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August/September

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for the Dedicated  
Atari User'



## DOUBLE AGENTS

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### SUBMISSIONS

PAUSE is welcome and encourages its readers to submit articles, programs and reviews for publication. Programs must be submitted on disk or cassette, unless stated otherwise (usually for submission to test files on disk). We have to edit, change and reformat and do not have time to run a program or compile it. Submitting programs requires a program or article and subject or program name printed on all material sent. We will not accept, or guarantee being made of, any and all the material which shows up the name of the author submitted.

All original articles, programs and other material is held in a file under a category of the article or program. An unclassified article or program may be included in future issues. Program Review is a feature which is held in a separate file. Reviews of any material for NEW ATARI USER may be requested by John Davison and other staff. Please note that reviews provided must be written in a positive and helpful way. We are not in the original position. However, we will accept articles which are submitted to us in the future. Reviews of material are necessary to send a copy of the material back to the Editorial address of PAUSE. We will not be able to print on disk to ensure the integrity of articles in PAUSE unless the contents of submissions are being printed in the future. We will not be able to print on disk to ensure the integrity of articles in PAUSE unless the contents of submissions are being printed in the future.

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The next issue of  
NEW ATARI USER  
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# CONTENTS

Issue 57 - August/September 1992

<b>DOUBLE AGENTS</b> by Bill Hobbs Super split screen spy action	8
<b>XL/XE PUBLIC DOMAIN</b> Edmund Blake's column A look at floppy and Copywrite	13
<b>FIRST STEPS IN ASSEMBLY</b> by Daniel Leo A new series to get you on your way	14
<b>THE TIPSTER</b>	18
<b>DISK SECTOR EDITOR</b> by David Rowings An application using 80 columns	22
<b>SERIOUS STUFF FROM APX</b> reviewed by Paul Dixon Enhanced Policy Maker and Sherlock 1090	25
<b>VAREBIT</b> by Richard Lewis Change variables after your program is written	26
<b>TUTORIAL TIME</b> by Ian Finlayson	32
<b>CIRCLING AROUND</b> by Ann O'Driscoll	34
<b>GOOD NEWS!</b> KeSoft software reviewed by Paul Dixon	36
<b>FRUSTRATIONS!</b> by Gordon F. Hooper	38
<b>TRANSDISK IV - SOME SOLUTIONS</b> by Bill Jackson	41
<b>AWAY FROM THE KEYBOARD</b> by Mark Hutchinson	42
<b>DISK BONUS - CRYSTAL CRISIS</b>	7
<b>THE ACCESSORY SHOP</b>	43

## ST FILE

<b>SHOE PEOPLE</b> reviewed by John S Davison	47
<b>MAKING MUSIC</b> John S Davison revisits Band-in-A-Box	48
<b>SUSPICIOUS CARGO</b> reviewed by John Sweeney	50
<b>MANCHESTER UNITED</b> reviewed by Damon Howarth	51
<b>MORE HIGH JINKS</b> Lyrix game reviewed by John Sweeney	52
<b>COUNT AND MIX</b> Educational programs	54
<b>SUPERHEROES and CHART ATTACK</b> by Damon Howarth	56
<b>HARLEQUIN</b> reviewed by Damon Howarth	57
<b>PAUL RIXON'S PD WORLD</b>	58
<b>ST GAMES</b> Loke Expert 2 - Wonder Zombies - Team Suzuki - Video Kid	60
<b>THE STOS COLUMN</b> by Dion Gray	62
<b>KEYBOARD OVERLAYS</b> tested by John S Davison	66

<b>EDITORIAL CONTACT</b>	<b>4</b>	<b>MAILBAG</b>	<b>6</b>
	<b>39</b>		

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# ATARI

USER

Issue 57  
August/September 1988

"The Magazine for  
the Dedicated Atari User"

ISSN No. 0044-7702

### THE CREDITS

All of the usual stuff on our page 34 list here and the people who made it the most possible.

**Les Ellington** did all the usual nice types to make the issue fun, writing nice letters to readers in response to comments, but he also made sure we had an end game in June. A lot of building and delivering to his office that month!

**Books** usually write our nice feature for our issue, but it's changed in the few years before what it is today so help give.

**Hardware** had two picture tests already had ready to go, but they started writing the material in the last minutes to making the few years in the magazine. Thanks to his weekly help when he was asked, from a good friend Philomena in the month!

The regular contributors, who provide the bulk most of the magazine and was generally to help you to come up with good articles and reviews.

John J. Corbett  
John Sawyer  
Thomas Stewart  
Steve Kay

John Corbett Jr.  
Paul Rippen  
Ian Phinlayson  
The Tiger

All other contributions for this issue was made, including constant assistance from writers or group members. Thanks to everybody for making most of the magazine with other hard work.

After a complete about 10 weeks and all the other work, the paper (which some people about now) was a short time for me to be able to get it designed to look as best a decent paper (see below) as I could. I was able to do that with the help of my friend, who did the work.

**ATARI USER** magazine is a monthly publication that provides the latest in Atari news, hardware, software, and games. It is published by Atari Inc. and is available to subscribers worldwide. The magazine is known for its high-quality articles, exclusive interviews, and detailed reviews of Atari products. It is a must-read for any Atari enthusiast.

The first issue of **ATARI USER** magazine was published in 1982 and is now published by Atari Inc.

## Editorial

I have looked my next holiday for 1988. I know that might be a bit early but I have the feeling that the economy that the more in power keep telling us is in fact might actually begin around that time. What is apparent, not only in the computer trade but also in most businesses dealing in "non-essential" supplies, is that people are no longer spending their money. Most folks are saving every penny they have because nobody has any confidence in the future. The only people whose life is not affected are those running the companies that you and I have no choice but to buy from - electricity, water, gas and telephone. The rest of us are struggling and by the looks of things will continue to struggle for some time.

The reason for mentioning all this gloom and doom is news from the trade of major changes concerning **ST** magazines. A couple of weeks ago it was announced that **ST Personal**, **ST Action**, and **ST User** were all going on "firm sale", a move that is normally only made when the returns from the magazines begin to get rather high. In other words, it would appear that the publishers concerned can no longer afford to pump out masses of copies of magazines, that people are not buying. All this was accompanied by the usual healthful bit of a 1 for an ungrateful talk of having established titles that no longer needed to be on sale or return, but the writing appears to be on the wall. A couple of weeks later Future Publishing announced that it was selling Public Domain. It "began" successful magazine covering the **ST PD** scene among others and Enterprise announced that its public domain magazine would drop of coverage of the **ST** and Amiga and concentrate solely on the PC.

Reading behind the lines of this means that people are no longer buying even the cheapest software for their **ST**, and probably no longer buying **STs**. The huge shift towards the PC from all quarters makes sense when you consider that most PC users don't buy their machines, they just use the one at work, and many of them don't even buy the software - a few games can easily get lost in the company budget, especially when you are working for those companies that have us by the proverbial.

Hands up those small businesses who are looking to the sunshine of economic recovery. Uncle will drop you a line with your success stories and cheer us all up.

## A BRIGHTER NOTE

On a much brighter note I must say a big thank you to everyone who has sent in contributions recently. We seem to have had a flood of good quality articles and programs in recent weeks which shows that the commitment and interest are still there. We still seem to be lacking good quality games suitable for typing in so if there are any of those wanting completion be sure to send them this way. Some of the articles and programs sent in are quite long so we will have to figure out the best way to present them, but better that problem than not having any at all is considered!

## FROM OVERSEAS

We recently had two visitors, a couple of weeks apart, from opposite sides of the world bringing news of the Atari from their neck of the woods. Neil Patrick called in on a travel the world trip from Australia where they experience much the same problems we do with Atari and Ron Holloway called in from Washington to bring news of the scene in the USA. Despite the dwindling support of what Ron and I know US Atarians now call the "Atari Cause" it seems that there is still good support among the user groups in the USA. Granted not what it used to be but the fact is still there and it isn't going away just yet. It is most gratifying that these folks took time out on their vacations to look us up in what is hardly the most interesting scene part of the country. How to see you, folks!

## MOVING

We are moving affairs shortly, probably around the beginning of September, but the majority of you will not notice any difference since we will be keeping the same P.O. box and the same telephone numbers. The main reason for mentioning it is that over the coming months we will cover more mailboxes than usual in answering letters and dealing with queries (and it get worse!) as we have a lot of work to do on the new offices to make them fit for habitation and, as many of you will know, moving takes one heck of a lot of time. Privately we'll be glad to keep the orders flowing and getting your magazines and so you should not notice any difference in the service but orders like the "non-essential" letters and queries may well have to be found a special routing plan!

Les Ellington

# MILES BETTER SOFTWARE

## TOP 20 CASSETTES

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Ninja	2.99	Kenny Delginch	2.99
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Spitfire 40	6.99	Moan Patrol	4.99
Lazerhawk	2.99	Foot Fight	Out of Stock
Spy vs Spy II	3.99	Eastern Front	1.99
Beer Belly Bart	2.99	Deadweight Factor	4.99

## TOP 10 ROMS

## BUDGET CASSETTES

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Gunsen	1.99	Circus	2.99
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## ADVENTURE STRATEGY

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## SOME UPDATES

I would like to comment on a couple of things in the last issue of *New Atari User*.

Sam O'Riordan has an interesting tutorial about cassette functions but there is an error where it is claimed that 'a number to the power of -a is equivalent to the nth root (i.e. in the power of 1/n<sup>a</sup>). In fact 2<sup>-3</sup> is the same as 1/2<sup>3</sup>. I don't agree totally with the example of probabilities. I know that simulating two dice to get a random number between 1 and 12 will make the random values less probable than the odd-odd ones, but you could just as well use single random numbers if all you want to do is make a probability of 1/18 for something to happen. This could be done with `IF INT (RND*2) = 1 THEN ...` or `IF RND < 1/18 THEN ...`

Finally I was a bit confused by the solution in the *Starlow Room (ROOMS)* in *Gold of Thierrea* on the *Tipster* pages. I have also found the same route from the Mark square to the white square but I have had no success in following the same path back. Instead I have discovered that the correct route from the white square to the Mark one is `SW, N, SW, E, SW, SW, NE, N`. Then you will pass the same colour to re-visit the same order whether you are going from the black room to the white or vice versa.

Road Seed,  
Norway

## CONTROL KEYS

Thanks for such a great mag over the years. Would it be possible to print the control characters and their corresponding keyboard combinations so that I can type in the programs that you publish? I would not normally use for anything like this but this is my first attempt

at trying to these programs in later years, due to my being an 85 user in the intervening years and only just acquiring an 8-bit set up again.

Tim Wilson  
London

How to have you back? We need to publish a table of all the keyboard combinations on the master page as the TIPO is being in each issue but dropping this when we had to reduce the number of pages. We have no plans to reintroduce this but there are still a number of back issues available with the TIPO listing and this table is. Why not order a back issue, making us to ensure that it has TIPO in it?

## CASSETTES

Are any of you old enough to remember the original *Atari 700*? If so is there any chance of doing a cassette version like the old mag used to do as well as the disk? Can the *SL/SE* do the same as the *CBM 64* on tape with two or more games (i.e. *LOAD "Game Title"*, *POKE "Game TR"* etc.)? If not is there a routine that can be loaded in first to do it for you?

D. Copeland  
Dunstable

... I have been wondering if you would be able to put a cassette with *New Atari User* just like the issue disks. I wouldn't mind paying a little extra as could you tell me if you have any such plans and how much it would cost.

John Ho,  
London

If you remember the old *Atari User* you will also remember that they stopped due to their cassette and then the disk after a short while. The sharing of cassette such issues sounds like a good idea and you certainly get a lot. Many programs work only on

there is no way to produce a master, tapes are not reliable, disks can be copied quickly etc. etc. It is simply not cost effective to produce a cassette with each issue. On the occasions when we have done so with programs such as the excellent *Think Box* and *Day At The Office* the response has not justified the cost of having the tapes commercially duplicated. As regards scoring games on cassette with *Microvers*, this is not possible with the standard *Atari* although we did publish a listing once, many years ago which could do this. Unfortunately that issue is now long out of print.

## MACHINE CODE

I would like to learn how to program in machine code. Do you know of any books about this? Also do you require an Assembler? I would be very grateful if you could answer these questions for me. Your support for the *Atari* is brilliant, it's better than the *Page 6* I would probably have known my *Atari* in the US. I now have a disk drive, a printer and other various peripherals.

M. Watson  
Widlington

All of the books on learning machine code on the *Atari* are now out of print but you might like to check out the new series starting this issue which, whilst not claiming to be the definitive guide to machine code programming, should get you started. You will need an Assembler and the only one currently available is the *Atari Macro Assembler* which you can get from the *Page 6 Accessory Shop*. You could also look out for *Atari's Assembler's* better coverage around here. There have been other Assemblers but they are long gone. There are one or two in the public domain, although no suitable commercial ones for single users. You will need a copy of *Shipping The Atari* (obviously essential), and other books in

look out for include *Atari Notes* and *Computer's English* new Guide to *Mastering Language*, both out of print. A reply to the *Contact* column asking for books on machine language would seem to be your best bet of finding what you need.

## NO ZEP

I recently wrote to *Deppels* (wrongly) about their *Atari 8-bit* games and asking about new releases. Unfortunately they informed me that if the market for the *Atari 8-bit* did not pick up then they would not be producing any more software for the *Atari*. They stated that the sales for the 8-bit are less than the actual cost of writing and producing a game. On this sad note I urge people to buy *Deppels's* existing games and to show support for any new releases.

Paul Harley,  
High Wycombe

Finally the 8-bit market will not pick up because *Atari* are no longer interested. They seem content to leave the 8-bit gaining only 0.5% of the market for soft game sales (down from around 20% against Commodore's 80% with the *Amiga*). But of course *Atari* are now pushing the *Lynx* as their flagship with massive software sales of 2% against the *Commodore* 1.6% and *Sega's* 2.8%! Our readers might think you were asleep in the other computer's dream but you

## MORE SUPPORT

Just a small note to run from that we have a selected range of *Atari 8-bit* software in stock on disk, ROM and tape. We would be happy to see any 8-bit owners who can make it to this corner of the world.

New Words, MCE Computers,  
13 Parkers Row, Chesham, Bucks.  
Tel. 0494 547000

## CONTRIBUTIONS

# FAME ...

thrills ...

and a few bob in your pocket!

*Why not turn the lens of your Atari into a few pounds to spend as you wish? Lots of people have done so by getting something published in NEW ATARI USER and they have also experienced the thrill of seeing their name in print. There really is something special about opening up a magazine and finding something that you have written all neatly laid out with your name at the top!*

We pay for articles and programs on the following basis:

**£50** for the 'star' program listing each issue

**£25** for all other listings published

**£50** for the DISK BONUS program, if used on its own

**£50** or more for multi-page articles

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plus other sundry payments for various items published

## WHAT SHALL I WRITE ABOUT?

Programs for the XL/XE can be on almost anything, as a year through past issues will reveal. We are short of good arcade games though and love stuff in machine code but basic is fine if the game is good.

As for articles, the main aim is to write about something you really know about. Chances are that if you have discovered something that interests you enough to write about it, it will interest others as well.

All programs must be submitted on disk if possible. Corrections will be accepted but we can't guarantee that they will load, so the risk is yours. Articles should be submitted as text files on disk wherever possible with printed copy if you have a printer.

We are not really fussy about presentation, as long as the programs or articles are well written, but the easier you make it for us, the better chance that your work will be published. We work on close deadlines each issue and there is nothing worse than to submit a really good looking program only to find that we can't figure out how to use it because the author didn't write up the instructions!

We can't guarantee that we will use every item submitted and we can't write back with reasons for not accepting certain articles or programs, but a lot do get published, so our regular contributors will know, so give it try.

Send **YOUR** contributions to  
**THE EDITOR, PAGE 6,  
P.O. BOX 64, STAFFORD, ST16 1DR**

## DISK BONUS

# CRYSTAL CRISIS



## A machine code arcade game by Peter Foote

Crystal Crisis is a 100% machine code game based on the program of the same name by Phil Nottingham which appeared in Issue 53 of New Atari User. Complete and tested have been modified and improved to give a fast paced action game with lots of on screen animation.

You control a robot with the task of collecting crystals buried underground to provide power for your starboard spaceship so that it may take off and leave the planet. The crystals have to be collected from a mine, used by the inhabitants of the planet, but it means blasting through rock strata, placing falling rocks and avoiding the security robots. On the planet's surface your ship has been spotted and the natives are using a high powered laser to blast through the mountains behind which your ship is, for the time being, safe. You must collect as many crystals as necessary and get back inside the ship before the mountains, and your only means of escape, are destroyed.

## PLUS TICTAC

A playable demo version of *McSoft's* new game reviewed in this issue

The object of the game is to simply line up three of the magic objects on each level but the task is not as easy as it might seem. In addition to working out just how to achieve your task you sit up against a clock ticking away the seconds and a rather nasty ghost intent on stopping you in your tracks. This classic version has certain features disabled but is fully playable and demonstrates admirably the quality of McSoft's game.

The **NEW ATARI USER** Issue 57 disk is sent automatically to Disk Subscribers with their magazine but is also available separately priced at £2.95. The disk contains all of the programs from this issue ready to run together with the bonuses mentioned above. To order a copy simply write to **PAGE 6, P.O. BOX 64, STAFFORD, ST16 1DR** or telephone 0284 219826. Credit card orders are accepted.

# DOUBLE

**S**o you think you are the slickest secret agent do you? Well, you've just been challenged! Your mission is to find 8 secrets and make your getaway from a foreign embassy before an equally determined opponent does the same in years. All you need is a good kung fu kick, light fingers, a good memory and, most of all, double vision so that you can keep an eye on everything at once!

Each embassy comprises 21 rooms, 16 of which contain 1 secret. The 5 exceptions are those where you have the choice of 2 routes to enter, in which case 1 will be empty. Secrets are hidden in identical positions in each embassy, but as a secret is found in one embassy it is no longer available in the opposing embassy. So, if you see your opponent first enter the room you are searching it is time to move and if you enter a room where the secret has already been recovered prior to you entering, there will be a square printed next to the room number. You'd better move on again!

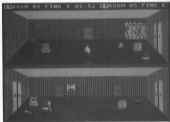
The action takes place on a split screen with player 1 in the top half and player 2 in the bottom half. Press the corresponding joystick trigger for a 1 or 2 player game. In a 1 player game the computer controls player 2.

## SEARCHING FOR SECRETS

To search the rooms (numbers) your figure over an object - "SCAMPING" will appear when you are in the correct position - and eventually "NOTHING HERE" or "SECRET FOUND" will display. Books and computers take some time to search while cupboards don't take as long. You will learn by experience which are the easiest objects to examine.

Tables and some doors are locked and you will need to crack the combination or blow the lock to continue. To crack the code, move the joystick until the desired figure appears then press the trigger to select. You will have to get all 3 digits correct in general. To blow the lock select "1" and press the trigger - blow is mild though that you only have 3 blows to use them wisely.

by  
**Bill Halsall**



# AGENTS

## MOVING ON

Finally your man sees a door to move up to the next room. To move down from any room position your man must a 'door open' square at the foot of the screen and pull the joystick towards you.

In some rooms, you will have to fight agents who try to stop you from searching the objects. Press the trigger to point in the direction you are facing. To launch a flying kick move the joystick left or right and press the trigger simultaneously. To duck pull the joystick towards you and press the trigger. You cannot kill your adversaries but you may knock them down long enough to enable you to search the objects.

The buttons on the wall detonate your grenades in each embassy which are equally effective on adversaries and your self. Hope you press the correct one!

Your getaway car is waiting beyond the door to room 21 and you can escape once you have collected your 8 secrets. Press the appropriate joystick trigger to play again.









# THE CHEAPEST (and best?) WORD PROCESSOR

**Looking for quality word processing? Something to safeguard your valuable data? Or maybe you must want to unwind with a decent crossword puzzle or two? Look no further than Edmund Blake's column...**

**T**here are probably more computers processing more words than any other application in the known Universe, and the computer as a writing tool is, it's safe to say, silicon's most popular application. The *Word Classics* are no exception of course. There have been any number of excellent word processors available almost since the machine's launch, the best known being good old *WordWriter*, and the somewhat impossible-to-find *Espey*cp.

Both programs are excellent but required almost £40 for the format and months of diligent searching for the latter) to get them to the safety of your disk drive. For those without the cash or necessary powers of detection, there was always *SpeedType* from Computer Publications, but a week of solid typing to enter the listing was not everyone's cup of tea.

Well, now there's no need to break the bank or your back in fruitless searching. *Tripsio* is a public domain word processor positively brimming over with features - the kind of features you'd have paid a premium for just a few short years ago.

First thing you'll notice about *Tripsio* is its delectably clean and clear screens. Whereas other commercial offerings clutter up their editing screens with a lot of extra information which isn't really necessary, *Tripsio*'s is headed by a simple status and prompt bar, and that's of every other available line to give over to your typing. There's no need to scroll to and fro demurely through your text when reviewing it because *Tripsio* means as much as possible on to each page.

Second thing you'll notice about *Tripsio* is that, by brushing a finger up over the help-command key, the program's comprehen-

sive on-line files, headed by a simple to use menu appear instantly, ready to get you out of trouble.

Each help subject is listed on the help menu and can be selected by pressing the associated Option and screen key displayed alongside it. With *Tripsio*, you'll never find yourself stuck halfway through a long letter or what have you, unable to proceed because you've forgotten some command or other and frustrated by losing all the text you've typed so far.

DDG throughout, the program is as fast as anything else you've seen, and performs almost all its many functions in the blink of an eye. It never drops a character while you're typing either, and that's important for the busy and perk' types among you who find it difficult to look at the screen and the keyboard at the same time.



*"The program gives over almost all of its editing window to your text. Tab combs and the like have been kept well away..."*

Main features include super-fast search and replace, comprehensive block manipulator (including a word-processor paste buffer from which you can retrieve previously cut text or make multiple pastes, excellent control over text formatting on everything from character to paragraph to entire document level, excellent printer support, DOS operations from within the editor and editors (in a pre-defined menu).

Specialist features include an all important word count, menu to automate several otherwise separate keyboard commands, printer definition and set up from the keyboard, screen and text colour and intensity customising, built-in command-line capabilities and full support for SpartaDOS. In addition, any program customising you'd chose can be saved as a parameter file and loaded automatically when you load the program - you can set the program up to the exact way you want it.

It would be very easy to give over an entire issue's column to

restoring Textpro and there would still be features left un-restored, so suffice it to say that you'll never spend a better \$2.50 on serious software.

Not to be missed.

## BETTER SAFE THAN...

Copysafe is a floppy disk sector copier designed to speed up the tedious process of data backup, program and file copying. As any disk user will tell you, the humble floppy is not exactly secure from mishaps. Those who upgraded from unreliable cassette to super-reliable disk-based systems soon realized that their new storage medium had problems all its own - disks can and do lose data, become corrupt, get accidentally overwritten, become in spillover coffee or just plain disappear (especially with an ancient five-year-old around...). What's needed is a regular session of backing up.

Textsafe is - and you'll know if you've done it - backing up floppy disks is just so boring, it's had enough with two drives but if you wanted to see, then the constant swapping of source and destination disks is a real pain - enough to put you off performing a back-up altogether. And there lies the route to data obsolescence.

But Copysafe however, and at least some of your problems are over. The program is operated from a screen front and enabling you to select source and destination drives, get a directory listing of a disk in any attached floppy drive, and select from a number of unusual features.

The program can format destination floppies as it copies, and you can switch write verify off to speed the process even further. In addition, Copysafe supports Unisys-style sector skewing for the ultimate and fast access.

But its while carrying out its intended purpose that you begin to see just how good the program is. On a 1000K, Copysafe makes a perfect copy of any disk in just one pass. No big deal, right? But 6000K/1000K owners previously tied to what seemed like dozens of disk swaps to transfer just over 100K of data, can now do the job in just two passes. Not only that, but now the source floppy has been read, you can make as many copies as you like from the new RAM-based data.

Course, Copysafe won't work with copy-protected programs - the Classic's lack of drive numbers (they're in the firmware inside the drive itself) makes sure of that. But you can, at least, make work and save back-ups of word processors and database files, network collections and so on without the tedium of old.

Unworking perhaps, but it's software such as Copysafe which makes computing so much more fun, because you don't have to worry about the dull stuff.

## X-WORD

If you're the kind of guy who likes to spend the Times out on your patent-leather briefcase on the 8-47 to Victoria, and impress fellow commuters with your dandy skills at the crossword, then X-Word is just the job. The program does nothing more than provide an on-screen representation of a standard crossword puzzle grid (13 by 10 squares, and over

20 puzzle versions with which to fill it).

X-Word is shipped as a standard binary load file. That is, you load the program from ROM using the L Binary Load option. You're prompted for a puzzle to solve (in the range A to Z), the screen clears, and a crossword grid is drawn on screen with a text window beneath it. The text window is used to display clues and the other prompts which make up the program.

Immediately after loading, the program prompts you for the answer to first clue. Each time it poses a question, the location for the answer is displayed in the crossword grid as a series of blank squares. If you know the answer, simply type it in! The program automatically inserts it in the correct place, then prompts on to the next clue.

Stuck? It's not hard to see why! Some of the puzzles really are quite difficult and require the efforts of seasoned puzzle solvers in order to beat them. Fortunately, for those more at home with the Sun's 'coffee-time' or similar, there's a help feature and a cheat option.

While not exactly giving away the answers, help does at least provide you with a list of function keys accessed by hitting the Control and one other key, from which you can choose a suitable cheat mode.

And the letters? Well, you can elect to see the first letter of the answer, the whole answer, even the solution to the entire crossword!

You can also have the program show you any errors in the crossword, back up step by step if you think you know where you've made a mistake, and switch between across and down clues.

All in all, a cracking program, and one which will keep enthusiasts amused for days. It's fast, not too easy and is accompanied by a large range of interesting clues. These take the form of American-style wordplay puzzles rather than the more British cryptic or beloved of dedicated UK puzzlers, but X-Word is still a fun way to hone your skills.

## AND FINALLY...

Why not write to me and tell me what area of computing you're interested in and what you'd like to read about. Feed back is a great help, because it enables me to determine just what ought to be featured in the columns... and what should be left alone! Write, care of your favourite magazine, OZ?

### HOW TO GET THEM!

All of the programs featured in the column are available from the Page 6 Disk PO Storey. Each has a complete reference code as well as an alternate name, but it's the reference code you should use when ordering or making enquiries. Contact Page 6 if you don't have a copy of the PO catalogue or Auxiliary Shop bulletin, or to check system requirements for the programs. The disks referred to in this column are:

8000 - TEXTPRO  
Disk #04 - COPS/SAFE 4.3  
Disk #01 - X-WORD

Prices are £7.95 per disk. (Order from Page 6, PO Box 65, Southend S11 1BB. Telephone 0706 214000. Fax 0706 20000. Please send orders accepted.)

# FIRST STEPS IN ASSEMBLY

## Part 1

*Daniel Lea starts a short series to show that machine code programming is not as hard as you might think*

If you are a programmer then programming in *Start Book* is okay for a while but soon, especially if you are a games programmer, you long for more power and speed which isn't provided by the old *Start Book*. Also many of the more advanced features of the *Start Book* are not available in *Book* (e.g. Virtual Blank Interrupts, Display List Interrupts, hardware scrolling, Player Missile Graphics — tend to be the list goes on). The thing is it's a program in machine code, but of course it isn't that simple.

Machine code is the lowest level of programming. This means that it is oriented entirely towards the machine and its microprocessor (hence its great speed). BASIC on the other hand is an example of a high level language, easy to understand and learn (and debug), but it needs to be interpreted, changed into machine code line by line when executed, hence it is much slower. Of course there is middle ground here in the form of other languages and of course BASIC programs may be compiled into machine code, however they are often still much slower than pure machine language and the problems of little access to advanced features isn't solved.

You will be surprised to hear (or perhaps not!) that you don't need any extra software to program in MACHINE code. I hang on there a minute matey, you're thinking, 'but I've been told you need an assembler to program in machine code' - hold-hold! A major misunderstanding in the difference between ASSEMBLER and MACHINE CODE - there is a difference you know because the fact that they are different words.

As I said before machine code is the language of the microprocessor, it consists of binary code (i.e. a series of ones and

zeros), not particularly understandable - in the ordinary run-of-the-mill anyway! Assembly language, on the other hand, is the means for ordinary humans to program machine code without the headaches, well some of them anyway! It consists of three letter instructions standing for individual machine code instructions. Each instruction (that's the microprocessor living inside your trendy 8 bit, in case you didn't know) instruction has a mnemonic standing for it - e.g. LDA stands for Load Accumulator. You do, in contrast to pure machine code, need special software to program in Assembly, for example the Assembler Editor cartridge is a inexpensive, reliable, but slow piece of software which I use myself.

The 6502 processor is an 8-bit microprocessor meaning it can handle eight bits at a time or a single byte. So it can handle a value from 0 to 255 (or 00 to FF) - see note on hexadecimal. The 6502 processor has a 16 bit address bus - this means it can handle two byte memory addresses. That is an address value from 0 to 65525 (00 to FFFFF) or 64 KiloBytes. Issue 94B is the maximum amount of RAM (Random Access Memory) accessible. AT ONE TIME (back when being ran give more RAM is a LOOSE, however it cannot be all used at once).

## THE REGISTERS

The processor has six registers (i.e. boxes to put numbers it wants to play with):

**The accumulator (denoted A)** - is the main general purpose register in the 6502

**Two index registers (denoted X and Y)** - are other general purpose registers

(X and Y all 8-bit registers i.e. can handle values from 0-255)

**The program counter** - so the 6502 knows where it is in a machine code program (is 16 bit register)

**The stack pointer** - (I'll talk about that in later article)

**The processor status register** - this register is very important so you'll discover in later articles

If you've read and understood everything so far then you are probably ready to be introduced to your first assembly language instructions.

## LDA and STA

**LDA - Load Accumulator** - Puts a specified figure into the accumulator. There are two basic forms with this instruction. The first is known as Immediate Addressing which is where the figure after the LDA, indicated by # (hash), is put into the accumulator. The figure used must be in the range 0 to 255 (000-0FF).

Format: LDA #number

A dollar sign (\$) indicates a hexadecimal number, no other prefix indicates a decimal number.

Examples: LDA #255  
LDA #0FF

... load the figure of 255 into the accumulator.

The second form is known as Direct Addressing where the number after the LDA indicates an address from where the number to store in the accumulator is retrieved.

Examples: LDA \$200  
LDA \$0000

... if the address \$200 (00A000) has 21 stored in it that figure will be loaded into the accumulator.

**STA - Store Accumulator** - Stores the figure in the accumulator at a specified location.

Examples: STA \$10  
STA \$0000

With this basic knowledge we can now create the equivalent of the BASIC, "PRINT 710.0" (or indeed "PRINTLOOR(2.0,0)" as follows:

```
LDA #0  
STA $10
```

To use this little program on the Assembler Editor cartridge type the following in BASIC mode:

```
10 *00000  
20 LDA #0  
30 STA $10  
40 BRK
```

Notice the two spaces before each instruction.

Type LIST to see the program has gone in okay. Now type ARM - the program is now assembling into machine code if necessary, (you shouldn't be so errors detected. Now type DRG. You are now in Defrag (your) dirty mode ... I made. 0000 starts the program \$000 is the start address in hexadecimal. The program will run. You will see the screen turn black because the background colour has been set to 0. We're well on the way now!

## HOW IT WORKS

I'll just explain lines 10 and 40. Line 10 is the start address of the program, all programs must have a start address otherwise an error will result because the assembler won't know where to put the code. \$0000 (0000) or page 0 is just a coincidence that ... it is a highly useful area of RAM, and a great mag as well. Where was I ... ah yes, page 0 is a safe place to put small fragments of code (you'll find the subject of where to put machine code programs in memory quite well discussed in the Assembler Editor manual).

## HEXADECIMAL

Hexadecimal is a number system used quite commonly in computing in general and especially in assembly. It works on a base 16 principle unlike decimal which is base 10. The reason it is popular is that it fits in well with binary, in that a hexadecimal digit represents four binary digits. It uses letters to represent the extra six digits it has.

Decimal	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Hex	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F

To convert decimal to Hexadecimal (or vice versa) the easiest option is a scientific calculator with these functions available. Other options are programs which other people have written to convert numbers, these however aren't quite as versatile as the calculator. The last option is to use maths or tables - A table of ASCII character codes usually will have decimal and hexadecimal values from 0 to 255 (or 00 to 0FF).

Line 40 BRK, BRK is another assembly language instruction meaning 'break' it simply interrupts the Debugger, as would the actual break key, and stops the program.

## BE AMAZED!

I'll leave these commands with a little program which will amaze you as to what can be done with LDA and STA (and JMP - an explanation follows but you'll probably guess what it does anyway). Type in the following listing exactly as shown, or it may not work.

```
30 *00000  
30 $ LDA $0000  
30 STA $4200  
40 STA $0070  
50 JMP $
```

## A NEW INSTRUCTION

That simple program is pretty amazing isn't it? But you thought that such effects were really difficult to code, now you are beginning to see that machine-code programming is not so bad after all!

Let's explain that **JMP** command. As you have probably guessed JMP stands for JUMP, it is, as you will have already figured out, the equivalent of the BASIC GOTO statement i.e. it simply jumps to another program line. It can be in either of the following forms:

```
JMP #XXXX  
or  
JMP $ where $ is a label
```

The only difference is that \$ represents a label in the program whereas the previous example uses a pure hexadecimal address. A label can be any number of alphanumeric characters beginning with a letter e.g. HELLO, LOOP, SUBROUTINE, AMTIDR00TAR,JA0000TAR,0000M (ally not that, but labels can be any length), X143 ... I could go on forever ... but what is the point of an article full of labels?!

Anyway back to the point ... to put labels in your program you simply precede the instructions with a label, leave a single space before if you wish and then have the instruction, as below.

#### LABEL (:) or more spaced INSTRUCTION

To type in assembly language programs you must remember this also ... *Proof* that it is important. With a normal instruction i.e. one not preceded by a label you MUST leave 2 or more spaces, otherwise the assembler will think your instruction is a label and probably produce an error (your program won't work anyway). With labels you MUST leave only a single space otherwise the assembler will think your label is an instruction and since there is no such instruction as LABELIA (or whatever) an error will be produced. Got all that? ... Good! In the general format are:

1. Line number (1 space only) LABEL (:) spaced INSTRUCTION
2. Line number (2+ spaced) INSTRUCTION

So if we refer to the earlier program you can see that JMP 5 leaps the program back to the place where the label 5 is. If the way, using a run-around label will cause an error too, as a continuous loop is formed. Not all that complicated after all is it?

## MAKING USE OF LABELS

You can also use labels with the LDA and STA instructions, and many others you are yet to be introduced to. To make this bit useful you either define the labels at the beginning of your source code or you use the **.BYTE** or **.WORD** assembler directives (these are explained in the Assembler Editor manual). We can use the ability to define labels (e.g. 10 (1 space) LABEL+ number) to make our program look a bit better. It's good practice to use labels.

```
30 COLPFG=40070
30 WYINC=54293
30 YCOLINT=54283
40 *40000
50 START LDA YCOUNT
60 STA WYINC
70 STA COLPFG
80 JMP START
```

That makes it a lot more readable doesn't it. Well perhaps not ... what are COLPFG, WYINC, and YCOUNT? Well a copy of Mapping the Atari by Compaq? Is the solution my friend! Just for you though I'll give you short (very short) explanations.

- COLPFG = hardware register whose shadow is COLORE. This controls the colour of the normally blue part of the screen.
- WYINC = Shifting the accumulator here causes the processor to hit until the electron beam in the TV screen has reached the end of the line.
- YCOUNT = A store of how many lines down the screen the electron beam is.

Using these locations you can achieve the amazing effect seen here (perhaps I'll expand the program a little further later on, there are other possible improvements).

## INDEX REGISTERS

The 6502 has, as well as the accumulator, two more registers. These are X and Y and they work in the same way as the accumulator but have other uses too. You can load and store them like the accumulator, so we have four run instructions.

```
LDX - Load X
LDY - Load Y
STX - Store X
STY - Store Y
```

You can also copy the values between the registers using the Transfer instructions.

```
TAX - Transfer Accumulator to X
TAY - Transfer Accumulator to Y
TXA - Transfer X to Accumulator
TYA - Transfer Y to Accumulator
```

What the transfer instructions actually does is to copy the first thing into the second thing.

So if X=10 and A=1 then TAX will make A=10 but X will remain as 10.

### TRANSFER BETWEEN X and Y

You can also transfer Y to X or X to Y, but there are no specific instructions to do this. You need to use a pair of instructions to transfer X to Y:

```
TXA (Transfer X to A)
TAY (Transfer A to Y)
-- to transfer Y to X
TYA (Transfer Y to A)
TAX (Transfer A to X)
```

## ADDRESSING MODES

So far we have met two of the addressing modes

1. Immediate addressing e.g. LDA #877
2. Direct (or Absolute) addressing e.g. STA \$0001

but there are several others ...

### Zero page direct addressing

The same as normal direct addressing, except that this is only used on page zero (i.e. locations 0 to 255 (\$00 to \$FF))

e.g. LDA #FF

### Indexed addressing modes

Now we come onto the indexed addressing modes, this is where the X and Y index registers come in really handy.

The first two are indexed direct addressing and zero page indexed direct addressing. They are exactly the same except that zero page indexed direct uses only the zero page.

```
The format is
OPERATIONS (ADDRESS),immval(X or Y index)
e.g. LDA 708,5
```

If 5 is in the above example then the contents of 718 are loaded into the accumulator i.e. 708+5, X=2, so 708+2 which



equals 710 (no problem)

Note that these indirect addressing modes also work with LDH and LDH (however you cannot use X with LDH or T with LDH).

### Indirect addressing

Format:

[JMP address]  
e.g. JMP 11200

This addressing mode only works with JMP. What happens is that the program jumps to an address STORED at 1000 and 1007. It must be two bytes because an address consists of two bytes.

## STORING TWO BYTE ADDRESSES

To be able to use this addressing mode you need to know a little about how two byte addresses are stored in memory. If we take the address \$FOA it's easier to understand in hexadecimal ...

The first memory location contains the LOW BYTE - 00A

The second memory location contains the HIGH BYTE - F0

You can see that the numbers are stored the opposite way round to that which you would expect.

## MORE ZERO PAGE ADDRESSING

The next two addressing modes ONLY work with zero page addresses (000-0FF, you remember!) These addressing modes are extremely useful, but there is a definite shortage of zero page locations which can be used, especially with BASIC and Assembler. Your best bet is to stick with addresses 200-307 (ACB-BCF), 300-309 (B00-B0F) are covered by BASIC although they may not agree with the Assembler debugger.

### Pre-indexed indirect addressing

Similar to indirect addressing except an index is used and can be used with other commands besides JMP. Here only the X index is used.

Format:

[OPERATION] [zero page address],X  
e.g. LDA 000,X

Load Accumulator at address stored low byte at 000X and high byte at 007X. Note there is a wrap around if the address+X is greater than 0FF.

### Post-indexed indirect addressing

This mode always uses Y as the index.

Format:

[OPERATION] [zero page address],Y  
e.g. STA 000,Y

Store Accumulator at an address stored low byte at 000Y high byte at 007Y and then add Y into the address (there you see the subtle difference between post and pre-indexed indirect addressing).

There is one more addressing mode to introduce but since we haven't met the commands it is used with there's no point telling you about it ... yet!

## BINARY

While on the subject of number bases it is as good a time as any to discuss the all important binary number system, the basis of the digital computer. It is represented by ones and zeros, or inside the computer this can be an electronic switch on or off. A Binary digit or BIT is a single 1 or 0 or a single switch. A series of eight bits is a BYTE which can represent a decimal number from 0 to 255 as follows:

Bit number:	7	6	5	4	3	2	1	0
decimal number:	128	64	32	16	8	4	2	1

Example:

0011010 is the same as  
 $128*0 + 64*0 + 32*1 + 16*1 + 8*0 + 4*0 + 2*1 + 1*0$   
which equals 26

Bit 7 is called the MSB or Most Significant Bit and bit 0 is the LSB or Least Significant Bit for obvious reasons. A byte can be divided into two halves, known as NIBBLES. I can't think why they are called nibbles, I suppose it must be a kind of 'high tech' (see speed, byte, nibble) Each nibble consists of four bits therefore allowing numbers from 0 to 15 to be represented or the full range of a single hexadecimal digit 0 to FF (see table below)

Range for a nibble

Binary	Hexadecimal	Decimal
0000	0	0
0001	1	1
0010	2	2
0011	3	3
0100	4	4
0101	5	5
0110	6	6
0111	7	7
1000	8	8
1001	9	9
1010	A	10
1011	B	11
1100	C	12
1101	D	13
1110	E	14
1111	F	15

## TWO NEW INSTRUCTIONS

To conclude this first part of the series I will introduce two more instructions, JMP and RTS.

**JMP** - Jump to Subroutine - equivalent to the BASIC GOTO but only used in direct addressing.

e.g. JMP 0C000  
← JMP SUBROUTINE

**RTS** - Return from Subroutine - no address required with this command. Like the basic return statement.

Well I hope you think that all in ... Next issue I'll have some more programs to type in, so Assemblers of the world! Sign!

# THE TIPSTER



# ADVENTURE SPECIAL

## SCAPEGOAT

**A** promised last issue there will be maps of Mission Cross. However this time they were left out last issue because of a timing/accuracy communication problem between the Ed and I (he couldn't read my script) so hopefully they will be presented in all their scintillating glory. Hopefully, the Ed and my big mouth I ask for help and solutions for Level 9 solutions and get buried upon my eyeballs in help sheets and solutions. Here are three of the most promising to read for it is believed.

Also this issue we have received the solution to Scapegoat. Right's the case (and few find). Mission's idea is to get you started on what for in the last issue, a mission statement on the first and not for the last and the goal is to be a mission statement. There is also the map of Mission Cross for all of you out there that are lost and befuddled. But will you get it all in? I doubt it, so if before you get all excited over a game you have been trying to solve for the past few years, you had better wrap through the rest of our pages to see if it is all there! If it isn't you can be pretty sure that it will be in the next issue.

## KICK OFF

Putting them in the back of the net is now as easy for you as it is for Gary Lineker thanks to John Dady of Herefordshire who has sent me a plethora of information for Kick Off.

The trick that the best way of attacking the goal is by attacking the full down the side of the pitch. If one of the opposition comes to tackle you kick the ball further up the side. When you become parallel with the penalty area two opposition players will come out to meet you. You can judge them by dribbling backwards towards the edge and back in again. When you enter into the area, now you have a very clear angle shot with only the goalie to beat.

When you are in the longer competition the best teams to be are either Germany or Brazil as they have got the best players.

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NOW  
LOOK  
HERE

From Geoffrey Tanton of Belvedere comes a solution to Scapegoat. By Level 9. If any one knows what the last piece of evidence is then please send it to the Ed as soon as possible. As usual it's an art backwards.

### Part 1.

N. TEG NRODILTSHT, S. W. TEG KODRHOCTAM, E. TEG BLMBEP, OG OT QWY, TAW ROP ROOIVRPLUS, TAW, TEG DRAC, TEG SMT, TEG DRAC, OG OT NPL, HSLP NPL, TAW LITR) TO IS THOM NHT WOLLOP SOU DMOORA SHT YWETRE-  
MIG DMOORA DRVAD OT WOLLOP SOU NHTW LOY SSM NPL, OG OT QOO, EKORTS QOO, N, EKORTS QOO, EKORTS QOO, TEG ENOS, OG OT YM ENARD, TUP WOLLEY DRAC MO WEN HTRETR, TAW ROP QOO, TEG HMAERW, OG OT TRES, TAW ROP QOO, TRES WOLLOP EM, ANSE WOLLOP EM, OG OT OZAS, TRES TAW S LULP OZOL, REHL, ANSE WAT S LULP MEDIUM REHL, DRVAD WAT S FULL SHORT REHL, NPLU LERTAB, LULP EPOR SHT QOO TULR EB SHT NHTW LOY OG TAW), N. TEG LLES SOU TEG HSTARR, DRVAD TAW S HSLP NHTW, HSLP NHTW, SOU TAW S EPOM SEMIT, TAW ROP LINDLOC, LINDLOC WOLLOP EM, OG OT TELOR, SHT LLES OT HSLP, TELOR WOLLOP EM, S, SOU TUP NHTW N ESKY, HTIC WOLLOP EM, OG OT LADRUS, HTIC TAW S HSLP LADRUS, HSLP LADRUS, TEG NOMBING, OG OT LADRUM, ENW EUTATS, OG OT LLAW, HSLP LLAW.....

### Part 2.

N, M, E, N, R, S, TAW, N, M, N, E, SOU W, N, E, HSLP LLAW, TAW S, HSLP LLAW, W, W, LLOC RETAW, TEG PAM, N, S, PORD PAM, E, TEG REPAP, W, PORD REPAP, SOU TAW S LULP KRAMKOR, LULP KRAMKOR, TEG BLU, PORD BLU, HSLP HOTWY, W, TEG BLU, TUP BLUR N LUP, TEG LUP, TUP LUP N REDLOH, HSLP HOTWY, E, S, U, TEG N, TEG GULP, S, N, HSIAM ROBBIN, SOU TEG ESAG S D PORD ESAG U, S, U, LLOC GULP N HOC, S, NERO LEMAP, TEG TEGCOS, TUP TEGCOS N LEMAP, SIKOL LEMAP, HSLP POKOL, SOU OG DRIN I EPOM SOUP PO SMOORU THT I SYAH TOM TEP DRUP TUB I OG NOKR, NOK OT TRILA SHT YONGRIMS SIKRIS, D, N, HSLP ELTOS, TAW LUP, LUP SNAHTOR

### Part 3.

N, OG OT RAW, TEG N, TAW LITRU TO SYRE LOY SPA TA A NOTICALLY NHT OT TAW LITRU LOY HAC TEG OT SHT MAAL, TEG NHTYRPP, OG OT SHTW, TUP NHTYRPP NO SHTOIN-  
NOC, OG OT REKAPRE, HTIVE REKAPRE, S, TAW LITRU HAPAS OG DRUP) TUP NHT OG TAW, U, W, TEG BLUR, LOY TAW TOARTIS NHT S SEMIT I SYAH DRUP) TUP SHT EVI SYAH TUB I LITRIMES OT NUR TUP PO SHTOICARTIS EPORIS NHT S SHT ECLUP, SHT EVI SHTOICARTIS SPA ONPORD SHT BLUR SOU LOY SHT ENOD THT OG TSAC, E, D, S, TAW ROP LESADR, TAW, N, W, TAW S, TEFHAM, TUP SOR, S, TAW ROP LESADR, HSLP NEM-  
MRA, TEFHAM, HAPAS OT SOR OT LESADR, TEG, U, HAPAS SOH SPA TAW N, SHT REHTO S SYAH SPA LULP SNAHTOR, SNAHTOR NHT, LIND NHT, HSLP NHT, NHTW QWTEAH.....

The maps and tips to Montezuma's Revenge have made it this time and they are supplied by Richard Hunter and Neville Westcarr from Leeds, but again there is no address as they will have to contact the magazine for their prizes.

The first three levels all have different layouts of the rooms but those after the third level have the same map as the third level.

All rooms stay the same and all keys, doors, flames are found in the same rooms. The only difference are the number of abattoirs. On level 1, the bottom three layers of the pyramid are dark, level 2, the bottom four layers are dark and so on.

Your main priority in each level therefore is to remove a flame, as once captured all rooms become daylight.

### QUICK E's ... QUICK E's ...

A good smattering of stuff from John Hubbard from Liverpool. Are your matchboxes and files just stained subtly? Might this get

Step between 10 and 15 on the abattoir in **Blas Man** and then you can shoot the tanks with the machine guns if you keep your finger on the button.

In **International Karate** wait until the screen you want appears in the dress screen and then take the disk out and then press START or SELECT. When you are about to go onto the next level just the disk back in.

Use up all of your money on gold cards in **Footballer of the Year** until you are on your last £200 or so. Then buy an incident card and if you have 'bad luck' on it then you won't have to pay your debts!

Now comes a tip for all of you that find that you can't beat the computer during the **Spy vs Spy** trilogy.

**Spy vs Spy I** - Let the other player collect all of the objects and when he has got them, go into the same rooms as him and fight him. If you fight him and win, collect the objects from the picture/table/desk in the room and go to the abattoir.

**Spy vs Spy II (Island Capers)** - If you don't have all of the objects and your opponent has the others, walk in the water and drown yourself! Doing it this way means that your opponent can't win and a very nice memorial service can be held in your honour.

More quick E's over the page

## MONTEZUMA'S REVENGE

mapped by  
Richard Hunter &  
Neville Westcarr



**This must be Ingrid's front because  
Ingrid's Back is on the other side!**



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# DISK SECTOR EDITOR

## in 80 column format

**T**o continue with the theme of 80 column text covered in the article and program in issue 55, here's a program that allows you to view and edit individual sectors of a disk. It uses the extra space on screen to display the 128 bytes that make up one sector. At the top of the screen is the device display, and at the bottom the ATASCII display.

Being able to view the disk in this way is useful to search through adventures for clues or even look at machine code routines if you can translate them from decimal. But this program allows the data to be loaded and edited. This saved in exactly the same place on the disk as if nothing had happened. This could allow fast outside alterations to your machine code programs or if you share, allowing other people!

Before we go on let me stress a couple of things. Firstly, allowing copyright material to not illegal, but trying to sell the edited programs as your own work is! Secondly, while I use this program regularly and have had no trouble with it, please do not try to hold me or Page 6 publishing responsible for any damage the program might inadvertently cause to your disks. Some disks are copy protected and use complex archiving techniques, editing these can corrupt the disk entirely - You have been warned!

## BACK IT UP!

The safest way is to work on a back up copy if you can, and if you can't note down carefully any changes you make so it may be put right again! If I haven't covered you off with the last couple of paragraphs then I'll continue with the full feature later in the sector editor program.

Firstly type in the Sector editor listing, and merge it with your original 80 column text set up routine (issue 55). Then save it before running. When you run the program it will show two boxes and display a simple menu.

Before you can go any further you must enter a sector number, you can't edit or save without first loading after this you can choose from the menu by pressing keys 1 to 5.

- 1. LOAD SECTOR:** As it implies this is to load a sector. You will be prompted for the sector number, either type the number and press Return or press escape to cancel the load request.
- 2. SAVE SECTOR:** You only have to save a sector if you have made any changes and wish them to be permanent. You do not have to put a sector back just because you loaded it! To make sure this is what you want you will be asked to confirm the save by hitting the "Y" key for you. Any other key will be taken as no.
- 3. EDIT SECTOR:** The editing takes place on the device display. On selecting this a box will be drawn in the top left hand corner. This is the cursor and it can be moved by using a joystick in part 1. Positions the cursor over the

*David Rawlings presents a practical application for his 80 column text routine in the last issue*



number you wish to change and press Fire, and you will be prompted to enter the new value. Edit the top the new number and press Return or press Escape and this will take you back to the main menu. To exit this mode press Fire three Escapes.

- 4. RESTORE:** This option will change the sector on screen back to what it was before any editing took place. It's useful to put back the original sector if you have saved an edited one in its place, but it will only change it back to what it was when you last loaded it using option 1.
- 5. PRINT SECTOR:** For printer users this will print the device display of the sector.
- 6. QUIT:** This will return you back to home.

The program is full of BSM statements and these are for presentation and educational purposes only. This, and all my other programs, will work perfectly well without them.

Well that's it from me, now its your turn! If you can think of any practical uses for the 80 column text, or better still write programs for it, then why not submit them and share it with the rest of us?







# SERIOUS STUFF FROM APX

tested out by Paul Rixon

## ENHANCED POKEY PLAYER

The Pokey Player music system was first published in 1982 in the (now defunct) American publication Software. It was originally intended as a simple utility to add Donkey Kong-style music to games programs. The editing process wasn't nearly easy to use but it was deemed satisfactory for the creation of short songs. Even so, Pokey Player gained enormous popularity with users who just wanted to compose and play their own music.

Since the initial release the program and documentation have been updated several times, culminating in the publication of Enhanced Pokey Player by Acute Publishing. Inevitably, we are no longer with you. Pokey is, of course, the piece of silicon inside your Atari that generates music (in addition to handling serial comms and keyboard decoding, hence named after POKeY/KEYboard controller). The aim of Pokey Player is to give you full access to the wide variety of sounds that Pokey can generate.

In order to enter, edit and 'listen' your potential sonic masterpieces you have to use three different programs supplied on the disk - the Editor, Composer and VMerge respectively. Having completed a composition, you can run it back

through the Pokey Player, another separate module of the system. The Editor lets you enter notes using the joystick for each of three possible 'voices' in your music source file. You can insert, delete and replace notes as required, finally saving the whole lot to disk. The next stage involves compiling each voice into the compacted format required by the Player - typically one byte per note. This also highlights any problems, such as notes-out-of-range. Once you have three compiled files, you must run VMerge to produce the final playable output file. If all this seems rather a rigmarole - it is! Still, with some careful planning the results can be worth it of the effort.

The documentation is (increasingly) extensive and is divided into eight sections covering everything you could conceivably need to know about composing music with your Atari - from the theory of electronic music to programming hints and how to merge tunes with your own Basic code. As with most of Acute's disks, you can view or print this information.

Enhanced Pokey Player looks a bit aged by modern day standards but it still deserves its place in computer history. Treat it as an adventure and you won't go wrong!

**ENHANCED POKEY PLAYER is available from Griffin International on disk only at £5**

## SHERLOCK 1050

Sherlock 1050 is basically the disk user's equivalent of the DVF enthusiast's toolbox. It's a disk utility program with numerous facilities to examine, modify, search and generally fiddle with the contents of your floppy.

The program is menu driven and therefore quite simple to use, though it's recommended that you take some time to study the documentation before experimenting with your disk collection. In any case, you should always make a back-up of any disk you're about to explore, to avoid any embarrassing mishaps! Consequently, Sherlock incorporates an 'intelligent' disk copying function, its speciality being to read as many sectors as each pass as the necessary space will allow. A bonus utility is supplied to prepare disks for use with the copy routine - this is faster than the normal DOS format, since it doesn't need to prepare the DOS sectors and disk directory areas (as these are copied over anyway).

One of the main options is a sector dump. This asks you to enter the sector number (in hexadecimal) that you want to view. The ASCII and hex representation is clearly displayed, and you can skip onto the next or previous sectors or dump the current information to your printer. From here you can

also search straight into edit mode, which is one of Sherlock's most powerful - and potentially dangerous - abilities. You can modify any sector in hex or ASCII mode, perhaps to try some of those handy game cheats described by Harvey King (The Oscar 286, or just in 'personally' your software). To help you keep track of where you are on a disk, there's a Disk Map option which graphically reveals the entire contents.

For those who are confident with assembly language - or who want to leave the disk disassembler will rip apart the hidden secrets of programs in a jiffy! Again there are print options so you can inspect the results at a leisurely pace. A disk search is another extremely useful function and here again Sherlock doesn't fail to deliver. You can search for hex codes or ASCII character strings and when a match is found, you can choose to print, edit or even disassemble the appropriate sector.

All I can say is that if you use a disk drive and you don't have a state of affairs similar to those offered by Sherlock 1050, it could be time to make amends!

**SHERLOCK 1050 is available from Griffin International on disk only at £5**

# VAREEDIT

*Ever been stuck with a program that you have lost track of because your variables don't make sense? Richard Lewis has a utility that allows you to change variables after your program has been written.*

While writing programs in Basic I have often found that I wanted to change the name of a variable. I would have variables like V, X or M and I wanted them to have a more meaningful name. Also I try to standardize the names of variables, e.g. not have CUR, VAR, VARI, TYP, VARI-ARISE but instead have CUR, VAR, VAR, TYPE, VARX. I decided to write a program that would allow me to change the name of variables.

My first attempts involved altering the variable names while the program was loaded but this proved very tricky to do. If the new name had the same number of characters then it was okay but if the name was to be shortened or lengthened then problems started. I also had to find space to put the code, the Basic part and the machine code routines.

I eventually wrote a separate program that would allow me to edit the variable names of a saved program. Since space was not going to be cramped I was able to put in a lot of features. Most the only feature I did not put in was a Search and Replace function which I left out because it used incorrectly it could cause unwanted damage to a program.

## SOME BACKGROUND

Before getting down to typing in and using the program some background information will help in understanding just what the program has to do and how to use it. First we will look at how Atari Basic stores programs with the information found in two highly recommended books - *The Atari and Mapping the Atari*. Then we will look at the differences in Turbo Basic which I based out while writing this program. Finally I will show how to use the program and how to it works.

## ATARI BASIC

Atari Basic has only three types of variables: Numbers, Arrays and Strings.

A saved Basic program consists of four parts. The first part consists of seven memory pointers. The second is the variable name table which is a list of the names of all the variables. The third is the variable value table which records what type each variable is and it's dimensional size. The variable number is also stored here - each variable has a different number starting at zero for the first variable. The last part is the statement table, this is the actual program stored in tokenized form.

When the program is loaded and run two extra tables are added. There is the string and array table which contains the characters in all the strings and the values in the arrays. Finally there is the runtime stack. When the program executes a GOSUB, the current position in the program is stored in the runtime stack, so that the program can return there when the RETURN is executed, the same goes for FOR NEXT loops.

The seven pointers are stored in memory locations 125 to 141 along with two extra pointers in locations 142 to 145. These pointers point to where each of the tables begins.

Memory Locations	Pointer
128,129	Start of memory used by Basic
130,131	Start of variable name table
132,133	End of variable name table + 1
134,135	Start of variable value table
136,137	Start of statement table
138,139	Current statement in statement table
140,141	Start of string and array table
142,143	Start of runtime stack
144,145	End of memory used by Basic

You can use these pointers to look at the tables load a program and type this command:

```
In Turbo Basic:
INPUT #0, DPTR0(128), DPTR0(132)-DPTR0(138) :
```

```
If you are using Atari Basic type:
V=PEEK(128)-DPTR0(141) :FOR J=V TO
PTR0(132)+DPTR0(138)-J-1:PUTV, PEEK(J):NEXT
```

and you will see the names of all the variables. The last character of each name is its inverse video.

The variable value table contains eight bytes for each variable. The first byte is the type byte which indicates what type of variable it is, the second is the variable number and the last six bytes are the value or dimensions of the variable.

If the variable is a numeric then the type byte is zero and the six bytes are the value of the numeric in Binary-Coded Decimal

#### Format.

If the variable is an array then the type is 60 if the array has been dimensioned or 64 if the array has not been dimensioned. Of the six bytes, the first two point to where the array values are stored in the string and array table, the second two bytes are the first dimension of the array and the last two are the second dimension of the array if it is two-dimensional.

If the variable is a string then the type is 100 if the string has been dimensioned or 104 if the string has not been dimensioned. Of the six bytes, the first two point to where the string characters are stored in the string and array table, the second two bytes is the length of the string and the last two are the dimensioned length.

## TURBO BASIC

To be compatible with Atari Basic Turbo Basic stores its programs in the same way using the same pointers and labels. Turbo Basic has three additional types of variables: Procedures, Line Labels and Unassigned. The names of these additional variables are stored in the variable name table with the other variables but they have different entries in the variable value table.

If the variable is a procedure then the type is 100. Of the six bytes, the first two point to where the procedure starts in the statement table. This is a memory location not a line number. Using memory locations is faster than using line numbers, e.g. if you have a line with GOTO 1000 then the program will look for line 000 by starting at the beginning of the program and going through each line number until it finds line 000, while an EXEC procedure will go straight to the position in the statement table to get the line.

If the variable is a label then the type is 104. Of the six bytes, the first two point to where the label is in the statement table which is also a memory location.

If there is a line in the program executing a procedure that does not exist or going to a line label that does not exist then that procedure or label is unassigned. If you enter the DUMP command then the name appears with an "U".

```
DUMP
INST 19400 19400
NAME, ERR = 1000
UNASSIGNED ?
```

You cannot have a line label and procedure with the same name. If you do try, then the second variable will overwrite the first. However you can have a numeric and a label/procedure with the same name.

## Program overleaf

## VAREdit USER GUIDE

The program which is going to have its variable table edited has to be saved on a disk and the disk should have as much free space as the size of the program to be edited. This is because the program is read in, edited, the altered version is saved onto the disk and then the old version is deleted. The disk should not have a file called "TTTTTTTT.TTS".

Run the VAREdit program and enter the file name of the program to be edited. You are then presented with the first variable, number zero. You can now change the variable names. To change the name just type in the new name and press enter. There are several commands to help you find the variables to be changed.

- +0 advances you the number n variables (e.g. +5, -05 or -005).
- goes back one variable
- n goes back n variables
- \* finds a variable name. Enter the full name of the variable when asked and if there is such a variable you will be taken to it. The search starts from the next variable
- \*B searches for a string of letters. Enter the string and you will be taken to the next variable whose name contains the string if there is one. The search starts from the next variable
- \*R repeat last command. This repeats the last command that was not a name change. This is to be used with \*B when you wish to change several variables. Use \*B to search for the first occurrence of the string, change it, if necessary, then use \*R to find the next occurrence of the string.
- \*M shows memory usage. This shows the free memory, by how much the total length of the variable table has changed and the number of free sectors that will be left when the new version has been saved to disk
- \*LN list only numbers. Only numeric variables will be displayed and searched for. Also the very first and last variables will be displayed regardless of what type of variable it is to be listed. The border colour will change to indicate that you are in list mode
- \*LH list only arrays
- \*LH list only strings
- \*LP list only procedures
- \*LI list only labels
- \*LJ list only unassigned
- \*L list all types
- \*S exit the program and save the changes to the variable table
- \*Q quit the program and do not save the changes

You can set the names of two variables which are the same type to be the same. When you load the program to run it, Basic will still treat them as different variables even though you will not be able to tell them apart during a listing. If you then LIST the program to a disk file then ENTER it then both variables will become one variable.

You can rename a numeric variable to something entirely different. For example rename "CUR\_LEN" to "CUR\_END\_POS - CUR\_START\_POS + %1". Then when you LIST and ENTER the program the variable will no longer be there but replaced by the expression. You have to remove any lines that contained CUR\_LEN to something else.

You should always have a copy of the program you are going to change until you are used to how it works. You can cause a lot of damage to a program if you set two variables to the same name.

# VAREDIT

```

01 0000 *****
02 0000 *****
03 0000 *****
04 0000 *****
05 0000 *****
06 0000 *****
07 0000 *****
08 0000 *****
09 0000 *****
10 0000 *****
11 0000 *****
12 0000 *****
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97 0000 *****
98 0000 *****
99 0000 *****

```

```

001 000 *****
002 000 *****
003 000 *****
004 000 *****
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006 000 *****
007 000 *****
008 000 *****
009 000 *****
010 000 *****
011 000 *****
012 000 *****
013 000 *****
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039 000 *****
040 000 *****
041 000 *****
042 000 *****
043 000 *****
044 000 *****
045 000 *****
046 000 *****
047 000 *****
048 000 *****
049 000 *****
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071 000 *****
072 000 *****
073 000 *****
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075 000 *****
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077 000 *****
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081 000 *****
082 000 *****
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084 000 *****
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094 000 *****
095 000 *****
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098 000 *****
099 000 *****

```

```

07 0700 000000
08 0800 000000
09 0900 000000
10 1000 000000
11 1100 000000
12 1200 000000
13 1300 000000
14 1400 000000
15 1500 000000
16 1600 000000
17 1700 000000
18 1800 000000
19 1900 000000
20 2000 000000
21 2100 000000
22 2200 000000
23 2300 000000
24 2400 000000
25 2500 000000
26 2600 000000
27 2700 000000
28 2800 000000
29 2900 000000
30 3000 000000
31 3100 000000
32 3200 000000
33 3300 000000
34 3400 000000
35 3500 000000
36 3600 000000
37 3700 000000
38 3800 000000
39 3900 000000
40 4000 000000
41 4100 000000
42 4200 000000
43 4300 000000
44 4400 000000
45 4500 000000
46 4600 000000
47 4700 000000
48 4800 000000
49 4900 000000
50 5000 000000
51 5100 000000
52 5200 000000
53 5300 000000
54 5400 000000
55 5500 000000
56 5600 000000
57 5700 000000
58 5800 000000
59 5900 000000
60 6000 000000
61 6100 000000
62 6200 000000
63 6300 000000
64 6400 000000
65 6500 000000
66 6600 000000
67 6700 000000
68 6800 000000
69 6900 000000
70 7000 000000
71 7100 000000
72 7200 000000
73 7300 000000
74 7400 000000
75 7500 000000
76 7600 000000
77 7700 000000
78 7800 000000
79 7900 000000
80 8000 000000
81 8100 000000
82 8200 000000
83 8300 000000
84 8400 000000
85 8500 000000
86 8600 000000
87 8700 000000
88 8800 000000
89 8900 000000
90 9000 000000
91 9100 000000
92 9200 000000
93 9300 000000
94 9400 000000
95 9500 000000
96 9600 000000
97 9700 000000
98 9800 000000
99 9900 000000

```

```

01 0100 000000
02 0200 000000
03 0300 000000
04 0400 000000
05 0500 000000
06 0600 000000
07 0700 000000
08 0800 000000
09 0900 000000
10 1000 000000
11 1100 000000
12 1200 000000
13 1300 000000
14 1400 000000
15 1500 000000
16 1600 000000
17 1700 000000
18 1800 000000
19 1900 000000
20 2000 000000
21 2100 000000
22 2200 000000
23 2300 000000
24 2400 000000
25 2500 000000
26 2600 000000
27 2700 000000
28 2800 000000
29 2900 000000
30 3000 000000
31 3100 000000
32 3200 000000
33 3300 000000
34 3400 000000
35 3500 000000
36 3600 000000
37 3700 000000
38 3800 000000
39 3900 000000
40 4000 000000
41 4100 000000
42 4200 000000
43 4300 000000
44 4400 000000
45 4500 000000
46 4600 000000
47 4700 000000
48 4800 000000
49 4900 000000
50 5000 000000
51 5100 000000
52 5200 000000
53 5300 000000
54 5400 000000
55 5500 000000
56 5600 000000
57 5700 000000
58 5800 000000
59 5900 000000
60 6000 000000
61 6100 000000
62 6200 000000
63 6300 000000
64 6400 000000
65 6500 000000
66 6600 000000
67 6700 000000
68 6800 000000
69 6900 000000
70 7000 000000
71 7100 000000
72 7200 000000
73 7300 000000
74 7400 000000
75 7500 000000
76 7600 000000
77 7700 000000
78 7800 000000
79 7900 000000
80 8000 000000
81 8100 000000
82 8200 000000
83 8300 000000
84 8400 000000
85 8500 000000
86 8600 000000
87 8700 000000
88 8800 000000
89 8900 000000
90 9000 000000
91 9100 000000
92 9200 000000
93 9300 000000
94 9400 000000
95 9500 000000
96 9600 000000
97 9700 000000
98 9800 000000
99 9900 000000

```

# VAREdit

```
00 1000      VAREdit:INITIALIZE
00 1100      OPEN1 100,PT1,FILE,VAR
00 1200      VAR,VARNAME,VAR TO 1000,10
-----
00 1300      OPEN1
00 1400      0 OPEN:ABORT "Error: Error: 10
0001" ON 1:00 "END
10 1500      10001
01 1600      1000
02 1700      1000 00,TRAP:ERASE MEMORY
03 1800      OPEN00
10 1900      OPEN SAVE 1000 0000,0001 "10000
1 00000011111,10000,000-000-0000
00
00 2000      OPEN PROTECT TO 0000011000
0000 00000110000,001-001-000000 00
0001
00 2100      OPEN 000,0,00,00011000 0000,PT
1000 TO 0001 000,0000,PT000,PT0 000
000,000,PT000,PT0 000 000000 0000
,PT
00 2200      OPEN 001,000,000,000000 0
10,0000,000,0,00,0000
00 2300      00
10 2400      01 100,STATEMENT:MEMORY 0000 0
10,000,000,0000 0001 00,000,000,000
000 100,STATEMENT 0000,STATEMENT:MEMORY
00 2500      01 01 0000 000,000,000,10
0000011001 000,000,000,100,STATEMENT:
001
00 2600      00001
00 2700      00001
00 2800      0000 00000 00000000000000
000000 00001 " "0000 0000000000000000
00000 0000,0000000000000000 00000 0
0000 0000
00 2900      00 0000,000,0,PT 1000 0000
"00001" ON 0000 "END
00 3000      00 0000,00 0000 0000
00 3100      0000
00 3200      0000 0000 0000,000,000,00
0000 0000 0000 0000 0000 0000 0000
0000 0000 0000 0000 0000 0000 0000
0000 0000 0000 0000 0000 0000 0000
0000 0000 0000 0000 0000 0000 0000
00 3300      000 0000,PT001,000,PT0000,0000
000000,000,TYPE 01,001
00 3400      MEMORY:0000 0000 0000 0000
0000 0000 0000 0000 " "00000 00000 " "
00 3500      0000 0000 0000,00,10
00 3600      0000 0000 0000 0000 0000 0000
00 3700      0000 0000 0000 0000 0000 0000
00 3800      0000 0000,00000000 0000,00000000
00000000
00 3900      0000 0000 0000
1 0000 000000
00 4000      0000 0000 0000 0000 0000
00 4100      0000 0000 0000 0000 0000 0000
00 4200      0000 0000 0000 0000 0000 0000
00 4300      0000 0000 0000 0000 0000 0000
00 4400      0000 0000 0000 0000 0000 0000
00 4500      0000 0000 0000 0000 0000 0000
00 4600      0000 0000 0000 0000 0000 0000
00 4700      0000 0000 0000 0000 0000 0000
00 4800      0000 0000 0000 0000 0000 0000
00 4900      0000 0000 0000 0000 0000 0000
00 5000      0000 0000 0000 0000 0000 0000
00 5100      0000 0000 0000 0000 0000 0000
00 5200      0000 0000 0000 0000 0000 0000
00 5300      0000 0000 0000 0000 0000 0000
00 5400      0000 0000 0000 0000 0000 0000
00 5500      0000 0000 0000 0000 0000 0000
00 5600      0000 0000 0000 0000 0000 0000
00 5700      0000 0000 0000 0000 0000 0000
00 5800      0000 0000 0000 0000 0000 0000
00 5900      0000 0000 0000 0000 0000 0000
00 6000      0000 0000 0000 0000 0000 0000
00 6100      0000 0000 0000 0000 0000 0000
00 6200      0000 0000 0000 0000 0000 0000
00 6300      0000 0000 0000 0000 0000 0000
00 6400      0000 0000 0000 0000 0000 0000
00 6500      0000 0000 0000 0000 0000 0000
00 6600      0000 0000 0000 0000 0000 0000
00 6700      0000 0000 0000 0000 0000 0000
00 6800      0000 0000 0000 0000 0000 0000
00 6900      0000 0000 0000 0000 0000 0000
00 7000      0000 0000 0000 0000 0000 0000
00 7100      0000 0000 0000 0000 0000 0000
00 7200      0000 0000 0000 0000 0000 0000
00 7300      0000 0000 0000 0000 0000 0000
00 7400      0000 0000 0000 0000 0000 0000
00 7500      0000 0000 0000 0000 0000 0000
00 7600      0000 0000 0000 0000 0000 0000
00 7700      0000 0000 0000 0000 0000 0000
00 7800      0000 0000 0000 0000 0000 0000
00 7900      0000 0000 0000 0000 0000 0000
00 8000      0000 0000 0000 0000 0000 0000
00 8100      0000 0000 0000 0000 0000 0000
00 8200      0000 0000 0000 0000 0000 0000
00 8300      0000 0000 0000 0000 0000 0000
00 8400      0000 0000 0000 0000 0000 0000
00 8500      0000 0000 0000 0000 0000 0000
00 8600      0000 0000 0000 0000 0000 0000
00 8700      0000 0000 0000 0000 0000 0000
00 8800      0000 0000 0000 0000 0000 0000
00 8900      0000 0000 0000 0000 0000 0000
00 9000      0000 0000 0000 0000 0000 0000
00 9100      0000 0000 0000 0000 0000 0000
00 9200      0000 0000 0000 0000 0000 0000
00 9300      0000 0000 0000 0000 0000 0000
00 9400      0000 0000 0000 0000 0000 0000
00 9500      0000 0000 0000 0000 0000 0000
00 9600      0000 0000 0000 0000 0000 0000
00 9700      0000 0000 0000 0000 0000 0000
00 9800      0000 0000 0000 0000 0000 0000
00 9900      0000 0000 0000 0000 0000 0000
00 1000     0000 0000 0000 0000 0000 0000
```

## VAREdit PROGRAM STRUCTURE

### PROCEDURES

The program consists of the Initialization procedure, the Main procedure and then the Termination procedure.

#### MAIN

This procedure is a loop with the user entering a command each cycle. CLP,VAR is the number of the variable being displayed. Line 90 deals with the user just pressing return. Line 90 deals with "R" by using the old command and setting a flag. Lines 240 to 290 deal with moving beyond the limits of the number of variables.

#### FINL\_TYPE

Prints the type of variable and whether the variable has been dimensioned.

#### SET\_DEF

Sets all the default poles.

#### GET\_REPLY

Gets a Y or N answer.

#### DISPLAY\_NAME

Displays the name and type of a variable.

#### CHANGE\_NAME

Uses the name entered by the user to change the current variable name. Line 480 sets the flag. Lines 470 to 600 validate for new name, if the name is not valid then the flag VALD is set to zero. Also inverse video characters are converted to normal video. Lines 640 to 680 deals with a invalid name by asking if the name is to be accepted. Lines 690 to 720 alters the variable table. Line 730 also moves to the next variable.

#### MOVE

Lines 750 to 800 deal with moving forwards or backwards. Lines 800 to 870 deal with only listing particular types.

#### SEARCH\_LETTER

This procedure searches for a string of letters, if the command is not being repeated Line 900 gets the string to be searched for. Lines 900 to 1040 search for the string. Line 900 searches for string in the variable string.

Lines 900 to 990 find which variable the found string belongs to, it is a binary tree search. Line 990 will print the lower limit, middle and upper limit. Lines 1000 to 1020 check the string, first to see that it does not fit across line numbers and that it is of the correct type. Line 1030 continues the search if the string was wrong.

#### FIND\_NAME

Searches the variable names for a particular name. Lines 1050 to 1100 get the searched for word if the command has not been repeated. Lines 1100 to 1200 searches for the word.

#### MEMORY

Displays the free memory.

#### LIST\_TYPE

Sets the list type flag. Line 1340 will advance to the next variable of the correct type. Setting LINESB to "Y" will cause no advance if the current variable is of the correct type.

## LOAD

This procedure loads the variable and value table from the source file. Lines 1400 adds a drive to the file name if necessary. Lines 1420 to 1440 find what part of the file name is the path and what is filename (so the YACEDIT can deal with any DOS), Line 1450 sets up the destination file name on the new drive and path as the source file. Lines 1460 to 1470 check to see if the source file exists. Lines 1480 to 1550 deal with wildcards P or ? in the filename. Lines 1560 to 1570 find how much free space there is on the disk. Lines 1580 to 1610 warn the user if there is a risk of running short of space.

Lines 1620 to 1700 load the variable tables. Lines 1670 to 1700 find where each variable name starts in the string of variable names.

## SAVE

Saves the altered variables and copies the rest of the program. Line 1800 updates the program pointers. Lines 1810 to 1850 saves the variable tables. Lines 1860 to 1870 copies the rest of the program. Line 1875 deletes the source file and restores altered file.

## INITIALISATION

Sets up the strings, arrays and constants and then loads the variables.

## TERMINATION

Saves the program if necessary.

# VARIABLES

## VARIABLE NUMERICS

**CUR VAR** - the number of the current variable, that is the one being displayed and edited

**CUR START POS** - the start position of the current variable in VARS

**CUR END POS** - the real position of the current variable in VARS

**CUR LEN** - the length of the name of the current variable

**VAR TYPE** - the type of the current variable

**DIM TYPE** - whether the current variable has been dimensioned

**NEW VAR** - the number of the new variable

**NEW END POS** - the new end position of the current variable

**NEW LEN** - the length of the new name of the current variable

**OLD VAR** - the old current variable number

**LOW VAR** - the lower variable number in the binary sort

**UP VAR** - the upper variable number in the binary sort

**SEARCH LEN** - the length of SEARCH

**LIST TYPE** - the type of variable to be listed by the % command

**SEP LEN** - a difference in length

**SEARCH POS** - the position in VARS to start a search

**STR PT** - a pointer to a position in a string

**CHAR** - the ASC value of a character in a string

**LEN PATH** - the position in SEARCH where the filename starts

**FILE LEN** - the size of the file to be edited in sectors

**FILE FREE LEN** - the number of free sectors on the disk for the new file

**LEN VAR** - the length of the variable name table

**OLD LEN VAR** - the original length of the variable name table

**LEN VAL** - length of the variable value table

**LEN STATEMENT** - the length of the statement table

**PROG\_PT** - pointer to PROG.PT

**X, Y, Z** - general counters

**REPLY** - the response the user makes to a yes/no question

**DIRECTION** - the direction of a move command

## PARAMETERS

**MAX VAR** - the highest variable number

**MEMORY** - the size of VARS, that is the memory available

**VAR\_ADDR** - the address of VARS

**VARVAL\_ADDR** - the address of VARVAL

## CONSTANT NUMERICS

**ON - ASC %**

**TF - ASC %**

**NO\_TRAP** - a forced line number to clear the traps

## FLAGS

**VALID** - the name is a valid name

**REP\_FLAG** - the command is being repeated

## STRINGS

**VARS** - the variable name table and buffer for copying the rest of the program being edited

**VARVAL** - the variable value table

**VAR TYPES** - the descriptions of all the variable types

**SOURCES** - the source filename

**DESTS** - the destination filename

**LINES** - the command entered by the user

**CH, LINDEX, CINDEX** - parts of LINES

**OLD LINES** - the last command

**SEARCHES** - the string to be searched for

## ARRAYS

**PROG\_PT** - the seven program pointers, memory locations 100 to 106

**VAR\_PT** - the pointers to where each variable name starts in VARS. The last pointer, MAX VAR + 1, points to the end of the name

**VAR\_VAL** - the values in the variable value table that correspond to each variable type.

## COMMANDS

**CTRL -** just pressing return advances you to the next variable

**%** - advances you one variable

## PRESENTATION TRICKS

### Making it look better

**I**t is the summer the deadline for copy for the magazine writes to come upon me every faster than at other times. You would think that two months between editions of the magazine would be plenty of time to have an article prepared, but I always end up getting it all together at the last minute. This time I have a trio of little subroutines which may be useful to you. They have all been the result of enquiries which have been sent to me by readers who have had problems, and in each case I have written a short self-contained program to illustrate the point. They are all about quite different details of basic programming.

### CENTRE TEXT

This subroutine illustrates a bit of string handling. It is designed to take any string up to 57 characters long and centre it on the screen. I have chosen 57 as the normal width of a line in *CompuLink* is 58 characters, but if you print a 58 character string on a line it automatically causes a line space when the cursor drops to the next line, so 57 is a convenient maximum. If you want the left margin to vary by `POKE 92,08` the line becomes 48 characters long and your string can be 39 characters. Conversely if you are in a different graphics mode you may only have 38 characters on a line and you will have to adjust the maximum string length to 38. If you follow the description of the example program it should not be too difficult to tailor it to your own needs.

**Line 20** dimension the three strings we are going to use, then sets the variable `count` equal to 100 (the line number of the starting subroutines) and makes `BLANK$` equal to a string of 27 spaces.

**Lines 30,40 and 50** make `NAME$` equal to bars to the first and second line of a two line instruction and then takes a keyboard input. Each time the centre subroutine is called to centre it up and display it on screen.

**Line 60** loops back to line 20 to repeat the process.

The centre subroutine starts at line 100 by clearing `LINE$`.

**Line 110** gets the length of the string `NAME$` and if it is longer than 37 characters changes it to a new instruction line "57 CHARACTERS MAXIMUM PLEASE" which is 36 characters long, so `N` is just equal to 30.

**Line 120** checks to see if the string length is even or odd. If it is even the program jumps to line 140, otherwise an extra blank character is added to the string in line 130. `LINE$` is 37 characters long so the middle character is the 19th.

**Line 140** inserts the characters of `NAME$` evenly spaced before and after character 19 of `LINE$`, then line 150 prints the result on screen.

### BOTTOM LINE

It is sometimes useful to have an instruction line, comment line or title line across the bottom of the screen when something else is being displayed above. But the screen has a nasty habit of scrolling up when the bottom line is complete and this is a nuisance as part of the display is lost off the top. There are one or two things to remember.

First, if a `PRINT` for `N` command is followed by a semi-colon the cursor will rest at the end of the printed line for the next `PRINT` command rather than dropping down and starting a new line. Second, even if you do put a semi-colon after the `PRINT` command, if the line is full of text the cursor will move to the next line and if you are on the last line of the screen everything will scroll up one line.

Third, although the cursor can be switched off by `POKE 752,1` (`POKE 752,0` turns it on again) it is still present in an invisible form, so even when the cursor is inhibited space at the end of the bottom line must be left for it.

The listing merely shows the two cases. First, without the semi-colon, the bottom line moves up. Then, when the semi-colon is added it stays in place at the bottom of the screen.

### ROUNDING DOLLARS AND CENTS (OR POUNDS AND PENCE)

In the last *New Atari User* Amy O'Hara wrote about the `INT` (Integer) function (amongst other numeric functions). `INT` rounds any number down to the nearest whole number by stripping off everything after the decimal point. That is fine if you always want to round to a whole number, and if you always want to round down. But what about money?

Just as the penny is one hundredth of a pound and the cent one hundredth of a dollar, many currencies deal in hundredths of the main money unit. When this is printed there are two digits after the decimal point. It is also quite common to



```

00 1 000 *****
01 0 000 *          NATIONAL BROADCASTERS *
02 0 000 *          ADVERTISING BOARD *
03 0 000 *          SA *
04 0 000 *          Ian Finlayson *
05 0 000 *          *****
06 0 000 *          *****
07 00 000 *****
08 00 000 *****
09 00 000 *****
10 00 000 *****
11 00 000 *****
12 00 000 *****
13 00 000 *****
14 00 000 *****
15 00 000 *****
16 00 000 *****
17 00 000 *****
18 00 000 *****
19 00 000 *****
20 00 000 *****
21 00 000 *****
22 00 000 *****
23 00 000 *****
24 00 000 *****
25 00 000 *****
26 00 000 *****
27 00 000 *****
28 00 000 *****
29 00 000 *****
30 00 000 *****

```

Above - the routine for centring text on screen

Bottom right - using the bottom line without making the screen jump

Top right - rounding currency to the correct two decimal points

```

00 1 000 *****
01 0 000 *          NATIONAL BROADCASTERS *
02 0 000 *          ADVERTISING BOARD *
03 0 000 *          SA *
04 0 000 *          Ian Finlayson *
05 0 000 *          *****
06 0 000 *          *****
07 00 000 *****
08 00 000 *****
09 00 000 *****
10 00 000 *****
11 00 000 *****
12 00 000 *****
13 00 000 *****
14 00 000 *****
15 00 000 *****
16 00 000 *****
17 00 000 *****
18 00 000 *****
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24 00 000 *****
25 00 000 *****
26 00 000 *****
27 00 000 *****
28 00 000 *****
29 00 000 *****
30 00 000 *****

```

```

00 1 000 *****
01 0 000 *          NATIONAL BROADCASTERS *
02 0 000 *          ADVERTISING BOARD *
03 0 000 *          SA *
04 0 000 *          Ian Finlayson *
05 0 000 *          *****
06 0 000 *          *****
07 00 000 *****
08 00 000 *****
09 00 000 *****
10 00 000 *****
11 00 000 *****
12 00 000 *****
13 00 000 *****
14 00 000 *****
15 00 000 *****
16 00 000 *****
17 00 000 *****
18 00 000 *****
19 00 000 *****
20 00 000 *****
21 00 000 *****
22 00 000 *****
23 00 000 *****
24 00 000 *****
25 00 000 *****
26 00 000 *****
27 00 000 *****
28 00 000 *****
29 00 000 *****
30 00 000 *****

```

round to the nearest whole number rather than always rounding down. We have seen how to achieve these things in Basic?

To round to the nearest whole number instead of rounding down all we have to do is cheat a little. First the original number up by just a bit less than 0.5 and the result is that all decimal parts of a unit up to and including 0.5 will be rounded down and anything greater will be rounded up. Use 0.499999999999999999 as many zeros as you need to improve accuracy and then apply the INT function to remove the unwanted bits. This is what happens:

```

0.5+0.499999999999999999=0.999999999999999999
0.5+0.499999999999999999=1.000000000000000000

```

But this is still rounding to the nearest whole number - what about the penny in control. Again we have to apply a little mathematical trickery. First multiply by 100 - this turns the pence into whole numbers. Then take the INT - this rounds off anything less than whole pence. Finally divide the result by 100 to get the pence back behind the decimal place.

The above listing shows all this in a small example. First it does a simple interest calculation with two preset values and rounds the result. Then it asks you to input a capital sum and interest rate and calculates the interest.

If you progress in Basic and want help please write describing your problem in as much detail as possible. Send an example on disk or tape if you can and a stamped envelope for a reply and I will try to help. My address is:

Ian Finlayson, 60 Roundstone Crescent,  
East Preston, West Sussex, BN16 1DQ

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# CIRCLING AROUND

**W**hile Atari Basic doesn't have any **CIRCLE** command, we can draw circles quite easily using the **SIN** and **COS** functions. This article sets out to explain what these commands - plus the Atari's other trigonometric functions - are all about.

## SOME DEFINITIONS

Starting with the basics, the circle shown in the diagram has a radius (distance from center to edge) of 1 unit. The two lines which meet in the center are called the axes. The horizontal line is the X axis and the vertical line is the Y axis. We find the circumference (distance around the edge) of a circle by multiplying the diameter (width) by a fixed number called  $\pi$  (pronounced 'pie'). This means that our circle has a circumference of  $2\pi$ . For the moment we can take it that  $\pi=3.14159$  or 3.14 approximately; we'll see later how we can use the computer to work out its exact value.

## SIN and COS

**SIN** and **COS** are functions which measure what happens when a point moves around the circumference of a circle. We start from the '5 o'clock' position (a' on the diagram) and move in an anti-clockwise direction. **COS** (the 'cosine') measurements have far to the right of the Y axis the point is and **SIN** (the 'sine') measurements have far to the above the X axis. The measuring is done by reference to the angle the point makes with the center of the circle. For instance, when the point is at 'P' on the diagram it forms a triangle which makes an angle 'A' with the center. In our circle with its radius of 1 unit, the size of angle A - **SIN(A)** - is defined as being equal to the length of line B and the cosine of angle A - **COS(A)** - is defined as being equal to the length of line C. Of course, if we change the radius then these measurements, which depend on the length of the radius, will change too. For instance, if the radius was halved, then the sine and cosine lengths would have to be divided to bring them to whole units. Similarly, if we say the radius is equal to 2 units then the sine and cosine lengths would have to be halved to express them in terms of single units. In general, to enable us to cope with a radius of any length, we define **SIN(A)** as being equal to **SIN(A)/R** and **COS(A)** as being equal to **COS(A)/R** where R and C are the lengths of the lines and R is the length of the radius.

*Ann O'Driscoll explains some of the mysteries of the maths commands built in to Atari Basic*

## MEASURING SYSTEMS

Looking again at the diagram, when the imaginary point has moved a quarter way around the circumference the distance travelled is  $\pi/2$  (point B), half way is  $\pi$  (point c), three quarters is  $3\pi/2$  (point d) and a full turn is  $2\pi$ , one circumference. This measurement system, which looks at distance travelled via a via circumference length, is called the **RADIANS** system. We can also use the **DEGREE** system. For instance, the point moves through 90 degrees from a to b, 180 degrees from a to c, 270 degrees from a to d and 360 degrees in a complete turn. The Atari normally uses the **DEGREE** system. The command **RND** sets its measurement in degrees instead and the **RND** command returns it to radians. The conversion can also be done manually, as  $1\pi$  radians = 360 degrees.

## OTHER FUNCTIONS

The **TAN** of an angle (short for 'tangent') is defined as being equal to its sine divided by its cosine. Together, **SIN**, **COS** and **TAN** are called the trigonometric functions. These inverses are called **ARC SINE**, **ARC COSINE** and **ARC TANGENT**. These tell us the values that have given rise to a particular sine, cosine and tangent. For instance, the size of 30 degrees for  $\pi/6$  radians is 0.5 so the arc sine of 0.5 is 30 degrees. The Atari has a function which returns the arctangent of a number, called **ATN**. This is fairly useful, as it enables us to work out a value for  $\pi$ . Going back to the circle in the diagram, when our point forms an angle of 45 degrees with the center the tangent (i.e. **SIN(COS)**) is 1 because the lengths of C and S are the same at this point. It follows that **ATN(1)=45** degrees. Since 45 degrees =  $\pi/4$  radians,  $\pi=4*ATN(1)$ .

## THE PROGRAM

The first part of the listing uses the trigonometric functions to draw a circle on a Graphics 7 screen. Line 100 sets the co-ordinates for the circle's centre (X and Y), determines the radius length (R) and puts the computer into-degree mode. The drawing routine works like this: The co-ordinates of point P on the diagram are X=C, Y=B where X and Y are the centre of the circle,  $\text{COS}(A)=C/R$  so  $C=R*\text{COS}(A)$ . Similarly,  $\text{SIN}(A)=B/R$  so  $B=R*\text{SIN}(A)$ . We can thus rewrite the co-ordinates of P as  $P=X+R*\text{COS}(A), Y=Y+R*\text{SIN}(A)$ . The FOR NEXT loop simply plots the points associated with successively increasing values for angle A, starting with 0 and going right around to 360 degrees. Incidentally, the circle is plotted in a clockwise, rather than an anti-clockwise, direction because the screen's x or "y" values increase as you move from top to bottom. This differs from the normal Y axis convention shown in the diagram, where points above the centre are greater than those below.

In this circle, the size of the step in line 130 determines the number of angles to be plotted. Lowering the step value will plot more points and reduce the space between them to get a smoother line. Another way would be to plot an initial point on the edge and then use the DRAWTO command to join up the points around the circumference. The second part of the listing uses this method to draw an ellipse, which is just a circle which has been pulled out along the X or Y axis into some sort of ripple shape. Line 200 plots the starting point and then the FOR NEXT loop draws in successive points around the edge, using the same principles as before. This time however,  $\text{COS}(A)$  is multiplied by a constant to elongate the circle along the X axis.

The final bit of the listing draws a sine wave at the end of the screen. This shows the sine values for different angles in the 0 to 360 degree (36°) range. As line 300 instructs the computer to calculate in radians, the ATN function is used here to define a value for PI. The "troughs" in the wave reflect negative values for  $\text{SIN}(A)$ . As sine measures how far above the X axis a point is, its value will be negative for points below the X axis ("y" to "x" on the diagram). A  $\text{COS}(90)$  graph would show troughs for the same reason. Cosine measures distance to the right of the Y axis so  $\text{COS}$  is less than 0 in the "x" to "y" axis of the diagram.

## ADAPTING THE PROGRAM

We have already seen from the listing how the basic circle can be altered considerably just by multiplying  $\text{COS}(A)$  by a constant to elongate along the X axis. Some other changes you might like to try are:

- Multiply  $\text{SIN}(A)$  by a constant to elongate along the Y axis.
- Change the value of the constants in the ellipses to get a different amount of stretch or spread.
- Add constants to the Sin or Cos calculations for shifting effects.
- Vary the value of the radius, sine-co-ordinates with FOR NEXT loops to create concentric circles or a series of rings.
- Change the step value to alter the smoothness of the circuit traces.

```

00 1 REM *****CIRCLE*****
01 1 REM R  =RADIUS(1000)  FREQ(100)  A
02 1 REM R  =R          A          A
03 1 REM R  =          A          A
04 1 REM R  =          A          A
05 1 REM R  =          A          A
06 1 REM R  =          A          A
07 1 REM *****
08 1 REM
09 100 REM *****CIRCLE*****
10 120 GRAPHICS FREQ(1000):PIE(100)
11 125 FREQ 1
12 130 FOR A=0 TO 360 STEP 1
13 140 PLOT (R*COS(A),Y+R*SIN(A))
14 150 NEXT A
15 200 REM *****ELLIPSE*****
16 210 R=1000:PIE(100)
17 215 FREQ 1
18 220 PLOT 0,0
19 230 FOR A=0 TO 360 STEP 10
20 240 GOTO (R*COS(A)*2,Y+R*SIN(A))
21 250 NEXT A
22 300 REM *****SINE*****
23 310 REM (PI/4)RADIANS
24 320 COS(0)
25 330 PLOT 0,0
26 340 FOR A=0 TO 360 STEP 0.5
27 350 GOTO (A*PI/180),COS(A)
28 360 NEXT A

```

- Draw arcs (parts of circles) by altering the FOR NEXT value. For instance, you could use "FOR A=0 TO 180" for a semi circle, where "X" is the angle.

The sine wave shape can be altered easily too. This one multiplies both W and  $\text{SIN}(A)$  by 2. If you multiply  $\text{SIN}(A)$  by a bigger number you will increase the amplitude (height) of the crests and depth of the troughs of the waves. Multiplying W by a different number will change the frequency (length) of a wave cycle. You could also change the number of cycles in the loop - each cycle is 360 degrees or 36° long.

Overall, you could learn a lot about SIN, COS and so on just by experimenting with the simple program supplied here, so why not give it a try?



# GOOD NEWS!

**B**efore we all get too depressed over detecting Atari support in the UK, we shouldn't overlook those enthusiasts overseas who are striving to keep the 8-bit machine alive. Ronald Rixon is one such dedicated user who operates a company called Ke-Sell from Germany, publishing disk-based games and applications and selling all manner of established hardware and software products - from RAM enhancements to text adventures.

Ke-Sell was formed several years ago, primarily to fill a gap in the market for budget priced disk software. With a favourable response from German Atari owners, the company decided to launch a disk-based magazine called Zong. The subsequent success of these activities prompted Ke-Sell's first full priced game release (Zong - reviewed in issue 52) and the transition of Zong into a small printed magazine. The magazine has since developed month by month into its present 'professional' format, with proper DTP layout and an accompanying program disk.

A browse through the May 1990 edition of Zong reveals 36 pages of information exclusively for the Atari users. There are three pages of news and comments, detailed reviews of books, arcade games and adventures plus tips and cheats for popular titles. There are 'regular' features on topics such as PD software, adventure programming, graphics, assemblies and sound effects. To round off there's a section of type in progress listings (mostly Turbo Basic) which are also printed ready-to-run on the supplementary disk. Here we find a programmer's text editor, graphics demos illustrating points in the magazine article, a couple of games, an art utility and a financial interface from none other than Richard Claydonian himself. In the usual program-disk tradition there are also two bonus files - a text adventure and a demo version of one of Ke-Sell's commercial products. Not content with their already high standards of presentation, Ke-Sell anticipate further improvements in Zong with the recent purchase of a high-res DTP set up.

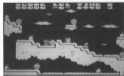
## SPRACHEN ZE ZONG?

I should mention the only, er, minor drawback for British Atariists is that Zong is aimed primarily at German readers and therefore requires a proficient knowledge of the German language! If you always wanted to learn but could never quite find the motivation, this could be the ideal catalyst. Incidentally, full details of all Ke-Sell's merchandise - including many British and American games which are now virtually impossible to find over here - are contained in their free 84 page catalogue. Ke-Sell explain and illustrate all the items available in great detail - in German of course! If you just want to order some games though, you'll have no problem recognizing the titles listed. Who knows, if there's a reasonable response from British users perhaps Ronald can be persuaded to publish an English translation of the literature. Unlike the magazine and catalogue, Ke-Sell's latest software releases are supplied with English text and therefore entail no problems of interpretation.

**No, it's not a new bible class, Paul Rixon has discovered some brand new XL/XE software from Germany!**

## DONALD

First up, **DONALD** is a platform game competing ten warring in each of the alternative action genres. Billy screws in all the player's task is to guide Donald the Duck, naturally in his quest to gather the famous golden eggs which are deposited at the hazardous locations. Setting off through the Amazon jungle Donald finds a secret passage and stumbles upon an Inka city. Deadly spiders, snakes and other pitifully nasties are definitely best avoided. In downtown Transylvania Donald explores Dracula's castle and discovers bats, ghosts and other frightening adversaries. Fortunately there are some conveniently placed holy crosses here, whilst magical mirrors transport Donald to other parts of the realm. Over in the hot African zones Donald has to watch out for snakes, spiders and falling rocks. Diamond rings keep him happy and certain temporary bridges uncover routes leading to valuable goodies. It suddenly becomes rather chilly with a trip through the

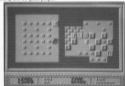


Hemlock has had the role in the front of Donald's worries as he chases the treehopper, peeks and descends into deep and dingy caverns. Stormstorms, tremors and cold water await his arrival - and waxy surfaces aren't as solid as they look! Finally Donald lands on the floor and finally enters an after world. Miss monsters and boiling water are his foes now, but the green cheese seems to go down well.

You can tackle the strange worlds in any order you choose, with the exception of the Misses which has to come last. Just perfect jumping is required to negotiate the monsters and retrieve the missing eggs, and this may prove a little frustrating if your joystick diagonals are showing signs of fatigue! At least there are three settings of difficulty and precision for input via the Atari CX-80 numeric keypad, which you can purchase from Ke-Sell. The game kicks off with some cheerful music and the graphics are generally good, with plenty of variety over the five stages.

## SAPER

Ke-Sell are well known for devising ingenious puzzles and **SAPER** is another superb addition to the existing range. It begins with a superb sound and graphics theme - booming spheres, an original tune and a joystick controllable scrolling instruction box. The printed notes are not over-bright as you'd be wise to study the on-screen information before launching into the game proper.



As ever, it all seems pretty simple. All you have to do is prime and explode the bombs on each level and ensure your little green character can make it back to the exit point. A bomb is activated by pushing the trigger when you're standing over it, so you have to make a rapid getaway before it explodes and tanks up the immediately surrounding area. Any adjacent bombs are also detonated, so it's essential that you protect the companions before you act. As well as keeping clear of the boundary markers there are one or two other considerations to bear in mind. Some blocks can be pushed around to your advantage, a teleporter sometimes provides the only means of escape and stealthy hazards will spread if you don't take preventative action. The addictive nature of the challenge will probably keep you occupied for long.

The graphics, particularly the continuously scrolling level periodically changing landscapes, are highly commendable. The only thing missing is a password system, as it's generally rather annoying when you run out of lives and are forced to restart from the first level. Overall, I'd give Ke-Sell nine and three quarters out of ten for this one!

## TAC-TIC

**TAC-TIC** is a conversion of a popular arcade puzzle theme which has previously appeared on all the major micros. On this occasion your joystick commands master criminal Bobby who, for some reason or another, has decided that he needs to get three valuable items together in a row. These items (pearls, diamonds etc.) can be pushed around the floor from behind but stop moving when they hit a wall or other object.

While you ponder over a suitable route to enable the completion of this task, you're got to watch out for the hoodlum the monster, who would love to see you hit his monster store. If you push an object into his path, you instantly are hit for a short while but he soon reappears from the Monster's club (well, he would wouldn't he?). There are various special features to keep you amused, such as anti-guard dynamics, health of extra points and bonus levels.

Once again the extensive characteristics of Ke-Sell's output are clearly evident. Excellent entry music, cleverly engineered music and a well-designed title screen with lightshow facilities and on screen instructions, give the general impression that the author has spared no effort to utilize the Atari's capabilities. As it is answer to my previous comments, there's even a password system with a code revealed after every tenth level. Tactic is another addictive game that chokes as a brilliant demonstration of the graphic and sonic power of the Atari.



## OUTSTANDING SOFTWARE

And there we have it. By now you can be in no doubt that Ke-Sell are producing some really outstanding software. I, and only I, have to adequately inform from Atari owners, there's no reason why Ke-Sell shouldn't continue creating new games for the foreseeable future. All future releases are initially aimed at the German audience, but will duly be converted for English consumption - subject to demand. To what your appetite, the next game due is a conversion of the unapologetically brilliant and unforgettably addictive Jet Lemmings, called Brandoles, and it sounds like it could be a winner! Good news for more software users is that Ke-Sell are buying the copyright for Atari Software's Hyperspace, First Silent Word Processor, Page Designer, Print Shop Interface and Maggnet. Dr. Be-Commander, a DOS utility similar to Norton Commander for PC machines, is also planned for release. We'll keep you posted on any other developments.

## WHERE TO GET THEM

Ke-Sell games can be ordered directly from Bernd Evers, Performance 84, W-6407 Mainz 4, Germany. The disks mentioned above are priced at 45 each and are supplied with English instructions and an authorized warranty. Further details are available from Ke-Sell. Check their advertisement in Issue 26 of New Atari User.

# FRUSTRATIONS!

**T**he word "computer" has a synonym: "frustration". These two words can be used interchangeably. The same as "politician" and "liar".

I made this monumental discovery after I had been writing an article. I had written about 2,000 words when I got an inspiration for another story, and decided to start writing it immediately. After all, this was why I was using a word processor rather than a typewriter. I pushed the keys to delete the screen I was working on, and the computer quite correctly asked me if I was sure I wanted to delete this. Of course I was, or I wouldn't have asked the miserable machine to do it in the first place. It was exactly one second after I pushed the return key to delete my beautiful words that I thought, "Did I want to do this?" We all know the answer: "Of course not, you beautiful fool of a brain-rotted idiot!" Actually, the words I used were considerably more colorful than that, but this publication has standards which I unfortunately lack.

**H**ow many times has your computer locked up? Has the same effect on deleting files because you have to reboot to continue. And we all know that we have NOT saved the file to disk as in the previous example, so we're back at square one again - all of our work has been sent to Altos, happily co-existing with the Wild Hatter down in Westerland.

This has been the story of my life with a computer - one of almost total failure. I feel like I have all the intelligence of a henley guide who habitually flips without a helmet. He will eventually look down to find his brain lying on the ice like a drunken parakeet. Unfortunately, I'm a writer, so it would be an especially painful parakeet!

**I** recently purchased an art/graphics program which the review said was supposed to be the ultimate in this line for \$249.95. I eagerly went home, booted it up, and waited for the program to turn me into Michelangelo. It turns out that the computer and program combined couldn't draw as much as a straight line. I was expected to read the docs, manipulate the computer and then draw something. The problem here lies in the fact that even with a pencil I can only draw stick figures. The computer in no way was going to turn me into an accomplished painter through some arcane process. It seems I would have had to practice for months before I would have any progress in art at all. I could have spent that time with a pencil for under a dollar. Instead of the obscene amount I paid for the computer and program, I would have ended up in the same place but with the money in my pocket, instead of in the computer salesman's greedy little hands.

**A**nother problem with computers is that every time you pay for a component, that action automatically triggers a price cut of at least seventy-five percent on any new work after the salesman pats the hard-earned money out of your grasping hands. You have to remind yourself that the fact an electronic item is offered for sale in stores means it is outdated. Actually, they are already man-

**Gordon F. Hooper**  
dares to express what  
we all know is true!

ufacturing the next generation of the item before it even arrives in the store for sale. You are always one step behind the manufacturer so that he can quickly you buy the item when it's first offered for sale. Trying to play catch up with electronic items is as futile as trying to build a pig out of pork chops.

Even when you quit working on your computer and start playing games, the level of frustration doesn't diminish. Have you ever played a shoot-em-up arcade game and advanced to the highest level? I thought not. How about a text adventure game? The only conclusion I reach to those games is that I must have been doing all my life because after I've used up "Go north, south, east or west", I'm finished.

**A**nother way to drive yourself to distraction is to try to include one component of your hardware and it keep to ensure it, whether it be for repair or to eliminate noise at a user's group meeting. The sad's most of users behind your desk which is required to operate the computer and its peripherals is enough to send you balling to the local establishment which serves to maintain those individuals whose sense of reality tends to require extensive dosing of the brain.

**M**odels have the capability of setting up their own particular forms of Hell. Terminal programs have various items that you have to set for each individual IBM that you wish to use. Things like parity, translation, duplex and baud rate all must be settable or you might as well switch to collecting dinner plates as a hobby for all the enjoyment you'll get out of IBM's. You'll never learn not to enter into "vital" mode with the Synopsis of Long Distance boards or you'll get phone bills that would make the limit of an electric Acela state gulp a couple of times. A computer on IBM's should also be warned about leaving nasty messages to other people on message bases while talking behind a parakeet. However or later the spring of the board will tell the other people who you are, and there you will be looking over your shoulder every time you go to sleep.

Looking at the overall picture, computers are marvelous machines which make life much easier in many ways. People who purchase one and expect everything to be a bed of roses, however, tend to be those who really believe that the cheapest is the best and Dorothy really met the W. O.



# COME AND SEE US!

It's time to begin thinking about the Alternative Micro Show again, even though it's still far away! As a preliminary we shall be at the All Formats Fair at the Motorcycle Museum in Birmingham where we may well have a goodly number of odds and ends to clear following our move. Who knows what will turn up in all these dark corners! We hope to see you at the following events:

## ALL FORMATS FAIR

National Motorcycle  
Museum - Birmingham

K3ff Junction 6 on the M42

**SATURDAY**  
**SEPTEMBER 5th**

10am - 4pm

See us in Hall C Stands 34/5  
Only notification - mark your diaries now!

## ALTERNATIVE MICRO SHOW

Bingley Hall  
Stafford

**SATURDAY**  
**NOVEMBER 14th**

10am - 4pm

LOTS OF USUAL 8-BIT AND 16-BIT SUPPORT  
See further advertisement next issue

**WE LOOK FORWARD TO SEEING YOU THERE!**

# THE XL/XE REGISTER

Many Atari owners have found it difficult to find copies of *New Atari User* due to several newspapers being reluctant to stock the magazine now that it is on 'firm sale'. A lot of owners believe their newspaper when they are told that we are no longer publishing. To combat these problems we are setting up a register of readers who do not subscribe to the magazine so that we can, once in while, mail them with details of our current activities and perhaps special offers from the world of Atari. If you do not subscribe, please take time to send us your name and address for inclusion on the register.

Please note my interest in the Atari XL/XE. I do not currently subscribe to *New Atari User*.

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You may photocopy this coupon or simply copy the wording onto your own notepaper. Address only (not telephone) and ask to be included on the register. There is no obligation for you to provide us anything, we simply wish to note your interest so that we can keep you informed from time to time of what is happening with *New Atari User* and the Atari world in general.

**IF YOU STILL WANT SUPPORT FOR YOUR ATARI THEN IT IS IN YOUR OWN INTEREST TO LET US KNOW - IF YOU DON'T REGISTER THEN SUPPORT FOR YOUR MACHINE WILL GRADUALLY FADE AWAY**



# TRANSDISK IV

## FILE MANAGEMENT, SOME PROBLEMS AND SOLUTIONS

**TRANSDISK IV** is without doubt THE tape to disk utility. With a little effort and a bit of patience you can have your favourite programs transferred from tape to disk - great! But sooner or later you may decide that you want to reorganise the games you have saved and the time comes for a little file manipulating. This is not too much of a problem as long as you are still using the same Atari set-up. You just use DOS 2.0 as indicated in the manual (although the manual I received says back in 1987 was a little vague on the subject). Don't use DOS 2.0 DT explains why later.

But what if you have changed your system since you last installed your Transdisk files or your 1300E has up-and-died on you and you have to revert to your trusty old 8000L? You run into problems that's what!

So, what follows is a rough guide to the pitfalls of TRANSDISK IV. The information will be of most use to newcomers to the wonderful world of disk drives and things.

### THE INITIAL PROBLEM

TRANSDISK IV automatically formats which kind of computer and which kind of drive you are using and will format your disk accordingly i.e. if you have an old 510 disk drive it will format in single density. If you have a standard 1050 disk drive, it will format in enhanced density and if you have a modified disk drive capable of double density, then it will format in double density. You have no choice in the matter and hence lies the root of the problem, incompatibility between systems develops. This is a great pity, for if a choice had been available then you could choose which density and which menu you wanted in order to suit a particular system (your kid's, dad's, neighbor's etc.).

If you are encountering problems, the following information may be of some use. It's just readable on with a few do's and don'ts and you can pick out the ones relevant to your system or systems.

First of all TRANSDISK IV files will ONLY run on disks initialized with TRANSDISK IV i.e. a TRANSDISK IV menu disk. You MUST initialize a disk and write a menu using TRANSDISK IV. It is not possible to format a disk using DOS and transfer any of the MENU.SYS files using DOS.

A TRANSDISK IV file is NOT a normal binary file - it is a special binary file peculiar to Transdisk IV. Therefore it won't run on normal binary load menus or from DOS option 1.

The next thing to remember is keep you on the balls, ie to match screens when transferring files i.e. if you receive files as an XTME:SYS disk, then transfer them to an XTME:SYS disk not an XTMENU:SYS disk and remember to use the .COM extension.

As far as I know, the 1300E cannot do but run on 8000Ls, this helps (its transferred from tape to disk on a 1300E may not run on an 8000L - Modified to see that I know it). So if all your disks were done to suit your 1300E and your 1300E dies, then you will have to take out your old 8000L (or for your friends as well) and initialize disks to suit the 8000L, then transfer your files (more about file transfer later).

### DISK DRIVES AND DISK SPACE

510 disk drive owners can only read disks that were initialized on an 800 disk drive (the 510 can't read a 1050 or double density initialized disk). Standard 1050 disk drive owners can read disks that have been initialized in single or enhanced (1050 density but cannot read double density disks). A little anomaly with the 1050 initialization exists, as described below:

When TRANSDISK IV formats a disk in 1050 (enhanced) density it writes the MENU.SYS file in sectors 000-1000. When you transfer tapes to disk, Transdisk will use up all the available disk space of an enhanced density disk i.e. from sector 4 to sector 510, excluding sectors 300-300 (directory). I think this is done with a custom C-B (operating system) and therefore a newly formatted disk shows 007 free sectors. When you transfer files via DOS 2.0 sectors 70-1 around become unavailable in single density disk has a maximum of 790 sectors. The reason for not using DOS 2.0 is that DOS 2.0 uses sector 1004 as part of the VTDC table and if you transfer files using DOS 2.0, sector 1004 is over-written, thus destroying one sector of the MENU.SYS file. Rather confusing isn't it?

### A LITTLE DISK INFO

The 8000L.XT and XTMENU.SYS files occupy the following sectors if don't seem about the 1300E I haven't got one!

DENSITY	START SECTOR	END SECTOR	NO OF SECS	FREE
510L1	1	531	00	80
1050E10	00	1000	00	70*
1050E2	1	01	04	04*

### IN CONCLUSION

If you are using an 800 on a standard 1050 disk drive, use DOS 2.0 to transfer files. If you are using a double density disk drive, you can use SuperDOS or Mydos 4.0. There may be other DOS's that will work, but avoid any that can handle enhanced density as they will surely destroy the information held in sector 1004 of an enhanced density disk (nearly part of the MENU.SYS file).

The above information was found out the hard way, over years of using TRANSDISK IV but I would have no hesitation in recommending TRANSDISK IV to anyone who needs such a utility.

\*With it's time to go, I hope that someone out there in Atari-land finds something of interest in this article. A quick tip to John Penning, who related my aim to write this article.

If anyone has any comments, I can be reached at -

**BILL JACKSON, GR, BARTON STREET,  
BUCKHAVEN, LEVEN, FIFE, SCOTLAND KY16 1EP**

# DOUBLE CHEESE please, NOLAN

One of the good things about working in the computer industry is the amount of free literature that arrives on your desk. The bad thing is that, since you have spent a lot of time to read through it all, you find that there was little, if anything, of interest. There is a whole though a little gem of an article appears.

One of these was an article by Tracy Iaceli concerning an interview with Nolan Bushnell. Nolan what? Surely you cannot forget the guy who started all this? He was the person who invented the first video arcade computer game in 1972. We know it as Pong but the Americans called it Frog. He went on to set up Atari and sold 1,800,000 copies of the coin-operated game and almost two million copies of a home TV version in the first year. All this long before Square breakers turned on into computer gaming addicts! Four years later Atari was sold for \$60 million (\$10.6 million).

So, whatever happened to Nolan? He retired from business for a year but still had the entrepreneurial urge to start again. This he did with 'Chuck E Cheese', a pizza restaurant. Seven years and 280 restaurants later (with an annual turnover of \$1 million) Nolan was getting tired of looking at business accounts all day. In 1984 he sold the chain to the US Brick Food Group for an undisclosed sum.

In 1981 he founded Catalyst Technologies. Since Atari he has founded 14 companies and sold shares in all but 5. His one (regret) was the mistake of selling Atari. He believes that Atari would eventually have become a strategy competitor than Apple or IBM if the company had transferred its games technology to the business PC. He is at present setting up a company called Cetus to make networking PC's easier.

One last point. Pong was not his first computer game but the second he invented. The first was a game called Computer Space, a game with flying saucers and rocket ships. It sold only 125 copies even though Bushnell states, 'It was a better game than Pong, but it was marketed badly'. How much would you like to see Atari as Antiques Roadshow today?

**A**s I write this article the last one to still be in the hands of the Editor so I have no answers to the questions I asked. Maybe next time. I would be very interested in a survey of readers, listing such things as how well they own programs, are the manuals ever used, what levels of programming would be interesting, etc. I think it would be nice if a survey was carried out and most of an issue used to look at what our Atari's are used for. Surely we could do without a games listing, just for once, to find out what our fellow Atari

*Did you know that the guy who invented the Atari became a multi-millionaire with a chain of pizza restaurants but regrets ever selling Atari?*

owners are up to, what they think and what they would like? I believe it would be interesting to note the changing trends, if any, over the past few years. Only one thing would stop this being a success. **WOLF** Would you take the time, would you make the effort not only to complete the survey, but also to send it in to the magazine? Why not? Your opinion is as important as anyone's, isn't it?

**O**ne of the nicest tasks about writing a column of this nature is to find out something to write about. I try to gauge the article to be 1000 words. Believe me, this can really be a struggle. It can be very easy to write an article of around a couple of hundred words. Anyone could do that, even you, the reader. Surely you must have some interesting notes that could be passed on to other readers? A bit of gossip, history, a small program, news or anything else of interest to your fellow Atari owners. Really, it is not all that difficult, and think how interesting a page of such articles could be.

Why do I mention this? Well, as I told you in a previous article, I produce a local magazine for CAMSRA members. It is one thing to write articles as part of a group, such as Atari USER, but it is harder to be the Editor of a publication and write all the articles without knowing how the readers feel about those articles. I am always asking for feedback either on articles or on comments but receive little from my readers. Editors work long, hard hours to produce their magazine and a little help in the way of articles is really appreciated.

Well, that's another one stored on the disk, but what to write about be next issue? Tell them, enjoy your computing.

**Mark Hutchinson**

# THE ACCESSORY SHOP

## ISSUE 57

### NEW CLASSICS

This issue we are pleased to be able to offer some of the all time classics for the Atari, many of which have been unavailable for some time. If you are a new owner you will be extended by the quality of some of these games and if you run an old hand your collection is not complete without these games. Either way, there has never before been the opportunity to sample the very best of Atari classic software at such low prices

#### STILL AVAILABLE

TWO POPULAR ROMS BACK IN STOCK  
**RIVER RAID - ONLY £3.95**  
**KABOOM! - ONLY £2.95**

See previous issues for full descriptions of these great games

#### NEW!

### TRIVIAL PURSUIT



The classic board game translated to the Atari with added question power. Now you can answer questions presented with steady eye graphics as well as straight text. An ideal family game or one you can play on your own. Over 3,000 questions and all the mechanics of the game taken care of by the computer. Trivia has never been so much fun and has never been available before at this price!

Originally £14.95  
**OUR PRICE £4.95**

DISK ONLY

### SUPER HUEY

#### NEW!



A real helicopter simulation with the added excitement of enemy and combat missions to undertake. Learn the techniques of flying and handling a helicopter with the instruments. Then take on the challenge of crossing crowded military grounds. By over and stop you have to territory on one route and possible gain to defend a river from constant missiles from attack by hostile forces. One of the few helicopter sim for the Atari.

**OUR PRICE £4.95**

DISK ONLY

#### NEW!

### CRUMBLE'S CRISIS



Crumble's Crisis was one of the characters that found a unique place in the hearts of many Atari addicts. This truly English creation will warm your heart too as he reaches around trying to round up the Puddles who have disappeared from the latter garden for ever. Can you find and return the Puddles throughout all the levels of this game? Or would it's not easy?

Originally £9.95  
**OUR PRICE £2.95**

DISK ONLY

### ENCOUNTER

#### NEW!



Three-dimensional high speed action in this classic that has been hard to find for some time. Based on Battleship this fine arcade game was the first to have true 3-D and it outshined most other games before and since. Experience one of the best games of all time now before it is too late!

**OUR PRICE £2.95**

CASSETTE ONLY

## CLASSIC CASSETTES

### BOULDERDASH



If you had to name just a handful of Atari classics, Boulderdash would surely be among them. The original game of collecting jewels while avoiding falling boulders still has the appeal it had when first released. Usable programming gives complete and a lovely character screen that Boulderdash will live on forever. You must have it in your collection!

**OUR PRICE just £1.95!**

### BOULDERDASH II



A sequel for fans of the original Boulderdash and the perfect introduction to Boulder's underground world for those yet to experience the magic. It all now comes in an action strategy game for one or two players. Playable instruction, 11 levels of difficulty and no less than 324 scrolling screens will keep you absorbed for a long time!

**OUR PRICE £2.95**

## OTHER NEW CASSETTES

### SPEED HAWK



One of Atari's best games for the 8-bit retained only a short time ago at full price can now be yours at halved price! A complete scrolling arcade game in which you must defeat the ring of fire of your rival system from the narrow of space planes. You also can play the single player fighter to understand the task of destroying the mutant creature that prevents the flow of genetic change in the world.

Originally £8.95 **OUR PRICE £2.95**

### WINTER EVENTS



Great City sports action in five thrilling events. Practice or compete for medals in Bobsled, Speed Skating, Hockey, Ski Jump and Wintering representing the variety of your winter sports. Random graphics and scrolling play make this a real 'New Winter'.

**OUR PRICE £2.95**

# LIMITED STOCK ITEMS

ALL ITEMS FOR XL/XE ONLY

## INCLUDING NEW ITEMS NOT PREVIOUSLY LISTED

These items of software are new to us or are replacements for items previously sold out. Some are in short supply and may not be available again. Get them while you can!

### ADVENTURES/ROLE PLAYING

#### QUESTRON

An excellent Fantasy Adventure with great graphics that combines the strategy play that SOO became famous for with the world of fantasy role-playing to give a fascinating game that will challenge the experienced and entice the novice. If you have the spark of imagination and the persistence to finish a quest that you may well be captivated by the world of Questron. Excellent Role-Playing Adventure.

DISK ONLY OUR PRICE \$6.95

#### THE ETERNAL DAGGER

Many consider the SOO role-playing games to be among the best. This is the follow up to the best-selling *Alone in a Dungeon*.

DISK  
Original price \$24.95  
OUR PRICE \$8.95

#### JEWELS OF DARKNESS

Three original classics from Level 1 - *Catacomb Adventure*, *Adventure Quest* and *Dungeon Adventure* (the solution is in issue SO).

DISK  
Original price \$24.95  
OUR PRICE \$6.95

#### JINXTER

An adventure from Magister Schools, the team that set new standards in adventure design. Requires 1000 or 80001 drive.

DISK  
Original price \$29.95  
OUR PRICE \$7.95

#### LANCELOT

Maybe Lancelot's best adventure. Highly expanded and well written, set in the times of King Arthur.

DISK OR CASSETTE  
Original price \$24.95  
OUR PRICE \$7.95

### WAR GAMES

#### NATO COMMANDER

You are commander of Nato and your task is to defend Europe from Soviet invasion. Top class graphics, the scenario.

DISK  
Original price \$24.95  
OUR PRICE \$5.95

#### DECISION IN THE DESERT

Take command of the Battle of El Alamein. You can lead either side in this accurate simulation from the creators of *U-55* (Simon Eagle).

CASSETTE  
Original price \$24.95  
OUR PRICE \$5.95

#### BATTLECRUISER

The complete simulation of World War II and World War II surface battles in the Atlantic from SOO. Simple graphics but detailed play.

DISK  
Original price \$29.95  
SOLD OUT

#### PANZER GRENADEER

A range of German armoured infantry in the Eastern Front. Five historical simulations, eight levels, joystick control, graphics.

DISK  
Original price \$29.95  
OUR PRICE \$5.95

#### FIELD OF FIRE

From the world of *Both Arms* and the tactics of *Horowitz*, in the bridge of the Star and the tactics of the software you'll find *Field of Fire* the most complete and realistic of all. This new tactical simulation is thoroughly accurate and requires good graphics and excellent mouse or joystick. To improve the realism and interactivity during play, special attention has been given to the 40-line colour graphics and sound (music effects).

DISK ONLY OUR PRICE \$6.95

### GAMES

#### BLUE MAX

Everyone must have heard of the World War Two 3-D flying game. We no longer have the SOO cartridge but this classic can be yours on disk for a lovely sum.

DISK ONLY  
Original price \$2.95  
OUR PRICE \$2.95

#### SUN STAR

The Sun Star is the fastest and most powerful ever and built and you must pilot it to recover crystals from the solar grid. A slightly different arcade game.

DISK ONLY  
Original price \$2.95  
OUR PRICE \$2.95

#### SPINDIZZY

Well known and highly regarded game in which the alien is to explore and map a 4-D world. Excellent graphics and testing puzzle.

DISK ONLY  
Original price \$9.95  
OUR PRICE \$4.95

#### PAC-MAN

Probably the most well known of all computer games. Still a classic and still in demand.

DISK OR CASSETTE  
Original price \$2.95  
OUR PRICE \$6.95

#### SMASH HITS 7

Four great games - *Colossal Chess 3*, *Beethoven*, *Blue Max* and *Ally Cox*. This set is our very special low price!

DISK  
Original price \$24.95  
OUR PRICE \$3.95

#### INTERNATIONAL KARATE

Most games which years for the old and when it finally arrived everyone loved it. Still the best karate game around.

DISK  
Original price \$9.95  
OUR PRICE \$4.95

### NEW ITEMS ON THIS PAGE

BLUE MAX  
SUN STAR

FIELD OF FIRE  
QUESTRON

CHECK THEM ALL OUT!

### SIMULATIONS

#### MIG ALLEY ACE

An aerial combat simulation set in Korea with 30 graphics, excellent instrumentation, different skill levels and much more.

DISK  
Original price \$24.95  
OUR PRICE \$5.95

#### SOLO FLIGHT

A very real flight simulation, not as complex as *FL2* but still with the real feel of flying. Ideal for learn or before trying *FL2* itself.

DISK  
Original price \$24.95  
SOLD OUT

#### ARCHON

Available again, the unique mystery theme set in a chess board. Exciting that separates it in feeling between hours of light and dark.

DISK  
Original price \$24.95  
OUR PRICE \$7.95

#### COLOSSUS CHESS 4

Known to be the best chess program on all. The arena of *Horowitz* would disagree, but there is no doubt this is a fine chess simulation particularly for advanced players.

CASSETTE OR DISK  
Original price \$24.95  
OUR PRICE \$6.95

WE SUGGEST THAT YOU CHECK AVAILABILITY OF THESE ITEMS BY TELEPHONE





# SHOE PEOPLE

**W**hat's that? Educational software from Corelbin Graphics? Yes. Since people in the first of a planned series of software on Corelbin's "First Class" label, it's aimed at children in the 4-6 years old age group and designed to help achieve competence in a wide range of basic skills. The program is based on the *Shoe People*, a TV cartoon series popular with young children. Its characters are different kinds of shoes, and their "personality" is determined by shoe type. For example, Trampy is a socially lacking character who looks like a tramp's shoe.

The package includes two single-sided disks, a ledger showing one of the featured characters, two disk labels for any workbooks you own, a *Shoe People* story book, and a 28 page instruction manual. The program consists of six separate "activities", each featuring the *Shoe People*.

## THE GAMES

**TRAMPY VISITS HIS FRIENDS** - choose which of eight friends (representing eight difficulty levels) you'd like Trampy to visit. On the way he has to identify various objects that have fallen off a log. The correct level involves matching the objects with ones from a selection presented on screen, and peng runs upwards through mud matching, to spelling out the object's name. Answer correctly and Trampy finds his friend at home. Two easy incorrect answers cause the friend to be out when Trampy arrives.

**NOT BLAME NORTH IT OUT** - Baby Buster has knocked everything off the shelves in Big Wig's store cupboard. Help him return the items to their correct shelves, based on their shape, colour, or pattern. Correct answers raise a flag to the top of the flagpole.



### THE GREAT ALPHABET POWER

**HELP PC** find the best word escaping with the letters of the alphabet, by solving anagrams of words already encountered in "Trampy Visits His Friends". Correct answers take Trampy closer to PC's police station, while incorrect ones move him closer to the bridge over which he can escape.

### WELLINGTON GOES TO THE PARK

Help Wellington get really muddy by correctly answering questions on numbers at four difficulty levels. It involves counting and adding, using blocks, spots on dice, or marbles. Problems appear on one side of a see-saw causing it to tilt. Correct answers cause the see-saw to balance and Wellington to jump around in a very muddy puddle. Five correct answers see Wellington completely covered in mud, but one wrong answer causes a raincloud to appear and wash him completely clean again.

### CHARLIE'S BIG DAY

Help Charlie the Clown to remember his tricks at three difficulty levels. It's based on the old "Simon" memory game - at the easy level you have to remember an over-illustrated sequence of tricks performed by Charlie. The idea being to build up an large a sequence as possible. At medium level the tricks are randomly generated on each turn. At the hardest level Charlie performs a set sequence of tricks before the next stage (through the third run through). You then have to indicate what comes next. Tricks are periodically added to the sequence to make it harder still.

**MARION'S MAGIC COLOURING BOOK** - a simple art program allowing

you to draw your own pictures or colour in pictures of the *Shoe People* provided by the program. Pictures may be saved to a workdisk or printed out, the latter only on line drawings as colour files are spaced. However, this does mean you can then colour them in with paints or crayons on paper - an extra bonus activity!

## PRESENTATION

Presentation of *Shoe People* is generally very good. The graphics are bold and colourful, and the animation is mostly done. The sound seems to be entirely clip generated, with no obvious signs of sampled sounds. It's competently handled, although there are several obviously silent gaps in places. A few extra sound effects would have improved this.

And now for the niggles. To start with the loading instructions are incorrect - the program will never load if you follow them! Also, you're not told that each disk has to be loaded separately. More seriously, I thought the program handles wrong answers to a rather unimpressive manner - young children just don't like seeing big crosses against their work, especially if anyone's watching. And although you're shown the correct answer, you're not usually given a second attempt at the problem. I didn't really like program's use of built-up paper and loose card letters either, as many young children could be confused by this. The most serious problems I found was that in Alphabet Memory you can't correct answers you've mis-keyed - the backspace key isn't supported - a bad idea in a program designed for young children.

## CONCLUSION

In summary, I was a little disappointed with *Shoe People*. The idea and presentation are excellent, and children will love the graphics, but it's let down by a few niggling problems. If the authors had taken a little more care it really could have been a "First Class" program.

Title: **SHOE PEOPLE**  
 Publisher: **Corelbin Graphics**  
 Price: **\$29.99**  
 Reviewed: **John S. Davison**

# MAKING MUSIC WITH YOUR ATARI

John S Davison's  
regular guide

**A** least eighteen months ago (in issue 46) I wrote about a wonderful new music program for the ST called *Band-in-A-Box*. Since then the program has enjoyed great success selling well over 30,000 copies, helped no doubt by author Peter Casareo's policy of continuous product development. The program has now reached Version 3, so it's worth taking another look to see what's been added since Version 2, the subject of my previous article.

For those unfamiliar with *Band-in-A-Box* let me briefly explain what it does. Its purpose is to rapidly produce a professional quality "backing track" accompaniment for any song, to concept it's rather like the auto-arrangement features found on certain Yamaha, Casio, and other makes of home keyboard, but here the functions are implemented in software running on your ST and work via a MIDI attached synthesizer.

Unlike home keyboard arrangement features, *Band-in-A-Box* doesn't work in real time - you have to set up a song in a spreadsheet-like table first. You tell it which chords to play (using simple chord symbols such as D6, C7, etc. rather than music notation) where the chord changes occur; the musical style to use (Rock, Ballad, Boogie, Country, etc.); plus details about the structure of the song such as how many verses, where the chorus starts, and so on. This is much quicker to do than explain as you can enter a song and be playing it back in just a couple of minutes. You can then play or sing the main melody line along with it to complete the performance, or even export the accompaniment as a MIDI Standard File to allow music programs for further enhancement. If you don't like the style you just select a different one, and the program quickly regenerates a new accompaniment using it. You have to see and hear it in action to appreciate how well it works - it seems almost magical!

You can purchase V3 either as a complete package for £68, or as an upgrade from previous versions for around £45 (from Zent Distribution, Unit 4/75, Elmfield Business Centre, 40 Elms Road, London SW9 1BZ, phone 071-738-3444). This buys you four disks and a new manual. Included are a program disk, two disks full of accompaniment "styles", and



## BAND-IN-A-BOX REVISITED

a "MIDI handbook" disk holding about one hundred ready-made songs. It requires a IBM STPC with colour or monochrome monitor, and of course you need a MIDI synthesizer to play the sounds. This should be capable of multitrack operation (i.e. can play different instrumental sounds simultaneously) with at least 12 note polyphony (can play 12 notes simultaneously) to fully exploit V3's new features.

*Band-in-A-Box* V3 produced three part arrangements for piano, bass, and drums, in 24 different styles, but Version 3's capabilities now go much further than this. In fact, it addresses virtually all of the (valid) criticisms I raised in my previous article.

### FIVE PARTS

The first big difference over earlier versions is that it can now generate up to FIVE instrumental parts in the accompanying drums, bass, piano, guitar, and strings. There's also provision for a sixth part, horns, to be fully implemented in a later release.

At first I was a little disappointed with the sound of the bass and the pair styles, as they didn't seem to add that much to the music when compared with earlier three part equivalents. A little experimentation to find the best guitar and string patches on my Yamaha PS-300 synth soon fixed this though, and in no time I had a guitar part providing a crisp rhythmic contrast to the piano and the strings supplying a soft background pad sound. It really did sound rather nice.

In future the problem outlined above may be helped by new feature number two, which involves General MIDI. No, this isn't the commander of the military wing of Yamaha, but a revised enhancement to the MIDI specification. I'll be covering this topic in a future article, so I'll just describe it briefly here.

General MIDI is designed to eliminate the mystery that currently exists in the area of synthesizer patch numbers and the sounds they represent. For instance, patch 23 on Manufacturer A's synth might be a piano sound, but on Manufacturer B's instrument it's likely to be something totally different like electric guggapoo, a boomerang beep, or something equally peculiar (and unusable!) Sequence songs set up for the first synth would obviously sound terrible if played back on the second one. Fixing the problem involves manually changing the sequencer file to use the correct patch numbers for the second synth - a tedious exercise.

General MIDI eliminates this hassle by defining a standard set of 128 synth sounds and patch numbers to make them. These will be included on all GM compatible synths in future, and any sequencer file set up for GM may then be played back



in any GM-compatible synth and produce the correct sounds. It sounds obvious, but it's taken TEN YEARS to get to this standard.

## PATCH MAP

Band-in-A-Band V4 provides GM support. The styles contain built-in patch changes using GM patch numbers, so if you use a GM-compatible synth you should get acceptable sounds straight away. If yours isn't compatible then you can use Band-in-A-Band's new Patch Map facility. With this you can set up a table showing which patch to use on your synth for each of the GM patch numbers. It still takes some experimentation to find the best sounds, but once set up you can save the map on disk and reload it whenever required. If you want to use a different non-GM-compatible synth you simply repeat the procedure to create an appropriate map.

For further flexibility you can also set your ten favourite patches for each part in an arrangement, and switch between them on demand during playback. This lets you experiment with the features of an arrangement as it plays. It's even possible to set up favourite "random" sets of patches which can be changed for all instruments simultaneously. For instance you could set up a jazz combo, rock combo, etc.

Major change number three (which actually was introduced in V4 and improved further in V6) is that you're no longer limited to the accompaniment styles built into the program. It now has a function called StyleMaker, which allows you to

define your own styles - and they can be as simple or as complex as you wish. For instance, a style can include up to 600 user-defined patterns (sections of music making up a style), each of which can be triggered by different chord notes, e.g. they might be assigned to play only on certain chord types, or played only in even-numbered bars, or odd-numbered bars.

Creating a new style can be quite complicated, but you can start with something simple and work your way up. StyleMaker's screens aren't very graphical, but using them isn't as difficult as it looks. Drum patterns are entered in step-time using a grid-based drum rhythm editor, but patterns for other instruments have to be played in real-time from a MIDI keyboard. You only use one chord for this - the chord of C7 - although you can include any note you wish by using the still-based options if required. Band-in-A-Band automatically translates these to work with any other chord requested in a song.

## 100 STYLES

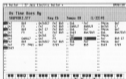
The style disks include the original set of styles, twenty-five new three-instrument styles (originally released separately as an accessory disk, I believe), twenty-five new four and five-instrument styles, and about thirty reworked versions of the original styles using differing numbers of instruments. The disk also contains a folder of drum songs, prewriting typed notation of styles with hand the user to enter songs yourself. There are so many styles provided that you may never get round to producing any of your own!

Major change number four is the provision of a built-in sequencer, so you can now record a melody line along with all those accompaniment parts. Previously, Band-in-A-Band was purely an arrangement generator, but now you can use it to record and play back complete MIDI songs! The sequencer's features are accessed from a new full-screen menu, which covers real-time recording, quantising, step-time note editing, insertions/deletions of beats and bars, transpositions, and many other functions. The supplied MIDI "textbook" disk contains over 100 complete songs created with this feature, and most of them sound really good.

Other new but less spectacular improvements include the ability to save instruments on demand; change line straight to writing feel and vice versa; support for additional chord types; MIDI support for instrument volume, panning, events, and chorus effects, and patch bank switching. Full support for Roland's 50-50 Sound Canvas synth expander is included too, as this was the first instrument available to use General MIDI.

The only complaints I have are that StyleMaker seems to crash whenever you exit from it, and the program's facilities have now begun to outstrip the capabilities of my computing and MIDI setup (it's now relatively easy to run out of memory with only IBM, so I'll have to make that long postponed upgrade to 2MB of memory). Also, the 6-note polyphony of my Yamaha FS-500 synth isn't enough for properly handling 5-part styles - I have to make extra notes through to my old Yamaha FS500, which really isn't to the same class overall. Is another expensive upgrade coming soon, perhaps?

I've always loved Band-in-A-Band and its continuing evolution has earned it into one of the most useful MIDI music programs around. It's generally easy to use, produces professional-sounding results, and is great fun too. And with StyleMaker you now have all the flexibility you could want for producing your own songs in styles. It's an essential tool for anyone interested in making music with their SE. Does your list of good SE wonder how you ever managed without it?



Band-in-A-Band's main editing screen and the Drum Editor

# SUSPICIOUS CARGO

**A** I lost another superb text adventure that I don't believe any of you who may think you don't like text adventures stop reading - remember that this is the nineties - things have changed! Yes, there is lots of text that you have to read, but it is a good plot and there is lots of humour. No, you don't have to type anything! Yes, there are lots of pictures and every scene sequences for you to play as well!

In the same way that games like *The Secret of Monkey Island*, *Cadaver*, *Edna*, and *Spelbound* (SI) servers that *All The Gods* finally can't available on the BT have features now granted in order to provide the gamers players with a detailed adventure driven by scenes and pictures, so too *Suspicious Cargo* has lots of brilliant ideas re-created into it to make playing an adventure more fun than ever before.

Traditionalists CAN type in commands if they want to, and recognise the screen to remove all the run-text areas. Or you can just point and click at the icons which scroll up and down the left side of the screen. As soon as you click on a verb the list is replaced by pictures of all the things in the room or in your hands so that you can select one of them. In this way you can build up sentences like **TUT THE RED KEYCARD IN THE SLAT** with a few mouse clicks.

People you meet in the game appear in little windows across the top of the

screen, movement is done by clicking on floating compass points at the bottom of the screen, some locations have full screen pictures you can access - often with animation - I love the main ship's console on the bridge, with the central screen playing *Squire* broadcast!

All the things that make advent one games easy to play are built in - ability to recall and change the last thing you typed, **RMBANK**, and **HANDLE** as well as standard ones to describe, large letters if you wish to see a letter on a TV, an alarm.

There are built a dozen places where the game switches into arcade style with full screen graphics - solving a circuit board puzzle, fighting off pirate boarders, tracking a deadly alien through a maze, trying to land a ship through an asteroid storm. All though the sequences are short they are great fun and if you don't like them or can't solve them then landing in **VENUS** (hard) you can bypass them - you lose a few points, but you get to carry on the game! An excellent design!

No, the implementation is superb - definitely an adventure for the nineties.

What about the adventure itself? You play the part of Joseph Squire, a space team with a crippled out spaceship. Your day starts badly enough when you are woken with a message that you have been hired to transport a crate to Earth and they **DON'T** want customs to examine the crate! If you can avoid the things who are out to get you before you even reach your ship, and IF you manage to get the ship off the ground, and IF you can work out how to repair the ship's computer so that you can wrap away from the official ship which wants you to leave it and be searched, THEN your troubles are only just beginning!

The game is subtitled 'Tut of Lark in Outer Space' and they mean it! It can go wrong it will go wrong - your ship is low on air, you have an illegal fishbowl, the genetic mutant in the crate breaks out and wants to kill you, pirates try to



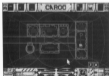
**“ lots of brilliant ideas ”**

board your ship, death lies in wait at every turn - thank heavens for a **RMBANK**!

Mapping is also a thing of the past! Most of the action takes place on three spaceships, just click on the **MAP** icon and you get a full screen map of the ship. Click on an area for a detailed plan of that section, showing not only the rooms but also where all the other characters in the game are! Click on an area and the game takes you straight there! Superb!

The game isn't quite perfect - the parser has a couple of minor idiosyncrasies, for example it occasionally got confused as to whether I should get something ON or IN something else, the code for the multi-breaker door, and you need to scroll in the keyboard area or later to save yourself a lot of time by typing **GET ALL** or **DROP ALL**. But overall, especially for a first offering from a new team, the game is great!

- **MOUSE & SOUND** - Lots of great graphics, nice music on the intro
- **GAMEPLAY** - Excellent mouse driven interface, lots of places to explore and lots of puzzles to solve
- **VERBATS** - A must for all adventure players, and if you have a wrapped screen of Verbat and like a challenge you should definitely give it a go



**Title:** SUSPICIOUS CARGO  
**Publisher:** Gremlin/Gale Design  
**Price:** £25.99  
**Reviewer:** John Sweeney

# MANCHESTER UNITED

**T**his game is an interesting hybrid. In the world of soccer games this one lives in two camps at once and makes a good effort to both. Manchester United for those who do not know are an English Soccer team with a great deal of history. They also have a very good recent record of winning several in nearly all of the major competitions and this game seems to be set up to help the player manage something very similar although there is a slim hope that the player might win!

The variation of two separate sections - management and modeling. The management portion includes all those intricate things that Managers obtain large salaries and spectacular things for and the match day is where all the earlier machinations pay off (or don't as the case may be). The management side of the game allows the player set down in the classic Football Manager although it manages it in a more graphic and age-proper way.

The game assumes that the aspiring player wishes to coach Manchester United although there are more options to allow you to change both players and team names and so such it is quite possible to have Roy Rice as player/manager of Manchester United. The first management task is to look at the team. This is done by clicking the team photo and produces the list of signed players and their ratings in their various skills. In a separate

screen there is the training log. Here the same players are shown in their state of training. It is, however, a little confusing that Goalkeepers are assessed in several the same skills as strikers and whilst I am happy to accept that Centre Forwards need to learn the art of 'finishing' it seems a little pointless for the team to be noted.

There is no corresponding 'rating' skill (despite this sort of anomaly the training seems to have beneficial effects on players apart from these strenuous days when they get injured).

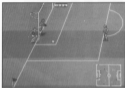
There are also quite complete transfer screens that allow almost any player in the league to be bid for and, true to the United open cheque book ethos, there is no budget imposed on the manager and so four million pound deals are quite in order.

Once the training and transferring has been taken care of then selecting the team for next week becomes necessary. This is done from another sub screen and so selection also informs you as to the training injuries sustained that week.

Although it is possible to see your schedule there is no option to name the opposition and so your preparations are fixed. Several formations are on offer as the end of your team and once this has been selected you are prompted for someone to take each individual position. There is no apparent idea of grading here so it is perfectly allowable to play centre forwards in goal. Maybe this is why it is possible to train goalkeepers in finishing!

Should you make a mistake and not notice it before the last player is selected there is an option to change or review the team. Once the last man is picked the game sequence begins. The game has all the advantages of being innovative and exciting and can last from 30 to 45 minutes each way. It can be played by the computer alone as a simulation or by the player using the joystick in Kick Off fashion.

The option and match play look good



with white and yellow cards but unfortunately there is no player identification so that you cannot tell which player performs well or who scores. Still it seemed to me that scoring was a lost art. The teams seemed to attack but both goalkeepers had several tight and positioned themselves superbly most of the time. My record after six games was Played 6 Won 2 Drawn 4 Lost 0 Goals For 2 Goals Against 6. This did not lend itself to exciting or enthralling football. (Had I not been subscribing the all out attack made of football with five forwards and two in defence I suspect no goals would ever have been scored)

Once the match is over there is no post game evaluation apart from comments in the new paper you may read at breakfast and no other results so you can't check on others' performance. It is of course then back to training, loading and playing after breakfast.

This game is a collection of could have beens. It never quite manages to make the mark in any of the areas it tries to score in. Much like the real United all the promise is there but it seems to excel in coming second. Lets hope they never make one called 'Football Success'!

- **Gameplay** - Slightly but accurately, fairly friendly controls
- **Sound and Graphics** - Good enough in the interesting in both departments
- **Overall** - If the odds were better and the players better they might have scored higher with this one!



Title: **MANCHESTER UNITED**  
 Publisher: **Quantin Graphics**  
 Price: **\$29.99**  
 Reviewer: **Damon Howarth**

# MORE HIGH JINX with the Lynx

## NINJA GAIDEN

Ninja Gaiden is a one-player fast 'em up. The levels and enemies are much like those of Shadow Warriors on other machines.

There are 4 different levels to battle through, with a total of 80 seconds per level for Niji, the City, the Cosmos, the Station and finally the Palace, where you will meet the Dark Lord armed with razor sharp sabres. There are 8 different enemy types starting with street thugs and ranging up to guards and other ninjas.

You begin the game with three lives, each one consisting of five "knock-outs". Hitting hit and knocked down leaves you one knock-out. You also have a couple of Continues which you can use whenever you lose all three lives to carry on from where you died (but with a time-ward).

As your way you will pass many telephone boxes, tables, strong boxes etc. If either you or an enemy is knocked over into one of these objects it will instantly be crushed and if a special item was inside it you will be able to collect it. You can collect lives and red pills to restore knock-outs, previous stores for points, extra lives, more time, or a sword. While you have the sword you can knock down anyone with only one hit and you do more damage than normal.

Your fighting moves are a little limited, but the action is fast and furious and Ninja Gaiden will appeal to all those who love a good fight!



## ROBOTRON 2048

The Copyright notice is for 1982! Some of our older readers may have played this one before on their old 8-bit 800 line kit of the original is faithfully recreated here - each level is just a single screen with you in the middle and countless badbots closing in from every direction to kill you. Dodge and fire as fast as you can and you might survive a few levels. Because some of the innocents wandering around the screen before they go splat and you gain enough points to get some more lives and master a little longer!

You get to choose between THREE different ways of using the controls, each designed to allow you to move in one direction while firing in a different one. Everything happens at very high speed - the first few times you will probably die before you have worked out what is happening, but like all the best games it is really incredibly simple and you will soon be able to blast your way through the first half dozen levels in no time at all. Again, highly addictive - you KNOW you can get a little further and time!

Plenty of variety in the enemy - some chase you slowly but are practically indestructible, others come in fast but die easily, some shoot at you, others generate more enemies that become all more the screen.

Definitely a golden child!

## SHANGHAI

Wah Jooq is an ancient Chinese card game - using tiles instead of cards. They have three suits numbered one to nine, plus four winds and three dragons, but there are four identical tiles of each of these. They also have eight special tiles called seasons and flowers making a total of 144 tiles. Wah Jooq itself is just an oriental form of Rummy or Canasta for four players, with some complicated scoring rules. In the same way that we play solitaire games with a pack of English cards, the Chinese play a form of patience with a Wah Jooq set. Shanghai is such a game.

You choose a pattern: Dragons, Hawk, Butterfly, Fish, Boat, Spitter or Turtle (some are harder than others). The tiles are dealt out randomly into that pattern. A move consists of pointing at pairs of identical tiles that are both free to slide out to either the left or the right, then clearing the way for more tiles for you to match. To win you must clear ALL the tiles from the screen!

An options screen allows you to get hints if you are stuck like computer will show you one of a pair of tiles that can be taken away, extend with exactly the same deal, quit, or change the way the tiles are shown. The tile you are pointing at is always always enlarged at the side of the screen. One limitation is that you can't take back a move if you get stuck - this is available on most other versions of the game.

Two player options allow alternate play then seconds per move or simultaneous where if one person selects a tile you can select a match and get it pointed!

A good way of passing the time if you like patience games!



## HARD DRIVING

More car racing, this time with a twist: it's a traditional race track or a virtual course involving loops and loop-the-loops! The BT version was hard enough to control, I found this even harder! You have to tap the joystick to steer, but I found it too sensitive and had great difficulty staying on the road. You need to control your direction and speed very carefully in order to get around the track in the very limited time allowed, and just when you are doing well some other crashes into you from behind with no warning whatsoever!

Fortunately you can select automatic gear changing if you wish so that is one less thing to worry about, but even with that after three or four hours of playing I had still not completed a single lap of either course, although I did manage to get round the loop the loop once!

The 3-D graphics are excellent, so that aside here - if you are going up a hill you can't see which way the road leads on the other side! If you succeed in achieving the challenge times for a lap you get to race again against the Phantom Phantom!

Definitely one for the dedicated driver!

## TOKI

The evil wizard Yookimedo has captured the Princess Mito, and hidden her inside his evil palace. The only person who is able to save Mito is Toki. Yookimedo is well aware of this fact, so he turned Toki into an ape! Toki must find and defeat Yookimedo to rescue the princess and in attempt to turn himself back into a human.

Toki is an arcade game, full of monsters, traps and puzzles. The easiest way to kill things is to fire your breath weapons. At the beginning of the game this is just one single small ball. Along your way you will find items which will make your breath weapon better e.g. triple shots, large shots and fire, although these only last for a limited amount of time. You will also find special items such as balloons which help protect from monsters, and rabbit hoots which allow you to jump much higher than normal. Another method of killing things is to jump on their heads, though it often takes more than one because to kill things.

One very annoying thing about this game is that you lose a life if you are hit once, and it is often hard to see what actually killed you. You begin the game with four lives and two bonuses each consisting of five lives.

Toki is great fun but also extremely hard because you can die so easily, especially as you have to start from the beginning every time. If you enjoy challenging arcade games this is definitely a must.

## SUPER SKWEEK

Skweek's mission is to conquer five islands, each consisting of 50 levels, unfortunately each level is packed full of monsters and traps.

To complete most levels Skweek has to paint all the squares pink, but on some he has to kill all the guards or rescue all the Skweekians. There is a time limit for each level, some are extremely tight while others give you lots of time to spare.

Well, counters, collect their notes, and then buy power-ups at the shops which increase every couple of levels. Power-ups may enhance your shots or increase the number of squares you paint, others can give you extra lives, just you can't the next

level or change your speed. There is an incredible variety of monsters, traps and power ups and lots of ways of resisting so that you can reach lots of different levels very easily. One way is to gain the ability to buy extra coins at the shop so that you can continue from that position next time you play. Don't get codes too often though because you're only allowed twenty codes per game and there are two hundred and fifty levels! A two-player version allows both of you to paint this at the same time, but if you want you can get nasty and push each other into holes!

An excellent fast moving arcade game consumed full of goodies - just as good as the BT version (see the full review in issue 107)

## CRYSTAL MINES II

And I saved the best for last! Remember Boulderdash? Or Bopos if you need to have a BOP? Or the countless others which featured little men digging their way around endless caverns, avoiding falling rocks and dodging monsters that tended to follow the walls in endless circles? Well here's another one! BUT... it is absolutely brilliant. It is the best version of this sort of game I have ever for years.

No wimp! It's almost for this guy though, you get a robot who can blast his way through most things with his own energy bombs. And although this plays very much like Boulderdash for the

first few levels it just keeps getting better and better. I am up to about level 70 out of 150 and it still keeps finding new monsters, traps or power-ups every few levels. The amount they

have crammed into this game is incredible. Monsters can be invulnerable, radioactive, exploding, freezing, and so on. There are holes which convert boulders into gems for one-versus-one boulders, boulders which are actually sleeping monsters, boulders which control dynamite, etc. There are four elements which spread through any empty spaces, and all have different properties - some trap you, some turn into gems when shot, it just goes on and on. Loved the gravity switcher! Touch one of these and the rocks start falling sideways!

And there are another 31 bonus levels if you can find the entrances to them: all levels have passwords so you can return anywhere, and if you get stuck too long on any level the game will offer to tell you the password and let you move on to the next level - very friendly.

A lot of effort has been put into making some really brilliant levels in this incredibly addictive game!

## SUMMARY

The Lyons is still an excellent machine - especially at some of the prices I have seen it going for - Special Source 00770-000044 were selling all reconditioned Lyons 1s for £49.99! And with the range and quality of games it is hard to fault it. Stand out and buy Crystal Mines if you!



# COUNT AND ADD



Here are another two 80-based educational packages from Softlander Software, this time designed to help younger children get started in arithmetic and to develop pre-reading skills. As with most educational software today they're both designed to fit into the National Curriculum where possible.

## COUNT AND ADD

The package contains one double-sided disk and comes complete with a free badge and a glossy 34 page instruction booklet. It's based on a Softlander program for the BBC Micro used widely in schools throughout the UK, and uses Minnie the Dog as a theme character. It's aimed at the 4-7 year age group and contains five learning games - Sets 1, Sets 2, Animals, Train, and Spider, plus a real-time clock and calendar screen. The games are unusual in that they make extensive use of sampled speech in their operation.

**SETS 1** - covers the counting of objects. It displays a set of identical objects on the screen from its library of 24 different pictures. You count them by repeatedly pressing the Space Bar, which increments a large numeral displayed on the screen. When the correct number is shown you press the Enter key, and the program tells you if you're right or wrong.

**SETS 2** - similar to Sets 1 except that the program asks you to "find *n* objects" where *n* is a randomly selected number. Pressing the Space Bar now

counts objects in appear - keep pressing until the correct number of objects in the set have been revealed. Otherwise details are as for Sets 1.

**ANIMALS** - moves on a stage from Sets 2 in that you have to try to the correct number from the 50's keyboard instead of pressing the Space Bar. All the displayed objects are animals, hence the game's name.

**TRAIN** - introduces the concept of addition. A set of objects is displayed and counted as in Animals. It corrects a train pulls halfway across the screen and a second set of objects displayed. You then repeat the procedure and if correct again the train pulls across further, counting the two sets of displayed objects to total-gate into one large set. You then try in the total number of objects in this.

**SPIDER** - similar to Train in concept, but increases the difficulty by introducing a time limit. You have to complete six addition problems before the spider crawls across the screen to catch the butterfly.

**CLOCK AND CALENDAR** - this is just a single screen displaying analogues and digital clocks (with an aid time (with screens display), and a window for the current month. The current time/date are obtained from the information you key in when you load up the program. You can't interact with this screen in any way - it's just for viewing and discussing with the children.

The program uses a mix of sampled speech and chip generated sound throughout. The speech, made voice with a very light Texas accent) is used for prompting for input and commenting on your performance. Each speech phrase is loaded from disk when needed, and this does things cheap a little on a floppy disk based system. The chip sound consists mainly of random 'building sounds

accompanying Minnie the Dog's presence on the screen, plus a few other miscellaneous effects.

Graphics are neat and well-drawn, but sparse. The objects are displayed on a light blue background which makes some of them difficult to see sometimes. Minnie the Dog doesn't seem to be featured much at all - his main appearance is on the statutory screen at the end of each game, where his animation is limited to rolling eyes and a wagging tail. In fact the whole program has very little real animation.

All the games run with pre-set default parameters, but these can be changed from the Parent/Teacher screen. You can toggle sound on/off, set the spider's speed for the Spider game, the number of problems asked in a game, the number of wrong answers allowed before the program displays the correct one, lowest and highest numbers used in the problems, and to select the style used for arithmetic operators. You can also choose whether to hide the Parent/Teacher facility so the little perverts can't get at it, and to activate the program's results monitoring facility.

A summary screen of providing help is used throughout. If a wrong answer is given you're prompted to count again. This continues up to the limit set by entries in the Parent/Teacher screen, at which point the program counts the objects for you, incrementing a numeric count while speaking the numbers and highlighting each object in turn. You then proceed to the next problem.

The program has memory and record the results and progress of up to two different children. They're identified by name - keyed in each time they use the program. Results are held on disk and may be stored and printed out when required.

Count and Add has all the hallmarks of a good educational program - except that it's free on the educational level, is easy to use, has good help facilities, and runs track results. Unfortunately though it's rather weak on the "entertainment" aspect, that essential ingredient which delights children and holds their attention. This could easily have been fixed by better exploitation of the theme character and better use of animation.

# MIX

## JOHN S DAVISON FINDS OUT THAT SCHOOL ISN'T ALWAYS FUN!

### MIX AND MATCH

This program is supplied on one double-sided disk, and the package includes a separate "quick-start" guide for the ST and a 12 page instruction booklet. It's aimed primarily at the under 15 age group, but again it can be used by anyone with particular learning difficulties. Big Maggie (no, not Mrs. Thatcher, but a prince of the Loch Ness monster?) is the theme character this time.

The program's purpose is to help children develop pre-reading skills such as recognition, discrimination, and memory. Also, as with most computer based education aids it helps the child acquire keyboard skills and builds confidence in using computers. The program is divided into three main sections, each of which contains six learning games. In addition there's the "real time" clock and calendar as found in Count and Add.

**TWO OF A KIND** - requires you to match an object displayed in the centre of the screen with one from a set of up to four displayed below it. A pointer moves automatically to separate from one object in the row, and you have to press the Space Bar when it's above the one which matches. All six games use the same operating principle, but use different objects. They're called Pictures, Shapes, Numbers, Large, Small, and Same. The first three are self-explanatory: Large and Small use upper and lower case letters of the alphabet respectively, and Same uses just one object, but in up to four different orientations, i.e. rotated in 90 degree increments.

**ODD ONE OUT** - uses the same six games as above, but this time dis-

plays up to four objects, up to three of which are the same (but possibly in unusual orientations) and one different. You have to press the Space Bar when the automatic pointer hovers over the odd one out.

**FORGET-ME-NOT** - again uses the same six games, here only one object is displayed for a given period of time and is then removed from the screen. Up to four different objects are then displayed, one of which is the same as the original object. You press the Space Bar when the pointer moves to that object.

**CLOCK AND CALENDAR** - as in Count and Add.

The program uses sampled speech again, but this time it's a female voice with a soft Irish accent, presumably Big Maggie's. It's dynamically loaded from disk again, so imposes the same problem once readily as in Count and Add. There's a wealth of music on the many screen at the end of each game and a few sound effects here and there, but otherwise there's not much in the way of sound.

If anything the graphics are even more

opiate than in Count and Add, with no animation at all to speak things up. Looks like animation isn't Scotland's strong suit! Big Maggie appears occasionally as an object in the games and again on the end of game summary screens, but this hardly merits the title of "theme character" in my view.

As expected there's the usual Scotland Parent/Teacher screen for modifying the program's operating parameters. This includes toggling the sound on/off, setting the automatic pointer's scan speed, the

number of questions in a game, the number of objects shown at any time, the display time in the Forget-Me-Not screen, the number of attempts allowed before the right answer is shown, whether the Parent/Teacher facility should be hidden, and

to activate the results monitoring facility (which is identical to the one in Count and Add).

If you repeatedly answer any problem incorrectly the program's help facility responds by asking you to "try this", while positioning the pointer over the current object. This helps you to select the correct one before reattempting.

My overall opinion of bits and Match is strongly identical to that for Count and Add. As an educational aid it's fine, but it doesn't really have enough FUN built into it. Scotland really should put more thought into the maintenance and onward sale of their programs, some slick animation and better use of sound could work wonders here. It could turn these rather ordinary educational programs into something special.

### COUNT AND ADD MIX AND MATCH

Scotland Software  
£25.99 AND £24.99

Reviewed by John S Davison

## COMPILATIONS

# SUPERHEROES 2 and CHART ATTACK



Other than the compilations *Star Wars*, this time an interesting exercise in comparing the marketing strategies of two companies. Denmark's *Superheroes 2* was sadly marred by the by now almost standard fancy cloth and Greenline release of old classics.

**SUPERHEROES 2** includes Indiana Jones and *The Last Crusade*, *Last Ninja 2*, *Strider 2* and the not to be forgotten *The Top Who Loved Me*. The top seems to sneak it way out to every Danish collection I review and it will soon be the same if it is still a collectible and drive it to the next stage having shot some badasses on the way. The graphics are still strong and the sound still good. Unfortunately anyone having bought any other collection in these times will already have several copies of this particular game.

*Last Ninja*, unfortunately, did not want to load so I will reevaluate on *Wally and Strider*. The Indiana game is well presented and leaves nothing from coming in this latest set, for although this is the original game with lots of add-ons, the important parts are still there and all the clues are available. The graphics and gameplay in this are strong with good loading screens to ensure player interest to stay high starting, as did the files, with the *Top Who Loved Me* and working to the climax in a logical progression of scenes. There are several digitized shots from the film, credits are positive and the release strong.

*Strider 2* is a worthy successor in one of my personal favourite arcade games.

With his steady aim and in the forest. Unless complete he runs faster on the bones of another player. The format is fairly similar, only the game now takes place on the planet Mogen's and Bender can now take a helicopter, I like this game, it has the super hero style to it. The graphics are colourful and comic

book like with the whole giving the impression that the player is actually inside an adventure story.

**CHART ATTACK** offers four races from the great Lotus Esprit Turbo Challenge III, James Pond, *Glenda N Glenda* and *Venom Fly Trap*. In an encouraging statement all these games are strong and have all made best seller lists in their time. The weakest is the Turbo challenge which takes a long time loading and offers race course driving in a fast Lotus. The graphics are just above average and the controls simple, on the other hand it seems to offer a little more than the microwave does, not a bad race game for its time. *Glenda N Glenda* is the successor to *Glenda N Glenda* and offers the harrier adventures of the knight Arthur in his search for his captured girl friend. The graphics are small, but beautifully framed and the controls flow smoothly. The problems are all the hard read of text and the monsters, although profile, are not too over inspiring. An entertaining little romp. *Venom* is a different sort of platform game, you play a robot fly that is out to rid the world of mad robotic insects. This is done in free flowing and challenging platform and ladder style. A range of collectable weapons are available as are bonus points allowing different abilities. This game is another fun game that proves the computer can still outclass even dedicated game machines.

Finally in this set is my favourite game of this issue, *James Pond*. This game has humour, problems and variety. In case the game has managed your taste in the popular press, it concerns a secret agent

and whose job it is to save various martian creatures from evil dinosaurs. There are twelve scenarios each with a variation on a third title for example *Lance* in *Bubble or Link* and *Let Die*. The humour continues in the game with Pond looking for villains and firing the intruder while becoming occasionally marred as J. D. Whisky. There are many hidden caves with bonus scores in them and of course there is always Pond's house in which items may be stored and subsequent adventures need them. With good cartoon graphics, a sense of humour, responsive controls and problems solving, this game alone makes the collection worthwhile.

As may be obvious I greatly preferred *Chart Attack* as it offers four good value games of which at least three will leave the player wanting more when they die. The Danish set has games with a more arcade feel in three, but maybe a polished professionalism that *Superheroes* lacks them a little stiffer. All the same there are two and possibly three exciting good games on the Danish set. I do wish they would stop trying to put the James Pond thing in every pack though. All in all both are bargains if you do not have the originals.

• **GAMEPLAY** - Most of the games on both packages are of high standard, and of great variety and most are in popular scenarios

• **WORTH AS SOUND** - All are acceptable, *Superheroes* were more targeted and digitized stuff. *Chart Attack* has good effects in it, all are graphically strong

• **OVERALL** - Two strong packages - either could be a bargain, my favourite though was the one from Greenline

**SUPERHEROES 2**  
Denmark £29.99

**CHART ATTACK**  
Greenline Graphics £29.99

Reviewed by Damon Howarth



# HARLEQUIN

Once upon a time there was a game called Prince Of Persia and all of those that saw it said that it was wonderful and that the sprites did move in realistic manner and that it represented new horizons in arcade adventuring. It comes in the form known as Chimera: these legends had also appeared and inspired the country to bring forth Harlequin. This storyline involves a child who left a beloved country made only for him in tears of the outside world. The longing for home opens kept him away for many years and in that time Chimera suffered a broken heart and fell into despair and chaos. On his return the new full grown hero called Harlequin sees that he needed to set about reversing the broken heart of the land. Such was his sorrow that he felt the only way to do this was to appear in a game that was even better than Prince of Persia.

Indeed the game was better with a slightly smaller but wonderfully animated hero sprite who could perform exciting gymnastics and fire small hearts from his hand in the great discordant of his creation. Here the Harlequin must obtain entrance to Chimera and meet its master clock tower finding the four parts of its scattered heart on the way. Controlled by positive joystick commands he must travel his way through some complicated scenery.

The harlequin is superbly animated as

are the birds in most fights. Large hands and arms always try to catch him as he hunts for the various switches that will power the sliding platforms and enable him to climb ever higher. Each of the sections of the hero has a direct bearing on the world around him - the faster he runs the better his jump, he must run up slopes much like Gene Kelly used to dance up walls and if he should be falling from too great a height then his umbrella needs careful timing to use.

As with all platform and exploration games there are always bonuses to find and these are generally in keeping with the reflecting of the Harlequin's youth. He finds Jack-in-the-boxes for mystery prizes and obtains bonuses for reversing teddy bears. He needs to find his Space Flipper in order to become further, higher and faster so he may need to turn into an Angel Ball to enable some of the water parts of his adventures to take place. Just like Spider he can find long term protection and with a sword but with a selection of fireworks rockets. The Harlequin eats burgers to maintain his energy and drinks cups of tea so he may be found. The whole complex backdrop to this adventure is like a deserted Babylon in Iceland!

Bonus stars allow the Harlequin to stock up on bonus lives and the operation of a load and save feature allows for the completing of sections without the monotonous task of re-playing first levels on repetitive basis.

The game even comes with built in help systems. Where light bulbs glow it is possible to wait and then a message will appear suggesting some viable course of action, opening a failed player's brain to further achievements. The game levels even change occasionally depending on actions in other quarters and it is always wise to keep a weather eye open just in case the screen you used earlier has changed and something you need has just appeared.



**“no qualms about recommending it”**

The game attempts to compare itself to Prince of Persia which I find is unjust to Harlequin since this is a better defined game with more colour and varied in game play. Both games have well thought out sprites and intermission sequences but this one has built in atmosphere and despite the lack of a Colombine maintains interest for more. The major strength in this game is its use of colour and atmosphere and the underlying feel it has of attempting to regain a lost youth. The authors may be attempting to bring out some deep philosophical meaning but for me it feels much like an extension to Prince and in Heck.

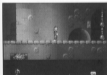
This was my favourite game of this year's review and I would certainly have no qualms about recommending it to anyone with the youth of heart to appreciate its message. There is no real violence in the game as Harlequin always tries out with love. Some of the game felt me in mind of the Beatles struggle against the Blue Mountains in Yellow Submarine.

A game that deserves to be bought and as soon as possible!

● **Concepting** - Outstandingly imaginative with many imaginative details

● **Sound and Graphics** - Very complete each other very well and are both very strong

● **Overall** - Excellent, inventive and addictive. Buy one now soon!



**Title:** HARLEQUIN  
**Publisher:** Gremlin  
**Price:** £24.99  
**Developer:** Dance Howarth

# PD Paul Rixon's WORLD

One of the drawbacks of PD disks (in my experience) is that once you've built up a sizeable collection, the time it takes to actually find a program you need can undermine the advantage of using it in the first place! For example, what's the point of an ultra-speedy disk formatter that takes half an hour to find the solution, of course, is to store all the useful tools on one disk ... which just happens to land very conveniently onto the subject of this issue's PD World — a disk called **30 USEFUL UTILITIES**.

## KEYBOARD ENHANCER

First up are **Altrant** and **Argus**. **Altrant** provides your RT with two functions that any PC user would take for granted. Once installed you can enter any special character in copyright symbols for example during text input by holding down the alternate key and typing the ASCII value on the numeric keypad. **Argus** **Altrant** and up pops the corresponding symbol. Also, if you have the CapsLock key switched on you can press Shift to obtain the lower case letters. **Argus** is more specialised in nature and will appear primarily to programmers. It offers a painless way to keep track of disk I/O operations performed by a running program. **Argus** intercepts a flow call and retrieves various information

such as the error number, call address and read/write status. If you understand what it does, you'll probably find it useful! The assembly code source file is included.

## BOOT UP CHOICE

As its name suggests **Bootplus** is a boot enhancer — it lets you choose from three alternative bootpads (and files when you switch on your RT time for each screen reader). Along with the installation you can select the programs you want to load/ run. **Boot Up Plus** comes into its own when you want to split a very large file into several smaller pieces — perhaps for transportation via floppy — and subsequently paste them back together. All you do is enter the respective file names and the size of the chunks you need — the default is 7136, as this fits nicely onto an IBM formatted double density disk. **CheckMD** assists hard drive owners who want to monitor statistics relating to drive hardware, such as access times and transfer rates. You can choose between four different test routines (access speed, read integrity, transfer rate and all three) and various hard disk types. Choosing the right option is important because **CheckMD** can't handle a SCSI hard disk's responses in the disk mode and the error message one day **Alert** will leave the meaning of 'standard' — or maybe not. **J. Clock** is a German program that carries out its obvious function with the option of a digital or analogue

display. It seems to have an alarm too, but unfortunately the instructions aren't translated into English!

## INTRIGUING STUFF

Desktop Click Software seem to have the market licked when it comes to creating useful — or at least intriguing — utilities. A prime example of the latter category is **DC Mouse pointer**. This tells you how far your mouse has moved during your conscientious sessions at the mouse — but only if the machine is fitted with Atari's new extensible control panel. **Scrolled**, **Mouse-counter** displays the total distance in inches — I'm not sure why you'd want to know this, but if you use an RT at work you could try submitting a mileage claim for mouse travel! As you'd expect, **DC Mouse** is another rodent terror. It solves the problem of an unresponsive mouse cursor by holding and releasing in as the command of a key combination. Another solution is the **DC Mouse**. **Alert** which switches off the cursor after a period of non-activity. **Mousefile**, **DC No Alert** suppresses the standard alert box and automates the selection of the default button. For example, an alert that said 'okay to continue?' would be bypassed, and the assumption made that your answer was yes. This might be useful in programs such as First Word, but in a little scripting when applied to disk utilities like you really want to format? Yes! With **DC PopStar** you can have a 'poppy' menu of the normal screen bar entries at the current position of the mouse pointer. Next is a utility that automatically switches screen resolution before running a program, and then switches back when it exits. **DC Run Key** needs to be told the required resolution for each of your programs — all you do is change the last letter of the file extension to the corresponding number.

## BENCHMARKS

**Don Tester** will add to your arsenal of benchmarks. On running you're presented with a choice of three tests — copy/size/loop, open/read and disk. You can



An easily readable analogue clock — you can't miss this one!

choose the number of files to test with, and the size of each file. The results are written to a log file on disk. **DiskOut-X** reports on numerous disk-related parameters such as the total disk size, boot sector type, number of sectors per track and amount of free disk space. **DiskOut-X** operates happily on hard-drives as well as the floppy variety. Another handy tool, **FindBug** looks for duplicate files in a disk directory tree. If it finds any it writes the relevant information to a text listing. This could be useful for tidying up a hard disk, where you might have various old versions of development files. Also of interest to hard drive users, **FindWare** searches disk drives for filenames matching a specified pattern.

## CHANGING THE LOOK

**FormatKit** lets you alter the way that OEM cloning and alert boxes appear in most ST programs. You can use the keyboard to select features in the dialog, position the edit cursor anywhere in an edit field with the mouse, enter any ASCII character from the keyboard, redefine alert boxes and many other things besides. **FormatKit** is a shareware routine that came approved by ST Format magazine that never mind, it's probably quite good. It's a replacement file selector with lots of clever options. You put it in your AUTO folder and then whenever your programs need a file selector box **FormatKit** will appear instead of the standard, and not particularly friendly, Alt+F2 dialog. The philosophy is that programs should be modifiable to use - therefore, wherever possible you can just point and click with the mouse. Eleven pages of explanatory notes guide you through the features.

## DIFFERENT RES?

**ResModKit** handles the problem of programs that require different screen resolutions - once installed, you can load your favourite resolution programs in low resolution and vice versa, thus avoiding an unnecessary trip to the relevant desktop option. **ResModKit** is a simple on-screen check that delivers the message to twelve or twenty-four lines horizontally, or even to 'matrix' lines where each row is a hundredth of a day. **ResModKit** formats disks with minimal arrangement from the HighLight Express theme, in a user-specified mode. Its purpose is two fold as the heavily commented source file serves as a good tutorial for those learning 68000 assembly. On a different note, **WinMagik** turns your expensive colour monitor into a green or amber screen, just like the early PCs. Useful too! Also on the subject of PC emulators, **SPor-**



**mat** is a disk accessory that formats double sided floppies with an IBM boot sector (later versions of DOS should manage this anyway).

## SIX TO GO!

Once the dust has settled, **St Minutes** stands for Menu Bar Time just away what the St's led and its purpose is to show the current time and date in the accessories menu bar. **SpeedMet** is a German benchmarking program that works as both a disk accessory and OEM application. The documentation and dialog are German but even so, you shouldn't encounter any problems. **SpeedMet** runs one continuous test and updates a performance bar from 0 to 1000% - 100% being a normal ST top RTE run consistently at about 100%. **ST\_Kit** enables you to decide which disks, accessories and auto programs should be loaded on boot up. Other selections include time and date, screen frequency (60 or 80Hz) and resolution. **ST\_Kit** can handle up to 114 disks, accessories and 30 programs in the AUTO folder - more than enough for most people! **StarCopy** is for DOS 1-8 (and above) programmers who use a RAM Disk. It helps to maintain development files in the RAM disk by preserving the ability to periodically back them up to disk. **StarCopy** organizes the archive files so that only modified files are copied, saving you time and confusion! **WinCTV**

Monitor your disks with our useful programs - DiskOut-X, Enter (up) and Disk X Backup



increases the number of OEM windows that other programs can open and fast boot and boot, as they say, is doom.

**Zoom** allows mouse users to zoom in on a small part of the screen surrounding the mouse pointer. The magnified image updates as you move the pointer.

That's it - Thirty Useful Utilities!

## UPDATES

Before you disappear a brief reminder about the new arrangements for obtaining Page 8 Library updates. These are no longer included with the magazine but are mailed separately to those people who have asked to receive them. You can request free of charge for the regular update service or alternatively join the Page 8 ST Club to obtain previous documents, free disks and other extras. Ask Page 8 for full details.

## HOW TO GET THEM

The disks featured in **ST World** can be obtained from the **PAGE 8 ST LIBRARY**. When ordering to a specific disk, please use the unique reference code for identification. A printed catalogue describing all the library disks in detail is available from **PAGE 8** at a cost of £1.95, refundable against the first few disks ordered. This includes a copy of **THE PAGE 8 CAPTAIN'S DISK**, which is otherwise priced at ST. The disk featured this issue is:

### ST603 - 30 USEFUL UTILITIES

Price for standard disks are £1.95 each or £2.95 each for five or more but prices are lower for members of the **PAGE 8 ST CLUB**

Write to **PAGE 8, P.O. Box 64, Stamford, ST9 4LH**

Telephone 0763 273329 or FAX 0763 243329 with credit card orders

# MANIX

**M**anix is a game which has many similarities to Marble Madness but also adds a little extra.

The game creates around a globe-like creature named Filbert who aims to spiral his life-bearing around attempting to maintain some form of pattern in the landscape. He does this by landing on various squares about his treacherous maze hoping to evade the hazards before some unpleasant events or creatures catch up with him. Each level starts with the scenery as it ought to be and then creatures drop disrupting the serenity of the board.

Once this initial intrusion has finished it becomes a race between Filbert and the fast creatures to clear the continent. In a somewhat greedy manner Filbert rats unimpeded hazards ... I suppose this is what provides him with

the bonus factor he needs.

The playing area resembles a chessboard table with some permutations to a 3D display. The control of the hero is somewhat a little less than natural since the player needs to think in a 2D sort of manner which means that joystick commands do not limit to the player one may expect.

The game does have some fairly unique qualities which make it far more challenging. It is certainly an action game which requires swift reactions and also fast thought on the part of the gamer(s). My for the best point about the game is the two player option which offers many levels of challenge not the least of which is competing the level while an opponent and a computer make life difficult for you.



Your opponent plays another bubble character known as Bulbous Blob and the object of the challenge is to have more of the islandic squares converted to your colour than your opponent manages.

If you should manage to complete all the levels on the disk then in even a course editor included that will enhance the game further. This, together with several definitely amusing obstacles, makes the game quite addictive. Once the initial problems with controlling the bubble is resolved, the whole experience becomes most challenging. For a budget game it is distinctly good value and the age of the game is hardly noticeable.

## FACTS

Title: **MANIX**  
Publisher: **Bose**  
Price: **£7.99**  
Retailer: **Domon Hewlett**

## SIGHT & SOUND

Visually not as up to the minute as some of the other titles but a good 2.5MB option

## GAMEPLAY

Although not the up to the minute title quite addictive and strong action

## VERDICT

A very good budget two and one environment

## FACTS

Title: **TEAM SUZUKI**  
Publisher: **Granite Graphics**  
Price: **£7.99**  
Retailer: **Domon Hewlett**

## SIGHT & SOUND

Well experienced, strong effects add to the system needs, smooth scrolling in a pleasure

## GAMEPLAY

Well and well designed, just a shame there was no keyboard control

## VERDICT

A good budget title



# TEAM SUZUKI

**T**eam Suzuki is a motor bike racing game which plays from over the handle bar perspective. Most players of games will be used to the car racing format and this is really quite similar, that is until the game is started. Being an ex "biker", I am all too aware of the occasional suggestion of the rear wheel on higher speed "bikes" and this simulator is very accurate here. The bike handles in a most realistic way even so far as preferring certain types of road to others.

The programmers have gone to a great deal of trouble to arrange a feeling of oneness with the bike and that, together with the correct per-

spective, allowed me to make it my own, to make it feel like you were riding a real bike.

The game starts the player going through various stages of the grand prix season and does it in a smooth rolling graphics of the more realistic filled polygons type. The controls are the writers of this piece that they offer sensible ones versus realistic choices. You can have the somewhat jumpy rides on all bikes and a dashboard option or the no meters on dashboard smooth version or the half way type which produces the smooth world that is necessary to enjoy the game.

The screen also manages some of the faster paced when bikes are just meeting the next spot. The sound effects give an authentic roar and maintain the belief that

the player is using a big fast bike. There are though some flaws in the simulation, accidents tend only to bring damage to the bike and do not send you flying and I wondered occasionally if my trusty metal wheel had been fixed with mounting wheels?

This game also provides various views of the bike during the race including zoom modes and the view from TV cameras. Of most use though is the look over the shoulder switch from the open bar. I was disappointed to find that there was no keyboard control for the bike. The only options I had were mouse or joystick. Now while a mouse is available the steering wheel itself will a keyboard makes more sense for a quick to respond bike.

On the whole though a good game and well worth playing.

## HORROR ZOMBIES FROM THE CRYPT

**T**here would seem to be a move in the budget market to provide interesting and playable games that seemed to have missed public attention the first time round. *Horror Zombies from the Crypt* is certainly in this mode and presents a platform game that brings excitement to the table. Lined up below with very playable attributes.

The hooding system itself draws attention in detail, with a genre straight from Billie Hammer with zombies and screaming screams through to the opening credits in the cinema. The X coordinate at the beginning is not entirely explained although the violence is minor. The movie has the heavy traffic associated with the genre and adds strongly to the atmosphere.

The story centres around a despatched Transylvanian count who is revivifying his

brilliant. This entails visiting the dead mirror and discovering the terrible things that will ensue the Misanthrope. The ludicrous atmosphere is controlled by pencils and needs to leap and grab his way past all the favourite monsters of Hollywood. It seemed at the beginning of the game that there was to go regions and that the monster always hit and kill you but just bear in mind that the monster are mindless and will only walk where they are programmed to.

As the game progresses it becomes necessary to find keys and skills to enable new levels to be accessed. Many of the problems never timing and the use of the bonus items are essential at many points. The most useful things seem to be boots for ascending around

since they take you from aggressive monsters that you would have no other defence against. The vision of the spider lightning is my god Cibalded legs in most ascending and is obviously inspired by Miles & Costello meet ... movies. Should you manage to come to grief at the hand of one of these chaotic creatures the grey death scene at the end is worth seeing and sticks up there with flourish. The game is progressively challenging and seems a good escape: for fans of the old horror style of movie. I enjoyed the game and kept coming back for just one more try. I'm sure there is a way past those werewolves!



### FACTS

Title: **HORROR ZOMBIES FROM THE CRYPT**  
Publisher: **Queen's Graphics**  
Price: **£7.99**  
Developer: **Dorrien Horwath**

### SIGHT & SOUND

The sound is most effective at the climax while the graphics seem to be a port from the PC in colour mode. Strange for good!

### GAMEPLAY

Smooth with big spikes, some times a little frustrating

### VERDICT

A cheap budget game with much to recommend it

### FACTS

Title: **VIDEO KID**  
Publisher: **Queen's Graphics**  
Price: **£25.99**  
Developer: **Dorrien Horwath**

### SIGHT & SOUND

Both have excellent graphics and well spotted effects

### GAMEPLAY

Everything is there but the atmosphere. Kid Games is the best though

### VERDICT

Not a worth if for Kid Games - Video Kid is somewhat run of the mill



**T**his is a full price Genesis game that seems a great deal of progress. The story behind this is considerably short and involves little the video kid of the (old) setting down to watch the new family video and his being sucked into the working. His task is to escape by making his way through the different areas of video defining monsters and real of level guardians as he goes.

The kid is a good looking version of Dennis the Dinosaur and appears in various entry mode throughout the game. He has various outfits for the various levels and seems to be wearing on a continuous computer belt. As with all such

## VIDEO KID

work and destroy games there are bonuses in the game and lots of obstacles to dodge.

The parallel screen scrolling and sometime lack of total control of the hero is probably attributable to the fact he is meant to be in a video that is continuously running.

Graphically the game is appealing with plenty of colour and lively moments but somehow these don't seem to be the quality and 'bite by night' features that I would have expected in such a work.

I find it very hard to pin down just what it is about the game that stops me from a full budget \$29.99, but it generally feels to lack that touch of charisma and awe that the package promises. Perhaps the problems lie in the lack of control over the events that occur

and the fact that there is no going back, that leaves me feeling as though I have played the gaming equivalent of a one armed bandit I don't know.

Genesis themselves may not be too convinced about the game since they offer the free budget game Kid Games with it. Kid Games is a platform game that has, in my mind, better play and sound and a far better game concept. This is a game a little in the Dennis Jack mould with well coloured and well controlled graphics and a plot line that makes sense. The game has many similarities to its stable mate but somehow carries it off better. I certainly wanted to keep trying with Kid Games to be taught the way some experienced of creative developers looking for ways around problems. Maybe they should bid Video Kid as free with Kid Games??

THE

# STOS

COLUMN

**A**fter the release of STOS 3D, I thought that we would be treated to a fresh supply of STOS products - such as the long awaited STOS Vidi and STOS Musician. But what happens? The STOS server has gone totally quiet again. Nothing to think about - STOS Vidi was mentioned in issue 41 of New Atari User, which came out on the 23rd of November 1989. STOS Musician is just as bad, having been mentioned in the following issue. STOS Vidi was promised for Spring 1990 and STOS Musician was said to have been "totally rewritten since some of its release date" in November 1989" but still did not have a "positive release date" (quote from issue 44 of New Atari User). So for two and a half years we have been waiting for these wonder products without a peep from either Manchester (see Expanded or Shakes confusion). I have not been told anything about these two packages, and have not seen them mentioned any-

where since issue 46 of New Atari User (issued on the 28th of January 1991). It's not as though STOS's popularity has faded either - have you seen the number of new PD games and utilities that are written in STOS? No, the answer is on the aforementioned computers - GET HOLDING TOGETHER AND START SUPPORTING STOS AGAIN!

## THE LISTING!

Until this feature made its return, the listing (as you can see, it is quite a big one this time - but I think you'll find it's well worth typing it in. The listing is a game called Enemy Fleet which is based on that old classic - Battleships. Of course, the really good thing about Enemy Fleet is that there are no massive memory loads to type in - it doesn't require any special!

## ENEMY FLEET

The game is very simple to play. The aim is to destroy your opponent's (in this case, the computer) fleet of battleships by dropping bombs onto where you think they are. Your opponent will likewise try to do the same to you. You each start with 4 ships, and each ship is capable of launching 4 bombs. When you start the game you have to position your first where you want them, on a grid representing an ocean. Each ship is represented by 4 coloured squares. The first ship will appear in the centre of the 24x24 grid and can be moved around by using the cursor keys. Press space to confirm where you want the ship to be and the rest will then appear. Repeat this process until you have placed all 4 ships and then you are ready to play. Once you have placed your ships the screen will switch to the bombing screen. Here you can see the message to

choose where you want the bombs to go (on the grid). To choose a square simply point at it and press the left mouse button. The bomb is represented by a small white circle inside the square. Don't worry about bombing your own ships - this is not possible. On the right hand side of the screen is a panel - this is the status panel. This tells you what the coordinates of each of your ships is (which could be "OK", "Damaged" or "Sunk"). Once you have finished you start with 24 bombs! The screen will switch to the destination screen, where you can see if your bombs have found a ship or not. If a bomb does find a ship, the part of the ship it has hit will be revealed (each ship takes 4 bombs to be destroyed). If it does not, the bomb will turn grey to indicate it is a miss (and also a ship you dropping a bomb on the same square twice). For each ship destroyed you lose the use of 4 bombs per turn. After you have had your turn the computer will try to destroy your fleet by using the same methods. The game continues until one side destroys all 4 of the opponents ships. And there you have it!

## ADIEU

Now look, before I go this time I'm not going to start begging for you to send in material to publish. Well, maybe just a bit - please, please, please send in some stuff! If you've written a program that you want reviewing, or a listing you want to share with the world - send it to find any STOS related bits or below you may have (by accident) to the following address. See you next issue!

Dion Guy,  
STOS COLUMN  
11 Shore Crescent  
Bishops Waltham  
Hants  
SO3 1QZ

**All is quiet on  
the STOS  
front but  
Dion Guy  
brings you a  
neat little  
type-in listing**

```

10 rem SCREEN = VARIABLE SETUP
20 dim SCREEN(23,23),ST1:
30 mode 3 : key off : hide on : alias off
40 palette 00,0777,00,00,0777,0410,0600,0444,0333,0555,0700,070,07,0770,077,0707
50 window 1,0,0,40,13,0,3 : curs off
60 home : pen 1:1 : cursor "BOMB FLEET" : pen 3
70 locate 0,2 : cursor "Be Nice Guy"
80 locate 0,4 : cursor "For the STOS Column"
90 locate 0,6 : cursor "Press any key to start"
100 del scroll 1,0,0 to 100,100,0,1 : del scroll 2,0,0 to 100,100,0,-1 : clear
110
120 for A=0 to 80 : wait who : scroll 1
130 if inkey#0 then goto 180
140 next A
150 for A=0 to 80 : wait who : scroll 2
160 if inkey#0 then goto 180
170 next A
180 goto 110
190
200 for A=0 to 24
210 draw 0,A*8 to 100,A*8 : draw A*8,0 to A*8,100
220 next A
230 rbox 100,0 to 110,100
240 C=0 : for A=0 to 100 step 24 : ink 10+C : bar 100,A to 240,A+16 : ink C :
next A : resume as screen 0 : screen copy physio to 0
250 locate 29,1 : print "Position" : locate 28,3 : print "your fleet"
260 resume as screen 3 : screen copy physio to 3
270 goto 110
280 rem POSITIONING TIME FLEET
290 X=1 : Y=1 : if BOMB then goto 440
300 repeat
310 B=inkey# : B=asc(B)
320 if B=75 and X=0 then dec X
330 if B=77 and X=24 then inc X
340 if B=72 and Y=0 then dec Y
350 if B=78 and Y=23 then inc Y
360 if B=62 or Y=23 then goto 410
370 if B=chr#122 then goto 380
380 until true#false
390 if GRID(X,Y)=0 or GRID(X+1,Y)=0 or GRID(X,Y+1)=0 or GRID(X+1,Y+1)=0 then
bell : goto 370
400 GRID(X,Y)=B : GRID(X+1,Y)=B : GRID(X,Y+1)=B : GRID(X+1,Y+1)=B
410 locate 31,4+int(B/10) : print "Done" : screen copy physio to 5 : ink B :
wait 10 : X=0 : Y=0 : goto 380
420 screen copy 5 to physio,0,0 : screen copy 5 to back : ink 9+int(B/10) :
B=0 : Y=0 to X*16,7*8+16
430 X=X : Y=Y
440 goto 370
450 rem COMPUTER'S POSITIONING OF FLEET
460 for A=1 to 4
470 B=ord(123) : B=rad(123)
480 if GRID(L,B)=0 and GRID(X+1,B)=0 and GRID(X,Y+1)=0 and GRID(X+1,Y)=0 then
GRID(X,Y)=A : GRID(X+1,Y)=A : GRID(X,Y+1)=A : GRID(X+1,Y+1)=A else goto
460
490 next A
500 goto 380
510 rem PLACE YOUR BOMBS
520 B=24-(75*B)
530 fade 10 : wait 75 : c/a
540 change mouse 2 : ink mouse 0,0 to 100,100
550 screen copy 0-SET to physio : screen copy 0-SET to back : B=0 : gpush 1020
: fade 10 to 0 : wait 75
560 show on
570 locate 28,1 : print "Place your" : B=0 : gpush 410
580 ink 1 : for A=1 to 80
590 repeat : B=mouse# : try mouse# : until mouse key#
600 if point(X*8+4,7*8+4)=0 then rbar X*8,0*8 to X*8+0,7*8+0 : dec B : goto 610
610 goto 580
620 B=chr#1000 : B=B-chr#122
630 if len(B)=1 then B="0"
640 locate 28,3 : print "bombs (";B;")" : if B=1 then B=0 : return
650 next A

```

continued ➤

```

858 fade on : fade 10 : wait 75
859 ink 0 : bar 124,8 to 304,12 : locate 28,1 : print "Bomba away"
860 fade 10 to 8 : wait 75
861 rem 10 THERE A HIT ON ENEMY FLAKT1
862 for A=0 to 25 : for A=0 to 25
863 if point(A*8+4,B*8+0) then ink 10 : bar A*8,B*8 to A*8+8,B*8+8 : ink 8 :
rbar A*8,B*8 to A*8+8,B*8+8 : goto 918 else goto 910
864 if GRID(A,B)*8 then ink #+GRID(A,B)*8 : bar A*8,B*8 to A*8+8,B*8+8 : boom
: locate 31,3 : print "MIT!" : inc STOREDIA,B*8 : wait 35 : if STOREDIA,B*8+4
then inc ESD : goto 918 else goto 918
865 ball : locate 31,3 : print "MIDZ" : wait 35 : ink 1 : bar A*8,B*8 to
A*8+8,B*8+8
866 locate 31,3 : print space#10 : next A : next B : if ESD=0 then goto 1090
867 if SET=0 then reserve an screen 7 : SET=1
868 locate 28,1 : print space#101 : screen copy physio to 7
869 fade 10 : wait 75
870 c/a : screen copy #SET2 to physio : screen copy #SET2 to bar : ink 0 :
bar 224,8 to 304,12 : locate 28,1 : print "Computer's" : locate 31,3 : print
"Turn" : ESD=0 : goto 862
871 fade 10 to 8 : wait 75
872 rem COMPUTER'S TURN TO PLACE BOMBS
873 CEM=25-ESD*41 : for A=0 to 25 : for A=0 to 25 : #point(A*8+4,B*8+4) : if
F118 then goto 880
874 if F1=10 then if SETP-9)=8 then goto 880
875 for C=0-1 to B=1 : for C=A-1 to A=1
876 if C=0 or B=0 or C>23 or B>23 then goto 870
877 if point(C*8+4,B*8+4)=0 then ink 1 : rbar C*8,B*8 to C*8+8,B*8+8 : dec CEM :
wait 35 : if CEM=0 then goto 920
878 next C : next B
879 next A : next B
880 for A=1 to CEM
881 #rand(25) : T=rad(23)
882 if point(X*8+4,Y*8+4)=0 then ink 1 : rbar X*8,Y*8 to X*8+8,Y*8+8 else goto
880
883 wait 35 : next A
884 rem HAS COMPUTER HIT YOUR FLAKT1
885 fade 10 : wait 35 : ink 0 : bar 124,8 to 304,12 : locate 28,1 : print "Bomba
away" : fade 10 to 8 : wait 75
886 for B=0 to 25 : for A=0 to 25
887 if point(A*8+4,B*8+0) then ink 10 : bar A*8,B*8 to A*8+8,B*8+8 : ink 8 :
rbar A*8,B*8 to A*8+8,B*8+8 : goto 958 else goto 970
888 if GRID(A,B)*8 and GRID(A,B)*8 then ink #+GRID(A,B) : bar A*8,B*8 to
A*8+8,B*8+8 : boom : locate 31,3 : print "MIT!" : inc STOREDIA,B*8 : wait 35 :
if STOREDIA,B*8+4 then inc TES : goto 978 else goto 970
889 ball : locate 31,3 : print "MIDZ" : wait 35 : ink 1 : bar A*8,B*8 to
A*8+8,B*8+8
890 locate 31,3 : print space#10 : next A : next B : if TES=8 then goto 1090
891 if SET=0 then ESD=2 : reserve an screen 8
892 screen copy physio to 8
1000 goto 800
1001 end
1002 rem STATUS DISPLAY
1003 for A=7 to 22 step 3 : locate 31,8
1004 if ST11A-41/31+ESD=0 then print "0.1"space#10
1005 if ST11A-41/31+ESD>0 and ST11A-41/31+ESD=4 then print "damaged"
1006 if ST11A-41/31+ESD=4 then print "Sink"space#10
1007 next A
1008 return
1009 rem END GAME ROUTINE
1100 if ESD=0 then #B="PLAYER 1" else #B="COMPUTER"
1101 fade on : fade 10 : wait 75 : c/a : fade 10 to 8
1102 windowen 1,0,0,48,12,8,3 : scroll off : para off
1103 def scroll 1,0,0,48 to 129,128,-10,0
1104 #ann : centre #B" has destroyed"
1105 locate 0,2 : centre "The enemy lives!"
1106 locate 0,11 : centre "Press any key to restart!"
1107 pen 8 : locate 0,8 : centre "Well Done!" : locate 0,7 : centre "lano0 lino"
1108 #clear key : repeat : wait vbl : scroll 1 : screen copy physio,8,96,16,128
to physio,308,76 : end#3 laby#41"
1109 for A=0 to 25 : for B=0 to 25 : GRID(A,B)=0 : next B : next A : for A=0 to
25 : ST1A)=0 : next A
1110 TES=0 : ESD=0 : SET=0 : SET2=0 : for A=5 to 8 : erase A : next A : goto 180

```



# ACCESSORIES



*John Davison  
discovers a  
very handy  
product that  
makes it  
much easier  
to use many  
different  
programs*

## ATARI KEYBOARD OVERLAYS

**H**ow many times have you bought a program for your ST and found that it's far more complex to use than you thought, with dozens of key commands to remember? Sometimes the program designer seems to have taken a devilish delight in allocating commands to keys in a totally non-intuitive way, too, so you can't even see the letters on the keys as reminders to remind you which key does what. Also, different programs of the same type often seem to use completely different keys for the same functions—in my case, flight simulation programs are the chief offenders here. The result is at best confusion, or at worst a lot of frustration and wasted time as you wade through the instruction manuals trying to find the correct key to press. I usually end up building a "crib sheet" for each program, listing all the commands I normally use, but now Silverbird Computing have come up with a much more elegant solution.

Silverbird's Atari Keyboard Overlay is a piece of good quality cartridge board (measuring about 11 inches by 8 inches, which has been accurately cut out to fit precisely over and around the keyboard of an ST, SE, Mega ST, or TT. It's marked out round the edge with boxes representing the keys, so all you have to do is

write the command triggered by each key in the appropriate box, and that's really all there is to it!

For complex programs it's probably better to do a bit of planning beforehand, and lightly write in the commands in pencil until you're sure you've got everything in its rightful place. This is particularly important if using a program that uses Shift, Alt, and Ctrl key combinations, or where the same key has different meanings depending on which menu you happen to be in at the time. You'll then have to write several commands in each box, which could get a little messy. However, Silverbird have thoughtfully provided an instruction sheet with each pack of overlays which suggests how you might tackle this problem.

Then when all the commands are pencilled in you'll probably want to run a test using the overlay with the program to prove everything is where it should be. When you're happy it's all been accurately transferred you can neatly ink everything in to make it permanent and easier to read.

Silverbird Computing have come up with a very useful accessory here—it's simple, it's elegant, and it works! You can use it with virtually any type of program, but you'll find it particularly helpful with

all those complicated flight simulators, word processors, DTP programs, and music related software. I'm now busily making overlays for all my favorite programs, such as Flight Simulator 2, Proflight, Tineworks 2, Band-In-A-Box, and Notator (that's right, I just couldn't resist buying Notator after receiving it a few hours back).

There's not much more I can say about this product, except to point you at the supplier. The overlays are sold in packs of five for \$5.95 plus postage and are obtainable from Silverbird Computing, 47 Darton Road, Harington, Beds, LU5 4LZ. Current postage rates are \$6p in the UK, \$1.50 for Europe, and \$2.50 for the rest of the world. Also, please note that you can't pay by credit card—you have to send a cheque, postal order, etc., with your order. If you have any queries please Silverbird on 05255-2614 for more details—I'm sure they'll be delighted to help.

**Atari Keyboard Overlays  
from Silverbird Computing  
price \$5.95 per pack**

**Reviewed by John S Davison**

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