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NEW

ATARI USER

The Resource for the ATARI CLASSIC and the ATARI ST

Issue 69 · December/January 1994/5

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FOR THE ATARI CLASSIC

⊙ TV BINGO

Forget the lottery, play for nothing!

⊙ GETTING SORTED

Sort routines for your programs

⊙ HANDLING PROBLEM TAPES

Don't chuck them away just yet

DAISY DOT - for beginners and advanced users

FOR THE ATARI ST

THE WORLD'S TOP DEMOS
MAKING MUSIC

SENSIBLE SOCCER

Possibly the best soccer game of all time



FILE ... F44 REVISED ... F450 HELP ... THE TIPSTER ... AND A WHOLE LOT MORE

This issue's

Thanks

Lee Ellingham puts it all together and fills up the pages from the real thanks goes to the following who make this issue possible

Sandy Ellingham who takes care of all the office work

For their regular contributions

John S. Burrows **Robert Murray**
Paul Dixon **Phil Birmingham**
Alan Fitzgibbon **Mark Robinson**
Alan J. Palmer **The Typster**

For their contributions this issue

Andrew Hollinson **Kevin Cooke**
Dave Shakespeare **Ed Hall**
John van der Spoel **David Hargrave**
David Rowerscock **Mark Pennington**
John Bentley

Special mentions to

Ann O'Donnell for a never-ending supply of articles and continued support

'Waite' for the Christmas present of AME, appreciated more than you will know

Some of these folks have supported us from almost the beginning and without them we could not be here. Some are being paid for published for the first time. All are to be thanked for clearing their tables even with all the real New Atari User

HOW IT'S DONE

AME is always glad what you can do with your Atari. NEW Atari User has always been covered entirely with Atari equipment, mainly on the AT, but over time with a little AT and other stuff. We accept PCs or other hardware including a Mega TEE board or a 68000 (MTE) board, Super 386, Hard Disk, a 100 Compact II, 1000, a couple of 10MB disk drives, 4000 software, NEC 9500 software. Items are usually cash in hand and Fair-Trade (including V.C.) Other software includes Ken, etc., MacTalk, Turbo Basic and various random software programs on the AT/200. Articles submitted on AT/200 disks are mandatory, except for the 68000. All programs are coded on the AT and printed out directly for posting to after the typesetting is completed. All major editing is done with printed out pages are sent out from Peter Green Publishing. Each page is output directly from Peter Green in a 100 Compact II which produces finished pages nearly as you see them. All you do is to drop in the letters and photos.

Well, it's not quite as easy as that but you get the idea

Inspiration

Long time readers will know that it is impossible for us to get an issue together without a dozen supply of meals and eating five machines made on a computer. The contributors to each issue have of those who share this issue the thanks for inspiration. As usual we get it from Mark Magill, the Doctor, Ed Curry, Alan J. Palmer before that and Mary (Chips) Chapman since moving to the Atari village in 1989. This year CD from Mary (Chips) Chapman and it didn't longer fit into the others (big times) and to be another reader - I have just had to write my. The kind of My Peter Stone because it is so excellent. The Doctor had some initials in discussion, and has been given to such an extent that it could be that Mark Magill's best. I write this after the TV showing of Mark Magill's Atari Club record which was simply the most amazing story I have ever witnessed. Listening on headphones with the lights off and a few feet away from the TV set on a comfortable bed of the best thing that I could have been used to have been done. After helping out a little this time you know Magill's place, it is to have again been used with an excellent book featuring Mark Magill, and also a idea from the recent past from Andrew Brown.

CONTRIBUTIONS

Original contributions from the readers. NEW Atari User would not be possible. Please if welcome and messages to be readers on columns, articles, programs and reviews for publication. Programs must be submitted on AT or 2000 disk, articles must be submitted on AT or 2000 disk. We work to encourage your participation and do not have strict rules for submissions. If something is to be done, write a program or article and send it.

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'The Magazine for the Dedicated Atari User'

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SUBSCRIPTIONS

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DISK SUBSCRIPTION

A disk containing all of the disk programs from each issue of NEW Atari User is available either separately or as part of a subscription. Single price £7.95 plus £6.00. A disk subscription means you receive 14 a year. This includes rates of return.

UK	£25.00
Europe	£27.00
USA/Canada (post)	£28.00
Elsewhere (Air)	£33.00

Please make cheques payable to PAGE 5 PUBLISHING and send to PAGE 5 Publishing, P.O. Box 54, Stratford, ST16 1DP

'The more it changes, the more it stays the same'

From the Introduction by Ed Newman

I have never been one to plan far ahead but once in a while the time comes when you have to try and judge what might happen in a couple of years time. Last issue I put out some letters regarding the future style of the magazine and many of you responded with letters extending to one or two pages outlining your thoughts. It is thanks to those letters that I have taken the decision to change the format of the magazine now. I believe that in this new format NEW ATARI USERS can continue at least to the the middle of 1986 and probably beyond. I hope that you will all support us for that long.

Most of the comments received were along the lines that it would be nice to continue as a conventional AA size magazine but that the content and style were much more important. The comment that often made was that we should use a lower quality paper but, believe it or not, the glossy paper used in the past was the cheapest available! It is in fact cheaper than the paper used this time but changing the format allows us to make savings in other areas. Our previous printers did a splendid job cost wise but were set up to produce magazines in mass of tens for thousands of thousands rather than in thousands. Of the total production cost the paper accounted for less than 20% with the remainder going to feed set up costs that varied little with lower or higher print runs. Our new printer works on the opposite basis with the majority of the cost in the paper which does mean that if we need to print less it costs us less. That seems sensible to me!

The major concern expressed in going to an A5 format was that there would be less in each issue and that most magazines of this size are very difficult to read since they tend to start off on A4 and are then reduced in size for printing. I have been conscious of these points all along and I believe that any form are unfounded. The point size and typeface I have used is exactly as before and by making out white space, reducing headlines and making long listings available on disk or on request, very little has been lost from the overall content. Looking at the first drafts I am quite pleased with the outcome and I hope that you will be also.

As I have said I believe this new format allows us a minimum of another 18 months of New Atari Users but of course that depends on your support. We need your articles and programs but above all we need your subscriptions, so make sure you renew and encourage your friends to renew their subscriptions as well.

Les Ellingham

NEWS

FREE MIDI TAPE

David Pinn of Music Discount has been exploring the Midi possibilities of the 1200SE with a new product from Creative Labs called MIDI BLASTER.

MIDI BLASTER is a stand alone device that can be controlled by your 1200SE. It will accept signals from any general midi source and can generate 128 instruments, 91 variations, 92 drums and 40 effects with up to 16 channels and 28 note polyphony. The unit can be hooked up to a 12000K with a MIDIbus interface and can be driven by software specially written by Hybrid Arts. The results are extremely interesting.

The device is not cheap but is well worth hearing if you are interested in exploring the Midi capabilities of the 1200SE. Music Discount have produced a demonstration tape with twelve over explaining the device and showing its impressive range and will be happy to send you a free copy of the tape if you send them a self addressed and stamped envelope (a 30p tag is probably best) large enough to take an a5 size tape.

Contact: Music Discount at 265, Chester Road, Sowerby, West Midlands B74 3EA

NEW DTP FOR XL/XE?

Recently received is a very neat looking print out from a page layout system under development from Goysters. What makes this especially interesting to a large number of users is that it is tape based and for the first time opens up this type of application to users without a disk drive.

The software is called CPAGE! (HEP!ALD) and has the ability to mix graphics and text with many text effects and type sizes. Other features promised are a 40 page manual, over 28 icons, 10

fonts, over 20 typefaces, 8 borders, Turbo tutorial screens and more. At the time of me receiving the information Goysters were just putting the finishing touches to the product and were looking for someone to help them market it.

This type of program has never before been available to tape users before so if are looking to expand the capabilities of your XL/SE this is one to look out for.

Goysters can be contacted at Herts, Ullingworth, Hemford AV7 2JG

STARFIGHTER JOYPAD

Game controllers are largely a matter of personal preference but the standard for the Atari has always been the joystick in its various guises. Those of you who have tried the Nintendo and Sega joystick controllers might like to know that a similar controller is now available for the Atari - both 8-bit and SE.

The Starfighter 1 from Quakebot is a comfortable joystick with a thumb controlled direction button and separate fire buttons which can be switched to Turbo mode or put into 'hands free' mode. This sort of controller is ideally suited to fast action arcade games so if this is your forte you might like to treat yourself to a new joystick controller for Christmas.

Interchange in Southbridge has given us one of these controllers to test out but there was not enough space in this issue for a full write up but we'll try and test it out for a full report next time. Initial tests indicate that this could be a great new controller for the gaming expert.

The recommended price is £8.99 and Interchange will send you one post free if you mention Page 6 with your order.

Interchange are at 115A Bridgford Road, Malloway, Southbridge, West Midlands, B79 2NS and your cheque should be payable to K. Hughes. For further information give them a ring on their new telephone number - 01294 663600

Mailbag



It's been quite some time since I've set down to compose a Mailbag column for *New Atari User*. The difficulties experienced by Les during 1994, the temporary delays in publication coupled with the move of the *Magford PAGE 4 Office* have resulted in a cessation of new letters coming on my desk (which is 120 miles from *Magford*). Recently Les forwarded me the mailing label packet there is of it, so it looks like we've got a shorter column this issue...

Allan J. Palmer

PRINT SHOP LABELS

David Conway from Doncaster, Northants has a problem with "...using the 'Print Shop Labels' program on Page 9 PD disk 85 - where printing the labels out, the printer feeds on a line so I get a label printed from labels of course looks pretty damn awful. I have a SAMM04 printer with a Graphix AT interface by STIC in my 130XE. I have tried turning the slip-switch for the line feed off on the interface, but all I get is the printer not feeding the paper on. I believe I should be able to change a line in

the program to rectify this. Can any of the readers assist me please?"

❗ I think this problem has been mentioned before some where can anyone help me remember?

INK-JETS

M Tindal from Swadlow, Essex has a Commodore 66P 1200A inkjet printer "...which works well with my Classic Asset via an 850 interface. It prints out well all the graphics and text characters using a program from one of the Page 6 PD Utilities Disk. It works well with Daisy Dot, Dot Magic, Letter-head Designer and Fancy Writer. However, I was wondering if you know of a copy of ink for such a printer, I want to see if I can refill the ink cartridge with a hypodermic needle as replacing an ink jet cartridge costs about £50. Any advice will be most welcome."

❗ I don't know about the Commodore inkjet but you've got the Tindal, that is certainly possible to refill inkjet cartridges. I suspect your Commodore printer is a so-called version of another manufacturer. You'll find these refills advertised in the PC or Access computer magazines. The one that I've used successfully is produced by Sanyo (the manufacturer of manufacturers) - it's compatible with HP Desk Jet cartridges (I've seen about 20

reusable printers and you get two refills in a box, each with their own 'wax'), in situations, cloth and a plastic glove to help you keep them. The price is about £15. One supplier I've dealt with is Dixon & Dixon, 25 Ashby Drive, Kewton, Newcastle Upon Tyne NE2 4JY (phone 091 265 3048).

DATABASE DIFFICULTIES

Paul Maxwell FR, London E13, Big Possum asks for advice on "...Michael Jackson's MUSEUM database from PAGE 6 issue 28 which I use on a regular basis to store my album collection. However, when I use Compact Database from the Utilities module, my data gets trashed. Fortunately, having learned the hard way I now have a backup of the data before attempting anything similar. Does anyone have any ideas what's causing the problem? I'm using a standard 130XE with 38951 drives and DOS 1.5 although I may try to convert it to SpectrumDOS X. The program has been adapted to use a RAMDisk as suggested by Andre Stevens. Where are these people now? I wonder? Also, has anyone any idea how to get a header on each page and to alter the page length to wrap between European standard A4 size paper and American sized paper? Not being a programmer, it's

a bit beyond my limited IQ." ❗ Alas, only when MUSEUM users may be able to assist you Big Possum, it would obviously be of help if you explained what you meant by 'trashed' - do you mean the records have vanished from the disk, or they are inaccessible? Sounds like the use of a sector editor program is called for to investigate what remains on the disk after you've run the Compact Database utility. For only had a brief opportunity to look at the listing book in issue 28, so can neither get on to what might be happening, I wonder if the RAMDisk tool may be the cause? Regarding the re-formatting of the pages for printing, this should be possible by modification of the existing print module - any volunteers?

FEEDBACK

In another letter, Big had the following comments on our last postcard: "I used BT, Boris Codes mentioned the lack of availability of 5 1/4" disk storage boxes. These can be obtained from your local branch of Ryman (previously my branch closed) - Alas, or from Bang Computer Supplies (phone 0783 45711). Bang also sells listing paper, printer ribbons and re-taking spray. "I was interested in the review of the re-issued South SpectrumBook. I too have a

copy - of the original program that had a limited availability from Page 6. I find the material relevant to the Atari translation sheet a bit of a hassle. Why the original programs could not have been on Atari manual books is simple enough and explain on a word processor could have effected most of the textual changes." ❗ An I recall, 'Bugs' was originally produced for the UK by Spectrum for the Commodore 64 line - the first version had no obvious problems in this country, in fact I first became aware of it when it was advertised in AMSC magazine's Catalogue section. I wonder if it sold in the States, and did it have an Atari manual? "On the subject of manuals, anyone remember 'S/Graph', published by Hatteries included in the mid 80s? It included a manual of about 100 pages. Impressive, until you realize that it's not much bigger than a *News Vexat* magazine. Is it too much to have instructions manually booklets of at least 85 size?" ❗ This problem with manual size is also found in *PageCly* - also produced by Hatteries included, but to be fair, I think the size isn't a problem, it's the binding - if the manuals had a ring binding on their top edge they would be more usable. The problem was, in fact only with the UK versions manufactured by Arkhobby. For more a photograph of a *PageCly*

manual in an old issue of *ARNDOL*, and the US version is certainly ring bound! "Having in RE-Staff of Germany, I make from their catalogue they are asking for \$5 for shipping if you pay for software by cash, an extra DM12 if you pay by Eurocheque and £10 by any other cheque. The extra charge of \$5 for cash is reasonable, but I feel the other charges are a bit over the top. I will certainly think twice before buying software from Germany - I have never paid extra local charges of that magnitude when buying software from the States."

❗ Thanks for an interesting letter, Big.

L.A.C.E.

Carol Anderson from London WC1 writes that she has recently "...joined L.A.C.E. London Atari Computer Enthusiasts having paid my £7 membership fee - it's the best thing I've done Atari-wise. My address to London-based Atari enthusiasts is to join up. I met someone who had a UK modified 1200XL, he also knows of certain US Atari OEM suppliers that will supply you lot versions of the 810 disk drives, all the 1200 series (including, with speech chip, with built-in drives and/or built-in modems or the 1400XL equivalents. This guy says that the owner of First Electronics actually has the first two prototypes of the





14800312. If anyone wants to join L.A.C.E., the contact is Mark Whitham, 198A Shirley Road, Kewfield, Waverley, London SW15.

7 Several interesting Cornell, please keep us up-to-date. Perhaps other members of L.A.C.E. would care to submit correspondence and opinions? What benefits may be gained by Classic Atari enthusiasts outside of London?

7 I've also received another two letters from Cornell totaling 19 AM sides of tightly packed written advice and opinions on matters Atari, primarily on Atari's marketing strategy for lack of a better word. Thanks for the thoughts and comments. Cornell unfortunately, the few letters for me to transfer your letter to disk for inclusion in the volume would not leave me much time to transfer other correspondence and the result would not fit in our Mailbox column without expelling other people out. If you have a lengthy letter, submitting it on disk AMT would be getting it included in Mailbox. I won't have to spend so long typing it in. However, I believe it's important that Mailbox has a range of content. As a general comment to all letter writers, be succinct in your comments - that way you can fit more in and hopefully more things more content. Has Paul given Mailbox the luxury of 4 pages usually, if not that up more then another page of the response would suffice.

what's articles or programs that you would you like to see dropped? I suspect the answer is none. End of message.

VIDEO CONNECTIONS

Further to Andrew Mitchell's question regarding connecting a video recorder to the XL/SE, Kevin Cooke of Exton, Devon writes: "I have recently done this with success. Please note that the following information was supplied to me by Bob Kemp, an exp. Chanko advice really go to him. First of all, it is on good taping to connect your video up via the serial leads as the computer and video will cause interference with each other. You will need to build a cable to get a direct recording. One end plugs into the XL/SE monitor socket and the other into your video recorder's SCART socket, so you will require some audio type screened lead tape over, a 5 pin DIN male plug and a SCART plug (21 pin). The connections for the cable are:

- BLUE 4 to SCART 20
 - BLUE 3 to SCART 2
 - BLUE 2 to SCART 17 or 4
- (sometimes pins 17 and 4 may have to be linked together)

You should find the plugs are already labelled with correct pin numbers where you buy them. When you have made the cable, you are ready to set everything up.

No RF lead is required so you simply plug one end of the cable into your video's scart socket and the other into your computer's monitor socket. A lead should then come from your video's 'serial out' socket into the back of your TV. Switch on your video's test signal and tune in a TV channel as described in your video manual. You should then be able to see the computer's picture when you switch this off and leave the computer on. If your video operates like mine, you may also need to press a button to tell it that you want to take signals in through the scart socket rather than send them out. On my video's remote control, this button is called the 'TV/LINE' button. The picture may appear fuzzy when played back through this setup, but when your video is connected normally, it should appear OK.

7 As usual, PAGE 8/9/10 ADAM User can accept no responsibility for individual's hardware modifications, however thank you for the contribution. Kevin and perhaps you'd like to describe some of the uses that have been made of this facility? I know there is a software package called 'Video Title Shop' - have you used this to add titles etc. to your home videos? Anybody got any other uses? Perhaps creating an educational or an advertising video? Let us hear about your ideas!

LIGHT-GUNS

From Horace in Grandchester, James Rowell reports that he has "... recently got around to repairing a light-gun that I was given. I have played both 'Bag Head' and 'Operation Blast'. 'Bag Head' is great fun for a few people and 'Operation Blast' appears difficult but is technically very well done. Anyway, my question is: are there any other commercial or PD or type-in programs that use the light-gun?"

7 David Price of Micro-Discord had Atari's impressive 800K cartridge 'Gunshee' in his local catalogue, and I think there was also a game called 'Burglard Blast' (that was bundled with the Atari light-gun as a promotional package). Can anybody suggest other PD or magazine titles?

TRANSDISK IN THE USA

A enquiry about TransDisk IV this month, from Larry P. White of Mesquite, Indiana, U.S.A., "I have been unable to use TransDisk IV. Whenever I attempt to read a tape using it, a very abnormal pitched sound is produced which I would call 'bad lead'. I presume this relates to the frequency difference of NTSC vs PAL systems (50 vs 60 Hz)? Has this problem cropped up before, and can it be fixed by

changing a few bytes in the program with different frequency values?"

7 I don't think the NTSC/PAL frequency is the reason (if it was, we'd have trouble reading US cassettes on US machines, wouldn't we?). I assume you've been able to use the tapes normally. Does anyone have any suggestions?

DOWN UNDER CONTACT

A letter and disk arrived from Teiga Eoka, P.O. Box 1150, Fremantle 6160, Western Australia, Australia (phone 08 4121945). "My name is Teiga and I own a Atari 1300XL with SuperDisk II installed. I own 3 x 2080 drives with US dosettes. I a 3855 1 drive, 650 interface and 200's of software items from old to new (80 - '92). The reason for this letter is to know if you guys could give me a list contact numbers and addresses to not only swap software but also to keep in touch with other Atari friends. I've owned an Atari since 1982 and have not had interest in it since. I only know how to program in BASIC on the ML in the memory to understand. I can provide a catalogue of my games and utilities to any other Atari friend willing to swap and to become pen pals even, because I do not want to give up on my 8 bit. I hope that I will hear from you guys soon, be-

cause there are hardly any Atari users here in Australia. Anyway, thanks a lot, and say hi to all the guys appreciated."

7 Well, don't just sit there - write to Teiga!

SUPERDOS QUERY

Perhaps Teiga might be able to help Robert de Looze of Zelzote, Belgium, Robert is having "... trouble with SuperDOS 5.0 and 5.1. Do you know the address of the author Mr. Mitchell in Australia? SuperDOS automatically sets up the largest possible RAMdisk. Because I own an unexpanded 1300XL, the largest possible RAMdisk is 512K sectors on my system. SuperDOS creates a 787 sector RAMdisk which is impossible, and I have trouble accessing the RAMdisk. I ordered SuperDOS 5.1 from the Page 8 PD Library - had some trouble I disconnected the 1300XL and connected one of my other 208's - still the same result. I want to know why, because I have SuperDOS - it's fully compatible with Atari DOS and you can format double-sided with the 3855 1, and the speed between the drives and the computer is extremely fast, especially if formatted with skewed sectors."

7 Let's bring a copy of SuperDOS, I am unable to comment on this one. Are there any other SuperDOS programmers who can help?





TOP TENS

Jason Kendall has sent in some of his Top Ten software lists for the Atari Classic - so far he's the only one who's responded to this suggestion back in issue 57. So to encourage more responses, here are Jason's choices:

BEST GAMES

1. Boulder Dash II
2. Beverly Hills Ninjas Dash
3. Rescue on Fractalus
4. The Great American Cross-Country Road Race
5. Action I
6. Whacker's Brother
7. Dylan
8. World Karate Championship
9. F-15 Strike Eagle
10. Mediator

BEST SOUND/MUSIC

1. World Karate Championship
2. Master of the Lamp
3. Dvd
4. Mediator
5. Whacker's Brother
6. War Hawk
7. Cyrus
8. Video Classics
9. Ultra II
10. Alternate Reality

BEST GRAPHICS

1. Master of the Lamp
2. Henry's House
3. Star Madness II
4. World Karate Championship

5. Rescue on Fractalus
6. Alternate Reality
7. Mediator
8. Hardball
9. Dragoon
10. Dvd

THE 10 WORST GAMES

1. Space Shuttle
2. Jump Jet
3. Wizard
4. Fire Bird
5. Fractal
6. Solo Flight
7. Super
8. The Comet Game
9. Cosmic Life
10. Whacker

† Any other views of the best and worst for the Atari Classic?

☆☆☆☆

Well, another Mailbag column comes to an end. Time for me to relax a bit - perhaps catch up on some videos or listen to some music. (as usually more music on CDs that he's been listening to, so perhaps it's

about time that I mentioned some of the music that's been playing during the period that I've been putting this column together. As I write this, Disney's latest animated feature "The Lion King" has just premiered, and I've taught my daughters the soundtrack CD - I'm impressed by the score and the songs, coupled with the animation this will be another winner for the studio. I hope that Disney have an animated version of "The Muppet Show" (more done" in the works - with Muppet) in the style of "Guinness" I recently received my copy of a copy of Pink Floyd's "Obscure Self" which is appeared in a sale at the HMV store, and writer also been listening to the original rock recording of "Warrior in the Forbidden Planet", having had an enjoyable evening with the touring versions of that musical show played locally. David Dicks of Fleet it's time to reverse the polarity!!

See you next time...

Air your views on all things Atari or help your fellow users with their queries - even ask for help yourself. Here's the address:

**MAILBAG
NEW ATARI USER
P.O. BOX 54
STAFFORD
ST16 1TB**

DISK BONUS

TUBE MANIA

by Andrew Guillaume

Tube Mania is a version of a fairly well known game that originated on the PC. The idea is to construct a length of tube in a certain length in a pipe storage tank. Only a certain length of continuous tubing is required for each level but this increases as the game progresses.

The video screen gives you the opportunity to select either one or two players and to choose the skill level. If you do nothing at this stage the high score table will appear. This can be removed by pressing **RESET** when the title screen appears. The high score table is blank because the disk should be left in the drive during play (you'll have to cut a notch on the New Atari User issue disk or transfer the program to another disk).

Pressing the fire button will take you to the main screen where you will see the starting point of the tank or tanks. Player one is on the left (blue) and player 2 on the right (red). The cursor is moved with a joystick to the position where you want to place the next section of pipe. The pipe sections currently available is shown at the top of the selection chart which also shows the next three pipes to come along. You do not have to place the sections in progressive order, sections can be placed anywhere and joined up when a suitable pipe becomes available.

There are two pages, that on the left showing the time remaining before the water starts to flow and that on the right showing the length of tube that has to be constructed for that level. You may carry on playing sections after the water has begun to flow but you must not go over a certain water level as it will cause the water to escape. Once sections covering water over itself are acceptable though.

SCORING

PLACING A TUBE SECTION	0
PLACING TUBE OVER YOUR EXISTING TUBE	-20
PLACING TUBE OVER YOUR OPPONENT'S TUBE	-80
FOR EACH SECTION CONTAINED A LIQUID	+100

Score is shown at the top of the screen, if you obtain a high score by the end of your game, use the keyboard to enter a 30 character name, using **DELETE** if necessary and the **spacebar** for any extra characters. This will be saved to disk.

TUBE MANIA is written in compiled Turbo Basic and is only available on the New Atari User issue 66 disk. Disk subscribers will have received their copy with the magazine but the disk can be ordered separately for \$2.95 from PAGE 8, P.O. BOX 54, STAFFORD, ST16 1TB. Access or Visa orders can be accepted by telephone on 0182 312628.

THE NEW ISSUE DISK OFTEN CONTAINS EXTRA BONUS PROGRAMS NOT MENTIONED IN THE MAGAZINE

HEY! HEY! It's The TIPSTER

Will I be back again not quite the same person that left you last time as I have to undergo another metamorphosis to acquire into a tiger again, but deep down it's still the same old me. Not only have I been equipped to a smaller size for the way that I have craved in a more useful outside. The color is different but it does have a safer size (Punch throbbing during its corner, loaded with enough fire-power to bring down SCORP).

This means Tiger is shorter than some but bigger than any other like The Tiger only (perhaps the best might not because I can't think of much to write but because I have only had a few letters to record them. More about this later but until then let's move onto the first letter of the song, from Miguel Lempey of La Duda in France.

VIVE LE TIPS!

Miguel has a nice tip for **FLASHTON LAST GUARDIAN** and one of my all time favorite games **DRAGONIX** (again from Spain, that is).

In **FLASHTON** if you type in **KEYS AW** at the beginning of each level you will become invincible. The thing is, this cheat mode is a bit tricky, but you'll get used to it.

During the intro screen of **THE LAST GUARDIAN**, typing in **UBERT**, which is assumed in the authors birthday, will provide you with full invincibility.

Finally we come to **DRAGONIX**. During the intro screen, press **RESET** then **OPTION + SPACE**. (Please note that, there's a space between + and P). This manipulation will activate level.

Cheers Miguel, I am particular impressed and thankful for the last tip. In fact I am over the moon about it.

DR. JONES, I PRESUME?

A nice tipper this time in O.J. Fernandez of Cardiff DE go Javel and for him a few tips for a top 100 game. **THE ADVENTURE OF DR. JONES**, available from the Page 4 PC Library. The key for the game are A, C, B and T.

When obstructed by floating crocodile jaws the A key to know to go. To see the traps and other game G key. Or to start across the hole to see the bottom right of the screen.

When you press the T key you get a limited light screen.

The following keys are also always useful:
The B key ends a life and the R key starts again.

You will need a lot of patience for this game but you will keep coming back for more. If you complete a dark screen you will have a light screen for the next screen. You also get another life for a floating skull.

What now follows is a description of the first two screens and how to solve them.

SCREENTWO ONE

Right is first ladder. Go down. Right is last ladder. Go up. Go right. You will step down so move quickly to the left. Go to first ladder on the left. Go down. Go right to get skull, go back left to ladder with skull above and right. Go up. Go skull. Back down ladder. Go left. You will step down. Go right. Drop down. Go left and you will step to next level.

SCREENTWO TWO

Go right to the end. You will step down. Go left to the first ladder. Go down. Go to ladder on the left. Go up. Go left. You will step down. Go right. Go skull. Go left. Step down. There may be an X sign or a skull will be behind you. If you pressed the C key at the beginning you will not get a skull. Drop down to go left to ladder. Go up. Go skull on the left. Go back down. Go right. Go down ladder to the next screen. There they will help to pass the other screen. You will see first and which of the guy change are traps.



An old campaigner returns the field again in the shape of Kevin Cooke of Exeter. Welcome back Rev! Rev's brought with him a few tips for a couple of games. **CROSSBOW** and **CROSSBOW!** Without more ado I'll add him to take the stand.

CROSSBOW

In **Crossbow** there are a set of colored paths that take you to different places and Rev has very kindly labeled their respective ends and beginnings and steps on route.

Hints for each location

DESERT: Fairly easy. Make sure you watch the blue fire words and remember that when they link out for the volcano. Steady and holds a lot of re-breath.

CANYONS: Falling skeletons are the worst threat here. Don't worry too much about the other things.

VOLCANO: Avoid the rolling rock straight away to make a bridge to cross the lava. (Yes. After that, just keep shooting the falling rocks.)

JUNGLE: Don't worry about shooting my monkeys that are to the left of your friends - they cannot hit them with rocks. Keep an eye on the plants as they often appear just as your friends are walking over them.

VILLAGE: Beware of the ghosted line usually appears as a friend goes to the far right hand side of the screen so be ready. Also, try to shoot the arrows before they get a chance to shoot at your friends.

RIVER: Be careful when your friends go to the far right hand side of the bridge. A monster will almost always

ENIGMATIX

In **ENIGMATIX** if when using one of the blocks that's moved up when you bounce on it you find you can't control it, keep steering up and slowing down by only using the fire button every now and again. By slowing down, says Rev, you're bouncing on the block more often and so moving it more quickly. Although this can save you valuable time, do not use too small a bounce, otherwise you may not make the block at all.

appear. Don't worry about the alligator, but if about monster.

DRAGONIX: Avoid using the two eyes holding up the overbridge when you start. They just keep your game pointed at where the arrows appear - you should hopefully shoot them before they shoot any arrows. Only move your gun away to shoot at Phosphoryls.

CASTLE HALL: The biggest worry here is the dragon. Shoot him before he gets too close and then he can't do any harm. Careful though as he will re-appear again. When you get to the trap door, shoot the statue's skull as quickly as possible. You will then have to contend with two screens from the hole in the wall.

EVIL MASTER: Hold your gun at the eyes and hold down the trigger!

	BLUE	PURPLE	GREEN
START	NA	VOLCANO	DESERT
DESERT	CANYONS	VOLCANO	VILLAGE
VILLAGE	DESERT	VOLCANO	RIVER
CANYONS	DRAGONIX	DESERT	JUNGLE
VOLCANO	JUNGLE	RIVER	DESERT
RIVER	NA	VOLCANO	JUNGLE
DRAGONIX	NA	CASTLE HALL	CANYONS
JUNGLE	CANYONS	DRAGONIX	DESERT
CASTLE HALL	GOES TO EVIL MASTER WHEN COMPLETED		

Therefore, the quickest route to the Evil Master is Green, Blue, Blue, Purple - (Desert, Canyons, Dragonix, Castle Hall)

INSIDE

LIZARD

They're all coming out into the daylight today. Henry Howarth is back once more with a new set of tips for **LIZARD** from Tiger Developments. He has listed below the planets, how to look and password for all the planets in the game.

PLANET	ICON (COLOUR)	PASSWORD
Lacortia	Black	SLARK
Optidia	White	WHALE
Angula	Dark Grey	SLIME
Sauna	Light Grey	TIGER
Aura	Blue	EXCEL

It is handy to go to the planet which you are trying to complete first, so that you visit each planet as few times as possible.

The planets share the same colour as the entry log, and dark grey as the same colour as the status panel.

CALLING BRIAN HOWARTH!

I have to say personally how complete maps from Brian Howarth for *The Golden Rules* and *Escape from Palau 7* but I can't read them! Could you please write to with a map which I can decipher as I can't spare our hour to read them. They to be a pain but if I can't read them I can't publish them (sorry)

CALLING ALL CARS! BE ON THE LOOK OUT FOR GAMES TIPS FOR TIPSTERS!!

You'll need more tips for the column so don't just let the likes of Steve Cooke and Brian Howarth steal your fame just because you think that your tip or solution isn't good. Remember I read everything that arrives on my desktop and all of it gets published in one form or another. Don't let this column go down, send to the magazine and tips for your favourite games. I would particularly like help with the following games.

Alien Cat, Bomb Fusion, Kennedy Approach, Hold over Moscow, Cops, Cosmos' Zoo, Astro Groover, Claws & Ballers, Snake Maker, Snake Madness, Peace Maker, Rescue Street, Skagriver, Dr. Bones, Fantastic D.R., E.C.'s Quest for Types (most excellent), Covers of Stars, Covers of Kings, Wolfenider, Overkill Egg, Frogger, Mario Bros, Pink, Snail Speedway, Monkeys, Togo Attack, Chain Jumper, Leggit, Up, Up & Away, Night Raiders, Mahomes, Pyramid Run, Sunday Striking, Krusty Killers, Savage Ford, Sealotic, Sealless, New York City, Chop Shop, Five Chief, Kissin' Cousins, Hi-Jack, Superpunks, Snake-Jack, Kingdom and Really Great American Road Race.

I ask specifically for the above games as they have been asked for by B. McGrath of *Dateline* to complete the TIPSTER index book that I am planning to compile.

Next issue there should be a complete map of *Alternative Reality: The City* and hopefully the maps from Brian Howarth that I didn't include this issue.

Remember to send all of your tips, hints and maps to keep this column going to:

THE TIPSTER,
NEW ATARI USER
P.O. BOX 54
STAFFORD
ST16 1DR

INSENE is a rather unusual game based on the internal workings of your favourite games. The story centres on a terrible "virus" that has found its way into the electronics of your Atari. This nasty beast is breaking up all the integrated circuits (but not irrevocably possible, of course) and will eventually destroy the machine if you don't take responsive action.

Luckily, you are equipped with two exceedingly high-tech special chips which you can dispatch to substation first aid on the faulty components. The playfield is divided into two horizontally scrollable landscapes (one per chip), each involving the CPU, logic array, Arsis, Policy and other circuits that lurk inside the Atari's plastic casing. Obviously you'll need two joystick(s) to manoeuvre the craft - it's possible to play solo, but much easier with a friend's assistance.

What you have to do is fly the ships over the electronic parts and land on those you think are malfunctioning. A status line periodically reveals the state of a failed item, but there's no indication of where to locate it - so



until you memorise the layout it's basically a case of trial and error. To add a touch of realism, you'll notice the effects of damage to other chips - for example, when the Policy chip is playing up the game's sound track is noticeably degraded. If a joystick fails to respond, you have to make do with the other one until you fix the offending ISA circuit.

Whenever you land on a valid component, you're informed whether or not it's in need of repair. If it is, the screen display switches to a status diagram and a collection of spares. At this point you're asked to choose suitable replacement parts and place them in position on the diagram. Once the circuit has been restored to full strength, you can head off in search of the next casualty. There doesn't seem to be a specific way to "win" but if you cause excessive damage the computer explains to a rather alarming likelihood.

I'll certainly award loads full points for originality and for no complaints when it comes to sound and music effects - the title page is particularly well done. An *Atari* issue would say, the chances of your Atari falling are quite small - we don't have nightmares...

reviewed by Paul Nixon

GETTING SORTED

While computers are very good at processing large amounts of information, programmers often need **ROUTING** routines to make that information accessible. "Sorting" just means putting the data in order, either numerically or alphabetically. In a **NUMERICAL** sort, high values come consecutively before or after low values. In an **ALPHABETICAL** sort, letters near the start of the alphabet are put either before or after those near the end. It's also possible to have an **ALPHANUMERIC** sort, which is an ordering system based on both letters and numbers - for instance, BC might come before BS but after AT.

You can use sorting routines in all types of programs - high score tables in games, names and addresses in databases, ordering the

hands in card games, and so on - and a number of different methods are available to do the ordering. In any sort routine, the two main operators are **COMPARISONS** and **EXCHANGES**. (Individual routines differ, however, both with regard to the items being compared and the timing of the exchanges.) This article takes an introductory look at two popular sorting methods - the **Bubble** and the **Shell** - along with a few variations on the core routines.

THE BUBBLE SORT

This is probably the simplest sorting routine of all. In a **bubble sort**, the computer moves through the data comparing pairs of adjacent items at a time. If they are in the correct order they are left alone; if they are in the wrong order they are swapped around. The computer continues to compare pairs and make swaps until all the items are in the required order. In this way, items gradually "bubble up" to their rightful place - this is how the routine gets its name.

PROGRAM 1 uses a **bubble sort** to place a list of numbers in low-high order. The opening lines put the unsorted numbers into an array and print them on the screen. The sort routine starts by setting **SW** equal to 0 in **LINE 200**. **SW** is our swap flag and it records whether or not any

swaps have taken place. **LINE 210** starts a **FOR...NEXT** loop to go through the items in the list. **LINE 220** compares the first number with the second. If they are in the right order the program skips over the swap routine and goes to **LINE 230**. It then compares the next pair of items (the second and the third) and so on. **LINEs 230-250** only come into the picture when the numbers are in the wrong order. **LINE 230** switches them around by

- putting the first into a temporary variable called **T**,
- moving the second up one place, and
- putting the first back into the array one place down.

LINE 240 sets the swap flag to 1 to show that a switch has taken place and **LINE 250** displays the sorted order on the screen. The computer then goes on to compare the next pair of numbers. The program gets to **LINE 270** when all the numbers have been compared. If **SW=1** it means that at least one swap has taken place so it goes through the list again comparing things in their new order. The process continues until there is a complete run through with no swaps. The sorted list is then displayed **LINE 280**.

We can see exactly how the program works if we examine a small list of items. In the following ex-

```

01 100 DIM A(10)
02 110 DIM
03 120 PRINT "Enter 10 numbers"
04 130 FOR I=0 TO 9:INPUT A(I):NEXT I
05 140 SW=0
06 150 DO WHILE SW=1
07 160 SW=0
08 170 FOR J=0 TO 9-I
09 180 IF A(J)>A(J+1) THEN
10 190 T=A(J):A(J)=A(J+1):A(J+1)=T
11 200 SW=1
12 210 NEXT J
13 220 NEXT I
14 230 PRINT "Sorted list:"
15 240 FOR I=0 TO 9:PRINT A(I):NEXT I
16 250 END

```

```

01 100 DIM A(10)
02 110 DIM
03 120 PRINT "Enter 10 numbers"
04 130 FOR I=0 TO 9:INPUT A(I):NEXT I
05 140 SW=0
06 150 DO WHILE SW=1
07 160 SW=0
08 170 FOR J=0 TO 9-I
09 180 IF A(J)>A(J+1) THEN
10 190 T=A(J):A(J)=A(J+1):A(J+1)=T
11 200 SW=1
12 210 NEXT J
13 220 NEXT I
14 230 PRINT "Sorted list:"
15 240 FOR I=0 TO 9:PRINT A(I):NEXT I
16 250 END

```

by
Ann O'Driscoll

```

04 100 NEW *****
05 100 OLD
06 140 OLD(1)LINE# AT(LINE,80)
07 100 FOR M=1 TO 1000000:PRINT LINE-10+M:PRINT M
08 100 DATA 344,708,344,344,344,344,344,344
09 100 COMPARE M=1 TO 1000000:PRINT M:PRINT M:PRINT M
10 100 * COMPARE LINE# 1 TO 1000000:PRINT M:PRINT M
11 100 * COMPARE LINE# 1 TO 1000000:PRINT M:PRINT M
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99 100 * COMPARE LINE# 1 TO 1000000:PRINT M:PRINT M
100 100 * COMPARE LINE# 1 TO 1000000:PRINT M:PRINT M

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04 100 NEW *****
05 100 OLD
06 140 OLD(1)LINE# AT(LINE,80)
07 100 FOR M=1 TO 1000000:PRINT LINE-10+M:PRINT M
08 100 DATA 4,5,5,5,5,5
09 100 COMPARE M=1 TO 1000000:PRINT M:PRINT M:PRINT M
10 100 * COMPARE LINE# 1 TO 1000000:PRINT M:PRINT M
11 100 * COMPARE LINE# 1 TO 1000000:PRINT M:PRINT M
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100 100 * COMPARE LINE# 1 TO 1000000:PRINT M:PRINT M

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ample, the series used in program 1 is being "bubble sorted" into low/high order. The numbers in the brackets are those being compared each time. A new "round" of comparisons is generated if any swaps occurred in the preceding round.

ROUND 1: [4][2] 2 3 1 no change
 4 [2][3] 2 1 swap
 4 2 [3][1] 2 swap
 4 2 3 [2][1] swap
 4 2 3 1 1

ROUND 2: [4][2] 3 1 5 swap
 2 [4][3] 1 5 swap
 2 3 [4][1] 5 swap
 2 3 1 [4][5] no change
 2 3 1 4 [5]

ROUND 3: [3][2] 1 4 5 no change
 3 [2][1] 4 5 swap
 3 1 [2][4] 5 no change
 3 1 2 [4][5] no change

ROUND 4: [3][1] 2 4 5 swap
 1 [2][3] 4 5 no change
 1 2 [3][4] 5 no change
 1 2 3 [4][5] no change

ROUND 5: [1][2] 3 4 5 no change
 1 [2][3] 4 5 no change
 1 2 [3][4] 5 no change
 1 2 3 [4][5] no change

Of course, bubble sorts work equally well for sorting string variables. In PROGRAM 3 the first 6 numbers of the year are put into alphabetical order. The L in LINE 140 sets the length of each month at 5. The listing DEMONSTRATES to hold all the months (12 x 5) and 59 to hold any month being exchanged. LINE 220 splits all into blocks of 5 (because there are 5 spaces per month) and compares each block with the adjacent one. LINE 230 does the exchanging, resulting in blocks of 5 characters at a time.

FUTURA THE DOSING NEWSLETTER

SHELL SORT

A disadvantage of bubble sorts is that they are quite slow if you have lots of data to be compared. For this reason, a popular alternative, called the Shell Sort, is often used if the list of items to be ordered is in any way "stable". In its simplest form, the shell sort routine works by continuously splitting the original items into halves and successively comparing, and swapping if appropriate, the values of the first item in each half. The process continues until all possible swaps are made. For instance, if you have 10 values in the list, the opening round compares the first with the 5th, the second with the 10th, and so on up to the 8th with the 10th. After any exchanges are made at this level the list is halved again. This time the first item is compared with the 5th, the second with the 8th, etc. up to the 10th with the 10th. The procedure continues with the gaps getting smaller and smaller each time.

Again, it might help to run through the routine manually. In this example we will "shell sort" 8 numbers into low/high order; the bracketed values are those being compared each time.

ROUND 1: [8] 8 2 3 6 [4] 5 7 1 swap
 4 [8] 2 3 6 [5] 5 1 swap
 4 8 [2] 3 6 5 [7] 1 no change
 4 8 2 [3] 6 5 7 [1] swap
 4 8 2 1 6 5 7 3

Because swaps occurred, the "Round 1" comparisons - (8 with 5th, 8th with 6th, 8th with 7th and 8th with 8th) - are run through again. No further changes need to be made.

ROUND 2: [4] 8 [2] 1 6 7 3 swap
 2 [8] 4 [1] 6 7 3 swap
 2 1 [4] 8 [6] 6 7 3 no change
 2 1 4 [5] 8 [3] 7 3 no change
 2 1 4 5 8 [6] [7] 3 no change
 2 1 4 5 8 [3] [7] swap
 2 1 4 5 8 3 7 3

Because swaps occurred, the "Round 2"

comparisons - (8 with 6th, 8th with 4th, and so on up to 8th with 8th) - are repeated. This necessitates an exchange between the 8th and 6th items:

2 1 4 3 8 5 7 6
 ROUND 3: [3] [4] 4 3 6 5 7 8 swap
 3 [3][4] 3 6 5 7 8 no change
 3 2 [4][3] 6 5 7 8 swap
 3 2 5 [4][6] 5 7 8 no change
 3 2 4 6 [5] 7 8 swap
 3 2 3 4 [6][7] 8 no change
 3 2 3 4 5 [7][8] no change

As swaps occurred, the "Round 3" comparisons of each item with the adjacent one are made. No further changes are needed - Our list has been fully sorted to only 3 "rounds" because the "incorrectly placed" values have moved to their right and, much more quickly than if the adjacent blocks only had been compared.

PROGRAM 3 shell sorts the numbers in the above example. The variable GDEF defines the size of the blocks into which the items will be split. This is initially set equal to the number of items by LINE 100 and then halved on each round by the sort by LINE 200, 1300, 270. It compares that the "Round" is repeated until a complete swap free set of comparisons has been made. Sorting is complete when GDEF falls below 2 (LINE 200) because each item has already been compared with its immediate neighbors. The new list is displayed by LINE 280.

PROGRAM 4 modifies the shell sort in listing 3 to deal with string variables - the changes are regards differentiating arrays are similar to those explained above for the string bubble sort. The variables P and Q in LINE 220 define the start and end of the first sub-string - ARR(1), ARR(2), etc. The variable B defines the offset which specifies which blocks are being compared - for instance in "Round 1" ARR(1, 5) or ARR(1, 8) is compared with ARR(5, 12), and so on (LINE 230).

continued

OTHER SORTS

A number of other sorting routines are available, some of which are variations on the two outlined above. The purpose of all of the modifications is to increase the speed of the sorting process. While speed may not be a problem in the usual examples given here, it can be a significant factor in say, a large database program.

The most popular amendment to the basic Shell Sort is to change the size of the initial gap and use a value other than half the list size. Values related to the natural log of the number of items have been found to be effective. The final two listings add a few lines to the standard Bubble Sort routine in PROGRAM 5 to produce two new sorting algorithms.

PROGRAM 6 shows a "Delayed Replacement" Sort. This compares pairs of items as to a "normal" bubble sort, but the swaps don't take place until the end of a round. "Low"/"high" sorts work by finding the lowest incorrectly placed item in each round and then exchanging it with the item that occupies its slot. High/low sorts do the same thing with the highest out of place item per round. The program here uses the numbers from the original bubble sort, with the control loop at LINES 220-240 finding the lowest values per round. The whole process is much quicker, as the number of exchanges has been cut dramatically.

```
ROUND 0: 1 2 3 4 low = 4
          4 5 3 2 1 low low = 2
          4 5 2 3 1 low low = 1
          4 5 3 2 1 low low = 1
          RESULT: Exchange 1 and 4
```

```
ROUND 1: 1 2 3 4 low = 2
          1 5 2 3 4 low low = 2
          1 5 3 2 4 low low = 2
          RESULT: Exchange 2 and 5
```

```
ROUND 0: 1 2 3 4 low = 3
          1 2 5 3 4 low low = 3
```

RESULT: Exchange 3 and 5

```
ROUND 4: 1 2 3 4 low = 4
```

RESULT: Exchange 4 and 5

SORTED: 1 2 3 4 5

The last listing, PROGRAM 8, shows an "Inversion" sort. The idea here is that each item is taken in turn and put into its "right" place via the items which have been sorted already. For example, if we take our '4, 5, 2, 3, 1' sequence, the routine would look until it found something lower than 4 (line 8) and then place it relative to the 4 and 5 to give '2, 4, 5, 3, 1'. The next unsorted number, the 5, would then be placed relative to the 2, 4 and 5 to give '2, 3, 4, 5, 1' and finally the unsorted 1 would be put in its rightful place at the top of the list. Again, we only need to modify a few lines of the previous program to set up the insertion routine. This time, the variable N in LINE 210 of the listing defines the next

```
VL 120 GUN *****
07 100 W00
08 140 CUBBEN NUMBER OF ITEMS
09 150 GUN *****
10 160 DATA 5, 3, 2, 1, 4, 5, 2, 1
11 180 *****
12 190 + *****
13 200 + *****
14 210 + *****
15 220 + *****
16 230 + *****
17 240 + *****
18 250 + *****
19 260 + *****
20 270 + *****
21 280 + *****
22 290 + *****
23 300 + *****
24 310 + *****
25 320 + *****
26 330 + *****
27 340 + *****
28 350 + *****
29 360 + *****
30 370 + *****
31 380 + *****
32 390 + *****
33 400 + *****
34 410 + *****
35 420 + *****
36 430 + *****
37 440 + *****
38 450 + *****
39 460 + *****
40 470 + *****
41 480 + *****
42 490 + *****
43 500 + *****
44 510 + *****
45 520 + *****
46 530 + *****
47 540 + *****
48 550 + *****
49 560 + *****
50 570 + *****
51 580 + *****
52 590 + *****
53 600 + *****
54 610 + *****
55 620 + *****
56 630 + *****
57 640 + *****
58 650 + *****
59 660 + *****
60 670 + *****
61 680 + *****
62 690 + *****
63 700 + *****
64 710 + *****
65 720 + *****
66 730 + *****
67 740 + *****
68 750 + *****
69 760 + *****
70 770 + *****
71 780 + *****
72 790 + *****
73 800 + *****
74 810 + *****
75 820 + *****
76 830 + *****
77 840 + *****
78 850 + *****
79 860 + *****
80 870 + *****
81 880 + *****
82 890 + *****
83 900 + *****
84 910 + *****
85 920 + *****
86 930 + *****
87 940 + *****
88 950 + *****
89 960 + *****
90 970 + *****
91 980 + *****
92 990 + *****
93 1000 + *****
94 1010 + *****
95 1020 + *****
96 1030 + *****
97 1040 + *****
98 1050 + *****
99 1060 + *****
100 1070 + *****
```

FUTURA THE NOSAUG NEWSLETTER

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The regular columns are complemented by a selection of user contributed articles covering a wide range of Atari related subjects. These are written by members of the group. The address and user original files are prepared by Peter Anderson.

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GETTING SORTED

continued

Items to be compared in the UNSORTED array. The needed FOR...NEXT loop beginning at LINE 210 puts R in place by working back from the item immediately before R to the start of the list. In this way each unsorted item is repositioned and the sorted portion expands by one each round.

Well, that about covers an introduction to sorting routines. If you want to delve into the topic a bit more, you might like to check out Disk #26 (UTILITIES 2) in the IMAGE 6 Public Domain Library, which includes a program which compares a few sorting routines. The Shell sort module, which can be inserted in your own programs, also incorporates the modification mentioned above about relating the gap size to the log of the number. PD Library Disk #26 also has a fast sorting routine for fields of fixed length records.

NEW ATARI USER BINDERS

One or two readers have purchased the old style binders in advance and these will of course not be of use in our new format. If you have unused binders that you wish to return to us we will happily allow you a credit against the original purchase cost.

At the moment we have no plans to produce binders in the new format since minimum orders make the cost very high but we will let you know if we are able to offer a new binder in the future.

The CLASSIC PD ZONE



Panning on the left-hand side is the Professor Barrier. On occasion, Dave Smugglers will attempt a crossing by juggling their big copesulas through the doctor's natural gases and electronic obstacles. Even if successful they are often pinned up by random security patrols. All completed material is then shipped to Barrier Customs where it is inspected before dispatch to Earth. Some plots of this material can be found below.

PUZZLED NO MORE

WORD SEARCH is an interesting utility which will help you find those elusive words in wordsearch puzzles. A grid of up to 30 x 30 can be searched in four different ways, allowing the computer to scan the most complex wordsearch in no time whatsoever.

Word Search will automatically scan to either Atari BASIC or Turbo BASIC. Full documentation is included on the disk along with an excellent demo option to get you started. This demo shows all four search modes in operation.

'Single' is the basic search mode which finds single words hidden in any of eight directions. The computer searches using the standard

pattern, i.e. examines each row of characters until the first letter is found. It then checks the subsequent letters in all eight directions to see if it is the word you are looking for. The computer performs this task quickly and can complete a whole wordsearch in a matter of seconds. The next search mode is 'No Borders'. It is similar to the single option but all words are removed from the grid.

'Reveal' is a very handy mode which allows the input of a word (or better searching begins). Each word is then shown one by one, with all remaining visible to the grid. The final search mode is 'Wipe'. This allows you to search for a nine-letter word hidden in the grid as a 3 x 3 square. After the computer has found and displayed a word for which you are shown a table menu of options from which you can continue, change the search criteria, edit the grid, view the grid or finish.

I enjoyed using **Word Search**. It is a unique piece of software which the author has put a lot of work into. It is very easy to use and completely error-trapped with no screen prompts to assist you should you make a mistake. My only quibble is that if you are into wordsearch puzzles in a big way you probably won't see the point of using a computer to solve them. However, **Word Search** will certainly prove useful for that competition in your local newspaper or if you find yourself stuck with a large grid puzzle. You know that feeling when you've closely examined the grid line by line and you still can't find the word? **Word Search** will then come into its own.

A unique and enjoyable piece of software which, although having perhaps little practical use, is definitely worth checking out. Originally meant for a lot of my back for word-search!

CLASSIC PD ZONE RATING: 80%

SCRAMBLE REVISITED

Scramble was a popular arcade title up from the early 1980s. It was a horizontally scrolling shoot-'em-up in which you had to shoot fuel pods and avoid enemy fire. **AtariStrike II** by English Software is probably the best version done on the Atari 540k.

ATARI 5400 is a PD version of **Scramble**, although it is heavily based on the English Software title. The concept is simple: travel as far as you can. Blast everything in your way and keep your fuel level high. Run out of fuel and you crash to the ground.

After a colourful title screen you are warped to Sector 1. It takes about ten seconds of this screen until you find yourself travelling in a small spacecraft which looks to have been constructed from yellow Lego over a rocky terrain. You don't have many friends in this sector (aside from a you from the ground and enemies attack you in the air). Things can get a little hot under the collar if you find yourself caught in the crosshairs! To assist you in the battle your ship has two weapons. You can fire missiles from the front or drop bombs from below. You drop bombs by pressing the joystick button and moving left. You soon get used to this system but, like **AtariStrike II**, it can be a little awkward in tight areas.

At the top of the screen is your fuel level. It doesn't take long to reach critical so you must work out fuel pods. These are often placed strategically behind rock formations, trees or buildings. A direct hit will boost your fuel level and allow you to continue on. There are two halves to Sector 1, with a marked increase in difficulty for the second (including multiple missile attacks). There are a total of five sectors which, if the first two are anything to go by, will take quite some time to complete. Added to the facilities are subterranean caverns, narrow passageways, steep cliffs, falling rocks, laser fields, etc.

Earth 2500 has the feel of a game by Council. The multi-coloured title screens and small lively graphics give it the appearance of a

1982 commercial release. As a public domain release it is not bad and will keep you blasting for a while.

There are some criticisms. Each sector loads from disk so you must wait ten seconds before every play. Also, there is a rather annoying bug in the program which occasionally causes your spacecraft to explode at the beginning of a sector. The game is hard enough to play without having one life strip away from you at the beginning in fact. **Earth 2500** is just too difficult, too early on. By the time you reach the second half of Sector 2 you'll see what I mean. It's a killer! Well, there is an additive quality which traps you back for more.

Earth 2500 is an average arcade game. Nothing over-spectacular but very challenging and reasonably addictive. However, **AtariStrike II** is not.

CLASSIC PD ZONE RATING: 62%

BACK TO SCHOOL...

TANK MATH is an old program which still has a lot to offer. Having failed to make it onto our educational section last time, I thought I'd include a quick review now. If you are still looking for educational software, read on. During a reasonably impressive title sequence you are informed by animated tank-like characters that **Tank Math** will help you to add, subtract, multiply and divide. The concept is simple and yet very effective. You answer twelve mathematical questions by entering them on your Atari keyboard. You can choose addition, subtraction, multiplication, division or a combination of the four. There is also a bonus (bonus) manual option.

Before starting the program you can select the mathematical operation and set the three level (1-15 seconds per question). The selection of difficulty levels is disabled in this sample version (see below for details of shareware

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registration). The level is set to 4 for subtraction and 2 for the others. Press Start and you're away. The main screen is well designed with a large tank at the bottom right and five small lanes opposite. These lanes display the amount of wrong answers remaining. In other words, make a mistake and the tank will lose a lot (as displayed on the bottom of the screen) in the correct level and the amount of correct answers given.

The question to be answered appears in large numbers at the centre of the screen. You must then enter the correct answer before the timer runs out. If you answer correctly, the tank floats you into your next question. Answer incorrectly for any one of five and you lose one of your remaining lives. A Tutor program then corrects any operation and shows you the correct answer. This was very good. The Human Memory Game is quite entertaining. You must convert decimal numbers to Hexadecimal numbers. If you answer incorrectly the Tutor shows you a conversion table and gives you the correct answer.

Overall, Tank Math is a useful educational

program. It will be particularly beneficial for children between the ages of 5 and 9. The Shareware registration fee is \$10. You'll then receive the complete version which has twelve challenging difficulty levels. You also get an 8 page manual.

CLASSIC PD ZONE RATING: 71%

If you ever look in the right you will see a strange object floating aimlessly through the Zone. Some refer to this object as 'the non-linear traveller'; others simply call it *Atari Cop's* latest Director of Marketing. Strange indeed. Until next time, best those 'Apparel' 5.23's forever!

This issue's review zone items:

DISK 221 - WORDSEARCH SOLVER

DISK 226 - EARTH 2300

DISK 139 - TANK MATHS

TYPE-IN & DISK PROGRAM

WAITER MINIT

A non-violent game by Dave Shakespeare based loosely on Activision's Pressure Cooker



You probably thought that waiting tables was going to be an easy way to earn a few bob for Christmas but by the time you have been in and out of that kitchen a few dozen times and mopped up a few orders, you'll be beginning to wish you had thought of something easier - like *Intelligence!*

The game starts with just one customer who will order something simple and you must guide your waiter into the kitchen to collect the food and drink. When you get into the kitchen you take the water 'half' way across and then the chef will start throwing various items from the window at you. You have to remember what the customer has ordered and catch the relevant items by simply standing in their path. Unwanted items must be returned by standing in their way and pressing the fire button. If you collect an unwanted item the only way to get rid of it is to run the kitchen into the restaurant and then return collecting one 'two bob' in the process.

When you have collected the total order you must walk the kitchen

and deliver the order to the correct table by touching the number on the table. If you go to the wrong table you will collect another 'two bob'.

Points are scored for orders correctly delivered and are deducted if a thrown item in the kitchen is neither caught or rejected and hits the wall.

The game starts with one table and one item on the order and the number of items ordered increases after each correct delivery. When four items have been completed the number of tables increases up to a maximum of four with items ordered again increasing from one to four. Just by remembering orders items in one go, and remember those customers don't even give tips!

A high-score facility is included with the best score entering their initials.

THE LISTING

WAITER MINIT is included on this issue's disk ready to run. If you would like to type in the listing it's quite long, a printed copy can be obtained free of charge from *New Atari User*. Just ask for a copy from the usual address.

Hints & Tips

HANDLING PROBLEM TAPES

Kevin Cooke comes to the rescue of those about to throw their recorder in the bin!

As far as I know, there are six ways that you may get a cassette to load. Many people will already know these, but there are still people that don't. If the cassette has any instructions, ALWAYS follow what they say before trying anything else. You could save yourself a lot of time. If the tape still doesn't want to load though, there are other ways that you can try. Below is a list of all possible ways to get to load your CASSETTE.

1. HOLDING DOWN START AND OPTION WHILE TURNING ON THE COMPUTER

This method is one of the most common ways to load a cassette. As far as I know, the **OPTION** key simply tells the computer that you want to load a cassette. The **OPTION** key then disables **Basic**, so if you are using the cassette game requires **Basic**, don't use this method. If you are the 'old creaky' sort of person while loading a cassette, it could be that you do need **Basic** in which case, try the method below.

2. HOLDING DOWN START WHILE TURNING ON THE COMPUTER

This method works in the same way as above but does not disable **Basic**. Most commercial games will probably not require **Basic**, and getting **SCOTT BRISON** appear on your screen can be a sign of this (in which case, try the method above).

3. TURNING THE COMPUTER ON AND TYPING ENTER "C."

This method of loading will load games that were saved to the tape with the **LIST "C"** command. This method is most commonly used on Public Domain game tapes but is also used on some very early commercial games.

4. TURNING ON THE COMPUTER AND TYPING CLOAD

This command will reload programs that were saved with the **SAVE** command. It is quite rare to find this command being needed in load commercial games, but some of the older ones may need to be loaded in this way (especially some of the older Atari games such as **THE LONE RANGER** and **HANGMAN**).

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5. TRANSFERRING THE PROGRAM TO ANOTHER TAPE

If your cassette isn't loading, try looking at the actual tape at the point where the computer stops loading it successfully. If the tape looks frumpy, or the edges are ragged, it would be that it is faulty. If this happens, you could try transferring the game to another cassette to use the tape to tape dubbing option which is now on most new recorders. This may show that the program will load from your new cassette. Don't ask me why this method works (even if the computer can't read the information from a tape, the drive may be able to read a copy with perfect information either), but it occasionally does.

6. TRANSFERRING TO DISK

If the cassette isn't load, you could try putting the program onto a disk with the aid of **TRANSFER**, or **DISKMAN** (DOS obviously you will need a disk drive to use this method, so

cassette only users could skip this section). This works surprisingly often, as I have found in my adventures. One example of my success with this method is with **ROCK OFF**. The cassette kept slipping at the point where I later found it should load in a loading screen. I transferred the program to disk using **TRANSFER**, and it loaded successfully first time.

There are all of the ways that I have got a cassette to load, although there are two more things you can do to get them to work. First of all, you can try forwarding the tape leader so that the fronter tape with the information is in view. Secondly, you can try all of these methods on BOTH sides of the cassette, as most have the program recorded on both sides.

Finally, it could be your equipment that is at fault. Try making sure that everything is connected to your computer properly, and try testing your cassette memory using the built in self memory test. If you suspect that it is your cassette recorder that is at fault, try to test it on someone else's system.

EASY RUNNING

Many type-in machine code listings still require Basic to load somewhat defeating the reason for writing in machine code. Now, thanks to John van der Spoel you can transfer your listings to self-running binary files that can be loaded without Basic

Through the years there have been many, many machine code programs published in PAGE 6 and in NOW ATARU LINK. In lots of issues a type-in listing, many written by Bill Habel, was included. Just think of Ace Defender and the Gold Rings, Hot Rod Racer, Indian Gold, Double Agents, and Minotaur. In addition it has

Although all of these games use 100% machine code programs, Basic is still needed to start them up. Neither DOS 2.0 nor DOS 2.5 will load these machine code programs because they are so called object code files (sometimes OBJ), generated when the Basic listing is run. This is because an object code file has no loader that can be handled by DOS. When you try to load such a file with option L of the DOS menu, DOS will simply answer - Bad load file.

Not all of the listings to PAGE 6/NEW ATARU

LINK generate object code files. There are exceptions. Some listings of machine code games create binary files (extension .EXM), that can be loaded using DOS. For instance the Blocks, Star Wars, Heavy Metal and a few more. These files will load much faster, especially when a menu program is used.

Using a Basic program to load and run object code files, will always take far more time than using a machine code menu program, which runs binary files in DOS format. Using a Basic loader means in the first place, that you should load your computer with Basic enabled. This will take about 11 seconds using a standard Atari disk drive, because DOS has to be loaded before the READY prompt appears.

If you are using the Basic loader as an AUTOREUN.SYS file the machine code game will load and run automatically after loading your computer, but there is one minor point: only one AUTOREUN.SYS file can be placed on a disk. In this way every disk can only contain one machine code game, which is a rather expensive way to store your type-in games. Besides, the AUTOREUN.SYS file itself also takes about one or two seconds to load, so the whole action takes 12 or 13 seconds before the loading of your machine code game actually begins.

If you prefer to use WIN TOFILENAME.BAT to start the Basic loader you can save several object code files (and Basic loaders) on one disk, but it takes even more time before the loading of your game can actually start, assuming you know all the different names of all the Basic loaders on your disk. If not, you even have to call the DOS menu to have a look at the disk directory, or you have to use a Basic menu program (which again must be

loaded) that handles Basic loaders. Again time, time, time!

THE BINARY FILE IN DOS FORMAT

Of course there is an easier way to get load access to your machine code games. This is by creating real binary files in DOS format from your object code files and loading and running them from a machine code menu that doesn't need Basic or DOS in any form files. Only one single button has to be hit on your keyboard to load the game of your choice from disk. More about such a menu program later on.

Probably you will say - But is all very well but how are binary files created? Well, before we have a closer look at those kind of files, some observations must be made.

This article won't give a full description, but it will tell you the main principles which are necessary to create binary files from the object code files that were published in Page 6/Now Atari. Use an type-in listing. Further the article is limited to disk users, although binary files also can be created using a tape reader.

Finally the reader is presumed to have some basic knowledge of hexadecimal notations.

A binary file in DOS format is a full machine code program, which can be run by your XL/XE system directly after the loading process. As already mentioned, binary files can be loaded by DOS, using option L. They can also be created by DOS, using option K, but to use this option you need to know some major information about the file to be created. Of course there has to be an machine code program in memory and you have to know where in memory it is stored. This means you have to know the first and the last address of

16 OBJECT CODE FILES TO TRANSFER!

As stated in the main article you need to know the addresses of each game you have typed in. You don't have to figure them out yourself, here they are for you.

GAME PROGRAM	START	END	DATA
17 SHOOTING GALLERY	2080	2164	2000
19 BERTHOFF	2080	2144	2000
26 REFLEX	2080	2120	2020
32 HEADBANGER	2080	2176	2020
37 BLASTOON	2080	2144	2000
38 THE POOL	2084	2100	2020
39 BUCKLE UP	2080	2176	2020
41 SHARED ALIVE!	2080	2100	2020
42 HOT ROD RACER	2080	2100	2020
43 INDIAN	2080	2100	2020
44 GREED FIGHTER	2084	2100	2020
47 ACE DEFENDER	2080	2176	2020
52 BAT PACK	2080	2120	2020
54 INDIAN GOLD	2080	2140	2020
57 DOUBLE AGENTS	1970	2040	2020
62 CROOKED HOUSE	2080	2120	2020

Note that all address numbers are in hexadecimal notation!

the data in memory. The first address is called the Start address or Load address and the last address is called the End address. Moreover you have to know the Data address, that is the address where the program actually starts to run immediately after being loaded.

DOS needs to know these addresses, otherwise your program in memory can't be stored on disk to be replaced to exactly the same part of memory later on. So tell DOS where in memory a file from disk should be loaded, the binary file has a so called "header" of six bytes which is created by DOS when a file is stored in disk. This header is as follows:

Byte no.	Contents of Byte	Meaning
00 01	FF FF	This is a binary file
02 03	-- --	Start address in HEX (intended)
04 05	-- --	End address in HEX (intended)

These six bytes are followed by the data

bytes of your program. The first program byte is stored in the Start address. When the last program byte is stored in the End address, a new loader tells DOS to store the first address. The first address is always stored in 736/737 (MEMORG/ORG0). The program will start running at the address stored in address 736/737.

If you want to create binary files, the procedure is as follows:

- type in the machine code listing of the game
- save a copy to disk (disk 1)
- prepare a freshly formatted disk (disk 2). Note: If you only have 64K don't use a freshly formatted disk but save the DOS files and MEM.SAV to the disk with your Basic files on (disk 1)
- load up your machine in Basic
- load the Basic loader but don't run it
- change the last line as follows: <LOAD# #1>DOS-!map the USM command to this line
- now run the loader program
- the machine code program will be stored in memory, but won't be run
- when the program has stopped, don't switch off or reboot, but go to DOS-ORG KB users should leave disk 1 in their drive)
- insert the freshly formatted disk (disk 64KB sized)
- choose X in the DOS menu
- type the name of the file, followed by the Start address, the End address and the Run address
- note that Hexavers and addresses must be separated by one comma, but the End address and Run address must be separated by two commas!
- now press Return to create the file

In this way you can save an entire file to one disk as you want, until the disk is full.

THE MENU PROGRAM

Page 6 Memory 10-Disk #82 contains lots of menu programs which are suitable in last binary files. I prefer the program "MENU-DOS-VERBIS" written by S. Becker. This program is not on the disk mentioned, but it is distributed by Play's Magazine Issue # 19 - 1982. You will find it on this month's issue Disk of PAGE 6-NOW STAGE USER.

The main advantages of DOS CONVERSION are:

- it takes no free disk space, because the menu is stored in the directory sectors (D01-D08 DE0)
- you don't have to prepare a special menu disk as the menu can be written to disk for changed after one or more programs have already been saved to disk
- DOS doesn't need Basic or DOS and loads in less than 4 seconds
- the game of your choice loads by hitting only one single location
- DOS is able to run up to 18 programs on one disk

When you save your just created binary file on one disk, add a menu with DOS CON-VERBIS and you will be able to load your games as quick as possible!

SOME FINAL NOTES

The addresses of machine code programs in memory are found with this very simple Basic routine:

```
10 FOR X=01000 TO 14000
20 ? "ADDRESS "X;" = "PEEK(X)
30 NEXT X
```

The numbers in line 10 are the same as the address numbers you need to examine the decimal numbers. If you want to examine another part of memory, change these num-

bers accordingly. If you are searching for a special byte, for instance the first or the last byte of a file, then simply add this line between lines 20 and 30:

```
25 IF PEEK(X)=?? THEN STOP
```

The ?? stands for the byte you are looking for. When the routine stops and the last address does not contain the right byte to program can hold many smaller bytes than just one COMIT (Return) and the routine will continue.

The Run addresses of the programs in the table are the same as the addresses of the USM command in the last line of the Basic loader. Of course the USM command is to be deleted and the Run address is to be decimal notation.

To check if the addresses you found are correct, you can act as follows:

- load a file in memory using the modified Basic loader (saving out the USM command in the last line)
- go to DOS
- first create the binary file, as shown above
- run to the DOS menu
- type M (= Run an address, Hexavers)
- type in the Run address in the file (Hexavers)

The program should run now. If not, one or more addresses were wrong or were typed incorrectly. Sorry, but you have to try again. First, if the program runs, you save games. Next, if you do the time you will return to the DOS menu.

By the way, you should have noticed the machine code programs by Bill (Halsal) almost all start at address 82000. DOS will save this same part of memory which is why the files can't be created or loaded using DOS, without a MEM.SAV on your disk.

If you've got a 128KB machine, or an XL with 192K or more, there should be no problem when a Harddisk is available. D01-D08 and MEM.SAV are then present in your Harddisk. Using the DOS menu to load these files will

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gives no problems because DOS is not necessary.

In case you only want to use DOS to load a binary file into memory (without having run by DOS), then use L in the DOS menu, type in the filename and extension directly followed by /N (no spaces) and hit return. You can then go to Basic and examine the file with the Basic routine above before or you can test the Run address using option M of the DOS menu.

Well, good luck transferring your object code files in binary DOS files! Finally my thanks to Adrian Young (and Jo-Jong) for typing in all of the game listings!

TV BINGO

by Ed Hall

TV Bingo is a game with a history. It began one day when a couple of daffy-looking characters strolled into my store. I figured them for shoplifters right away. One guy wore a trenchcoat with a fabric pulled too over his forehead so you couldn't see his face. The other guy wore a short little shade in a game-chess jacket that had seen better days. They got as far as the automatic section before I intercepted them. "May I help you?" I asked politely.

The fellow in the trenchcoat lifted his head so that his eyes were no longer hidden by the brim of his hat, he said, "We heard you sell computers."

I left my eyebrows arched up. I could imagine those two fitting their pockets at the rail bin, or sliding lengths of rope down the legs of their trousers. But computers? No way!

"Over here," I said excitedly. "Between the plumbing supplies and the fish corvalls." The little guy led the way. He had skinny legs that ended in gray slacks boots. He clumped down the aisle toward the computers, leaving strange marks on the floor behind him.

I hurried after them. "Did you have anything specific in mind?"

The guy in the hat assembled something. I caught the words "base" and "important."

"I agree with you one-hundred percent," I said eagerly. "Some people are so concerned about a computer's brands they completely overlook the user. Big mistake. That's why I offer custom paint jobs."

They stopped in front of a standard XE with

the words "TV BINGO" printed on the top.

flames spray-painted along the sides. The little guy tapped the keyboard a few times, then cocked at the guy in the hat and said, "This'll do."

"A nice choice," I continued. "and economical too. The price is only —"

"The guy with the hat said, "Whatever it is, we can't afford it. What we had in mind was, maybe we could just borrow it for a while." My mouth fell open. "Borrow it?"

"Let me introduce myself. I'm Stan Diamond, and this is my associate, Freddie Topolink. Perhaps you're aware of us?"

I shook my head.

"We're private investigators and we're working on a case. A big one. We're gonna blow the lid off one of the roughest areas around. Trust me, Freddie here needs a computer. You lend us one and we'll owe you in on this cop."

I frowned. Electronics hadn't exactly been booming lately, what with the recession and all. So I said, "What's that work out to in dollars and cents?"

Stan looked thoughtful. "Well, since you're a businessman, you're probably not too interested in taking an FBI right? You come back on the level-headed, or we did. Am I right?"

"Absolutely."

"Just so I thought. The only trouble is, we and Freddie are a little short of funds at the moment. So what we normally do is a situation like this, we put our expenses a little. Tell me, how much do you usually charge for a rental?"

"Fifty bucks a day."

"You sure?" Dan asked with a wink. "I'd have guessed at least seventy-five."

"Oh, right. That's what I meant to say. Seventy-five."

"Good. Now if you take you in as a partner, you can pay yourself \$75 for each day Freddie has the computer. That's \$300 more than you'd normally pay. What do you say?"

I closed one eye and tried to imagine how

that would look on my accounting ledger. Then I gave up and said, "What's the case involve? (Blackmail? Espionage? Drug-running?)"

Dan solemnly shook his head back and forth. They looked around furtively before leaning closer and whispering, "Which leggs? Don't that. We're talking bingos."

At first my reaction was the same as yours detailed. Then they took me to smoke-filled bingo parlours which were indistinguishable from opium dens. I met people who made their living playing bingo, and others whose lives had been ruined by it. Some it became clear that an entire sub-culture had sprung up around the game, and nowhere was this more evident than in the popularity of bingo-culture. The talent, Pro could appear in public without being noticed by a staphylog scrivener, and all had the same gray hair, white shoes, and thousand-watt smiles. Inevitably pairs of golden chains were looped around their necks, and often the arms of beautiful women.

BINGO WAS HIS NAME

It was not until Freddie gave me a brief history lesson that I came to understand how this institution game had infected our society. It had been created in India by a disgraced victor who, unable to tolerate his losses at chess, decided to modify the casino game in his own advantage. He began by reducing the size of a chessboard from 64 to 25 squares, and eliminating all pieces except pawns. When these changes failed to bring about the desired result, the victor decided his only recourse was to completely remove the element of skill and replace it with luck. He did this by introducing a 35-sided die.

Centuries later the game turned up in the Holy Land at the time of the Crusades, and was carried back to Europe by a band of holy knights, thus beginning the game's long association with the Church of Rome. Legend has

it the game's roots date from this period. It seems a certain Pope was so wretched by the game that he ignored his favourite lapdog. He succumbed the least. That it evaded revenge by keeping open the board and scattering the marbles. Thus meeting all with the pontiff in hot pursuit, crying the word's name "Bingo! Bingo!"

Early in this century the Mafia introduced the game to America, where it became known as the "numbers racket." Later, a modified version appeared in Las Vegas under the name bingos. In the 1980s go-go dancers in cages made a brief appearance in bingo halls, as well as a new wrinkle to game-play. Players were allowed to use the same card for more than one game, a variation which did not really catch on till the environmental movement became prominent. This form is known as go-go bingo or 900-bingo.

With the proliferation of state-run lotteries and computerized gambling machines, the real development was inevitable: tele-bingo. Who needs cards and numbers and children in the electronic age? Cable computers now bring us to look up our computers in a TV set and use a joystick to play the game directly on the screen. Bingos are verified electronically by the cable company, whose entire operation is run by a computer program.

But here of course is where the scam comes in. Dan and Freddie supported the software was crooked.

"We've got the program," Dan said, showing me a disk. "All we need is a computer so we can compare the code and confirm our suspicions."

I frowned. "You don't strike me as a computer type."



Don laughed. "You're right, I don't know a thing about computers. Freddie's the expert." Freddie grinned at me. I noticed he was missing several teeth.

PROGRAM NOTES

When Freddie began to work, I realized I had under-estimated him. Not only was he determined to reverse-engineer the code, but he also wanted to track down the program's origin. It was real detective work, and not made any easier by the program's design. He resorted to himself continually as he worked, and at first I thought it was due to hunger. Because he kept repeating the word "spaghetti." When I finally brought him a plate of the stuff, he rarely chose it as eat. Instead he was referring to the astronomically large number of GDDDs and GDDDBs in the program. Soon he began referring to the program's creator as "Spaghetti Head."

It didn't take long for him to discover that the whole thing was built around a very short basic program from the January 1980 issue of *AMIB*, (but when he came to the F/M routine, he faltered).

"Yes," he muttered, his emalged fingers fluttering over the keyboard. "This is Tim's work. I'm sure of it."

But Tim who? The obvious answer was Tom Hudson and the F/M routine he had published to issue 10 of *AMIB*. But after much hair-pulling Freddie discovered this was not the case. For some reason Tom Hudson's routine corrupted values which were stored in the array CADD [].

Suddenly Freddie exclaimed, "That is Tom Hudson!"

"The hobby?" I asked.

"No, no, the editor of *COMPUTE* magazine." Freddie was right. Whenever the programmer in his story had used Tom Hudson's "Smart F/M Graphics Toolkit" which appeared in the same great issue of *COMPUTE* (March 1980) as "Aunt Spaghetti." The routine is

dead simple to use, and automatically looks after all that messy input stuff, like clearing memory and lowering cursor.

The biggest clue to the programmer's identity was in the subject of digitized speech used by the program. It was facilitated by a device called *Crevo VoiceMaster Junior*. However, Freddie discovered that the actual code had been modified by Matt Hatfield, as described in the May 1980 issue of *AMIB*. (Not only disk subscribers will be able to hear the recorded's voice.)

The part of the program that Freddie was most interested in was the random number generator. Its basic form is

```
180 N=INT(RND*(N)*75)+1
181 IF N=0(N) THEN 180
184 GOTO(N)
```

You can try it out by changing lines 176 and 182 (see line listing 1), and replacing line 180 with the one shown above. The only problem with this simple approach is that, when there are only a few numbers remaining to be called, the program takes a while to find them, sometimes a couple of seconds or more.

The reason this is a problem is that the joystick can't be used while the program is selecting a number.

The programmer tried to get around this problem by keeping track of the numbers called in each of the five columns. When all 15 numbers in any column have been called, the program will no longer search for numbers in those columns (line 184). However, for some reason, the numbers seem to be generated in clusters. It was this characteristic which first alerted Don and Freddie to the possibility that the code was created.

Freddie, being the hacker he is, quickly put together a routine which neatly solves both problems. Listing 2 randomly generates all 75 numbers BEFORE the game begins and stores them in the array C[]. Then, during the game, the program simply calls up the next number from C[]. The waiting time is virtually nil. The sole problem with Freddie's solution is that it adds significantly to the

introduction period.

Players using this routine will still notice a slight interruption if they're using their joystick when a number is generated. However, most of this delay is due to the sound which accompanies the appearance of a new number. To further reduce the delay, delete GDDDB 184 from line 213.

Of course, Freddie's routine opens a theory issue. Is such a routine ethical? What if I fall into the wrong hands? Unscrupulous people could easily subvert it to their own advantage.

FUNNY BUSINESS

Well, that's almost it. I'm not sure what Don and Freddie did with the evidence they accumulated. The last time I saw them, Don was wearing a new trenchcoat and Freddie was driving the sportiest automobile you ever saw. At least they didn't call me I made sure I paid myself for the computer rental.

I did hear something about them on the radio, though. Had to do with diamonds and crime (maybe). Decided to be about 5 episodes (adding approximately 20 minutes in length). If you're interested, you can get an audio tape for \$20.00 (to cover postage and handling) from:

CBC North
Box 240
Tollackville, N.W.T.
Canada, T1A 2N3
Attention: Dave Miller

Don't expect their names or Gary Sabel's --

Just a plain unrecorded cassette by a brown paper bag. With grease spots on it.

Mo, I'm kinda glad I've not mixed up with them any more. Don and Freddie are a couple of bad apples. That's for sure. *

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THE LISTING

TV BINGO is complete and ready to run on this issue's disk. If you would like to type in the listing a printed copy can be obtained, free of charge, from **New Atari User**. Just ask for a copy from the usual address

HELP AT HAND

David Sargeant presents a neat system to give instant help screens with your Turbo Basic programs

An interesting aspect of programming on a Personal Computer is the availability to the user of on-line Help Screens. In this case, I am talking about the programming environment of Borland's C++; although there probably are others which I have not read, if you cannot remember the meaning or the syntax of a particular command you do not have to wade through the programming manual to find out. You just call up the Help system by pressing a certain combination of keys on the keyboard or by clicking on the mouse button a few times; the pages of helpful details to be shown on the screen, making learning a language much more user-friendly.

MEMORY LAPSE?

As far as programming in Atari BASIC is concerned I am reasonably confident, but Turbo BASIC is a different matter. The manual, if you can call it that, is of little use for finding helpful hints, so I have to keep referring to Page 0's Support disk. But what I really need is a scroll-down version of a system of Help Screens as I have mentioned

above.

The Help screens would need to be stored in the computer's memory so that they could be accessed at any time. The screen flipping technique outlined in previous issues of *New Start* does not seem to be just what I require, so I have written a program with this in mind.

As part of the initialisation process, BASICOFF is altered to reserve space behind the screen RAM. The help pages are read from the disk file and stored here and the high byte of each page address together with the one for the new default screen are stored for later use. The low bytes are always 04 and do not need to be stored at all.

It is also necessary to devise some way of monitoring the keyboard so that the Help system can be called by a single keypress whenever I need it and for this I have found a Display List Interrupt to provide the most useful method. When the HELP key is pressed the interrupt sets the internal index to copy the relevant high byte of three saved previously to the Display List and then this index is incremented or decremented on the number of help pages available.

In this instance I have used three pages of help screens which are held in a straightforward Word Processor file, TURBO.TRE. For the DLI to function correctly it requires 4 high bytes (2 help screens plus one for the new default screen which are indexed 0-2) and 2 additional bytes for the number of pages in the system and the index itself. Page 0 is used to store the machine code for the DLI (80 bytes) and the Help system program bytes (8

bytes), the rest of the page if necessary is clear so there is plenty of room to add more help screens if you want.

As a guide, my assembled BASIC

gives

Address	Contents	Description
1200	0	Number of pages
1202	0-3	Index
1204	000	Page 1 high byte
1206	000	Page 2 high byte
1208	000	Page 3 high byte
120A	000	Editing screen

Now I can write or edit a Turbo BASIC program in the normal way and whenever I need reminding of a particular command I just call up my Help pages by pressing the HELP key. The pages are copied through an such keypad until the normal editing screen reappears and I can continue where I left off.

PROGRAM VARIABLES USED

- PAGES** Number of pages in the Help System
- SCREEN** Temporary array for the high bytes
- ADDR** Screen address
- DL** Display List address
- BUFFER** Input buffer
- SRAM** Number of bytes in Screen RAM
- BYTES** Number of bytes to read into the input buffer
- DL_ADDR** Display List interrupt address
- T_ADDR** Table address of user bytes
- I** Loop counter
- A** Temporary variable for data

```

00 0 0000 *****
01 0 0000 *****
02 0 0000 *****
03 0 0000 *****
04 0 0000 *****
05 0 0000 *****
06 0 0000 *****
07 0 0000 *****
08 0 0000 *****
09 0 0000 *****
10 0 0000 *****
11 0 0000 *****
12 0 0000 *****
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14 0 0000 *****
15 0 0000 *****
16 0 0000 *****
17 0 0000 *****
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99 0 0000 *****
100 0 0000 *****

```

Features and OPINIONS

5th TIME LUCKY?

Daniel Bauerstock of Oasis Design looks at Atari's record so far and asks if they are going to make the same mistake with the Jaguar

With introduction of the Atari XL/XE systems came Atari's infamous marketing strategy. This has often been the downfall of every product they have ever released. You would have thought by now that they had learned their lesson.

GOODBYE XE and ST SUPPORT

After releasing the 68000 computer, the games system and the 1300XL, as well as the 28681 drive into the market, Atari's support deteriorated rapidly. It hit its worst around the late 1980's. In fact Atari US dropped the Atari 8-bit in favour of the Atari ST around this time. Although this was hardly welcomed by 8-bit owners, it was inevitable.

Many users dropped the 8-bit in favour of the ST series which seemed the way ahead.

For a period, support for this exciting new ST was strong, from both software companies and Atari Corp. themselves. However, was it to last? I think not! Support for the ST went rapidly downhill, while the opposite happened for the Amiga series. Instead of games being written for the ST, games were converted from other formats, definitely a wrong move for Atari Corp. Atari's support for the ST stopped around December 1990, again inevitable.

NO LYNX SUPPORT

Following the trend of the console that were appearing around 1990 came the Atari Lynx, a nice little gem of a handheld console that was badly let down by almost non-existent advertising and a lack of games. Games made available were mediocre to say the least. Six and seven were two of the games released. Earlier they had made their name on the Atari 8-bit. Good games they may have been, but this was not the way to promote and support a new console that had to compete with games like Sonic the Hedgehog on the Game Gear and Super Mario on Nintendo!

NO FALCON SUPPORT

Next came the announcement of a computer to equal the might of even the most powerful of PC based computers, the 32 bit Falcon CSM. Talk about short lived! Although the operative team of this machine were truly amazing, especially in the sound and graphics departments, I never saw an advert on television, newspaper, or a poster in a computer store, and only very few in ST magazines. Looking to many computer magazines I saw adverts for several hand Falcons for sale because software companies were not bringing out the software promised, and games were practically non-existent. I have never seen a Falcon in the shops nor any adverts supplying software.

Another crowd of Atari fans left in the lurch, as were their bank accounts.

This has been the case every time Atari brings out a new product with great capabilities, and a promise of software support. For the software is just a rebuke of other formats that do not even reach the machine's specifications. In addition, they seem to forget that to sell they also have to advertise and supply the demand, achieved by actually having the computers available and at a reasonable price. I can remember my dilemma over buying a second hand Amiga or ST, and choosing an Amiga because of the vast amount of games software available. Comparing the amount of an ST amount of a game like Lemmings to an Amiga version was like comparing a Spectrum to a speech keyboard or drum-machine. Where were the sampled sounds and the FSX? Many games ended up as just another cassette in the ST which made the computer look worse, when in fact it had so much more potential. It still had

Many times Atari would announce price cuts or package deals, but by then the damage had already been done. Atari had a bad name in the gaming market. Sales went down as did the number of original computers supporting the ST until it was no longer profitable.

Almost instantly after the release of the Falcon, Atari found they did not have the capacity to produce both the Falcon and their brand new product, a super console, so production of the Falcon ceased. A crowd of applicants for Atari, after all that effort and those paying customers!

SUPPORT FOR THE JAGUAR?

In 1993 came the grand announcement of Atari's first console for years, a super-console to beat all other consoles, the Jaguar! Packing a whopping grand 64 bits of power, 16 MB of RAM, and cartridges with ROMs in excess of

300MB compressed, the Jaguar is tipped to bring Atari back on fire in the computing world if all goes well as well as CD-ROM drive will be made available in early 1995.

But... Atari surprisingly still has lots a sign of life! They are not out of money! Quite a surprise since they hadn't yet started to advertise, nor had they made Jaguar openly available in England. In October it was announced that SEGA had decided to invest in Atari, producing games for the console. Sounds great doesn't it? Or does it? Segs themselves will be trying to push their new 32 bit CD based Saturn console soon so why would they help out Atari who have a more powerful machine? Surely the Jaguar's commercial success would be a threat to SEGA's? They already have a great slice of the computer industry, something they are not about to give up to a heavy? SEGA is allowing Atari to produce many of their winning titles. Sega a best? Concessions of other formats to the Jaguar, just what happened on the 8-bit and ST computers.

Since 90% of all SEGA software is programmed for 16 bit machines, it makes no sense to again "rebuild" some games for a system that has less than the processing power, and has for greater sound and graphic capabilities. For example, a new Atari Formula 1 racing title for the Jaguar called "Oversteer" (flag over-processes even the arcade versions, it would not be possible to run this game on any other games machine. Allow vs Predator has been used as "worth buying a Jaguar". Games available at the moment include the outstanding Tempest 2000 programmed by none other than Atari Guru Jeff Minter.

At the moment the Jaguar is in a very shaky position. Originally priced at \$200 including Cybermorph, a Star Wing clone, it is now \$245. The absence of many games on the shelves is another factor to also a problem. Some fingers may also be reluctant to take the chance of buying just in case they will be let down again by Atari Corp. It's also coming up to Christmas, the best time to advertise, yet there are no adverts at all!

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Search hard, but the word is yet to come.

COMPETITION?

The Jaguar is under a great thrust from the computer industry giant, Nintendo who are preparing to flood the market with what they are saying is the "world's first 64-bit machine", the "Ultra-64". If Atari don't act soon, which is what they are notorious for not doing, then the Ultra-64 will unquestionably take over the market, leaving the Jaguar without a chance to sell.

With the pressure of the 320 from Panasonic and, in early 1990, the new PlayStation, both 32-bit based CD multimedia machines, the Jaguar needs to get their first, last and need to do something they have never done before, advertise NOW and advertise on a BIG SCALE! They need to make the price of the Jaguar around £210 - £300 and sell the games for around £20 - £40 per unit. The

CD-ROM Drive needs to sell for around £120. Games need to be written for the machine's specifications, and if companies are to do this, they need to take advantage of these specifications. The Jaguar breaks new ground in computer gaming, and so should the games that are made for it. I would love to see a Flashback or Star Wars type game that took advantage of the superior graphics capabilities.

The Jaguar can display from a monochrome 31.7 million colours, and has incredible 3D polygon drawing capabilities, as well as a stereo CD quality digital sound output. With all that memory and with the promise of more when the CD-ROM drive comes out, games should be out of this world! The Jaguar needs to be programmed to its full capability. It's really not much point in buying a machine with so many specifications if they aren't to be used. You might as well buy a 45 bit machine!

In the end, it is in Atari's hands. Let's hope they do it right, after all it is 64-bit fun, baby!

Review

T-34

Just where you thought your 4 bit was looking new software along come A.M.G. Software with another great game, T-34, a two player game. It basically a shoot your opponent before he shoots you game, with each player controlling a T-34 tank, however this objective can prove far from easy. With the mountain ranges and which is contained with, each move requires a little thought before making your shot.

T-34 has one of the best handling tanks I've seen in a long while, well worth seeing. Once the intro has ended the options screen allows you to select various things including landscape, direction, wind, gravity and objects, though altering the latter seemed to do little to gameplay for some reason.

The main game screen is split about 50/50 horizontally, the top being the instruments while the bottom is the battle area. Between these is a precepts line (in English) for letting you know where's go in plus various comments appearing from time to time is suggest you're taking too long to make a move. The comments vary, such as 'Are you still alive?', 'Yeah, shoot him to my favourite Theta is that him'. Now I wonder where they got that line from!

The instrument panel holds Power, fire power behind shell fired, Angle to alter the angle of the gun turret. Fire to go to the battle scope. OK, below is a flag, which once pressed by

either player records that round. To the right are icons for scoring the winning and

for scoring your tank right or left. Before you alter the angle of your gun or power it's a good idea to see what your opponent is, as the only tank in view is the player about to go. This couldn't be simpler, just click onto the scenery lines up/down, left/right to see where he is. Movement is very smooth as the foreground and background scroll at different rates and a sense of 3-D is given. Now you have to judge the angle and power needed to carry your shell to successfully destroy your opponent.

Once happy with it, clicking on the touch icon will move the instrument panel to reveal the whole scenario and after a sampled firing speech, your shell is launched. The screen scrolls with your shell, though it is not always visible depending on the terrain. You may have to fire up all the screen and wait for it to drop in one just how lucky you were first time. A miss can result in a variety of sampled crashes and bangs and will result in the instrument panel returning and your opponent having an attempt. A hit can result in various finishes, the tank being totally wiped out, becoming before exploding, or the tank exploding leaving the driver standing corner what remained by the whole situation. On each hit a score screen is shown. From where you continue or return to options to alter things slightly. Selecting intelligently a whole new dimension to the game as your shell may need more or less power behind it, so as not to blow yourself up!

I counted four scenarios in total, City, City State, Moon Surface and Jungle. Each one is well detailed and colourful including a graffiti shell wall in the City scene. There are plenty of sampled sounds and some quite amusing exploding finishes for the tanks. The only scored point missing from T-34 is a winning sound as your shell falls back to earth, but all the same this has to be the best two player game since Nightfall.

This was originally appeared in TWASD Number 10 issue 12.

reviewed by Mark Fenwick

- Title: T-34
- Publisher: A.M.G. Software
- Supplier: Micro Elements
- Format: Disk
- Price: £5.95

CLASSICS



HENRY'S HOUSE

Top of the list in this issue's classic reviews has to be Henry's House. I always used to avoid the 'budget' games, fearing that budget price meant budget quality. Fortunately, this exception has been proved wrong time after time, but never more so than with Henry's House.

Henry's House was a release from Mastertronic back in 1987. The game stars you as the central character, Henry, having just taken a job of something in your father's laboratory. This something has resulted in you being stalked - only six inches to height! What a start to the day. To make matters worse, Henry has got himself stuck in the clothes cupboard and must find the key, and a way out, to return to normal size.

You control Henry with a joystick plugged into port one. The routines used for player and object movement are excellent, with the animations of Henry and all other objects absolutely flawless. I sat playing this game for several hours, and really could not believe the quality, which surpassed most full price games in many aspects.

Gameplay takes place in eight different rooms within your father's castle (your father just happens to be a King). Each screen is extremely well drawn, and shows a sharp sense of humour. For example, one room is centred with in the bathroom. Of the many obstacles to overcome, one of the most difficult is a gianting set of levels. In order to make things even harder than they already are, after a short while a huge spider-trap

comes onto the screen and starts swallowing the food. There are a great many obstacles to overcome if you are to beat the game, including flying toot in the kitchen, dangerous traps in the games room, strange springs in the bathroom, and loose beds in the lounge to name but a few.

The game is extremely well implemented, and has some nice small touches such as well animated scenes of Henry walking between rooms after completing a level, which is accompanied by a snappy piece of music. I really can't recommend this game enough, especially where you consider the almost ludicrous price. Henry's House is Transalbit balance price, Henry's House is Transalbit balance price, Henry's House is Transalbit balance price. XL/XE88EN01, standard cardboard road side.

POLE POSITION

The cartridge reviewed this issue is Pole Position, designed by Namco Ltd., and manufactured under license by Atari Inc. I believe Pole Position will run on any right bit Atari, and certainly runs on all XL/XE models.

I doubt that anybody reading this review has ever heard of Pole Position, which was at one time a smash hit in the arcade. Here, it is

faithfully reproduced on our Atari screens, and the game is still as good today as it was when it was first released. I remember my father parting with nearly thirty pounds for this game several years ago. The old Atari 800 is still in the spare room at my parent's home, along with a 10MBE and Pole Position. What more can I say than Pole Position is still in use after years and years of service!

Anyway, for those of you who don't know Pole Position, and who do not know the game in any great detail, here goes! Pole Position offers you the chance to sit in the seat of a professional race car driver. You may start the game by doing a practice run where you have the remote back to yourself. This feature allows you to get to know the track, and the handling of your car. After a few laps in the practice mode, you will probably be ready to race.

Before starting the race proper, you must decide which level of difficulty you require. The Million Grand Prix is the easiest, with the lowest obstacles in other order of: The National Speedway is the intermediate course, and the Atari Grand Prix is the hardest course. Information about your present situation is shown on screen, with readouts for lap score, your score, time remaining, lap number, speed, and lap time.

The first stage of the game is a qualifying lap. You set your gear, 80 seconds in which to complete the lap, but must complete a lap within 73 seconds to qualify for the race itself. Depending on your qualifying lap time, you will be in one of eight positions on the grid (Pole Position if you make the qualifying lap in less than 58 seconds. If you hit another car during the lap, or if you run off the road and hit a sign your car will explode. You receive as many new cars as necessary, but lose time for each crash, time is crucial during the race itself as you get 70 seconds to make a lap, and then get recorded play if you complete

the lap within the time allowed.

Your car is controlled by joysticks. Forward acceleration is low gear, and higher speeds are reached by pulling back on the joystick, putting the car in high gear. The five buttons act as a brake. Appropriate use of gears and braking is essential to a successful race. Too much speed into a bend can cause skidding, which loses a great deal of speed and time. Optimum performance is difficult to achieve, especially when you are speeding into a bend whilst negotiating a number of other cars. There are a number of options available to the player. These include Practice, number of laps (up to 8), and difficulty. The race can be restarted with the reset key, and gameplay paused and resumed by the spacebar.

Pole Position is a very competitive game, and high scores can be achieved by the dedicated amateur racer. Points are allocated as follows: 50 points for each five metres travelled, and each car passed, plus 200 points for each second left on the clock at the end of the race. Large bonuses can also be gained by coming in first on the qualifying lap (8000 for pole position). The game is not easy, though it is enjoyable for all skill levels. However, some hints I can offer are: make a fast start in qualifying and in the race, stay on the inside track as much as possible, and avoid skirts.

I always play the game on the easy level, which is still still quite a challenge. With two harder levels, I can say with confidence that there is a good challenge here for all abilities. Pole Position is an excellent game, well worth the current five pounds asking price, and no collection can ever be complete without it. If you want to make a good investment in a game that will have lasting appeal, you couldn't do better than Pole Position.

Finally, as we all hate waiting for games to load, it is a joy to bring in the cartridge and get speeding!

reviewed by Mark Stinson

SAM DESIGNER

DOS have introduced another add-on module for existing users of the 80-column operating system *Screen Aided Management* - otherwise known as SAM. SAM DESIGNER is a drawing package and, like the SAM series I reviewed in issue 68, is launched via the Access/Info option on SAM's main menu.

After loading, you're presented with an empty workspace and a small pointer that responds to a joystick or an 801 mouse. The pointer is initially situated in freeland drawing mode - this means you can doodle by holding down the trigger or mouse button as

you alter its position. To investigate SAM Designer's more advanced features you should press the space bar to reveal the potential menu items. The first few items form a useful selection of alternative drawing modes such as line, rectangle, spray can, circle and fill. Most of the drawing tools you'd expect are included - and a few more besides. For example, it's possible to copy any rectangular section of a picture and paste it into a new position. This can also 'wrap screens' to create a previous action.

SAM Designer incorporates two unique functions. Firstly, you can load text from the SAM Texter module and place this into a pre-defined window on any drawing. You can be made oblivious to alter the character style, size or orientation while the program automatically takes care of word wrap. However, I'm not convinced this is really necessary since text can already be formatted by direct entry. If desired, you can load an alternative character set from disk, in the format supported internally by SAM's Character Set Editor. The

other unique function also involves character sets. There's a special type of set in which the characters are placed together to form icons.

An example provided comprises various symbols for use in designing electronic circuit diagrams. With perseverance, you could create your own selection of specialist symbols.

SAM Designer exploits all of SAM's key price options: a point and click interface, integration with other SAM modules and protection of its 'open' architecture. The last point means that if you are able to incorporate assembly language, you can make use of internal system routines to enhance the software's functionality - by adding extra printer drivers, for example.

SAM owners who feel the urge to draw should be delighted.

- Title: **SAM DESIGNER**
- Publisher: **Powers Per Post**
- Supplier: **EGS**
- Format: **Disk**
- Price: **49.95**

SEXVERSI

Digitised pictures of excited ladies and the classic board game *SexverSI* by Corbin as the parties know it. Put them together and you have SEXVERSI, a novel offering from Mirog that's certain to appeal to someone (but who's going to admit it?). Don't forget kids, parents just parents are subtly lured up to bed before reading further...

The 'Visual' component is a straightforward version of the traditional game. Two players - human or computer operated - take turns to place colour-coded counters onto a grid of 64 squares. A counter may be placed at the end of a horizontal, vertical or diagonal line con-

prising one or more of the opponent's counters, but only if there is already a counter belonging to the current player positioned at the other end. Assuming there is, all of the opponent's counters in the line are 'flipped' and allocated to the current player. Eventually there are no free squares or no legal moves, so at this point the game ends. The winning player is the owner of the greatest number of counters.

So that's the game, but what about the other bit? The idea is that each time you win a round a small section of a cinema digitised photo (there are four photos to choose from) is revealed, but if you lose then a piece is co-

vered up instead. If you win enough times, you get to see the entire picture. An obvious observation to make is that, much as the *SexverSI* is the best home computer of its era, its graphical capabilities are not ideally suited to displaying digitised pictures. The inevitable low quality result demands a fair amount of imagination to fill in the detail - I don't think the *Mis de Paul Raymond* will be too successful. The other point to mention is that the computer player is not very clever and makes the mistake of playing his counters when his own gets rather than strategic strength. If you hand for the edge squares and go all out to take the corners, you'll have no problems

winning every time. Maybe that's a bonus? Incidentally, brave players who are expecting a toggle option to suit their preference of viewing material will be disappointed. Enough said - I'll let you make up your own minds on this one!

- Title: **SEXVERSI**
- Publisher: **Mirog**
- Supplier: **Mirog Discount**
- Format: **Disk**
- Price: **49.95**

reviews by Paul Dixon

TUTORIAL TIME

by Ian Finlayson

DAISY-DOT II AN INTRODUCTION

As we have seen in the last two tutorials, Textpro is a complete word processor in which to prepare your manuscripts but once the creation is complete it is a bit disappointing to print it out on that old dot matrix printer. Everyone seems to have a laser printer these days and their high quality is no longer exceptional. The old Courier font definitely has a historic look.

There are two things that you can do to improve this situation. If you have a range of hundred pounds to spare you could buy an laser printer but check that it is compatible with your Atari - you will probably need to ensure that it can run on an Epson if you are to avoid difficulties. If your computing funds are not at this high level then read on. Daisy-Dot II could be your answer.

Daisy-Dot II will call in DDBI from now on if available from Page 6 on disk number DD421. Its documentation file starts by saying "DDBI is a complete environment for printing raw letter quality text with Epson and Post compatible printers", and this is a fair summary. DDBI could be called a text processor (not a word processor) as it takes the text you have prepared and outputs it to your printer. The text is printed graphically as you are not limited to printer fonts, and DDBI comes with several different fonts that you can experiment with. The illustration shows the fonts as they are printed while you use DDBI to print out the DDBI documentation. If this is not enough for you there is a font editor on the disk so you can modify the fonts which are supplied or even prepare complete

font sets.

Playing around trying to create your own personal font is good fun, and it certainly teaches you that font designers are skilled craftsmen. At first it all seems simple, but the more you progress the more difficult it becomes. Great attention to detail is needed to make up a good looking font to which all the letters are legible and consistent with an overall style.

PREPARING YOUR TEXT

Before you start DDBI you need to have some text prepared. Use your favourite word processor and keep the format simple although you can apply whichever format you want. When you have finished save your work and then prepare a print file. This is done by the "print to file" option of your word processor. In Textpro the procedure is as follows: Press (CTRL) and P. The top line of the screen shows Print FILE P. Normally you would just hit (RETURN) to print, but this time you must backspace over the P and replace it with D1:PRINTFILE.TXT, where D1 is the disk drive number and PRINTFILE.TXT is the name of the file you are going to use in DDBI.

If you try to use the normal saved file you will probably hang up your printer because word processors embed special codes in the text which printers do not like. As the text you will get some odd things happening to your print out.

STARTING DDBI

If you have an Epson MX 80 printer or an older STAR Graphic printer you will have to make a setup change in the DDBI disk - just insert your computer with a DDBI disk, remove the write protect tab from the DDBI disk and insert it in your drive. Use DDBI SOURCE (pages 10) to change the file named EPSONCMD to EPSONC with an extended list

DDDDDDDD
EEEEEEEE
FFFFFFFF
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JJJJJJJJJJ
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QQQQQQQQ
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SSSSSSSS
TTTTTTTTTT
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WWWWWWWW
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ZZZZZZZZ

DDDDDDDD FILE by E. Sheppard
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RRRRRRRR
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DDDDDDDD FILE by C. Gross
FFFFFFFF
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XXXXXXXXXX
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A selection of the standard fonts available from Daisy Dot II - many more fonts are available on extra disks

on Epson MX printer or STARLINE or STAR II laser printer. DDBI will now know of your specific printer. For any other Epson compatible printer the disk needs no modification.

Restart your computer with the DDBI disk in place and DDBI will boot up automatically. An opening screen is displayed and then the light screens for the overall document format. If this is the first time you have used DDBI you may wish to print out the full documentation for future reference. There are 22 pages so make sure that you have plenty of paper! Now at the last prompt type ROMAN and at the filename prompt type DD420C.1 - don't change any of the other settings. Now press (START) and the first 8 pages of the documentation will print out. When it is finished press (T) and type in DD420C.2 and

(START) for the rest part of the documentation. The last two parts are on side B of the disk as DD420C.3 and DD420C.4.

SIMPLE USE OF DDBI

In printing the documentation you have already learned how to load a (F)ort and load and print a (T)ext file. If you remember the name of the font and file just type them in as we did above. If not there is help at hand - just press the number corresponding to the disk drive where the file is (usually 1 or, if you are using a RAM disk, 0) and a list of files is displayed for you. Identify the name you want then press a key to return to the input screen and type the name in.

MORE FEATURES

Now let us look at the other options that are available for global formatting of your document.

(D)ensity

Your settings are available. 1 is single density and gives wide text. 2 is double density - this is the "standard" setting and will be used most often. 3 is double small density - similar to 2, but lines and text much higher quality (good for double printing). 4 is quadruple density which packs the text very tight. It only gives clear print with the platter feeds.

(S)pacing

Changes the gap between letters. It can be adjusted between 0 and 20 and defaults to 8. A setting of 0 causes letters just touch while at the other extreme 20 gives a spacing of about 1.5 character widths.

(A)lignment

Press (A) to cycle through the options. Text can be aligned left, right, center, or justified. Justified text has extra space added evenly between words to make left and right margins straight.

(B)oldface

Boldface can be set on or off. Bold is achieved by printing two passes with a very small line feed in between, so it does slow printing down quite a bit.

(W)ide

Introduces double wide printing on and off. The effect is similar to single density, but does not change the space between the letters.

(M)argin

The (M) key cycles through the available right margin settings. This can be anything from 0 to 5 inches in half inch increments. The

datum is the right edge of 8.5 by 11 (American size) paper which is a bit wider than the European A4. This is not enough to rule a layout, but is worth remembering if you use non A4 size paper in your printer.

(P)age select

Allows you to print off, add or omit pages. This add and omit selections allow extra copies printing where the extra pages are printed on the back of the odd.

(L)imits

Allows the starting and ending pages to be set when you do not want to print a whole document.

(C)opies

You can print any number of copies from 1 to 99.

EXPERIMENT!

Now you can experiment with different settings for the overall format of your documents. But, if you have printed out the documentation, you may not have they changed the format in the middle of the document. This is done by embedding commands equivalent to the above into your text file. I will describe this how this is done in the next issue and also introduce the final utilities.

In the meanwhile if you use Daisy Disk and have any useful tips or specific problems write and let me know.

Oh! I nearly forgot - when you have finished with (DB) I will exit the program. You don't have to switch off to (DB).

Write to Ian Finlayson
at 60 Roundstone Cres-
cent, East Preston, West
Sussex BN16 1DQ

Review

DARK ABYSS

It'd been a long time, never imagining it could be so far to the constellation of Stars. The powerful, dark and quiet expansion didn't betray what was about to happen. He pulled the steering controls sharply, the small abandoned boat he didn't possess,

enough power to resist the force. Unwillingly he surrendered, stopped fighting and the excessive pressure drove him in with unbearable speed. Then just as suddenly as it began, it ended. He found himself in a strange, empty Dark Abyss...

And on it goes to reveal the story behind the title, but don't get too-down in by this currently elaborate explanation. DARK ABYSS, from the Polaris software house Mirage, is basically a great old fashioned vertical scroller. In other words, it's another chance to fly over enemy territory, dodge through the cunningly concealed obstacles and shoot down anything that moves!

The game unfolds over a series of increasing difficulty levels - each involving a different combination of fixed obstacles, intermittent laser gates, penetrable barriers and other

irritating

- Title: **DARK ABYSS**
- Publisher: **Mirage**
- Supplier: **Mirage Discount**
- Format: **Disk**
- Price: **£1.99**

problems. The levels are subdivided into several rounds, each involving a



single pass of your projectile-controlled, two-course firing space craft over the hazardous playfield. Your task is to progress without depleting the energy reserves through contact with alien matter. If and when you reach certain points at the end of your journey,

there's a short feature and you then head back in the opposite direction. The game isn't a constant scroller so at least you can tackle each situation at your own pace. The catch is that there's a limited time allowance on each stage.

Graphics are of good quality, although the artwork isn't as intricate as some other examples of this format. On the negative side, the variety of obstacle types is fairly limited and predictable, while your space craft could be improved by better animation. However, the musical effects are very good indeed - there are different jingles marking subsequent events in the game.

Dark Abyss doesn't exceed the desirability of certain 'classic' scrollers I could mention in stead or playability terms, but many of these golden titles are now almost impossible to obtain. Anyone who likes their entertainment to involve plenty of dodging, shooting and intense pyrotech action will find that Dark Abyss is much to their taste.

reviewed by Paul Rixon

DAISY DOT FOR THE ADVANCED USER

John Bunting has some useful advice for using Daisy Dot with Page 6 Writer, a Ramdisk and SpartaDos

I am a subscriber to Type and Wear Alan's new Group and have read the article in their newsletter by Alan Corbin on **TEC-THRO** and **DAISY-DOT II**. Is it to be stated that by its able to load everything from RAMdisk and work entirely from there making all the procedures very much simpler. This set-up appeared to me that I do not have Alan's current upgrade. I wrote an article explaining what I had achieved using my standard **DOSE** with **DAISY-DOT II**, **PAGE 6 WRITER** and **SPARTADOS**. This was published in **TRAVEL** Newsletter Issue 7.

I afterwards realised the same principle could be applied to the **PG DAISY-DOT II** and used this set up with good effect. The two systems are very similar so I will start by repeating the **TRAVEL** article with apologies to anyone who has already read it and to the old explain any differences.

MAXIMISING DAISY-DOT III

I use **DAISY-DOT III** quite a lot and even though I read Alan's excellent notes on **DOSE-DOT II** and **TEC-THRO** and the way to be able to put everything into RAM, I've wanted to be able to do the same. So what's the problem?

The problem is, that Max has a 1 meg upgrade and I have a standard 128000 and a single, standard 12800, and with this Commodore 64000 and in the current financial climate (retirement) there is not a second-chance in hades of my equipment expanding his.

With my limitations on memory it was obvious that I could not load **DOSE**, **TEC-THRO** and a host of fonts into 64K RAM and will have to use to put and in fact as well. The following is an account of my efforts to try to maximize Max using my standard rig.

The only way I could see an ordinary user to use a different, more compact, word-processor - but when? I had recently put **TEC-THRO** on to tape for the daughter of a friend who wished to practice her typing and I had used it to write a document to the instructions regarding cassette use. It was therefore aware that it was compact, only 67 sectors long, as typically powerful for its size and not dissimilar to **TEC-THRO** in its basic functions, so I loaded it up and quickly discovered two problems. Pressing **CHIEPT** would not write the backslash which is essential for **DOSE** and there was no facility to load **DOSE**. I also knew that **PAGE 6 WRITER** was very similar so I loaded that. Could it be that **SPARTADOS** **CHIEPT** is the parent of both **TEC-THRO** and **PG WRITER**? Again no backslash but, although not documented, **CONTROL Q** gave the choice of securing to **DOSE**.

CLASSICS FOR CHRISTMAS

I first tried my favourite, 1st Xmas WP, copying only the **WORDPRO** file, without **HELP** screens etc. This does support the backslash but without the auxiliary files it would not read **DOSE** and all almost (save the length of **SPRINGSCRIPT** and **PG WRITER** was causing the necessary fonts rather short.

I left the problem for a while then thought I might see if the **PP-MAC** file from **DOSE** would work with **PG WRITER**, but when I reloaded **WP** I found by accident that if I first pressed **ESC** before the **CHIEPT** as combination that the backslash was enabled. This is a small price to pay for the ability to put the whole lot into RAM, and even if the result is much more modest than that described by Max, it is very usable.

The way I did it was as follows:
I formatted a disk (single density) using **SPARTADOS** **DOSE** and copied to it **PG-DOSE** to create a RAMdisk, **PP.COM** from **DAISY-DOT II**, **PAGE 6 WRITER** (the **AUTOSHUN** file from the last disk), changing its name to **WP.COM** and three fonts, a **STATUS** file file was created from the **SPARTADOS** file screen by typing:

```
COPY C: \1 STATUS\STAT ->STATUS
This gave a blank screen with the cursor at the top left position. The batch file reads:
```

```
RD DS
COPY DS:WP.COM DS
COPY DS:WP.COM DS
COPY DS:NLQ DS
DS
BP
```

After typing the above, a **CONTROL Q** writes it to the disk - ensure the correct disk is in DS at the time.

A perhaps more obvious way of producing the **STATUS** file would be from the word **SPARTADOS** and saving it to the disk. This is

also an easy way to edit the file should it ever be necessary.

When the disk is loaded with **CONTROL Q**, the RAMdisk is created and the **PP** and **WP** files are loaded into RAM along with any fonts with the **NLQ** extension, then the default drive is changed to **DS** and **WP.COM** is loaded from there instantaneously. At this stage, with the three fonts I used, there are 143 free sectors in the RAMdisk.

After typing in your text, **SAVE** it to **DS** by pressing **CONTROL L** and entering **DISKFORMAT**:

If **CONTROL M** is pressed, a Directory of **DS** is shown. If it is then pressed a Directory of **DS** is shown and this becomes the default whenever **CONTROL M** is used.

Pressing **CONTROL Q** brings **QUIT** to **DOE:WP** on the command line, a **T** will bring up the **DIFF screen**. At this point if **PP-SETUP** is entered (to read the **DOSE** extension), then **DOSE** will load instantly and can be used to print out your masterpiece.

You may return to the word processor at any time by pressing **CONTROL S** to exit **DOSE** for **DS** and typing **WP-SETUP**.

Don't forget when typing text which is to be printed with **DOSE**, to prefix each character with **DS**. The same applies when naming the starting file and the file to be printed at the start screen of **DOSE**.

Using **SPARTADOS** with **DOSE** has a further bonus: it can be set up for automatic printing and works as follows:

If you wish to print a file called **TEXT** using the last **PRINT**, then instead of simply typing **PP** to load **DOSE**, type **PP PRINT TEXT** and, providing all three items are available on the default drive, printing will take place automatically and you will be returned to **DOSE**. This system can also be set up as a **BATCH** file which must be typed as shown (horizontal

line of print and called, perhaps **TEXT MAT**. The transfer of this batch file to DOS can be arranged on the **WEAKERS MAT** and when it is required all that is necessary is to type **TEXT MAT** (don't forget the dash) when the DOS screen is on. This procedure can be very useful if you have to make regular copies of the same document.

If there are any other duffers like me out there then I hope this article will be of benefit and save you the hassle of finding out the hard way what we mean when we find so many. Oh and by the way, don't forget to save your text in a floppy to your magazine to try this system - as if anyone would...!

DOING IT WITH DAISY DOT II

The set-up for **DAISY DOT II** is exactly the same except that instead of **PP.COM** use **DDOFF** for any disk file in the **ALTOSUN.BYS** file and I mentioned that the name is changed to something else - **DDA.COM** perhaps - for this all you will have to type to load it is **DDA**. The **STARTUP.BAT** file can be as before but for this one change to **DDOFF**. Using **DDA**, **DDA** and some bank files are **DOS** free services on the **RAMdisk**.

The automated printing feature will not work with **DAISY DOT II** but everything else seems fine. There is a further bonus for **DOS** users: it requires files to be printed to disk, so **PRINT** to the **RAMdisk** but **SAVE** to the normal way to floppy: this makes any other queue mixing much easier. Note however that any existing files previously **PRINT** to disk will need to be **SAVED** to the **RAMdisk** as they have already been formatted once.

Daisy Dot

My own experience is that with this system it is almost as quick (and certainly much better) to use **DAISY DOT** as to print out straight from the word processor.

Whilst mentioning word-processors, **PAGE 6 WRITER** may look a small amount of the sophistication of the more expensive versions but it has more than is required for this application as most of the commands are generated by the print processor.

The default margin on **PAGE 6 WRITER** are both 2 inches: **DEE** sets the right margin to 70 for 50 from the right. It does not seem to matter however as **DEE** does not take up the full page width. The default page length on **PAGE 6 WRITER** is 60 (40 on 2 inch line 11" paper) you will need to go to row 12 on the view of your text by typing **COBJECT** or which gives an inverse lower case 'y', followed by 60.

My thanks to Bill Jackson up to Swindon for his assistance on another **RAMdisk** matter which led eventually to the birth of this file.

AVAILABILITY

DAISY DOT II is in the Page 6 Library. **PAGE 6 WRITER**, written by Phil Davidson was originally published as a tape-to program on issue 50 of *New About Users*; it was also on the issue 50 disk. Both the disk and **DAISY DOT** magazine are available from Page 6 at the usual address.

The Accessory Shop

ISSUE 69

CLASSICS FOR CHRISTMAS

We have secured a small stock of some of the true classics in time for Christmas. This could be the last chance to complete your collection or buy a couple for the kids' stockings.

ASTEROIDS

An action classic that's still fun. Asteroids has become one year game attempting to capture hundreds and thousands of their own distinctive features. It's a classic that's never out of fashion. The most difficult operation was to keep the eye on the hole for the new attack mode: 1 or 2 players.

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PLASTRON

We have discovered a very small quantity of this well-loved game on disk. Take the chance now while you can, they will all be gone by the next issue.

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This traditional one-on-one of America's top players in the game sports brilliant attack defense, exciting offensive and defensive moves, unique tactics, fast attacks, superb shot, never repeat plays and a thrilling, back-and-forth pace. The game of basketball is played at its best when you're playing with your heart as well as your hands. Master the system (shown), change your timing and have your referee jump (shown) sooner.

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RALLBLAZER

The year is 1947 and you are the captain in the most competitive arena for the most exciting game ever created. Control offensively, run into a head-on collision, and try to force your job against a collection of shots. Enter your yards into the hands of the captain. Exciting graphics and soft screen action have made this one a true All-time classic.

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US FOOTBALL

American Football is a big game in this country and you can experience it home. Command the defense, pass and manage offense, run with speed and agility, make passes, catch offensive and defensive plays and make big hits from the computer in 2-D graphics and exciting action. It's hard to be a player when your game is your own in a computer world. All the fun of the game!

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SUPER BREAKOUT

Breakout was the original simple yet totally addictive game and this computer version will provide even more addictive fun. Great action!

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Fighters bring you all the thrills of the boxing ring as you look for all the real world fighters you see. The boxing game is full of excitement and challenge. The boxing game will give you all the excitement of boxing you can get. Master the system (shown), change your timing and have your referee jump (shown) sooner.

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POLE POSITION

Experience the thrill of Pole Position, the racing game that inspired almost every racing game since. It may be the original and some other games may have copied features like Pole Position but none can challenge the many things. One of those things is that it's the only racing game that has a real physics engine and a realistic car. It's the only racing game that will let you drive your car around a track and make your own.

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HARDBALL

Strike balls in America! Baseball can be one of the most exciting games in the country. So hard to play, so much fun. It's the only game that has a real physics engine and a realistic car. It's the only racing game that will let you drive your car around a track and make your own.

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BASIC CARTRIDGE

Some programs, especially some early public domain programs were not just for the fun of it but they were also for the fun of it.

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DISKS ... DISKS ...

PANZER GRENADIERS

In this exciting battle simulator you make the decisions in a game of war. You command a unit of Panzer Grenadiers. Your forces will include mortar, sniffer, Panzer IV, Panther and Tiger units. The Russian army is controlled by the computer which will challenge you with its own strategy. The game of strategy, tactics and planning. These units of Panzer Grenadiers are a must for any computer game player.

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ST PUBLIC DOMAIN



ROUNDUP

DEMOS! DEMOS! DEMOS!

Having examined utilities, applications, education and games in the first four instalments of ST Public Domain Roundup I thought it was about time I turned to that category of software known simply as the demos. The ST is blessed with many, many quality demos written by gifted programmers who could have easily utilized their talents to produce other forms of software.

I have chosen to examine five of the many impressive demo discs available from the Page 4 ST Library. They range from early classics to the latest Mega-demos.

by
**Stuart
Murray**



21 TODAY!

As far back as disk ST11 you'll find some top quality demo software. **21 TODAY!** shows four bubbles floating over a scrolling landscape of 'ATAT' words. The bubbles eventually waver in and out of each other at rapid speed. Balls of all the title words (which is superimposed over the bubbles) and the game increases even more. The 1-4 keys can be used to control the speed with 0 acting as a freeze frame. Settings 1-3 are very fast indeed! If you look closely at the bubbles you'll see that they reflect the scrolling landscape, and even the shadows they are casting!

The screen's scrolling, increases speed and hyperte-

effect of the bubbles make this a classic ST demo which has stood the test of time.

SPECTACULAR SCI-FI

CYBERSCAPE (1M) acquired to a computer-generated sequence similar to those appearing today at theme-parks all over the world. Created with Amiga's Cyber Studio it is a mini-movie which shows the travels of a humble 3.5" disk. Some atmospheric music and a brief title sequence create a good build-up to Cybercape. Suddenly a standard 3.5" disk appears on a grid and transforms into a 3D square. The disk takes off and

MAKING MUSIC

flies over a 3D landscape until it reaches a huge 'CDROM'. The letter 'T' transforms into an updated ST and the disk travels into the disk drive. The score then switches to bubble the ST and the disk 'clicks' with the integrated circuit. It bounces the whole circuit and before you know it the screen is pulsating in glorious colour.

You really have to experience Cybercape yourself to appreciate its full effect. The entire sequence is perhaps a little slow, lasting only 130 seconds, but what there is of it is very impressive. Definite buys for fans of sci-fi!

standard characteristics of a good graphics demo: impressive artwork, long scrolling messages, great music, graphic equalisers, pulsating colours, etc., etc. If you're a demo fiend, you'll like the scrolling of the Spoons. The scrolls will take you hours to read if I liked the story of the bubble with a possessed look. The music has been heard from a variety of sources. The Mega Music Screen includes the excellent tune from Turrisia and the Amiga on Pretext 15 music from Kenon II.

There's nothing original about Summoning of the Spoons. It is simply a very good example of what demos are all about. Surely your eyes don't go anywhere reading these scrolls!

INTO THE 1990'S...

SUMMONING OF THE SPOONS

A standard type graphics demo. The music program is based around an arcade game in which you guide a spaceship through a series of tunnels. The graphics are mixed on as good as many level commercial games. Look closely and you'll see eyeballs sticking at you and figures appearing from the tunnel walls. Ten fly around a number of screens looking for a sign pointing towards a demo. First one and you've found a part of Summoning of the Spoons.

I heard eight parts in all. In these you'll find most of the

WOT A DEMO!

After experiencing Summoning of the Spoons you'll be ready for what can only be described as one of the best demos on the ST - **WOT A DEMO!** **WOT A DEMO!** begins with a beautiful title screen showing a desert island. The artwork has a wonderful gritty look to it which gives the overall appearance of a commercial title screen. Next up is a scrolling starfield and some atmospheric digital music (which just cries out to be plugged into your sound system). That then comes flying at you is a colourful ready-

type font. From here you move into the Postal Main Menu. This is where the fun begins. Just like in Summoning of the Spoons, you enter each part of Wot a Demo like a bubble by playing a game and looking for entrances to the various parts. The concept may be similar but Wot a Demo is a Developer's life it sets a new platform.

The Postal Main Menu is presented as the cockpit in a futuristic aircraft. The bottom quarter of the screen shows, in impressively detail, your altitude, speed, score, distance from next target, message box, etc. The rest of the screen shows a cockpit view from just behind your aircraft. It carries a powerfully landscape of mountains and rivers drawn in solid colour vectors. You pilot your aircraft by joystick or keyboard. The speed and altitude can be easily controlled and before you know it you'll find yourself soaring over the 3D landscape. The scrolling is very smooth and gives you the impression that you are playing a quality commercial game. Hit Enter and you activate Turbo Mode - my least! The objective is to seek and locate landing pads in the various parts of the demo. These are gold and grey rectangles which are strategically placed throughout the landscape.

Check your progress at all times because it's not only the mountains you have to look out for - there are also

some high walls and structures which can prove to be very dangerous. Hit a mountain or wall and your ship explodes into tiny pieces. You then see yourself spinning through the air and bouncing on the ground. Great stuff! After your ship explodes, you return to the previous landing pad. Once you have located a landing pad, you must slow down and land on it. Press your button and you enter a part of the game. There are seven parts and an expansion module for any future releases.

Each part is of superior quality with features used to good effect. For instance, the first part is "The Blood Made My Bed (The Last Days Chateau Memento)". Bland and most uninteresting. The second part is titled in German (I just call it "Cook"). It is an amazing music video to a techno soundtrack. The images move at you first and suddenly!

All seven parts are excellent. Look out for "Your Mind is my hobby" which features a large multi-colour window which moves at you from all directions spinning each to different letter. Watch you don't hurt your neck reading this one! The title screens in each part are superbly drawn. I especially liked the checked robot in "A Brief History of Time".

The music is wonderful throughout. It has atmosphere, pace and intensity. There are melodies, riffs, etc.

synthesizers, leadlines, arpeggios, etc. etc. All are programmed in a very high quality.

Coh Crikay Wof a Scorchar is exactly that!

THINGS NOT TO DO!

If you're looking for a demo with a difference then check out **THINGS NOT TO DO!** It features eight silly animations warning you of, yes, you guessed it, things NOT to do.

The intro sequence is excellent. Colourful text, starfields and digitized music create a real movie-type feel to the demo. The eight animations are very funny - if you like violent, alternative humour! They begin on the right side with a warning not to try and break too many female slaves when using your head. The character hits his head on a pile of slaves, breaks his head off them and then collapses with

blood gushing from his head. Next you'll find yourself being warned "Do not let someone assassinate you... because it hurts!" A tough stage it may seem that means, looks on to you and... rrrrr!

This demo is definitely not for the insensitive computer user! In it you'll see machine guns and chessmen along with lots of blood. I found this cartoon-type violence to be refreshing and fun to watch. In between each animation you take a trip back into the main demo. There are credits, scrollbars, messages, contact addresses, etc. presented with 3D starfields, beautiful fonts and some superb music!

Things Not to Do sensibly creates along with each change in the action there to perfection. It looks so good that you could be forgiven for thinking it was an animation feature in late-eight editions.

Copy this with slick presentation. Classed 4 would be proud of this one!

ROUNDUP RATINGS:

57801 Coh Crikay Wof a Scorchar	- 92%
5786P Things Not to Do	- 85%
5743P Cyberscope (1MB)	- 74%
5721 Shiny Bubbles	- 73%
5756d Summoning of the Spawn	- 71%

All disks are available from the **PAGE 87 Library** - check the latest catalogue or telephone or phone **0783 513818** for further information.

MAKING MUSIC

with John S Davison

MIDI Basics Synchronisation

If it takes on a long time to get this far into MIDI - I just hope you're all still with me. We ended last time by discussing how System Real Time messages allow several sequencers to be synchronised together using the idea of being clocks and master and slave devices. I also mentioned the MIDI Song Position Pointer, but didn't explain its purpose, so let's kick off with this topic now.

The Song Position Pointer (SPP) belongs to yet another class of MIDI messages, this time known as System Common. Other messages in the class include such items as Song Select for changing between multiple songs held in the instrument; and Tune Request for instructing instruments to tune themselves to their reference frequency (or higher necessary in analogue digital instruments), but we didn't discuss ourselves further with these. SPPs are used for setting a starting point anywhere within a song, which doesn't sound much of a deal until you know the context in which it's used.

Imagine you have a sequencer running on an ST driving an attached synthesiser and a separate drum machine. The drum machine also has a built-in sequencer on which the single drum track has been built, so you set up the ST as the master and the drum machine as the slave so the two will stay in perfect synchronisation when you start the ST's sequencer. This is fine if you only ever need to start from the beginning of the song, or perhaps pause part way through then sub-

sequently continue on from that point. But what happens if you need to retransmit a given section of the song, say 8 bars of the second chorus? You'll find you can only have to position the ST's sequencer to the required point in the song, but also do the same for the drum machine's sequencer. This gets very tedious and some guess after you've done it a few times, and the tedious increases especially as you add more stored devices into the system. What's needed is some form of positional information recorded within the MIDI message stream, which can be broadcast by the master to tell all the slaves exactly what point in the song has been reached so they can all fire themselves up on the same position. And that's exactly what SPP provides.

MIDI BEAT

Every sixth pulse of the MIDI clock is called a MIDI Beat, and each beat has an SPP message associated with it. Each message is numbered consecutively upwards from zero, using its two data bytes as a counter to hold values from 0-65,535. These appear at regular six clock pulse intervals throughout the song, so as the song plays it continuously sends out positional information so where it's got to. If you now stop the master and reposition the sequencer to another part of the song the raw positional information is broadcast and the slaves automatically reposition to the same point. When you tell the master to restart again the slaves all start playing from the correct place - unassisted by human hands! There's one small snag though. Not all MIDI kit can handle SPPs, and those that do sometimes handle them in slightly different ways, so if this feature is important to you make sure the MIDI software and hardware you buy can support it, and in the way you expect.

Most serious MIDI users also have a tape recorder somewhere in their setup, so they can record their creations onto cassette for



ness-of-destination to friends, and then I say it, even to people willing to pay MONEY for the music. Often this will be a multi-track recorder having four tracks or more, to allow accurate treatment of vocal sounds to be added to the electronically synthesized material. Such recorders were once only found in professional recording studios, but variants using cassette tape can now be bought new from about \$300.

For this price you also get a built-in mixing console, albeit a very basic, but with enough facilities to allow you to do simple mixes of the material recorded on the four tracks.

The simplest way of using equipment of this type usually involves building up



SYNC BOX

We've already seen that it's possible to synch-up different sources of MIDI sequences. Well, you can also utilize the concept to cover the multi-track recorder. You usually have to sacrifice one of the recording tracks in the box, but it does mean there's no need to record any of the MIDI material onto the multi-track tape at all, so you can use the freed-up tracks for something else. It requires the use of an extra piece of equipment known as a 'sync box'.

These come in varying levels of sophistication, from the cheap and cheerful level kit costing well under \$100 to professional level kit costing thousands. Their purpose is to record reference timing signals onto a tape track, then on playback convert these into synchronization signals that MIDI equipment can understand and react to. The simplest form uses the operation of MIDI clock pulses recorded on the tape using a technique called Frequency Modulated Pulse, which uses ten different audio tones to represent the clock pulses. One track of the tape, usually one physically nearest the edge, is considered as the 'sync track', and pulses generated by the sync box are recorded along it - a process known as 'stripping' the tape. This then becomes the master timing reference. The tape may then be played back with ease. The tape may then be played back with ease. The tape may then be played back with ease. The tape may then be played back with ease.

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As with linked sequencers, it becomes very

accuracy if you want to fast forward or rewind the tape to another point within the song. You have to manually set the sequencer to the identical position also, but this time you have no fast/rewind/pause buttons from the tape to help you (as you would have with a sequencer), so it's almost impossible to do accurately anyway. The problem is solved in the same way as before, using SMP. The latest sync boxes use what's known as 'Smart Sync', which records SMP on tape along with the clock pulses. Using

these, if you fast forward or rewind the tape then start it playing again, the first SMP encountered will be identical to any attached sequencer and cause them to immediately position themselves to the same point and play from there, locked in sync with the tape.

VIRTUAL TRACKS

Using the above system, you can use the tape to drive your sequencer, and record as many sequencer tracks as you wish. Although they must include the sequencer they can now be treated almost like logical extensions of the multi-track tape, so fast forwarding or rewinding the tape produces the same effect on the sequencer tracks. For this reason they're often known as 'virtual tracks'. You can now use the 'real' tape tracks to record accurate material and play it back in exact sync with the sequencer's 'virtual' tracks. As intended this you mix the tape tracks to the usual way, but now you also need to feed in the sounds from the external tracks, ie sounds produced by your synthesizer, drum machine, and whatever other MIDI sound sources you're using. This requires extra logical channels on your mixer if you have them, or the use of a separate, inexpensive



'multi-mixer'. You can buy the latter for about £20, a small price to pay for the extra capabilities this method of working can give you.

We've only covered the 'amateur' tape sync system above. The more professional level expanded system is that originally produced for the Society of Motion Picture and Television Engineers for use with film and video machines, known as SMPTE (pronounced 'smpit'). This actually records a series of high resolution timecodes (in hours/minutes/seconds/frames format) along the length of the tape, rather than pulses and SMP. Many of the top class sequencers on the Atari ST such as Motu and Cubase also support this, usually via accessory SMPTE sync boxes produced by the software suppliers.

SMPTE is much more flexible than FMS, but of course you have to pay for this. An extension to the MIDI standard known as MIDI Time Code (MTC) has helped reduce the cost, but we'll be covering this in the next issue when we look at how MIDI has a built-in provision for 'data-streaming', which allows new extensions to be added to the MIDI spec and when required. We'll also look at how the thorny problem of MIDI data file compatibility was tackled, to enable sequencers from different manufacturers to read each other's data files.

SENSIBLE

European Champions 1992/3 Season Edition

**OLE .. OLE .. OLE ..
OLE .. OLE .. OLE!!**

**Football fanatic
Nic Bavington may
have found the
ultimate soccer
game for the ST**

You've seen the pitch, you've seen the world map and you've seen the team. Now it's time to play the game. Sensible Soccer is thought by many to be the top ball game to end all football games, one Jeff Strout of Soccer games if you will.

The game reviewed is the European Championship 1992/3 Season Edition. It features 100 European teams, Russia, Croatia and Latvia in the European Cup, Leeds United in Europe, Flak in Juventus, red and yellow cards, suspensions and enhanced gallery—yes, he's supposed to be seen (but viewed and watch the ball go in the back of the net) and more. OK, this may seem old but remember

but it still doesn't detract from the sheer playability of the game.

Opening the box reveals two disks and a thick and imposing manual only casually found in Microsoft games. Fortunately the manual actually has four different language versions of the instructions and is in fact a light and humorous read that will provide you with everything that is necessary to play with fully understanding the game. As always you can't play the game without reading the manual but you won't regret not doing it.

BEYOND THE F.A.

You begin by selecting the team that you want to be, the formation to be played and the players in the side. The teams are the national league leagues and international teams but you can also load and save any of these leagues with the necessary name or strip changes if you wish to keep them up to date. You can also load in custom teams and change and play as three as you would with the normal teams. Some of these include such teams as Paraguay, with Friendly 10 Door wearing the number 10 shirt or Old Ladies Menus with New Piece of Cake and New Piece of Dirt. This can make for some weird match-ups such as James Brown of the Soul Stars scoring with a scorching header.

SOCCER



All the normal tournaments and cups are here including the removal of the well known tournaments such as the Turkey Tosses and Worldly Cup, all using the normal rules but with the custom teams that add a nice twist.

There are a few new features in this edition (wouldn't be a new release without them, would it). The new back pass rule is to effect, as are red and yellow cards which are directly proportional to amount of suspension that a player will get. You can also enter the World Cup qualifiers and the European Cup has also been changed so that the teams now enter two groups of four teams after the first round who play each other twice.

NO WHISTLE YET!

Before you set foot on the pitch you must first select your team players, their positions and the team and away kit. All of this is done

quite easily with the joystick and a few buttons and is very well explained. You can also look at the opposition if that helps. You can set the time of matches, whether you have auto-replay on/off, pause on/off below by Captain Beardsley, numbering of goals on match highlights to be viewed later and the selection of seasonal weather that changes as leagues and competition progress. The weather is appropriate to the month in which the game is played which can mean that games played in January will, more than likely, have a muddy pitch and will affect play accordingly.

PEEEEP!

Once the options have been chosen it is onto the pitch and the game proper. During the game your players are represented by tiny figures that, although small have a tremendous amount of local pixelated tussle time. They can run, intercept, perform sliding tackles, kick it away and do brilliant headers and all of these are possible when off the ball. On the ball you can dribble, pass and kick. Kicking is a fairly complicated procedure, that can be taken on the straight forward 'point and kick' effect of other soccer games or, by consulting the manual, turned into an art form. The ball, once kicked can be hit, lobbed and headed by the frantic pitter-patter of the joystick.

You get corner kicks, throw ins, free kicks and penalties which are controlled by the

