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Page 6 Publishing's

NEW

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Issue 83 - March/April 1998

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Well, here we are bang on schedule and all going as planned. You have all given great support and understanding following my explanation for delays last time and it is great to be able to get back on schedule. With your continuing support and contribution it looks like this year will see us back on the straight and narrow. If you have a few extra friends, let them know and get them to renew their subscriptions.

INTERNET

A couple of issues ago I said that I would talk about my Internet experiences following a visit to a Cyber Café in Gloucestershire. Since then I have been to Gloucestershire again and yesterday visited a local shop that offers Internet access. I have to say that the Internet is totally brilliant yet unbelievably frustrating.

When I first logged on I used the search facilities looking for favourite subjects. I tried the old 8 author Arthur C. Clarke and it came up with something like 1,480 results! All I managed to do was click through a few likely looking entries on the first few pages and most of it was pure drivel such as an entry on somebody's list of their 100 favourite authors! If you want something popular like Star Trek it is even worse. My son tried this and there are tens of thousands of sites, totally impossible to make through. Interesting yet frustrating.

This time then I had a few addresses to go directly to but I also wanted to search for something. Having to enter that it costs 65 an hour I couldn't afford to spend all day on-line so I looked on-line. What I really wanted to find was some reference to someone called Leonard Pelletier. Leonard Pelletier is a Native American who has been in prison since 1976 after being convicted for a crime he did not commit. I had just read a book about his trial and, as the book was written in 1991, I wanted to know his current situation. This is where the Internet really comes into its own for without it there is no possible way I could find such information within a short time. It would take months of research in libraries and by correspondence. Since I had no idea where to start looking I entered his name into a search on Yahoo (see John Denton's recent article) and it came up with just 4 entries. These turned out to be references within the reports of proceedings to the Canadian Parliament and one of the entries was in French! Severely disappointed I turned to the other three that I had addresses for. One of these was for Robbie Robertson and I found out some useful facts that I didn't know. I also discovered what TV appearances he was due to do in the USA in the coming months, very directly useful too where else could you find such information?

I next searched in CompuServe's WorldWeb who publish fine art prints since I was interested to look by Howard Terpning. This was a superb site with the last dozen or so of the company's catalogues on-line to browse through. Trouble is each page was illustrated in full colour and whilst the quality was superb it took ages and ages to download. Each time I went to a new page there was a minute or more wait while the picture gradually appeared. Talk about frustrating. Can you imagine checking out a painting in a gallery where the curator only uncovered a little bit of the painting at a time? I checked the index available and looked up Howard Terpning and found about twenty entries. I began checking them out but realised that I was running out of time so abandoned this to check another site.

continued on page 34

SOFTWARE GALORE!

You may have thought that software for the Atari Classic had all but disappeared but there are still several companies in the USA actively trading in the soft and even producing new ROM cartridges!

One such is VIDEO 41 who have just sent us their latest price list. They sell new and used software for the Atari 2600, 7000 and 5200 game systems along with brand new cartridges and disks for the Atari 8-bit among the 100 plus cartridges listed are games such as Alpha Strike, Chess Jumpers, Congo Bongo, Check-out, Dash Chambers, Journey Into Space, Kickback, Mr Cool, Space Invaders, Spanglers and Tigger. How many of these have you heard of? Not only that but VIDEO 41 produce their own ROM cartridges which include 807000 and the following 80797 games - Books, Amnarcana, Hawks, Mountain Soldiers, Check-out, Juddwell, Roverski, Sharp Shooter, My Ang and Public Wars.

If you prefer disks there are 136 disks listed including such big game gems as FLIGHT SIMULATOR II and Helicopter. Among the more unusual titles you will find Aqueduct, Blomax, Chain Chasin, Divers,

Galaxies, Kickbackers, Maxwell Mouse, Omega, Paris in Danger, Space Cowboys, Spike & Mollie, Title Hunt Boxing and loads more. There has to be something in that list that you don't have in your collection!

The prices are unusually high compared to many of the 'classics' but again that has been had over years ago, but then many of these are scarce titles and some have not been seen in the UK before. ROM cartridges are \$19.95 each and disks are priced between \$9.95 and \$14.95 each. Shipping costs overseas are not mentioned so it would be best to enquire first. The good news is that the company accept Visa, Mastercard and American Express so the small burden of paying can be avoided.

Your best bet is to send a couple of International Reply Coupons with a request for the listing and costs of overseas shipping or phone for more details. Send to: Video 41, 22775 Coaga St. N.E., Stacy, MN 55779, USA. The phone number from the UK is 081 641 461 2300 and Videoparc is 4 hours behind UK time so take that into account.

If you do get some of this obscure software please consider writing a review for a future issue of New Atari User as, at the very least, they are a list to let us know how you get on with ordering and delivery. We need to share a much information so we can share tips to keep these interests alive.

YOU ARE NOT ALONE!

If you are an Atari gaming fanatic, whether with an Atari computer, a VCS, 2600 or 7800 games system, you may be delighted to know that you are not alone.

Over in Albuquerque, New Mexico a couple of dedicated fanatics publish a regular newsletter for the likes of you entitled OEPHANED COMPUTERS & GAME SYSTEMS. The newsletter covers all these systems that have been abandoned by their makers and now survive only in the hands of better parents like yourself! Although not exclusively Atari there are many Atari games reviewed each issue - with perhaps a bias towards Atari systems (stands to reason). The December 1997 issue included reviews or comments on several Atari games and an article about the 8-bit. Not necessarily in depth coverage and only 30 pages in all, but an interesting read nevertheless. One of the best things is the author's sense of humour evidenced in 'Letter' page in which the 'full mailing' is presented. You have everything here from cheerless to loud parties to the electricity bill! Some mornings I have to be loud!

OEPHANED COMPUTERS & GAME SYSTEMS will cost you virtually nothing. All the authors ask is that you send \$1 for the next issue. This, of course is for the USA so I would suggest that you send a couple of dollars at least to cover the postage. Pay down to the bank or local travel agent and get yourself a handful of dollar bills and send a couple to Ophaned Computers & Game Systems, 4521 Montgomery NE, 8740 Albuquerque, NM 87110, USA.

Mailbag



This issue's
Mailbag
conducted by
Les Ellingham

Some cracking letters this time for Mailbag so, without further ado, let's get going.

FOLLOWING UP

Long time Acer supporter Richard Gore has a number of interesting follow-ups from last issue's Mailbag so let's hear from him:

"I'd like to see how long it takes to receive the latest issues of MAIL, issue #2, after each a long wait from issue #1. I must admit I was having the worst, so I believe many other subscribers were, but was hopefully we can continue on.

I would like to address several issues made in the issue #2 Mailbag starting with Miss. Several programs have been written to take advantage of this very useful input device. As Paul Davidson stated The Bourne is not

but there are more. The Director level editor is another. Miss Sawyer from PPP offers a mouse option as does Shogakukan, a version of Multi-Jang from Archvision. For those of you interested in programming, the Quick programming language from PPP, Devon Garaghey in the UK offers built-in support for the use of a mouse in programming. Indeed the Quick ED character set designer from PPP uses it to great effect. Paul also mentioned a lesson program in issue #2, Gardens. Well, I am possibly the most qualified person to answer questions about that program as I wrote it, and you do need support, mouse input, lead light, gun and joystick inputs as well. It was written in Quick and uses the mouse input commands of that language. I'm sure there are others out there as well.

Now on to the issue of the mouse itself. Several years ago you used to be able to go into any computer shop and buy a reliable PC/AT-style mouse, you set this to ST mode by flicking a switch usually on the bottom of the mouse, plug it into port 3 of your Atari and you were away, however they are not that easy to find any more! Miss that PC's use these days are, to the best of my knowledge, not easily convertible

to use as an Atari 8-bit or XT or Amiga for that matter. The connectors are different for a start and the PC has two formats of mice (ps/2 and serial) which require software drivers to be installed (and you which PC peripheral doesn't it). It might be possible to use a PC mouse with a bit of work (but then again it might not) but by far the easiest way is to use a mouse from an Atari XT, even though you can only use the left mouse button and not the right one. Has anybody figured that out yet and come up with a software method of making the right button?

Now on to PCs. Well you either love or hate them. Some would say they're progress, others would argue against them. I do have a PC. I mainly use it for internet connection and DTP work. I have a few games but I still regularly go back to my 8-bit and play games so that, PC games can have CD quality sound, made to video playback and graphics that would blow your mind, but they often come with tech which annoys and expects you to learn right-size key presses just to launch your ship. Most PC games in my opinion are overpriced and over complex, and sometimes it is great to sit down

for hours on end and play a game and be able to return to it time and time again and still only be scratching its surface, but there are times when you want a quick ball or a hour of game playing action just to see if you can beat your best score. Some of the most popular games have the simplest theme, just look at Bomberman - simple idea, simple graphics, highly addictive and extremely enjoyable on a 8-bit machine, but there aren't many games like that about.

A lot of people now use PCs at work, but few actually understand how they work, how they're developed or even how to use them properly or efficiently. Some they make work easier in some cases but some people are frightened of them and we now have a whole range of software courses created by people using them all day and we call that progress! You may have guessed I have mixed emotions. I grew up with the computer revolution. I love using them. I understand something about them and their history. I'm not expert but I'm very cynical about people's dependency and misadventures.

There are several Atari 8-bit machines available for PC users like XLII and PC Master. To my mind XLII is the

better of the two but PC Master was the first and is still highly commendable. Only you can decide whether or not you are interested in them. There are several interests that allow you to connect up your PC and 8-bit computers and transfer data between the two. You can even set your PC to act as a disk drive shared to your 8-bit Atari. Various people (including myself) can supply the software and software to run on them, but why would you want to run 8-bit software on your PC when you have your Atari set there right next to your PC? Got questions? There are several answers. There are people out there who have got rid of their 8-bit equipment and would love to fix up an emulator and make a little bit of what they give up with.

Other people's machines might have died and they can't get replacements and so move on to another platform - it is behind they run one of their Atari's again. Other people just want to have both, the best of both worlds. Whatever your reasons, there are many people interested and probably just as many not interested. However what remains is that it is now possible to emulate earlier computers on today's PCs and the software will probably

Page 6's New Atari User

work (even better) on tomorrow's PCs and next year's PCs and the next millennium's PCs thus ensuring longevity of the machine and heritage even though the founding company has long since disappeared. Who knows Windows 2000 might even have emulators built in!

Several months ago, people on the Atari newsgroups on the Internet were talking about replacing the CPUs of the 8-bits with faster ones in an attempt to make the computers run faster. Many thought that although it might be possible to replace the CPUs (and has been done) trying to get any worthwhile increase in speed would probably not work due to the architecture of the motherboard and the other microchips. So how about this idea? XLII and PC Master can use the run faster than the original machines on more specifications, PCs, P160 Postcards and equivalents and above, so without any hardware modifications you can have an Atari 8-bit computer (almost certainly an another computer) running faster than the original machines. How far can we push this increase in speed? Can we really take advantage of such things? I don't know but it would be great if we could find out.





I hope that I've provided some food for thought without boring you. By the way if anybody wants to contact me by e-mail, please feel free to do so at Figures@World.com

XP551 INFO

Chris Richardson, user in Germany has some information for us following Alan Mlinar's letter last issue:

"The XP-551 is capable of writing in four different densities as follows -

- Single density (one sided) 720 sectors/128 bytes = 94 KB
- Medium density (one sided) 1440 sectors/256 bytes = 136 KB
- Double density (one sided) 720 sectors/256 bytes = 180 KB
- Quad density (two sided) 1440 sectors/512 bytes = 280 KB

The XP-551 is capable of writing on both sides of the disk. In Quad Density the drive writes sectors 1 - 720 on side 1 and sectors 721 - 1440 on side 2, the tracks from one side to the other aren't noticed by the user. One of the biggest problems of the XP-551 is its inability to recognize the density on a disk (the 1958 does this automatically) which means that the

software must do this. DOS 2.0 (which was supplied with the XP-551) cannot do this but other DOS's like DRSDOS for example are perfectly capable of quad format with the XP-551. It is not possible to just turn the disk over as with the 1958 drive as the drive does not see the timing hole which would then be on the wrong side. Years ago it was possible to get disks with two timing holes but I don't know where you could still get them.

I have two 1050 drives and have never owned a XP-551 so I hope all this information is correct. I would encourage anyone using a XP-551 to buy a copy of DRSDOS from Alan Peters Electronic, Coway Shop, Chatterbox, Bruner St, 4232 Mullerstr, Germany."

PC TRANSFER PROBLEMS

Philp Brown, from Ipswich is one user who would like to use a PC alongside his 4-bit but is having problems: "I wonder if any of your readers have come across the following problem. If so I would be grateful for any advice you have to offer. Some years ago I bought a

second-hand Atari 800XL, 1958 disk drive and 1929 printer to use as a word processor. Over the years I wrote many short stories and poems which, of course, I stored on floppy disks. Eventually I purchased another second-hand computer, a Tandon 286. Wanting to transfer all my files to the PC, I also purchased a CD Transfer cable and software from Derek Fern. Unfortunately I have had no success whatever in using the transfer cable. There are several possibilities for this:

- The 286 PC may not be suitable, maybe I need a 386 or higher.
- From time to time the 286 crashes, leaving me with a blank screen and the message 'Fatal Check in the top left hand corner. I have, after extensive enquiries, found that 'Fatal Error' would indicate a faulty RAM chip but have, hopefully, eliminated this problem with the help of a diagnostic program.
- During my enquiries I discovered that some early Windows programs, I have Windows 3.1, contained a bug that could cause the problem.
- The most likely cause I believe is the fact that my Atari 1050 drive was modified by having an Invencon Software Plate fitted. There is an alter-

native toggle device to change from normal to the IS mode, but I often have trouble loading programs, especially in the IS mode. For instance Mind Office would load with very few problems but Atari Writer Plus would not load in either mode.

- The 816's reason could be Operator Ignorance. I find that the operating instructions are not completely self proof. A very simple step by step set of instructions might be helpful.

I can load the MS-DOS version 3 program on my PC, either from the floppy disk or the hard drive, through Windows but there is no sign of interaction between the PC and the Atari XL.

Heav'n hoping that one of your readers may be able to throw some light on the problem."

PC CONNECTIONS

Here are some suggestions and observations from Steve Anthony on making it easier to use emulators on the PC: "I have been reading with great interest in the last few issues of RAJ about emulation of the Atari Classic on the PC. Handling the letters pages it seems as though a lot of the readership con-

tinues to struggle to change from normal to the IS mode, you offer (Processors/ Headers etc. emulation software in the Page 6 Library for PC's and Mac's). If you get a reasonable user base you may want to offer the IS software you hold in the library as 3.5 inch PC format disk for all emulators users.

As there seems to be several emulators out there you may want to recommend one as the standard emulator for RAJ readers and ensure that any files you hold in the library are compatible with that emulator.

As an owner of an Atari 800 (starting to fall apart, two 8000L's lost with dog's keyboard and the other with loop video output) and a 1050 disk drive (only works during the full moon). I am already running 8-bit programs on my PC. Therefore I would certainly be interested in the above service.

Obviously the emulators need a lot of the software we used able on the WWW for downloading but the convenience of sending off an order to you, getting the software that actually worked on a disk and having proper documentation would be of great benefit.

What do you think?
Interesting ideas there, Steve but we are here problems. One of the reasons that

the Page 6 Library was so successful in the early days when there were many 1958's was about what I took PC programs from many sources, checked them all out to make sure they worked (and more importantly made sure that it was fairly easy to understand how to use them, and put them on a disk in such a way that anyone could use them. You didn't have to understand programming or work out what to do to get a program to run. Provided you understood the basics of using the Atari, you simply needed to load up the disk and input your choice of program from a menu. Now I am sure that this sort of thing would work equally as well for PC users in the way you suggest. Rather than have to trawl the Web looking for programs that might or might not work, wouldn't it be easier to buy ready made disks that someone else had already tested. I am sure it would be popular.

The problem is that I don't have a PC and without one there is no way that I can test programs or put together disks. The more some users in that it is unlikely that I would be able to afford to buy a PC until the 21st century, and even then not for a good while, so it looks as if a good idea will have to be considered





to the good ideas that never leave' basket. Sorry!

HERE BE MICE!

In the last issue Paul Browdy asked whether anyone knew of programs for the 4-bit that used a mouse. Kevin Cooke has been doing some research, and has come up with the following:

'As far as I know the full list of software that can use a mouse on the 4-bit is as follows: *Brainlines*, *Brainlines Editor*, *Pyriteworks*, *Operation Wood E*, *Quick Ed*, *Khanamir* (no editor), *S.A.S.L.*, *SAM Budget*, *SAM Designer*, *SAM Utility Extensions 1*, *Cart Star* (no Future issue 34), *Multi Mouse* (page 4 issue 42) and a game written by myself called 'Thoughts and Futures' on a past issue of *Futura*.

Multi Mouse is great and was used to write my own *Thoughts and Futures* game. If you want to use it in *Turbo Dandy* however, you'll need a modified version available from several PD libraries. I also wrote a release called 'Adding a Mouse' in several issues of the *Futura* disk mag, reviewing much of this software. Check it out for a more in-depth examination of using a mouse on the Clas-

sic. I hope this helps Paul out or perhaps gives him a lead to other software.

While I think of it, is it long gone issue of Page 6 for its long have been Atari User and company was advertising mice for sale on the Classic and some software including a patch that would allow Atari Artist to recognize a mouse. Does anyone know if it really existed or was it a replacement?

DRIVE PROBLEMS

Dennis Hodges from South Carolina needs some help in fixing his 2020 disk drive and we should someone will have the answer.

'Can anyone help? I seem to be in trouble with my 2020 drive again. It was unable to write to it unless I take the cover off. I know what the problem is but I have been unable to find the correct parts to fix it. The sensor on the write protect is not working. It appears to be the top one as looking at it the little bulb is dark. I cannot see any manufacturer's markings on it if there ever was any. Is this an Atari only product or something one can get from Magtek?

I would like to take this opportunity to thank Lee and

Nancy for all the good work in keeping the magazine going. I may not understand it all but it is nice to know that someone is around to help. A thank you to Derek Fure from Micro Discount in February for giving his assistance in going through a 5050PC problem I had.

Also see there any Atari users here in the south of Massachusetts. I know a while back there were some in the Portsmouth area. If you are still there I would like to make more contact.'

✶ Thanks, Dennis. It looks like you may be able to help Philip Brown too his letter this issue with 5050PC problems and I can sure someone will come up with an answer to your 1080 problem. If you are local to Dennis wants to get in touch, give him a ring on 0489 801771.

TRAIN TIME!

Tony Chubberton has spent a good couple of years as a special project but here finds time to help out with answers to several of the questions posed in last issue's Mailbag.

'I was very happy to receive the latest issue (92) of *New Atari User* and see in your editorial that you intend to carry on for yet another year

! I'm I was also sorry to hear about the effort that it is putting you to keep going. Please believe that your hard work is very much appreciated. I hope that the small contribution outlined for the latest PD disks is of some help.

You may recall about a year ago I wrote telling you of the current Atari project that is occupying all of my spare time. This is the hardware and software to implement an interface from the Atari Classic to control model railways using the Digital Command Control system - as originated by Douke Middleton and his colleagues in California and Arizona.

After nearly two years of your hard consciently beyond my initial estimation it looks as though completion is in sight. The first demonstration version of the software, which now stands to over 10,000 lines of Assembly source code was released just before Christmas for evaluation. Much to my relief it appears to run perfectly on the NTSC/JSA versions of the Atari Classic - since it involves a lot of critical timing routines I was a little worried that changing to 0500s across time zone from the normal PAL 50Hz rate would disrupt operations but all seems well.

I am now back working on the design of the interface electronics, to bring them into line with the needs of the software, and it looks as though I might manage to get a real working system before summer. I won't manage to write it up as an article before your next deadline of 2nd March, but I will make every effort to produce some text for you for the issue after that.

Meanwhile, I can, perhaps, add a few comments to some of the topics brought up in the most recent Mailbag. Firstly, I can claim to be one of the people who have retained their Atari Classic system after acquiring a PC. In fact, production of the software for the model railway ECC project mentioned above would have been almost impossible without the use of both types of machine. I use the excellent 5050PC shareware software produced by Nick Kennedy to connect my 8000L to the PC. The actual connection is made by a small piece of hardware very similar to the 5050PC interface described in issue 91. This is relatively easy to construct following the documentation provided by Nick Kennedy (and perhaps taking into account the comments made by John Podden in issue 93) and connects the

Atari 800 port to my 8000L serial port on the PC.

Once connected, the 5050PC software running on the PC takes the PC into a set of 'super' Atari disk drives which can be handled under any Atari DOS system without any modifications to the Atari hardware, and without any additional software running on the Atari machine. Atari files can be stored on the PC hard drive or transferred to PC floppy disks, so you can have your complete Atari library almost instantly at hand.

Using SpartaDOS Inc. I believe, MyDOS it is possible to set up these 'super' disks on the PC with a capacity of 1MB - which was essential for the model railway project where the source files amount to around 500KB and the Assembler files also amount to around 500KB. I have to admit that files of this size are totally beyond the capabilities of any of the Atari 800 editors, so I actually use the PC to generate and edit all of the Assembler source code. This is then transferred to the Atari 800L via an 80520 console link, using a PDI Connection and both forms at the Atari end to handle the communications. BobTerra is by far the best console program for the Atari Classic.



machines and translates the PC's CRUIF ANCE characters to Atari "end-of-line" characters for the fly. After a little more manipulation on the 8000L, the translated source file (held on an 8000PC "paper" disk in the PC) can then be accessed by the Assembler/Editor cartridge and assembled to produce the required machine-code object program and the output file file. These are output directly to another 8000PC "paper" disk file on the PC since there is no way the very large files involved could be held within the 8000L, memory on a real Atari disk drive.

Although it all sounds very complex, it is relatively easy to use in practice - and very satisfying to utilize the PC as an Atari peripheral!

With regard to the use of a mouse on the Atari Classic, this is certainly possible although I can not state of any commercial or PC programs which currently provide employment for the little rodent. Also intended for either the Atari ST or the Commodore Amiga can be connected to a joystick port, although it is not possible to connect up a Serial or PS/2 mouse intended for PC use. To follow last mouse movements it is necessary to sample the mouse signals at around

1000 times a second - perfectly feasible at Assembler level but beyond the capability of any routine written in Basic. Mouse usage is fully supported in my own model railway control software which incorporates the necessary machine-code routines. Less than 200 lines of Assembler are required to implement a general-purpose mouse handler which can be incorporated in the standard Atari GDI systems and, hence, made accessible to any application program written in Basic or machine code. A few years ago I successfully modified the code of the game "Tiger" (a version of *Strength or Mild Jang* software, available at one time from Page 01) to accept mouse control than joystick input. This was written up for an article which appeared in the now-defunct "16" magazine, if there is any interest among your readers, I might even send some of that article for a future issue of RAIL.

Finally, in reply to the query from Alan Miller on how to escape from a machine-code substitution lock in Basic, all that is required is to execute an RTS instruction in the substitution - provided that the machine-code substitution has previously taken all of its parameters, which may have been passed to it from Basic,

off the computer's stack. Full details of the process are described in Chapters 4 and 11 of "Your Atari Computer" by Poole, McNeil & Cook. Briefly, when you call a machine-code substitution from Basic with an instruction of the form:

```
A = USR1ADDER,P1,P2
```

- the address of the next Basic instruction is first pushed to the stack so the computer's stack is reserved area of memory) as two bytes. The values of the optional parameters - here P1 and P2 - are pushed to the stack as maximum bytes each. P2 first then P1. Finally, a one byte value equal to the number of parameters, here if there are two parameters is pushed to the stack and execution then jumps to the memory address of the substitution, given by the value of ADDR.

Within the USR substitution, values are progressively removed from the stack by using the PLA instruction and PLA to get the number of parameters (usually the first instruction executed in the machine-code), then pairs of PLA to fetch the parameters (high-byte first) starting with P1, then P2, in the reverse order from which they were originally put on the stack. At the end of the USR substitution the stack should only contain the two byte address

of the next Basic instruction. This is pulled off the stack by execution of the RTS instruction, and program execution returns to your Basic program.

It is possible to pass a three-byte value back to Basic from the USR routine too by including instructions to load it to memory locations 212 and 213 (804 and 805), low byte in 212. On return to Basic, the value will then appear in variable A, in the above example, or in whatever other variable has been assigned the value of the USR function in your program.

All the best for the future!

REPAIRS AND EMULATIONS

Charlie Agers from Wood Green in London is another who has converted up a PC with his Atari and shows some of his findings, along with some advice on repairs and some help with their files.

Back to issue 78 I wrote about repairing a defunct power supply. Part No CO 8090-34/TM 3395, which had a broken fuse in a socket unit. I have now had another failure with a power supply Part No CO 815 P/34 which

is supposed to be used with a 1018 recorder. This one is a lot trickier to repair but it can be done. First of all it is by a completely sealed unit with no way to obtain entry but there is a groove around the groove with a flange like I see exactly cut around the groove with a file since it is possible to get to the terminals without too much damage. Inside is a transformer which has connected across two terminals a small black rectangular object. This is a thermal fuse and is marked 1018 DS, 321, 100 Ohms, 0.5amp, 250 Volts. Unfortunately Mephis do not stock a replacement for this item but I have tried a 3 Amp thermal fuse and although the voltage is too low it does at least work. Does anyone know where I can source the correct thermal fuse? It is not too easy to assemble the case again as there is no way to connect the two halves but I have checked by using a thick PVC insulation tape and it makes quite a secure job.

I am a serious collector of old computers since I bought my first Atari 8000L, way back in the early eighties and I now have 28 assorted computers all in perfect working order from the 8080L up to an Oberon PC and I was very interested in the items sold by contributors and using a PC to

run Atari programs. I have tried GEM/LS/2000 to emulate an ST on the PC and it is a great program which will also enable you to then emulate an 8000L on the ST emulator. Quite a long while way to get back to the Classic but it works. At the moment I am trying to get ProFile and also Turbo to work on the PC but although I can get Starter disk 11 to run OK there is a problem with other disks which will either give a blank disk top without the drives showing but with the floppy files working with the mouse or else the first screen will come up and then the computer locks up. If anyone has the answers to these problems I would be very happy to hear from them.

I have recently been looking into the possibilities of connecting an STE to the PC so that I can utilize the spare space on a 1.2 Gig hard drive to store Atari programs and also to use the CD-ROM drive. This appears to be something which can be done using a real mouse cable and a program called GameLink. I would also like to know if it is possible to connect a 210 Meg Seagate drive to an STE using an IDE link. This was mentioned in an Atari ST Review mag way back in 1995 and it was





rather expensive than. Is there another way to connect these two that has been discovered elsewhere and what will the cost be or is there anyone who has managed to complete the connection and get their systems working properly? Please let me know.

In reply to the letter from John Hall about transferring from disk to cassette I have a copy of MULTI-DISK II, which will transfer programmes from both to a disk and will run when OPTION is held down while switching on. This gives you a means to pick them and you can select the programs you wish to run. I have tried to convert my tape collection to disk using TRANSDISK but there are some programs which will not transfer across but there is a possibility that you can do it with MULTI-DISK II. This works with games but I have not tried it with text files and so cannot say whether this is possible. This disk came with a collection that I purchased quite a long time ago so I do not know whether it was released as PD or if it is a commercial program. There is a slight problem that may occur when copying from tapes and that is if there is a screen loaded first and there a gap in the tape before the program

loads you may get just the title screen copied and then the program thinks it has finished the copy so it stops. Perhaps Les can find where the programme originated from and whether it can be used in the PD library.

This may get some response from readers so I will close but I am enclosing an order with this letter for article if it is too long for the letter page. From the contents of issue 82 it seems that there are only the main five regulars that are contributing to the magazine so lets give him all the help we can in 1984 so that FUTURE 5 can continue to give us the Classic Computers, the support that he has contributed to give us for many years.

OF MANY THINGS

Dear Howard of Coventry Post loads of things to get you thinking for next time.

I have not been using my BASIC for some time as it seems to be being busy despite having been tested for over 5 years now! I am still interested however and do intend to get back to it eventually. I have a reasonable number of games and programs and try to keep up with the news, so I was very pleased to see the

latest issue of your magazine arrive.

You said that you would like something for the letters page, so perhaps some of my comments could help to fill in. First, the uses of the Atari computers - it seems that many people will use them for serious use, not just games and I use my ST for personal finance, using 512K and version 2 that came free with a magazine at one time. I also use First West Plus version 2.00 regularly, mainly for letters and intend to keep on using these programs indefinitely. With loads of these programs I would like to have a copy of the magazine but I seem to remember having difficulty finding even updated versions with manuals when I tried many years ago. Are there any sources of these manuals still available, possibly with updated and hopefully compatible versions of the software?

I bought Railway Tycoon for the ST a few years back from a computer shop that was selling a Atari stock and found a bug - as times the railway connects put in different lines to those covered on the map and the program either allowed collisions, refused to retrace trains, or signals malfunctioned. When I eventually contacted the

help line one person seemed to remember there being a bug at one time, but I was told it was now old and I should return the game to the shop which I bought it as they no longer supported it to Atari Direct. Fortunately it seems to run okay most of the time and I can cope, but presumably this now applies to all programs and my confidence or information about faulty programs must be changing your pages.

Anticipating problems with repairs in future, I bought a spare 8008K and 1040K when I got the chance and a list of contacts who can make repairs could be useful, as I see this as a real problem. In passing you may all like to know that the reason for someone selling me the spare ST was because of the different IBM system used at schools, and the relatively poor programs that came with the machine, despite their favourable impression of the machine itself. When I compared the programs provided with my spreadsheet and word processor programs I saw the Atari falling - with-out contact with a magazine or user group to get better and extra programs I too would have used a different machine!

While I intend to keep my Atari computers I would like help for one person seemed to remember there being a bug at one time, but I was told it was now old and I should return the game to the shop which I bought it as they no longer supported it to Atari Direct. Fortunately it seems to run okay most of the time and I can cope, but presumably this now applies to all programs and my confidence or information about faulty programs must be changing your pages.

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While I intend to keep my Atari computers I would like

my daughter and family to be able to use my programs on their IBM PC. Neither of us has a machine so is there an emulator program and instruction book for the ST and is available by post?

Also can anyone tell me how I can tell if second-hand hard disk or disk drives are Atari compatible without actually trying them out?

Can you please help me with a solution to Wilson Evanson? Ideally I would like a complete solution so that if I get stuck again I can find a way forward, but at present I could do with some help in Newcastle. According to the letter enclosed with the game there should have been a first sheet available on an extra at some time - presumably no longer for sale - but can anyone let me have the information? I got to the bill and seem to need a spare to open a hatch in the roof of the bill. I think that I need to find a maintenance robot first, but despite going all around the available part of the ship I can't find a spare or robot!

In passing does anyone know why the tape copy I have was issued by Level 5 Computing as 3 files, plus an adventure called Lords of Time, yet the disk version (while giving credit to Level 5) seems to be issued by Future?

As a minor point, when did ST get involved with computer games, since Rainbow seems to have been part of ST - and does anyone know if they still deal with computer games? (somehow I don't think of ST in connection with computer games)

Finally now that magazines for the ST seem to have all ceased publication, is it possible to include a section on the ST in New Atari News, where I see that you still have an ST disk library?

Good luck with the magazine, keep it going!

Some interesting points here that I can help with but perhaps the most interesting is the suggestion of getting together a contact list of people who can repair both STs and the Atari Classic. We often get calls asking for advice on repairs but don't have what to advise any more. About all I can suggest is that the engineer buys another machine through Micro Mart, the local paper or at a car boot sale since they can often be picked up for less than the cost of repairs. There must be someone around though capable of offering repairs on the Atari so if you have any contacts let us know so that we can pass them on.

In closing I'd advise the spare you need is found at the





bottom of the left page is a header. How do I locate that? Easy, I typed in the Finder column this issue where you will find lots of info on Silicon Dunes courtesy of James MacFieck. I have had this for some time but kept putting off including it in case of the amount of work needed to get the page into a readable form for the magazine. Your letter has spurred me into action. Done, I might regret it though as I am typing this before I start work on these pages!

Your comments about ST are interesting too. Looking back, it seems that almost everything wanted to get bundled with the computer came in the ST's. Presumably they can't do that there isn't any money to be made or wanted to get in ahead of competitors in case it really took off. Not surprisingly there was not enough consumer money to go round and almost all the "mid-size" companies have long gone. Microsoft was, indeed, British Telecom's attempt to corner the home computer market and they started by re-packaging existing software such as Jewel IP adventures. While ST couldn't write software they could produce all the fancy packaging, advertising and hype.

Obviously Level 9 were interested, as were many other "small" companies but I never

to recall that almost every body got "burned" in the end. All the promises of riches came to nothing. I think Thorne EMU was the first big "new computer" company to become involved with software as they had the distribution rights to the Atari VCS and initially the Atari computers. Others, who you might not expect to see included included the Daily Mirror who were responsible for developing the early program Fleet Street Publishers! that I have used for years to put this magazine together. Incidentally my son has now started using PCs at school and is adamant that there is nothing on the PC available to the home user that comes anywhere near Fleet Street. Atari still regard Writing This As being quite interesting so perhaps someone could come up with an article on initially failures involving computers and companies that you would not expect to be involved?

In regards to an ST section, as you know we used to have one but because of the nature of the ST it was almost impossible to write software reviews. As the software disappeared as did the coverage. I have nothing against including more coverage of the ST but it all depends on whether anybody wants to write it. As always contributors are my

best and bestest welcome. As to the rest of your questions, Done, I hope that other readers will help out next time.

GAME CARTRIDGES

Our Heapsy from Norwich dropped me a short note which reads "Just received my New Atari User magazine. What I am looking for is Atari SE video game cartridges. Can you please help me?"

I assume you mean the SE game system rather than the XL computer but first note they are exactly the same. All ROM cartridges for the Atari run on the game system as well as the computers. There are still a good number of cartridges available, mostly from Dutch Pops at Micro Discount (see adverts in back issue) but I would strongly recommend that you go along to MAM or the Hargley stall to buy them from some vendor who you will almost certainly be able to pick up some real bargains. It will be well worth while to stick up, if you want to send to the USA, for software check out the next page this issue for details of a company that has an enormous number of cartridges available, many of which have never been available in this country before.

... AND FINALLY

I was delighted to get a short note from Paul Lay who wrote some of the very best page runs published in Page 6 and who now received a Page 6 readers award (presented as I remember at one of the big Atari shows). I had feared that Paul had long departed into the PC world and would not be with us much longer but I am glad to have his continuing support. His letter has nothing to do with computers but might help to satisfy the curious.

I was extremely pleased to see James EG of RAM as someone had told me one that I had come to an end. Personally I didn't believe it for an instant, when NAG's time comes I am sure I'll go out with a special lead item as opposed to simply disappearing. Even though I haven't done anything Atari for years, NAG is always an interesting read reminding me of all the fun I had back on the old 8-bit.

This probably won't be the only letter you get on this subject as I'm sure you've now intrigued many RAM readers, especially those of us whose wordsmith skills are pretty much limited to a couple of dingo-bark words made many years ago at school.

exactly what these do you make for the mail, huh? Assuming that you could send them through the mail, why not include a booklet with the rest issue of RAM offering them for sale?

I am not sure how much consumer interest there would be through the mag since what I do is rather special stuff. If you have read the introduction here over the past few years you might have a clue as to my interests. What I make it time to put work for myself now work for the American depicting the life and culture of the Native American Indian tribes. My first work is basically the cutting of finely detailed shapes in different types of wood, using the colour and grain of the woods in different combinations to enhance the finished piece. It is far better to see it than read about it and I haven't yet figured out how to put together a catalogue that shows exactly what I do but at least one that is not going to cost about a floor a time to produce. We travel all around the country every weekend to not only craft fairs but also things like County Shows and Town Shows and we are or have read one or two readers have already come up and told "are you the Lew Ellingham who ...". If anyone is interested

in having a look and getting to my skills, I will gladly send a list of all the places we will be during the coming year.

Well, there you have a pretty accurate of letters concerning about all the queries from the issue 82 Mailbag. This is the sort of response we need to keep interest alive. Trouble is there are not quite so many letters for help this time to give you as in writing for the real Mailbag but I am sure you can think of new topics or contributions on some of the themes raised this time. Anything is welcome.

I would like to thank all our respondents this time but especially Terry Chumbley and Charlie Agnes who accompanied their letters with pictures (most on a 5-bit and ST disks respectively). It sure made my work a lot easier. Don't think that you have to send a disk, however, the most important thing is that you write something on your thoughts can be shared with other readers. I'll be happy to type it up providing that you can write it up.

Don't forget to write to: MAILBAG NEW ATARI USER P.O. BOX 1-4 STAFFORD ST16 1TB

Page 6's New Atari User

Page 7's New Atari User



OBJET D'ART

Joel Goodwin
continues his
series for the
more advanced
programmer

thing I managed to understand was that it was about "objects" which I had already defined already. So in the end I had to find out myself. Another privilege of doing research at university is the great access you have to a computing section of the university library.

After a lot of reading, I now have a pretty good idea of what this OOP is all about and why it is so much better than old-fashioned.

THE MORNING AFTER

Last time, we looked at the four key principles of OOP. The first of these was data abstraction, which means we can develop our own types of variables/objects. That means, we need not deal with just simple floating point numbers and strings, but more complicated variables like database records or the status of every phone in a game. The individual pieces of data within a variable for objects will be referred to as "members". For example, NAME and ADDRESS might be two members in a database record.

The second principle was encapsulation, which brought us from the ideas of datatype and variable to those of class and object. A class is a datatype coupled with subroutines relating to the class. Some of the data and subroutines may only be accessed by the class

subroutines. In this way, we divide up the class into "public" and "private" sections.

The third principle was inheritance. This allows us to derive a new class from an old one, where the new class can use all the data and subroutines that were developed in the original class. The final principle was polymorphism where derived classes can replace an inherited subroutine with a different one. In this way, different derived classes will have, in all respects and purposes, a common subroutine which can behave entirely differently for each class. This improves the flexibility of code when reused in later programs, as explained last time. Polymorphism is an important aspect of OOP which we shall return to next time.

However, there are no languages for the 8-bit Atari which support OOP techniques. Porting a program with an OOP-like structure and adapting it to your chosen language is the best way to proceed... unless you have a macro assembler for machine language projects. This issue we'll look at how we can construct OOP support using macros in MAC/68.

THE GENERAL IDEA

How would a computer handle storage and access of object data? Well, it would probably work out how many bytes are needed to store a typed object and then, with this information, reserve the memory for as many objects as the main program requires. Whenever the program wanted to access a member of a particular object, the computer would have to look at the class structure as it would need to find out where this member is located within the object data. To make this obvious, consider a simple POSITION class. In a POSITION object, we have PX and PY members. Each member will be one byte long, so a POSITION

object will need two bytes storage space. The structure could be summarised by the following.

```
POSITION = 2   ;Object length
PX           = 0   ;Index for PX member
PY           = 1   ;Index for PY member
```

So PX and PY are indices for members within a POSITION object. We could reserve space for POSITION objects POS1, POS2 and POS3 by using this piece of code:

```
POS1  %'POSITION
POS2  %'POSITION
POS3  %'POSITION
```

Then we could read and write to these POSITION objects.

```
LDA  #0
STA  POS1+PX ;Initialise POS1
STA  POS1+PY
STA  POS2+PX ;and POS2
STA  POS2+PY
LDA  POS3+PX ;Get POS3 member PX
STA  POS3+PY ;Store in POS3 member PY
```

This is great if we know in advance what objects we wish to manipulate. However, this is no good if we want to generate a subroutine which can deal with any POSITION object. We can use indirect indexing to solve this problem. The following piece of code will initialise the POSITION object pointed to by the zero page vector POSPTR.

```
INIT LDA  #0000 ;Accumulator to zero
     LDY  #0 ;Y-register points to member PX
     STA  POSPTR+0
     LDY  #0 ;Y-register points to member PY
     STA  POSPTR+1
     RTS
```

The ideas presented here can be formalised to cater for any class. This is where the macros come in.

```

CLASS SYSTEM FOR MACROS
By Joel Goodrich 11-1-87

OBJECT must be defined as DP

IF NOT DEF OBJECT
  ERROR "OBJECT not defined"
END
ENDIF

IF OBJECT=DP
  ERROR "OBJECT not DP master"
END
ENDIF

NEWCLASS
Start of class definition

MACRO NEWCLASS
IF %obj%
  ERROR "USE NO PARAMETERS"
ENDIF

%INC%INC " "
%I%
ENDIF

ENDCASS
End of class definition

MACRO ENDCASS
IF %obj%
  ERROR "USE NO PARAMETERS"
ENDIF

%I%
%INC%INC
ENDIF

BYTE, DIBYTE, BYTES, CLASS
Reserve memory

MACRO BYTE
IF %obj%
  ERROR "USE NO PARAMETERS"
ENDIF

%I%
IF %obj%
  ERROR "USE NO PARAMETERS"
ENDIF

%I%
ENDIF

MACRO DIBYTE
IF %obj%
  ERROR "USE NO PARAMETERS"
ENDIF

%I%
IF %obj%
  ERROR "USE NO PARAMETERS"
ENDIF

%I%
ENDIF

MACRO BYTES

```

```

IF %obj%
  ERROR "USE 1 PARAMETER"
ENDIF

%I%
%I%
ENDIF

MACRO CLASS
IF %obj% OR %obj%
  ERROR "USE 1 OR 2 PARAMETERS"
ENDIF

%I%
IF %obj%
  %I%
ENDIF

%I%
%I%
ENDIF

ENDM

OBJECT
Get A into object data

MACRO OBJECT
IF %obj%
  ERROR "USE 1 OR NO PARAMETERS"
ENDIF

%I%
IF %obj%
  IF %obj%
    ERROR "DATA OBJECTS IN BYTE RANGE"
  ELSE
    LDI %obj%
    LDI OBJECT%I%
    ENDM
  ENDIF
ENDIF

DPDT
Put A into object data

MACRO DPDT
IF %obj%
  ERROR "USE 1 OR NO PARAMETERS"
ENDIF

%I%
IF %obj%
  IF %obj%
    ERROR "DATA OBJECTS IN BYTE RANGE"
  ELSE
    LDI %obj%
    LDI OBJECT%I%
    ENDM
  ENDIF
ENDIF

BITS OBJECT%I%
ENDIF

ENDM

```

Listing 1

THE CLASS SYSTEM

Listing 1, OBJECTS.MMS, is the MACROS code for a class management system. In the listing eight macros are defined: NEWCLASS, BYTE, DIBYTE, BYTES, ENDCASS, CLASS, OPUT and OBJECT. You need to do three things to use the macros in a MACROS listing. Firstly, you must set the label OBJECT, at the start of your listing, to a new page location which can be used as a vector to point to objects in memory (remember, vectors are two bytes). Secondly, a INCLUDE #OBJECTS.MMS instruction must follow the definition of OBJECT; otherwise assembling your program, OBJECTS.MMS must be stored on the disk in drive 1. Thirdly, your program must NOT use the label #OBJECT.

Let us examine the macros which are used to create a class.

NEWCLASS

This denotes the beginning of a class definition.

ENDCASS

This denotes the end of a class definition. It should be labelled with the class name. The label will be equal to the number of bytes an object of the class takes up in memory.

BYTE

Within a class definition, this is used to create a member which is one byte long. It should be labelled with the member name.

DIBYTE

As BYTE, but the member is two bytes long. It should be labelled with the member name.

BYTES numpdyt

As BYTE, but the member is 'numpdyt' bytes long. It should be labelled with the member name.

Using these macros, the POSITION class can be defined more clearly.

```

NEWCLASS 0start of a new class
PX BYTE 2PX member
PY BYTE 3PY member
POSITION ENDCASS 3End of class, named POSITION

```

The final result is exactly the same, POSITION has the value 3 and PX and PY have been defined similarly. Now we proceed to the macros with which we manipulate objects.

CLASS name[,numobj]

This will reserve memory for an object of the class 'name'. If 'numobj' is specified then memory for 'numobj' objects is reserved instead of just one.

OBJECT [name]

This macro is meant to be used as part of the program code. Upon execution, it will load the accumulator with the value of the member 'name' of the object currently specified by OBJECT. If no 'name' is specified, then the last member specified by an OBJECT/OPUT is used (provided the T index register has not been altered, see later).

OPUT [name]

This macro is meant to be used as part of the program code. Upon execution, it will store the accumulator in the member 'name' of the object currently specified by OBJECT. If no 'name' is given, then the last member specified by an OBJECT/OPUT is used (provided the T index register has not been altered, see later).

We can continue to rewrite the POSITION example with these macros. First of all, we reserve memory for the POSITION objects POS1, POS2 and POS3.

```

POS1 CLASS POSITION
POS2 CLASS POSITION
POS3 CLASS POSITION

```

The price of code when we set values in POS1, POS2 and POS3 is unchanged. This is

the most efficient way to manipulate specific objects: use the address of 'object-member' (e.g. `POB2+FX`). If a member is longer than one byte, then add on a further number to refer to which byte you wish to access (e.g. if `FX` was actually two bytes long, we could access `POB2+FX` for the first byte and `POB2+FX+1` for the second byte).

The last `POSITION` code example can make use of the new macros. It can be rewritten in the following way.

```
INT LDA #00 ;accumulator is zero
OPUT FX ;Store zero in FX
OPUT PY ;Store zero in PY
RTS
```

Before calling `INT`, the address of the object to be initialised should be stored in the vector `OBJECT`.

SUBTLITIES

`OBJECT` and `OPUT` select a particular member within an object by using the Y-index register. The one drawback to this is that you cannot use `OBJECT/OPUT` with a class that needs over 255 bytes to store an object, because the Y-index register can only take values from 0 to 255. The advantage of using the Y-index register means faster access and a minor capacity optimisation - adjacent `OBJECT/OPUT` calls can reuse the current value of the Y-index register. For example:

```
OBJECT FX
CLC
ASC #04
OPUT ;Add 4 to FX
```

This will take the `FX` member from the object pointed to by `OBJECT`, add 4 to it, and store this value back in the `FX` member. We did not have to specify `FX` the second time. However, if we modify the Y-index register between

these calls, we cannot do this.

```
OBJECT FX
INY
INY ;We want to add 1
TBA ;to FX
OPUT
```

This example is wrong because we have altered the Y-index register. The `OPUT` must specify the `FX` member again, to set the Y-index register to the correct value.

If we wish to create an array of objects, we can use the `CLASS` macro to reserve enough memory for as many as we want. For example if I wanted 50 `POSITION` objects for 50 monsters in a game, I could use the following line:

```
MONSTERS CLASS POSITION:50
```

One other point must be discussed before we go on to encapsulation. You may be tempted to see...

```
INT LDA #00
OPUT FX
INY
OPUT
RTS
```

...which is like more efficient than the earlier `INT` subroutines. After all the `PY` member is just one byte from the `FX` member. This is a bad idea. If, later, the class was modified so that `FX` and `PY` were not even next to each other, this piece of code would not work any more. Always use the member name - never use a short cut as it makes assumptions of the structure and there are two valid exceptions to this rule.

If we had defined `POSITION` using `DEFYTE`...

```
NEWCLASS
FX DEFYTE
PY DEFYTE
POSITION ENDClass
```

...then because each member is more than one byte long there we could legitimately consider

`FX` and `PY` as well as `PY` and `PY+1`. In this case, there would be nothing incorrect in using `INY` to access the next byte to an `OBJECT/OPUT` sequence.

```
OBJECT FX
STA TEMPFX
INY
OBJECT
STA TEMPFX+1
```

You must remember not to modify the Y-index register in any other way between two `OBJECT/OPUT` instructions.

The other case where altering the Y-index register directly is valid occurs when a subroutine is manipulating a whole object in one go, such as in initialising. If we had a class called `LARGE` (here the following subroutine would initialise a `LARGE` object):

```
BTFLAND LDA #00
TAY
LO OPUT
INY
CMP #LARGE
BNE B:1
RTS
```

Here we run the Y-index register from 0 to `LARGE-1` and store every byte in the class `LARGE` object.

ENCAPSULATION IN MAC/65

We have considered only the data aspect of classes; how can we implement subroutines encapsulation? There is no concrete method with which to achieve this. The closest we can get is to isolate the class subroutines in another file. In fact, a 'class file' should be developed which includes both the class definition and accompanying subroutines. This

encourages the independence of the class implementation by divorcing it from the program it was originally intended to support. Normally, a class subroutine will be designed to operate on a general object. It is recommended that the objects are passed to class subroutines through `OBJECT` (that is what `OBJECT` was designed for, after all, just as in the earlier `INT` example for the `POSITION` class. This common interface also promotes encapsulation. This is not encapsulation in the true sense of the word because class subroutines could still be used, separately, for objects of another class or worse, without an object at all, in an `OSM` language such mistakes are usually picked up by a compiler.

We have still not addressed the other aspect of encapsulation: declaring public and private members of the class. `MAC/65` has a very simple facility with which we can accomplish this. When a label begins with a question mark, it automatically declares that label as being 'local'. This means that if we subclass a block of code between two `LOCAL` directives then all local labels used inside that block do not exist outside of it. Therefore if we always enclosed a class file with `LOCAL` directives, all local labels can be considered to refer to private members and subroutines. An example will make this clearer. Suppose we have a `BOX` class. A `BOX` object contains a member `NUMBER` which can only be set using the `BOXSET` subroutine and looked at using the `BOXLOOK` subroutine. The `BOX` class file is as follows.

```
LOCAL
NEWCLASS
BITE
ENDClass
OPUT NUMBER
RTS
OBJECT NUMBER
BOXLOOK
RTS
LOCAL
```


DISK BONUS

MITE

by Jason Kendall

The concept of MITE is simple, to push the various boundaries into the IBM (Standard Original Unit), to prove that proving difficult as boundaries tend to get pushed against each other or the water walls. Fortunately there are two modes of play - 'normal' and 'variety'. Variety mode allows you to enter one 1 boundary on each screen - recommended!

There are 18 areas to complete. A secret warp mode allows you to start from any area, by pressing a combination of the console keys! Pressing F10 terminates your go if you get stuck, and believe me you will.

You start with 3 lives. You score 10 points a area for each boundary, with a bonus of 100 X area on completion. If you complete area 18 your entire score is doubled. Extra lives are gained at 4000 and 8000 points.

The other special feature of this game is a fully accessible high-score table. Even if you're not interested in the game itself, this is a good substitute that you may want to use with other programs. The variable names are all self-explanatory.

THERE ARE SEVERAL OTHER BONUS PROGRAMS ON THIS ISSUE'S DISK!

This program, with others, is the BONUS on this issue's disk. If you are not a disk subscriber you can still obtain a copy for \$2.95 from NEW ATARI LINE, P.O. BOX 54, STAFFORD, ST16 1TB. Please make cheques payable to PACE & PACE LANSBURY or order by telephone with your Visa or Mastercard on 01753 241343

good documentation, a programmer wishing to use the class should NOTION have to look at the class file. The only contact a programmer should have with the class is through public data and subroutines. To highlight this point, next issue we will look at a program using the FLAK class. By that time you will, hopefully, be comfortable with the class file again and will have to approach the class as an outsider. I hope you'll join me next issue for the final leg of our journey into object-oriented programming.

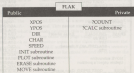


Figure 1 - The FLAK class

XL/XE PROGRAMMING

LISTINGS PRINTER

A neat utility for
Epson printer owners
by David Sargeant

calculation programs would still take a fairly long time to execute, but it would need to be done only once to set up the code file.

THE PROGRAMS

THE CONVERTER - Dot Graphic codes are calculated for all 256 characters like first 128 in 4 blocks because of the ASCII/1000 problem and are stored in a separate file for access later by the Listings Printer.

LISTINGS PRINTER - After the Dot Graphic codes are read into the computer you are prompted to type the name of the file you want printed. At this stage you can also press the letters key to get a directory listed to the screen. When you have typed a file name the contents of this file are read into the input buffer. Starting at the beginning of the buffer, the first byte is checked to see if it is a printable character. If it is the relevant Dot Graphic codes are moved to the output buffer to format the first line. If it is the End-of-Line character the bytes in the output buffer are dumped to the printer and the next line is begun. This process continues until all the bytes in the input buffer have been used. You are then asked if you want to print another listing. Press Y or N depending on your needs. At any stage you can also press the Break key to abort the program.

THE LISTINGS

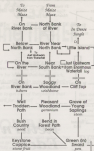
The various programs are included on this issue's disk, ready to run. A printed copy is available on request, see inside back cover for details.

Few Atariians who use Epson compatible printers soon become aware that their program listings are not always printed properly. Graphic characters are interpreted as control codes and hence text is printed in italics. The reason for this is the printer uses its own internal character set, which is different to the Atari's ROM-based one.

The printer's manual has a section on its Dot Graphic capabilities showing that a graphic character can be printed from a pattern of dots stored in the printer's memory. It would seem possible to use the computer's internal character set for Dot Graphic codes which would enable the printer to print the desired characters.

However, this would not work for two reasons. Firstly, in the language of an Atari character, the # bytes represent rows, whereas the printer requires the bytes to represent columns. Secondly, the routine that actually prints the program listing would need the Dot Graphic codes to be in ASCII sequence, not Internal Character Code sequence as they are in the computer's ROM set.

Therefore, a program would firstly have to calculate the necessary Dot Graphic codes using the Atari's character set as a basis before it could print the listings that the user required. These two processes would take a long time to execute so a better method would be to put them into separate programs. The



then go DOWN. Don't worry - you can get back up by getting a vegetable load-lion, but don't forget the parashut, or you can't get back down. The plane wings and cherry stalk will allow you to fashion a drum which, when played, will attract an ant army you are their leader - they will follow you to the base, which they will trample down for you. The bug's burrowing will combine the sections on the base, if the bug is in your possession. The chocolate clock will make you invisible - useful for passing the watch tower. The blue heavy can be used to give the branches in the other branches to cross across the tree tops, but I think there's a weight limit. The vine I can't remember about, but I think you tie it to a tree by the woodpile in order to climb it. The lift platform system is very clever, I remember. There are two lifts, and weight limit - some limit is useful and used on each in order to lower you to different levels in the trees. I

can't remember the exact combinations of moves, but IT leaves that to you to work out - that's the fun bit - several hours or later you'll arrive at a beach - DON'T assume your clock yet! Wait for the cleaner robot to come, then wait for it to empty its load, the GET COO it, and ride in relative safety from the seaweed to the other end of the beach. Get off the robot before it changes its load, otherwise you could get washed back again. You have to be careful when entering the vine field DON'T wait on the beach for the wonder, otherwise something nasty happens. You need to wait for a seedling or some robot on the beach, then go on it to get a safe ride to the river - get off at this point.

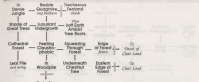
Swimming the river I have explained, and you should save had yourself with a credit card in a river tunnel. Watch out for the yabbos. Go and see Graunch - his offer of gambling is good, especially if you cheat, and so here are the answers to his riddles.

Easy - use the rubber and stem as a boat and paddle. To get past the Leviathan, feed it the fish fungus (on the green island), the Crab bird needs to see the gas type GET PEAR to lay an egg, which you plant to grow into a forestfruit - go inside it.

I thought that the generator would allow you to regenerate should you die but that is not correct, so I don't know what it is for. Eating the brown mushroom will re-energise, but its purpose is unknown. The big lead, I assume, is for scoring. The stone brick is used for weight when verticasting under a river later on (you will need it (pushed to forward tandem-ter)). The telephone is only for seeing where you are going. The stethoscope is used in conjunction with an elastic band to catapult a cherry (or lady's grasshopper - NEVER drop it) and clear an otherwise impassable obstacle.

The Maze maze is pointless - it does go in circles - leave it alone.

The longlines, when worn allow you to carry a red lead later. Separate the wooden leg to grow the parashut into a parashoot.

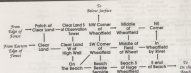


Return to Eden

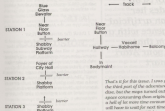
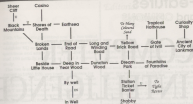
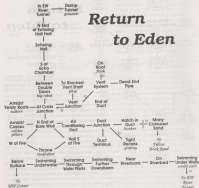


- | | |
|------------------------------------|----------|
| Goals in the Air ... | COMPUTER |
| What goes on your feet ... | MAN |
| With some words it ... | NOTHING |
| Our island is cold ... | TEENY |
| This island just ... | LOVE |
| You call know me ... | NEWS |
| A great leader ... | TIME |
| When I came you didn't find me ... | PIRE |
| A part to many the feelings ... | FREE |

You have to give the big robot your credit card to pass him but I think that if you throw the bank (put the plug on the robot, get the card, then throw the bank) at the Godfather, his bodyguards will drop it for you. The bank is found on the rock. You may have trouble getting past the traps and wreckage but if you push the pillars in their side room, they will rush in to save their energy supply and you can



Return to Eden



That's it for this issue. I was going to include the third part of the adventure, *Worm in Paradise*, but the maps turned out to be a bit more sparse concerning those originally thought to be a hell of a lot more time-consuming to do! In the end I will have to wait for next time. See you then in the magazine! **THANKS** have and tips on any aspect of Atari gaming are welcome as always. **PLAZA** send them to:

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

got past them. The going to passed through from the other end. I suspect, however, solve the problem with the cutters and the room. **CRIC** the **CRIC** to the busier to get up inside. You will find the train ticket if you tear the packet you find in the Well of South. If you use the overboard, you can go to the station to get more money, but I believe this is pure luck. **Deliveries** I'm stuck. Any ideas?

Features and OPINIONS

COMPUTER INTELLIGENCE

**Ann O'Driscoll
concludes her
series on artificial
intelligence with a
program that
makes your Atari
look smart**

One of the features of Expert Systems is the ability to build up information on particular topics. The short listing here is a simple illustration of how you can get your Atari to do just that. In this example, the computer is going to learn about animals, but, as we'll see below, it could equally be used for all sorts of other topics. When the program starts, the Atari knows about the existence of two animals - tigers and tigers. It also knows that tigers can fly and tigers can run. The opening screen asks you to think of an animal - let's suppose you come up with 'dog'. The computer will then

ask the OSRT question it knows about animals at this stage.

Can it fly?

If you type no, the Atari will print

I think the answer is tiger

Because this is the only non-flying animal it has information about. When you tell it that it's wrong, it will ask you for the name of your animal, plus some questions that will distinguish the new animal from the one it already knows. For example, if you inputted 'dog', your distinguishing questions might be "does it bark?", The Atari now has an extra animal, and a new fact which it will add to its store of knowledge. More and more information is accumulated as you continue to play the guessing game.

HOW IT WORKS

The string Q# holds the questions that can be asked to identify the animals while AN holds the animals names. Each question can be up to 39 characters long (AQ in LINE 100) and each name can take up 13 character spaces (AN in LINE 100). The program is set to cope with up to 50 questions (N=50 in LINE

100). The opening question and the two initial animals are defined in LINES 140 - 150. The variables NG and NA hold the number of questions and answers in store - LINES 140 and 150 initially set these at 1 and 2 respectively.

The two numeric arrays Y and N, defined in LINE 150, are used as pointers for the number of the next question to ask or the number of the animal to be printed on screen. The Y array looks after cases where the answer to the previous question was "Yes". If Y has a value of 50 or more, it gives the next question number, if Y has a value above 50 it will give the number of the animal. The N array does the same thing for "No" answers. These pointers are constantly being updated during the guessing game. When the REM array from LINE 700 is set the values in the Y and N arrays for each question so it gets asked.

CONCLUSION

Well, that just about ends the review of Artificial Intelligence for now. A more elaborate version of this listing is included on the master disk. This allows you to save and load files and also gives you the option of writing up a new file from scratch. As programs like this of course, we know that the Atari doesn't actually understand anything it learns. It will quite happily accept that pigs can fly if you tell it so! Nevertheless, it's not a bad example of how you might be able to get your computer to at least fool some of the people some of the time!

THE LISTING

The program is accompanying this article in an *Atari* issue's disk and also available on a printed listing upon request. See inside back cover for details.

Editorial continued

I went directly to a web page of a site called Native Creations to check out a company that creates replica Native American clothing and while it was super's it was again in full colour and took ages to download. I headed up to the main site and found loads of items relating to related subjects and it began to look interesting. I checked out a few sites which were good although a bit sparse, the business 'Books' had only two listed and 'Supplies' had only one supplier but the information was useful. I then tried an icon entitled Organisations and Links and found references to dozens of related sites. Browsing through them I saw American Indian Movement and clicked on that. About half way down their index of contents I found ...

Learned Politics. In that dozens of references to look up. I was quite excited when ... Ping! ... my hair was up! Talk about frustrating, it had taken me an hour to find what I wanted and I then had me time left to read anything. What I want to know is why the hell didn't the Search engine find those references in the first place?

It looks like I will have to go again and spend another hour, but this time I know exactly where to go and printing there are no graphics to download I should get a good few's worth of research. Trouble is with these Cyber Cubs you can't download stuff and take it away to read later, it all has to be done in real time. Maybe there is an option only here for someone to set up a download server for those of us who don't have ready access to the Net?

The problem is that I did finally find information from though I haven't read it yet! that I could not possibly have found in any other way and this is where the true strength of the Internet lies. This is where it becomes a thing of wonder.

Just like I ran out of time I am now running out of room so have to go. Maybe I should have turned this into an article!

Lee Wilkinson

The CLASSIC PD



ZONE

by
Austin Hillman

FAREWELL TO FUTURA

As stated in the last issue Stuart Murray has reluctantly ceased publication of the disk based newsletter of the North of Scotland Atari User Group. The first section issues of FUTURA have already been returned back to issues 59 and 64 of New Atari User. As the remaining daily issue has been released into the Page 8 Library it is a good time to see what goodies they contain.

FUTURA EIGHT

Text articles include news about AMST, a readers survey on the contents of FUTURA, and software reviews of The Curse, From Now and Darkness Here. Plus reviews of VCR games based on films, an introduction to the Old Hackers group in America, and updates for the contents of the first six issues of FUTURA. HOWARDZEE, COLUVIDORRE, SEXTONIX II are three good games. TLEKOTDICE V2.0 - This is an old sector editor which has been updated and improved with Turbo BASIC. Version 2.0 is now a very powerful PD program and

just as good as many commercial editors.

TURBO BASIC DOES WILD THINGS DEMO - This is a powerful little Turbo BASIC demo which shows the versatility of the TEXT command. **FRACAL DRAGONS 1 & 2** - These with an interest in Fractal Art will find these demos to be worth looking at. **ZROING** - Is described as a cross between the Twin Light Cycle game and Frog, hence Frog. A good two player game.

FUTURA NINE

Text articles include reviews of Turbo, The Citadel, Charlie Egg, Pongos, Enigmas and Desert Falcon. Structured programming is made easy in Turbo Plog part one. The coding of The Jaguar is announced. The Battle of the BARRIC is analysed, adding a Printer extension to the Citrus 1000.

WALGUS 2 - supports Atari 8-bit version of the ST public domain Turbo clone of the same name. Walgus 2 features four-way action the gameplay consists of building colored rectangles around the enemy square. Great game, good fun.

GLYPH FONT EDITOR - This is one of the best font editors I've seen for the Atari 8-bit

glyph is packed with options. Full docs can be found on this disk.

ACE FLOPPY - European Demo Disc again! This time we have Ace Floppy from Magnus of the World Federation of Mad Hackers.

HEX ARTIST - Here by many on the best PD art package on the Atari 8-bit. HEX Artist is a feature packed program with the ability to load fonts and place text over pictures. All of the art options are pretty straight forward. Users need HEX Artist to design the title screens for Futura. I find it to be a powerful and yet easy-to-use art package. Try out the many options and I'm sure you'll agree! **ROUND MONITOR PROFESSIONAL V1.2** - Originally featured in FUTURA 2. To celebrate the imminent release of a new WORDING PD double-sided 5MB disk, which features documentation in English and loads of .2MG files, five of them new. .2MG files are included on this disk as a sample of just how good this program is.

ROUND - This is a little 2-player Pong game which has been programmed to Quik. It's good fun if you give it a chance! It's even better fun if you can remember the old Pong machines in the arcade!

FUTURA TEN

There are more text articles this issue, including 8 Bit News, Software News, and Turbo BASIC Plog part two. There is 8-bit trivia about the missing Atari cartridges. Herb Stone's Warehouse looks at a poppet, and a new volume called Atari 8 Bit Memories, looks back at good and bad moments of computing on the Atari.

REPAY MEZ UP! Santa's returned up all the Christmas presents - can you help him send them out? Use a joystick to match the Christmas gifts. Perfect fun for everyone! **THE FUTURA CHRISTMAS DEMO** - A superb Christmas demo programmed by SCORPIO by one Scottish programmer 'Spide' from Melbourn.

COMMUNICATION 3 - An excellent disk utility by Bob Peil. Pack one side of a disk into a single file and vice versa. Very user-friendly and good for expanded harddisk.

RENE HANSEN - More NEW software! This time from long-term Futurians, Bryan Rowland. This great Turbo BASIC game is a clone of Monopoly.

NEW SECRETARY - This excellent Turbo BASIC utility by Ron Pappas of OHAIO is for use with The Turbo BASIC Plog releases. **A SCOOLE** - is a very addictive adventure game based on the classic mainframe adventure 'Tugan'.

FUTURA ELEVEN

On this disk you will find a huge text written covering many aspects of the Atari 8-bit. Futura Feedback returns with answers to your questions. The Atari 8-bit Developer's Group a comprehensive list of books, both spreadsheet and The Brains are tested to the full in Software News. Hardware News - Bruce investigates if it is worth buying an ST. Add to this 8-bit Trivia, Hans & Chris, 8-Bit News, stories, you will find over 700 sections of text.

DISK070L - This is a superb new program

by Futurist Lee Wagar from Canada. DiskMail is a disk editor and utility package with many powerful features. An excellent DiskMail Tutorial by Lee Wagar himself is included.

THE SUPERMAN SLIDESHOW - All fans of the popular cartoon series, or indeed anyone who likes computer art, will enjoy this slideshow containing picture files produced on Atari 400k and 800k. Artist by local ROMANCE retailer Ray Brown.

DISPATCH - This is a demonstration version of an excellent puzzle game. It features some very good graphics and sound! The object is to push all of the blockers into the holes. Be warned - it is not as easy as it sounds! Use a joystick to guide the little man around the maze. Hours of fun guaranteed!

FUTURA TWELVE

Text articles in this issue include: Software Pricing and Atari 8-Bit News. **SLAMMERS** - In the new column about SMP, adding a Mouse is another new column and part one starts with buying a mouse. Hardware Warehouse will make a wire-printer setup. Futura Feedback is an art program. The facts about 2.5" drives are discussed. Turbo BASIC Player extensions including the BASIC garbage quit's. **WORTON SANDLES** - This is a surprising little extension. Just sit back and enjoy an alternative political broadcast. **THE "GET OFF OF MY SHOW" DEMO** - This is a demo by Kevin Cooke. It was created by the new DGM program, Demo Maker. Don't forget to read Kevin's review of Demo Maker before copying his demo.

NOTE: INVALUABLE - A new and very original program by Kevin Cooke! Kevin has put a lot

of work into this endeavor and has produced an excellent educational game. Blast those notes!

TREASURER'S REPORT - New Entries of the OE Hackers A.U.O. in New York has come up with the goods against Treasurer's Report is a very useful finance program.

E.S.P. - Is it the power of the mind or the power of the microprocessor?

FUTURA THIRTEEN

Text articles include 8-Bit news about SMP, **RAFAEL AC**, Club Casuals, centers. **SLAMMERS**, part 2 of Bryan Dilwood's release on SMP, Spring 80 News Show 1984, Software Scene, SOS Satans and Fantasy are reviewed. Adding a Mouse, Kevin Cooke examines the SAM Desktop system. The Atari 8-Bit Bookshelf, the book list continues with R, E and F. Hardware Warehouse, looks at the world of "32" and your printer. **FUTURA Feedback**, your questions answered. 8-Bit Musicians, by Kevin Cooke. The latest news about the Jaguar.

COMMENTARY V1.09 - The new menu screen, which can also display the documentation as well as run the programs. **NEWSROOM** - An improved version of the first mailing program which has been made redundant by **COMMENTARY**.

For the first time the flip side is directed to a single program. After repairs for more advances / strategy software, Futura presents **THE SLAVE CELLARS OF COLCOLTUM** by Clayton Wabson. This is an excellent version featuring digitized graphics. This is not really my cup of tea, but it looks to be a good adventure.

FUTURA FOURTEEN

Text articles include 8-Bit news, Atari Corporation, Teatops 5.205, Adding a Mouse, part 3, Missile Command, by Kevin Cooke, Software Scene, Virky reviewed by Daniel Havestock, VCS FUTURA - A tribute to Jay Miner. The VCS Flag, Honor Cards, Inside the VCS, David Crane, centers, 8-Bit Musicians, with Colin and Heather Doyle. Hardware Warehouse, a cheap home-made printer interface. The 8-Bit Bookshelf, part 4, the latest C-L Software news. Daniel Havestock reviews SAM Designer. **ADREN** report, Kevin Cooke at All Mine Show 8. The Shark & Red, a new column for the Atari Jaguar, news from the UK and USA, Down. The Special Edition reviewed. **SLAMMERS**, part 3 of Bryan Dilwood's release on SMP. **COMMENTARY V1.09** - An improved version of this excellent menu program is now adopted as standard for FUTURA.

Once again the flip side is devoted to a single program. Play the disk, boot with BASIC and you can enjoy an amazing new hypertext system for the Atari 8-bit. **CARDINAL V.I.O.** Go beyond the boundaries of text with Cardinal, who need a PC anyway!

FUTURA FIFTEEN

Text articles include 8-Bit news, ACPC Hardware, The Return of Atari Classics, DTP **STARTS**, Eric Deveraux begins a new Futura column on Atari 8-bit desktop publishing. In this first installment, Eric asks "What is DTP?". In subsequent columns, he will continue some of the DTP titles available for the

Atari 8-bit. The 8-Bit Bookshelf, part 5, the interview M. H. Games for the future, Kevin Cooke states what he wants to see on his **SLIDE**. Atari 8-Bit Musicians. Adding a Mouse, part 4, Special Forces - Operation Blast II. VCS FUTURA - Cartridge Collecting by David Wye Davies. The Shark & Red, Jaguar Talk with Michael Claworthy, Serial-80 Series, Val Drivers, Jaguar Owners Club. Classics Flag reviewed. Jaguar Gaming with Daniel Havestock, a detailed insight into the current computer games market.

LOTTERY NUMBERS, **FACE UP FORTUNE** and **DOMINO AHEAD** - Are there new programs by Bryan Dilwood. **REACTION & CONCENTRATION TESTER** - Is another great new program by Kevin Cooke. Instructions are available within the program itself. **CASSETTE/VIDEO PLAYER** - Is the latest tape to disk menu system from a new English company called MADSOFT. The makers claim that it will transfer ANY cassette software to disk with the resulting file being compatible with most other software systems, including Hercules DOS and Translink. From my brief trials, their claims seem to be correct. There are no discs supplied but the program is very easy to use - have a play around with the menu options and you should be transferring cassettes to disk in no time.

CONCLUSION

It must aimed to fill each disk with the very best available articles and programs, and with the help of his fellow Futurists I think he succeeded, as each issue contains something for everyone. The remaining six hours will be devoted in my next column.

RECURSION

A generally agreed principle for writing a computer program is that it should be structured and therein lies with its procedures and its various kinds of loops allows you to write in this way. I have recently seen across another kind of program loop which you may find interesting. It is called 'Recursion' and allows a procedure to call

by David Sargeant

itself as often as it requires. As you can see from Listing #1 the Recursive procedure is executed 9 times. Firstly from the main program and subsequently from the Recursive procedure itself. Below is a list of the program flow, you can use TRACE to see this.

```

04 10 ROM *****
07 10 ROM 0 RECURSION - LISTING 1 0
08 12 ROM 0 BY DAVID SARGEANT 0
09 13 ROM 0 (TURBO BASIC) 0
10 14 ROM 0 ***** 0
11 15 ROM 0 NEW ATARI USER - SEP 95 0
12 16 ROM *****
13 00 GRAPHICS ON: ? RECURSION - PRG.F
14 0000 ?
15 100 INPUT "Enter 0 to exit ",NUMBER
16 100 --
17 100 WHILE NUMBER
18 100 GOTO 0000C
19 100 WHILE DIVISION=NUMBER
20 200 EXEC FACTOR
21 100 DIVISION=DIVISION-1
22 100 GOTO 0 ?
23 100 INPUT "Next number ",NUMBER
24 100 GOTO 100
25 200 --
26 210 --
27 220 PRG.FACTOR
28 230 IF NOT NUMBER MOD DIVISION
29 240 ? * * DIVISION
30 250 NUMBER=NUMBER DIV DIVISION
31 260 EXEC FACTOR
32 270 GOTO 0
33 280 INPUT
34 290 --

```

Main Recursion

Line# 100

```

110
120
130
140
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
310
320
330
340

```

```

04 10 ROM *****
07 10 ROM 0 RECURSION - LISTING 1 0
08 12 ROM 0 BY DAVID SARGEANT 0
09 13 ROM 0 (TURBO BASIC) 0
10 14 ROM 0 ***** 0
11 15 ROM 0 NEW ATARI USER - SEP 95 0
12 16 ROM *****
13 00 GRAPHICS ON: ? RECURSION - PRG.F
14 0000 ?
15 100 INPUT "Enter 0 to exit ",NUMBER
16 100 --
17 100 WHILE NUMBER
18 100 GOTO 0000C
19 100 WHILE DIVISION=NUMBER
20 200 EXEC FACTOR
21 100 DIVISION=DIVISION-1
22 100 GOTO 0 ?
23 100 INPUT "Next number ",NUMBER
24 100 GOTO 100
25 200 --
26 210 --
27 220 PRG.FACTOR
28 230 IF NOT NUMBER MOD DIVISION
29 240 ? * * DIVISION
30 250 NUMBER=NUMBER DIV DIVISION
31 260 EXEC FACTOR
32 270 GOTO 0
33 280 INPUT
34 290 --

```

The main program is executed down to line 100 where control is passed to the RECURSION procedure. This executes down to line 200 where the value of I is checked. If the condition is true, the RECURSION procedure is carried out again from the beginning, but if it is false, lines 210-230 are carried out. When the procedure exits program control passes back to the place where the procedure was called, which could be either the RECURSION procedure itself or the main program. Listing #2 to a small routine to show how a recursive procedure can be used for a practical purpose. It calculates the prime factors of any positive integer.

NEWS extra

AMS DATES

The All Atari Show as tracked is still going strong with this year's dates now available. The Spring show - AAMS '90 is on Saturday 18 April and the regular show - AMS '90 is on Saturday 14 November '90. Both shows are open from 10am to 5pm and admission is £3 for adults with children under 14 at only 50p. If you wish to save a few quid you may get advance tickets from the organisers for £2 plus a stamped addressed envelope. Head to Sharnford Productions, Kinghamsale Business Centre, 30, Kinghamsale Road, Ipswich, IP1 4LL.

We have no details of what Atari support will be at the shows this year but there is always some and a visit will be well worthwhile if you want to find some cheap software or pick up a disk drive (get there early). If you also have a PC then the show is a must as there are literally thousands of PC programs around at bargain basement prices.

CONTRIBUTIONS

We are desperately short of contributions for coming issues.

Please send what you can - articles, program reviews of software, in fact anything of interest to fellow Atari users. If you cannot write yourself perhaps you could find something in User Groups publications that we could republish?

Remember - without your contributions we have major problems. I cannot write it all myself!

Les Ellingham

Features and OPINIONS

PAST, PRESENT AND FUTURE - AN ATARI OWNERS TALE!!!

Since Atari no longer exists in the form that we have known since the late 1970s it is perhaps a good time to reflect on what could have been, what is and what the future might be.

There can be no doubt that the Atari 8-bit machines are one of, if not the best 8-bit range of computers ever to be made, their only problem is how badly they are under-rated by those that have had little or no contact with them. Sadly that is the vast majority of computer users. A friend of mine who is a Micro Technology Institute and has had vast experience in electronics for was one of the first people to get an Atari Falcon and development kit from Atari UK, to enhance mine and the presentation once told me he was amazed at just how advanced the 8-bit machines were when they were first released. What might have been?

February 1986 was when I acquired my first Atari computer, an 800XL with Floppydisk data recorder in similar design to the Atari 2020 but to be safe and with an external power cord - probably the forerunner to the 2020, a joystick and five games in the Discosaurus bundle for about £85. It had to be said that this was over ten years ago, and given what? The computer still works fine, even if the data recorder only lasted a few months!

After a visit to W. H. Smith I found the original Atari User magazine from Database Publications which as we all know no longer exists since it was bought out by Page 6 in October/November of 1988. This magazine provided my monthly fix of reviews, articles



by Richard Gore

and type too which never seemed to work first time and I was very sad to see it go, but then I discovered Page 6 and quickly discovered it was as good if not better than Atari User.

BOOM TIME

The month of February 1986 was the start of the boom in Atari 8-bit budget software. Upon my first visit to my local computer shop I was greeted by two or three shelves of software, all of it priced at £20 or more. Other machines such as Spectrums, Commodore and even Amstrad had more software and it was priced lower but as we all know they didn't have quite the same quality. My first purchase was Spy Hunter on tape for £2.95, a vertically scrolling run game that has you shooting other cars, dropping oil blocks, and firing missiles at helicopters, all controlled from two joysticks or the keyboard, a great game and at the time it was worth the low price. My next visit to the shop a couple of weeks later was greeted with a tremendous surprise, there amongst all the heavily packed £19.95 plus games were two cassette tapes in those single sized cases priced at just £1.95 each. The titles were Chainy Chain Action Disk and One Man and His Dog, both from a com-

NEW PD LIBRARY ADDITIONS

pany called Microtronic. I immediately bought both titles. Unfortunately Action Disk would not load and when I returned it to the shop the assistant asked me if I was running it on an 800XL, which I was, and he said that you were my problem was as it wouldn't work. Microtronic must have fixed this problem because a couple of years later I tried another copy from another shop and that did work! Anyway over the next few years more and more budget titles became available, replacing the full priced titles and eventually having most full priced games out of the market. During these couple of years companies like US Gold, MicroPhone, Tyrensoft and others were releasing full price quality games, Microtronic and Phoenix in Britain of British Telecom were releasing budget games, and smaller firms were releasing new hardware (for example, 8-bit Systems floppy based digitising cartridge). If there were more any time, years for the Atari 8-bit than the period of 1986 to mid 1989 were there!

DUMP TIME

The world of consumer electronics is fast paced and machines such as the Commodore Amiga, and the emerging IBM PC clones were now being sold in vast numbers. Many Atari users dumped their machines and moved on. As a result software sales dropped and only a few committed companies like Page 6, Supplefin games and in a lesser extent Hi-Tech and Slye Tech software were releasing new software and/or re-releasing older software at budget prices. The boom was well and truly over and only the dedicated Atari lovers were left, but they would fight on. During this time there were rumours of many games being written for the Atari, like Elite, Paper Boy, Ninjas of the Desert and many, many more.

All sorts of stories were spreading about them and most Atari users would have given almost anything to get copies. Some people even claimed to have versions of some titles, I have seen a demo version of Shadow of the Beast but it was nowhere near complete. Piracy, a dodgy subject matter at the best of times, was one reason for the death of the 8-bit, but others have argued piracy is why the Atari has survived so long. One thing that is for certain is that piracy has not gone away on any format.

COMMITTED SUPPORTERS

Now, all that is left are a dedicated few, several hundred, possibly a couple of thousand users, a handful of commercial outlets, eg Page 6, Micro Demoset (aka Derek Perry), DCS and one or two individuals like myself. Several commercial outlets and Atari Classics magazine still exist in the USA and there is a small but flourishing community on the Internet (internet group comp.sys.atari.8bit for those with access).

POPULAR PCs?

PCs are now very popular, many people use them at work, at school, at college or even in the home. It's hard of course, IBM's competitors, 1.5gb hard drives, CD-ROMs and Intel Pentium processors are all common computing terms now in this Multimedia explosion we are experiencing. The drawbacks? Well the price, for one thing, a mid-range reasonably well equipped PC can easily cost £1500 to £1200. For an extra couple of hundred

person you can turn your PC into a combined telephone, fax and answering machine! Add a printer, about \$200 for a colour bubblejet, and your free copy of Windows 95 and Microsoft Works and you have a complete Multimedia family entertainment console. Total cost: about \$1500. Now I have spent in excess of that amount on my Atari 8-bit equipment and software but over a period of ten years. I work a full time job that pays reasonably well, but I really can't justify spending \$1500 on a PC when my existing 8-bit machine can do most of the simple things a PC can do. Sure I can't do complex work, I can't play CD-ROMS (well not yet, there are rumours some people in Germany are working on that) but I can write letters, I can write articles (this is one of them) I can keep track of my finances, I can play many wonderful games, and all from a machine that originally cost less than \$50. Cheap, plus a disk drive that cost \$150!

FULL CIRCLE?

Games consoles are now also very common. SNES and Megadrive were very popular a year or two ago but now the Sony Play station and Sega Saturn are all the rage. Most games are now supplied on a CD (very cheap to duplicate, most feature great graphics, stereo sound and even full motion video, but just look at the price, \$40 to \$50 each to show the norm). Have we come full circle? Some of the best early Atari games were that sort of price. I must admit I have partially succeeded as a couple of months ago I bought a Philips CD-i machine at a discounted price. This machine can play video CD-tapes, karaoke discs and CD-i games. Some of the games are absolutely mind-blowing with full motion video, stereo sound. Some even have good game play

There is a limited range of Video CD films available, which is a shame because the quality can be better than a VCR for about the same price as VHS films. If only more video-screen titles were available. This system is connected to my main TV along with my VCR and satellite receiver and gets used about half an hour a week. I still use my 8-bit Atari much more and quite often I'll spend an hour playing Mr DO, one of my all time favourite games. I am even still working on writing new software, some of which you should see very soon.

What does the future hold? Well so long as people are still using their 8-bit machines there is a future for them. If we keep subscribing to Page 8 and supporting the commercial outlets there is no reason why we shouldn't enjoy years more with our 8-bits. Sure there is room for new technology, PC and Game consoles. If you PCs are work to control (like model airplanes, and HPLC machines - something the old 8-bit machines would struggle to do, although I'm sure some limited control would be possible) but I'll bet you will still want to run your 8-bit Atari. Indeed software now exists that will emulate an Atari 8-bit machine on a PC, and this has resulted in many ex-users becoming overnight, without even owning an 8-bit machine!!! How's that for progress? Development is underway to allow CD-ROM and IDE hard drives to be connected to your 8-bit, and some cables and software to allow your 1050 drive to be connected to your PC. Imagine the look on your boss's face as he walks in and sees your 1050 drive connected to his PC and you sat there playing Pac-Man or Star Raiders!

To finish off I want to quote somebody, I'm sorry but I've forgotten who said it but here goes:

"Old computers never die, they just acquire dedicated users."

THE ACCESSORY SHOP

NEW PD LIBRARY ADDITIONS

DISK #289 - COHMAN

A couple of excellent arcade style games here which have been seen before but which neither Robert de Lathau has ever handled together with a start-up menu. The first game is The Circus of Coolit in which our hero - Cohman - has to battle his way along many platforms collecting the gems but avoiding the fire, spikes and other nasty things that will end his life. This originally appeared in First Atari User Issue #7 as a type-in and, of course as that disk. The second game is much more of a strategy game combining several elements of collecting gems in a given order and pushing them into a chamber. This was originally on a Futura disk in 1996. Graphics and gameplay on both are excellent and together they represent a challenging yet both for steady handed games players and those who like to think. If you haven't got the originals this is the best way to have them.

DS #152 - HAVE A LAUGH

Here we have a disk of jokes, stories and anecdotes similar to the Fibersoft disk that was first found on the BT and PCs. All of this is intended to be fun but THE BOMB! Most of the jokes are of the "BOMB" variety and may well offend some people. This is made very clear in the introduction screen where you are advised to format the disk if you are likely to be offended. If you like snappy jokes and the odd clean one then you may well enjoy this. Some of the jokes are of the heartiest laughing variety whereas others are just plain funny and there are plenty of 'n' jokes for computer users and several 'Taco' stories. All of the text can be accessed from a selection screen and read like a disk reader. Please don't buy this if you are not broad minded but, if you are you can certainly Have A Laugh as the title suggests.

DON'T FORGET FUTURA

DS#72 - FUTURA 1

DS#73 - FUTURA 2

DS#76 - FUTURA 3

DS#79 - FUTURA 4

DS#87 - FUTURA 5

DS#88 - FUTURA 6

DS#137 - FUTURA 7

DS#138 - FUTURA 8

DS#139 - FUTURA 9

DS#140 - FUTURA 10

DS#141 - FUTURA 11

DS#142 - FUTURA 12

DS#143 - FUTURA 13

DS#144 - FUTURA 14

DS#145 - FUTURA 15

DS#146 - FUTURA 16

DS#147 - FUTURA 17*

* double disk issue of \$2.80

DS#148 - FUTURA 18

DS#149 - FUTURA 19*

* double disk issue of \$2.80

DS#150 - FUTURA 20

DS#151 - FUTURA 21

RECENT ADDITIONS

DS#135 - JOYRIDE

A great computer drive

DS#134 - BOSTERM

The top version program

DS#136 - ATARI CAD

A superb design program, especially for those who use circuit diagrams - our best seller last issue

BARGAIN CASSETTES

Your choice of
any 5 cassettes for £1.50 plus 80p p&p
any 10 cassettes for £2.00 plus £1.20 p&p

180	✓ LOS ANGELES SWAT	✓ REVENGE II	✓
BOMB FUSION	✓ MASTER CHESS	✓ ROCKFORD	✓
DESPATCH RIDER	✓ MILK RACE	✓ SIDEWINDER II	
FEUD	✓ MR DIG	✓ SPEED HAWK	
FOOTBALL MANAGER	NINJA	✓ SPEED ZONE	✓
GHOSTBUSTERS	✓ ON CUE	✓ STAR RAIDERS	✓
GUN LAW	PANTHER	✓ TAIL OF BETA LYRAE	✓
HENRY'S HOUSE	✓ PENGON	✓ TWILIGHT WORLD	✓
INVASION	✓ PLASTRON	✓ UNIVERSAL HERO	✓
KIKSTART	✓ ✓	TRANSDISK IV shows you how to transfer these to disk!	

COMMERCIAL SOFTWARE STILL AVAILABLE VERY LIMITED NUMBERS

(Prices inc. p&p)

NIBBLER

Disk £1.95
MAXWELL'S DEMON
Disk £1.95

DRUD

Disk £1.75
LANCELOT
Cassette £1.95

JUGGLE'S HOUSE

Cassette £1.75
SATAJON COMMANDER
Cassette £1.75

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PAGE 8, P.O. BOX 54, STAFFORD, ST16 1DR
TELEPHONE ORDERS ACCEPTED ON 0182 211131 USING ACCESS OR VISA

XL/XE PROGRAMMING

MAGIC SQUARES

David Sargeant has been fascinated by numbers for years and has worked out some rules that may allow you to create Magic Squares on your Atari

It's not just numbers that David is fond of. He also likes to play with qualities of numbers, and he's managed to figure out a method to help you to create Magic Squares on your Atari.

Put the smallest number in one of the four corners. For an odd numbered square (3 x 3 for example) the smallest number must go in the middle of the top or bottom row or the middle of the leftmost or rightmost column.

4 x 3 Magic Square

8	1	6
3	5	7
4	9	2

Rows, columns and the two longest diagonals add up to 15

4 x 4 Magic Square

13	2	3	16
5	11	10	5
12	7	6	9
1	14	15	4

Rows, columns and the two longest diagonals add up to 34

Magic squares have been keeping people busy for at least 3,000 years.

They are 'magic' because whether you add up the numbers in each row, each column or both of the longest diagonals, you always get the same answer. The smallest Magic Square is 3 rows by 3 columns and in theory there is no limit to the size of the largest one.

Whatever size you choose, you have to follow two simple rules to construct your own. Firstly, all the numbers must follow each other in sequence, for example a 3 x 3 square would have to consist of the numbers 1 - 9 or 7 - 15. Secondly, if you are making an even numbered square (4 x 4 for example), you must

CATEGORIES

It is possible to work out algorithms for calculating most Magic Squares and these fall into three categories. To find out which method to use, divide the Square number by

4 and then proceed as follows:

- Use method 1 if the remainder is an odd number, e.g. 3, 5, 7, 9.
- Use method 2 if the remainder is 0, e.g. 4, 8, 12.
- Use method 3 if the remainder is 2, 4, 6, 10, 14.

The total of each row, column and diagonal is calculated by adding the smallest and largest numbers in the Magic Square and multiplying the answer by half the size of the square, e.g. a 5 x 5 square is $(1+25) \times 5/2=65$.

METHOD 1

This method is a 5 stage process which involves shifting numbers in each row and then to each column.

Stage 1

Step 1 - Calculate n to be the number of shifts for each row and column by dividing the size of the Magic Square by 5 and ignoring the remainder.

Step 2 - Starting with the top row shift each number n places to the right. Numbers which are shifted beyond the end of the row are wrapped around to the beginning of the same row.

Step 3 - Repeat Step 1 from n and repeat Step 2 on the row below the previous row and continue this until $n=4$.

Step 4 - Wherever you will be on the middle row, numbers on this row need not be changed.

Step 5 - Repeat n as Step 1 and starting with the bottom row this time shift each number n places to the left. Numbers which are shifted beyond the beginning of the row are wrapped around to the end of the same row.

Step 6 - Repeat Step 1 from n and repeat Step 5 on the row above the previous row and continue this until $n=1$. You will have reached

the middle row again and this stage is now complete.

Stage 2

This is a similar process to Stage 1, but whereas in Stage 1 rows of numbers are shifted right and left, this time numbers in each column are shifted downwards and upwards.

A 5 x 5 Magic Square

Start with the numbers in sequence

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25

Stage 1 complete, $n=1$

4	5	1	2	3
10	6	7	8	9
11	12	13	14	15
17	18	19	20	16
23	24	25	21	22

Stage 2 complete, $n=0$

17	24	1	8	15
23	5	7	14	11
4	6	13	20	22
10	12	19	21	3
11	18	25	2	9

METHOD 2

This is a two stage process which involves covering certain rows of numbers and wrapping blocks of numbers.

Stage 1

Calculate n to be the number of rows which have to be reversed by dividing the size of the Magic Square by 2 and m to be the number

of rows to leave unchanged before beginning the reversing procedure by dividing n by 2. So after leaving all rows as they are, reverse the numbers in the rest of all rows.

Stage 2

Calculate block to be the row and column size of each block of numbers to wrap by dividing the Magic Square number by 4. Then square the Magic Square into 16 smaller squares of numbers and wrap them as follows:

Smaller squares			
1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

Wrap the numbers in squares

1 and 13
4 and 16
6 and 19
7 and 11

An $N \times N$ Magic Square

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64

Stage 1 complete, $n=4$, $m=0$

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
24	23	22	21	20	19	18	17
32	31	30	29	28	27	26	25
40	39	38	37	36	35	34	33
48	47	46	45	44	43	42	41
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64

Stage 2 complete, block = 2

57	58	3	4	5	6	63	64
49	50	11	12	13	14	55	56
34	33	46	45	44	43	18	17
32	31	38	37	36	35	26	25
40	39	30	29	28	27	34	33
48	47	22	21	20	19	42	41
9	10	51	52	53	54	15	16
1	2	59	60	61	62	7	8

METHOD 3

Try as I might I have not been able to work out an algorithm for this type of Magic Square. Rules I have worked out for a 5 x 5 Square do not create the same for a 10 x 10 square, so you will have to resort to trial and error.

A 6 x 6 Magic Square

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30
31	32	33	34	35	36

Try and error came up with this answer: 3 numbers on the top row are swapped with 3 numbers on the bottom row.

3 numbers on the second row are swapped

with 3 numbers on the fifth row.

3 numbers on the third row are swapped with

3 numbers on the fourth row.

1	35	34	3	32	6
30	8	27	28	11	7
23	23	15	16	14	19
13	17	21	22	20	18
12	26	10	9	29	25
31	2	4	33	5	36

So there you have some basic rules for creating Magic Squares. Let's see if you can translate these into a program for creating Magic Squares on your Atari and perhaps we can publish the results in a future issue.



JOURNEY INTO CYBERSPACE

John S Davison
explores the
Internet and
discovers all
the wonders
of a brave new
electronic
world



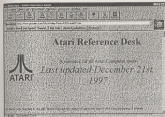
...the... ..

I recently came across a reference to an Atari resource on the Internet I'd not heard of before. It's a World Wide Web site called the Atari Reference Desk (ARD), which can be found at <http://www.guestnet.com/Wildwest/valley/frank/0220/atari001.htm>. It sounded just the sort of thing Atari fans needed - a central reference point for all things Atari. So, I decided to check it out and report my findings here. It's aimed at users of the Atari 68000 based systems (AT's assumed), although future coverage is promised (and is starting to appear) for 8-bit and Pentio-6 users.

As a general observation, Web sites sometimes tend to be disappointing, as the material they contain can be either out of date or turns out to be just a list of references to other sites. It's possible to make a list of these just hopping across links from site to site and never actually getting anywhere in terms of finding useful information. Occasionally a site's prime reason for existence seems to be as a vehicle for the owner to show off his technical skills as a web page builder, containing screens full of fancy presentation games that take forever to load, but offer very little in the way of real, useful content. ARD was said to be different, so I was keen to try it out. Here's what I found.

ST-FRIENDLY SITE

ARD's designer, Terry Ross, has taken the view that his site should be accessible by Atari users with relatively modest system resources rather than PC systems with incredibly powerful Pentium II systems. This means that the coding behind the site's pages has



Welcome
screen of
the Atari
Reference
Desk.

been kept fairly sparse so an ST's fairly processor can happily handle it. Graphics usage has been restrained, so memory usage, disk usage, and download times are kept low too. Terry uses an ST's (obviously with 4MB RAM), 1 x ZIPDRIVE floppy drive (not so hard drive), and a 14.4Kbps modem - a modest setup indeed when compared with today's typical PC configuration.

ARD is divided into four main sections: cost-free Links (what a surprise!), Program Reference Library, Miscellaneous Info Dept., and Atari Community Bulletin Board. The Links section is subdivided into five further topics called Quick Links: General Links, Name Links, Help, and Others (the last of which doesn't seem to be working at present). Clicking on Quick Links pulls up an alphabetic list of 95 other WWW sites of interest to Atari users. It's intended for use when you already know about a particular site, but have forgotten its URL.

Clicking on "General Links" produces what

appears to be a list of Terry's favourite sites, and is roughly divided into subsections which include "ST Magazines" (a few ones, that is), "Atari Hardware Information", "Useful Links", and "Computer Related Pages". However, could do with better classification here, but Terry admits that there's still work to-do in this area. I noted some well known names amongst the sites listed, such as Caliente Desktop Publishing, ICD Atari Products, and Critical Software, to name but three. This section also attempts to track and highlight changes of site addresses, a frequent "feature" of WWW sites. You can access a site through a given address for months, then suddenly you get an error message saying it's no longer there. What's often happened is that the site's owner has heard a better deal with a different Internet Service Provider so has moved his site there (sometimes with no warning to users). ARD mentions these changes and helpfully provides the new URL address. "Name Links" is something I haven't come

... ..



access before. If you've been involved in the Atari scene on the Internet and remember a participant's name but can't remember their site name or address, then this is an invaluable tool. You just look up the person's name and click on it to link directly to their Web site. Now that's pretty neat. There were 50 people named in the list, some of whom I recognized from previous Web mailing sessions.

8-BIT LINKS

Help Links provides links to sites providing help in various categories. For instance, there are links here for the 8-bit systems, e.g., to Michael Curran's superb Atari 8-bit FAQ [Previously Added! Questioned document, which I've mentioned in previous articles. It also covers 8-bit upgrade, modification and add-on topics: consoles and lots of Atari owners and developers. Oh, and there's even help for new users - although I wouldn't think there are many of those around these days.] In the Communications Help section there's a link to an FAQ on the Degross's Guide to Communications using your ST, and another covering Atari connectivity to the Internet. I downloaded both of these and discovered they were dated 1989 and 1994 respectively. Not so good. New communications software has been released since then (e.g. GAB for WWF access via the ST), but why do you rarely see anything about it on these WWF sites?

The main section on ANSI is the "Program Reference Library". The "Index" of this sub-section claimed to provide information on Atari programs, such as where to get them, where to register copies, etc. I was expecting it to contain hundreds of entries, but it held

only - wait for it - 500! This was a major disappointment - it's hardly worth bothering by such a sparse list. The next subsection provides a facility for current or past Atari programmers to enter details of their programs. Hopefully all become clear. You only see an entry if the programmer has listed the site and taken the trouble to enter the details. Looks like only a handful have done this so far. Hopefully this will improve over time.

WHATEVER HAPPENED TO...?

Then we have the "Miscellaneous Info Dept" and this contains two subsections. The first, "Whatever Happened To...", is an attempt to shed some light on what happened to the personalities of the Atari scene of years gone by. You can post a request for a particular person and users of ARD can then enter any information they know about that person's whereabouts and what they are doing now. For instance, remember Clayton Walker? He used to write for *ANSWER* magazine years ago. Well, he's apparently alive and kicking and now spends his time writing programs using macros. His e-mail and Web site addresses are provided so you can contact him if you wish. This is a great idea, but again there are only half a dozen or so entries with follow-up details, plus another two or three requests for information. (Think - I might submit Lee's name for this, together with details of NAME).

The second subsection is called "Random Facts", and is supposed to contain Atari related rumors, clarifications, and trivia, but



Entry to the Monitor/
Creator SE Users site

like a worldwide bulletin board for Netatari which automatically e-mails any new entries posted there directly to subscribers - you don't have to go and check them yourself. It only came into use on 7 February 98, so this news was being up to date. I signed up for this immediately, and the next time I logged on there were e-mail messages confirming my participation and instructions on how to use the service. From that point on I started monitoring messages from Netatari users. Great - it worked!

The next link I tried was to the World Wide Logic Users Web site. This, in fact, seemed to cover all Engage's products so was a real find. It's not run by Engage, but by users for users. There's a whole stack of useful online tutorials for various Engage products. Engage's main programs are VISHI complex and the user manuals provided are, shall we say, somewhat sparse, so a site like this is the answer to a prayer. Although the materials use the Apple Mac versions of the software, the PC and Atari versions are similar. There was only time for a quick link while preparing this article, but I was very impressed and shall certainly come back here for a course through period.

maintained no information and didn't appear to link to anything, thereby the final major section, "Atari Connected Bulletin Board", had a note attached saying plans for this have been put on hold, so has no content either.

NOW FOLLOW THE LINKS

If ARD's content is on the light side, what about the quality of the links? One link that caught my eye was "Halfworlds Atari ST Global Access Page" run by Halfworld Tangeman. When accessed, this site actually announced itself as "The Atari Hyperlink Launchpad". Oh no, not ANOTHER lot of links! This one has 15 sections, and I was immediately attracted to the "MEDIA/News" section, because being one of my major interests. This in turn led to a list of 18 further links, one of which was "Notepad/Creator SE Users Page". Eh? Engage's Notepad is the software I use for MIDI composing and music score production on my 50 hard disk use to musician. Engage's Logic, on my PC - also available on the ST). Following this link produced a page telling me I could now subscribe for free to a Notepad newsletter located in Austria. This is

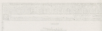
FREE SOFTWARE

There are another 18 links from the Hyperlink Launchpad, including to Freely Music software which provides the freely downloadable "Sweet Notepad" MIDI sequencer, and Hollis Research's free where you can obtain the famous "Trackman" sequencer and "MIDI-





RECOVERING A LOST WORD



rial in its own right, which is what I was (perhaps mistakenly) expecting. It is an excellent starting point if you're searching the Internet for Atari material. After all, if I hadn't gone there I probably wouldn't have found my way to the Atari newsletter or the Logic Users site, and both of those are very useful resources, in no way less. It just goes to show that you shouldn't decide sites that provide only links. They could be just the links you need.

near" universal editor controller, also for free. The last two were full commercial SF products in their day, and John Hollos, their author, has removed the copy protection and made them freely available on the Internet now they have little commercial value. What a great gesture - it's a gift from authors who have John's enlightened attitude to old software products.

As what of ADD, which was after all our original topic? Well, it's NOT a source of materi-

NAU Internet Contact List

The following full readers would welcome e-mail contact from other Atari users. If you'd like to be added to this list please drop an e-mail note to John B. Davison at the address below.

Daniel Bavenstock

Paul Bramley

Paul Carlton

Johnny Chan

Michael Conant

John B. Davison

Carsten Dean

Gary Dundas

Derek Fern

Dawn Gairaghty

Joel Gendheim

Paul Harbert

Gordon Hooper

Fred Hojler

Ann O'Donnell

Alan Palmer

Paul Rixon

Paulo A. Rodrigues

Brian Rogers

Nigel Turton

Hemming Wright

Daniel Yaffard

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contact ... contact ... contact ...

FOR SALE

SPACE NEEDED. Due to lack of space, our Atari software section has a very full range of sites for sale. Anyone in business can ask for lists. All sites are original with both copywriting and full info. Also many books, STOS and manuals, etc. **Magazines** - **ST User** and **Atari User**. Also available **ST** software, all original, magazines - **ST User**, **ST Forum**, **ST Action** up to final issue. Cover disks also available. **HARDWARE** - Atari 800 with translator, 1000X, two 5.25, 3.5, 800, 810 drives, two 1000 drives (1 with US Serial), 1 with Happy ship), 1000 printer with spare ribbons. All with power supplies and leads. Phone any time - S. Kayworth 01238 831399. Can deliver or order large enough. I am open to offers.

CHROMA CAD. Chroma Cad package wanted or any good design package to run on expanded XL. Also Epton Programmer or details about. Please phone Neil on 01228 270642.

WANTED

MAGAZINES: I am looking for PAGE 6 issues 1 to 30, 32 and 35. Anyone got any leads? Joe Baggart, 1014 Venable Drive, Schenectady, N.Y. 12309, USA.

DISK DRIVE: 1000 disk drive wanted for Atari 800XL. Must have all connection leads. Must be in good working order and reasonably priced. Must be in London/SE area for pick-up. Contact Steve on 0181 501 4739.

FOR SALE: Atari 8 bit hardware and software. For bid please contact Mike on 01302 83410 or e-mail hamlin@super.net.uk



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The CONTACT column is free of charge to subscribers who wish to sell their equipment or contact other readers. Space is limited so we request that entries be kept as short as possible. Excessively long entries may be heavily edited or ignored. Send your CONTACT notice on a separate sheet of paper pasted as part of a letter to: **CONTACT, PAGE 6 PUBLISHING, STAFFORD, ST16 1DR**

FOR SALE ... WANTED ... PEN PALS ... ADVICE ... HELP

PROGRAM LISTINGS

Official program listings which are free being included in the magazine can be obtained free of charge via postcard through our full program list. However, included are the latest lists which is available only via our newsletter. We also offer our own software listings. If you would like to see more of our listings, it may be worth the effort to contact them via our website which is available via our website. Please note that there are not necessarily more listings in every magazine.

Write to: **LISTSERVING, NEW ATARI USER, P.O. BOX 2006, STAFFORD, ST16 1DR or telephonically 01276 542 236**