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August/September

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'The magazine
for the Dedicated
Atari User'

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Issue 45 August/September 1990



CASTLE LAYOR Can you survive?

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SUBMISSIONS

PAGE 1 welcomes and encourages its readers to submit articles, programs and letters. Submissions should be typed on one side of the paper, double spaced, with margins of 10mm all round. Programs must be submitted on disk or cassette in full (do not use the disk to do an update) and accompanied by a 10-15 line ASCII code for reference. If submitting programs you wish a program to write and include a separate disk required and for those for all readers, please send a printed copy of the program listing on a 5.25 inch disk of the second hand version of the cover of the issue concerned.

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will be on sale 27th September
Editorial copy date is 28th August

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NEW ATARI USER is published bi-monthly on the last Thursday of the month prior to cover date.

With very little news on the 8-bit front in this country we are pleased to be able to present an encouraging report from Charles W. Pinter Jr. on how there is beginning to be an upsurge of interest in the States

Over the past few years, it has been getting harder and harder to find decent support for our Ataris in the U.S. Atari has all but ignored the U.S. market in favor of Europe and the U.K. I don't know how many times I've heard the phrase, "Oh yeah, I remember Atari. Didn't they go out of business awhile back?"

Fortunately, Atari is starting to make a comeback in the U.S., although it doesn't seem to be as strong as they had earlier predicted. The IBM chip shortage is over, the PORTACOLOR and LISA are doing well, and Atari has finally released some new cartridge games for the 8 bits. Most surprising is the fact that Atari is now supplying Florentine Mac with computers for their world tour.

In addition to the renewed support from Atari, we have seen some amazing hardware and software cropping up from hardware enthusiasts and third party developers. Here are brief details some of the best.

SOFTWARE

SNAPSHOT is a program from Tom Hunt that allows any IBM, or main, Atari 8 bit to have two programs in memory at one time and instantly switch between them with the F10.2 key.

DART DOT 8 is a fantastic print processor by the Goldman that turns your printed output into NLQ text with the ability to put graphics on the page too. It comes with several NLQ fonts and a font editor so you can design post cards or convert existing 8 bit fonts. You also get **REBOLD** by Chris Wardham, which allows you to print your Microfamily printers in an infinite number of sizes.

There are 3 popular GF picture file viewers. The first from Dan Davis is called **ATARIVIEW 8**. It uses Cr 8 and Cr 15 for higher resolution. The other one, from Jeff Polster, is called **ApexView** and uses Cr 9 and Cr 11 for more colors.

YEMACTS is a program from Michael L. Clayton that allows you to use a standard dot matrix printer to achieve full-color printouts. You can even make T-shirt one-ups with a special ribbon.

HARDWARE

Bob Wesley has several **UPGRADES** including one that turns the XP301 into a dual 5.25" and 3.5" 750k disk drive, and another that adds an ANTEC chip for 4,095 colours.

Innovative Concepts have the **BART SCAN** image scanner that uses fibre optics to scan a picture into the computer.

Computer Software Services have the **Super E-Banner** which lets you burn up to 1 MEG EPROMS.

The Black Box has a hard disk drive interface, a parallel printer port, a true 19.2k baud RS232 port for modems, a 64k printer buffer, a machine language monitor, a screen dump feature, and can be upgraded to add any mod em of four 5.25" or 3.5" drives. With the upgrade you can also read and write to ST or IBM formats. **The Multiface** is a device that allows 8 Ataris to use the same peripherals. A IBM system is under development that allows 8 users to be online and chat at the same time.

Chuck Strickman of DataQue has the **Turbo8016** which turns the 8 bit into a real 16 bit computer but maintains compatibility with all 8 bit software.

GENNY is an upgrade that provides us with 8 sound channels and real stress, with new versions of Policy Place and AMBS.

The **StreamKey** from Micro Solutions is a device that lets you connect an IBM keyboard to your Atari.

As you can see, things are finally looking up for our Atarians. Thanks to the dedication and hard work of several people, the Atari 8 bits will not become obsolete any time soon!

Look out for ...

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Mailbag

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LEARNING TO PROGRAM

I own a 1300E and I am very pleased with it. I have only been playing games until recently when I realized that I wasn't using it to its full potential. I would like to buy the best possible book to help me learn how to program and your advice on which one I should buy would be appreciated.

I have a 1300E disk drive and DOS 2.5. How do I use the utilities? To increase the programmability of my Atari would it be better if I purchased something like Spectator or MyDos? What is so special about these two compared to other DOS's? Finally why doesn't any software use the 130E of memory possessed by the Atari? Is it to maintain compatibility with the 800E? Using this extra bit of memory could produce even better graphics, sound effects and speech synthesis needed on games like *Raiders of the Lost Ark* or *Operation Wolf* which I hope will be coming out in the near future (Mik, Rotterdam).

Mark Prosser
Ile of Man

Good to see that you have got round to learning to program. Most, if not all, of the early books on programming the Atari have not been available for some time but NEW ATARI DOS's has managed to locate a couple of a couple of books that can be recommended. Firstly there is *ATARI BASIC*, the book that used to come with the old 800 computer, and which your Atari need to learn to program. A bit outdated but it will give you a good solid basis of BASIC program-

ming that will serve you well for more complex programming later. The other book is *EASY PROGRAMMING FOR THE ATARI 800/805*, a little gem of a book that our rooms awarded its complete until it went out of print a few years ago. We have now found a number of copies of this book and, at £5.00, would not hesitate to recommend it to every owner.

As regards the different DOS's available, we would suggest that you stick with DOS 2.5 for the time being, it will do everything you need it to do. Spectator and MyDos are more comprehensive but they require a good working knowledge of the machine and are really for folks who can already program. By the time you become a proficient programmer, you will be able to buy either of these and get good value from them, but they are not really for beginners.

Lastly, about the lack of programs for the 1300E, you are quite right in assuming that software publishers wish to make their games compatible with the 800E. Although it is a pity for 1300E owners, it makes commercial sense to produce programs that will sell on all models rather than market sales. The Atari market is small enough and writing programs that could only be used by some of the user base would not be viable.

ATARI WORLD

I am writing regarding Atari World from whom I ordered two disk games for £26.95 in October 1988 and have not heard from them, despite writing numerous letters and phoning a number of times.

Could you please send them a letter or tell me who

I could write to, to complain about this organisation. Also somewhere I could write to help me get my £16.95 back. I am determined to get my money back.

Michelle Emery
Buckley, London

Sorry, Michelle but you have little chance of getting your money back since Atari World went bust in June making a lot of money to certain people by cheating us. We have lost over £1,000 with no chance of getting it back. Although you can, in theory, make a claim to the liquidators it is, in practice, a waste of time. Over the years we have been publishing we have had about a dozen cover pages go lost while an evening and, although we have got it all the necessary details, we have never had one single penny. Sadly, you just have to write it off. Another company that went bust around the same time is Glasgow Computer Centre. Hopefully not many readers will be saved money by them as they didn't do much real order.

NO ICID

Please could you tell me if *Hambo II* is compatible with the 800E and where it can be obtained as when I enquired about it from Frontier Software I received a letter from Martin Walsh, Marketing Manager for Frontier saying they no longer carry the ICID/800E product range.

Christopher Roberts
Preston

... I recently purchased a Citizen 1300 printer and ordered the 800 Printer Connection interface cable but when a phone call was told that there are no more stocks of these. Do you know where I can obtain this cable or an alternative?

Paul Ware
Chilham

... I am writing to advise you that Frontier Software no longer deal with KCD who make Sparatlon. I found this out after contacting them to ask about a bug in Sparatlon in the format menu where it does not select the correct version for AtariDOS format. Frontier were helpful but unable to cure the problem since they no longer deal with KCD. I wonder if there will ever be a perfect version of Sparatlon which is otherwise excellent. The price is not budget so I would expect a little more back up from somebody. If anyone has a cure for this problem I would be pleased to hear about it.

A.J. Hewitt.

Leam.

... After ages of waiting to afford Sparatlon and the U.S. Doubler chip I finally was in the position to buy them when, to my delight, no one has them in the U.K. I was told by Mike Skapp of a company in the USA called Happy Computing but I have no telephone number or address. I wonder if you know it, or maybe anyone else that may be able to help.

C.C. Jeffe.

Leamington, Essex

Just a selection from many letters regarding Frontier's decision not to continue with KCD products. This is obviously a blow to 8-bit users since KCD market some innovative products for the XL/XL2 and in the case of the Frontier Converter III, have one of the only remaining ready made printer interfaces. We understand that Frontier made their decision reluctantly after finding that they could not get the necessary technical support from KCD on their products. We found this out not on the level where he says that one knows paying for expensive products always back up and it is often only the company producing the software that can answer user's questions. As a distributor Frontier have always been aware that back

up should form part of their service but our distributor can answer technical queries without recourse to the people who developed the software. As for an no longer KCD will have 8-bit products and we are hoping to obtain them such as the Printer Converter for our readers in the future - we could have some by the time you read this. Whether we will get involved with any other KCD/MS products is doubtful. In the meantime the only alternative we can suggest for a printer interface is a "DIP" kit from Derek Pevs. If you are confident about building it yourself, Derek can supply you with an interface kit, complete with instructions. You will still need your own printer. Derek Pevs can be contacted on 021-352 5700.

DOS TIPS

Spot the error? The QUICK DOS listing in issue 44 has a slight error. For some reason, a space has crept into line 1000 before the second 855. This means that the TYPED code is wrong. Take the space out and the correct code is PV.

On the subject of DOS, here are a couple of other tips for DOS 5.0 users. When you return to Basic from the menu, the DOS.BY5 program is still in memory and isn't overwritten until you start typing a program, so if you come out of DOS and realize you forgot to do something, then just type `R=USR000000` to get back into it. If you want to load a binary file from Basic you can use this method: First open the binary file on channel 1 (`R=OPEN 1,4,0,"filename.bin")` then type `R=USR000000` to binary load it. This method won't work with all binary files, though. Also I thought I'd let you know that I'm exhibiting at the Alternative Micro Show in November. I'll be there with my usual range of PD and advice, much the same as I did last year. See you all then!

Dean Casaghy.

Doncaster

CONNECTING THE 850

I have just bought a modem and an 850 interface. I have placed everything, including your own Auxiliary Plug, in try and find a cable that would link the two but with no luck, so I decided to make one myself. It took just under an hour and I thought that some readers might like to know the details.

All you need to do is go to Tandy's and get the following parts:

- 1) Colp style 8-position male D-Sub Connector (cat. no. 278-0427) at 89p
- 2) Colp style 25-position male D-Sub Connector (cat. no. 278-0428) at 63.80 or the solder type (cat. no. 278-0427) at 62.40
- 3) 800mm cable with 10 conductors (cat. no. 278-7088) at 62.60

I used piers as I haven't got a crimping tool (costs 27.90 at Tandy's). What you need to do is connect the wires to the connectors as in the following table. The conductors in the cable are colour coded which should make it easier to make the correct pin connections at each end.

850	MODEM
Pin 1	Pin 20
Pin 2	Pin 8
Pin 3	Pin 3
Pin 4	Pin 5
Pin 5	Pin 7
Pin 6	Pin 6
Pin 7	Pin 4
Pin 8	Pin 9
Pin 9	is not used

The total cost is less than 85. Just plug into serial port 1 and away you go!

Richard Khatib.

Leamster

Thanks, Alastair, these sort of things are always well worth knowing. We cannot guarantee whether the connections outlined are specific to a particular modem but they should, in theory, work with any modem. Best check out the pin configuration of your modem with the 850 interface manual if you are unsure.

JUST THE BEST

I have been reading your magazine since issue 1 and have looked forward to every issue since then. I have especially enjoyed the Adventure Column by Gerry Francis. Please could you inform me what has happened to him as I have not seen his column recently. I have owned an Atari 8-bit since 1981 and agree that it is the best 8-bit machine around for its sound and graphics capabilities. Because of this I am very interested in the forthcoming game from Harlequin, MADDOG OF THE BEAST, advertised in your June/July issue. I have got this game on the only format that it is available for at present (ps). I have also got an 8.5"HD and will think that the game is superb. I know the capabilities of the 80088, and think the game would be ideal for it. Let's hope that Harlequin do an excellent job of it and, if not, I'll even purchase two copies of it in an attempt Harlequin to produce more games for this excellent machine.

Keep up the good work on the magazine (every issue gets better and better) and long live the Atari 8-bit!

Alastair Khatib

Birmingham

Gerry Francis won the Auxiliary Network Lottery and, after failing an audition for Neighbours, now lives on his own private island on the Great Barrier Reef with his Atari and ten thousand cats of Continental ANCC.

DISK DRIVE

I would like to know where the disk drive control registers are and how to use them on a 1050 disk drive without the U.S. Doubler.

John Booth,

Leamster

Come on then, all you technical gurus, how about a nice in depth article on disk drives?

DILEMMA

Dilemma is a platform game with a difference. There's no clock to hurry your progress, no monsters chasing you down dark alleys, in fact no urgency whatsoever. Just sit back, relax and give the grey matter a little exercise instead of the trigger finger.

In essence, Dilemma is a game of strategy in which you work your way up the platform collecting goodies in route according to certain rules neatly assimilated during a practice round. One or two players can take part using joysticks.

LET'S PLAY

After the initialising phase, enter the player's name and the difficulty level to bring up the main screen. Players move in turn, selecting from the available dice which are reflected automatically by the computer throughout the game. The difficulty level determines the number of objects you must collect from each platform. You cannot move up until you have at least this number but see the special rules at the end.

MOVING

Choose one of the dice with the joystick, registering your selection with the trigger. If you want to change your mind press the trigger a second time. Now move the stick in the required direction. Unless the move is an invalid one, your character will respond accordingly. You are free to move anywhere horizontally except into your opponent's base where are the only 'safe' areas on the playfield. Landing on an object will credit you with points according to the key values shown above each player's score. Points vary according to the type of object and position. If you land on your opponent, you'll send him to jail. Landing on a trap will send you to jail.

CHANGING FLOORS

The number of items collected is depicted on each player's base. Up to nine are shown although more may be acquired. Once you have enough you may change floors by pushing the joystick up or down after dice selection. Note well that the distance you travel is calculated from the player's base on the new floor, your current horizontal location being irrelevant. You may move up or down to choose but eventually one player must reach the top floor and collect the requisite number of goodies to reveal the finishing point, back on level one. Once a player lands there the game is over and the winner is the one with the most points - not necessarily the person finishing the game first. Watch out for additional hazards on the return journey!

Dave Hitchens'
strategic platform game
for 1 or 2 players · think
before you move!

GAOL

Only one player may reach to jail at any one time so, if your opponent is there you will not be penalised by landing on a trap. The jail symbol near your score lights up whenever you've been robbed. To escape you must use a die with a central pip, i.e. a six, three or five. Just choose the appropriate die in the normal way and you'll automatically reenter the playfield. If no suitable dice are available you must forfeit a turn by passing the spotlights. This is the only occasion where you are allowed to miss a turn.

SCORING

Objects in short supply carry the highest points but all increase in value as you move up. Points shown on the screen above the score refer to the objects on the floor your team is currently standing on. Move platform five or two further values for each player. The one next to the jail symbol shows the points forfeited if your man ends up in jail. The other value is given if you're lucky enough to collect the last item on that particular level. Both values change as with the objects.

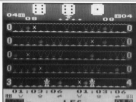
SPECIAL CASES

In certain cases it isn't necessary to collect the minimum number of items per level before changing floors. If there are fewer than three objects remaining on your level you are free to move vertically if you wish. Additionally, once the finishing point is displayed, both players may move freely anywhere on the playfield.

OPTIONS

A number of options are available during play. To abort a game press the START key. If you just want to change the difficulty level keep the START key depressed until the title page appears, this screen appearing in the player's name each time. This also applies when restarting from the end of a current game.

As a reminder of the difficulty you are on, the top centre of the playfield screen. Occasionally your character will obscure desired screen information - pressing the OPTION key will temporarily remove him. Finally, if you find the platform cut-ups not to your liking, the SELECT key will randomly change them. Note that these options are unavailable during dice throws.



STRATEGY

Strategy plays an important part in the game. Because both players share the same set of dice it is vital to check your opponent's possible moves as well as your own since it is often the case that a relatively low scoring move on your part will force your opponent into an undesirable position. The nature of the game will be found to be quite appropriate after one or two moves. Different tactics are required for the various difficulty levels - level eight is not necessarily tougher than level one but it plays differently.

TYPING IT IN

I hope that the length of the listing will not deter readers from revising their typing fingers. Use should be made of the brilliant full screen editing facilities of the Atari when entering similar lines (don't forget to change the line number!) when the use of TYPE II will take care of any errors. Resolving the job into two or three sittings will also reduce fatigue but don't forget to save a couple of completed copies before B.B.Ping. Dilemma requires a minimum of 40k RAM and was initially developed as a two player game. Approval not requiring the sole writer can save typing by omitting the routines in lines 60-90, 107-400 and 500-560 but do not enter the character's name when starting a game. If your name happens to be full or too just add a full stop after it to avoid confusion!

The solo version proved quite challenging and full and this problem reasonably intelligently following a set of priorities which I will leave for you to discover for yourselves. They will be more easily discovered if you have the two characters play themselves and will also illustrate the way the game proceeds. Note that some of the 'options' are available whilst full or less is in charge - you may select any difficulty but will have to wait for a game to end (or press RESET) to call a halt. A player may set different challenges - highest winning score, highest differential or least moves. All are displayed on the final screen together with a reminder of the difficulty level.

ABOUT THE PROGRAMMING

There isn't space here to delve deeply into programming aspects but the display is basically an expanded use of Graphics 1 and 2 and Arinc 4 with 7 DLI's generating multiple use of the PRG system. Each character is composed of 2 players for sport/entertainment in a machine code loop featuring variable delay to simulate gravity effect. By keeping sub-routines and the sole logic loop in early numbered BASIC lines, 'thinking time' is reduced to a minimum. Certain sound effects are achieved using filter systems built into the hardware (register 50780) and by using a separate 'sound selector' program a multitude of effects may be produced.

```

00 1 DIM *****
01 2 DIM *****
02 3 DIM *****
03 4 DIM *****
04 5 DIM *****
05 6 DIM *****
06 7 DIM *****
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```




THE LYNX

Ever wanted to play your favorite arcade game in the car, on a train, or a plane? Or under the hood? Or in the toilet? Fed up with the limitations of Game and Watch? The Atari's new Lynx is just the machine for you!

It is a portable, battery-driven game console with its own built-in video screen! It really is a neat amazing little device and was without a doubt the star of the recent Atari '80s Show at HammerSmith. There were eight machines for public use with continuous queues and they were selling like hotcakes at many stalls. That is also where I saw the video of the schoolkids playing it in the toilets - it is apparently not deemed suitable for British television, but you will probably see the ad at your local cinema this summer. The Lynx is only 10.5 inches by 4.5 inches and 1.5 inches thick. The 2.5 inch display has 360 x 180 pixels, can display 16 colours from a palette of 4096 and is built-in to give a good image in most conditions (bright sunlight in the sun - under the hood is no great). The LCD layer is actually three times that resolution, but the front layer of crystals of red, green and blue filter strips uses three black and white dots to produce one coloured dot. The result is superb and you will be amazed at the amount of detail in some of the graphics.

The main processor affectionately bears an 800801 to a standard 80C85 processor running at 400k which controls most of the I/O, but the real star of the show is a custom built chip called 8L02.

8L02 is a 16MHz, 16 bit chip with its own maths coprocessor (it does some dozens of times faster than normal chips - not usually found in home computers) whose sole job is to manage the sprites. Basically everything you will see on a Lynx screen will be a sprite. They can be any size or shape and can move independently in any way. 8L02 is full sprite engine and full blitter and as well as handling the shape and position of a sprite she can automatically scale it, tilt it (making one edge wavy), stretch it (making one corner stretch) or flip it. In the whimsical programmer on a conventional machine who wished to display a rat moving towards you would need to define numerous sprites of different sizes, on the Lynx he would define just one (the largest, with the most detail) and let 8L02 do the rest.

The Lynx also features 8 channel stereo sound which is better than the standard ST - it only has a single speaker though, so you will have to plug in your 'Walkman' headphones to hear it all - but at least then you won't disturb your neighbour!

The game playing controls are a 'joypad' to give 8-way directional control like a joystick - mainly actuated by your left thumb, one button for firing or whatever it is, twice the versat-

ility of a joystick, and three option buttons used for controlling startup, special functions within the game, and facilities like pausing or 'flopping' - a standard function which can be invoked by a single mouse in the program which turns the whole screen through 180 degrees so that left-handers can turn the Lynx round and play with ease - there are even two extra firing buttons provided for the gun that these are also volume and brightness controls - the LCD quality varies depending on the angle and the lighting, but adjusting the dial will normally get you a good picture.

AND (as if that wasn't enough) the Lynx comes equipped with a Connect port and cable so that you can link multiple machines together for simultaneous play. This can be used to make games like California Games which comes free with the Lynx a two player game or Gauntlet III into a FOUR player game - within a few weeks limitation of needing all the players on the screen at once - each player sees the game from their own character's viewpoint!

Atari plans to have a game out by the end of the year which allows 32647 players to join in!

WHAT TO PLAY

No, what about the games? Be far too late:

California Games ...

- Half Pipe Skateboarding (two kick turns, aerial turns and head plants to six counts for points), Foot Bag (kick back juggling - score points for keeping the bag in the air while turning and jumping), BMX (complete the ridiculously long course by careful steering and lots of jumping in your limited time - and score extra for doing quadruple somersaults off cliffs along the way), and Surfing (step on your board and do fancy turns to score high).

The Gates of Zendocon ...

- Over 20 levels of increasingly scrolling black-on-grey four power-up weapons; an incredible variety of alien monsters in destroy or avoid; passwords allow you to contact at any level.

The play area is twice as high as the screen as you can fly a long way up and down as well. Try THIS for entry to a special level - when it starts just hold down peeped right and down simultaneously so that you crash straight through the floor - enter the next gate for a full power-up and amazing graphics!

Blue Lightning ...

- arcade quality aerials shoot you up in the Afterburner with ten different missions (e.g. destroy enemy radar, deliver documents to a hidden airstrip) - I haven't played this one yet.

Electrocop ...

- basically a horizontally scrolling shoot-em-up, but with a lot of extras - you can move backwards and forwards around the screen as well as sideways, both within the screen and into rooms and corridors in front of and behind you - so really it scrolls in four directions. As well as defeating the usual opponents level robot guardians with various weapons, you need to use computer consoles to crack the door codes, while you are waiting you can either continue exploring or you can play arcade games on the computer console - yes, really - it has simple versions of Breakout, Asteroids and a sliding block puzzle built in! A bit baffling to start with, but very enjoyable once you get used to it.

Chips Challenge ...

- a brainy eye test of 144 3-D matrices full of puzzles to solve involving keys, buttons, obstacles, bombs, traps, tanks, mines, teleport, clone machines, toggle blocks, one way walls, secret doors, etc., and of course mazes to avoid! Great fun and excellent value if you want a real brain workout! (Blaming?)

Gauntlet III ...

- for one to four players is just out (this is being written in early June!) and by the time you read this Klex and Karpago should be on the shelves. Start plan to have at least another 20 cartridges out by Christmas (APX, Tactica), Hard Driving and Paper Boy are already on the schedule for the near future.

The first development machines have just reached this side of the Atlantic so we should be getting some British games soon as well. The full-development system is extremely powerful on



it has superb stereo libraries to help define games and drive SUZY as well as a hardware simulator of the Lynx so that you can test your games without having to download them. Games are normally played on a logical (Display World) of 4 billion pixels (0-64K) in each direction - you just see your current surroundings in the screen which acts as a Display Window into this vast universe. With smooth hardware scrolling and SUZY doing her bit with the sprites, program generation is easier than ever - so look forward to seeing some super new games!

The cartridges are less than five times more and less than 3mm thick! They currently hold 256K, but they are experimenting with 512K and 1MB ones - cost will determine it and when they appear! Prices in pounds by 8-AA batteries. Unfortunately the Lynx is a bit greedy on power so they will only last you a few hours - better buy some rechargeables! You get a remote adaptor with the Lynx, and it can also run off the cigarette lighter in your car. Start plan to release a suitable adaptor, but if you can't wait there are plenty around already - I use an Archer High Current DC Power Adapter (400 mA - 1 amp) which has a suitable power plug - make a new one so it is 9 Vrms and set the tip to positive.

The screen is rather vulnerable - because of the backlighting scratches show up badly, so do look after it - I keep mine in its original plastic bag to protect it. If the backlight gets stuck just slightly loosen the nearest screw on the back of the case.

This is undoubtedly a superb game machine - start here a good lead on the rest of the pack as for its possibilities go. The Gauntlet is another

near as good, and the rest are only rumours as far. The competition will be hard pushed to beat the power of SUZY or the versatility of the Console.

PRICES: Standard retail price is around £180, but most people were selling it at £150 or thereabouts. Cartridges range from £25 to £35, again they were around £20 at the show, so drop around.

VERDICT: It would have been nice if it had come in at the originally rumored price of £80, but it is still excellent value for money and all the games. I have never so far seen any high quality. Check out and buy one now!

THE VIDEO CONNECTION

Robert Crewe and Andrew Homer show how you can use your computer for video titling

Are you one of the many computer users who also own a video recorder and camera? If so, you may already have experienced problems producing effective titles and credits. Building film directors need look no further than this simple to use Video Titrer program and the advice in this article!

Even without a camera the same techniques can be used to produce imaginative sequences (e.g. pop videos) by recording the computer's visual display directly onto video tape and adding a soundtrack.

USING THE PROGRAM

The Video Titrer program allows up to twelve screen pages of text to be entered and saved to disk if required. Titles for the start of a program and credits for the end can be entered separately and saved under different filenames. Each screen page consists of up to three lines of large size CR 2 text with a maximum of 19 characters per line. This amount of text will be found to be easily readable from an average viewing distance. When the program is RUN you can either load in a previously saved sequence or create a new set of titles. If you are typing in a new sequence a screen is displayed which represents the video title area with Line no. and Page no. at the top. Lines of text are typed in at the bottom of the screen and then shown in their proper position by pressing RETURN. Titles can be positioned anywhere on the line by inserting spaces whilst typing in the text. Goal lines allow accurate positioning if, for example, you want your titles centred. A blank line is made by just pressing RETURN. When all three lines have been typed in you are asked if the page is OK. Entering a "Y" will move you to the options of moving to the next page (NEXT PAGE) or finishing the title sequence (enter "F"). A "N" will leave the page for you to do again.

To view the titles you must first select a colour by typing in the appropriate number 0-15. Although white (0) usually produces the best results, colours such as red can be used to create the mood of the video. Multi coloured titles can also be produced by mixing normal and inverse, upper and lower case characters.

Having selected the colour, if you wish background music to accompany your titles you are invited to insert a music cassette into your program recorder and press PLAY. A count-down is given before the title sequence starts. This enables you to accurately time the starting of your video recorder by releasing its power key.

The title sequence starts with a blank screen then the pages are displayed by fading the text in and out. The sequence ends with a blank screen for approximately two seconds. Whilst the screen is blank the video recorder can be stopped. If required, the music can be turned off first at an appropriate moment by pressing the OPTION key. When the display has finished you are asked if you want a re-run which will send you back to the colour select screen where you may choose to view your titles in a different colour. Holding down the options key while the titles are running will also give you a re-run option. When you are

satisfied with your titles entering a "N" to the re-run option will give you the opportunity of saving your titles to a previously formatted disk using the form Diskformat.cxx.

CONNECTING THE EQUIPMENT

In order to record the titles onto video tape the computer must be coupled directly to the video recorder. XL/XE machines, in common with many other systems, have both modulated UHF and composite video output sockets. For optimum recording quality it is strongly recommended that the composite video and audio outputs are used. All video recorders have suitable composite video and audio inputs and it is only necessary to make the connections using appropriate leads and, if necessary, switch from tuner to extension (or camera) input. However, if the UHF socket is to be used, it should be connected to the aerial input socket on the video recorder using the HF lead supplied with your computer. A spare channel on the video recorder will need to be tuned to the computer's output signal. This connection will result in reduced picture quality and may cause picture distortions whilst the signal is being recorded, however the recording should be steady when played back. Again, the composite video connections will give greatly improved picture quality and it is well worth the trouble of obtaining the appropriate leads!

Whichever connection is used, a television receiver (or monitor) must be connected and tuned to the output from the video recorder in the normal way. If connected properly, the computer's visual display should appear on the television screen. With the title program running the sound from the program recorder (if used) should also be heard. Alternatively, you could connect a standard cassette recorder to the audio input socket of the video recorder (provided you are using the composite video connection). In practice, it was found that unless the audio output of the computer was matched to the audio input of the video recorder, best audio quality was obtained using a standard tape deck.

RECORDING THE TITLES

Computer generated titles should not be recorded into the front of existing programmes as severe cut out-sounds can occur when the picture changes from titles to programme content. In order to avoid such problems the following sequence should be employed.

1. Record the opening titles (Computer)
2. Record the programme content (Video camera, record recorder at computer)
3. Record the closing credits (Computer)

If a video recorder with insert editing facilities is available, computer generated titles can be inserted at any point in an existing programme.

Continued on page 24

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What computer do you own? _____

EasyDOS

How many times did it happen that you wanted to use a DOS function in the middle of BASIC programming, but you just could not remember the correct DOS parameters? How often do you need a disk directory, but you did not have your ML utility that allows easy access to it? Sure, some solutions are available, like using your standard BASIC, but it happens just too often that you use good old Atari BASIC. Even if you use Turbo Basic, you may find yourself in trouble when you want to create a new directory on your MyDos disks, and just do not remember the correct DOS syntax.

Now your troubles are over. After you prepare a disk with the EasyDOS program, you can boot your system with any standard configuration you like. When you need a DOS function, insert your EasyDOS disk into your drive, and type ENTER "function", where "function" is the desired DOS command. Available functions are:

DIR, DELETE, RENAME, LOCK, UNLOCK, FORMAT, JUMP, MEM, BLOAD, WLOAD, CHDIR, MDIR, KDIR

GETTING STARTED

Type in the accompanying listing, EASYDOS.BAS, check it with TYPE and SAVE a copy before you RUN it. You will need it for easy backup as well as for preparing a Namdisk version. Note that some of the DATA lines are specific for certain DOS systems. You need only type the lines that correspond to your DOS system, but you may want to type all of them anyway, in case you want to use a different DOS in the future. The Dos-specific DATA lines are preceded by explanatory REM statements.

When you RUN it, you will be prompted for a drive number. Insert a fresh formatted disk in the specified drive and press the [RETURN] key. You may want to specify a disk number, such as 0 for Dos 3.5, for fast command access. The EasyDos files will be written to the diskette in the specified drive, with the above functions serving as filenames. Some of the filenames will have extensions, specific for the DOS they are intended for, such as BLOAD.DOS for Dos 2.0/2.5, BLOAD.DOS for Dos 3, BLOAD.MEM for MyDos, and BLOAD.MEM for SuperDOS 3. If you already have any file with such a name, it will be overwritten. That is why it is recommended to use a freshly formatted diskette before you start. Because the files with the appropriate extensions, so the extensions will not be included. These extensions are there only to remind you which files are relevant to your configuration. The files that have no extensions can be used with all systems.

Dr Yuval Rabinovich provides a utility that gives full access to DOS functions whilst programming

USING EASYDOS

As mentioned above, EasyDOS syntax is ENTER "function". ENTER can be abbreviated to E, and the right apostrophe mark is optional. A prompt will be displayed, allowing you to switch disks, if necessary. Working with more than one drive will make your life much easier.

For example, type
ENTER "D:LOCK"

The computer will respond with:
LOCK>

and will wait for you to type a file name.

If no drive specification is given, "D:" is assumed. If you type MYPROG, the computer will look for D:MYPROG and will lock it. If you type D:\MYPROG, the same file will be locked in drive number 2.

THE EasyDOS FUNCTIONS

DIR - Disk directory. You will be asked for a filename. Pressing [DELETE] alone defaults to D:*. Otherwise, give the complete filename, including the drive header (such as D:*.*).
DELETE, RENAME, LOCK, UNLOCK - You will be prompted for the filename. If you choose DELETE, a bell will remind you to be careful.

FORMAT - Works like option 1 from the DOS 2 or DOS 2.1 menu. If you use DOS 2, it will format a disk in single density, even if you use a 10MB drive. If you want to use another default setting, read below on " modifying EasyDOS ". You will be prompted for a drive number, and be asked to press RETURN to confirm. Press any other key to abort.

JUMP - Binary run at address. You will be prompted to give a decimal address. Note that this option is like option 8 from the DOS menu, rather than the regular USER command from BASIC.

MEM - In the sense that it does not put any parameters on the stack and therefore does not require an extra PLA instruction.
MEM - Create the MEM.BAY file. You will be prompted to confirm. The utility creates the MEM.BAY file to drive 0 only. I do not expect you to use it often, but the need may rise if you

continued on page 99

wish to use an advanced feature from the DOS menu, such as duplicate disks, without losing data. Note that not all DOS systems use MEM MAN, and this option is valid only on the appropriate systems.

LOAD - Binary load. You will be prompted for a filename. Note that most DOS systems have an own version of this command.

WDS - Write the DOS.SYS file only. The CUP.SYS file will become less necessary. You will be prompted for a drive name (a). Any non numeric response is assumed as drive 1. You will then be asked to confirm writing the DOS file by pressing RETURN. Press any other key to abort.

CD - Change the current active directory, for systems that support subdirectory tree structure.

CD - Create a new subdirectory. Only with systems that allow such a structure.

ERASE - Remove an empty subdirectory for systems that support it. Note that MyDos subdirectories may be deleted with the regular DEL/DIRS function.

HOW IT WORKS

The ENTER command is usually referred to as a way to merge BASIC programs. New lines are added to the program in memory from the input device (usually a disk). Actually, the ENTER command translates the input device from the keyboard to the specified device, without relaying the input on the screen. Therefore, if a BASIC statement begins with a line number, it will be added to the program in memory. If the line does not contain a line number, it will be executed as if it is typed from the keyboard, in direct mode. All the files in the EasyDOS package are short BASIC routines, being executed in direct mode.

EasyDOS LIMITATIONS

It is assumed that EasyDOS will be used in direct mode during program development, and not while a program is running. Therefore, EasyDOS function performs a CLR statement before anything else. Command #1 is closed by the execution of any EasyDOS function. EasyDOS may use a few BASIC variables, like A, AB, DL, etc. I have deliberately chosen variable names, in order not to increase the variable name table. Some EasyDOS commands are DOS specific, and will not function properly unless used with the appropriate DOS, as mentioned earlier. If you use a DOS that is not specified above, I suggest you make some experiments with a scratch disk. This is because some CIO calls are incompatible between different DOS systems. An CIO call that makes a subdirectory on one system, may perform a binary load on another! EasyDOS is very easy to use, but it is even easier friendly when used with more than one disk drive. It then works very similar to MS-DOS external commands.

MODIFYING EasyDOS

It is relatively easy to create an EasyDOS file. You can use a word processor to create the file, and the file itself should contain legal BASIC statements. If you do not have a word processor, or you want to use special graphic characters, you can create a string that holds the statements, and PRINT it to a disk file. For example:

```
OPEN #1,0,"D:\function" #1,AB,CLOSE #1
```

It is necessary to put a separator before the variable name, and not to put anything after it to achieve the proper result.

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Another way of creating such a file is from the DOS menu. Choose the copy file option (option CL) and answer the prompt "copy from:LF" with the response B:D:\MUSIC. A file will then be opened, and it will accept entries from the screen editor. You can edit lines to the usual way, but now you have pressed RETURN, the line will be accepted, and you will not be able to modify it. Press CONTROL-C to close the file. BASIC is more tolerant to long lines as inputs from a disk file than it is to the built-in editor. Every legal line can be up to 251 characters long, including carriage return, compared to 114 in the built-in editor that can be stretched to 129. The number of statements per line is limited to 21 lines, if the statements are concatenated. If a line contains more statements, an error #64 will result. If you put several concatenated lines in one file, be aware that the "READY" message will be displayed on the screen after the execution of each line. To delete the message, start each new line with the statement:

```
PRINT "app[delete line]" (rest of line)
```

It is recommended to load EasyDOS files with a word processor, and to examine them, to see how to create new files. Make sure that all open DOS files will be closed before control is given back to the user. This is usually not a problem, but believe me it was quite a difficult job to achieve in creating the DOS function.

If you have a 1020 or other EASYDOS files can be loaded in a Flashdisk and called from DOS, making the editing even easier to use. You can of course set up an "autoexec" to DO with any appropriate writing on your hard disk. BASIC owners should also be able to do this now, since the EASYDOS files are quite small. By using the modified DOS on PAGE 5 Library Disk ROM - XL/XE KIT which allows it to run on the BBOCK.

A NEW TIPSTER!

*We need a new TIPSTER!
Will it be you?*

What the Tipster has to do is collate all of the contributions sent in by our readers into some sort of coherent whole for each issue.

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What we need from you is a well put together column submitted on time every issue complete with maps and any illustrations.

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DISK BONUS

DrumMaster!

by Mike Blenkiron



Have fun turning your Atari
into a drumkit complete
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DrumMaster! is a menu-driven digital drum sequencer/player which allows drum patterns and songs (made-up of patterns) to be entered, played, and recorded on disk. Eight drum samples are supplied on disk (all with extender .SPL) along with the main player.

Options include:

- Play Drums: 8 sampled sounds to play with
- Atari Tempo: alters the speed of playback
- Edit Sequence: Up to 40 screens may be saved from the editor
- Edit Song: Change existing songs
- Play Sequence: With or without looping
- Play Song: Plays the current song in memory
- Load Sequence/Load Song
- Save Sequence/Save Song
- Utilities:
 - Format a disk
 - Get a directory read (single or enhanced disk)
 - Change the screen colour
 - Change the screen luminance
 - Change the text luminance
 - Return to the main menu selection screen

FULL INSTRUCTIONS FOR USE ARE ON THE DISK

The drum samples in DrumMaster were created by Dean Garrigthy using the REPLAY sound sampling system from 2-Bit Systems. All loader/runner code was also taken from REPLAY.

If you have any questions, or ideas for improving DrumMaster!, please feel free to write to:
MIKE BLENKIRON, 15, Ambassador Gardens,
Amthorpe, Doncaster, DN2 3JW



Welcome to another helping of games help, playing tips and solutions to a few problems. This time we'll have some hints and tips on a very recent release - **BLINKY'S SCARY SCHOOL**, and next time round we'll probably have a wrap of it. In fact we could have had a dozen more this time, as we've been inundated with them! Trouble is everyone maps differently so they have to be sorted out and the one chosen normally has to be redrafted as very few of the maps that land on the Tipster's desk can be reproduced as they are. Anyway, much of next issue will depend on the NEW Tipster, you that's right your present Tipster is retiring from the scene and there is an opening for a new Tipster. Will it be you? Check out the rest of the map, somewhere you'll find out how to apply. Now down to this issue's business.

BLINKY'S SCARY SCHOOL

One of the first devoted sets of tips came from Lee Nelson of Woodwork, Larches. Since then there have been hundreds, but Lee was in there first and he also sent a map, which we don't have room for this time, plus a lot of other hints so he gets this issue's collection of credits. Well done, Lee.

The key to this game is timing. This will lessen the amount of energy that you will use up. A good knowledge of the lower screens is useful as you will need to complete them in the dark!

First of all, get the **FLOWER**. Head through the falling Spikes screen and carry on until you fall down the left passage. Jump over the Beasts and get the **PURFUMS**. Go down to the next screen which is 'darked out'. Go to the left and try to judge the jump. Get the **TOILET BOWL** and fall down to the next screen. Go left until you reach the Toilet.

Jump on it - *hey-ey!* - and you will be transported to the third screen. Put the items in the Pot and go back to the screen with the two Beasts. Go left and jump up onto the ledge. On the next screen, fall down and go right to the next screen and get the **PIKE**. Go back and jump over the Spikes until you get to another Toilet Hall room. Get the **BOWL** and fall down. Carry on until the 'Lemon Ad' screen and get the **POP**. Fall down the left passage and go onto the Toilet screen. Don't move until the Mouse comes up to you. Then you will have a clear run to the Toilet. Put the items in the Pot and you will

AIN'T SCARED OF BLINKY NO MORE!

HAWKQUEST

Christopher Devan has found two extra features on the map screen of the Nexus star system. If you move the cursor to the bottom right-hand corner and press the **FIRE** button, you will be greeted with the message 'Written at the Atari Computer Users Group, Dunedin, New Zealand'. If you then move the cursor to the bottom LEFT-HAND corner and press the **FIRE** button, the message 'to cheat press FIRE' is shown. So press **FIRE** and you will be taken to the final sequence of the game, which is brilliant! If you do complete the game properly (that is, without cheating) it will certainly make all that hard work worthwhile.

LASER HAWK

When playing this game, press **W** whilst on the title screen to disable the sprite collision detection.

By up to the Ledge. Go left until you reach the Spike screen. Jump over the mouse on the 3rd Step down and carry on. Get the **NEW'S EYE** and get to the Bars on the left. Carry on up the Bars until you reach the Wasp screen.

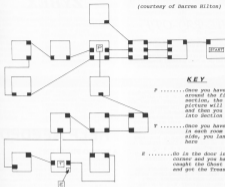
Dodge the Wasp and get the **SCORE** on the next screen. Dodge the birds and carry on all the way to the real. Get the **AKB** and make your way to Pot 2 and drop the item. Use the Bars to get to the final Ledge and jump over him. Dodge the Mice on the next screen, carry on and get the **GLUE**. Put the **GLUE** in the 2 and go back to Pot 1.

Carry on until you reach the last Toilet Hall screen. Get the **BOWL** and then go up to the next screen and get the **LIGHT**. Now go to the New Entrance. Go down to the bottom and then right. Walk your way to the top, then go right. Jump onto the Ledge and jump over the Spikes. The Spikes on the next screen are frustrating! Just run really far onto them and jump - you will think you're going to die but you won't. Carry on to the next, jump onto the Greenstone and get the **ALARM CLOCK**. Go back to the Spikes and don't go near them. Jump over them and go back to the New Entrance. Flood to raise the top left of the surface of the water and jump up. Go onto the Toilet and walk your way to Hanzels. Jump above him on the Bars. The **ALARM** will sound and he wakes up. You have now completed the game!

We may have more from Lee in future issues.

GHOSTCHASER - The Map!

(courtesy of Darren Hiltos)



KEY

F Once you have gone around the first section, the picture will open and then you drop into Section F

T Once you have gone in each room either side, you land back here

E Go in the door in the corner and you have caught the Ghost and got the Treasure!

..... These are the doors and where they lead to

BRUCE LEE

The following handy tip comes from Jude Kennedy who points out that it applies to anyone who has at least TWO joysticks, one of which has a controller on it.

First connect the joystick with a controller to the SECOND joystick port, then connect another joystick to the FIRST joystick port.

On the title screen, select one player versus one opponent mode, then start the game as usual by pressing START.

When you start playing, switch the joystick in the SECOND joystick port to a controller mode, you will see that Green Yama keeps punching at nothing!

Naturally, when you select this mode, the computer will switch back to the default mode if there is no response from the second joystick, so the controller prevents the computer from doing this. This means that, not only will Green Yama be too busy to fight you, but you will have ten lives as well, making it far easier to complete the game!

Jude has also sent his personal high score in for this game along with a few others do I hear a request for 'High Score' records?

JUDE KENNEDY'S HIGH SCORES

BRUCE LEE	154526
CHUCKIE EGG	275190 (Level 21)
SCREAMING WINGS	39420 (Level 5)
ARKANOID	120580 (Level 14)
ZYBEX	60100 (Score = 8)

AND THE WINNER IS ...

Well you already know if you have read the column Lee Nelson is now the proud owner of the THREE YEMOH mentioned in the last issue. Let's hope that he has a video recorder otherwise he'll have to wait his turn to buy one!

The prize for the best contribution next issue is a collection of STEVE AYERS ROM'S - POLE POSITION, JOURN, GALAXIAN, STAR BLAZER II, LOCK RUNNER or whatever else might be around at the time of the award. Let's be hearing from you then - keep those hints, tips, cheats, solutions, maps etc. coming.



THIS ISSUE'S COMPLETE ADVENTURE SOLUTION

THE PAY-OFF

Judging by the amount of requests for help on this one, this solution will bring to an end a few sleepless nights! As always, the verbs and nouns in the solution are coded to prevent accidental scanning by those who do not wish to leave the full solution just yet, so **PORO LLA** simply reverses to read **DROP ALL**. All directional commands should be typed in as given.

Here we go then.....

PORO LLA - E - OG EPPF - U - TEG TSOH - D - OG EDEL -
 NEPO WODNAP - OG WODNAP - S - S - S - PORA TSOH - E -
 OG TRIT - TEG NEMMASHOEDLS - M - W - S - R - SAERS
 SOOS - PORO NEMMASHOEDLS - OG EOFFO - TEG HSA - SUR
 HSA - LIEP GASTRAF - NEPO EPPF - (The following number
 code is NOT reversed, just type it straight in.....) - ROL, EPPSS
 - (That's R, Thirty-Sixes, L, Ten, R, Three hundred and Twenty)
 - TEG LORHOC - E - TEG SEVOLS - SAFP SEVOLS - NEPO
 DRACRUC - TEG ELOMERT - NEPO EOFFO - TEG TARM - W -
 S - TEG ROZAR - R - W - S - S - E - OG TRIT - S - TEG ERW -
 WOLLEF - PORO ROZAR - PORO SEVOLS - U - N - W - PORO
 LORHOC - N - N - OG EOFFO - S - TEG MAC - TEG SLLP - N -
 W - S - S - S - TEG REPAPWEN - S - E - E - N - TH
 RIMTITOC - E - OG EOFFO - SAFP TARM - EVO TARM - U -
 OG EDEL - SAERS ELOMERT - WODNAP - KOTS RE-
 PAPERF.

PALL - D - OG DEHS - TEG LOOTS - NEPO KOBLOOT - TEG
 RENDWOPCH - TEG LIRD - E - U - PORO LOOTS - SHATS
 LOOTS - NEPO MALLA - PORO RENDWOPCH - YAPPS
 MALLA - PORO MAC - D - OG EOFFO - W - S - W - W - TEG
 TRON - TEG LORHOC - E - E - N - E - OG EOFFO - OG DEHS -
 TEG NEMMASHOEDLS - E - U - OG EDEL - SAERS WODNAP - PORO
 NEMMASHOEDLS - OG WODNAP - OG ROOS - E - E - E - R - QUO
 EOFFO - PORO SLLP - S - W - W - N - TEG ALLERHNU - R -
 EOFFO ORALS - S - E - E - E - N - TEG ORALS - OG TRIT -
 HAP NOTTUS - OG TLAGY - SEERP LORHOC - PORO LORHOC -
 OG ROOS - SEERP SOB - ORALS - PORO ORALS - R -
 KODS TLA - SEERP NOTTUS - E - E - OG TRIT - HAP NOTTUS
 - OG KSED - S - W - W - R - KODS RETHAPPT - KODS SLLP -
 PORO LIRD.

TEG SLLP - TP EGAP - TEG LLRS - N - LIRD ROOLF - TUP
 ALLERHNU - NEPO ALLERHNU - LIRD ROOLF - RUP TSOH -
 OG TSOH - LIRD SOB - SAERS - (Again, enter the number as it
 is given) - NEPO SOB - SAERS - U - PORO LIRD - S - S - W -
 OG ROOSNOTS - EVOH TENNAC - TLOVHU ROOSRUP - OG
 ROOSRUP - S - OG EOFFO - R - S - S - EVOH MEG - KODUHU
 MAC - PORO TEG - OG MAC - NEPO SAERSRUP - OG KRAMP
 MAC - R - W - W - N - N - S - E - OG EPPF - S - W - EVO
 S4080.....to complete the game!
 (You can also "KLEBBE DREW" for a little light relief.)

QUICKIES ... QUICKIES ... QUICKIES ...

A handful of tips from Mark Twainery also makes a point of telling me that he is NOT from Scotland, so just lives there!

KNOCKOUT BOXING

When prompted by "Revised Page 10-000" to repeat - DWH? Because there you can instead lead to all the other opponents!

BREATH OF THE DRAGON

On the title screen, press a key from 1-9 and you will start on the corresponding track.

HARDHAT MACK

Press 1, 2 or 3 to start on that screen!

ZYBEX

Here's some help from late February on Zybox which for unknown will help you level this game. Can you?

Start the game on the **HARDEST** level.

HARD LEVEL

1. ENOLELUS - 4 extra men
2. PROCVON - 5 extra men
3. GENALFUS - 2 extra men
4. ANDYOS - 2 extra men
5. BEROS - 2 extra men

MEDIUM LEVELS

Before going into SPORFUS, deal with NECVOS first as your weapons are replenished

6. PCTULS - 3 extra men
7. SPORFUS - 5 extra men
8. TIAN - 4 extra men
9. SAERS - 2 extra men
10. NECVOS - 2 extra men
11. DORLOS - 2 extra men

EASY LEVEL

12. RACTLFLUS - 10 extra men

HELP NEEDED

A ZORRO PROBLEM

A problem has arisen regarding Stephen Garbert's solution to this game in issue 43. Mr. Foley has got so far as the rooms with the flashing items and become completely stuck! He did not see any barrels in the bar full or anywhere else. Can anybody explain this game in more detail? Maybe Eric has gone wrong somewhere or is there more than one version of the game about? Maybe I might happen randomly?

UNIVERSAL HERO

Chris Roberts cannot enter his ID in the computer room. We are given to understand that it should be "BLANKMORNING" but no input is possible by keyboard or joystick. We don't have this game at present so can anyone assist?

Further requests for cheats, tips, maps or solutions have been

requested for the following games: **REPO OF THE BIRD**, **POTHOLES**, **PIRE**, **TERRIT**, **MARS RACE**, **MURPHYAN BIRD**, **RACE**, **ARMYVERS**, **S JUDGE**, **BOMB FUMOS**, **DAM LAW**, **ROCK**..... Can anyone help?

Send your hints, tips, maps and solutions to

THE TIPSTER
NEW ATARI USER
P.O. BOX 34, STAFFORD, ST15 1DN

A TIPSTER EXCLUSIVE!

Every reader sending in a NEW hint, tip, cheat or map will receive THE TIPSTER's unique badge, whether the contribution is used or not, the only qualification is that the tip must not have been used before in this column. (Repeaters please cut off old issues! Your name doesn't count either). Please note that our content indicates whether your hint or tip will appear in a future issue - it might, it might not - depends what the Tipster had for dinner when he comes to type up the column.



TURBO BASIC makes a welcome return with two quite different programs showing the versatility of the language

COLOUR-CYCLING DEMONSTRATION

by Gordon Cameron

This little demo uses mode 10, and rotates 7 colours of speed, to create the illusion of movement. Geometric patterns are drawn on screen, and appear to flow as they are being drawn and afterwards.

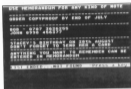
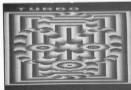
The demonstration makes use of the MOD command available in Turbo Basic. This returns the remainder after integer division. This may not seem that useful at first, though it will allow you to, among other things, count in sequence without having to see if the end of sequence has been reached. For example, say we wish the variable C to be incremented 1 at a time, but only to range from 0-9. Normally we would use C=C+1, followed by an IF test to check if 10 has been reached. However, this wastes lines, and is clumsy. It is much easier to use the command:

```
C=C+1)MOD 10
```

In this way, the value of C can never go outside the range 0-9, as the remainder after integer division of any number by 10 always lies between 0 and 9. It is this principle which is used within the demo to build the difference that C is incremented by 2, and does not start at 0.

Another Turbo Basic command used is PRINT. This is a command which fills any windowed area, using a recursive routine. Other structuring commands are used in loops etc., these being similar to Turbo Basic.

Also notice that, since the actual colour-cycling loop needs to be fast, as much calculation as possible is done BEFORE the loop is actually executed. This pre-processing greatly to ensure speed and efficiency.



MEMORANDUM

by Robert de Letter

Memorandum is a simple notepad writer in Turbo Basic. It will enable you to record all types of information you need quite simply in a series of notes which are stored on disk, when you exit the program and are loaded each time the program is run.

Memorandum is so simple to use that an explanation is almost unnecessary. Just load up your copy of Turbo Basic, type in the program, SAVE it and RUN it. You will see a well-explanatory menu. The only thing you need to remember is to always leave the program by selecting Exit, since it is only by this method that your notes are saved.

Memorandum acts just like a notepad that you may have on your desk except that you can search through it to find only certain notes. The search will pick up a word anywhere in the note so the method of entry is totally freehand. You could for instance make a note each time you have your car serviced. Entering 'car' in the search would then bring up all these entries plus, of course, any other entries that mention the word 'car'. By using certain keywords you can, of course, make your searches more specific.

Give Memorandum a try, it is quite a useful little program with many, many applications.

**Memorandum
is on page 30**

MEMORANDUM

TO : SAC, NEW YORK (100-100000)

FROM : SAC, NEW YORK (100-100000)

SUBJECT: [REDACTED]

RE: [REDACTED]

1. [REDACTED]

2. [REDACTED]

3. [REDACTED]

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200. [REDACTED]

THE MAGIC RETURNS: PART 1 - THE AMULET

The story begins. "Many years ago in the west we call the Desolate Lands there dwelt a certain kind of wizards and witches." Unfortunately years of war, plus the evil machinations of the dreaded Goblins left only some mages. They formed the Circle of Nine and defeated Goblins, but now, several generations later, a young witch named Isadora is reincarnated as Galsora, perhaps? is causing major trouble, and the Nine have disappeared.

Magic appears to have left the world forever, but someone says that it could be restored if only someone could search out the key and survive the onslaught of the Northern wasters. Guess who gets the chance to try? That's right You!

You start the game on a lonely mountainside; death awaits you if you venture east into a dark cave, south into a treacherous marsh, or north across a windy mountainside. So you had better go west! There you meet a mysterious forest. If you TALK he will offer you help to return for some help for his life. Unfortunately you have none and don't seem to have any way of getting to somewhere where there might be some! Never fear, the coded hints below will get you started, as well as telling you what to do with the strange ring that the forest gives you. You will now be able to reach lots more places and find lots more puzzles to solve!

The Amulet is a straight text adventure in the traditional style most of the time you type in VERB NOUN, e.g. FILL BUCKET, and the game responds with some text telling you the results of your actions.

This is Tiara Software's first offering, so don't expect an polished a product as some of the full price offerings from the long established companies (all of whom appear to have forsaken the 4-bit world). The programmers, Peter Lester, admits that he found a lot by producing The Amulet and Part 2 (The Castle) is going to be even better!

One problem is that The Amulet is quite a large game, and cramming it all in without having some of the programmer's hints that the bigger companies have developed over the years has meant that there is not enough room to handle all the verbs, nouns and adns which you may have. So, don't waste time trying to say PUT THE SWORD IN THE LAMP, just say FILL LAMP and it will work (as long as you have the SWORD) - so I am not going to tell you what it will do for you to try all the nouns you can see in the text - including the location descriptions - for example, at the Oasis, described as a "pond of beautiful water", neither EXAMINE POOL, nor EXAMINE WATER will work, but EXAMINE CASK does (The Oasis, despite being small, does apparently think you may want to you need to get past it - see below for a coded hint.)

Likewise, lack of space prevents the program giving you reasons for some logical inconsistencies - e.g. why CAN'T I use a shovel to propel the boat, put anything in the basket, throw things at the demon, look inside the bag, call the Caribbe Crystal a Crystal rather than a Caribbe, etc?

All that aside, as long as you are prepared to accept these little frustrations, you will find the Amulet an absorbing



reviewed by John Sweeney

adventure. It has a nice plot line, lots of places to explore, and some interesting little puzzles to solve. It also has a very fast response time (both about discrete reads for textual descriptions of locations) and a world instantaneous SAVE to memory as well as to diskette. However though - the necessary SAVE is lost if you die completely - so be sure to do some discrete SAVES as well!

Do you remember those awful Magnetic Scrolls conversions with the 30 second response times? Despite its limitations The Amulet is infinitely more playable!

It is always nice to see new adventures for the XL/SE, lets hope Tiara Software go on to produce some masterpieces in the future.

HINTS

(replace each letter with the previous letter in the alphabet)

Getting started: DNAME TOSSEP, WPU TUPPO, K, V, O.
Using the Ring: go to the BURNOFF, GSEOP TOPYAL KPBS
SUCK, SVC SACK.
The Oasis: DEFTT PRJUT.
Vast! Once you have the door open: FYBACOP EPFS.
Bucket: TBLP DAPPL.
Marsh: KPBS DAPPL.

- ◆ **GAMEPLAY** - Standard text adventure. Limited vocabulary, good response time
- ◆ **SOUND AND SIGHT** - Nice by/bide character art
- ◆ **VERSUCT** - A little primitive in places, but not a bad first offering from a new company. Well worth a go at the budget price

The Magic Returns: Part 1 - The Amulet
Publisher - Tiara Software
Price - £9.95 (disk only)

CASTLE EAYOR

Castle Eayor is situated on top of a mountain and is constantly surrounded by dark dreary clouds. It is inhabited by a mad scientist, Prof. Von Der Nadelkopf and his henchmen, Omega-roids IV. The professor, while experimenting with dangerous chemicals, inadvertently turned himself into a five metre tall monster with seven heads, twenty legs and a severe headache. Obviously, somebody must find the antidote and return Prof. Von Der Nadelkopf back to his normal human self. The only person who can do this is Omega-roids IV. You must guide him through the many dangers of the laboratory of Castle Eayor and collect the bottles of antidote which lie scattered throughout.

GAMEPLAY

On the screen you will be located at the bottom left corner. You may notice that parts of the floor disappear, and that there is electricity flowing from the light bulbs. Falling down the holes in the floor is not good for the metalhead and the electricity is not good for the brain-dead, so it is advisable to avoid them. As you walk across you will see antiradiation pills, a piece of the instrument has an arrow on it. This is a teleporter. It will teleport you up one level of the screen but, unfortunately, it is not working properly so it could teleport you anywhere on the next level. As you may have guessed if you get teleported into a piece of instrument that isn't there, well, then you go down to the bottom level the hard way! To activate the teleporter, press fire while standing over it (make sure it's there when you do). When you have collected three bottles of antidote, go to the top right corner of the screen, to be teleported to the next screen.

by Trevor Prendergast

CONTROL

Joystick controls left and right movement
Fire activates teleporters
On the title screen, press start to begin game

```

00 0 010 *****
01 1 010 *          CASTLE EAYOR          *
02 2 010 *          50                      *
03 3 010 *          THE END PRENDERGAST    *
04 4 010 *          *****
05 5 010 *          MON STAKE STEEL - ENGLAND *
06 6 010 *****
07 10 0000 000,0,0,000 1000,000 0000
08 10 0000 000,0,0,000 1000,000 0000
09 10 0000 000,0,0,000 1000,000 0000
10 10 0000 000,0,0,000 1000,000 0000
11 10 0000 000,0,0,000 1000,000 0000
12 10 0000 000,0,0,000 1000,000 0000
13 10 0000 000,0,0,000 1000,000 0000
14 10 0000 000,0,0,000 1000,000 0000
15 10 0000 000,0,0,000 1000,000 0000
16 10 0000 000,0,0,000 1000,000 0000
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21 10 0000 000,0,0,000 1000,000 0000
22 10 0000 000,0,0,000 1000,000 0000
23 10 0000 000,0,0,000 1000,000 0000
24 10 0000 000,0,0,000 1000,000 0000
25 10 0000 000,0,0,000 1000,000 0000
26 10 0000 000,0,0,000 1000,000 0000
27 10 0000 000,0,0,000 1000,000 0000
28 10 0000 000,0,0,000 1000,000 0000
29 10 0000 000,0,0,000 1000,000 0000
30 10 0000 000,0,0,000 1000,000 0000
31 10 0000 000,0,0,000 1000,000 0000
32 10 0000 000,0,0,000 1000,000 0000
33 10 0000 000,0,0,000 1000,000 0000
34 10 0000 000,0,0,000 1000,000 0000
35 10 0000 000,0,0,000 1000,000 0000
36 10 0000 000,0,0,000 1000,000 0000
37 10 0000 000,0,0,000 1000,000 0000
38 10 0000 000,0,0,000 1000,000 0000
39 10 0000 000,0,0,000 1000,000 0000
40 10 0000 000,0,0,000 1000,000 0000

```


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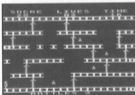
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CASTLE EAYOR

```
SUBMIT 0  
10 0000 POSITION 8,LEFT 00117 POSITION 8  
LEFT 00117  
20 0000 FOR GOTO TO A STEP -1,0000 0000  
0000 0000000 0  
30 0000 0010000 0,000000,10-00000 0000  
0000 0000  
40 0000 0010000000000 000 0000 0  
0  
50 0000 RETURN  
19 7999 000 -----  
20 0000 000000 010000 01,01000 000,010  
000 000,010000 000,0  
30 0000 ?  
40 0000 POSITION 8,10  
50 0000 ? " 000000 000000 000000"  
60 0000 0000 0000  
70 0000 0000 0000  
80 0000 0000 0000  
90 0000 POSITION 8,LEFT ? 0 00000 000000  
0000 000000000"  
A0 0000 0000 00000000 00000000 0000  
B0 0000 00000000 010000 000,0  
C0 0000 POSITION 4,LEFT 001170000 0000"  
D0 0000 0000 0000  
E0 0000 0000 0,100,10,10-0000 1,000,10,  
00  
00
```

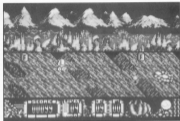


```
F0 0000 0000 0,000,10,10-0000 0000,1  
G0 0000 FOR GOTO TO 0000000 00  
H0 0000 0000 0,0,0,010000 1,0,0,010000  
1,0,0,010000 0000,010000  
A0 0000 FOR GOTO TO 10,0000 000,01000 1,0  
B0 0000 LEFT 00117 00000  
C0 0000 FOR 0000 TO 000000 00000000  
D0 0000 FOR GOTO TO A STEP -1,0000 000,0  
E0 FOR GOTO TO DIRECT LEFT 00117 00000  
F0 0000 0000 00000"  
00
```

PLASTRON

Anyone who travelled to the Atari 780 show hoping to find more than a faint trace of the 8-bit would have been rather disappointed. Atari were keen to show off their badly(?) styled TT and had stands dedicated to the Mega ST range, STE, ATW, Portfolio and Lynx consoles, but there was no sign of the neglected XE hardware and no new software on the 'Action Games' table. A few dealers had boxes of budget tapes to dispose of, BAPALG had everyone interested in a new CDROM unit, of course, PANG 8 had lots of goodies for everyone, but the only company offering anything really new was Harlequin who were showing, as promised, the first product in their exciting new range of full-priced 8-bit games - PLASTRON.

Harlequin tell us that Plastron is a tiny planet that also happens to be the richest known source of fossil fuels in the Universe. The 'Orani-Corp' have mined Plastron for over five centuries and consequently grown into the most powerful force of the Proletarian Galaxy - at the expense of less fortunate planets. In a bid to undermine the Orani-Corp's escalating strength, the smaller nations have banded together and hired a group of pirates to steal fuel from Plastron. Hence, a small space ship enters the planet's orbit and dispatches a shuttle to its surface. Starline brawler! One embarks on a dangerous mission to collect fuel rods from the exhaustively defended mine fields, with intent to transport them to a supply ship at the end of every mine. In command of the shuttle, a lone pilot nervously grips the controls in preparation for battle.



'an enjoyable and worthwhile challenge'

The future is in your hands!

The opening screen to Plastron features five hovering spheres behind an attractively shaded title. It's almost a graphics demo in itself, but there's better to come once you commence the game. The action unfolds on a horizontally scrolling playfield with well-crafted backdrops of appropriate planetary scenery. The passage through Plastron is a hazardous one, since the mines are plagued by potholes, ditches, ramps, plants and other troublesome obstacles. These make it all too easy to crash your tiny buggy - which, to be honest, is more like a toget on wheels than a space-age attack craft! Fortunately, the inevitable mishaps are mainly a cause of frustration and do not cost you valuable lives, but you must also evade more dangerous missiles dropped from overhead craft, birds and other land-based nasties. To assist you in avoiding the multitude of adversaries, your buggy is equipped with a

limited hopping ability which is replenished by locating and collecting appropriate containers. Your objective in each zone is to collect a pre-determined number of fuel rods - as soon as you've achieved this, the supply ship whisks you away to the following zone - where more interesting graphics, and even nastier enemies await your arrival.

On the face of it, Plastron poses a relatively straightforward challenge, but the combination of good graphics, excellent music in catchy composition by Richard Maxwell and addictive gameplay make it an enjoyable and worthwhile challenge. It's one of those programs that initially appears too simple to appeal - until you realise the time that you originally promised to have just now gone! Overall, Harlequin have made an excellent effort with their first Atari release, and if the forthcoming software is of a similar standard then Zappelin Games are going to be in for some stiff competition!

Title: **PLASTRON**
 Publisher: **Harlequin**
 Price: **£7.99 cassette**
£9.99 disk

Players: **1**

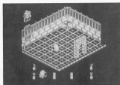
Reviewed by Paul Dixon

HEAD OVER HEELS

Ocean Software are innocuous for their ignorance of the Atari. Despite periodic mentions of Atari conversions, Ocean have seldom included the 8-bit in their busy release schedule. Things looked set to change in 1989 when HEAD OVER HEELS was completed in Atari format and even passed to one magazine for review. Alas, the reasons known only to their editors. Ocean refused to release it. To be honest, I did not have high hopes that Ocean's budget '88 Squig' label would signal any change in policy - but gladly, I was wrong. It seems that budget marks in

two letterbox rows for Ocean to resist, and Head Over Heels has at least won the fight of day?

Head Over Heels is a 3-D maze-based arcade adventure bearing more than a passing resemblance to Nintendo's popular Chuzzle. The novelty is that you have control over two characters, Head - who is naturally the brains of the operation - and Heels - the athletic creature of the day. The partners begin the game imprisoned in the under-bowl quarters of Blacktooth, and your aim is to guide them to wards a market place where they join forces for the main phase of the mission, involving the search for lost coins on four distant planets. The plot isn't exactly crystal clear, but the game's so addictive that it hardly seems to matter! The shift key switches your control between the two characters, who face a series of

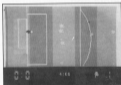


challenging puzzles before they can hope to meet up with each other. Heels must find a key to help him carry useful artifacts, whilst Head must search for a heater which he uses to launch doughnuts at attacking enemies. Teleports, springs, switches and conveyor belts are just a small selection of the objects that the pair will eventually encounter.

Without exaggeration, the game is a graphical masterpiece. Each location is intricately drawn to the finest de-

tail - all credit to the art bit for a magnificent achievement. There's liberal animation too, and an abundance of sound effects - although these can be adjusted to suit your own preference. I can't understand why Ocean wouldn't release the game three years ago - there's no doubt, it's the best I've played for a very long time. With excellent gameplay, superb graphics, great sound and a ridiculous price tag of under three pounds, I find Head Heels to be definitely an essential purchase!

Title: HEAD OVER HEELS
Publisher: THE 88 BLOOD CROCKS
Price: £2.99 cassette
Players: 1
Loadings: 17:10
Reviewed by: Paul Hooton



At the time of writing, the football computer was just taking shape. England have drawn in a goal-less match with Holland, West Germany have thrashed the United Arab Emirates, and The Cameroon seem to have a better chance than many of collecting the World Cup! Whatever the eventual outcome, two things seem certain - Argentina aren't going to get anywhere near the final, and Amco Electronic software company have made a phenomenal page-out of manufacturing the Atari version of

KICK OFF, a soccer simulation already highly acclaimed on other machines. There's been no advertising, no press release and no review copy - in fact, no indication of its existence! How can Amco hope to improve their 8-bit sales if they don't advertise releases? Anyway, Kick Off is definitely available and compares in physical terms at least - its packaging is enormous! The instruction booklet inside is so formatively neat of equally giant proportions, and the page sequence seems to have become established at the printers,

KICK OFF

but with some effort you will find everything you need to know. The game is played via a scrolling window giving a birds eye view of the pitch.

The players are represented by small coloured 'blobs', high-lighted in white once a player is in possession of the ball - it's not exactly realism taken to extremes, but the general approach is surprisingly successful.

The main menu offers several options, the first giving you a chance to test the patchwork movements and improve your handling skills. There's a separate option for practising penalties, and another to choose the match duration.

Each game is intelligibly supervised by one of twelve robots, who have varying factors of experience and tenacity, plus the power to score yellow cards - and red ones - in either team. The computer supports corner kicks, throw-

ins, tackles, fouls, third play-ers, injuries and a lot more besides. For expert players, there is an eight-strong league competition leading fourteen weeks and featuring international players with differing strengths and abilities. A save game feature is included here too.

Despite Amco's reluctance to promote it, Kick Off is easily the most detailed soccer simulation released on the Atari to date. The graphics aren't stunning but the game has sufficient depth to compensate. If you're looking for a football game, this is certainly one to consider.

Title: KICK OFF
Publisher: AMCO
Price: £6.95 cassette/
 £12.95 disk
Players: 1/2
Reviewed by: Paul Hooton

ZERO WAR

An alien-infested space station in the making for the latest game from Harigain, whose first release - *PLASTRON* - is also reviewed in this issue.

Another excellent musical composition accompanies the title page to *ZERO WAR*, which can only be described as a shoot 'em up with a difference. The space station in question consists of a central corridor with a series of secondary passages leading off at regular intervals, where groups of peculiar aliens are known to reside. Your view is from the forward window of an attack fighter craft - the

graphics here are very well done, featuring an excellent animated perspective view of the station complex and well-equipped control panel of the craft. Challenging combat, in its *Pole Position* mode, provides the necessary feeling of speed as you fly around the corridors in search of combat. A message bar at the top of the screen warns of nearby enemies and a read-out below displays shield strength, energy and several other factors.

Your essential aim is to collect three crystals that provide your passport to subsequent sectors, but first you must annihilate a variety of aliens. Once a corridor has been cleared, you have a split second chance to shoot down a creature that, if you're successful, may bring you a secret bonus, fuel, enhanced weaponry or an elusive crystal. There are 48 sectors, numerous corridors and a

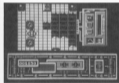


grand selection of well and mixed adversaries. You can tackle the nasties at full speed or while stationary, but reduced points are awarded if you opt for the latter tactic. Colliding with an alien results in a loss of your shield strength, and fuel's available as you don't have an awful lot to recover!

In addition to the aliens, there are several other problems to negotiate - laser doors in the main corridor require careful timing to destroy, and security checks are forced upon you at frequent inter-

vals. These involve three spinning objects and a lot of joystick wiggling, and aren't always easy to overcome - even when you know the method! I found these rather frustrating personally. Fortunately, a password system allows you to re-enter these sections that you've previously mastered. *ZERO WAR* is definitely one for shoot 'em up fanatics who are looking for something different. With great graphics, good music and a novel theme, Harigain should have no problems finding a market.

Title: ZERO WAR
Platform: Harigain
Price: £7.99 cassette/
 £9.99 disk
Player: 1
Reviewed by: Paul Dixon



It's always nice to receive something new from Atlantis Software, who've kept an unusually low profile in the past few months - especially when that something looks like being one of their most prestigious releases to date!

TITAN is a shoot 'em up which runs along roughly similar lines to the first phase of Red Fox's *Harigain*. Your objective is to save the Andromeda galaxy from the clutches of the evil war lord Gamma 7, who has apparently developed hyperspace plat-

forms to destroy all life forms in the area. It seems that you're the last of the freedom fighters with a craft equipped ideally for the task to hunt - multi-target' enemies, double pulse lasers and white noise generators tuned to the resonant frequency of the hyperspace platform. So, all you have to do is fly across the platform long enough for the raster to take effect - and end the war lord's reign of terror. To commence the game you're required to select a location from a map of the Andromeda galaxy. As you point at the

TITAN

various planets, logical instructions in displayed to help you decide which one you wish to attack. There are five planets and three alien squadrons to deal with in all, which can each be tackled at four alternative difficulty settings. The planets feature characteristic backgrounds, scenery, aliens and surface cannons while the squadrons offer just one of these components - yes, the aliens of course! Occasionally, after you've successfully capped the opposition, a small capsule is released that presents your opportunity to obtain supplies of additional fuel, speed, focus or bonus points. The raster doesn't stop coming through, and the return's gunfire can be difficult to avoid since the vertical scrolling played extremely well only a small portion of the screen. The remainder of the display is filled with status

panels indicating your score, lives, fuel level and the nature of incoming alien craft. The graphics are colourful and quite well drawn, with good animation, but the scrolling is extremely slow and could be frustrating for the more experienced aficionados. Bonus effects are basic, although not entirely unexpected for a game of this nature. Overall, *Titan* has most, if not all the ingredients of an addictive, high class shoot 'em up - exceptional graphics, multiple levels, bonuses for power and a variety of aliens. I'd like to see lots more like this one from Atlantis!

Title: TITAN
Platform: Atlantis Software
Price: £2.99 cassette
Player: 1
Coding: 16/30
Reviewed by: Paul Dixon

Ian Finlayson's

TUTORIAL

SUBROUTINES

SCREEN FLIPPING

Changing the screen image - instantly!



GRAPHICS MODE	MEMORY REQUIRED	"PAGE" OF MEMORY
0	793	4
1	513	3
2	281	2
3	273	2
4	537	3
5	617	4
6	2028	8
7	2645	6
8	7800	32

I have called this tutorial Screen Flipping as I think the term "page flipping" which is often used to describe the technique is a bit misleading as it is easy to confuse "pages" of memory (256 bytes each) and "pages" of screen data which take up different amounts of memory depending on the graphics mode selected. What we are going to do is set up a means of storing more than one screen image in the computer's memory so that we can then "flip" from one to another instantaneously with no delay while the new screen is drawn or received from disk. In fact I will show you two different ways of screen flipping using examples that flip between four different screens.

MEMORY MAP

Before going through the two programs in detail I will outline the Atari's memory map so this should make it easier to follow what comes later. The figure shows the memory of the computer in the form of a stack. At the bottom is RAM (Random Access Memory) used by the operating system for various purposes and the ROM used by Basic and DOS if you are using a disk drive. Next comes the actual Basic program area and then the free RAM. Normally it is the top of this free RAM which is allocated to the screen Screen RAM, and this is the area of memory that we will be manipulating. Above the top of Basic ROM for HAMTOP is ROM (Read Only Memory) which consists of the BIOS or other ROM cartridge and the other chips in the computer such as POKEY, OTLA and ANTEC. The dotted lines in the top of free RAM represent areas of memory which we will set aside for screen data. Each of the boxes will hold one screen.

PROGRAM ONE

The first method of screen flipping is the easier to understand, and it allows screens with different graphics modes to be mixed, but it does not let you display one screen while drawing another.

Lines 30 to 50 - First we look at the value in memory location 200 and loop it in the variable SCREEN. Next we select the graphics mode bits, or (normal text) and then we take 200 with aim to turn the screen off. This is a cosmetic exercise which ensures that the screens we want are all drawn without being seen until we want to see them later in the program. If you prefer to watch what is going on to begin with delete line 30 and insert old lines 150,170 and 380 as well. These lines switch the screen off after each graphics call so the graphics command turns the screen on automatically.

Lines 70 to 90 - These lines write the text in the first screen. **Line 100** prints locations 200 and 201. These locations show where the start of the display list is at this time. The display list is a short program that instructs the Atari's graphics chip ANTEC how to produce the required screen. The start of the display list is found in locations 200 and 201 in low byte, high byte form. The current values in these locations are saved in variables DLI1 and DLI2 for use later when we want to reset


```

00 1 000 *****
02 2 000 " TUTORIAL: WORDCOUNT.V"
04 4 000 " SCREEN #1 OF 3"
06 6 000 " "
08 8 000 " Ian Finlayson "
10 10 000 "-----"
12 12 000 " NEW SCREEN 2 OF 3"
14 14 000 "*****"
16 16 000
18 18 000
20 20 000
22 22 000 " THIS IS SCREEN ONE"
24 24 000 " AND THE LEVEL OF THE MENU"
26 26 000 " "
28 28 000 " "
30 30 000 " PRESS L.3 OR 4"
32 32 000 " FOR THE OTHER SCREENS"
34 34 000 " "
36 36 000 " "
38 38 000 " "
40 40 000
42 42 000
44 44 000
46 46 000
48 48 000
50 50 000 "*****"
52 52 000 " SCREEN #2 OF 3"
54 54 000 " SCREEN POSITION 0,12"
56 56 000 " "
58 58 000 " "
60 60 000 " THIS IS SCREEN 2"
62 62 000 " AND THE LEVEL OF THE MENU"
64 64 000 " "
66 66 000 " "
68 68 000 " PRESS L.3 OR 4"
70 70 000 " FOR THE OTHER SCREENS"
72 72 000 " "
74 74 000 " "
76 76 000 " "
78 78 000 " "
80 80 000
82 82 000
84 84 000
86 86 000
88 88 000
90 90 000 "*****"
92 92 000 " SCREEN #3 OF 3"
94 94 000 " SCREEN POSITION 0,12"
96 96 000 " "
98 98 000 " "
100 100 000 " THIS IS SCREEN 3"
102 102 000 " AND THE LEVEL OF THE MENU"
104 104 000 " "
106 106 000 " "
108 108 000 " PRESS L.3 OR 4"
110 110 000 " FOR THE OTHER SCREENS"
112 112 000 " "
114 114 000 " "
116 116 000 " "
118 118 000 " "
120 120 000
122 122 000
124 124 000
126 126 000
128 128 000
130 130 000 "*****"
132 130 000 " SCREEN #3"
134 130 000 " SCREEN POSITION 0,12"
136 130 000 " "
138 130 000 " "
140 130 000 " THIS IS SCREEN 4"
142 130 000 " AND THE LEVEL OF THE MENU"
144 130 000 " "
146 130 000 " "
148 130 000 " PRESS L.3 OR 4"
150 130 000 " FOR THE OTHER SCREENS"
152 130 000 " "
154 130 000 " "
156 130 000 " "
158 130 000 " "
160 130 000
162 130 000
164 130 000
166 130 000
168 130 000
170 130 000 "*****"
172 130 000 " SCREEN #4"
174 130 000 " SCREEN POSITION 0,12"
176 130 000 " "
178 130 000 " "
180 130 000 " THIS IS SCREEN 4"
182 130 000 " AND THE LEVEL OF THE MENU"
184 130 000 " "
186 130 000 " "
188 130 000 " PRESS L.3 OR 4"
190 130 000 " FOR THE OTHER SCREENS"
192 130 000 " "
194 130 000 " "
196 130 000 " "
198 130 000 " "
200 130 000
202 130 000
204 130 000
206 130 000
208 130 000
210 130 000 "*****"
212 130 000 " SCREEN #5"
214 130 000 " SCREEN POSITION 0,12"
216 130 000 " "
218 130 000 " "
220 130 000 " THIS IS SCREEN 5"
222 130 000 " AND THE LEVEL OF THE MENU"
224 130 000 " "
226 130 000 " "
228 130 000 " PRESS L.3 OR 4"
230 130 000 " FOR THE OTHER SCREENS"
232 130 000 " "
234 130 000 " "
236 130 000 " "
238 130 000 " "
240 130 000
242 130 000
244 130 000
246 130 000
248 130 000
250 130 000 "*****"
252 130 000 " SCREEN #6"
254 130 000 " SCREEN POSITION 0,12"
256 130 000 " "
258 130 000 " "
260 130 000 " THIS IS SCREEN 6"
262 130 000 " AND THE LEVEL OF THE MENU"
264 130 000 " "
266 130 000 " "
268 130 000 " PRESS L.3 OR 4"
270 130 000 " FOR THE OTHER SCREENS"
272 130 000 " "
274 130 000 " "
276 130 000 " "
278 130 000 " "
280 130 000
282 130 000
284 130 000
286 130 000
288 130 000
290 130 000 "*****"
292 130 000 " SCREEN #7"
294 130 000 " SCREEN POSITION 0,12"
296 130 000 " "
298 130 000 " "
300 130 000 " THIS IS SCREEN 7"
302 130 000 " AND THE LEVEL OF THE MENU"
304 130 000 " "
306 130 000 " "
308 130 000 " PRESS L.3 OR 4"
310 130 000 " FOR THE OTHER SCREENS"
312 130 000 " "
314 130 000 " "
316 130 000 " "
318 130 000 " "
320 130 000
322 130 000
324 130 000
326 130 000
328 130 000
330 130 000 "*****"
332 130 000 " SCREEN #8"
334 130 000 " SCREEN POSITION 0,12"
336 130 000 " "
338 130 000 " "
340 130 000 " THIS IS SCREEN 8"
342 130 000 " AND THE LEVEL OF THE MENU"
344 130 000 " "
346 130 000 " "
348 130 000 " PRESS L.3 OR 4"
350 130 000 " FOR THE OTHER SCREENS"
352 130 000 " "
354 130 000 " "
356 130 000 " "
358 130 000 " "
360 130 000
362 130 000
364 130 000
366 130 000
368 130 000
370 130 000 "*****"
372 130 000 " SCREEN #9"
374 130 000 " SCREEN POSITION 0,12"
376 130 000 " "
378 130 000 " "
380 130 000 " THIS IS SCREEN 9"
382 130 000 " AND THE LEVEL OF THE MENU"
384 130 000 " "
386 130 000 " "
388 130 000 " PRESS L.3 OR 4"
390 130 000 " FOR THE OTHER SCREENS"
392 130 000 " "
394 130 000 " "
396 130 000 " "
398 130 000 " "
400 130 000
402 130 000
404 130 000
406 130 000
408 130 000
410 130 000 "*****"
412 130 000 " SCREEN #10"
414 130 000 " SCREEN POSITION 0,12"
416 130 000 " "
418 130 000 " "
420 130 000 " THIS IS SCREEN 10"
422 130 000 " AND THE LEVEL OF THE MENU"
424 130 000 " "
426 130 000 " "
428 130 000 " PRESS L.3 OR 4"
430 130 000 " FOR THE OTHER SCREENS"
432 130 000 " "
434 130 000 " "
436 130 000 " "
438 130 000 " "
440 130 000
442 130 000
444 130 000
446 130 000
448 130 000
450 130 000 "*****"
452 130 000 " SCREEN #11"
454 130 000 " SCREEN POSITION 0,12"
456 130 000 " "
458 130 000 " "
460 130 000 " THIS IS SCREEN 11"
462 130 000 " AND THE LEVEL OF THE MENU"
464 130 000 " "
466 130 000 " "
468 130 000 " PRESS L.3 OR 4"
470 130 000 " FOR THE OTHER SCREENS"
472 130 000 " "
474 130 000 " "
476 130 000 " "
478 130 000 " "
480 130 000
482 130 000
484 130 000
486 130 000
488 130 000
490 130 000 "*****"
492 130 000 " SCREEN #12"
494 130 000 " SCREEN POSITION 0,12"
496 130 000 " "
498 130 000 " "
500 130 000 " THIS IS SCREEN 12"
502 130 000 " AND THE LEVEL OF THE MENU"
504 130 000 " "
506 130 000 " "
508 130 000 " PRESS L.3 OR 4"
510 130 000 " FOR THE OTHER SCREENS"
512 130 000 " "
514 130 000 " "
516 130 000 " "
518 130 000 " "
520 130 000
522 130 000
524 130 000
526 130 000
528 130 000
530 130 000 "*****"
532 130 000 " SCREEN #13"
534 130 000 " SCREEN POSITION 0,12"
536 130 000 " "
538 130 000 " "
540 130 000 " THIS IS SCREEN 13"
542 130 000 " AND THE LEVEL OF THE MENU"
544 130 000 " "
546 130 000 " "
548 130 000 " PRESS L.3 OR 4"
550 130 000 " FOR THE OTHER SCREENS"
552 130 000 " "
554 130 000 " "
556 130 000 " "
558 130 000 " "
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562 130 000
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572 130 000 " SCREEN #14"
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652 130 000 " SCREEN #16"
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732 130 000 " SCREEN #18"
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974 130 000 " SCREEN POSITION 0,12"
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980 130 000 " THIS IS SCREEN 24"
982 130 000 " AND THE LEVEL OF THE MENU"
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Listing 3

memory and you can view one screen while writing to another. The disadvantage is that all screens must be in the same graphics mode.

Line 20 to 25—clear the screen and then draw the border and text for screen 1 in Chapter 3.

Line 60 finds DLI+1 and DLI+11 as in the previous example and then calculates the starting points in the display list, DL, from those two values. The bits and shift items in the display list at memory locations DLI+4 and DLI+6 contain the value for the start of screen memory which is currently being displayed in low byte, high byte form. We are only going to manipulate whole pages of memory (256 bytes, 0x10000) and so we only need to worry about the high byte. The value is stored in the variable %C000.

Line 66—As before we find the location of NAME\$P in memory location 160 but this time we reserve all the memory we need for screen data in our go rather than going down slice by slice. For line DRAWTEXTS 0 screens we need 48, or 16 pages, but the screen is already drawn so we need an additional 12 pages.

Line 116—Locations 66 and 68 contain the location for the start of screen memory for write operations in low byte/high byte form. Initially the value here is the same as in DLI+4 and DLI+6 as described above. Again we will only consider the high byte location 66. By poking 66 with SCREEN-4 we move down 4 pages in memory for write operations. Notice that this does not

change what is being displayed on the screen, as this comes from the display list pointer.

Lines 120 to 220—draw the second screen in memory, but you cannot see it yet.

Lines 226 to 426 repeat the above process drawing two more screens each four pages lower in memory.

Lines 446 to 500 are where the screen flipping is carried out this time. Again we look for the keypress 23,4 or Q for pages 2,3,4 or Q and make any other key flip to page 1. The flipping is done by moving the pointer in DLI+5 to SCREEN for page 1, SCREEN-4 for page 2 etc. Note that line 496 restores NAME\$P to its original value before we flip.

CONCLUSION

I hope this description has been clear. This technique has many applications — one that springs to mind in particular would be a drawing program which could have a main screen for the drawing itself and a second screen for instructions or help which could be flipped to when needed. If you are using the technique and have problems with a SAGE and I will try to help.

Write to Ian Finlayson, 60 Sandstone Crescent,
Beard Preston, West Sussex, BN18 1JG

ATARI GAMES



A roundup by Peter Terry of some recently available ROM cartridges discovered on a trip to his local computer shop

When I walked into my local computer store a little while ago, I discovered a multitude of ROM cartridges, most of which I had never seen before. After some decision, I checked out the few of them (the other two I have on disk), and here are brief reviews of them for those of you who may not have discovered them yet.

DAVID'S MIDNIGHT MAGIC

This is not exactly a new game, but it has not been sold since 1985, so for all you new users it can almost be considered a new release. David's Midnight Magic is a pinball simulation. Is it, you can "take the machine" (I haven't found out how to, but it says you can on the box!) and you can also have 4 players competing. The game is very realistic with decent graphics and acceptable sound. It's real addictability is in the playing. The game is fantastically addictive (I was playing until midnight anyway). The machine has many features, like magnetic magnets, flip bumpers, level lamps, and a ball collector, so up to four balls can be in play at the same time. You control the flippers by using left, right, up and down. The screen display has the pinball machine on one side of the screen, and the files and credits on the other. It's brilliant, but there is one quirk: Who the Dickens is David?

LODE RUNNER

Lode Runner is essentially a platform game, with many nice refinements. It was originally released in America as this only, but now it makes it's debut as ROM here in good old England. In the game you play the part of a galactic astronaut who must return all the gold. However these nasty things called Bumbling Goats are out to stop you. There are plenty of added extra keys that add extra lives, skip a level or invade keyboard operation, and a key to disable the interrupting feature between levels. You have 150 levels of wacky action to get through. The graphics are quite good, but the sound is a bit sparse. You control a small drill to dig holes to trap the goats in, but you can get trapped too! Finally there's a construction kit, and you can make your own screens and save them if you own a disk drive. Lode Runner is tremendously addictive, and is well worth shelling out \$14.99 for!



FIGHT NIGHT

This is a boxing game with many features. You can make your own boxer, train, fight with a friend, arrange a tournament or sit back and watch two other boxers knock the living daylights out of each other. The other opponent names included within the program include "British Bulldog", "The Heat", "Doc Zivko", "Young Bomber" and "Old Kato". All these named opponents have certain features and some really special punches as well. The graphics are excellent, and the sound is quite good. When you punch a boxer, their glasses, or hat, or finger fly off and their eyes pop out! If you don't want to fight, you may make your own boxer, and name him. This game is recommended for people who often play games with a friend or colleague, and is a non-violent (but TD) way to let off steam. I would recommend it to you, its the best boxing simulation I have ever seen!



HARDBALL

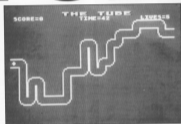
This game is basically a sports simulation. Originally an Arcade release, it also makes it's ROM debut (fairly enough I was in the shop!) of this game which I was in the shop! It is an excellent hardball simulation with good music, great graphics and excellent playability. The two player option is best. I really enjoyed beating my friend at it! The graphics of the pitcher are superb. For those of you who can't play baseball, that doesn't matter, the game is fully explained (well, as much as you need to know anyway). It is the real deal, and is VERY addictive. Atari have got another winner, and it's the best game reviewed on this page. If you don't already have it, buy it now ROM, and have instant access to THE best sports simulation on the Atari.

All these games are good, but the best, in my book is Hardball. However, if you are still for choice, why not buy ALL of these now ROMS?

You may have to travel around to find these games from your local retailer but some of these, along with many other Atari games, are now available from the Accessory Shop at special prices. See the supplement this issue.

LONG LIVE ATARI!

THE TUBE



by Dave Shakespeare

Here's a game that is harder than it seems. All you have to do is pilot your tiny craft through a huge bending tube. Sounds easy? Just try it!

The Tube creates a randomly bending tube on screen through which you negotiate your craft using thrusters to create movement in any direction or to slow your craft down. You must not touch the sides of the tube at any time and since the tube fills in behind you, you will lose a life if you stand still. If you do make it across the screen, the next level will present you with another tube of a different shape complete with obstacles to bar your progress. It gets quite hard!

You have five lives to play with. If you fail, just press the START key to play again.



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- Any Midi channel or voice can be used
- AMS music player
- Voice patch editors for Casio CZ and Yamaha DX



contact extra ... contact extra ...

WANTED

DESIGN WANTED FOR ATARI: I'm after the good artists. Please let me know if you're interested. Write to: Magazine, 11, St Ann's, 1, Upper Row 4.

DATA ENTRY: 1000 in good working order. If you've got any PC programmes please contact: Doreen, 1000, 11, St Ann's, 1, Upper Row 4.

BOOK DRIVE: 1000 in working order. Please write to me with any books, condition, condition, etc. will. Write to address: 11, St Ann's, 1, Upper Row 4.

STYLING: Please offer all packages of 1000 under 1000. 11, St Ann's, 1, Upper Row 4. All are business offered. Contact: Doreen, 1000, 11, St Ann's, 1, Upper Row 4. 1000, 11, St Ann's, 1, Upper Row 4.

DATA ENTRY: 1000 in good working order. If you've got any PC programmes please contact: Doreen, 1000, 11, St Ann's, 1, Upper Row 4.

BOOK: Offering the Atari 1000 in good working order. 11, St Ann's, 1, Upper Row 4.

DATA ENTRY: 1000 in good working order. If you've got any PC programmes please contact: Doreen, 1000, 11, St Ann's, 1, Upper Row 4.

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PENPALS

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DATA ENTRY: 1000 in good working order. If you've got any PC programmes please contact: Doreen, 1000, 11, St Ann's, 1, Upper Row 4.

HELP: How do you get in touch with me? I'm looking for a pen pal who can help me with my Atari 1000. Write to: Magazine, 11, St Ann's, 1, Upper Row 4.

NEW USER GROUP: I am looking for a pen pal who can help me with my Atari 1000. Write to: Magazine, 11, St Ann's, 1, Upper Row 4.

DATA ENTRY: 1000 in good working order. If you've got any PC programmes please contact: Doreen, 1000, 11, St Ann's, 1, Upper Row 4.

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DATA ENTRY: 1000 in good working order. If you've got any PC programmes please contact: Doreen, 1000, 11, St Ann's, 1, Upper Row 4.

MAXIMUM 35 words only PLEASE. 10 words allowed in PENPALS.

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Send your CONTACT notice to CONTACT, PAGE 5, P.O. BOX 54, STAFFORD, ST16 1DR. Please write your notice on a separate sheet of paper, and on part of it before.

THE ACCESSORY SHOP

ISSUE 45

Some of you may not have seen *the* Accessory Shop before. The Accessory Shop is PAGE 6's means of ensuring that your Atari gets the support it needs with public domain software, accessories and special offers. Now for the first time the Accessory Shop is able to offer you a whole host of Atari software for your XL/XE and at bargain prices. Whether you use your Atari for serious work or for fun, you'll find something of interest here and many of these programs have not been available for some considerable time. If you bought your Atari recently this is your chance to see just how versatile a machine it really is.

Let's Get Serious



VISICALC

The world famous VisiCalc spreadsheet available for your Atari. VisiCalc will take care of all of your spreadsheet requirements with all the arithmetical functions you could want on a spreadsheet that is 65 columns wide by 254 rows deep. All major spreadsheet functions are supported and the program more allows split window windows.

VisiCalc must be one of the finest products ever produced for the Atari and comes complete with support manual and quick reference guide. Order it or not, the original price for this package was £139.95!

DISK ONLY
OUR PRICE £11.95



TIMewise

Why not use your Atari as an electronic diary? Timewise allows you to keep track of all your appointments and important dates on a daily, weekly or yearly basis. Now you can depress with your diary and let your hand do the work. If you have a printer Timewise allows you to print out the information in a variety of ways. (Original selling price £22.95)

DISK ONLY
OUR PRICE £7.95

PROOFREADER



Some of Atari's best will be delighted with this, the long lost spelling checker for the Atari's wordy cartridge! Proofread is may be loaded alongside Atariwriter to give you instant access to a dictionary of 50,000 words. If that is not enough you can add your own words as you go. Errors are highlighted on screen for correction, unusual words can be saved and you can look up spellings. Proofreader is the missing link for Atariwriter.

DISK ONLY - OUR PRICE £5.95

TOUCH TYPING



Everyone who uses a computer tends to brush up on their typing and now you can learn to type like a professional typist with this complete tutorial. Touch Typing presents a self-paced method of learning by letting you practice typing letters, sentences and paragraphs. The computer determines words per minute, number of errors and your work points. Numbered sentences are generated to drill you in those areas. Contains two cassette tapes and instruction manual. Previously £19.95.

CASSETTE ONLY

OUR PRICE £4.95

Let's Have Fun!

Atari have had some real classic arcade games and originals either written themselves or specially commissioned. Some of these titles have not been available for some time and all are top quality programs to bring you fun and excitement with your Atari.

ALL ROM CARTRIDGES WILL PLAY ON ANY XL/XE SYSTEM INCLUDING THE XE GAMES SYSTEM



PLANETARIUM

Fun or education? Both really in this first sailing look at the heavens. Over 2000 stars, 80 constellations, the solar system and more than 200 deep sky objects are depicted in this program that allows you to view the universe. You can make stellar and planetary maps, study eclipses, learn about latitude and longitude, sunrise and sunset angles, latitude and seasons and determine navigational positions from celestial observations. You'll learn a great deal and you'll have fun while doing it. Includes an excellent manual and guide. Normally £20.00.

DISK ONLY
requires 1050 drive

OUR PRICE £6.95

POLE POSITION

The ultra-realistic graphics and sounds of the Grand Prix explode into your living room in this computer version of the classic arcade hit. Compete in lap in qualifying time, then take on the F101 raceway and competing drivers in a high speed race. One of the all time classics. Normally £12.00.



OUR PRICE £6.95

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CARTRIDGE**



GALAXIAN

Another arcade sensation that retains all of the addictiveness of the original and still stands as one of the all time classics. Blast the galaxians as they advance to formations and pool off to attack. With one or two players and 10 skill levels you'll be entertained for a long time. Includes an easy manual for beginners. Normally £12.00.

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PACMAN

Surely one of the best known games? Guide your happy little Pacman through the maze gobbling up dots and fruits while avoiding the ghosts. Gain a bonus PacMan money 50,000 points as you rack up the score. Simple, colourful, addictive and compact. A classic game. Normally £12.00.



OUR PRICE £6.95

**ROM
CARTRIDGE**



U.S. FOOTBALL

American Football is now a big craze in this country and you can now play it from home. Command the defence, pass with amazing accuracy, run with speed and agility, make tackles, select offensive and defensive plays and more. You can take on the computer in a practice game or challenge a friend to a dramatic video board game of your own in a packed stadium. All the thrills of the gridiron - without all the bumps and bruises. Normally £12.00.

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OUR PRICE £6.95

JOUST

Does your helmet and lance your lance and clash around an arena in this unusual arcade game? Do battle with the evil Ducard Riders in deep space. Periscope to the right of you, silver eggs to the left, you must learn to fly so that you won't die so very far from home. All the arcade thrills for one or two players. Normally £12.00.



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**ROM
CARTRIDGE**



RESCUE ON FRACTALUS

Ask old friends what was one of the best games ever for the Atari and a good proportion of them will say *Rescue on Fractalus*. This game from Lucasfilm set new standards in computer games, combining a space flight simulator with a reaction time test. Rapid, ever-changing, 3-D scenes as you fly through the immensity to find on the planet and rescue abandoned pilots. It's tough and as you get better it gets tougher but what a thrill in motion. One for yourself why many consider this to be the best game of all time. Normally £14.95.

ROM
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OUR PRICE £6.95

BALLBLAZER

Another from Lucasfilm, this top quality sports action game takes place in a game arena of the future. You are strapped into a Ballblazer (normally like roller skates) on the surface of the planetoid as the net you are on. The object is simple, just release your Blazeballs through your opponent's goal - but it takes a great deal of skill and timing! Blazeballs features two-player simultaneous play with first person perspective for both players. One of the finest two player games ever. Normally £14.95.



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BATTLEZONE

Another amazing arcade conversion that set new standards. You command a tank on the battlefield under attack from enemy tanks and firing weapons. You can rotate around through 360 degrees as the enemy attacks from all directions. Watch your fuel, turn and blast as the enemy approaches or avoid. It shows but still one of the many tanks and more its right to be famous, but if they see that, you'll have to outmanoeuvre them. It takes a lot of skill. One player, still still stands. Normally £14.95.

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STAR RAIDERS 2

The original Star Raiders is updated with better graphics and sound in this all action game. Drive in while you must track down enemy craft using your long range scanner and radar. Your job is to clear each sector while ensuring that the enemy do not overrun planets to another part of the galaxy. It will take skill in deciding which sector to warp to, can you afford to risk a rocket or will you have to leave to defend a planet and return later? Make sure your craft is in good condition and properly fuelled at all times. A great follow up to an all time classic. Normally £14.95.



ROM
CARTRIDGE

OUR PRICE £6.95



LODE RUNNER

Another classic, perhaps the best of all platform games. You are a highly trained Lode Runner who has to dig his way through a mine to retrieve all 75 of the owner's hidden treasure. You're equipped with a laser drill pistol but you'll need more than that, you need courage, speed and agility. Lode Runner includes a catalog which allows you to create your own levels so that the game can go on forever. One of the best. Normally £14.95.

ROM
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OUR PRICE £6.95

MIDNIGHT MAGIC

Imagine your Atari can become totally active as it becomes an athlete in the Games (Puzzle) Contraptions that will amaze you. Now you can join in the fun with Atari's Midnight Magic - all the thrill of the pinball table on your screen. There are Sappers, Bombers, drop targets and you can even shoot the machine. Watch you don't hit it all of the time, sounds, truth of your arcade pinball for up to four players. Normal price £14.95.



ROM
CARTRIDGE

OUR PRICE £6.95



ONE ON ONE

Play basketball with two of America's top players in this great sports simulation which features realistic offensive and defensive moves, fatigue factors, fast breaks, a shot clock, more instant replay and a stunning soundtrack like the game of basketball itself. One on One presents you for playing with your loved one well as your friends. Winner the players' choice, biggest game selling and best seen release. Just! World Soccer. Normally £14.95.

ROM
CARTRIDGE

OUR PRICE £6.95

FIGHT NIGHT

Fight Night brings you all the thrills of the boxing ring as you face off the most brutal fighters ever. In the separate box they are total one on one simulation action. The timing mechanism that allows you and your opponent to create your own perfect punches, including punches, kicks and style. Train, spar and step into the ring to get your perfect boxer against the computer or another opponent. Play one or two players. Normally £14.95.



ROM
CARTRIDGE

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The Page 6 XL/XE Library carries a huge range of top quality public domain programs on disk - everything from games to utilities to applications. If you have a disk drive and haven't had a copy of our full catalogue, you don't know what you are missing. Ask for a copy.

Here are the new disks available with this issue. All disks are £2.95 each except where shown otherwise.

THE NEW LIBRARY DISKS

Disk #139 - TANK MATHS

A very nice tailored maths exercise for children that will have them hooked as they learn. Although aimed at one school up to about 7 or 8 years old, older children and adults may find it useful for practising mental arithmetic. The problems include Addition, Subtraction, Multiplication, Division and Multiplication and Division tables are included. There is even a Roman numeral quiz that everyone will find useful. The program presents problems that the student has to answer. With every correct answer your tank will take the question out of the sky whilst incorrect answers are counted down as the correct answer is chosen. This is a shareware program and the questions are set at certain levels but will provide adequate practice. A multiple level version is available from the authors. A very nicely presented educational program.

Disk #140 - EARTH SCIENCES 4 - ROCKS AND MINERALS

The next tutorial in the earth Sciences series covering the subject of Rocks and Minerals and including Minerals, The Hardness Scale, Igneous Rocks, Sedimentary Rocks, Metamorphic Rocks and Weathering. The same format as earlier disks with questions and multiple choice answers. Perfect for students and fascinating for others as a way to improve your general knowledge. If you have followed the entire series, you might soon be ready for Mastermind!

Disk #141 - PIXEL ARTIST DE LUXE

A really top-class drawing program that has some unique features. Everything you might need in a paint package is here, including full on-screen help. You can change colours, brushes and spray patterns, change the speed of your brush, draw with line, box, oval, fill or text and there is an excellent menu facility (the best we have seen on a paint program) as well as Undo facilities and more. You can use a joystick or Touch Pad to edit and save in floppies or Microprinter format. There are keyboard shortcuts and up to 10 configuration files may be saved to disk. Together a top quality package that can compete with any commercial program.

THE NEW DISK SPECIALS

DS#51 - THE HOBBY-TRONIC DEMO

(Requires 1000 or 1250K drive)
A great new demo from West Germany created by one of Germany's top Atari clubs. There are six demos with great music throughout - a great welcome screen followed by a five level parallel scrolling demo that would be the envy of many ST users and then a nice graphics and mixed sampled sound-demo that includes a great pool size save-demo. Next there is the Monitor demo with bouncing sprites, a starfield and great music followed by a beautiful, smooth, hypnotic gear demo with hundreds of superb patterns, all finished up with a simple graphics demo with a German sound but some great persuasive music. These demos are great, you won't believe your Atari can do so much.

DS#52 - GOLDHUNT

Great role playing action in your choice of dungeons. You have to find a bag of gold within each room whilst avoiding traps and other hazards and return to the exit where you may travel to other levels or simply return home. The screen is divided into two parts, the square window which shows your position and everything you can see from your location and the lower part which allows you to enter commands for each of your moves. There are items you can carry, including a steamer, a torch, a mapmaker wand and you will need them all. Within each dungeon there are statues, fountains, bridges, doors and labyrinths all of which play a part in your quest - you must learn how to cope with each one. There are dozens of ready made dungeons plus an Editor which allows you to create your own. Goldhunt is an excellent program of commercial quality that is impossible to describe in detail in a short space. The disk contains a comprehensive explanation of the game. An excellent game, one of the best of its type in the public domain, and well recommended.

DS#53 - INFANTRY SQUAD

Something quite unique for the public domain, a fully budget wargame with all the features you would expect from a commercial program. In fact this was once a commercial program and is now released to the public domain. Infantry Squad is a one player game of tactical skill played on the squad level. You have an Infantry Squad made up of a Squad Leader, two Fire Teams and an Armoured Personnel carrier equipped with a machine gun. Your mission is to completely

eliminate all enemy units from the battlefield while ensuring that your men survive. Your final score is based upon the amount of damage your men sustain. All of the usual features of wargames are included and you may also design your own battlefields with the built in Drawing package. Again this is a complete program that cannot be explained in a few words but it comes with full instructions on the disk. Essential for dedicated wargamers and a great, low cost, introduction for those who have not sampled strategy games. Infantry Squad is a top class program, give it a try.

DS#54 - THE 8-BIT REFERENCE GUIDE

With many of the best reference books now out of print, this disk based reference guide is more than welcome. A superb tutorial that may be printed out with a word processor or read-direct from the disk with the viewer program supplied. The guide covers the whole spectrum of Atari programming including the Central Input/Output Utility, The Disk Operating System, Using DOS 2, The Cassette Handler, The Keyboard Handler, Printer Handler, Screen Editor, The Display Handler, The Resident Disk Handler, System interrupts, The Floating Point Arithmetic Package Box Software Formats, The Serial Input/Output Interface, The Hardware Chips, Display Lists, Player Missile graphics, Sound, The Joystick Ports and more. As you will see this is the subject matter the guide is aimed at the more advanced user but it contains material that will be useful to anyone who wants to program the Atari effectively. A very comprehensive coverage of the machine with much information that is now difficult to obtain elsewhere.

The 8-BIT REFERENCE GUIDE
is a **THREE DISK SET** price **£9.95**

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Page 6 Collections represent great value saving £20 on the individual price of the disks!

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ST FILE



Let's start with the programs shown in the pictures on the right. First you've got **MEAN STREETS** from U.S. Gold which looks as if it might be the forerunner to a new genre of ST games. But couldn't someone popular types of game into one? It is basically an interactive adventure in which you share 20 animated characters to mean and talk to. In fact some of them do actually talk using digitized speech! Add to that a flight simulator to get you from city to city and action packed shoot-outs when you meet some unusual characters and you have a fairly unique game. **ARMY** (MicroCap) comes a real way. U.S. Gold did it first in which you play the part of a sergeant in a simulation that puts the scanner in your hand and lets you play God. You have to read charts, diagrams, order food, load and fire weapons when and how to operate - and when you die, it's all there in living colour! The tale of four-footed battle ship crawling now! In a more educational level is **THANX** (Spectrum) the **ROAD TO STREETS** in which you jump ahead the world's most famous bike on a trip to the year's longest bike rally in Daytona, South Dakota. Along the way you'll meet some real road dogs of the road to meet some later, then it's on to later games including drag racing, slow rides and hill climbs. All the fun of a fairly **MAGIC FLY** from Electronic Arts is a more flight simulator in which you control one of the top edge of the universe piloting a craft that has been evolved from some of nature's inventors (Spectrum). You have 30 different alien craft to overcome in combat using 30 types of weapons of air in a 3D universe network of tunnels. If you don't like space, a platform game called **FLOOD** might appeal. This program has been designed with the younger player in mind and relates the sad story of Quilly, a slightly overweight and green blobber that has been overlooked from the early creatures that have evolved for underground home while at the same time trying to avoid the flood. Electronic Arts making a big splash price wise with conversions from the arcade and the first release **MMI SOLDIER** is now out a right through time from Phoenix Mass through ancient times, Medieval Japan, World War 2 (about) remember for the next up to Future World. Should have a lot of 10's in the arcade. Electronic's next is **MR COB BURN** (Spectrum) one of the old classics brought up to date and retailing at just £14.99. Don'ts continue with their success coming the great eye. Back to back, heralding the release of the **OPF** **MR LOVER** (Spectrum) in which you have the chance to wrestle with the evil Lord and **RELOAD** (Spectrum). Lots of shows in the **Lord** (Spectrum), **Speed** (Spectrum) and **Golden** (Spectrum) which they say contains over 8.5 million unique murders for you to solve (looks like you'll have to do a Jack Ripper and solve will one or two off outlandish. If you know the game **Demals**, you'll know exactly what to expect. Progress are always worth looking out for and they have more just out including **ROBBERY** by the author of **Real**, released as the world's best action on up game for the ST and **REAL** (Spectrum) **MANAGER** - a new concept in super-fast 3D abstract racing games. There is too much involved to tell it of but it looks interesting, two computers if required and a talking navigator. Not, apparently, a game for the novice either - you have to be good before you start! To finish up, look out for **REARVIEW** of **LEONARD** from MicroCap, apparently 8 years in development and offering the most comprehensive combat system ever incorporated in a role playing game. There you have it, the biggest, the best, the longest developed, the most advanced software yet for your ST, and the new issue, that of



MEAN STREETS - a whodunnit, flight simulator, arcade shooter and adventure all in one game!

LIFE & DEATH - no this is not a naughty picture, it's an operation, honestly!



MAGIC FLY - crimebusting on the edge of the universe with the Magic Fly Squadron

HARLEY DAVIDSON: THE ROAD TO STURGES - customised bikes, biker games and lots of laughs



AMATEUR OR PROFESSIONAL?

John S Davison has been flying FS2 again

Flight Simulator II (FS2) enthusiasts are in for another treat with these new offerings from Computer Books. Books are packed with interesting and exciting scenarios for you to fly, ranging from short, simple sightseeing flights to long, complex flights involving nearly use of FS2's advanced radio navigation equipment.

Scenarios are set up by keying in the editor data supplied for each flight, and then you're "taken through" the flight as it happens. Some of these verbal scenarios run only to a few lines, but others (particularly in the commercial flying book) amount to many pages of detailed instructions and descriptions of what to look out for.

A FLIGHT SIMULATOR ODYSSEY

Charles Gulick £14.95

This book is by that most dedicated of FS2 pilots, Charles Gulick, and is his SIXTH book on the subject. It contains 126 scenarios spread over the basic scenery supplied with the FS2 program and three of the accessory scenery disks.

There are 12 flights using the original scenery supplied with all versions of FS2, plus a further 11 in the San Francisco Bay area (standard with the ST version, but available as an accessory disk on 8-bit machines). Amongst other things, you'll view the Statue of Liberty, fly between the massive twin towers of Manhattan's World Trade Centre, and perform precision landings at Tacoma Narrows near Seattle - the airport with the least water hazard! In the San Francisco area you'll land on a dock at the famous Fisherman's Wharf, taxi the control tower at SFO airport, and fly THROUGH one of the giant stryke hangars at Moffett Field.

Scenery Disk 7 covers a large region, extending from just below the New York area right down to Key West at the tip of Florida. The 27 scenarios cover it all, including landing on Washington Mall near the White House, and doing an engine-out landing from 33,000 feet on the Space Shuttle Landing Facility at Cape Canaveral - just like a real Shuttle pilot would. Scenery Disk 11 also covers a large area, this time in the Great Lakes area and extending up into Canada. The 23 scenarios here include participation in a new sport - glider chasing - to find the gliders flying at four locations on this disk. You'll also visit the Niagara Canyon and its famous Falls, and land at Johnstown in the Allegheny Mountains.

The Western European Disk is the one we were all waiting for, and Charles Gulick has given it the full treatment. The 42 scenarios show you the sights of England, France, and Germany, and how to visit areas not described in the FS2 instructions - such as Iceland, Yngbo, Greece, and Italy. You'll view the English chalk giants, such as the White Horse of Uffington; go sightseeing over London and land in Regent's Park; see the sights of Paris, visit the cities and mountains of southwest Germany; and land in the Kremlin Park in Moscow!

In summary, the book is a highly enjoyable way of quickly getting to know those scenery disks. If you have the disks, you need this book.

REALISTIC COMMERCIAL FLYING

with Flight Simulator

John Rafferty £14.95

Charles Gulick's books are written from the viewpoint of the enthusiastic amateur pilot, but John Rafferty takes things one step further. Here he attempts to show you what the professional pilot's world is like.

To begin with you're taken through four "check rides", to ensure you have all the skills for both basic and instrument flying before progressing to your first real assignment. There are 26 "real" flights, covering air taxi operations, commuter flights, aerial ferrying flights, air express deliveries, night mail operations, and even an aerobatics demonstration at an airshow in California.

Each flight begins and ends at a real-world airport in the basic FS2 package (no scenery disks needed), and is planned on the basis of a realistic weather briefing. You also have to contend with changing weather conditions during the flight. Before a flight commences you produce a proper flight plan to obtain an IFR (Instrument Flight Rules) flight clearance from Air Traffic Control. Once under way, you receive all instructions from ground, tower, and air-traffic controllers in the crisp, authentic ATC manner. Real FS2 users would probably want to record these communications into tape and play them back over headphones at appropriate points to simulate real radio communication!

The book also contains sample blank flight planning and log forms, and Victor Airways charts and IFR approach plates for each of the airways and airports used.

It needs considerable skill to fly these scenarios accurately, so this book is not aimed at the absolute newcomer to FS2. However, once you've mastered the basic flight skills you should soon be able to manage them.

Overall, the book provides a fascinating insight into the world of the professional pilot and provides yet another way of extending the scope and use of FS2. Highly recommended for all serious FS2 fans.



Both of these books are available from the PAGE 8 Accessory Shop.

UNIVERSAL ITEM SELECTOR

There is a great little utility in the public domain called The Little Green Selector that knocks spots off of the item selector built into GEM and is still far better than Altaris' 'improved' selector found in TOS 1.6. If you don't already use it, you should.

So, with a good PD file selector, why should you consider spending money on a commercial product such as the Universal Item Selector? Simply because it takes the basis of an alternative file selector and improves upon it without losing a single selector function into an almost indecipherable utility that any serious user will not want to be without. The Universal Item Selector is installed when you first start a working session, either by placing in an AUTO folder or by running the program. Nothing much happens until you run another program that needs to access a disk. At that time as this occurs, UIS takes over and you are presented with a huge selector box that enables you to see up to 30 filenames at once. If 30 is too many then UIS can be configured to show 12 filenames in two different frames and any configuration chosen can be saved to start automatically next time you boot up. So, you can see more filenames, there must be more to it than that!

Let's start with the utilities. UIS lets you store, copy, rename or delete any file without opening windows and without having to be within another program. In fact all the utilities are available whenever UIS is called whether you have a blank disk up or are in the middle of some word processing or other work. A handy acronym that comes with the program enables UIS to be called at any time and all the utilities can then be used. In practice, you will often find yourself wanting to load a file for a particular application and discovering that other files can be deleted or would be better renamed. No problem with UIS, just do it, even if the program you are using does not support these functions. If you need a new folder, just create it. Other utilities include formatting of disks and printing of a directory plus the ability to lock or hide files, either individually or on disk. All of the utilities can be used in this way so if you want to copy or move a whole directory it can be done, and even if you cannot see all of the files at once.

One of hard disk will find UIS a real boon, particularly if they use a number of partitions and many folders. Any directory path can be assigned to a function key so that this path will appear in the selector window whenever the appropriate key is pressed and these key assignments can be saved so that they load as defaults whenever UIS is installed. As an example, in preparing this issue I have a folder on drive C named FLEET-ST which in turn contains a folder named MODEL-49 which in turn contains folders named TURT and DRAGON. I need to access all these plus similar folders for the last issue together with other folders in a PROTECT folder. Doing it the conventional way of cloning items through levels and opening up again takes ages but with UIS I just press one key. Brilliant! And what makes it better is that I can still use the function keys with Fleet Street for other purposes. UIS does not interfere in any way with other programs.

Another useful feature is the ability to select up to four 'user definable' extensions so that only files with the selected extension appear in the window. You can at any time select other defined extensions and you can use these extensions or another selected template to search for any file. Defining extensions is extremely simple as in every aspect of using UIS, there are no complicated setting up procedures, everything is done from within the selector box. It couldn't be easier to use.

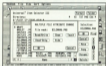
There are many more refinements to UIS which enhance the program even more, so fast you will probably forget to use some of them, but the basic outlined make it well worthwhile for every serious user. Like NortonDisk, once you have used it you will not wish to go back to the poor substitute of GEM.

Universal Item Selector is available from

The SOFTWARE SHOP, Sharny Street, Nottingham, NG1 1LX price £75.00



The default setup of UIS with 20 filenames - but can be made smaller and the selector box can be adjusted in above lines/files



File utilities can be changed, either on individual files or on folders. Other utilities allow files to be moved, copied, renamed or deleted



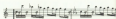
Universal Item Selector can be configured readily to suit your preferences - your chosen configuration will be loaded next time you use UIS



The smallest window available gives just 12 files to view - the window can be positioned anywhere on the desktop

reviewed by Les Ellingham

MAKING MUSIC WITH YOUR ATARI



fortune. It covers several different aspects of computer music making, using only relatively low cost software and hardware - and you actually get to HEAR the sounds they can make!

Don't expect a quick, flashy demo. The cassette runs for an hour, and explains a little of the background to the Atari's sound chip and to MIDI, and demonstrates the sort of musical sounds you can easily create using either approach. Although the music is on MIDI, the action begins simply, using the sound chip, and builds up to full multi-instrument MIDI sequencing using the Yamaha PS5-050 and Y5-200 instruments, playing many different musical examples along the way. Side 1 of the tape is aimed at the 4-bit unit, and Side 2 is oriented more towards the ST, but there's enough common material throughout to make both sides interesting to everyone (at least, that's what I intended).

LOW COST PRODUCTS

In keeping with the low-cost approach, I've used music products distributed by PAGE 6 wherever appropriate, demonstrating firstly that they do actually work rather well, and secondly what great value for money they are. I will admit to briefly using a few non-PAGE 6 commercial products though. These include Steinberg's Twelve sequencer for the Atari and other systems, plus Arturia's Music Studio and Electronic Arts' Music Construction Set to edit some of the music files.

On the 4-bit front you'll hear Composer's Jukebox playing Advanced Music Systems music files via the 4-bit sound chip, compare music played by the sound chip and via MIDI and experience for yourself the difference MIDI makes; hear MIDI Music playing AM5 files via MIDI, plus music created with its own real-time sequencer; and compare the sounds made by an inexpensive MIDI instrument like the PS5-050 with a more expensive (but still relatively low cost) keyboard such as the PS-200.

On the ST you'll hear the Music Construction Set Player Program playing MCS music files via the ST's sound chip; the Music Studio Player Program playing MS music files via MIDI; custom built PS5 voice patches created with PatchEd and PS505; music produced with the Commodore real-time sequencer; and even an AMS music file from the 4-bit machine played on the ST (yes, on the ST! with the help of Tur-Talk and a public domain music file translator utility). At the time of writing I'm creating the final stereo master tape, so copies should be available (provided permitting by the time you read this. I hope you enjoy hearing PAGE 6's World of Computer Music Making as much as I've enjoyed creating it. If you do, why not try creating some music yourself?

THE COSH SEQUENCER

As promised in the last issue here's a report on another first class piece of software recently added to the PAGE 6 PD library. This is the Cosh sequencer, named after its author, Henry Cosh of ComSystems. Herbs, Henry used to play piano arrangements to his wife's singing, but sadly a recent illness left him only able to play using one hand. His solution was to replace his piano with a Cosh HY-3000 MIDI keyboard and to write his own sequencer software to allow him to record the part. For each hand separately, and play them back together from his 10400C.

**John S Davison's
regular guide to
all the ways
of making music
on your favourite
computer**

How do you portray a musical sound to "words"? That's a problem I have in writing this column - how to describe the sounds produced by the hardware and software discussed here? Really, the only answer is for me to actually play them to you, so that's exactly what I'm going to do - on a new PAGE 6 audio cassette recording.

The basic idea is to demonstrate the musical capabilities of your Atari, using equipment and software that the average Atari user can relate to. All too often music demos use MIDI setups costing thousands of pounds, when all most people would consider spending is a few hundred at most. For example, the main MIDI demo at the recent Atari 80-Show used two Roland D50 synth modules with C-Lab's Notator sequencer software - total cost about £2000. Another instance was the Yamaha SY77 synthesiser and Notator software used to produce the short demo cassette recently given away free with SE Forum magazine. Once more total cost was around £2000. These setups certainly sound impressive, but are hardly a practical proposition for most enthusiasts.

Our project starts from the opposite end of the scale - if you'll pardon the pun, showing you how to tap the musical potential of your Atari without spending a



This program has all the usual basic sequencer features plus several not usually available at the budget end of the market. It takes to PD software. It also has a few idiosyncrasies, and here I mention it — the old bug or two!

Fundamentally, it's a 16-track real-time sequencer which can handle up to 32-note polyphony, i.e. a maximum of 32 simultaneous notes across all the tracks. Each track can have a MIDI program number, input channel, output channel, note range, volume range, input filter and output filter associated with it. There's also a software MIDI THRU function, which makes multitracked recording easier.

One interesting feature is that it can record on multiple channels simultaneously. BUT — before you think you can now record the multi-channel automatic accompaniments from instruments like the Yamaha PS5-680 there's a small snag to consider. The patcher has dedicated MIDI channels 14 through 16 to the SP's internal sound chip! Acceptably fine of great idea, so there are the channels used by some of the PS5's auto-play features. You can't use the PS5's drum rolls, or any track via channel 16.

Another slight niggle is that it only handles MIDI Program Numbers up to 80, which means you can't address the PS5's top three preset voices or, more importantly, the five user patch memories. OK, so Cash isn't already installed in the PS5-680, but you can still do a lot with it.

One unique feature is the program's music map. This is a graphical indication of what's on each track, shown on a bar-by-bar basis across a horizontally scrollable display. It's not in musical notation and you can't actually see the MIDI data, only whether there's anything present or not, indicated by small markers in appropriate positions in each bar. However, you can zoom in to any section of the map until markers for individual notes become visible. Thus, by defining a "highlight" of the music by drawing a highlighted block round a group of note markers and using the "backlist" feature to listen to them, you can do your editing by ear.

As the music plays, a cursor moves across the map to show you the current playback position. Unfortunately, the map doesn't automatically scroll when the cursor hits the edge of the screen, but the music does continue playing. You can manually scroll the display using the map scroll bar, but this temporarily interrupts the music playback. This is no great problem though, as normally you only need to do this while editing, when a slight interruption in playback doesn't really matter.

A highlight can be operated upon by a set of block functions, allowing you to quantize, randomize (sequencer), move, copy, clear, transpose, alter velocity, and filter MIDI data from it. The filtering can be set for pitch bend, aftertouch, pitch range, volume range, or specific MIDI controller number. You can also do patch-in/patch-out recording at the highlight level, allowing you to replace any section of any track with a new recording.

There's also an "auto-patch" function allowing the replacement of single notes and chords, but I couldn't persuade this to work on my old SC80TM, and repeated attempts caused the program to crash or lock up. This is one bug that really should be fixed, as auto-patch should make detailed editing very much easier. You can still achieve a similar result using the normal patch-in/patch-out method, although not quite so easily.

Other features include the ability to change time signature and tempo within a song, to merge song files, to synchronize the sequencer to an external clock signal such as that provided by a drum machine, and to drive a drum machine in synchronization with the sequencer. All-to-all it's one helluva package for just £2.95! Actually, this program is shareware rather than true public-domain software. The author asks that you send him a donation of £10 if you like the program and

use it regularly. Even at £12.95 it's still excellent value, and offers an unbeatable introduction to real-time MIDI sequencing.

THOSE PSS VOICE PATCHES!

Where are they? I've been totally underwhelmed by your response to my request for PSS voice patches (a couple of hours back, I've not even received ONE! Do what are you all doing with those voice patch editors you're bought from PACE? Surely you've each produced at least ONE possibly decent patch by now? I know there's somebody out there reading this column so some of you have written to me, so come on, don't be shy! Get all your best, load up PatchEd or PMS4D, and try to create just one new PSS patch. Yes, I mean YOU!

If the creative juices aren't flow, try the patch editor below to get you started. You don't even need voice patch editing software for this — just program it from the PS5's front panel. Select preset voice 79 (Blue Bass) to start, then work your way up from voice parameter zero through to eight, inputting the following values: Parameter 0=50, 1=45, 2=18, 3=25, 4=00, 5=00, 6=07, 7=70, 8=00. If you don't know how to do it refer to the PS5's instruction manual. I've called the result "Tandy Bass", and if you play it on the keyboard's lowest B you can hear you should hear a good solid bass sound with a strong attack.

Now experiment and try to produce something better — and when you do, please send me the results so we can all share them! You'll even get a mention in this column! Fame at last!

SNIPPETS

...As you've no doubt seen from the adverts, PACE's MIDI Master music package for the 8-bit machines is finally available. So, now's your chance to get into the world of MIDI music without having to buy an IC. More details in the next issue if I can find the space. And don't forget you can also hear it in action on the new PACE 6 music cassette described earlier.

...One of the best books explaining MIDI has just come across as "What's MIDI" published by Track Record Publishing Ltd., and available by mail order from Making Music (no relation to this column). It costs £4.95 (including postage) + phone £01-284-3632 to order your copy. Its 120 pages are packed with everything you could want to know about MIDI, and is highly recommended reading for all MIDI-makers. Other books in the series cover buying and using 4-track cassette recorders, guitars, and drum kits, and all seem to cover their subjects very thoroughly and competently.

...Yamaha are reworking the PS5 series of low cost MIDI keyboards YC1-AG200 The PS5-580/780 models which recently replaced the original PS5-480/680 models are now themselves being replaced by PS5-580/780 models. The latest instruments incorporate Yamaha's new ARM (Advanced Wave Memory) technology, which is capable of producing very realistic imitative sounds — great for pianos, strings, choir sounds, etc. If they're as good as their predecessors they'll be ideal MIDI beginners' instruments. Expected prices are around £190 and £250 respectively. I hope to see them at the British Music Fair (at Olympia, 20-22 July), so more details next issue.

◆ **THE COIN SEQUENCER** is available from The Page & Accessory Shop for £2.95. Write to PAGE & P.O. Box 24, Stajford, CV30 2JH or telephone 0783 213028.

◆ See page 18 for details of the **WORLD OF COMPUTER MUSIC MAKING** tape

ULTIMA V

WARRIORS OF DESTINY

Back in 1991 I spent a couple of hundred hours playing an amazing Fantasy Role Playing game called Ultima IV - The Quest for the Avatar on my DOSXL. At the time I thought it was the best computer game I had ever played (see my PCOLN page review in issue 23 for the details) so I was delighted when in November 1997 I saw an ad for Ultima V - supposedly even bigger and better!

November 1998 came and went and there was still no sign of it on any list! It was not on Commodore and AppleII, likewise November 1999, but here it is finally here! Not only - sorry all you 3-bit-lovers! Was it worth the wait? You bet - it is every bit as good as its predecessor is. Ultima V you play the part of an Avatar (basically a good guy) called to a strange land to find and remove the King, Lord British, and to the shadowy Underworld. Along the way you will find numerous magic, herbs, and fighters who will offer to join you in your quest. You can have six characters in your party at any one time, having surplus ones to rest in inns until you need them again - beware, not every one wants to join you to a good job!

Ultima V is basically keyboard-driven. As well as moving your characters around with the arrow keys, you can issue 24 commands such as Attack, Board, Cast, by typing the first letter. Further input is provided by either

selecting from menus or typing in single words to carry on conversations (I.E. you only ever need type the first few letters of a word during a conversation).

There are lots of shortcuts to enable you to speed up the play, such as commanding an active character to perform all the actions (especially useful at the ends of fights for examining treasure chests or exploring dangerous areas for secret passages) and the fact that it remembers which monster each character is fighting and re-arms weapons ready for the next blow.

Some of the menu screens are not quite as friendly as in Ultima IV, partly because V is more sophisticated, but also partly because they didn't think hard enough about it - it gets really boring having to scroll through twenty lines to reach your watch so that you can check the time!

There is no need for the quick reflexes in this game, it always waits for your next input before continuing with the action. That doesn't mean that it doesn't get the old adrenalin flowing - it is amazing how often you can get trying to pick off a handful of demons and dragons before your guys die!

The variety within the game is superb: there is a vast wilderness to explore, both land and sea, using skiffs, frigates, horses, or more exotic forms of transport; dozens of towns, castles, keeps and light-houses to trade and converse in, some of them with as many as five levels; eight perfidious dungeons to explore, each with dozens of "rooms" full of monsters, traps, treasures and secrets scattered over night

levels of twisting corridors, ladders and pits.

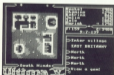
Deep in the earth there is another vast wilderness of caverns, tunnels and underground waterways - always dark, treacherous and deadly!

If you want arcade style fighting there stick to DungeonMaster and its clones



and imports. But if you want something with a bit more depth than those it is nothing quite like an Ultima! By the time I finally completed Ultima V I had covered over sixty pages with notes, maps and tables! The detail is amazing throughout - in the fights where all your characters and the monsters take it in turns (according to dexterity) to wield weapons and spells at each other - in the towns where long conversations lead you on trails around the world in search of magical artifacts and secret words - in the spell casting, requiring you to mix the right components and say the correct words - in everything!

Do SAVE and backup regularly - there are countless perils, plus a few little bugs - I can only only SAVE once I am sure I can get out of wherever I am, and that I will have all my important possessions! Ultima VI is already out on the IBM, hopefully the wait won't be so long this time as Mindscape are already confident by preferring an Action Atari release.



Title: **Ultima V - Warriors of Destiny**
 Origin/Mindscape
 Publisher: **Origin/Mindscape**
 Price: **£29.99**
 Reviewer: **John Sweeney**

- **GAMEPLAY** - Nearly perfect!
- **GRAPHICS** - Excellent, lots of detail and atmosphere.
- **SOUND** - Choice between music (lots of tunes to suit the occasion) or countless sound effects.
- **WORDSCY** - If you have any interest at all in D&D or FRP and a couple of hundred hours to spare then this is the best & fitting sequel to Ultima IV - still the best game series in the world!

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PD Paul Rixon's WORLD

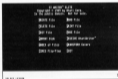
WORD PROCESSING ON THE CHEAP - BUT WITH ALL THE FACILITIES YOU COULD NEED

Word processing is probably the single most popular productivity application of the microcomputer, in both the business world and home environments, the stars has proved itself as a reliable, cost-effective and versatile successor to the humble mechanical type writer. It's therefore not entirely surprising that Atari Corporation, just separated from Warner Brothers after Jack Travençolo's takeover in 1988, were keen to handle a word processing package with their new line of 65-bit computers. Atari had already produced a respected word processor - *Interwriter* for the 8-bit machines and a direct ST conversion seemed a sensible line of action. Time was of the essence, and, in just two weeks, *InterWriter* was transformed into the appropriately named program, **ST WRITER**. This was a usable program, liked by many, but it suffered from a plethora of bugs which would need to be resolved before it could hope to compete with the increasing tide of new commercial packages. Atari were less than concerned - their view was that *ST Writer* was complete and, as it was free, they did not plan to commission any further development. In fact, Atari had decided (understandably, perhaps) that *ST Writer* - which made no use of GEM whatsoever - was not the ideal package to promote the NTSC environment of the ST, and to clamp it in favour of GEM's 1st Word. Many people, who weren't exactly enthralled with the prospect of printers and

scanners, were less than happy with the situation. One Bruce Norman was so irritated with *ST Writer* that he took the step of approaching the author for access to the source code, with a view to making the amendments himself. Much to his surprise and delight, Atari agreed for him to have the code, and after much time and effort he had created a greatly improved version.

STWRITER LIVES ON!

Many word processors have since appeared - and disappeared - on the ST



STWRITER - full facilities of a rich-text processor

but *ST Writer* lives on in the Public Domain as the first, and possibly the only one to have commanded such an enthusiastic following. Its strength undoubtedly lies in the careful balance of comprehensive functions (some within itself in the "professional" package) and ease of use - as the author says himself, "it could print with *ST Writer* in just 5 minutes, why shouldn't all word processors be so simple?" If you're an ex-Atari 8-bit user for a lucky existing user accustomed to *Interwriter* then obviously you will have no problems whatsoever adapting to *ST WRITER*, as it's almost exactly the same! Starting up the program you are faced with a familiar full-screen menu of commands to carry out the basic file maintenance processes. Here there's also an option to transfer files from an Atari 8-bit to the ST via an 800-interface module and null modem cable. If you have these components to hand, transferring files is straightforward.

FUNCTION KEYS

ST Writer utilizes the F keys and control letter key combinations for all its editing facilities. Every alphabetic key is assigned to a process, and many others are too. Although it seems clashing at first, the functions of particular keys have generally been well thought out and are mutually most memorable than the tabularia assignments peculiar to certain other packages (such as the *Initial Wordstar* on PC hardware). Pressing a control-letter combination usually inserts a corresponding, red-coloured code into the text - it's anything but *WYSIWYG*! However, this can be a considerable advantage in some instances. One of *ST Writer*'s most powerful features is its ability to create double column documents. Some word processors achieve this by requiring the user to manually shift blocks of text into columns, thus restricting any subsequent editing. *ST Writer* allows you to specify all four column margins in a document which are then used at the time of printing. Other features of *ST Writer* include mail merge, search and replace, printer font control, automatic paragraph/section numbering, file changing, undo/delete, alternate character sets and sophisticated page formatting - the list goes on!

ONE RESTRICTION

A minor complaint of *ST Writer* is that documents aren't stored in ASCII format and so can't be viewed directly from the desktop (this was necessary because the 8-bit was a non-standard code for the carriage return character and the ST equivalent is already in use for another function). However, it's still possible to create source listings and "load" source documentation files by using the "print to disk" facility.

On the subject of documentation, *ST Writer* is supported with a generous helping of reference material on disk. There's a detailed manual comprising some twenty pages of alphabetically-arranged

information in addition to a condensed summary sheet, five-page quick reference guide, lengthy tutorial and a copy of the article "ST Writer Reviewer" which previously appeared in an issue of "Share", containing intriguing insights into the history of the program and problems encountered during its development.

There's also a function key template and a test file for checking out your printer. As the documentation is supplied in ST Writer format, you can examine the files for hints on how to apply many of the features. Learn the codes, discover the power and I'm sure you will agree that ST Writer is a quite excellent program. You'll find the latest version, 1.0, on a disk entitled **WORD PROCESSING I**, along with various printer drivers and print spoolers for use with the program.

STWRITER ELITE

What? You mean you bought your ST to escape from those nasty key-press menus? Well, don't worry! - the story of ST Writer doesn't end with the completed text-based version. Even before this, the author was re-examining a GEM version of the product and this eventually materialized as **ST WRITER ELITE**, which has since reached version 1.0. Handling Elite for the first time you'll be forgiven for thinking that you'd mistakenly bought the old version, but click on the mouse button and a few surprises await you. The old straightforward closed text menu is replaced by a series of handy GEM drop-down menus. These allow you to carry out disk maintenance functions more easily than before, and also introduce some new facilities. There's now a menu to select and printer driver selection options together with a useful global feature to set overall margins, text pitch, justification and more. Once you've selected the edit option, the GEM menu disappears and you're back at the familiar editing screen with a floating cursor prompting you to type. Even here, there are differences. Click the button and the printer appears on screen so you can use the mouse to position the cursor in the text. Click again and it disappears - it truly is quite clever! You can revert to the 'traditional' menu at any time if you wish, although the GEM variety is definitely much easier to handle. The only drawback is that overall, ST Writer Elite runs marginally slower than its predecessor, though not noticeably so. It really is a superb program, and it's complemented as before with a large manual fully revised and various reference guides, articles and test files.

DESK ACCESSORIES

One of the benefits of Elite is GEM mode in that it gives you access to the disk



screen, where you can have lots of useful hand-drawn (essentially in the case of a spell checker) accessories installed to increase the power at your fingertips. Last issue's PD World should have given you quite a few ideas, but one I didn't mention then is **WP TOOLS**, which you'll find on **DISK ACCESSORIES II**. It's an accessory which combines no fewer than eight utilities into a neat boot-driven package. With **WP TOOLS** installed you can check on free space

on, read random documents, make printer selections, alter disk volume labels, or delete files, format disks and set an alarm to remind you when it's time to pack up! You can even blank the screen while you leave the computer unattended to extend the life of your monitor and protect documents from prying eyes! **Alphabetix**, this is a highly concentrated collection of goodies, whether you're using ST Writer or one of the commercial packages.

SAVE MONEY TRY PD FIRST

As I've discovered, it's always wise to explore the Public Domain before splashing out on a commercial package. Many people have been surprised to find the programs they had wanted on offer in the Page 6 library, virtually free of charge! It's inevitable in cases a lot more word processing utilities and programs in

WP TOOLS - a useful and comprehensive collection of utilities for word processing all contained in one disk accessory



Find any program easily with the Catalog disk

this issue but space has broken me again and the subject will therefore be carried over to the next installment. If you would like to contribute a suggestion or recommendation then please do not hesitate to drop me a line.

THE PAGE 6 CATALOG ON DISK

Don't forget to ask **PAGE 6** for your free copy of their library catalog. It's now also available for a small charge, as disk (business descriptive text), thanks to a clever PD utility called **SDCAT**. **Wid** needs only be used to search for specific files, such as those with an 'ACC' extension, or 'RAM' in the filename. The catalog contains a full list of disk contents and filenames for all of the standard library disks, specials and clip art collections, so you can easily find the programs you need. If you're into PD, don't be without it, it's invaluable!

HOW TO GET THEM

All of the disks referred to in this article are available from the **PAGE 6 PD library**. Each has a unique reference number which you should use when ordering or enquiring about the software. Please contact **PAGE 6** if you don't have a copy of their Accessory Shop bulletin and check the system requirements for each disk. The disks mentioned in this article are:

0718 - **WORD PROCESSING I**
0730 - **DESK ACCESSORIES II**

0770 - **ST WRITER ELITE 1.0**
THE PAGE 6 CATALOG DISK

Prices for standard disks are £2.95 each or £23.95 each for 10 or more. Write to **PAGE 6, P.O. Box 54, Bafford, 0718 1BR**. Telephone 0795 213629 or FAX 0795 94020 with credit card orders

CASTLEMASTER

Castle Master is the latest in Incentive's line of Super Freespace games. While others pursue cut-scenes and detailed graphics, Incentive have been working on producing a genuine 3D environment which you can explore, through your character's eyes, without any limitations. Given the current power and capacity of home computers this unfortunately means everything is built from polygons and it all looks a little chunky! The effect, however, is excellent and once you get used to it you do get an amazingly realistic feeling of actually being there.

You start the game outside an imposing castle; your objective is to rescue your twin, imprisoned somewhere in this vast stronghold. To succeed you will need to explore, thoroughly the four levels of the four towers, the courtyard and its buildings, the labyrinthine dungeons and corridors below and a couple of places outside the castle. On the way you will need to find ten keys and ten potions, and defeat (by rock-throwing a couple of dozen "spirits" who have possessed various constructs in the castle hanging from mice to dragons) as well as generally mapping the place (mostly very easy) you will need to search very carefully to find all these items.

To help you along there are numerous clues (mostly rather obscure) printed in some very strange places, plus lots of food and drink to restore your health.



But it is not just a matter of looking everywhere. You need to solve some interesting puzzles as well, mainly involving pushing buttons or doors or throwing blocks at things. You start "waker" anything you can reach - it will be interpreted as eat, drink, read, push, move, collect, examine, open, unlock or use as appropriate.

You can then go getting corridors or across the courtyard quickly. Wish to avoid bumping into things quite so often (one of the weak points of the system), or Crowd-Clearing is very important as it not only gives you a completely different view of things which is critical to finding a number of the items, but it also allows you to negotiate obstacles which are otherwise impossible. You will need to do a lot of crawling, rock-throwing and jostling to solve all the problems.

As you explore the castle there are three sets of separate movements going on simultaneously:

- your body (via mouse and hot's (mouse or keyboard)
- you can look up and down (mouse or keyboard)
- you can aim for rock-throwing or activating (mouse only)

You cannot look and aim simultaneously with the mouse, but you CAN if you use the keyboard for looking and the mouse for aiming, definitely a must when fighting spirits! This is especially important in the corridors where I found the best technique to be to move forward and do a U-turn as soon as you find so that you get a better view of the enemy.

The game starts off fairly easily as both the twiddle and a clue in the Wizard's flat (round the back of the castle) tell you fairly explicitly how to solve the first problem, i.e. how to get the drawbridge open so that you can get in and get started!

Updates things get nastier, some spirits are difficult to spot and some attack you in a group, and these last few keys and potions are really quite tricky to find.



'definitely the best Freespace 3D Action Adventure so far'

I don't mean too impressed to start with but enjoyed it more as I got deeper into the game; as you get used to the chunky look of things and find some of the more-challenging areas of the castle you can get quite addicted to it. Finding the best couple of keys can be a little tedious as it is a matter of exploring every surface of every object in every room (I admit I cheated and got a couple of clues to help me break it off).

I was as a Prince and tried again as a Princess - all that happened was that one clue and one particular changed places did I miss something? As well as recovering your twin you can go for a high score by collecting various pieces of treasure and performing a few special actions such as ransoming between the golems in the basement!

The lighting is rather limited, and the whole place is rather small when compared to a DungeonMaster or an Ultima II. Indeed Castle Master is about three days an installation in the middle of a month or so on an Ultima VI, but it certainly makes an interesting change.

This is definitely the best Freespace 3D Action Adventure so far - a must for Freespace addicts and well worth a good look for those who haven't tried it yet, or didn't like the earlier ones in the series.

Title: CASTLE MASTER
Publisher: Incentive/Denmark
Price: £24.99
Reviewer: John Sweeney

CYBERBALL

Terminators are set to rival Caprica as Arcade Generation experts and Cyberball seems set to become a hit. The background to this futuristic game is that by the year 2088, the N.F.A. has become too dangerous for normal humans and thus the game is played by specially adapted robots playing to its own terms. The object is similar to that of gridiron except that for the time a team has to advance the ball is limited by the temperature and explosive point of the ball.

Play is ingenious and the instructions list over 100 plays in Offense and Defense all of which look like good gridiron derivatives. A lot of care has gone into making the scenario close to reality. Plays are controlled by up to 2 players who run the same team, one controlling the Q.B. the other his running back or catching

Wide receiver. There are 20 levels to play aside from the training mode which merely refuses to allow the option plays that provide the rest of the game. Plays are chosen from the line choices the computer offers the player but although it is possible to choose a run or pass option the computer selects four of the wide variety of plays in each category thereby diminishing player choice and control considerably and removing a lot of tactical choice.

Once the chosen play is up and running the robot under player control turns driver and if a pass is intended it must be thrown to a flashing mark while the receiver must make its way there at the same time. This works well and with practice an effective gameplan



evolves. The computer defends well but does not attack as well and games tend to grind into a stalemate situation. This can be combated by the most appalling bug which occurs frequently, where a ball goes out of play at the opposite end of the field with the defense behind the offense rather than ahead of them! Occasionally the whole game crashes when the computer player goes out of play. This is a major failing and I trust the company will do something about it. That aside the game is very good and is one of the better Gridiron simulation variants around. Cyberball is certainly worth buying but check for the bug.

FACTS

Title: **CYBERBALL**
Publisher: **Tengen (DOMANI)**
Price: **\$19.99**
Reviewer: **Douglas Howarth**

SIGHT & SOUND

Good graphics with a smooth sound palette. The sound is adequate but not great.

GAMEPLAY

Not just pleasant sport from the look of choice of plays and the silly bug.

VERDICT

Not best of all so long as it will stop crashing. A proper league option would have been nice too.

FACTS

Title: **BUBBLE +**
Publisher: **Intogames**
Price: **\$19.99**
Reviewer: **John Dwanney**

SIGHT & SOUND

Good graphics, use of nice sound effects for all the noisy machinery in the course.

GAMEPLAY

Very easy to pick up and play straight away, a little frustrating when you are told to use practice.

VERDICT

A different sort of arcade game, worth adding to your collection if you are fed up with endless shooting!



BUBBLE +

Made, electric lasers, boxes and all sorts of nifty things!

The mouse moves the globe around, the left and right mouse buttons rotate him, and the SHIFT keys make him blow. Great precision and careful timing are needed to register some of the obstacles, and the need to be 50 percent is a little frustrating at times. The PRACTICE feature is, however, very welcome - I never really got my ear with the original version so I got fed up of dying and having to replay the game from the beginning.

If you already have Bubble Glass then the only real benefit you will get from Bubble+ is the PRACTICE feature - the levels are all identical (at least as far as I have been able

to get on Bubble Glass) apart from the new graphics. But if you have not seen it before then it is well worth a look - it is a highly addictive (albeit simple and frustrating) little arcade game and it is nice to see it available again.

The first five levels are quite easy and lead you gently into handling your little globe's friend - especially if you realize that bubbles are not the only thing it is worth blowing and that when you get to level six you need to start being a bit more precise and some of the higher levels appear to me to be almost impossible thanks however to the PRACTICE feature and how get a bonus if you can clear a row before the timer runs out, so even on the easy levels there is some challenge if you are going for a high score.

THE TOYOTTES

A rather French Comic Strip bursts onto the computer screen, accompanied by superb cartoon graphics and animation. Lots of happy music and wonderful sound effects, and the usual incomprehensible plot. It probably makes more sense if you have read the comic! The Toyottes are a trio of men who live in an underground world, afraid of being gobbed up by the monsters who live on the surface. The King's son, Barnaby, has got lost while playing with his football. You must find the football, identify and use the Thirteen Rooms (in that order) or face "The Terrorist".

The game is a vast maze of paths, pipes, ladders, traps, holes, ropes, and teleport doors seen on a rotating view from the side, with a perspective that allows you to move in and out of the screen as well

as up and down, enabling you to get round the back of various piped-out stairs.

The Toyottes is entirely joystick-driven, the best one allowing you to look up the various monsters you will meet in the maze before they can beat you to death! Fortunately there is plenty of cheese around which allows you to recover your strength. Also scattered around the maze of mazes are various items such as flower pots and handbags. These are needed as presents if you wish to pass the giant friendly friendly Guardian that blocks parts of the maze. However, some of the items will eat you if you get too close! The maze is vast and there are dead ends everywhere, however there are also plenty of teleport doors which help you to create allies, and some



very useful pipes which cross-cut the maze and are a very fast way to travel as long as you don't want any of the Pipe-Cleaners!

A radar screen in the corner tells you which general direction to head in to reach your next objective, though once you spot it on the screen you may have to backtrack a bit to actually reach it as some of the places where the football is hidden are quite hard to reach!

The Toyottes is great fun to play, but I was disappointed to find that I managed to complete it within a couple of hours. Clearly you have got the knack of moving and fighting and worked out how to use the radar it is all rather easy.

FACTS

Title: **THE TOYOTTES**
Publisher: **Infogrames**
Price: **\$19.99**
Reviewed: **John Timoney**

SIGHT & SOUND

Very high quality cartoon-style graphics and very attractive music and sound effects.

GAMEPLAY

Great fun and easy to play - frustrating when you can see the goal but you're not able to reach it!

VERDICT

Initially quite addictive, instant drop-off game once you have completed. Expensive if you can't get it at a reasonable price.

2

FACTS

Title: **CARTOON CAPERS**
Publisher: **Midway**
Price: **\$19.95**
Reviewed: **Peter Hickman**

SIGHT & SOUND

Very colorful graphics, although a bit chaotic. Loads of samples coming from the title music to the point of volume of the background.

GAMEPLAY

Basic level-up with moves changing every couple of levels to keep you on your toes. You have to do a few more advanced things.

VERDICT

Fun of the ball after you have seen all of the action before it starts. It's being one of those games which you love to show your friends and relatives.



CARTOON CAPERS

'Comic strip' levelled backgrounds in you and me, with each level introducing an in-

What do you get if you cross DC's with a Tom & Jerry cartoon? Nope, not the latest Chinese art by comic but the first full price game to appear from Midway since the ill-fated Power Play. Actually, the game was the MTM games-writer of the year competition (which earned author Steven Cook \$5000) to advance royalties in 1990 and has taken all of the time to reach the shops.

You control many mice. Jack-Jack is an all-out battle against your fellow foe Keanu. It is an epic cartoon film that will hopefully get you an Oscar nomination. There are 10 levels cycling around a

terrific trail to the game which makes it stand out from other level-up-games. In the first level a pillow-like film across the top of the screen with a red bag hanging from it's undercarriage. If you jump up this can be collected for bonus points, you can also grab the bird on allowing you to fly from one side of the screen to the other. Progressive levels have custom built and levels flying about the screen that you can pick up and hit at your opponent, rockets zoom across the bottom of the screen, and more birds fly to show you into a dead dog or that you're dropping too weights on your head. This game contains more violence

than a Nintendo action stadium!

Several and various mice make or break a traditional cartoon, or a computer game for that matter. Fortunately Cartoon Capers features complex graphics and lovely cartoon images based on classic effects seen in Tom & Jerry and many other films. The sequence where a player gets flattened by a too weight is hilarious with the character walking around after being dramatically reduced to being the flattest object.

Although I think Cartoon Capers is good I do believe it has only limited appeal, after all once you've got fed up with the extra features it's just a basic level-up with cute graphics. I do think it deserves a look though, especially if you are a fan of mouse your opponent-to-a-pulp games.

DAN DARE III THE ESCAPE



The fate of mankind hangs in the balance as the Mekon menace returns determined to conquer and dominate the human race. The evil Mekon has vowed to wreck his vengeance upon his arch enemy Colored Dan Dare. To further his plans the Mekon has been conducting a series of rather nasty genetic experiments on a variety of lifeforms, with the intention of creating an army of Terra-like creatures which would obey his every command. The experiments failed, and what the Mekon required was a human subject to experiment on. Colored Dare, the perfect subject, was captured and taken to the gigantic Terra satellite where the horrific experiments were being carried out. Luckily our hero manages to escape and lands, just by chance of course, at jet park and pleasure center.

This is where you take over! You escape shortly has been found by our hero, and your mission is to explore the various levels of the satellite and find the fuel which is necessary to power the shuttle. The fuel, of course, is not all situated in the same place, as by some break of chance the Mekon ordered that the fuel be split up in to five separate sections and distributed throughout the satellite. Dan has a number of weapons at his disposal along with the facility to buy extra lives. Basically, this game is in the new 'standard' arcade adventure mould. You control your little man and move him around the vast complex of rooms whilst picking up things you might need, and avoiding (preferably) everything else with your 'plasma canon'.

The maze of rooms which you have to explore is quite vast, and scattered throughout are the discarded genetic mutations who don't take too kindly to a certain 'ball upper lipped' British specimen. There are some nice graphics, but overall it is far from exciting. A great deal of work has obviously gone into the sprites and backgrounds, but they aren't really very well defined. Of note, however is the loading sequence, which tells the 'story so far' in traditional comic book style accompanied by a very good piece of digitized music. This sequence makes one expect a great deal from the game which turns out to be a little disappointing.

FACTS

Title: DAN DARE III
Publisher: Virgin Games
Price: \$19.99
Reviewer: John Dowson jr

SIGHT & SOUND

Nothing very special here. The loading sequence is good, but the game is of mediocre quality.

GAMEPLAY

Great if you like arcade adventures, although there is nothing very original about it.

VERDICT

It's another arcade adventure, the one of things where away-one used to hang about on the 28 spectrum - not excellent.

FACTS

Title: ITALY 1990
Publisher: U.S. Gold
Price: \$19.95
Distributor: Damon Horowitz

SIGHT & SOUND

Clear as well used and quite nice and timely. Spar-effects OK, music not as good as it might be.

GAMEPLAY

Nice strategic touches, very unique on screen game.

VERDICT

More time on the actual gameplay rather than graphics/polishing would have resulted in a better simulation. Still, an interesting success.



ITALY 1990

Scotland rates 3 and Costa Rica rates 2.

Once the TV link man has introduced your game the player may then select a formation and eleven players from the twenty two of the squad also graded in points. Players have Skill, Speed, Aggression and Overall Stats. Once the team is selected the game begins, the duration of which is variable from 5 to 90 mins. Actual play of the game is adequate but has very little to offer that was not heard in Microgame's International Football. Control is reasonable and different computer teams work at differing standards. It is far easier for Scotland to run rings round Costa Rica than it is for them to make headway against Brazil. There seems little control over goal

ball situations although there is some standard animation for goal kicks and corners. The actual playing standard does not meet that of Kick Off although graphically the game is superior and the screen does inform you which named player has the ball. The referee will see Yellow cards and Red cards but there seems to be little reason as to why (graphically) redacted. Once the match is completed a results screen allows you see how other statistics got on. The prediction for the World cup final just yet divided at time of writing will be Brazil to beat Italy 3-1. If this is correct I take my hat off to a company who have made a strong simulation. On the other hand Scotland won their group with 5 points in this simulation. Will not everything works out?

The U.S. Gold entry in the World Cup soccer race comes with an assortment of goodies. You are offered tickets to the final in Italy as a competition prize (a bit late now I hear you cry) a book of world cup facts and world cup trivia, a rating poster, player profiles and team lists for all nations competing. What else could you want? Oh yes, there are also two disks. You start with a menu to choose one or two players and whether or not to play in the championship. Once that is known you may then choose your country, graded in the various strengths and offered with a final overall total. Italy and Brazil rate 3 while

INFESTATION

Fat cat is the key despite all square the secret orientable colony Alpha II wields a nearby planet on which they believe they have discovered intelligent life. That soon the regular transmission from the Alpha II colony becomes a desperate plea for help. An alien intelligence has infiltrated the base and is exterminating the colonists. The mission is to use the computer as a great infestation chamber for 88 deadly breeds.

There runs the chilling introduction to Infestation.

You play the part of Hal Solar of the Interplanetary Federation, obviously a lot of a hat, as the Federation have decided that you are to complete the mission on your own! You have to infiltrate the base and destroy the mother alien and her eggs whilst at the same time you will have to put up with a spot of bother from

these nasty drains and computers who have a sad-ten closer to kill you. My goodness.

I've never come across a plot like that before, have you? Whilst the idea behind the game is far from original, the scenario and the style which Pygmaios have chosen to present this particular title is very impressive. The game is set within a three dimensional environment in which you are placed. Your view is from within your spacecraft as you move around the landscape of the planet and within the base itself. Those of you who are familiar with games such as Mercury will feel quite at home within the artificial environment of Infestation as the style is very similar.

Through your exploration you will come across a variety of hostile creatures, along with a

multitude of things which will either help or hinder you. These include such things as keys for opening the vast number of doors that you will undoubtedly come across, to visit areas crucial for you to cross through to reach other parts of the base.

In terms of play, Infestation is at first very difficult to get to grips with. There are a wide variety of controls for you to master in order to manipulate the objects within this strange world, and actually getting anywhere at all is a challenge in itself. It is far from obvious how you are supposed to enter the base from the planet surface. However, once inside, the game is both a challenging and interesting experience.



FACTS

Title:	INFESTATION
Publisher:	Pygmaios
Price:	\$24.95
Developer:	John Davison Jr

SIGHT & SOUND

The presentation is excellent. The graphics are not just smooth and the sound is of a high quality.

GAMEPLAY

Very difficult to begin with and often at the frustrating edge.

VERDICT

A superb game if you like creating around alien death-scapes looking for things.

FACTS

Title:	KLAX
Publisher:	Domark
Price:	\$19.95
Developer:	John Davison Jr

SIGHT & SOUND

The graphics are colourful and are perfect for the game. The sound is of acceptable quality and adequate for its purpose.

GAMEPLAY

The game's strongest point - it is thoroughly addictive and extremely playable.

VERDICT

Another superb original idea which will hopefully start a trend for different types of games.



The concept behind this arcade conversion from Domark software is to catch coloured tiles as they move towards you on a form of conveyor belt, and then flip each tile into one of five bins. The object is to make 'Klaxers' which are same coloured stacks of tiles either as horizontal, 'diagonal' or rows of three. Once a Klax is made the tiles within it disappear, causing any tiles on top to drop down and replace them. You get a large bonus if you can cause a chain reaction of 'Klaxers' to occur.

Your view of the proceedings is from the end of the conveyor belt as it moves the tiles towards you. At the bottom of

our hold a maximum of five tiles at any one time and it also has the ability to push tiles back along the conveyor belt if you need to gain a few extra seconds. The game is played by competing with other more of advancing tiles, for each of which you have a different objective. For instance, on some levels you will have to create a set number of Klaxers, on others a set number of diagonal Klaxers.

All of the screens are very colourful indeed and the animation of the tiles as they tumble towards you is of a good quality. The sound is of reasonable quality, but there is nothing about it which is particularly memorable.

KLAX

the screen are the 'bins' where you deposit the tiles, and above that is your paddle. This

However, it is not the presentation of the game which is its selling point, but the totally addictive qualities that makes Klax something special. The game is thoroughly playable and is definitely one that is difficult to put down once you've started to play it.

It is nice for something written to be released worldwide, as the computer game market seems to be divided with slightly different versions of the same thing. It is refreshing to see that there are still some ideas which have not been exploited fully. It would appear that there is now a trend which is moving away from violent games towards the more simple ideas. Klax is the latest selling arcade coin-up in the U.S. at the moment. I do not find this difficult to believe at all, as it is both fun and original.

PROJECTILE



This has all the style of Speedball and multi-players that I had not imagined. The game will allow up to 8 players in the league with up to 2 players at any one time using both joystick ports. The league may be up to 25 weeks or cup matches can be played instead.

The game is based loosely on an hockey and entails driving the puck from a central chamber into one of the other players chambers to score goals. There are three teams in the arena at once and winning and second place teams get points. It is possible to pick up items for various effects or additions to your features.

Each of the eight teams has its own uniform all of which may be selected at the arena. Each team has a speed which is variable with the money gained during games and also adjustable to various

positions start in-points and different skills make players better in certain spots than

others. As a game for one player there is a lot of skill involved and a great deal of entertainment as your team travels to other league venues to play. Each team has its own customized arena, ranging from flat carpets and ice hockey patches to a red hell and even a Legoland set up.

Each arena offers slightly differing ball control and movement handicaps. Each match is involved since the other teams, be they player or computer controlled, have the opportunity to trade and be injured. The players even get tired as the game progresses and so their work rate will become progressively lower. All players are named and those who score are credited

with a fan and an action replay if desired. The game also keeps top scorer tables and prints results for all games the computer plays on its own. Scoring is very accurate and penalties control in position. The sprites are individualized for each team and those for Electronic The Cat's team are excellent.

The spot effects are loud and necessary, and provide varied noise at appropriate points. To my mind this game is more better than Speedball and has as much justification to become a cult game as the particular classic.

As with all simple basic ideas, the emotional gain is fast and exciting. I will be very sorry to let this rage go back.

FACTS

Title: PROJECTILE
 Publisher: Scottish The Cat Electronic Arts
 Price: \$24.99
 Developer: Damian Horroth

SIGHT & SOUND

Mostly if you're going for it, the spot effects are strong and loud and the graphics are both not sometimes impressive.

GAMEPLAY

Almost perfect if it is shown more playing time it not show otherwise smooth and playable.

VERDICT

My game of the month and of the year so far, addictive, fun and challenging. Buy it!

FACTS

Title: E-MOTION
 Publisher: U.S. Gold
 Price: \$19.99
 Developer: John Davison jr

SIGHT & SOUND

Wonderful use of colour in shading and the complete sound is one of the best I've heard on the ST.

GAMEPLAY

Very addictive & highly compelling game which is not only fun but also makes you think.

VERDICT

The best game to appear in a long time, and well worth the money!



E-MOTION

photos, energy is lost, and when all your energy is lost, you lose a life.

The strategy of the game is to avoid the spheres exploding by pushing two spheres of the same colour together so that they both disappear harmlessly. If you should accidentally push two differently coloured spheres together, a small pool is formed. Initially this pool can be collected to gain extra energy however, if it is left it grows to become another sphere, which must be disposed of.

To hinder your progress on some levels there will be a number of pipes scattered around, which both the spheres and your ship will bounce off. This makes the propelling of spheres in the desired direction considerably more difficult. On other levels,

some of the spheres may be joined by string elastic, bonds which cause them to drag along those joined to it.

In terms of presentation the game is incredible. The graphics are amazingly colourful and very well defined. The 'spheres' look very solid in appearance due to the clever use of shading, and the backdrops again show a clever use of shading to give a good 'pastel colour' type appearance to the screens. The sound is also quite wonderful. All of the sound effects are sampled and are of a very high quality. Likewise the music is a superb demonstration of what the ST is capable of when sampled sounds are used. Overall I find it difficult to fault! It is incredibly addictive to play, the graphics are great, the sound is superb and it is one of the most original of games.

STOS

COLUMN

**In which
Peter Hickman**

**... makes excuses
for not going to
the Atari Show**

**... is inundated
with entries for
the competition**

**... rattles on
about AMOS**

**... and brings you
the latest news
and STOS related
gossip**

P here it's been a long two months since the last issue, and just so that I have room to tell you about everything there are only two program listings in this column.

Did you go to the Atari Show in June? Unfortunately I missed it, but people have told me it was really quite good, especially compared with the last couple of shows organized by Database Exhibitions at the Alexandra Palace. I heard that Aaron Postberg (editor of the STOS disk newsletter) was giving a demonstration of STOS on the Saturday of the event, but even should all Mykotron Plus which is now being sold in a single-disk form on the Atlantis budget label, I haven't actually seen this 'yearly new' release language at Atlantis (reading their's but as soon as I do a full review will be published).

ENTRIES!

Competition entry, yes I have had some entries! You all had me worried for a short time there, but thankfully a few readers have come to the rescue with some very interesting platform games. So thanks to Charles Ericson-Smith, David E. S. Wood, Richard Cole, and Fraser Newman for their ball games. If you want to enter the competition a list of all the information you need is contained in last issue's column (if you don't have it you can buy a back issue directly from Page 6 Publishing). Actually I think this competition is joined, I am down to send off a load of letters and disks to all of those people who had written to me and my printer died! My lovely Spans 80280 finally decided to crash out on me, so it is now in the repair shop for a major overhaul and service. Now I cannot service without a printer so two days ago I bought a very nice Star LC24-10, it's a real table printer that is lovely and fast. Anybody who hasn't received a reply from me concerning STOS now knows the reason, sorry for the delay and I will be in touch eventually.

AMOS time.... If you haven't already seen it in the shape then let me tell you that AMOS (the Amiga version of STOS) was officially released on June 12th. To call it a version of STOS is a little misleading really, in fact it is to STOS what STOS originally was to ST BASIC - a major advancement. The first thing you notice when loading AMOS is the environment in which the program is edited, in many ways it is similar to GFA Basic on the ST with a word processor-like editing system and a separate direct mode to do things directly (makes sense I suppose). The size of the language is immense, the main file is about 144K!! Fortunately this space has not been wasted 'cos just about every part of the language has been revamped since it's STOS incarnation.

One of the biggest changes is in the way an object DIFFERES to us. Differs to Amiga (nearly) is moved and animated, you can still use the standard STOS Move, Auto commands but with AMOS you can use AMAL (the Amos Animation Language). This new sub-language still uses strings to initialize the animators/movement but, oh boy, are they advanced! You can have loops, labels, gotos, move commands, auto commands etc. In one string thus allowing you to control really complex movements. It is even possible to read the joystick/button states on interrupt from within an AMAL string! Take a look at the listing 'AMAL.DRAW' for an example of a typical string. AMOS also makes loading the 30 sprites/look limit a million times easier than STOS.

Although there are many other major advancements in AMOS the most significantly interesting one for us STOS users is the new structuring commands. Procedures with limited parameter passing are now available making AMOS a real hybrid language. On the down side the AMOS manual, although excellently written by Stephen Hill, is a very strange size and isn't ring bound!! Unfortunately this means that when you are writing your latest mega-game you have to open the manual and jump up and down (pre

likely when nobody is looking) on the page you wish to read, this invariably leads to a petty quarrel, complaining neighbors and flat feet! But once Markham, Hill I would like to officially congratulate Mandelaris and Francis for making the Amiga to machine notorious for it's ease in transferring a job to use. Can we have STOS Professional now please the team...?

FUN SCHOOL 3

Talking of Mandelaris Software, Richard Sauer, development manager and part time vampire (private joke for AMOS users!), has just sent me some preview copies of the forthcoming Fun School 3 educational packages, all of which have been developed using STOS on the ST and then ported over to other machines with enhancements where possible. Now I don't like rattling on about products unless they really deserve support but this is one of those things! As in Fun School 2 there are actually 3 separate packages, Under 10s, 10-17s and Over 17s. Each one is a masterpiece, words cannot do them justice, they are even more I say 87% better than my own Treasury Search program. The graphics are really like, there are sample games but more importantly the subjects are really good, are more fun and meaningful than any other educational game I have seen. Watch this space for more information in the coming months.

PLAYING AROUND

By now you may have been wondering why I didn't pop along to the Atari show.

Those of you out there in wonder land who live in London will know that my address is quite close to the Maxwell Kabinets Centre. Well I was busy playing with AMOS 3.077 on Thursday the 21st of May I took a drive up to Colindale Station for the 86 Coach, city of airports, dodgy pizza restaurants, a giant insect shop and a development company named Youdon Software (strange name huh?). This amazing company specialise in 3D graphics, and not software either, we are talking filled polygons clipping around at incredible speeds.

Anyway, before I discuss STOS 3D let me tell you about a 3D game being developed by Youdon for Electronic Zoo. The game is called Xiphois and features amazing graphics with incredible detail on the 3D objects, it looks really beautiful and features speed like you've never seen before. Totally irrelevant to this column but the game is so outstanding I had to mention it (sorry). OK, down to the city grid, to tell you the truth I couldn't see STOS 3D in action because their ST was to use at that time but I could see AMOS 3D and, wow, was I impressed! Just about all of the commands for 3D have been finished and are quite bug free, which is quite a feat for a product as complex as this. The 3D system is very fast, especially considering it is being controlled by an interpreted version of Basic, but if you are going to write an Xiphois-type game level it WILL be possible the game logic will need to be given a little extra zip with the compiler.

The current demo's I have got here are pretty mindboggling, the best being a giant log of '00' floating in a black space environment with stars for space dust, depending on how realistic you want) in the background, by moving the

mouse around you can zoom in, out, through, over, and under the '00'. This is all in Basic - not a compiler is allowed! The actual package is due out in about September time, but until then I will keep you informed with regular updates, this is the most exciting software package to hit the Atari ST since STOS!!! Oh and thanks to everybody at Nucleo for their time on that wonderfully warm and sunny Thursday afternoon.

A FEW SNIPPETS

More news from the Atari show, a little kindly told me that yet another new version of TOS was released in the last week of May, and guess what? It isn't compatible with STOS!!! I was going to buy a nice 1040 STE II with only have a really old 2000TPM, with built ineg internal drive! Just until Francesco Liotti has time to write a new 'B' for STOS I'm going to wait. Hello Atari, any chance of a few weeks notice before the next TOS is released? (please...)

Curious Gogoris in chat, I have a copy it is quite good but unless you are a fan of Russian games, I'd try before you buy.

Mistake time. Those of you expecting a Spectrum tutorial this issue are going to be disappointed, the disk containing this barely speckly syntax was destroyed in an accident involving a BMD electric drill, a chrome sawblath and roll of double sided sticky tape (yes it was painful - for the disk!). I promise it will appear next time!

QUESTION TIME

Question time now. Regular reader Daniel Bismarck has written with a question concerning those wonderful STOS traps listed at the back of the manual - "At the end of the STOS manual is APPENDIX 5 it lists all the traps. The notes, music, and windows can all be operated from within STOS, but I can't get the trap 4 function to work."

Look, well Daniel I'm pleased to say it's not you doing anything wrong, it's STOS. Well more specifically it's a manual error. In the beginning of the STOS development there were trap 4 functions, under

continued >>

```
Atta" Start: Arata 0.11.562.563.564.565.56 ; *
AttaAtta Loop: Let 50=Joy 1 ; If P0=10 then Jump 50mg ; Jump Loop ; *
AttaAMA Being: Arata 1.07.060.060.061.10.061.1.06 ; *
Channel 1 To 100 ;
Bob 1.50.50.1
Arata 1.06
Arata On 1
```

An example of programming in AMAL - the AMOS Animation Language

unfortunately they were scrapped and somebody larger to sell Stephens Hill so they stayed in the manual.

Daniel also wanted some information on comparative methods so that he could have a book on writing a comparator for STOS along the lines of STOS Squander. Well this is a really tricky subject, one which I don't have too much experience of. I'll try to dig up a good book on the subject over the next week or two and get you all some more info in the next issue!

I also have a letter from Paul Chibrier, who lives in Farnham, Hampshire:

"First of all, some time ago I seem to remember that you put out a challenge in your column, looking for a 'sophisticated paper', a routine to emulate the Amiga's copper chip and generate more than the usual 16 colours on screen, in horizontal bands across the screen."

Heaven... Yes I did mention something about splitting the colour palette a while ago. I actually wanted a routine to provide a similar rainbow effect to that found on the good old Amiga 500 machines, but nobody sent anything! If so there are any brilliant assembly language programmers out there who can provide a little routine to change the colour palette half way down the screen or do a rainbow on any colour register then send it in and I'll stick it in the next column.

Next an interesting enquiry from Herbert Spencer of Malvern (in this starting to sound like Points Of View!).

"I am having trouble typing in the STOS program from issue 44 of Page 4 New-Art Lines. The problem relates to line 280 of Listing 1 on page 71 and line 8020 of Listing 2 on the same page. It doesn't matter how I try to get the line in list on printer it always comes out as: (ray 14,8,0, MEM,0,1, , 0, 0, , 0, , 0, , 0"

The problem Herbert, lies in the fact that the lowercase letter 'l' looks incredibly like the number '1' when printed, that line should actually read:

ray 14,8,0, MEM, 0,0, 0, 0, 1, , 0, 0, 0, 0

When anything immediately following a full stop is not actually a letter, either a lowercase B, W or L, which are often the byte, word, and longword. Hopefully because of the smaller amount of total programs this issue the listings will be a tiny bit bigger.

Yet another letter, Stephens Claridge

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100 00000000 00000000 00000000 00000000
```

Graphics demos - Listing 1 above - Listing 2 right

From *Appendix* writes:

"Is it possible to load Spectrum 642 pictures into STOS and display them in large? Also do you know of any good books on STOS that are as easy to follow as the STOS manual was?"

"To tell you the truth I don't actually have a copy of Spectrum 642, and I haven't heard of a routine to do what you ask, so if anybody has a three disc, please send it in (preferably with a close picture or two please), as for a book on STOS 642000 I haven't really seen a good one (in fact 80% of computer books are not as good as the STOS manual), but I will look around at the forthcoming 16 bit Show pull it's over by now but as I am writing this event is over two weeks away) to see if anything exciting turns up.

The last enquiry if possible, is from Eric Pearson who needs some help with printers. You will note I want to answer this month!

"I am using a fairly beloved old Epson 8520 printer, this works perfectly well until I try to print with STOS. STOS seems to think the printer is wider than 80 col cards and if the program line is longer than this the printer returns to the start of the line and overprints it."

This is one really weird, you see I never had such a problem with my MS20, and as you may later in the letter that you have no problems printing from STOS. Word watch for those of you who are not STOS Club members in a word processor written by Aaron Patberg in STOS25 or from the desktop I can only assume that the problem is with your copy of STOS, try your printer with somebody else's copy of our brilliant language. It may be that for some (strange) reason STOS is not printing a character (line feed) at the

end of every line.

PROGRAMMING TIME

Right, down to the program listings. Before I begin those of you who suffer from sea sickness please skip the first program, you have been warned!

First up this issue is a very laudible demo by Mark Cuff who sent it in as a listing, but he didn't include his address so I cannot write and say thank! Anyway thanks for the listing Mark, not only is it quite impressive but it is bound to make a few people reach for the bucket. Type in PROGRAM 1

HOW IT WORKS

LINE 60-65 Set up the initial variables, by changing '2' to '50' and '1' to '500' for some other weird effects.

LINE 60-65 Set up the screen. Guess what, this demo works in all resolutions!

LINE 60 Starts up a loop, by changing the step value you can approximate the wavy effect, but don't make it higher than about 15 otherwise the pattern starts to break up.

LINE 100-160 Do all the drawing, don't you just love all that wonderful matrix math!

LINE 170 Scrolls the screen up by one character line by printing at the bottom of the screen. Why not try using del mode or 'screen copy' to move the display in a much smoother way?

LINE 180 Separates that funky loop.

Final program for this column is one I

MATHS MANIA

School Software have been around for a while now, and have produced a host of educational software in many different home computer formats - except the Atari. However, the company now seems to have seen the light and produced an ST version of Maths Mania, a five program package designed to help 6-12 year olds with arithmetic, logic, and memory training. The programs are as follows.

MIND GAMES: Mind Power is a simplified version of the old favorite 'Balls and Cows', or 'Mastermind' as it became known eventually. Here, the computer secretly arranges a number of different coloured shapes into a random sequence, using every shape once. You then have to correctly guess the sequence by placing the shapes in a grid. The computer tells you which are correct, and after several goes you can eventually deduce the correct pattern.

In Blast Off, five shapes are randomly placed in a 5 x 6 grid and displayed for a short period. During this time, you have to remember their exact positions. They then disappear, and you have to click on the grid squares to indicate where they were. Each correct answer results in a part of a large rocketship being displayed, and if all are identified correctly the rocketship blasts off. This is not as easy as it sounds, especially at the 'super-rocket' level, where you have to locate the

shapes in the sequence required by the computer.

ARITHMETIC PROBLEMS:

Memory Maths displays an arithmetic problem of the form 'A multiplied by B divided by C divided by D' (where A, B, C, and D are numbers). As you watch, the problem is gradually eroded from the screen, so you

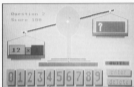
have to remember it while working out the answer. Each correct answer adds a small pyramid to a pile being built up at the side of the screen, so the player can see how successful he's been.

In Driver you have to correctly answer multiplication or division problems displayed on the side of a train. A correct answer causes the train to travel all the screen with puffs of smoke coming from its funnel. Each correct answer adds 10 mph to its speed, and the target is to reach full speed of 100 mph by answering ten questions correctly.

All Driver's questions and answers are recorded in a scoreboard, with incorrect answers highlighted. This allows a parent or teacher to quickly establish the player's problem areas. There seems to be a bug associated with this though, as on returns from the scoreboard screen I found the program usually inserts a digit into the answer space for the next problem, which then has to be deleted before the player can input his answer.

The final program is Brain Power, where multiplication and division problems are displayed on the sides of boxes sitting on a scale pan. You place your answer in the other scale pan, and if correct the scales balance. 100 points are awarded for the first time correct answer, 50 points if correct at the second attempt, and zero if incorrect both times. A score sheet can be viewed at the end of each game (ten problems answered), and this shows the scores of the last eight players.

Maths Mania's graphics are big, chunky, and colourful and look no less ground-fairly typical of this type of program. In fact, Sound, again, is about par for the



course, using a few Drips, Bubbles, and other sound effects to enhance the limited animation the program uses.

The program is controlled mainly from big, bright icons with action lines made by mouse click or the function key displayed against each item. Each program has a selection of difficulty levels, and built-in instructions - a nice feature. Answers are input via mouse selectable buttons or directly from the keyboard where appropriate.

Most children in the 6-10 age group should be able to use Maths Mania without trouble. It's all quite well designed, apart from a few inconsistencies between the programs in button labelling. If you need the 'Virt Test' without a trouble, i.e. it received an enthusiastic thumbs up from my eight year old son. This may be a good sign, as he tends to be very critical of programs of this type.

I'm glad to see another educational program implemented on the ST, as this is one area that is still sadly neglected by ST software producers. Thanks to companies like School Software this situation is slowly being put right.

- **GAMEPLAY** - very easy to understand and use, while offering a challenge to a wide range of abilities
- **SOUND AND VISION** - graphics and sound effects are unashamedly basic, but adequate for this type of program
- **TECHNICAL** - a welcome addition to the list of educational software for the ST



Title: **MATHS MANIA**
 Publisher: **School Software**
 Price: **£23.95**
 Reviewer: **John S Davison**

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- **Expansion:** 20 pin expansion slots for 3rd party software
- **Expansion:** 16 pin expansion slots for 3rd party software
- **Expansion:** 8 pin expansion slots for 3rd party software
- **Expansion:** 4 pin expansion slots for 3rd party software
- **Expansion:** 2 pin expansion slots for 3rd party software
- **Expansion:** 1 pin expansion slots for 3rd party software
- **Expansion:** 0 pin expansion slots for 3rd party software
- **Expansion:** -1 pin expansion slots for 3rd party software
- **Expansion:** -2 pin expansion slots for 3rd party software
- **Expansion:** -3 pin expansion slots for 3rd party software
- **Expansion:** -4 pin expansion slots for 3rd party software
- **Expansion:** -5 pin expansion slots for 3rd party software
- **Expansion:** -6 pin expansion slots for 3rd party software
- **Expansion:** -7 pin expansion slots for 3rd party software
- **Expansion:** -8 pin expansion slots for 3rd party software
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The Portfolio text processor program

includes word wrap, the ability to save documents in a variety of formats, and the ability to print documents directly to a printer or to a file.

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