a right-hand, an arena champion, a warrior, and if you are a warrior are you going to be a rabbit or a turtle? - do you want armour or weapons or speed? Then when you have a road because you will find the game is designed cleverly enough to prevent you building the perfect car - either too much armour will reduce your acceleration, or you won't have space for all the weapons you want. You always have to balance your drives against what is possible. And when you start out your main limitation will be your bank balance! Also, beware of building a car which is midway between two divisions. If you spend \$6,000 on a car they won't let you into Division 5 and you will find yourself outclassed in Division 16. The only change you can make to a car after it is built is to add weapons (guns, spurs and weight permitting!). Once you are rich you can of course have lots of cars, the garage will look after the spare ones for you (for a small fee) and you can keep different ones for different purposes or sell them for scrap.

One of the best aspects of the game is the range of weaponry, both offensive and defensive: Machine Guns, Flamethrowers, Rocket Launchers, Revolver Rifles, Anti-Tank Guns, Lasers, Minishoppers, Spindashoppers, Shockrocks, Point Spawners, Call Grens and Heavy Rockets. Each has its own characteristics and uses. You can have up to ten weapons, mounted on the front, sides or back of your car - I especially liked the flamethrowers, even if the long blast of

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AMERICAN SOLDIER XVIII	12.00	12.00	12.00	12.00
AMERICAN SOLDIER XIX	12.00	12.00	12.00	12.00
AMERICAN SOLDIER XX	12.00	12.00	12.00	12.00
AMERICAN SOLDIER XXI	12.00	12.00	12.00	12.00
AMERICAN SOLDIER XXII	12.00	12.00	12.00	12.00
AMERICAN SOLDIER XXIII	12.00	12.00	12.00	12.00
AMERICAN SOLDIER XXIV	12.00	12.00	12.00	12.00
AMERICAN SOLDIER XXV	12.00	12.00	12.00	12.00
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The rest of it, the most powerful tape-to-disk utility for the Atari 800, 800X, 8010, 8020 inclusive of first class delivery. Also comes complete with comprehensive instructions which were especially written with the cassette upgrade and first time disk user in mind.

Requires: Atari 8000K or 8010K Computer with disk drive and cassette recorder.

Remember, the real only way you save money on upgrades is when they are available! But many games are only available on cassette anyway so Transdisk IV has to be a worthwhile investment!

Send an SASE or phone for more details of this utility.

Make Cheque or P.O. payable to DISCOMM and send your order to:  
**DISCOMM**

170 Broadland Common Boulevard, Milton Keynes, BLUCKS MK7 2BD, UK. Tel: (0467) 863708

Demonstrations arranged for orders by appointment.  
\*For your convenience from the original cassette only.

lane misses the enemy car, the resulting dead hangs about on the screen and may blind him! The arena fights and road fights with gangs of cars are excellent arcade games since you have a nice variety of weaponry to throw at the enemy!

So what's it all about? Keep your ears open for rumors and scores information at the Track Shop and here and you should eventually learn of some special courier jobs which are well worth taking. There are also rumors of a Mr. Big who runs the Eastern on-board-outlets - maybe your final quest will have something to do with him!

## ONE SLIGHT CRITICISM

My only slight criticism with the game play is that, once you have fully mapped the road, got a good enough car, and learned how to use it to get past the road gangs, then some of the drives between cities, which can still take five or ten minutes become a ray-bat tedious as you muddle mile after mile of similar looking road scroll slowly past, but by the time you get to that stage you should have nearly completed your quest, so hopefully you won't have too many such journeys.

Two points on the documentation. First, for Ctrl-A and Ctrl-R and secondly, the detailed notes on saving characters don't fully explain how to retrieve a saved character if he has died - the Q command to quit and save to the B-side only allows you to restart once. If your character dies you will not be able to reload him again. Obviously you can save your B-side, but that takes a long time. The simplest way is to Quit (which saves your character to the B-side), restart, select Advance Old Drive, reply Yes you do want to save your current driver, wait while it loads him into memory, insert a

formatted disk when prompted, wait while it saves him to it. Now when it asks for the disk with the new driver to be inserted just press enter to use the character you have just saved. The big difference now is that the version of him on the formatted disk is NOT destroyed by loading. If he were dead you can re-activate him from that formatted disk as many times as you like.

The XL/XE version is in black and white; the ST version is in colour and also allows you to use the F-keys instead of trying to reach ridiculous combinations like Ctrl-L with one hand! The only other difference between the two versions that I could spot is that the ST allows you to use a mouse, but since they didn't complete the job you will need to reach for the keyboard occasionally to spend up messages with the space bar and to reply to questions with Y or N. Whether you can fight duels with a mouse is another matter. I found the joystick much easier, but I am sure it is possible to develop the appropriate skills to succeed with a mouse-driven car!

Advanced comes from Lord British and Chudley who brought us the superb Ultima series - and while you shouldn't expect the depth of the Ultima games - you should expect many very entertaining hours of Amstradling.

**AUTODUQUE**  
Origin Systems Inc. (Microprose)  
Disk  
Price £14.95 (ST)  
£19.95 (XL/XE)

**NEXT ISSUE... an in depth look at Roadwar 3000, NINE THOUSAND and a totally different game.**

# WHAT HAVE YOU MISSED?

## BACK ISSUES

PAGE 4 back issues represent an excellent way of increasing the enjoyment of your Atari with articles on milestones, new programs to try, and reviews of software to guide you. Almost all of the content of past issues will be as fresh and relevant today as when it appeared — because your enjoyment now, before it's too late!

**ISSUE 14 — GRAPHICS PROGRAM.** A major special issue with numerous items: three more magazines with GRAPHICS 4-WAY SHIP and graphics menu graphics programs with COLOR PALETTE, PENCIL, VECTOR LETTERS and CDS DRAWING. An in-depth review of Pencil and Graphics 4-Way Ship. Departments, the final part of Display Lists and the Adventure column. All pages devoted to the ST plus color boxes: STARI ART and ST 4414-REV. And three more SHARPCORRECTION items of the last page to have been published in any magazine: Issue 1 issue of

**ISSUE 13 —** A packed issue with games, TRAM CRAZY, Kenner and Franklin Doolittle, Sederstrom's Quick University and Mongoose Computer game. Programming tips with Using The Imagination, Ken's Unconquered THE CYCLE TO TROOP KIDNEY, Review of Philip Samuels's II, Hillman's Guide to the History, and the latest Adventure. For the ST a DIALOG to SHG connector, LARRY CONROUD and reviews of a whole host of other games.

**ISSUE 11 —** More serious users will enjoy MANDRILLIBET, a Visual, the system spreadsheet, and our review of Popcorn which guarantees will please your Video Cabinet and try to survive Illinois Desktop. The Guide to Atari Color is concluded and there are more on Funworld, Tami Freeman and some less well known Activities. Lots of new and new games new reviews for MicroMaster: all users will find out how to program. Scripts and our new reviews on Time Machine, Pan-Fusion 71, VFF Professional and more.

**ISSUE 12 —** Another superb magazine language game. Since the Atari 400 will not even handle it, we challenge users who like puzzles and other things include: Superstars and the software. Next and finally, a huge review of Ultima III which is comprehensive review reading and Using Color. Part 1 will be your new information system for your ST system (do please have time to get a longer review on the system) and read reviews of: Astronomy, Space On-Line software and Pro-Final storage editors. Also, is it worth waiting? It's definitely YES!

**ISSUE 14 —** The biggest issue so far published. Over 200 articles with lots about ST plans and cartridges and loads of reviews. For 400 users there is SUNSET BLAZING and the new game car have our published plus a report about back issue AT-TECHNICAL. Plus all about cheating your disk drive, another game, more utilities, reviews of RAMART, Adventure games and lots more. Touchback to the issue to be full!

**ISSUE 15 —** Another bigger issue for 1985 with more articles with expert advice including a screen design, A report before the game color SHARDL, a type in RIFLEMAN C BAGE... a full feature on disks and more. For ST, tips in OTHERLAND reviews of LEADERS BOARD and SHAR 14 Home and Type and several other reviews and more.

**ISSUE 14 —** IN THE END WE WILL WIN... one of the best programs we have published. It's another "On-line program" includes: MATH 14, THE NEW machine code programming, FLEXIBLE PROGRAM to help you type. NO 17 and new reviews: MYSTICAL PUNNETT, DVC 16, SPEEDSCRIPT and much, much more. ST users can learn all about HARD DRIVE, FAST FILE, A VIRTUAL FILE EDITOR, DRAGON ELITE and much reviews on a whole lot more software.

**ISSUE 17 —** Some reading loving for the kids: the GREAT HEATH and JEFF, you can be the Challenger and help you the country. COMPUTER GAZZ, MORE is a great Atari version of Indianapolis and there's ANTS IN YOUR FACE, PAPA COMPARISON and others. There is a feature on world programming and more of reviews. The ST users include an integral review of ART DIRECTOR and a new article program for word processing and just several Lots of reviews including KIM 17-18, K-SPEAKER, L.A. ARMED and many more.

**ISSUE 18 —** Forget the incredibly original Mander. Mander with the MUGGY MANDER SCREEN PERSONAGE, plus GIBBY CATERPILLAR and other themes, much you discover with MOST BEAUTIFUL MATED to think up some concepts with XEROX, a long feature on Right orientation programs, Issue 14, POWER and loads of reviews. For ST users, the first is a review of BILLYMIDNIGHT and a copy of FLOWERS' THELATERAL REVIEW, new books from CONCEPT and a colorful stock of reviews.

**ISSUE 19 —** One that serious files users have been waiting a long time for — a great file feature feature — MANDER plus an amazing new reader, STORBY-1000, that shows you to create illustrated notes. There's a great game from ANTI-ALPHABETIC and an ATTECHNICAL issue and more. Check our continued articles with CAPTION THE BAIT AND THE and read more of reviews. The ST users have a type-in program, SCREEN QUALIFIER, which offers precise (visual) pictures of computerized games to test, with the next issue to our OHM POWER C series and reviews of Superstar Personal, K-COMM II plus lots of games including: Backyard.

All back issues are \$1.50 each in the U.S., \$1.75 for Europe (or surface mail charges here and £2.75 for the West coast of Europe). Please make cheques payable to PAGE 4, send your order on PAGE 4, P.O. BOX 14, STAFFORD, ST16 1BB, ENGLAND.

## ON DISK

All of the most recent issues of PAGE 4 are available on disk — including those out of print issues.

A PAGE 4 issue disk contains all of the programs (except ST) from a particular issue, ready to run from a custom menu. No more frustrating hours typing all those long programs. No more how good they are without the effort.

**ISSUE 17 —** Contents: BRYAN, BROOKING GALLERIE, BUNJAP, NIGLAS GARDN, CAVITE, INDOOR, MATTHEW LABEL, MANDER and several programs on ARTS, mostly 14.

**ISSUE 16 —** Contents: BILLY MIDNIGHT, PHILIP B. BATES, LETTER, STEVE, TYPED based on several programs on Display Lists.

**ISSUE 15 —** Contents: MONTPELL, THE CHAIR, MAKEFILE, SECTOR 14, STARKEN'S 4-WAY SHIP plus programs for the Spanish translation and several programs on Display Lists.

**ISSUE 14 —** Contents: REVENGE, TRAM CRAZY, FORKLIFT, GAZZ, LEADERS, PENCIL, THE UNCONQUERABLE, CUP FOR DISSEMBLER and MANDER'S TESTABILITY.

**ISSUE 13 —** Contents: MANDRILLIBET, TRUCKY CLERS, two reviews, HARD 16, BOPPIN and new reviews of BLOCKBREAKER, ENIGMA 16, 15, 14 and 13.

**ISSUE 12 —** Contents: utilities SHIP and VERIFY. Games: M. THORNTON and WATER BUB BCHOOL, a machine language. The word puzzle game WORDSEARCH as well as COLOR SHAGG, JAMES and TONY BOSS 15 (1983).

**ISSUE 11 —** Contents: the complete third language program ATTECHNICAL and MANDER'S MANDERIN, the first game to have been published. Also another game PLUTO HUGH and two experiments, SPEED CHECK and SHOG. A new full disk set and one to be made.

**ISSUE 10 —** Contents: the chess program SHOG, a page flipping demo, SHAG 16, 15, 14, and three IBM programs reviews, LECT 1004, MANDER, DRUG and MATH 17 (1981). A new one of 1987 review.

**ISSUE 9 —** Two ready to go disks with better system for SOLID PROGRAMMING Check them out. Also SHIP, BUB WITBUB machine code programs, FLEXIBLE PROGRAM to help you type, a game of 5475, IN MANDER LABELS 15 the BOPPIN program and VICE CHOK, CLASH plus other items in the issue.

**ISSUE 7 —** Long listings include GREAT BRITAIN LTD. and COMPUTER COMMANDS, two excellent programs. IF YOU COMMAND adds new commands to IBM PC and TIMES-TO-DIE will give you new system with a check for typing in these programs. Plus all the other bits and pieces in this disk.

**ISSUE 26 —** The amazing MANDY MANDER'S SCREEN DESIGNER ready to run, a MANDER REVIEW for your 1000, MOST BEAUTIFUL MATED for long of the children, RECORD to get you thinking plus all the other programs from this issue on a disk packed as usual, in the box. Also several other exciting software titles and more comparisons.

**ISSUE 19 —** The super feature MANDER is available to run on STORBY-1000, a game with a great bonus on the back of the disk — a STORBY-1000 READER with a complete story for you to read, INSTANT CHARACTER TEST, BETA, CLEVERNESS and MANDER are also on the disk together with all the back programs from this issue. Another re-visited disk but on the same price and the same great value.

**ISSUE 18 —** All the programs from this issue: FLUR BROS'S MANDER, MANDER AND MANDER'S ONLY AVAILABLE ON THIS DISK.

PAGE 4 issue disks will run on any 8-bit Atari with 128 or 48K memory. Each disk is just £1.95. Compare that for value!

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## LOTS MORE!

Subscribers to PAGE 4 get lots more special offers, books, an incredible collection of Public Domain software for 400 and ST machines, articles and reviews, hints and more. So find out what you are missing out on a copy of our PAGE 4 ACCESSORY SHOP LEAFLET.

## ICD P:R:Connection

If, like me, you've always cursed Atari for not providing the 8-bit machines with standard serial and parallel interfaces, then you'll be interested in the P:R:Connection from ICD (Inc. of Rockford, Illinois). Using this device you'll be able to connect to standard (non-Atari) printers, modems, other computers, or any other peripheral device requiring a "Centronics" type parallel or RS-232C serial interface.

Until now the only way to get hold of this product was to import, use directly yourself, although Silica Shop did advertise it a while back. I've just found that Frontier Software have become the UK distributor for ICD products, and can supply the P:R:Connection (PRC) along with many other interesting ICD 8-bit accessories. The review model came in via the import route, and this gives rise to a disclaimer problem I'll describe later.

The package as supplied includes the interface box itself, a detailed instruction manual, and a double sided disk containing mainly communications software. No device cables are provided - you have to supply those yourself.

ICD intend the PRC to be a straight replacement for the expensive and elusive Atari 890 interface. It's virtually 100% compatible, including use of the 890 cables. In the few instances where there are compatibility issues, these may be fixed by using a supplied "translator" program.

### CABLE COSTS

Finding suitable, reasonably priced device cables was a problem. I had several quotes for 890 cables at around £20 and over (BACS), which I think is appalling. How can companies justify charging such horrendous prices for cables? ICD sell them for half this in the USA, so why can't UK companies manage something similar? Frontier Software could generate a lot of goodwill (with me, at least) if they sold ICD cables too. (Frontier are now handling their cables at a reasonable price, £6.) I eventually found wires at a more acceptable price at York Computer Centre.

### A SMALL PLASTIC BOX

The PRC itself is a small plastic box measuring about 5" x 5.5" x 1" with a standard Atari serial bus cable emerging from one side. This plugs into the Atari's serial socket, and you then plug the rest of your I/O data chain into the serial bus socket on the PRC. There's no separate power supply needed (supplied) as the PRC draws its power directly from the computer via the serial bus connection. It works fine unless you happen to own a 1300XL. This needs a simple hardware modification for which instructions are provided.

On the opposite side of the case are the I/O ports - one parallel and two serial. "P1" is the "Centronics" parallel printer port, using a DB25 socket. "R1" and "R2" are both



## The Right Connection?

RS-232C serial ports, using DB9 sockets. The former is a full serial port containing all the handshaking lines required by certain modems, while the latter is a cut down version handling only receive and transmit lines. The old Atari 890 interface had two additional ports, one of which provided the rarely used "current loop" facility. They were omitted from the PRC in order to keep down costs.

Inside the grey case is a very neat circuit board containing a number of discrete components and several IC chips. One of these is a complete microprocessor in its own right, containing ROM, RAM, F1A, and a CPU! The board also contains two timer switches. One can be set to provide auto-linefeeds for your printer - useful if you swap the printer between 8-bit and XT machines, as it removes the need to fiddle with those annoying printer DIP switches. The other switch allows you to turn the printer function off, again useful if you're already using a directly connected Atari printer.

### EARLY MODEL PROBLEMS

My first test involved replacing the trusty Blackfathom interface I use to drive my fine 3000D printer. It took just a few moments to connect up the PRC in its place and to try a few quick LPRINT commands from BASIC. Results - Error 143. Hmmm, not so good. I rechecked all cable connections and verified its basic setup. I tried to LIST a BASIC program instead. No good. I tried to print a document with Answerwise Plus. Still nothing. No amount of experimentation would induce it to print. Disaster!

At the time I wasn't aware that Frontier Software were about to start handling ICD products, so I contacted Silica Shop who kindly offered to help me sort out the problem. I took the PRC and cables down to them and we tried substituting different cables, computers, and their list

# UPDATE

**MIDBASE (ISSUE 24)** Reader Eric Chapman has suggested the following amendments to this program. As we records are entered, the index is re-sorted on each entry which means that the program slows considerably when there are several hundred records. The following changes will mean that the index is only re-sorted when you use New Record mode. Change the following lines:

```
10590 BECS=BECS+1:CHANGE=1  
10600-- Replace the RETURN in the end with GOTO 10600
```

**DESIGNER LABELS (ISSUE 16)** The article states Epson Compatible Printer required but what wasn't clear at the time was that what it would mean on an Epson 'compatible' is doesn't actually run on an Epson! Quite a few lines need to be changed as follows:

```
23 5450 T055=0?  :PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
24 5470 T055=0?  :PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT  
25 5490 T055=0?  :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
26 5510 ? BEC=0? :PRINT:PRINT:PRINT:PRINT  
27 5530 ? BEC=1? :PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
28 5550 ? BEC=2? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
29 5570 ? BEC=3? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
30 5590 ? BEC=4? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
31 5610 ? BEC=5? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
32 5630 ? BEC=6? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
33 5650 ? BEC=7? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
34 5670 ? BEC=8? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
35 5690 ? BEC=9? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
36 5710 ? BEC=10? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
37 5730 ? BEC=11? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
38 5750 ? BEC=12? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
39 5770 ? BEC=13? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
40 5790 ? BEC=14? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
41 5810 ? BEC=15? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
42 5830 ? BEC=16? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
43 5850 ? BEC=17? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
44 5870 ? BEC=18? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
45 5890 ? BEC=19? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
46 5910 ? BEC=20? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
47 5930 ? BEC=21? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
48 5950 ? BEC=22? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
49 5970 ? BEC=23? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
50 5990 ? BEC=24? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
51 6010 ? BEC=25? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
52 6030 ? BEC=26? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
53 6050 ? BEC=27? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
54 6070 ? BEC=28? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
55 6090 ? BEC=29? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
56 6110 ? BEC=30? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
57 6130 ? BEC=31? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
58 6150 ? BEC=32? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
59 6170 ? BEC=33? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
60 6190 ? BEC=34? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
61 6210 ? BEC=35? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
62 6230 ? BEC=36? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
63 6250 ? BEC=37? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
64 6270 ? BEC=38? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
65 6290 ? BEC=39? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
66 6310 ? BEC=40? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
67 6330 ? BEC=41? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
68 6350 ? BEC=42? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
69 6370 ? BEC=43? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
70 6390 ? BEC=44? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
71 6410 ? BEC=45? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
72 6430 ? BEC=46? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
73 6450 ? BEC=47? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
74 6470 ? BEC=48? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
75 6490 ? BEC=49? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
76 6510 ? BEC=50? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
77 6530 ? BEC=51? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
78 6550 ? BEC=52? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
79 6570 ? BEC=53? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
80 6590 ? BEC=54? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
81 6610 ? BEC=55? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
82 6630 ? BEC=56? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
83 6650 ? BEC=57? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
84 6670 ? BEC=58? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
85 6690 ? BEC=59? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
86 6710 ? BEC=60? :PRINT:PRINT:PRINT:PRINT:PRINT:PRINT  
:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT
```

You may also need to change one of the dip switches on the printer to activate the Graphics character set. Unfortunately, different models have different settings so you will have to refer to your manual.

## COMING SOON ...

**WARGAMES ...** A massive review, all you need to know

**EXPANDING YOUR ATARI ...** all the juicy details about these I/O and expansion ports and what to do with them

## John S Davison tests a replacement for the 850 interface from Frontier Software at £69.95

containing PRC. Surprisingly, even this didn't work. (Thanks anyone, folks)

Baffled and disappointed, I went home and wrote to ICD in the USA. A few days later I received a phone call from ICD president Tim Barber, who explained that the first few thousand PRC's made were incompatible with PAL system 8-bit machines (i.e. those used in the UK). The design was subsequently modified to fit this, so my PRC (and Silca's?) must have been an early model. The solution was to replace the 8 MHz crystal on the PRC's board with one of 10 MHz. I received a replacement crystal from him by airmail shortly after, and fitting this caused the PRC to drive my printer easily as the Mainframe had. Moral - if you import your own hardware from the USA make sure you know what you're getting!

## SOFTWARE REQUIREMENTS

When used to drive a parallel printer no additional software is required - simply plug in the PRC and go. Using the RS-232 interface is rather more complex, needing some form of driving software. This is where the ICD supplied disk comes in, as it contains a number of useful programs.

There are three (yes, three!) different communications programs provided. All are public domain programs and widely used in the USA. The first is AMODEM 7.0, considered by ICD to be one of the best communications programs available for the 8-bit machines. Then there's my favourite - RS Express, a modified version of 1076 Express, which is immensely popular in the USA. Just looking at it I can see why - it's got some superb features! Finally, there's BNCOPR, needed only if you're rich enough to afford to access and download programs from the USA's Comprehensive system.

There's no separate documentation provided for this software - it's all on the disk, so you can either print it out or view it directly on the screen via a text editor.

I haven't had a chance to try out the communications side of the PRC and its software yet, so I'll defer comment on it until the next issue. Watch this space for details.

ICD's PRC Connection is great news for 8-bit users. At last you can be freed from the straightjacket of Atari specific printers and clones virtually any one that takes your fancy (modern too). Considering you also get a handful of useful software it's superb value for money. If you need a good, comprehensive interface device for your 8-bit machine, then look no further. Get ICD's PRC Connection.

# SOFTWARE REVIEWS



Paul Rixon gets  
through a lot of  
games!

16-bit-dimensional gateway to the dungeons of the real Azkaban. As lord of the Great Druids it's your duty to destroy the four skulls of the Princes which can only be found in the deepest depths of the dungeons. Eight types of magical spells are at your disposal. Fire, water and electricity spells may be used in defence against the constant onslaught of hell-spawned 'demoniac monsters' and other evil-worship icons in your disappearance.

Several other spells are available for unlocking doors, for giving you limited powers of invisibility and for creating a 'Golem'. A Golem is a yeti type character who fills all adventures on contact. He can be programmed to automatically walk, follow or lead you around the dungeons or a second player can intervene via a second joystick - clever stuff! A 'charm' spell acts to eliminate the skulls once you've found them, and can also be used to escape from tight spots in the game. You only possess a limited number of powers to begin with, extra abilities may be obtained from chests, and how a degree of skill is required to select the most profitable item. Nicely animated 'portraits' replenish your energy reserves. Very useful these!

There are one or two further surprises awaiting you in the dungeons but I'll leave them for you to discover. At the end, a rating system labels you with one of various titles ranging from 'Halfwit' to 'Lightmaster'. I'm not going to tell you what is called MS though! You'll have gathered by now that DRUID is not one of those simplistic 'straw together in five minutes' jobs. A lot of thought and programming skill has obviously gone into the game.

DRUID excels in the graphics department. 16-directional walkways give access to eight levels of dungeons, each offering a different blend of hi-res multi-coloured scenery and ground features. Information relating to the number and nature of remaining spells is displayed in the top half of the screen

together with an indication of your energy level. Scrolling is excellent, as it should be on the Atari, and although there isn't any music, sound effects are plentiful.

This is truly an enthralling product and one that Firebird should be proud of. It's more involved than Phantoms and stands ahead of the awful Golem. No price accompanied the review copy although I got the impression that it is not intended as a budget release. Even so it should definitely be at the top of every arcade gamer's shopping list.



## DRUID

Firebird  
Cassette £9.95  
Disk £14.95  
1-2 players  
1-2 joysticks

Quarterly issues seem to be all the rage lately and DRUID is clearly Firebird's attempt to cash in on the trend. I'm not complaining though - this one's a real cracker! I'll briefly run through the plot first, and leave the superlatives until later.

Price and well-being are in jeopardy throughout the lands of Helios due to the likes of four demon Princes of Darkness, who have appeared through a

150  
Mastertronic  
Cassette  
£2.99  
1-2 players  
1-2 joysticks



Simulation seems as popular as ever and I'm sure this one from Mastertronic will be gratefully received by a good many amateur sportsmen. '180', as I expect you've already guessed, is a darts simulation similar to the Thorn 180 game released a few years back.

A large hi-res dashboard fills up most of the screen with a blackboard to one side on which the scores are chalked up. There's also a quivering hand holding the dart - good graphics but don't dare players have arms too! Control of the hand is via the joystick diagonally and to make things even more difficult it can't be stopped at any particular point, i.e. it remains in one place unless constant tugging of the stick. The idea is to line up the dart, not as easy as it sounds, and press the trigger to throw it.

In practice made you have to hit each number in sequence, from twenty down to one, in a limited time. The main game is standard matchplay darts, that's where the minute is in it also who scores 501 points first, not forgetting to finish



## UNIVERSAL HERO

Mastertronic

Cassette

£1.99

1 player

1 joystick

An arcade adventure with "Dropzone" graphics and the challenging perplexities of "Spitballs". Could this be the ultimate budget release? No, but it certainly could have been if S.A. Riding had remembered to include some sound and Mastertronic had provided some sensible instructions.

Even when I was able to ascertain from the (inadequate) information supplied on the cassette label, the plot is that an unpowered space freighter is out of control and it's up to the Universal Hero, also you, to find the parts

on a double. You join the game at the quarter-final stage of a championship knockout tournament, and to win you've got to beat three opponents supplied by the computer. These are chosen at random from a team of seven fabulous characters with names such as "Belly Bill" and "Long White Larry". It's the best of three sets to decide a winner, and if you are successful you'll go on to challenge the world champion "Johnny Jim". He wins three a deal deal!

When it's the computer's turn, an intoned voiceless character the opponent makes his moves with a background of puls-beats slowly fading in and out. At least the music is quite good and the interludes don't last for too long! Keep your ears open for a short burst of digitized speech if you manage to score the infamous three double victories in a row (hence the title).

If mathematics isn't one of your strong points Mastertronic have kindly included a sheet of winning combinations, but don't take them for gospel - one or two errors have crept into the text. A final quibble concerns the difficulty level which appears to be on the easy side. I consistently beat Johnny Jim in the final and was awarded a suitable prize such as "mega-cool", however since there is a two player option the game would seem to offer little appeal.

In the words of Jim "Balthuse" Roman - "Terrific, super, here about a round of applause!"

necessary to mend it and thus save mankind. Trouble is, the freighter's on another planet and the only way to reach it is by shuttle. By some incredible coincidence the shuttle is also in disrepair so you've got to locate the bits to fix it before going any further. What's more there's a time limit before the freighter loses the planet and the Hero has a restricted amount of Oxygen. Plew!

Bellum is a very apt description of the graphics. The Universal Hero is himself a superbly drawn little ship with



space helmet and jet-pack, and the proportions around a vast mass of crags and planetary landscapes, which is very reminiscent of the "Dropzone" graphics in design and coloring. Useful features are waiting to be found at some of the locations, and these may be taken, dropped or examined by means of a keyboard input. The Hero has a nine-object carrying capacity and all articles he has obtained are displayed in a box above the main play area. Surprisingly there is absolutely no sound whatsoever during several gameplay. A beep signifies when an object has been taken or dropped and a series of beeps are heard if you break something you shouldn't. Other than that, it's gobble-ghine throughout.

At this stage I ought to be telling you about the puzzle the Hero encounters on his travels, but I'm afraid I've got to admit that the game has me temporarily baffled. Despite obtaining eight objects and exploring all of the immediately accessible screens I have come to a complete standstill. There's a pile of books blocking one entrance, and I've got dynamite and a plunger, but how do I use them? Your help would be appreciated! The instructions are completely absent. They don't even mention that starting the game requires pressing "F" on the keyboard - an inexcusable oversight.

All in all, UNIVERSAL HERO is a very good game that could have been truly unbeatable if a little more thought had gone into the finishing touches. It's a shame that Mastertronic have come so close to creating a classic and then blown it at the last minute. Maybe they'll do it next time!

## INVASION

Mastertronic

Cassette

£1.99

1 player

1 joystick/keyboard

Tactical war simulations are enjoyed by a small but growing number of dedicated followers who rejoice over titles such as "Tiger in the snow" and "War in Russia". Exorbitant American price tags have prohibited their widespread popularity in the past, but Mastertronic have now enabled a much wider audience to savour the urgent concepts with the release of INVASION, set on a planet inhabited by alien beings whose plan is to invade Britain. Can you prevent them from going ahead?

You have sole responsibility for Britain's defences, commanding several military units including 'water' and 'explosive' units. Destroying a weather station is your main objective, and this is accomplished by siting three explosive units in adjacent positions next to the station. Alien units counter your every move so constant monitoring of all developments is necessary to establish when is happening. Instructions are issued in the units by means of a cursor, and the computer automatically handles the move and determines the outcome of combat.

Damage to a unit may be partially repaired by utilizing fuel cells, and a 'teleprinter' provides updates of the current situation. Status reports can be optionally displayed and other facilities include game save, 'explode unit' and 'move cursor to next stationary unit'. Points are awarded for disabling the weather station and alien ships, with bonus points given for eliminated alien units and human units remaining alive.

Graphically INVASION is a bit of a let down. The battle area is pretty drab and uninspiring, scrolling is not at all like the smooth and effortless movement to be found in "Eastern Front" but certainly works, and the display is generally lacking in detail and professionalism.

It's worth checking out if you are prepared to put some effort into gameplay. War simulations are by no means light entertainment and anyone buying the game without prior knowledge of the format could be in for a disappointment. Seasoned war tacticians should find it a worthwhile challenge.

## SURVIVORS

Atlantis Software  
Cassette  
£12.99  
1 player  
1 joystick/  
keyboard



It's the year 2007 and the world has been completely devastated by a nuclear war. Fortunately you've managed to get 'The Last 99' back to Sci-base and now it's time to think about rescuing the survivors of the war, who are trapped inside a damaged information base. You have installed the expertise of three specialist Devils to search the seven levels of the base and retrieve the 125 missing persons.

Damage to the building has caused numerous breakdowns to dialogue and block many of the pathways, so a knowledge of Boulderphysics would be rather useful. Via Edda, it's Boulderdash revisited! Some of the winks landed on top of 'MILK GUARDIAN DROIDS' who had been maintaining the life support systems, transforming them into hostile monsters. Keep an eye open for these!

Each Devil under your control has a specific function and you must utilise these talents to succeed. The first is used for searching, the second for rescuing the survivors and the third for shifting boulders. Boulderdash could thank this for a thing or two! Switching between Devils by keyboard input is frequently necessary during play and this tends to become tedious after a while.

The playfield is based upon a graphics mode one screen, so there are

only three colours available – the default font have been used – and the display is generally very blocky, although at least everything is very big, bold and conspicuous. Scrolling is the biggest failing of the game. The screen rolls over one inch at a time, which is extremely irritating as the point where it detaches from gameplay. It's not so bad if you move at a snail's pace, but then the timer runs down before you've had a chance to complete the task. Hisses and beeps are all you're likely to hear in the way of sound effects.

**SURVIVORS** isn't a bad game at the budget price, but it's not one I would instantly recommend. As for the scrolling...!

## MILK RACE

Mastertronic  
Cassette £1.99  
1 player  
1 joystick



Every year cycling professionals from all around the world participate in an increasingly popular event – The Milk Race – which this year was held over a thousand mile course beginning in Newcastle-Upon-Tyne and winding its way around the country to a finishing line in London. Mastertronic's **MILK RACE** puts you in the middle of a twelve speed race competing against eighty-three other hopefuls in a simulation of this year's event.

The game is split into the thirteen

stages of the real Milk Race, and you must maintain pole position over each of these sections to win the event overall. It's more of a strategic exercise than a race in fact, the idea is to change gear and adjust your pedalling rate in order to attain the most efficient use of your energy reserves. A gearbox indicator provides some insight into the required gear, but otherwise it's basically a matter of trial and error to discover which gear/road setting best suits your energy depletion rate.

Additional energy is obtained by collecting bottles of nice old, ice cold milk from the roadside. Time trials are sprung upon you at random points along the route and in these you have to complete the section within an allotted time or face elimination. Pathos are commonplace in Britain's road network and hitting one of these occurs on entering a drive. These seem to be a slight bug here in that occasionally, if you're crushed, any cyclists passing the mangled heap actually improve your overall position rather than the opposite.

Graphically, the game is well designed with nicely animated cyclists and a horizontally scrolling road, your view being raised above ground level so that sideways movement of the cyclists and detail in the road can be easily observed. Background scenery scrolls by at a different rate so do the heads of onlookers – not all of them human! Praying team cars add to the realism, and official events is included although this can be altered if need be.

**MILK RACE** is one of Mastertronic's better efforts, and it's a worthy addition to the budget range. Keep 'em coming please Mastertronic!

## BOULDERDASH II

Prism Leisure Corp.  
Cassette £2.99  
Disk £4.99  
1-2 players  
1-2 joysticks/keyboard

**BOULDERDASH** has had a long and interesting lifetime. Originally published by First Star Software three years ago, it became an instant smash hit on the Atari and on the lower priced Neo. Mavesaki brought the game officially into the UK about a year later, again with widespread popularity, and shortly afterwards Danbyts announced the UK release of its successor **BOULDERDASH II** – 'Rockford's Revenge'. Prism Leisure Corp. are now

re-releasing the **BOULDERDASH** disc and the good news is they can be years for under three pounds a piece.

Following a superbly designed and animated title page with musical accompaniment, the game proper gets underway. You control the intrepid Rockford, a cute little dude whose only aim in life is to collect as many diamonds from the caves as he possibly can. It sounds a double until you experience the spectacular boulders which tend to crush poor Rockford if he doesn't move out of the way in time.

Rocking arches, transforming horribles and one-manoeuvring boulders are just a few of the distractions Rockford will encounter on his travels. A quick reaction is not the game's necessity – such care is a complex and challenging puzzle requiring skill and brain-power to complete it. There's not a lot of people

who can claim to have finished all sixteen caves in series without cheating! Full playing strategies are thoughtfully provided on the title.

If you do manage to master the first level there are four more to contend with after that. **BOULDERDASH** is not a game that you're going to use of in a hurry. There are some great series included, and visually the game is superb. Just wait until you see Rockford imperially tapping his foot during pause mode!

The majority of Atlantis will already have the **BOULDERDASH** disc in their collections, but if it's missing from yours then you ought to make oneself as soon as possible. My special thanks go to Rockford for sending me a pack of his little boulders with the review copy. Yaaaaay!

## DECATHLON

Firebird

Cassette

\$1.99

1-4 players

1-2 joystick

What's this? An exciting new athletic simulation? No, actually it's a re-release of the American

DECATHLON, the game originally published during 1984 on ROM cartridge. At that time you could expect to pay anything over \$20 for the game, which illustrates how greatly the software companies' strategies have (wisely) altered over the past few years.

Anyway, this version of DECATHLON is entirely identical to the original (apart from the 'badge' packaging) and will enable you to participate in a full-blown athletic meeting, competing with up to three friends (or enemies) if you wish, or alternatively you may opt to practice any

of the individual events - 100, 400 and 1600 metre races, Long Jump, High Jump, Shot Put, Discus, Javelin, Pole Vault and 110 metre Hurdles.

Every event, without exception, involves the much despised process of joystick wiggling, or joystick destroying as it is otherwise known. Be sure to take account the cost of a new one before you buy the game! The trigger is used to jump and chase in the appropriate events, and to place the pole in the vault pit when necessary. Scores will depend on your exercise and dexterity as you wiggle the stick from side to side or, hopefully, death-defying speed. Hitting the trigger at precisely the correct instant is advisable too! Triumph is awarded by a suitable points allocation - scores over 1000 points and a laurel is awarded to celebrate your achievement!

If you select a single player game the program displays a pace-man in the running events, who generally leaves up the situation and causes the impression that you really are in a race. Clearly you can only hope to improve on your previous high-score, so it's much more of an entertainment if you can find some

human opposites to intensely the competition.

Attention to this type of game often tends to be something of an disappointment, but the involvement of the athletes and their shadows in DECATHLON is excellent, complemented by scrolling that is well up to Atari's high standards, and an impressive side-on view of the stadium and onlooking crowd. Sound effects aren't quite so hot but they're generally adequate given the nature of the game.

Try and snap this one up if you haven't already done so. Firebird really are offering good quality software at a sensible price.

## FRENESIS

Mastertronic

Cassette

\$1.99

1 player

1 joystick



If there's an award going for worst Atari 8-bit game of 1987, FRENESIS is one to check the title - no award! Graphics are skeletal, sound isn't up to much either and as for the game itself...

The screen view is largely blank, apart from so-called aliens disguised as blades appearing from the positions of the playfield and closing in towards a large oval. Your task is to prevent them from ever reaching their destination by careful manipulation of a touch-edges line called a Straton. Vertical or horizontal movements of the Straton is achieved by an appropriate push on the joystick, and if an alien is hit by the toothed edge of the Straton it disappears. Selected aliens require multiple tapping and Mega annihilating smart bombs (as also available, if you can be bothered to use them).

That's all there is to it. Pretty levels of utter boredom - hardly a lifetime experience by any twist of the imagination! FRENESIS was 'programmed' by Tony Takahashi, well known arcade games fanatic or woderer of a certain computer publication. If this is his idea of a joke then I'm definitely not amused! If it's not, I would respectfully advise him to practice his talents on the Orb Atmos or unappreciated Via 20.

Without a shadow of doubt it's Mastertronic's most unimpressive release to date, and a step in the wrong direction for the badge pioneers. Highly unrecommended!

## GAUNTLET THE DEEPER DUNGEONS

U.S. Gold

\$4.99 cassette

\$8.99 disk

Requires GAUNTLET

Attention all GAUNTLET fans! Having rushed out to buy the current U.S. Gold top sales, perhaps after reading the review in PAGE 6 (1), you might have survived the dangers imposed by demons, ghosts and sinister obsidian mazes, and by writing a further challenge. If that is the case, THE DEEPER DUNGEONS are for you.

When you get an 812 based new previously unexplored maze, bubbling to the brim with all manner of adventures, treasures, doors, rations (beware of the poisonous ones!) and generally the kinds of things that you would expect to find in any fantasy afternoon scroll into a deep dungeon. If you were an explorer to the fringe-8-screen competition then you may even see your name printed on the title card! According to all of the rules established in GAUNTLET you will be given the opportunity to control the fate

of your choice around the dungeons collecting treasure, searching for exits and, of course, killing anything that moves.

The genuine GAUNTLET arcade machine features stereo sound (courtesy of the PORGY sound chip!), voice synthesis and superb graphics. Nobody was expecting anything quite so mind-blowing on a home micro, but the truth of the matter is that following months of speculation and rumour, the Atari 8-bit version is a huge anti-climax. It is completely boring, visually very forgettable - apart from a glimpse of hope seeing in the art title page - and sound are virtually nonexistent.

Needless to say, any comments made by Paul Blaney in issue 28 hold true in this review. THE DEEPER DUNGEONS are simply more of the same - quite a lot more in fact. Take my advice, invest your hard-earned cash in Fantasy's DRUID instead. It's infinitely more playable than's forget, that you must already own

GAUNTLET before you can run THE DEEPER DUNGEONS, and also that the cassette and disk versions cannot be interchanged. Not a lot more I can add except buy it at your own peril!

## READING AND SAVING SCREENS

Welcome back to First Steps. After last issue's break from the trials and tribulations of programming your Atari, it's time to get back to some programming. You'll never learn if we keep-chattering about other things!

In previous issues I have covered several graphics topics and by now you should have had ample time to try your hand at the graphics modes and maybe have even tried a little bit of animation. Your program will draw a picture with its own routines (PLOT, DRAWTO), but quite often you may wish to save the picture for use elsewhere, or perhaps you wish to keep the same program routines and load in different backgrounds. So how is it done?

### SLOW BUT SURE

First we need to find out what is on the screen. If we were to set up a GRAPHICS 8 screen with some text on it, we could look at every point on the screen (GRAPHICS 8, 24 lines and 48 columns = 863 points) and obtain the ASCII value of the character using LOCATE. For example,

LOCATE X,Y,Z (The same as POSITION X,Y;GET #I,Z)

LOCATE sets the cursor at position X,Y (defined by the program) and reads the value of the character or point under the cursor. Its first result is this will obtain a value for Z ranging

from 0 to 255, depending on the character under the cursor. The same technique can be utilized for the graphics modes except that here the value will be 0 or 1 for the two colour modes, and 0 to 3 for the four colour modes. These values correspond directly to the COLOR register used. Except when using the default colours, the SETCOLOR registers must be reset as well.

LISTING 1 shows how to read the screen, store the details and how to set up the screen after it has been cleared. The program itself is pretty simple and I hope that Steven Wayne agrees that the ROM's well is explanation enough. The value Z under the cursor is changed to the ASCII value and stored in a string. This makes it easy to print the character directly from the string using a POSITION statement.

### A FASTER WAY

The previous technique is slow, but even slower when it comes to the higher resolution modes. A better way would be to use screen memory. Each point on the screen has its origin in RAM. Stored in these locations are the details of the points i.e. colour or character. The position of the start of screen RAM is stored in locations 88 and 89 (screen pointers). To find out where exactly this is in your own computer enter the following and press RETURN,

```
PRINT PEEK(88)+128*PEEK(89)
```

The number given is the memory location that marks the start of the top left hand corner of the screen. Each point on the screen is stored sequentially in memory from that memory location.

So why use a pointer? Well, when different modes are used the RAM is increased or decreased according to the amount needed for that mode. The computer will shift the start of screen RAM to compensate for this and as it varies so much, you need to store the start of screen RAM somewhere so that you can keep track of where the screen starts. The technique of pointers is used quite a lot in the Atari architecture.

Location 88 is equivalent to the units in decimal counting and location 89 can be compared to the tens. For instance, 21 in decimal is  $1 + (10 \times 2)$ , so location 88 would store the 1 (units) and location 89 would store the 2 (tens). In the case of computers though groups of 256 are used instead of 10's, so a 1 in location 88 and a 2 in location 89 would equal 513. The reason for the magic figure of 256 is simple. The memory chips have eight read/write lines and each line has two states - either ON or OFF (just like a light switch). With two states and any combination of eight lines the mathematicians amongst the readers will deduce that you will have two to the power of eight possibilities - 256!

Directly reading the screen RAM means that we can do

```

10 0 000 000 00000 000000 0 000000 0 000000
11 0 000 000 00000 000000 0 000000 0 000000
12 0 000 000 00000 000000 0 000000 0 000000
13 00 000000 00000 000 000 00000000 000
14 00 000000 00000 000 000 000 000000 000
15 00 000000 00000 000 000 000 000000 000
16 00 000000 00000 000 000 000 000000 000
17 00 000000 00000 000 000 000 000000 000
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28 00 0000 0000 0000 0000 0000 0000 0000
29 00 0000 0000 0000 0000 0000 0000 0000
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93 00 0000 0000 0000 0000 0000 0000 0000
94 00 0000 0000 0000 0000 0000 0000 0000
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96 00 0000 0000 0000 0000 0000 0000 0000
97 00 0000 0000 0000 0000 0000 0000 0000
98 00 0000 0000 0000 0000 0000 0000 0000
99 00 0000 0000 0000 0000 0000 0000 0000
100 00 0000 0000 0000 0000 0000 0000 0000

```

Listing 1

# T STEPS.... FIRST STEPS.... FIRST STEPS....

## Mark Hutchinson shows you how in his regular column for beginners

away with LOCATE and speed up the program. This can be demonstrated by listing 3. This program is slightly faster due to the reduced amount of program commands, but it is still very slow.

### NOW HOW TO SAVE IT

So now that we have read our screen, where and how can we store it?

Storage in memory can be in two forms, either as a string or as a variable, both are temporary. The string can be held until data there transmitted to disk or tape all at once but the variable must be transmitted at once otherwise the POK/NEXT loop will overwrite it on the next pass.

Using PUT/PRINT commands with a variable, the data has to be passed to disk or tape one byte at a time. This may seem to be slow but it allows the use of a device called the Input Output Control Block (IOCB). This block is the socket you plug the tape or drive into. It is controlled by certain locations in memory and, if these locations are POKEd correctly then some great things can be achieved.

When you connect the tape or disk lead into the input/output socket of your computer you have given yourself a choice of eight communication channels, 0-7 (sometimes OPEN #1, etc.). Each channel has sixteen bytes of memory reserved for it in RAM, from locations 832 to 959. You will be told by various handbooks that you can use them all for your own use, all except channel 0 that is, because it is reserved for the screen display. This is not true, you can use the screen display, and to prove it I will introduce you to the ATARI "Pseudo Read Mode". I must confess though, this has been mentioned before in PACE it by myself and others, but can you have enough of a good thing?

In this mode the program will stop running (the STOP command) and place information on the screen (using PRINT). There it will reposition the cursor above the new program lines and erase the lines, directly from the screen, as if you had pressed RETURN. The CONT command will start the program where it left off, any new lines being new. LIST will show the modified program.

A self-modifying ATARI LISTING 3 will demonstrate this effect.

That's it for this issue. Next time we'll take a closer look at these IOCB's. Meanwhile, don't forget that you can write with your problems or to suggest further topics for the column. Write to: MARK HUTCHINSON, 1, HOLLYMOUNT, ERINVALE, FINAGHY, BELFAST, BT20 9GL.

```

00 00 READ 000 SET UP SCREEN, GET SOMETHING
00 01 00 00000000000000000000000000000000
00 02 00 00000000000000000000000000000000
00 03 00 00000000000000000000000000000000
00 04 00 00000000000000000000000000000000
00 05 00 00000000000000000000000000000000
00 06 00 00000000000000000000000000000000
00 07 00 00000000000000000000000000000000
00 08 00 00000000000000000000000000000000
00 09 00 00000000000000000000000000000000
00 10 00 00000000000000000000000000000000
00 11 00 00000000000000000000000000000000
00 12 00 00000000000000000000000000000000
00 13 00 00000000000000000000000000000000
00 14 00 00000000000000000000000000000000
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00 16 00 00000000000000000000000000000000
00 17 00 00000000000000000000000000000000
00 18 00 00000000000000000000000000000000
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00 76 00 00000000000000000000000000000000
00 77 00 00000000000000000000000000000000
00 78 00 00000000000000000000000000000000
00 79 00 00000000000000000000000000000000
00 80 00 00000000000000000000000000000000
00 81 00 00000000000000000000000000000000
00 82 00 00000000000000000000000000000000
00 83 00 00000000000000000000000000000000
00 84 00 00000000000000000000000000000000
00 85 00 00000000000000000000000000000000
00 86 00 00000000000000000000000000000000
00 87 00 00000000000000000000000000000000
00 88 00 00000000000000000000000000000000
00 89 00 00000000000000000000000000000000
00 90 00 00000000000000000000000000000000
00 91 00 00000000000000000000000000000000
00 92 00 00000000000000000000000000000000
00 93 00 00000000000000000000000000000000
00 94 00 00000000000000000000000000000000
00 95 00 00000000000000000000000000000000
00 96 00 00000000000000000000000000000000
00 97 00 00000000000000000000000000000000
00 98 00 00000000000000000000000000000000
00 99 00 00000000000000000000000000000000
00 100 00 00000000000000000000000000000000

```

Listing 2

```

00 00 GRAPHICS @PROM 041.00
00 01 POSITION 0,13.0 "PROM" "PROM"
00 02 "PROM" "PROM" "PROM" "PROM" "PROM"
00 03 0 "100 10 0 0 0"
00 04 0 "00000"
00 05 POSITION 0,0.0000
00 06 PROM 041.13
00 07 LIST
00 100 RETURN 0 0 0 0

```

Listing 3

### THE FIRST STEPS COMPUTER DICTIONARY continued

- Chip** - A piece of semiconductor material containing a microscopic integrated circuit.
- Integrated circuit** - A tiny circuit in which the electrical components are made of chemical elements diffused into a piece of semiconductor material.
- Character** - A single letter, number or symbol.
- Daisy wheel** - A plastic disk with spikes used as the print mechanism in letter quality printers.
- Data** - Information to be processed by a computer.
- Database** - The entire collection of information available to a computer. A structured collection of information, or a collection of related files, considered as an entity.
- Data set** - A modem. A collection of data records with a logical relation to one another.
- Device Handler** - A collection of routines that connect the operating system and the user programs with the input/output devices. There is one handler for each type of peripheral device in the hardware configuration.
- Direct Memory Access** - Transfer of data between a peripheral and main memory without intervention of the CPU.

More definitions next issue

## THE RESOURCE FILE

The Resource File is a new service provided by PAGE 6 to help Atari owners (both 8-bit and ST) find sources of information, help and supply. An entry in this feature does not necessarily imply any endorsement by PAGE 6 and readers are advised to check for themselves to ensure that the information is still current. We would ask any readers who find information to be inaccurate or out of date to let us know so that an entry may be amended or deleted.

## RETAILERS

The following retailers, to the best of our knowledge, support Atari 8-bit or ST and sell PAGE 6.

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15, Victoria Street  
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## BBS

Name: GARDINGY BBS  
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Features: Atari 8-bit and  
program library

Name: THE VILLAGE  
41 and 41a  
Number: 24 hours 7 days  
953, 954, 955/956  
Hours: 24 hours  
Features: 8 to 16 bit, ST, etc.,  
CP/M etc.

Do you run a Bulletin Board which offers mainly for Atari 8-bit or ST? For an entry in this feature please send us details as above (3 weeks max or 3 months) on a plain sheet of paper headed **RESOURCE FILE - BBS**.

Any background information included will be filed for reference but not published.

## USER GROUPS

### ABC

Contact Mike Demophos, 115,  
St. Laurence Road, Leicester,  
LE1 1BE. Tel: 0533 780190.  
Regular and back 8-bit and ST  
user groups.

### ATARI USER GROUP (IRELAND)

Contact 199, Village Avenue,  
Belvedere, Dublin 15, Ireland.  
Tel: Dublin 400 18.

### BOLTONSOUTH AREA COMPUTER CLUB & C.A. (BRACCHA)

Contact Colin Hunt, Tel: 0592  
67399. ST, 8-bit, hardware  
and software development.

### CROFTWELL ATARI USER GROUP

Contact Dave Loggers, 1,  
Crestway Close, Brampton,  
Huntingdon, Cambs, Tel: 0440  
82055. All users welcome.

### THE GATEWAY CLUB

Contact Bill Hall, 45, Usherell  
Square, Birmingham, Solihull,  
B70 7DB. Tel: 0945 717321.  
All computer club with Atari  
system. Meets once a month.

### LONDON ATARI CLUB

Contact Andrew Bagnall, P.O.  
Box 518, London, SE13 8EE.  
Tel: 01 856 1657 (meetings and  
weekends). Members anywhere.

### MILWAUKEE ATARI CLUB

Contact Paul Glavin, P.O. Box  
26, Harbort, 53145N. Mail  
only. Weekdays.

### WORLD ATARI PENPALS

Contact Max Trivison,  
Maplehurst 8, Ayleson & Elm,  
2802 LP, The Netherlands, Tel:  
04726 9981. Members in USA,  
Canada, France, U.K., Devon,  
Germany, South Africa. Have  
discussing club (8-bit and ST).  
Mail only.

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The only criterion for an entry in this column is that the retailer must stock PAGE 6. That is the only measure we have that a retailer is genuinely interested in supporting Atari. Please do us 0265 21 9626 if you wish to be included.

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