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NEW

ATARI USER

The Resource for the ATARI CLASSIC and the ATARI ST

Issue 78 - September/October 1996

\$2.50

FOR THE ATARI CLASSIC



⊙ **THROWING A WOBBLER**
Some new graphics effects

⊙ **MOTIVATION**
A routine to really motivate you
with Player-Missile Graphics

⊙ **XL v ST**
An 8-bit user buys an ST!

THE WIDER SCENE

REAL TIME
CHAT ON THE
INTERNET



PLUS... THE INSIDER... TEXTPOB BACKLOG... TURBO TIPS... ATARI'S FUTURE... ST PUBLIC DOMAIN

This issue's

Thanks

Lee Ellingham puts it all together and lets you see the joys but the real thanks goes to the following who made this issue possible

Sandy Ellingham who takes care of all the office work, advertising and mail order

For their regular contributions

John S Denton **Allen J. Palmer**
Paul Nixon **David Murray**
Ann O'Driscoll

For their contributions this issue

Andy Oullinnes **Robert de Letter**
Wayne Lintomper **Daniel Follard**
C. Agnes **Doreen Fyfe-Rick**
Frank Walters **Kevin Cooke**
James Weatherick **Joel Donohue**
John Fadden

APOLOGIES

I am still extremely poor at acknowledging contributions so I apologise to everyone who has sent by mail stuff through it has gone through the post-slots. It is a pleasure to reply to everyone in letters but I'm always sorry to reply by e-mail. If you have not heard, thank you and keep watching the mag, you might be surprised.

HOW IT'S DONE

WHAT'S shown just what you can do with your disk. NEW ATARI USER has always been created entirely with disk equipment, initially on the XL but more lately with a Mega II and various other disks. My first Mega II machine includes a Mega II's upgraded to 10MB. I'm now using Super Mega II's, but I use a 1000 Computer II (10MB) system. Various software companies have programs on the 5.25MB. Areas highlighted on the disk are mentioned across to the ST via TURBOFILE. Programs are edited on-line. All and printed out directly by sending to other the computer completely. All programming is done on the Mega II and pages are read-out from the Super Mega II. Each page is output directly from the Super Mega II to 1000 Computer II which produces hard copy pages ready to use as you wish. All that is left to do is drive in the magazine and photos.

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

Inspiration

After a long think period, some nice music of had but we what you might expect. In Ability to travel has meant we discovered why that old western and musical and Motor America journey. They also had several quite strange CD's of music that contained the Motor America culture in a similar way to the new CD and a film in a single record that the holiday spending money had to be accepted. The first is called the 'Music of the Grand Canyon by Melissa Burnard' and is inspired by a legend in the Grand Canyon. They people would say it 'New Age' but it is much more than just 'Inspirational music'. It is, in fact, totally excellent. The other is 'Crossing by the Lake' by David, found much more an spiritual thing but quite modern. One of the songs appears to be the founder's daughter for 'Lovers' and 'Shades' themselves is excellent. Another excellent one with a track that you straight into my all time favourite list too. What a joy to discover some nice music and actually be able to buy it!

CONTRIBUTIONS

Without contributions from the readers, NEW ATARI USER would not be possible. Please if you can contribute and encourage the readers to do so, such as articles, programs and reviews for publication. Programs must be submitted on disk or cassette, articles should wherever possible be submitted as text files on disk. We seek to encourage your participation and do not have strict rules for submissions. If you're doing interesting stuff, write a program or article and submit it!

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CONTENTS

Issue 78 - September/October 1990

REGULARS

EDITORIAL	4
MALBAZ	6
THE TIPSTER	20
DISK BONUS	31
DRAGONLORD	
THE CLASSIC PD ZONE	32
THE ACCESSORY SHOP	54
ST PD ROUNDUP	58
CONTACT	89C

ADVERTISERS

MICRO DISCOUNT	17
----------------	----

PROGRAMMING

THROWING A WOBBLER	12
Some strange but excellent efforts	
PICTURE COMPRESSION	18
How to save in compressed format	
TURBO TIPS	19
HOW DO THEY DO THAT?	38
Programming questions answered	
MOTIVATION	40
A ready to use Player-Mouse routine	
BOLD SCREEN	50
Simple machine code for exciting types	

FEATURES

TEXTPRO MACROS Part 3	24
XL v ST - A SCORE DRAW?	35
Would you trade in for an ST?	
A GLORIOUS FUTURE?	44
Could it be that Atari has a future?	
JOURNEY INTO CYBERSPACE	58
Chatting on the Internet in real time	

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Sometimes when I sit down to write the editorial - usually the last thing to do - there are burning issues to raise or obvious matters to talk about. Other times I have to think hard about what to say. This is one of those times.

Over the past couple of months things have ticked over quite satisfactorily. However, there have been a few contributions and the regular correspondence but no really surprising one thing that could be better in the online we have had for the PD Library, but then we have had very little new stuff and it is all becoming extremely hard to find. If anyone has any public-domain material we haven't used before, please send it in as the PD Library continues to be a major support for the magazine.

Contributions come in from regular supporters like John Peckell, James Mitchell, Andy Gallimore and others to whom I apologise for omitting (haven't heard from you for some time) but, of course, we still need more. If you have any interesting programs or ideas for articles, please have a go at writing them up. We can't guarantee that it will be used but there is a pretty good chance that anything sent in will find its way into the magazine. What we could really do with is more software reviews since with so little new software being released it is becoming very difficult to find anything to review. If you have some software that is still available (for example from Share Discard) and we haven't reviewed it, please write a review so that other users can find some new software. If you have bought something recently from an obscure source, you could review that and let us know where you got it from.

Let's get right up to date and talk about the Internet. As you will know the Internet and the World Wide Web is something that I have mixed feelings about but I keep finding out about specialist pages (like Arthur C. Clarke and The Incredible String Band) that I would just love to access and, for a while, I get a strong desire to join in. The trouble is, the Internet is a bit like a credit card - loads of goodies that don't cost anything, until you get the bill at the end of the month! Over the years I have become extremely wary of anything that doesn't have the price up front. I have had some nasty shocks from time to time! In truth, I would love to dabble with the Internet but then again I would love to go to Disneyland but I can't afford either. For the time being the Internet is like the Holiday program - loads of wonderful locations that only other people can afford. If you are able to join in, I wish you luck and lots of enjoyment with your surfing time.

Lee Ellingham

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Mailbag



THE SAGA CONTINUES

Allen was on holiday in August and so was I so the necessary transfer of paper from here to there didn't happen again. So if it's me once again putting it together but it's you who supply all the interesting letters so skip this bit and read the column, ready to be spammed into putting your own pen to paper or fingers to keyboard for next time.

Les Ellingham

DISAPPOINTMENT AT AMS

Our first letter comes from Deborah Clarke who lives in Bicester in Oxfordshire and she opens with a realiser closer to home: "This is the first time of writing to you for me although I have been a reader of your magazine for the last five years. There are two subjects that I want to write about.

Firstly disappointed at the lack of support for the Lincolnshire AMS. After several years of driving over to Stafford for the show, some distance for us, we were rather pleased at the chance of a more local show, however we were extremely disappointed to find only two Alan 8-bit stands. It didn't take us long to look at everything on display so it was quite a short visit. Why did others think it not worth the effort of attending? Surely the publicity from any show is helpful?

On a more positive note I have recently started to use the internet and have managed to find some really useful stuff out there. We have been trying to beat Ultima III for about the last two years but had come to a stop due to lack of ideas. I was very

surprised to find loads of information on all the Ultimas on the internet, primarily from the USA. I printed off quite a few articles including a "Walkway through Ultima II" and several news pages. We've tried these out and made huge progress - not checking too much though I intend to keep looking for more good old 8-bit stuff and was pleased to find that there is still support out there!

If it's a shame that you were disappointed with the Spring AMS, Debcock, but at least you get to see a couple of Alan supporters. I don't think that there could be any more. The problem is that Lincolnshire is perceived by many to be a bit 'out in the sticks' and many of us were dazed about some of attendees there would be at the event. With some petrol costs and added journey time and no indication of the likely attend-ance even many of us thought it not worthwhile. Whilst the Dingley Hall is hardly the main place to get to, especially if you don't have a car, Dingley Hall is quite central and really accessible from all parts of the country and so the attendance seems to be quite high from both the public and exhibitors.

As regards the internet, this really seems to be taking off with 8-bit folk, so I hope that

argore who finds interesting material regarding the Alan will report it in so that we can share the information with other readers.

A MIXED BAG

Just Donohoe is a regular contributor and correspondent and here comments on several things from recent issues: "In response to James Martin's question about Sega yepcode (Shilling, issue 75) I can confirm the yepcode are fully compatible with the Alan 8-bit computers. The button 11 acts as the trigger. I have not been able to read the 'A' or 'B' buttons but the 'O' button has a particular effect on the paddle release it do not recall what it is precisely.

I would like to point out that my program Marble3 (Mish issue, issue 78) was originally intended to be played to Basic. The format used of the same disk automatically loads Turbo Basic so the gameplay and sound effects are the best. This may seem like a minor point but the game was intended to have a 'redes' feel and the faster speed works against it.

In John Fickett's article Character Set Copier and Redefiner (issue 75), a list

method for redefining the character set is presented. The method is limited to a maximum of 28 characters. If anyone is interested in redefining more than 28 characters at a time then I would recommend they load the character set from cassette or disk. This is more efficient in the sense that the character set is not in memory (like at any one time for eg. such as in strings or DATA statements) and the character set memory and is quicker than reading from DATA statements. The drawback is that you will need slightly different versions for cassette and disk.

Lastly, just to clear up any misinterpretation: I may have stated, contrary to Brian Donohoe's article (Issue Release No Issue 75), Adam Dillyard did not inform me that he has games which are as yet unreviewed.

If I apologise for presenting Marble3 as a item that was not originally intended but I really did not notice any difference in play and so the other programs on the disk loaded Turbo. It seemed sensible to load up the same using Turbo. I have just looked at the program again using both Turbo and normal Basic and think that you might be overreacting unnecessarily, as the present job

have put in make the program perfectly playable. In fact, I prefer the slightly 'upper' feel of the Turbo version. I think that anyone else would have noticed that, nevertheless, the program should have been presented as intended. If any one wants to run Marble3 from Basic, just use the menu on side 1 of the disk to 'Go To Basic', flip the disk and type in RUN "MARBLE3.BAS".

TECHNICAL STUFF

Our plea last issue for readers to write in to assist as they can certainly spared Mike Donohoe's lab notes. He received this issue 77 at last rather and started this letter off the very same day! Mike's main topic addresses the technical side of things: "Yes, Brad Riggs, you are that there is enough interest in including PC hard disks, and 3.5" floppy drives, with SOXLS and DIBS to be worth publishing all available details, and prices if known. There must be hundreds of PC hard disks of less than 10MB and 750k 3.5" drives (not to mention 5.25" drives) which are on the second-hand market because PC owners have updated their systems.

We also need to know exact-





ly which types of each sort of drive to look for at the many computer/fair trade fairs about the country, and how to identify them. If what Brad appears to be saying is, that these transition devices can handle more than one drive at a time) then it could really be the answer to our program. Imagine your 8000L, hooked up to a 5.25" hard disk, a TDK 3.5" and a 5.25" drive all at once! What about CD ROM and WORM drives?

Obviously, I for one would like to see more technical details of some of these possibilities. For I suspect that while most of us cannot sort out the complexities of disk drives, there must be many of us who, like myself, work in electronics or allied trades and are perfectly competent to make up boards, assemble printed circuit boards from kits or parts or even PCB plus parts list, and fit disk drives and power units into a perfectly proper and safe housing. Of course, I realize that a magazine such as *PC* (sorry, *RAM*) must carry their warnings about such activities, and nobody who is not fully competent should mess about with such things, nevertheless, there is a lot of pleasure and satisfaction to be had from this aspect of our hobby.

Many of the articles and let-

ters in recent issues have led me to wonder if the popularity perceived gap between and about 5.25" systems and the earlier versions of the PC is as great as we have come to believe. For example, just how close is an Atari DOS 3.0 single sided single density disk to an MS-DOS single sided single density disk, and are they cross-compatible? We only need a real PC interface expert to answer a few questions of this nature, and to supply interface circuit board details, and I am sure that Steve like Mike Stewart will be pleased to supply detailed interfaces or even kits for those unable or unwilling to construct their own. Whether it happened to Len Goldberg?

I acquired around Christmas a second-hand IBM PS/1 286X (286), which has only a 20MB hard disk and a 4MB extended RAM, which I'm told isn't even enough for Windows 3.1; but there I'm not sure I even want to spend the money to try the retail, in retail to keep up with the PC world. My main interest is computers, and what first got me hooked, is the challenge of programming and apart from the convenience of word processing, spreadsheets, and similar useful applications, this remains my main interest. I would like to be able to

work at 5.25" disks on the PC, if only to use those old accounts and books at work, in case with this letter, but it needs the ability to transfer at least undecompressed text files between Atari and PC, and between 5.25" and 3.5" disks, particularly if I'm to use them for the org. Before I look out real money on PC286xxx etc. I want to find out precisely whether it will do this, and if it will allow my grandchildren to play all those games off the PS issue disks, before starting them on programming or whatever takes their fancy.

It looks as if in the PC world at least, BASIC is the cover term such as QBASIC and Visual Basic is becoming an important language for program writing for "customising" within applications, so all the users apart from struggling with any system should be to some advantage. In spite of those who have in the past, decided it, I have found it relatively easy to translate and move relatively complex programs of the "Input data/Calculate results/Print Output" type between Atari 5.25", BBC-B and PC standards. The only problem past being the inability to transfer files rather than copy them.

So I'd have totally failed to find any sort of PC magazine which caters for my sort of

interests as outlined above, unless any reader can help? Perhaps Len might start a PC section with an emphasis on programming to make the most of popular applications, like PC286xxx?

I think, *Mike*, for some interesting comments which might open some debate from other readers. I have never really seen the need for any interface between the 5.25" and the PC, having never had access to a PC, but I am hoping to be convinced that there could be quite a wide interest in such matters, especially as many people seem to be aware in a PC at work. If anyone wants to start up a column on PC matters, please let me know. One small point that many readers might like to know is that I can accept articles and letters on 3.5" disk formatted with MS-DOS provided that the disks are formatted in TDK density in this single density on the PC) and not in high density. Anything formatted on 5.25" disk is transferred on to the 3F floppy, and subsequently on 3.5" disks save a little time. Keep it in mind only though, as I can't transfer programs back in the 5.25".

TO PD OR NOT TO PD?

Not a great deal of response to the idea of making commercial software available in the public domain but our first letter comes from Kevin Cooke who has the following to say. In response to Brad Perry's and Len's debate over making commercial software into PD - there are no many problems which would first need to be discussed at great length. Firstly comes the legal argument, although the programme may not be currently available, the fact remains that it is still someone's copyrighted software. If people want it enough to copy it, they surely find it in a market, albeit very compared to today's PC markets.

We then have the question of which software can be copied and which is "out of bounds". Who would decide that? who says that the software is definitely not being sold somewhere and that copying it will not deprive someone of the profit that they deserve for supporting the 5.25"? For example Derek Perry, Richard Gore, Page 5 etc. have all, at some time or another, found stocks of "unavailable software". Then we have the question of who

would distribute this software. A business supporting the 5.25" could not do so in case of any legal action and so the task would be left to normal users. But, is there it, if a game has been unavailable and people wanted it, many times would have already copied it anyway. It might not require an "official approval" to copy things if they want the software they copy it anyway.

Another problem is that, if people can get "free" older software (most of which is still very good, how long before they stop buying new software? And if people can copy older software, how long before they start to copy new software as well? Don't get me wrong, I'm not necessarily against the idea of copying older software but I can see some big problems with the idea.

I have interesting thoughts from Kevin here but I don't think making older software freely available will help to support those currently selling software rather than harming them. Why? Well, 10 years ago several hundred pieces of software a year were being released and there was enough money to satisfy any want, there was always something you hadn't tried if you wanted a new piece of software and very few people



If you find every piece of software available. (Never sleep with only a handful of your programs a year) it is perfectly possible to own everything currently available and still avoid more. When you get to the stage that there is one thing more you can buy, you start to get bored and perhaps move onto other things, like a PC? Every time someone moves away from the Atari there is one less customer for whatever new software might come along next year. If hundreds of "idle" programs never to become available on the PD seem then this might encourage people to stick with the 8-bit and therefore remain potential customers for future new releases. Who knew?

How about another view, this time from James Austin who says: "As to whether commercial software should become PD... yes! PROVED-ING is not available from any other source. This should include any new software and software still available from places such as Micro Discount and DMS. This proposal could prove useful in creating sources of long lost software that should not be allowed to become a primary free-for-all if it is introduced. If it is, the buyers would be everybody in the

Atari scene. The last thing we want to do is close down the few remaining Atari outlets."

Y You know, this is a subject ideally suited for discussion on the Internet, maybe I already do? Almost all of the companies or individuals who own the rights of "idle" Atari software could be contacted by someone, somewhere, on the Internet and could grant written permission for free use of their software on a special page. Does any one know if this happens on any of the various Atari forums, or how about someone raising the topic for discussion?

MORE ON JOYPADS

Karen Cooke also confirmed that the Dega stopped can be used with the Atari, in such the same way as Joel Goodwin, but also recommended the Chevrolet Malibu (which we reviewed some time ago). He has now and says they have given great service. James Austin also says that the Dega joystick work but says to be careful not to force the joystick otherwise (in the ports on the controllers only have small holes and do not push fully into the ports. James also says that, theoret-

ically, the little bumper legs mouse could also be used with an Atari and wonders if anyone has tried it.

Finally, David Holland from England, says that he owns a MegaDrive as well as his Atari and he uses the MegaDrive joystick for both machines. The "B" button is quite the fire button.

TEXTPRO

James Austin from fitting course in Kent has come to the fore and might be of use to those of you who are following our TEXTPRO series. Regarding the TEXTPRO Macro series currently running in the magazine I give him updated information on the macro commands featured in part 2 of the series in issue 77. May I also inform you that TEXTPRO is indeed PD. Regarding the information in Current News, the "cheer-man" aspect of the program is that the author doesn't distribute the program except to registered users. These users are, however, allowed to distribute it freely to everyone else.

Version 3.0 of TextPRO has several changes in its macro commands from version 4.5000 macro system, which is currently being covered in

the magazine.

There is supposed to be a change in the function of the ESC-(CONTROL)_M-macro key but the documentation on version 3.0 doesn't say exactly what it is! The other major change is with the ESC-(CONTROL)_F-macro key. This macro key is version 4.5000 and earlier versions was used only prior to CONTROL_V load macro command. In version 3.0 this key is used to perform selective branching of a macro when certain logical conditions are met.

When used prior to the load command it behaves as it did in earlier versions, branching immediately to the pre-selected macro key in the newly load macro. When used prior to the MARYN command (ESC-(CONTROL)_M) it will branch to the pre-selected key if the macro is registered. If there is no pre-selected key the macro will terminate. When used prior to a load (CONTROL_V) command the macro will branch to the pre-selected key if there is a

macro loaded, in other words if the message "Links Active" comes up on the screen and before loading. When used prior to a select (CONTROL_D) or find (CONTROL_F) operation the macro will branch to the pre-selected key if the string is "Not Found".

I am just sending this info in to try to complete the picture regarding the macro system in later TextPRO versions and also to help anyone who is finding that version 3.0 is not behaving exactly as it should do after trying the samples in the articles.

Has anyone got information on version 3.2, or indeed a copy of it?

And get again we reach the end of another Mailbag. Please keep your letters coming in response to this issue and about anything more you like. Don't let all the interesting stuff get lost on the Internet, there are still a lot of us who don't have access.

WRITE TO US!

As you know us all things Atari or help your fellow users with their queries, by something motivational or helpful, but above all say it in writing to the Atari world. The address is always the same

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KJ 150 POKE 160,149
QA 2000 REM WOBLE
MA 2010 GOTO 4,2,3,7,7,7,7,7,7,4,2,3,1,8,
8,4,8,8,1,2,3,4
XF 2020 GOTO 4,2,3,4,7,7,7,7,8,4,2,3,1,1,
8,4,8,1,1,2,3,4
QH 2030 GOTO 4,4,2,3,4,7,7,7,7,8,4,2,3,1,
1,1,1,1,2,3,4
CJ 2040 GOTO 4,4,2,4,4,4,4,4,4,2,3,2,1,
1,1,1,1,2,3,4
MP 2050 GOTO 4,4,2,3,4,4,4,4,4,4,4,2,
2,2,2,2,3,3,4
LJ 2060 GOTO 4,4,4,2,3,3,3,3,4,4,4,2,3,2,
2,2,1,2,2,3,4
MF 2070 GOTO 4,4,4,4,4,4,4,4,4,4,4,2,3,3,
2,2,2,2,3,3,4
AG 2080 GOTO 4,4,4,4,4,4,4,4,4,4,4,4,4,4,
4,4,4,4,4,4,4

```

WOBLE.WOB

```

VJ 150 POKE 160,112
PQ 2000 REM WIPPLE
GQ 2010 GOTO 4,4,4,4,4,4,4,4,4,4,4,4,4,4,
4,4,4,4,4,4,4,4,4
GJ 2020 GOTO 4,4,4,4,4,4,4,4,4,4,4,4,4,
4,4,4,4,4,4,4,4,4
GK 2030 GOTO 4,4,4,4,4,4,4,4,4,4,4,4,4,
4,4,4,4,4,4,4,4,4
GM 2040 GOTO 4,4,4,4,4,4,4,4,4,4,4,4,4,4,
4,4,4,4,4,4,4,4,4
MG 2050 GOTO 4,4,2,4,4,7,7,7,7,4,2,3,1,7,
7,7,4,4,2,4,4,2,3,1,1,1,4,8,8,8,8,
8,1,1,1,1,2,3,3

```

WIPPLE.WOB

THE WOBBLE EFFECTS

```

KJ 150 POKE 160,48
PQ 2000 REM SINGWAVE
ML 2010 GOTO 4,1,2,4,4,7,7,7,7,8,8,8,8,7,
7,7,8,8,4,4,4,3,3,3,1,1,1,8,8,8,8,8,
8,1,1,1,1,2,3,3

```

SINGWAVE.WOB

```

GQ 150 POKE 160,38
PQ 2000 REM SMOOTHER
LJ 2010 GOTO 4,4,4,2,2,2,4,4,4,4,7,7,7,
7,7,8,8,8,8,8,8,8,8,7,7,7,7,7,4,4,
4,4,2,2,3,4,4,4,4,2,2,2,2,2,1,1
LJ 2020 GOTO 1,1,1,4,8,8,8,8,8,8,8,8,8,8,
8,8,8,8,1,1,1,1,1,2,2,2,2,2,2,3,4

```

SMOOTHER.WOB

```

VJ 150 POKE 160,79
PQ 2000 REM BLIP
MP 2010 GOTO 1,2,2,4,4,8,8,4,8,4,8,8,4,8,4,
8,4,8,4,8,4,8,4,8
GQ 2020 GOTO 1,2,2,2,2,8,8,4,8,4,8,4,8,
4,8,4,8,4,8,4,8,8
GK 2030 GOTO 8,8,8,8,8,8,8,8,8,8,8,8,8,8,
8,8,2,2,2,2,8,8,8,8
M 2040 GOTO 4,4,2,1,2,4,4

```

BLIP.WOB

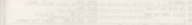
```

VJ 150 POKE 160,14
LX 2000 REM TRIANGLE
MP 2010 GOTO 1,7,4,2,4,2,1,1,8,1,2,3,4,5,
4,7

```

TRIANGLE.WOB

Save these in LIST format, LOAD main program and ENTER the effect desired before RUNning



do with the width of colour-blocks acted upon by the scroll register in each particular mode. Set too high a value in a particular mode and ASCII can't cope.

It's easy to see how to create other effects using the same DLI but a different VBI, by altering the way that the VBI manipulates the scroll data. You could make the DLI load new screen addresses from a table in the same way as the scroll data) into the DL each time and change these within the VBI as well, to give a wider range of movement across the screen.

THE WOB FILES

The individual effect routines are given as top-to-bottom listings and are also on this issue's disk. They are as follows:

SINGWAVE.WOB - (Quite obvious really)

SMOOTHER.WOB - A smoother Sine-wave.

TRIANGLE.WOB - Triangle waveform. Try changing KTIME to show 8-down a bit.

WIPPLE.WOB - Lines 2010-2050 loop the lines at a central position. Line 2040 then causes a Sine-wave.

BLIP.WOB - Lines 2010-2030 loop the lines at a central position. Line 2040 puts a quick 8-triangle wave in.

WOBLE.WOB - Gives a Sine-wave motion that starts with a large amplitude and gets smaller.

THE ASSEMBLER LISTING

Only two small routines are required, a Display List Interrupt (DLI) to set the scroll register as required per line and a Vertical Blank Interrupt (VBI) to update those values. Equally used are KTIME which gives the point to jump to after your VBI is finished, WYINC which is used to make the change to the scroll registers at the KEND of the current screen line and PASCAL, which is the third scan level register. The code starts at 1500 - Page 4 as ever - with the first lines reserving some bytes for the variables used within the routine and the table of scroll values (24 bytes i.e. 0 to 23). The DLI for the effect routine will be stored after the code routines, as DATA is set at line 200. You only use this as a pointer as only one byte is reserved.

THE DLI

The first thing that my DLI should do is to save any CPU registers (A, X or Y) that will be used within the routine. Push these in the Stack as we lines 200-180. The DLI is called on every screen line, 24 for CRT-2, so the first thing it has to do is determine which line it's been called on. This is where CLINE (Current screen line) comes in. This is used as an index into the table of scroll bytes at SCRT, the required value being loaded into the X register. After the byte is retrieved it is first stored at WYINC in case the processor is wait until the end of the current scan line before proceeding with the next instruction. If you look carefully at any inverse blocks on the screen while the routine is running you can see which the top pixel line high looked, due to each CRT-2 line consisting of eight scan lines and the WYINC effect writing upon the top

00 400000	0200 T04	get BL1 data
00 400004	0208 P04	
00 400008	020E L04 04	get into A
00 40000C	0216 00A CL04C	Reset line number
00 400010	021E 00C T04E8	Increase Timer
00 400014	0226 00E D017	if 0-3 then EXIT
00 400018	022E L04 R01E	Get Timer Reset
00 40001C	0236 00A T04E8	Store at counter
00 400020	023E L04 R01E	Get bytes to copy
00 400024	0246 00F L04F0F	
00 400028	024E L04 S01,X	Get byte
00 40002C	0256 00A S01,X	Store in scroll loc
00 400030	025E 00C	Increment X
00 400034	0266 00F L04F0F	if 0-1 then LOOP
00 400038	026E L04 C0000F	Get VGA pointer
00 40003C	0276 L04 S01,X	Get byte
00 400040	027E 00A S01	Store in line #
00 400044	0286 00C C0000F	Increase pointer
00 400048	028E L04 C0000F	Get pointer
00 40004C	0296 00F P0000F	get last line?
00 400050	029E 00C D017	if 0 then EXIT
00 400054	02A6 L04 04	get into A
00 400058	02AE 00A C0000F	Reset pointer
00 40005C	02B6 00C D017	
00 400060	02BE 00A	Restore A and X
00 400064	02C6 00C	get before
00 400068	02CE 00A	
00 40006C	02D6 00F 01F01	Continue BS 001
00 400070	02DE 00A 04 04 01	Store for BS0A

scan line

The byte is then stored in the Horizontal sync register (HSC0000) which actually scans the scan line. CLINE is then increased by one (line 000) so that at the next BL1 call it knows that it's at the next line. The registers are restored and the routine exited using an RTI - Returns from Interrupt - instruction.

THE VBI

A VBI is called every time that the screen display line finished being updated so it is useful for changing anything on screen assembly.

as the action occurs between screen frames. The registers are saved as before, even though this is not really necessary but it does help for completeness. CLINE is reset (lines 200-200) and the Timer counter is decremented (line 240). If it has not reached zero yet the routine jumps to EXIT to fetch the VBI and carry on. If zero is reached then the counter is loaded with the reset value to re-start the Timer (lines 260-270).

The scroll table data is then moved up in memory with the COPYLOOP routine. It is used as an index and starts at 00. This is because you must start at the end of the table and work backwards storing a byte to the

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next highest location (i.e. byte 22 goes into byte 23, then byte 21 goes into byte 22 etc.) - lines 000-000. Note that I've used a SPL because I will want to jump back when X is equal to zero (line 000).

After the bytes are stored up in memory (which is done on the screen), the top line is updated with the next scroll DATA for which we've stored your coding. X is again used as an index from the CURRENT pointer into the DATA area, so this is loaded

in 256 bytes in length. The byte is loaded and stored in S01 (lines 440-440). The CURRENT pointer into the DATA area is then updated to look at the next byte and compared with MAXIMUM to see if it's reached the end or not (lines 470-490). If it hasn't you jump to EXIT again. If it has then reset CURRENT to 0 (lines 500-500).

Upon reaching EXIT, you simply restore the CPU registers and jump to the VBI exit point - which is the start of the CD VBI routine. ■

STUNNING DEMOS!

On this issue's disk you'll find some stunning demos from Andy which use the techniques outlined in this article. The first is **MYCRO LINES** which creates amazing, pulsating patterns on screen similar to some of the screen savers used on the PC. You can set various parameters to try and create your own effects or just let the program choose the effects for you. Either way the effects are superb.

ERC ROTTER is a really psychedelic picture-mover that will take any standard picture and do weird and wonderful things with it. Perhaps the best demonstration is the **VideoStar** software logo which is stretched and distorted into unimaginable shapes in a constantly flowing pattern. The effect is mesmerizing. Check it out!

PICTURE COMPRESSION

Andy Guillaume has some routines that you might find useful when you want to include pictures in your games or programs

This program allows you to load and save in Atari Vertically Compressed (VC) format (as used by Atari art) and several other programs) and standard 60 sector format with options for Colour bytes and Data offset locations. This means that you can load/save any format in several Graphics modes.

From the Main menu, use the following keys:

1. Load VC file. A disk directory is shown for the current Bioscene subdirectory (loaded). Enter Bioscene only or press Return for the menu.
2. Save VC file. Enter Bioscene or hit Return for the menu again.

3. Set Filename extender. Type in letters for the required extender, and press Return.
4. Set Graphics mode. Type in the required number. Legal inputs are 0, 10, 11, 24 (0=60 and 31 (15+16), 64) 1600 byte mode).
5. View picture. Shows picture in current GS mode and colours. Any key to return to the menu.
6. Set colour registers. Current values are shown for all nine registers. Press 0-9 to select a register to edit, and type in the new value. Press Y to view the picture or M for the menu.
7. Load standard format file. Disk directory shown. Type the Bioscene or press Return for menu.
8. Save standard format file. Type the Bioscene or Return for menu.
9. Number of Data offset bytes. If the picture information does not start at the beginning of the file, you may specify up to 1920 offset bytes. These will be skipped and then the following bytes used for data upon loading.
10. Number of Colour bytes. If colour register information is needed, you can specify up to 8 bytes to be loaded or saved at the start or end of the file, and an offset into the colour registers. The first prompt is for the number of bytes at the start of

TURBO TIPS

by Robert de Letter

One common problem is restricting keyboard response to a selected number of keys such as Y and N for yes and no answers. Normally you would use:

GET KEY: IF KEY <=60 AND KEY >=70 AND KEY <=85 THEN GO20 ...

The problem with this is that you need to look up the ASCII values of the keys and if there are several responses of you need to tag lower case responses as well the statement can get quite unwieldy.

Instead of this use:

REPEAT: GET KEY: A=ASC("YNA",CHR(KEY))UNTIL A

The beauty of this is that you can easily add the keys you want into the string with little effort.

This tip from Robert leads on to a follow up which will also save you time and memory. Normally you would follow up the first statement by something like:

IF KEY = 68 THEN ...

IF KEY = 78 THEN ...

IF KEY = 88 THEN ...

but you can take advantage of the value returned in A by putting the action you wish to be taken in, say, lines 101, 102 and 103 then simply stating on your next line after getting the key:

GO20 100-A

the file. In, before the graphics data. If the colour bytes are stored after the graphics data then enter a negative number. The next prompt is the offset into the registers. This number is added to 704 (Reg. 8 address) to give the load address for colour bytes.

For example, Monopainter uses 4 colour bytes at the end of the file with a register offset of 3. However, realize that the last-given colour is first from the three playfield colours, and is thus loaded to and saved from register 707 (704+3) in the program. Just copy the value to and from register 712 on the 512 colour registers screen after loading and before saving to maintain compatibility. Type 0, -4 otherwise, 3 otherwise. Screen shows 4 at End edit.

NS. Data and Colour offset bytes are only used when loading and saving standard (Uncompressed) format files. Values set are ignored when handling VC files, as all nine colour bytes are stored automatically. Any

Data offset bytes are always read first, then any Colour bytes.

I took the VC routines from Flower Garden on the issue 60 disk, these were very messy and so I wrote. I don't like this method and just saved the array constants to disk, a little fiddling about later and I think you'll agree that my routines are much much better.

I also discovered there isn't the compression method is quite complex so I'll skip explaining it, but it works fine in this incarnation. Program bioscenes to show, also look at the disk directory routine, PFILE3 procedure in the program.

THE LISTING

Picture Compression is a long listing which would take over four pages to print. It is therefore on this issue's disk ready to run and also available as a request on a Type-written listing in issue 60.

HEY, HEY!

It's

The TIPSTER

This time we have all these hints and tips that we promised at the end of the last issue. The cupboard is now bare, except ... that James Mathrick has sent in a couple of pages of stuff that we will use next time. Thanks James. As to the rest of you, don't just sit on your keyboards, let's have something for the next one.

VIVE LE TIPS!

Some very welcome tips from across the Channel for through the Channel) come from **Miguel Estampiller** in France.

SPEED HAWK: Press Shift and ESC for complete invisibility.

YOGI BEAR AND THE GHEKI MONSTER: During the lava screen again, press SELECT-OPTION-OPTION again repeatedly and press the trigger on joystick L. Then release all keys and enjoy unlimited lives!

CAVERNIA: Back to issue T1 a tip supplied by Richard Cunn and Ivan Markwick says that typing **RTYKRE NICKON** makes it possible to jump to the next level but when they don't tell you in that typing in **TAMSON** enables you to start directly from level 8.

Need help, Miguel?

A TRIO OF TASTY TIPS

Daniel Yelland lives just down the road from The Tipster in Stafford and has been busy giving his Atari a run through with a selection of great games. Here's what he has found out that could be useful to you.

STAR RAIDERS II

If you are low on energy and all of your space stations have been destroyed then rush to the nearest star and your energy will be refilled. After this has happened wrap away quickly or the ball will overtake.

DAVID'S MIDNIGHT MAGIC

To shake the machine press up and down quickly on the joystick. This can knock the ball back into play if you don't have a Magi-Save Magnet.

PROTECTOR

Let your opponent collect the pieces of the bomb and take the finished bomb out of its base. Drop it in your base, pick it up again and drop it in your opponent's base to win the game.

OLYMPIC SKIER

From Jason (personally Knobb), the note got separated from an order) is a tip to avoid dead ends in **OLYMPIC SKIER**. Hold right and go L R L L R L R L R L R R R. Finally go on them, try reading that while sitting at full speed!

SPELLBOUND

In issue 78 Daniel Yelland asked for some help with **SPELLBOUND** and now O'AFFAIR from Wood Green in London has provided a map and plenty of clues to help you get through the game.

THE MAP

	33	34	35		roof		36		37	
	29	30			31				32	
	19	20	21	22	23	24	25	26	27	28
lift			12	13	14	15	16		17	18
	6	7	8			9				10
	2	3	4				5			
	1				The map shows the location of the following objects:					

- | | | |
|---------------------|---------------------|----------------------|
| 1. POWER PONG PLANT | 14. EMPTY BOTTLE | 27. TELEPORT PAD |
| 2. SHIELD | 15. GOLD BAR | 28. INSTRUCTION BOOK |
| 3. PUDDLE | 16. CANNON BALL | 29. RED CRYSTAL |
| 4. POCKET LASER | 17. BLUE CRYSTAL | 30. ANCIENT SCROLL |
| 5. BROKEN TALISMAN | 18. WHITE GOLD RING | 31. GREEN CRYSTAL |
| 6. STICKY BUN | 19. KEY | 32. JAVELIN |
| 7. BOOK OF RUMES | 20. ENGRAVED GANDLE | 33. FOUR LEAF CLOVER |
| 8. GOLD GOBLET | 21. PEWTER TANKARD | 34. BOTTLE OF LIQUID |
| 9. TUBE OF GLUE | 22. MIRROR | 35. PUMESTONE |
| 10. TRUMPET | 23. SARAPHONE | 36. PRISM |
| 11. CRYSTAL BALL | 24. TELEPORT KEY | 37. WARD OF COMMAND |
| 12. BOOK OF SHADOWS | 25. RED HERRING | |
| 13. BRICK | 26. GLOWING BOTTLE | |

more >>>

THE CHARACTERS

GIMBAL THE WIZARD - will give you help with the **RELEASE** spell

TWOR - give him the **MOONBE** and he will help you get into the **ILL** and also at the tower

FLOMIN THE DWARF - give him the **BOTTLE OF LIQUID** and take it back again and it will restore your energy. If you have the **TUNE OF GLUE** and the **BROKEN TALISMAN**, give them to him and command him to help. He will then send the talisman and it will become the **MAGIC TALISMAN**

ORIC THE CLERIC - give him the **CRYSTAL BALL** and he will help you get into the **SECRET MAGIC ROOM** with the **CRYSTALLUM SPECTRALIS** spell

SAMSIAN THE STRONG - give him the **JAVELIN** and he will help you at the **ILL**

ELFRAND THE HALFELVEN - give him the **TRUMPET** and he will help you at the **WELL** after **TWOR** has helped you at the tower

LADY ROSMAR - give her the **POCKET LASER** and she will help you at the **SECRET TUNNEL** entrance

THE BARBARE - command this character to help and she will give you some clues

THE SPELLS

The spells and their uses are as follows:

FRENZACUS PROTECTUM

To cast this spell you will need the **RED HERRING** and the **POWER PONG PLANT**. This will protect you in the gas rooms

ARMOURIS ENDOXACUS

To cast this spell you will need to stand in the puddle at the **SECRET TUNNEL** entrance. This will enable you to go through the dark rooms without the **CLOWING BOTTLE**

CRADELMUM ILLUMINATUS

To cast this spell you will need the **ENCLAVED CANDLE** and the **SHIELD**. You will also need the **FOUR LEAF CLOVER** in the rooms. When you have lit the candle you can use it to read the **ANCIENT SCROLL**

PROJECT PHYSICAL BODY

If you get the **CRYSTAL BALL** and the **MAGIC TALISMAN** you may cast this spell which will enable you to teleport to any character in any room

CRYSTALLUM SPECTRALIS

For this spell you will need the **THREE CRYSTALS** and the **WHITE GOLD RING**. You will also need to give the **CRYSTAL BALL** to **ORIC** and command him to the **SECRET MAGIC ROOM**. When the spell has been cast you will need to throw the **THREE CRYSTALS** at **GIMBAL** to live him

RELEASE SPELL

To make this work you will need to be in the room with **GIMBAL** after he is freed. When the spell is cast you will have to command the characters in this order - **ELFRAND**, **SAMSIAN**, **TWOR**, **ROSMAR**, **BARBARE**, **FLOMIN**, **ORIC** and last of all **GIMBAL**. Make sure that all of the characters are at full strength before you command them

Finally a couple of clues to help you on your way.

To get past the tower you need to take the two lumps of brickwork from the wall after **ELFRAND** has blown it down. You can then drop them on top of each other near the tower.

To find the **APPEARANCE** you can drop the **GLOWING BOTTLE** after casting the **ARMOURIS ENDOXACUS** spell.

If a character does not seem to be summoned or commanded by you then try to command it to be happy.

This is not the complete solution to this game but there is enough there to enable you to finish it. After all why should I ruin your enjoyment by working out the other puzzles to get to the end?

MORE TIPS

Strategic Position - up in Heretic Character brings in a couple of useful cheats on two popular games.

INTERNATIONAL KARATE

On the disk version, if you want to fight in a particular country but aren't good enough to get there, leave the game on **demo** mode. When it has reached the screen you want to fight on, take the disk out and press **START**. Hold!

MIRAX FORCE

Entering **CFM** (the author's initials) on the title page give you invaluable help.

HELP!!!

James Mathrick will bring you help next issue on **ALTERNATE REALITY**, **HAMFAME**, **THE LIVING DANGLEBORN**, **POLK POSITION**, **LAR CELOT** and **HARDBALL** but he would like some help on the following:

MIDNIGHT BLAZINGQUEST
ENRAGED SYMBIC

Do you know anything about these games? If so please send them in for the next issue (4-4-84 is cool).

An email will still go to:

THE TIPSTER, NEW ATARI USER
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TEXTPRO MACROS

PART 3

Frank Walters
continues his
exploration of the
macro command
of TextPRO with a
practical example
for printing
envelopes

So far we have looked at all of the TextPRO command keys and given some examples on how they might be used. This issue I am going to show you how to create two useful TextPRO macros. The first will print addresses from an address list directly onto envelopes. It will work with a single address or you can select which addresses to print, and which to skip, from a list of addresses. After experimenting with using two banks, I found a better way of doing it using a single bank so that a 495 list can use the macro. The second macro will find any address in your list from a search string and extract the address for use in a letter or single envelope. If you have to print many envelopes, such as for club mailings, this is a much more easy than printing labels and sticking them on the envelopes. It is much more personalized for business letters. Labels on letters look like what they are - bulk mailing. I personally pay little attention to mail I receive with a pasted label on the envelope.

PRINTER REQUIREMENTS

For the envelope macro, called ENV-VMAX, you must have a printer that will allow you to print an envelope using friction feed and you must also slide the paper-out switch either by slip switch or software command. The ENV-VMAX I explain here defines inverse r/y as the Epson compatible paper-out disable command. This is critical because the envelope is not long enough to prevent the printer from stopping before printing the return address due to the paper-out switch becoming exposed on the envelope across up the roller. If your printer is not capable of both the above requirements, then ENV-VMAX is not for you. Read how to create an address list, then skip down to the ENV-VMAX section.

TYPING THE ADDRESS LIST

First I should describe how to make the address list. It simply consists of a text file with addresses typed in sequence, one below the other. The only limitation is that each address must consist of exactly four lines of text, each line followed by a carriage return. If an address only needs three lines, simply add a carriage return on a blank line for the fourth required line. Do not skip a line below a four line address in your list. Example:

John Doe
Company Name

TABLE 1 - ENV-VMAX

NEW KEYBOARD CONVENTIONS

Since our listings have been getting pretty unwieldy, we're going to streamline our conventions for the complex entries a bit. Keys on the keyboard are surrounded by brackets. [START] means the START key. Inverse characters are bracketed by 'less than' and 'greater than' symbols. <> means inverse n, which is entered from the keyboard by first holding down [SELECT] then typing the [n] key. Multiple key strokes are indicated by an 'asterisk' symbol or * connecting the indicated keys. CTRL indicates a 'control character', which means the [Escape] key must be pressed prior to entry. [CTRL, Q] indicates that you would first press [Esc] once then hold down the [CONTROL] key while pressing [Q]. <CTRL, Q> means to first press [Escape] once, then hold down [SELECT] then hold down [CONTROL] and, while holding down both of these keys, press [Q]. [SHIFT, INSERT] and [SHIFT, DELETE] are also 'control characters' requiring [Esc] to be pressed prior to the rest of the indicated entry. [CONTROL, JO] is not to be a control character, so no [Esc] is required, just hold down [CONTROL] while typing a [O]. The same is true for [SHIFT, JO].

Street Address
City, State ZIP
Mary Smith
Street Address
City, State ZIP
(RETURN)

The [RETURN] key indicates a blank line with just a carriage return in your text file. Name your address list ADDRESS.A or use J for Journals. J for clubs too. You can have more than one address list and even duplicate addresses for ease of printing envelopes from one list or another. Let me clarify something. You will have the option of printing or skipping over any address in the list when using the macro.

ENV.MAX ALGORITHM

The way ENV.MAX works is for the macro to load the address list from disk and then create the print format and return address ahead of the first address in the list. The `<do>1` command is used to restrict printing to page 1 only, and the `<do>` next page command is inserted following the first address so the remainder of the list is not printed. After each envelope is either printed or the address skipped, the address is deleted and replaced by the next address on the list, using the delete and replace functions.

CREATING ENV.MAX

Table 1 shows ENV.MAX in its entirety. Now I will take the macros apart, line by line, so you can see how it works.

```
<do>=CTRL_Y Active macro= ENV.MAX RETURN
@====CTRL_P=4=CTRL_A=Load
ADDRESS list RETURN
```

The first line is just the macro identification line. In the next line, the asterisk macro `(*)` will recover when you load the macro using `[START]` from the default `(*)CTRL_P=MAX` macro. `TEXTPRO 5.0` uses reverse `CTRL_P` to prohibit the alternate macro command if you reply `No` to the Ask `CTRL_A` macro. For version 4.88, you can eliminate the `CTRL_P=4` from this line, since it is the default macro when `No` is the reply. The `CTRL_A` is used to ask whether you want to load the address list, since you may already have the address you want to print in the editor.

```
[CTRL_H]CTRL_H[CTRL_L]ADDRESS
5.A=CTRL_Y RETURN
```

You want to home the cursor to the top before loading the address list, after the load file command, the filename is typed by the macro and then the `<CTRL_Y` input mode is defined so the user can either accept the default address filename or change the file extension before hitting `[RETURN]` to exit the input mode.

```
<CTRL_G>@=====CTRL_F=ctrl RETURN
```

This is the `<G>` command in the `[H]` key macro, which is where the macro begins execution if you had skipped the load address function by replying `No` to the Ask macro command. `[H]` defines the "Find" string with reverse `CTRL_P`. The "Find" string, in this case, is reverse `<do>`, which will be used to delete the address which has just been printed or skipped.

```
<CTRL_X>=CTRL_I RETURN
[8 spaces]<END OF LIST> Press < HELP
RETURN
```

Inverse `CTRL_X` turns off the screen for speed while the macro is typing on the screen, starting at the end of the address list `[CTRL_I]`. The next line is added to the end of the address list so you can see when you are done using the list.

```
CTRL_H[CTRL_H]=CTRL_D=PPPP RETURN
```

This homes the cursor to the top of the address list and deletes the first address `[H]` from into the print buffer and sets the delete mode with `[RETURN]`.

```
[SHIFT_INSERT][SHIFT_INSERT]
<Y>=5=2=8 RETURN
<do>1<do>1<do>1<do>1 RETURN
```

Remember to press `[ESC]` before each `[SHIFT_INSERT]` so the screen cursor character is printed in the macro. The remainder

TABLE 1 - ENV.MAX

```
<do>=CTRL_Y Active macro= ENV.MAX RETURN
@====CTRL_P=4=CTRL_A=Load ADDRESS list RETURN
[CTRL_H]CTRL_H[CTRL_L]ADDRESS.A=CTRL_Y RETURN
<CTRL_G>@=====CTRL_F=ctrl RETURN
[8 spaces]<END OF LIST> Press < HELP RETURN
RETURN
[CTRL_H]CTRL_H=CTRL_D=PPPP RETURN
[SHIFT_INSERT][SHIFT_INSERT]<Y>=5=2=8 RETURN
<do>1<do>1<do>1<do>1 RETURN
<Y> Your name RETURN
Your Street address RETURN
Your City, state ZIP RETURN
RETURN
<do>1<do>1 RETURN
<il >[ESC][SHIFT_INSERT]< ADDRESSES REMAINING >[ESC][SHIFT_INSERT] RETURN
[SHIFT_DELETE][CTRL_R]=CTRL_X=CTRL_G=22=<CTRL_Y>
HELP> Exit <START> Print <OPTION On >Map RETURN
#=<CTRL_P RETURN
<CTRL_G>@=====CTRL_I RETURN
[CTRL_Y]CTRL_D=PPPP RETURN
[CTRL_Y]CTRL_R=CTRL_G=22=<do>1=<CTRL_H[CTRL_H]
CTRL_Y=CTRL_I RETURN CTRL_P RETURN
[CTRL_H]=CTRL_Y[CTRL_Y]TEXTPRO.MAC RETURN
```

and next line are printed to the screen when the macro is being executed to format the text. For example, inverse `<Y>` and `<do>` are the equates for the Epson/Thermoco paper-out switch disable and enable commands, respectively. Insert the correct codes for your printer. If different, `TEXTPRO` inserts a warning printing at page 1, string length 4, string length 5, <space length 24.

```
<Y> Your name RETURN
Your Street address RETURN
Your City, state ZIP RETURN
RETURN
```

<Y> disables the paper-out switch. You can follow it with other upper case inverse letters to set your own flag, etc. Follow these printer codes immediately by your name and return address using up to four lines. If you

only need three lines, include the extra `[RETURN]` on the fourth line. NOTE: If you have configured `TEXTPRO` to "add ESCAPE" characters using the `[CTRL_L]` command, it is best to save your configuration after setting this. Reply `[N]` in the `<Y>` and `[Esc]` prompts and `[Y]` in the "add ESCAPE" prompt. Escape `(ASCII 27)` will be sent by `TEXTPRO` whenever it encounters an inverse upper case letter. This is essential since the Epson paper-out switch command is actually `27, 54`.

```
<do>5<do>30 RETURN
```

Down 5 lines and left margin 30 following return address. For printing the "to address" on legal-sized envelopes. For smaller envelopes, adjust these accordingly. I found the Print Shop Card used envelopes. <do>7<do>15

TABLE 1 ENV.MAX

```
TEXTPROG:MAX [P] <name> <dir> <Y> [STRT] <Y>
MULTIPLE ADDRESS: <name> [STRT] <Y> [STRT] <Y>
MULTIPLE [STRT] <Y> [STRT] <Y> [STRT] <Y> [STRT] <Y>
```

works nicely. I made up a duplicate ENV macro with these parameters listed and named it ENV2.MAX.

```
<n> <ESC>[SHIFT_INSERT]<_>ADDRESSES
REMAINING <_>[ESC][SHIFT_INSERT]<_> <_>
[RETURN]
```

This is a tricky line to type. Hold [SELECT] to type the inverse mode and again. You hit [ESC] twice to print the escape character to the editor. Then type [ESC] a third time before typing [SHIFT_INSERT] to type the inverse down arrow. [SELECT] while typing the text message and repeat the escape sequence again. It should show two down arrows pointed to the addresses below that line once the macro is executed. The line ends with an inverse space opposite before the [RETURN].

```
[SHIFT_DELETE][CTRL_M][CTRL_N]
<CTRL_Z><CTRL_G><ESC><CTRL_V>
<HELP>>[EX]>[START]>[PRINT]>[OPTION_G]
[SKIP][RETURN]
```

This is another tricky line. Remember to press [ESC] to type the SHIFT and CTRL characters on the screen. <CTRL_Z> turns the screen back on. Following <CTRL_V>, the remainder of the line is simply text, the brackets around the <START> and <OPTION_G> indicate you type the words in inverse by holding [SELECT]. The text will appear as a prompt in the status line when you run the macro.

```
<ESC>[CTRL_F][RETURN]
```

This line defines the [START] key to print the first envelope.

```
<CTRL_G><ESC><CTRL_F][RETURN]
```

This line defines two macros to load. The [OPTION_G] (hard macro) will delete text from macro to the "Find" character, which is the address that was just printed, so the [START] key and the [OPTION_G] key will delete that address.

```
[CTRL_M][CTRL_D][PPP][RETURN]
```

This macro the cursor forward three line to delete the next 4-line address into the paste buffer.

```
[CTRL_M][CTRL_F]>[CTRL_G]><ESC>[CTRL_R]
[HELP][CTRL_H]>[CTRL_V]>Y>Z>[RE-
TURN][CTRL_F][RETURN]
```

This macro the cursor up one line and replaces the new address from the paste buffer. Gets macro <n>, which replaces the status line message. The [HELP] key [Y] macro is defined to focus the cursor and delete text below the cursor instead of clearing the screen, which causes the loss of the address list in memory. It then types and prints <n> to restore the paper-cut switch function before re-loading TEXTPROG.MAX from disk, which is the last entry.

```
[CTRL_H]>[CTRL_V]>[CTRL_V]TEXTPROG-
MAX[RETURN]
```

Remember <CTRL_V> is inverse and <CTRL_M> is not.

USING ENV.MAX

This is the easy part. Just insert your envelope, flap open, into the printer. Set the font and use the function buttons to align the top edge of the envelope with the print head, so the line where you want to print your return address.

If TEXTPROG.MAX is loaded, press [START] and type ENV and hit [RETURN]. If TEXTPROG.MAX isn't loaded, simply load the macro with the [CONTROL_M] command. At the prompt to "Load ADDRESS list" press [Y] or [N], depending on whether you have the address already in the editor. Remember, when loading the address list, you can change the filename using the backspace before you

DISABLING

MACROS IN A HURRY

USING FIND.MAX

press [RETURN]. Wait patiently while the screen is turned off as the macro is formatting the envelope address for printing. When the screen turns back on again, follow the instructions on the status line.

```
[HELP] Get and load TEXTPROG-MAX
[START] Print envelope and move next address
into position
[OPTION_G] Skip current address and show
next address into position
```

An alternate method is to press [CONTROL_L][P] to print the current address with one deleting it so you can print several duplicate envelopes at once. You can also print a self-addressed return envelope by skipping the 4-line return address with the "to" address and using [CONTROL_L][P] to print. Put your return return address back before printing any more envelopes. CAUTION: If you move the cursor to edit anything before printing, be sure you return the cursor to the first letter of the top line of the current "to" address before pressing [START]. The delete function will delete from the cursor position, so you must have the cursor at the start of the address to delete the entire address after printing it.

A SECOND MACRO

Your second macro is FIND.MAX. This macro uses the same address list as ENV.MAX. The purpose is to find an address to include in the solicitation portion of your business letter and add it in the paste buffer for easy placement. I will not go into full detail on typing FIND-MAX since you should be able to work it out from ENV.MAX. The complete macro is shown in Table 2 worked.

You must have your ADDRESS.A (or other) address list on drive 1. If you have TEXTPROG-MAX loaded, press [START], type FIND and press [RETURN]. If not, load FIND.MAX via [CONTROL_M]. You will be prompted to enter the Find string. The macro defaults to leave case show the Find Function is case sensitive. Type a portion of the name you wish to find in the address list. Use [SHIFT] for typing upper case letters and press [RETURN] (help [N] to "Clear Screen" prompt unless you forget to save the file in the editor. If you answer [N], you can save the file in the editor and continue with the macro by pressing [START] for the "Clear Screen" prompt. Answer [Y] and the ADDRESS.A file will be selected in head but you have to press [RETURN] to load the default name. You can backspace to change the default name on the command line if you want, then hit [RETURN].

The macro will then move the cursor down to the first occurrence of your Find string and the name will appear on the status line:

```
Okay? Yes No (up down arrow) First Address
Out
```

Answer [Y] if it found the address you are looking for. It will delete it into the paste buffer, clear the screen, replace the address and load TEXTPROG-MAX from disk.

Answer [N] to look for the next occurrence of your Find string. If it cannot find any more matches, the cursor will stop right, one word at a time, whenever you hit [N]. With TEXTPROG 5.4 you will get a "Not Found" message, instead. In other cases, you can then use one of the other options of the macro to continue or quit.

Use [up] or [down] cursor keys (without [CONTROL]) if you had searched for a string

TABLE 2 - FIND.MAX

```

<@=>CTRL_Y Active macro> FIND.MAX[RETURN]
@=>CTRL_T=>CTRL_F=>CTRL_I[RETURN]
<CTRL_G=>F1=>CTRL_A Clear the Screen[RETURN]
[SHIFT_CLEAR]<=>CTRL_G=>F1=>CTRL_K=>CTRL_L=>ADDRESS.A
=>CTRL_I[RETURN]
<CTRL_P=>=>CTRL_P=>CTRL_G=>=>=>CTRL_M=>Delay?<Y>Yes
<N>=>[ESC]<=>CTRL_<=>[ESC][SHIFT_INSERT]<=>Address=<F1>=<G>=
[RETURN]
<CTRL_G=>=>F1=>CTRL_G=>=>[SHIFT_T=>CTRL_P=>=>CTRL_F]
=>CTRL_G=>=>F1=>CTRL_G=>=>[CTRL_Q]>CTRL_D[9999]
[RETURN]
[SHIFT_Q]>=>F1[CTRL_R]>CTRL_G=>=>=>CTRL_G=>=>=>
[CTRL_H]>CTRL_H[CTRL_P]>CTRL_G=>=>=>CTRL_P=>CTRL_I[RETURN]
[CTRL_H]>CTRL_H=>CTRL_P=>=>CTRL_P=>CTRL_G=>=>T=>CTRL_G=>=>
CTRL_Q[SHIFT_I=>=>CTRL_Q[SHIFT_<=>=>CTRL_H]>CTRL_Y
Press <START>to run again[RETURN]
Y=>=>CTRL_G=>=>=>CTRL_H[CTRL_H]>CTRL_P=>=>CTRL_V] TEXTPRO-
MAX[RETURN]
<=>CTRL_Y=>Not found - Press any key[RETURN]
<CTRL_R=>=>CTRL_G=>=>[RETURN]

```

not on the first line of the address. Move the cursor to the first line of the address before replying [Y] to the prompt or it will not delete the entire address to the paste buffer. You only need the left cursor bar if I included the [Home] to since you hit [up] too many times.

[Address] is to load a different address to the from disk.

[F1] is to enter a different find string.
 [9999] will re-load TEXTPRO.MAX if you do not find what you are looking for.

What have you accomplished? If you found your address, it is both on the screen and in the paste buffer. I normally then login my browser and use [CONTROL][F] to replace the address from the paste buffer to the editor when I reach that portion of the letter. I also have a macro to type the heading of my letter and if I use that after FIND.MAX, it will automatically type everything [prompting input

made for the date] and add the address from the paste buffer to the right place in the letter.

FINAL COMMENTS

I hope you find these macros useful. I just used my IBM macro to address the letters to congressmen and the Federal Aviation Administration concerning a proposed change to aviation services. It was really quite efficient and so trouble at all to use. The hardest part is learning how to insert the envelope into the printer!

This article originally appeared in the USA magazine Current Notes which, alas, no longer exists for the Alan Clark.

DISK BONUS DRAGONLORD

by Robert de Letter

Dragonlord is a fantasy adventure game for one player. The object is to find the dragon in the dangerous maze. To do this, you mustn't allow your hit points or strength to drop to zero, you must make sure that you have plenty of food to eat, and you must fight and slay the many evil and goblins as they will try to keep you from your goal.

To kill the dragon you need a sword, an amulet and a bow. The amulet will protect you against the dragonfire, and the bow gives your sword more power. If you stumble upon the dragon without a sword, amulet or bow he'll kill you instantly. If you happen upon a teleporter, you'll be magically moved to a randomly selected room. If you don't have the bow, the amulet and a sword there is a one in ten chance that the selected room will contain the dragon.

You must buy the bow and a sword in the store (touch the 'S' in a room and you're in the store). The amulet is hidden in the dungeon. Whenever you start a game go to the store and buy some food and a sword, then go to the magician and pay him 8 gold pieces for a directional disc - your position relative to that of the amulet.

Whenever your strength falls below 50 you will automatically drink a potion (if you have any on hand). One that will steal half your gold, another that steals your sword. If this happens, immediately buy another sword as you can't survive without one. It's the only thing you can buy without having enough money.

Each time you move, you lose 1 strength point, without food 2 points! When you leave a room it will be empty, the only exceptions being the teleporter rooms. When you enter an empty room there is a one in four chance that an orb or a guard will follow you.

Casting a spell allows you to move instantly to any room of your choice. To cast a spell touch the 'C' in the upper left corner of the room. Use the joystick to increase or decrease the number of the room, then press the trigger. Flipping the map in a few moments, touch the 'M' placed in the lower right corner. The rooms are numbered from 1 (upper left) to 77 (lower right).

Besides an amulet that the magician can also give you a dragon disc - your position relative to that of the dragon. STP and SP points can be improved by the same magician. Good luck.

This great program 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 ATLAS ISSR, P.O. BOX 94, STAFFORD, CT 06155. Please make cheques payable to PAGE 3 PUBLICATIONS or order by telephone with your Visa or Access card on 01783 261 163.

The CLASSIC PD ZONE



Oh-oh! Although Stuart said last time that he hoped to be rescued, this did he realize that he would be severely punished for the damage caused to his ship in Issue #14? The very people who save him on his mission have arrested him in the most tortuous and painful manner possible - having to pick up his belongings and wear 'hoses'! Thus, this particular story ends once and for all and, until his sentence is complete, I have been assigned to take over the Classic PD Zone from the comfort of my computer room - I don't think Stuart will be going on any more space missions in a hurry! Stuart should be back in an issue or two's time but, until then, I'll be taking you through this issue's games! Come on!

THE TROUBLE WITH COMPUTER GAMES....

TROUBLE WITH THE BUBBLE (TWTB from now on) is one of those games that makes you realize the trouble with computer games in general - they're so addictive! TWTB starts off with a nice title screen and some spookily, fairly good music. A stab at the START button starts the disk loading again, ready for the main game. The first thing that strikes you about TWTB is the graphics - for a PD game, they're actually not

too bad - nothing mind-blowing but fine for the job. However, has put a fair bit of effort into designing them and this sort of thing helps to boost what could be classed as an 'average' game into a higher division.

One thing that stands out from the rest of the screen is a large bubble. Your task, should you choose to accept it, is to manoeuvre the bubble from the right-hand side of the screen to the left-hand side whilst avoiding hitting any piece of scenery - bubbles are delicate little objects after all! However, it's not as easy as all that because you don't directly control the bubble at all but rather an arrow which is capable of sending gusts of wind towards the bubble. To make matters worse, whether you are blowing the bubble or simply letting it stand still whilst you have a think, gusty winds will take effect and the bubble gradually moves downwards with the potential to hit a piece of scenery below. To increase the difficulty, various objects whizz across the screen and, should they hit your bubble, it will burst to no uncertain sound. You are granted approximately 30 seconds per level (although this is measured in 'air' units which gradually decrease as time ticks by) before your bubble explodes or natural causes.

The author thoughtfully included a high-score table for those that are good enough to gain entry. I won't tell you what my highest score was but hopefully a lot of practice will improve it!

Nonetheless, TWTB is average with only the

score of gusts of wind as objects while by the game itself - no music plays throughout the game at all. However, the difficulty curve is just right, not too hard but certainly not a piece of cake!

Where TWTB really stands out, however, is in the gameplay factor. Most additives show my hand (and so they tell me) and a flourish of the coat. Trouble With The Bubble is an essential purchase - make an addition (or should that be an addition?) to your PD collection today!

...IS THAT THEY'RE TOO HARD TO MASTER!

Disk #148 contains two games - TRIDENT and KARATE MASTER. By far my favourite of the two games is Karate Master - a gem of a one-player fighting game.

The game first kicks off with a blippy musical tune and the title of the game, followed by a title screen loading. Here, a man dressed in a karate gi (he) throws a series of kicks before a message on screen asks whether you require instruction. After you've read the instructions, or straight away if you didn't wish to fuss in the first place, the disk loads in a little more information and you are asked to sign up for the karate competition. After typing in your name, the screen goes black for a few seconds and the actual game screen

appears. The object of the game is simply to fight your opponents, one at a time, and to score ten hits against them before they do the same against you. Your fighter is moved by the left and right arrow keys whilst a press of the A key makes him throw a random number of kicks to either the face, stomach or knees (and what happened to the ribs about 'oo-hoo' below the belt?). However, the real skill lies in knowing when to move forwards and attack and when to move backwards - something that takes a while to learn.

The main game screen will probably shock you the first time you see it, simply because for a PD game the graphics are very good. If I'm correct, the two fighters and the animation have been pulled straight from the commercial 'Karateka' game. The screen is very nice looking with bits of various countries at the bottom of the screen and even your opponent's name displayed!

Each opponent appears to fight differently and they get progressively harder - 'The Red Baron' is fairly easy most but by the time you meet people like 'The Fox', the challenge has increased considerably. With every fight won, your grade increases - you start at Shodan (1st degree) and can eventually reach Jukuan (10th degree) with practice.

Overall, Karate Master is almost perfect. The only slight let-down is that sometimes the

by
Kevin Cooke

AMS 96

The famous AMS computer show celebrates its 10th birthday this year at the small venue of the Hagley Hall in Stafford. This year's show is on Saturday 30th November opening at 10am. Make a note in your diary now.

Unfortunately Page 4 won't be there due to other commitments (despite we haven't got much left to tell now) but you should still find plenty of Atari interest. At the time of writing we know that you will be able to see Steve (Stewart) (David Ford, TRAXX) and LAITH whilst Sean Carragher is going to make a late decision due to other work commitments. The organisers also tell us that there is "someone from Bristol" also supporting the show. (Who else that can be?)

When you add together all the other happenings, like second hand equipment, Atari disks (94" disks are becoming hard to find now), tables and more, you are in for a good day. Be sure to be there!

NEW ST MAG

ST FORGOTT has finally decided having no magazine at your fingertips supporting the Atari. We understand, however, that an integral lot of ST contributors are getting together to produce a new magazine called STARI COMPUTING. Whether this will be available through the internet or just as a subscription is unknown.

If you would like more information on this magazine get in touch with the publisher at Millers Atari Computing Group, Mike Korvicko, 41 Larch Hill, Handsworth, Sheffield S19 4AL. Telephone: FAX 0114 2819998. EMAIL: mikorvicko@btis.computeruk.co.uk.

ST users might also like to know of the Atari WRINKLERS CLUB which caters for the 'old man' of the ST scene. Details from Atari Wrinklers Club, 49 Cranford Street, Abbey Wood, London E20 5LR. Telephone 0181 333 2297. EMAIL: Jove.b@btis.computuk.co.uk.

The CLASSIC PD ZONE

keys don't respond straight away. However, this appears to be when the opponent is waiting to make a move so, if you are trying to kick and it's not working, it's best to take a step backwards out of your opponent's reach.

Karate Master is a first class game and well worth the cost of the disk alone.

Trident, put on the disk to fill it up, to a fun, but much less involving game in which the screen is divided into smaller squares. At the centre of the screen is the LION TRIDENT (your base) and at the beginning of every round, enemy enemies appear around the edges of the screen. It is your job to launch missiles and steer them, using the joystick, so that they collide with the missiles of the enemy. Sounds complicated? It's not - in fact, it's a fairly easy challenge for anyone who plays games a bit. On the other hand, it's a well done version of this type of game and worth having for the occasional play.

Overall, this disk is highly recommended, mainly for Karate Master.

RATINGS:

FINN KAMATE MASTER (and TRIDENT) 88%

1501 THROUW WITH THE BUBBLE 86%

BACK TO THE ARMCHAIR!

Oh well, that's it for this issue. As I said, Stuart should be back soon, if not for the next issue then for the one after. In the meantime, why not consider buying something from the Page 4 PD library - everything you buy will help to ensure the future not only of the magazine but also of your computer. Enjoy the rest of the issue!

Features and OPINIONS

XL v ST A SCORE DRAW?

Could this be the ultimate sacrilege? Does Kevin Cooke really advocate selling your Classic to buy an ST? Maybe not, read on to find whether a committed 8-bit supporter can be converted

really made me change my mind was the price of second-hand ST's. Forget the idea of buying a new ST - not only would it not be a wise economic choice but it is now almost impossible as Atari decided to drop that machine in favour of their new wonder, the Jaguar. I would question how much effort Atari have put into supporting even the Jaguar but then that's another story. You may well be, like I was, totally against the idea of buying an ST but I would advise you to think about it carefully - the time has come to see better. Let me tell you of my experience and help you to make the choice.

BUYER BEWARE

I eventually purchased my ST when I saw it for sale in the local newspaper. Priced at £40 for the machine with some software I thought that it was worth having a look at. The best price of what I can give to you if you want to buy an ST is to buy one which is not too cheap. Although more expensive to be a bargain, at the end of the day I got what I paid for it. Despite having a fairly thorough demonstration of the machine at the house by the seller of who was selling it, it soon emerged when I was back home that the machine was faulty. When looking at a prospective purcha-

ser of all, let me put my situation into perspective. A year ago, I remember that I would NEVER, NEVER EVER buy an Atari ST. I was an 8-bit supporter through and through and saw no need to own any other machine. Besides, at that time, even second-hand ST's were selling for ridiculous prices which I was not prepared to pay for a machine that was rapidly losing its luster. That was then.

Now, I own an ST. The factor which even-

no, always check that:

- the mouse port (port #8) works.
- the keyboard works (try to test every key in a word processor if possible).
- that the disk drive is capable of loading software (again, try to test more than one more floppy, try to test more than one disk).
- that the disks coming with the machine which you particularly want all load correctly and haven't been formatted wrong.
- if the seller claims that the machine has had it's memory upgraded to above that which it would normally have (i.e. 1/2 meg for a 16467PM or 512KTE and 1 meg for a 16467TL, ask to see some software that uses this extra memory to prove that it is indeed fixed).
- finally, get a friend who owns an ST already to check it over for you. Obviously, with the number of ST owners rapidly decreasing, this may not be possible but have a go - it could save you a fortune in the long run.

Then provide for an ST may seem like a bargain but if it doesn't work or it "needs attention" and you don't know anything about the ST's internals then it isn't worth a thing! Best of all, get a written receipt stating that the machine is in full working order and pay by cheque if possible - at least you may be able to stop the cheque if the machine turns out to be faulty in the next day or two. I would advise you ALWAYS to buy locally - problems are easier to sort out in person than by letter or phone and the seller may even offer you some help when needed! This will also prevent damage occurring during transit. Of course, don't be silly and pay something like £500 for an ST or make what other things are thrown in. If you are willing to spend that much on another computer then invest in a PC and find out what complications really are!

SETTING IT UP

Once you've bought an ST, you obviously need to set it up. One thing to take into account is that the ST has three different screen "resolutions" - low res and medium res will work on an ordinary TV (although some characters may be hard to read in medium res mode) but hi-res mode REQUIRES a high resolution monitor to work at all - be careful as some programs (especially some utilities) will only work in hi-res mode. Hi-res monitors for TV's ARE available but most software will function so much better on a proper hi-res monitor that you'll probably end up buying one out of frustration anyway! Of course, hi-res monitors display images only in shades of grey and so aren't really suitable for game playing. Another thing to look out for is that there are different types of ST available and, as I mentioned earlier, each has a different memory size and version of the OS (operating system). Ideally you need at least a 1 meg machine (although a 1/2 meg machine may do if you only intend to play old games). You'll need to be prepared for the fact that some programs will only work on an STE and NOT the 127PM whilst some programs will not work on the STE if it is double, ask the person or company who is selling the software! Software that says "FOR 68 030-QUICKED" will only work on the STE, so be as I know.

WHAT CAN I DO WITH IT?

Take your pick, basically! For games, the ST is good. Although many games aren't yet more playable on the ST than on the 8-bit, some are graphically very

impressive. At the moment, the ST is in much the same situation as the 8-bit but with a few more users in that most commercial support has moved onto the 32 bit game machines and the PC. However, this does mean that there are some GREAT bargains to be had from the remaining sources of ST software. If you need to copy ST owners with their range of games a few years back, why not invest in some of them? As I suggested before, don't be taken in just by flashy graphics - many of the best games are still those with the least flashy graphics. I would suggest that you try **LEMMINGS**, **CARSON FODDERS**, **THE SECRET OF MONKEY ISLAND**, **ROCK OFF II** and **STREET FIGHTER II** for the best in graphics and gameplay. However, don't forget that some games require certain machine types and amounts of memory. Page 61 back issues are an invaluable source of software reviews.

For various software, the ST is both good and bad! Generally, printing is easier than on the 8-bit as you just had a printer drive and away you go! No messing around with those dip-switches! Most programs print to a high resolution to give excellent quality print, even on a dot matrix printer. However, you may encounter a long game whilst the program seeks out how to print the page to reach a good-looking result!!!!

Word processing on the ST is also both good and bad. ST word processors generally have more features available than their 8-bit counterparts (e.g. spell checkers, multiple fonts/styles on screen, etc.) but I personally still prefer word processing on the 8-bit, the 8-bit programs just have a nicer, more personal feel about them. Besides, some of the "important" business on the ST such as spell-checkers tend to be so slow that they aren't worth using anyway!

Desk-top publishing, or DTP, is something which is infinitely better on the ST than on

the 8-bit. Programs such as **TIMEFORNITE II** are very good and make designing a page so easy as ABC! The ST will doesn't make as high as a PC for DTP but for a fraction of the price (and hassle of getting the program to actually work), who cannot think you've tried DTP on the ST you may never look at your 8-bit DTP programs in a good light again!

Spreadsheets generally appear to be better on the ST, probably due to the fact that a mouse can be used to quickly move from cell to cell. Databases are also good on the ST. Not necessarily better than on the 8-bit but just as good.

FD libraries are a source of valuable software - games, utilities, even specialist interest disks (Star Trek fans may be in their element). Give Page 6 a ring for details of their FD library - that alone may persuade you to get an ST!

Of course, you have got other applications which are possible on the ST - ...and, finally, mail, telecommunications, etc. I can't really say that I've had any experience in these fields but, if that's what you're really interested in, there will certainly be something to suit your needs! Be warned though - even with today's low software and hardware prices, investing in these areas could work out to be expensive indeed!

So, the million dollar question has to be "would I give up on my 8-bit in favour of my ST?". The answer would have to be a "no" but, then again, having tried the ST I'm not sure that I could really give up on the other!!! I will give up 8-bit but the two computers complement each other so very well that both are worth having. Next time you're looking at it 8-bit low, why not consider buying an ST? After all, with TWC Atari computers you'll be showing interest in more Atari products at the same time than Atari have ever managed to!

HOW DO THEY DO THAT?

James Mathrick asks a few questions that he hopes YOU can answer and Les Ellingham throws in a little of his meagre knowledge

This column has not appeared for some time, but I hope it has not been given up as a bad idea - it will provide a link between programmers, and will allow those programmers and their software which may eventually end up in PD libraries to develop with help from others. Below are some questions which I have had some difficulty in answering, a couple of which I have already raised by a Mailbag letter, although I hope they are not ill-considered for this reason. I am in desperate need of answers to all these questions.

How do you move the disk directory so that it cannot be read from DOS?

I was told that each sector has a separate header telling DOS which sector it is, so that when DOS looks for a sector, it walks out the track number, and then searches the track for the relevant sector header. So, as a method of software protection, programmers placed identical headers at the start of every sector, thereby making it not look as to which sector DOS reaches first and displays.

SETTING IT UP

By James Mathrick, Editor of *Microcomputing*

Also, should the disk-directory sector be given a conventional or unknown header, then they would not be able to be read by DOS. However, studying the DOS and DOS articles in previous issues, these make no reference to such a header - does this mean that the solution is purely hardware and not attainable through software?

☺ I think you are looking up the wrong tree with sector headers. Maybe other computers use this method, but not the Atari which always stores the directory in sectors 200 onwards. It is in fact quite simple to change the position of the directory so that it can only be read by the DOS on the same disk and not by any other DOS. Somewhere among the millions of bits of paper at Page 5 is the precise answer to this question, but I can't find it! The method is something like copying the existing directory to a new location of your choice using a sector copier, locating that part of DOS that tells it where the directory is and changing this to the new location. Next you reformat the modified DOS and then wipe out the old directory at location 200, by copying blank sectors on to it. I believe that the full technique was given in a book entitled *Software Protection Techniques* for something standard. Has anyone got a copy, or know the answer to the problem?

How can you corrupt DOS 2.5 so as to make it accept illegal filenames?

One solution I was given is: Boot your DOS disk, then FDISK 24 140 FDISK 2025 107. Then save the modified version of DOS by

using option H to write out new DOS files. You can then use illegal filenames (including clear screen characters) to stop directories being listed.

However, the article from which I got this information neglected to state which version of DOS this was with and, as of yet, I have not managed to make it work, usually ending up with a DOS disk that crashed or locked up upon booting.

☺ The above solution applies to the original DOS 2.5. If you are using DOS 2.5, as almost everybody is, then the answer is FDISK 274a1, FDISK 277b.a2 where a1 is the low ADDRESS value of the range of characters you want and a2 the high. Doing 20 as a1 and 123 as a2 gives you the full range of possible letters, numbers and lower case letters for your filenames but you can use any numbers between 0 and 255 to include all control characters, or a limited number of control characters. You will need to experiment though as you may find problems, for instance including * and ? as acceptable filename characters will lose you the facility of using these as wild-cards.

Does anyone have done the FDISKs above you mention DOS using option H. There is no need to reformat the disk you have booted from as the new DOS will overwrite the old that doesn't use your master copy!

How can you perform various audio-visual tasks while loading programs?

I included this question in my last Mailbag letter - my best guess was that a new hard-disk drive was set up. However this is pure guesswork.

How can you maintain a steady screen display whilst replaying digitised sound?

As this usually produces large distortions in the sampled sound, I assume the distortion is due to the fact that the computer spends irregular amounts of time on its housekeeping routines e.g. maintaining screen display, scanning keyboard etc. How to get round this I don't know.

How can you compress data?

Other than in standard text files where you can use run-length characters to represent a frequently occurring group of many characters, I am in serious need of algorithms to compress pictures and sound sample files.

☺ There are classical algorithms for compressing data and I'm sure that techniques applicable for other computers could be adapted for the Atari. In the meantime check out Andy Cadman's 'Vertical Compression' routine in this issue which may well help with graphics.



Editor's comment: We tried to make this a regular column some time ago but our files much more by way of answers or questions. I will think this is a good idea for a continuing dialogue in the magazine so if you know the answers to any of the above, please write them down for inclusion in the next issue. If you have any questions of your own, send them to: *Answer* has the answers. The truth is out there!

MOTIVATION

Joel Goodwin shares a neat PMG machine code routine with you

You're designing a great program. All you need is some nice player-made graphics to complete it. But - sigh - you have to fight your way through all those POKEs and PEEKs to get anything. How lame sound motion ... but virtual motion is a job. Well, hey! I might just have the thing for you! Let me introduce you to Motivation, a nice piece of machine language which allows you to focus on the graphics rather than all that programming.

GETTING MOTIVATION

To use Motivation, you must include the Motivation initialization subroutine in your own program. To get it up and running, you have to do three things:

1. Decide which PMG resolution you want. Set the variable RES to be 1 for single-line resolution or 2 for double-line resolution. (Remember that single-line is the slow way)
2. Reserve enough memory for the player-made graphics. You know, the usual moving about, with KAMTOS, memory location 100. When you've done that set the variable PMRLOC to be the page number that the player-made memory starts there.
3. CALL JS 10000

LF 9991 RES	MOTIVATION	JS 10000 RETURN
LD 9992 RES	Joel Goodwin	JS 10117 RES PMG MATHS 100
TC 9993 RES RES ADDR USER - 10000 734		RS 10120 MATH 0,0,102,0,170,07,2,0,0,101,
OR 9994 RES INITIALISE MOTIVATION		07,2,101,0,202,100,2,100
RS 9995 RES Input:		RY 10130 MATH 20,200,170,101,2,0,10,101,1
RS 9996 RES RES=resolution 1 or 2 for		10,2,101,27,200,170,01,0,200,3,74,00
JS 9997 RES single or double line		RS 10140 MATH 200,170,01,0,00,10,10,10,01,0,
DS 9998 RES PMRLOC=page number where		10,0,10,01,0,00,10,10,01,0,101
FJ 9999 RES PM memory begins		RS 10150 MATH 10,200,170,01,0,100,202,0,1
RS 10000 200 MATH 200,100,000,000,0,COLOR:		01,20,20,200,10,100,20,100,00,0,11,0
0,0,000,0,0,000,0,0,0,0,0,0,0,0,0,0,0,0,0,0		RS 10160 MATH 0,0,101,100,0,100,1,0,10,100
00		0,100,10,0,200,0,100,100,0,100,200
RS 10010 RES=3-RES		RS 10170 MATH 200,100,200,200,100,0,100,
AT 10020 FOR I=1079 TO 1701 READ G:PMG I		100,21,0,201,0,200,0,1,157,0,200,200,20,
G:G		100
LD 10030 FOR I=1 TO 30 READ B:PMG(I)+G:G		RS 10180 MATH 0,200,20,100,20,0,101,0,200
B:G		100,20,0,101,0,200,100,20,0,101,0
OR 10040 IF RES=1 THEN LD=C:G:G:G:G:G:G:G:G		RS 10190 MATH 200,20,100,20,0,107,10,0,10
JS 10050 IF RES=2 THEN LD=B:G:G:G:G:G:G:G:G		1,0,0,101,201,0,100,1,0,101,200,0
PM 10060 FOR I=0 TO 4:COLOR(I)=700+100		RS 10200 MATH 100,21,0,101,200,0,101,210,
100+10000+1:PMG(I)=100+1:PMG(I)=10		0,100,21,0,101,200,0,101,200,0,170,200
100+1:PMG(0)=100+100		RS 10210 MATH 200,107,10,0,100,200,0,100,
20+711:PMG(0)=107:PMG(0)=200,0,0		200,200,100,200,200,100,200,207,100,10
RS 10080 PMG 1000,LD=0:LD=LD+10+10		RS 10220 MATH 00,100,2,0,0,0
OK 1045,01:0000,0=0:1000:FOR I=0 TO		JS 10230 RES 100,100,100
3		RS 10240 MATH 200,104,100,207,104,70,200,
RS 10070 LD=LD+(2000):IF LD=204 THEN LD=		100,200,100,70,200,100,200,100,200,200
0:LD=0+1		0,200,200
LC 10100 PMG 1000:LD=0:LD=LD+10+10		RS 10250 MATH 100,0,100,100,207,200,200,0
-1:PMG(100+100,01:G:G:G:G:G:G:G:G:G:G:G:G		0,200,200,200,200,200,100,200,200,200,0
PM 10110 1:0000:0000:0000,0000,1:PMG(0)=200		01,100,0
+0:0		RS 10260 MATH 100,0,100,10,70,70,200

00000 - INVERSE CHARACTERS - 0 = CONTROL CHARACTER - 0 = INVERSE CONTROL CHARACTER

After your program has finished any G's there it is ready to use some motivated player-made graphics.

Okay, I lied about the miracle graphics. That's not all bad. What Motivation does is turn the four miracle into ten players, so you don't have four miracles but you do have ten players!

So how do you use these five players? Well Motivation has set up some variables which makes all the necessary map-checking a thing of the past. All you do is POKE through the variables. like this:

100 POKE HPOB(0),100

This would give player 0 a horizontal posi-

tion of 180, 0x

226 POKE SIZE/413

This would give player 4 quadruple width. The number in brackets is always the player number, from 0 to 4.

Here is the list of all of the variables mentioned with you to use, where p is the player number.

- HP(p)(g) Horizontal position
- VP(p)(g) Vertical position
- SIZE(p) Size (width) of screen
- IND(p) Indefinite Ingameplay
- COLOUR(p) Colour
- IMAGEADR(p) Two byte image address
- HALT Halt flag (optional, see later)

But let's discuss exactly how you would go about putting some players onto the screen.

MANIPULATING THE PLAYERS

First thing you have to do is give a player an image. The best way of doing this with Motivation is put the image into a string. Then say we wanted to have a player in the shape of an 'X'. Well, the data for an X would be:

```
250 DATA 24,88,102,102,126,102
```

And this is what we would actually do:

```
300 DIM A$(7)
310 FOR I=1 TO 7:READ D:A$(I)
    =D: NEXT I
320 DATA 6,24,88,102,102,126,102
```

The important point is that Motivation looks for the first byte to tell it how much graphics data there is. So, here we have said that the 'X' shape has 6 bytes of graphics.

How would we give a player this shape? We need to work out the address of the change in memory. We would do this by the following:

set of commands:

```
330 IMAGE=ADR(AC)+H*INT
    (IMAGE)/256-LO-IMAGE+P*256
```

This has converted the image address into the standard two-byte form of an address. We would then pass on the image to Motivation. For instance, for player 3:

```
340 POKE (IMAGE/256),LO/POKE
    (IMAGE/256)+1,H
```

Then we could POKE HP(p)(g) with the horizontal position, VP(p)(g) with the vertical position, SIZE(p) with the size and COLOUR(p) with the colour. And that is all there is to using Motivation.

I LIED AGAIN!

Motivation is essentially a Vertical Blank Interrupt NES. What this means is that Motivation is activated every 1/500th of a second and it proceeds to check all of the inputs from the programmer (through HP(p)(g), VP(p)(g) and so on).

The problem is that because it works so fast, and BASIC works so slow, you might end up with Motivation being activated when you have only POKE'd the one-half of an image address (which that you have to do make two POKEs to set an image address). This means there will be an ungodly flash of garbage on the screen when you are POKEing an image address.

There are two solutions to this. One is that you should only change image addresses when players are off screen i.e. when you have POKE'd HP(p)(g) with 0. This is fine but screen animation cannot be achieved by POKEing the image address - you would have to physically change the image data.

The second solution which is to built into Motivation is the HALT flag. You can effectively turn Motivation off while POKEing an image

```
(X) 1 001 #####
10 2 001 # MOTIVATION OFF 1 #
21 3 001 # by Joel Hoekstra #
#0 4 001 # -----
00 5 001 # NOW START LOGS -PAGE 1% #
01 6 001 #####
00 7 001
00 20 001+P*256+P*256-0-POKE 184,P
    P*256-1-0*P*256-0-POKE 718,184+P*256
    2,1,1
00 20 002# 1888
00 70 001 IMAGE=(71+P)*P*1024,1881
    "ave the input!"
20 00 001000:POKE 1+1 TO 7:READ 0:IMAGE
    =I+0*256+0:POKE 2
00 00 001+0*256+0:POKE 0:0*256+0*256
    /10-0*256-0:0*256
00 100 0-100+0-0-0-POKE COLOUR(I),150-POKE
    SIZE(I),I
00 100 POKE HALT,1:POKE IMAGEADR(I),P*
    256+0*256+1,0:POKE HP(p)(g),0:POKE
    VP(p)(g),0:POKE HALT,0
00 120 POKE HP(p)(g),0:POKE VP(p)(g),0
00 130 0-0*256+0-1:P 1+1 THEN 140-0*256+
    0:0*256 120
00 140 IF 0=1 THEN 140+0*256+0:0*256 120
00 150 IF 0=1 THEN 140-0*256+0:0*256 120
00 160 IF 0=1 THEN 140+0*256+0:0*256 120
00 170 0*256 120
00 200 0*256 11,120,120,121,121,100,100,20
    1,2,2,22,22,100,100,121,121,120,120
00 9999 001
    MOTIVATION
00 9999 001 Joel Hoekstra - Jan 1993
00 9999 001
00 9999 001 INITIALISE MOTIVATION
00 9999 001 Input:
00 9999 001 Resolution 1 or 2 for
00 9997 001 single or double line
10 9999 001 P*256/page number where
00 9999 001 P= memory bytes
```

Underline = INVERSE CHARACTER - [] = CONTROL + CHARACTER - < > = INVERSE CONTROL + CHARACTER

```
0400 40000 00000 00000 00000 00000 00000 00000
0800 00000 00000 00000 00000 00000 00000 00000
1200 00000 00000 00000 00000 00000 00000 00000
1600 00000 00000 00000 00000 00000 00000 00000
2000 00000 00000 00000 00000 00000 00000 00000
```

address. You would use

400 POKE HALT,1

to tell Motivation to stop. This you would POKE your image address, for example

**400 POKE IMAGEADR(4),LO-POKE
IMAGEADR(4)-1,PI**

and then you would tell Motivation to continue again by using

```
00000000000000000000000000000000 0000000000
00000000000000000000000000000000 0000000000
00000000000000000000000000000000 0000000000
00000000000000000000000000000000 0000000000
```

400 POKE HALT,0

You may find these extra couple of POKEs allow things down a little and so it is up to you which approach you take.

Note that when Motivation is stopped it does not mean all of the players will disappear. All it means is that players will not be updated (position, size etc.) until you turn it back on.

OTHER THINGS WORTH KNOWING

Besides from POKEing any of the player-miscable memory locations. Use Motivation's POKE variables e.g. HPPDR, YPPDR, SGRS. You are allowed to POKE the priority register, 503, but you will find that the bit corresponding to "turn the four missiles into a fifth player" is permanently on. You can also POKE the MISCTRL register, 504, but then you will find the relevant bit which activates the players are permanently on. It is best to POKE to 509 as all player-miscable graphics are not in use. For example:

POKE 508,0 - turn off screen
POKE 509,24 - turn on screen

One thing Motivation does not interfere with is the collision detection mechanism. You can still POKE to HITCLR (50376), and FREEB the collision detection registers as normal. Just remember that the four missiles are not one player, player 4.

Talking about the four missiles as one player, you will need to learn mind that the colour of player 4 is the same as the colour of battlefield 3. That is, if you POKE COLOUR(4) then you are actually POKEing direct to location 711. i.e. just like using a BCTLDCOLR key command.

You can also POKE directly to the player-miscable memory. There is nothing "illegal" about this but be warned that Motivation will not care for anything you manage to through the back door.

Motivation uses nearly all of page 6 of memory, only locations 1700-1791 are free. Also, when initialising, Motivation will use memory locations 265-268 but once it is up and running these locations are free for your program to use.

Motivation works by erasing old player images and drawing new ones constantly. If you have very large images you may find that your program begins to slow down. This is one price you have to pay for Motivation's simplicity.

THE LAST WORDS

There are two demo programs. The first is a step-by-step designed so that you can read the program to help you get to grips with Motivation. All it does is move around a large player using joystick input.

The second is ... well, a bit of fun really.

Motivation isn't perfect but I'd guess that it's a damn sight easier than setting up player-miscable graphics from scratch. I hope you think so too.

NOTE: Listing 2 is too long to include in the magazine and is therefore on this issue's disk as a ready-to-run program. It is also available as a Type-written printed listing on request.

A SUMMARY OF THE PROCEDURE

1. Put RES=1 or 2 for single or double the resolution.
2. Reserve memory for the player-miscable graphics. Set the variable PMSIZE() to be the page number that this memory starts on.
3. CALLS 10800 to initialise Motivation.

To give a player an image, put the image data into a string but the first byte of the string must be the number of graphics data bytes there are. The address of this string must be divided into LO and HI parts which must be POKE'd into IMAGEADR(p) and IMAGEADR(p-1) respectively, where p is the player number.

Other characteristics can be set by POKEing HPPDR(p), YPPDR(p), SIZE(p) and COLOUR(p).

To avoid garbage flashes when setting an image address, POKE HALT with 1 before setting the image address, and POKE with 0 when finished.

THE TRUTH IS OUT THERE

At least it's in the PD library this month - when it's not in otherwise everything you don't know about the X FILES

With thanks to Kirsty Cooke

```
00 1020 5070 7,200,24,101,20,4,141,4,200,
100,70,4,101,2,200,101,20,4,101,4
04 1020 5070 200,24,100,26,4,157,14,4,12
1,0,4,101,20,4,100,1,4,101,200,4
08 1020 5070 100,21,4,111,200,4,141,20,
6,101,2,4,101,220,4,141,220,6,173,200
12 1020 5070 200,157,12,4,160,200,7,180,
200,200,100,200,100,200,100,200,4
16 1020 5070 10,200,7,4,1,0
20 1020 5070 500,2000,5000
24 1020 5070 100,100,100
28 1020 5070 200,100,100,200,100,73,200,
100,200,100,73,200,100,200,200,200,
7,200,200
32 1020 5070 100,4,160,140,200,200,0,
200,200,200,200,200,240,200,200,0,
41,100,7
36 1020 5070 102,4,160,44,74,77,200
```

Graphics: IMAGE CHARACTER, | | | CONTROL
CHARACTER - 0 - P - IMAGE CONTROL - CHARACTER

A GLORIOUS FUTURE?

Is James Mathrick dreaming or could there really be a future for Atari?

Those who read the special report from *Let's in the March/April edition*, about the Atari Time Machine may have classed it as a square blow, a trip into the fantastic by an over-worked editor, or an elaborate April Fool Practical-Joke. Or, if you believed it, you may have agreed, that due to Atari's intransigence, it had no future. Let me tell you, it does, or did, or will, because I have been there and I have returned from the future with a story to tell.

For some time the Atari 8-bitners had been left in the lurch, left to fend for themselves and provide their own support. Thus, they had become a super-rare of programmers, but still had not the recognition this deserved.

In early 1986, the editor of the world's oldest and best dedicated 8-bit magazine and columnist wrote an article, a mere tip into the fantastic about an Atari Time Machine.

Some distance away in the Transit household, Jack explained excitedly over the breakfast table. He relaxed down, placed his bank statement back on the pile of junk mail, and started to mop up the champagne that was now dripping off the side of the table.

His eldest, Sam, shuffled down the stairs and headed into the dining room, flinging open the door and causing the junk mail to fly around the room.

"Come up" muttered Jack, "you're over forty", leaning over to retrieve the letters from the floor.

"That, you know British had..." whined Sam. "No, I'm not giving you any more computers" muttered Jack, regarding the letter of his mail. "Especially considering the situation." He slid the bank statement across the table to Sam, who studied it with some difficulty.

"No, or... this is bad news?" guessed Sam. Jack nodded slowly and considered thoughtfully on his socked ankles. Things had got bad, and they might get worse. Money was a scarce commodity and pure strings would have to be controlled. Hell, he might have to sell some of his houses, and the yacht would have to be liquid.

The butler brought in more food, and Jack rearranged around in the junk mail, and found a document in the rough - a small subscription to the resource for the Atari Classic and Atari ST. He slid open the envelope, and slid out the magazine, reading

quietly admiring the quality appearance from pink cover to pink cover. He sighed slightly at the headline thrown at him from the back cover, but then again, he'd got used to them a long time ago. His mind wandered as he flicked through the magazine, covering the sheer gossamer and perseverance of the publishers and contributors to continue carrying the Atari news. What he needed, he thought, was inspiration, in order to stop Atari PLC from collapsing.

It is open hard suddenly on an article. It's title read "ATARI SAVED". He scanned over the various tracks, and then sat back, pinching the center from his neck and considering the idea. Time Travel. Wow!

Twenty seven seconds later, he had a headache, and needed help working staff out. He called the butler over and relinquished to him. Sam worked busily at his champagne through his stress.

The butler wheeled over a computer, the letters "ATARI SAVED" glowing on a metal plate on the keypad. Jack looked quizzically. He had never really been a computer man, but he'd had this computer since at least Thursday, as someone had told him they were unique. He smiled.

"Geeze, it's not doing anything," complained Jack.

The butler bent over. "You might try the switch at the back, sir" muttered the butler.

Jack bent forward, yanking the butler with distress, and flung the switch. He sat back, as the computer beeped, clicked, and fell silent.

James leant forward again. "The keys, sir" Five minutes, and thirty-three ERROR messages later, Jack got up and walked to the window. He needed help. He would also want wiring money, too.

"Jeeze, get the man, I've off to over thought!"

"The car has a puncture, sir" "There's a Get another," muttered Jack. After

all, James weren't that expensive. Computers were tough. Apparently.

A few years later Atari had long since failed. The Atari Time Machine project had stopped short due to lack of funds. In order to make funds, Atari had sold the Time Travel software rights to Sega, who now owned three quarters of the world's wealth. The software did the job, but barely, and didn't quite work completely on the Atari hardware - in fact, the time machine managed to eradicate itself and several large cities out of existence, and therefore never actually existed at all.

It was about this time that a programmer, driven insane by the infinite variations and odd-use of modern PCs, released two deadly viruses into the world. One was a computer virus, transferred by the Internet and disks, that eventually led to the simultaneous collapsing of every Internet link in the world. The second, more deadly, virus, attacked more organic systems, humans in fact.

It was a variation of the The Virus, which synthesized retroviruses and stored it in a purpose-constructed capsule, which was then ignited by a high output of metabolic energy when the virus died. The result of this, due to the quick spreading of the virus throughout society and the human body, was that almost everywhere in the world spontaneously exploded. Almost completely.

The long-collecting and gritty Atari classic programmers appeared to be immune to both viruses. The computer virus immunity was easy to explain, as no commercial software passed between the superior machines any longer, and very few were connected to the Internet. The biological virus immunity, however, was harder to explain, but was attributed mainly to the high caffeine levels in the blood from obscure amounts of cold coffee taken in late at night and the semi-conscious state this, and very late nights in front of long

program, produced.

Because of this, the world was devoid of all technology, lasz even transistors were linked up to the Internet in those days and human life, except for the Atari programmers and their crazy 8-lits. They, too, would have died out also, if one of their members had not discovered a top secret military coffee maker, which contained their semi-conscious existence from then on.

One of them, called Myki, one day uncovered the plans for the Atari Time Machine on a PD disk, aptly labelled "Disaster".

The programmers, well used to fitting many upgrades and work files, managed to reconstruct the machine and correct the software for it. One of their members, namely me, was volunteered to take the one-way trip back to the twentieth century to warn of the impending disaster.

I would have gone back then, but by some freak of nature, it started to rain cold coffee. In the year-long burst of hypostativity and metastasis that followed, the programmers managed to reproduce the world.

The world is now (here?) a strip of Atari 8-bit programmers, where all software and hardware is fully compatible, and where every bit of software is crossplatform.

I came back, reluctantly, three years after then, and my message to this. We have a glorious future - if you stick by your machine and by your principles, you will survive when the world collapses. We can make the world a better place. Remain faithful, and carry on believing.

..... OR, so maybe it may not happen exactly like that (God knows, it may have already), and I may not have exactly time travelled back from the future, but this little bit of fantasy does go to show the sheer quality of us Atarians. How many non-Atarians out there can program their computers? How many know the inner workings of their

computer? How many even know what the "B" entry means? Not as many as 8-bit owners, I would guess.

The software coming out for the Atari at the moment pushes it beyond its limits and capabilities - how many PC programmers can claim that of their software? It may be true that only when one is restricted (in terms of capabilities of the hardware) and discovers one's limits, can one be truly free and produce high-quality results. Modern PC programmers are lost in almost limitless memory and hardware, and never have to juggle with capacities and capabilities, and the result is ANOTHER mediocre (in respect to the potential of the machine) bit-on-up arcade game.

How many commercial text adventures do you see on PCAT? A program where you actually have to learn how to READ and THINK without having to rely on fancy trigger fingers? Not many, again.

Because of the restrictions and compromises of the Atari, the Atarians have become a better quality of person - when they encounter a problem or impossibility, they will find a way around or under it and produce the result they want, without necessarily utilizing more memory in the machine or upgrading their souls/instincts - computerized without loss. And so, we become more adaptable and successful. So hang in there - we see the better way.

To be fair, we haven't got everything going for us. Years ahead, when scientists are struggling to create artificial intelligence, the Atarians will know that Atari existed it in the early 70s in the 8-lits. How else do you explain the computer looking up to exactly the same point in a program again and again when it gets bored? Or the computer scrambling a particular file it doesn't like, or it throwing up random errors when it's not happy with your DLX? I blame artificial intelligence, although again, it battles us with patience and perseverance, adding to our sheer quality.

If we are not part of a computer ring, but one of a religion, a small group of elite programmers. The workhorses, I realize, can be separated into two groups - the thinkers and the programmers.

The thinkers are those with the ideas - grand and incredible plans for software and games, ideas which, it is quite likely, the non-Atarians lack. (Let's face it, if they're not given enough to have an 8-lit, how great can their ideas be?) They may also have ideas about how to improve programming, and get round those little niggles that have prevented great things happening on the Atari. Whatever the ideas, the thinkers lack the necessary programming knowledge or being to implement those ideas. I myself, being in this group, although, through great perseverance, my programming capabilities are advancing in leaps and bounds.

The second group to the programmers - those with the natural feeling for programming, who can basically take an idea and make it a reality, given enough cold coffee and an assembler, compiler or whatever. They do, however, lack the divine inspiration of the thinkers, and spend their time improving existing programs or upgrading previous ideas.

There are the rare few, the thinker-programmers, who have the ideas, and the means to make them real. If you are one of these, and you have not yet produced any software for the numerous PC-collectors, WHY NOT? You are hitting the Atari 8-lit quietly out of existence, so start coding!

For the rest of us, the less gifted, who fall into either of the categories, the solution seems simple - let's combine talents - stop being separate units of Atari users, stop the few thinker-programmers striving to keep the Atari alive, and become a single *Atarian* organism.

The problem is how to achieve this. Small Atarian communities have set up, e.g. Atari WPMS, Hardwell etc, and have produced quality software. Surely in the near future

thousands of users out there, there are thinkers and programmers in close enough proximity to produce software.

Ofcourse, extend the Time do they do that? collapse into a sort of Programmer's challenge - send in your problems with programming, and let others help you out.

Also, other than offering yourself as a pre-p, a thinker and programmer contact service could be set up. Surely the thinkers out there have had ideas for software, but have thought them stupid or impossible ideas - let the programmers decide whether they are impossible. Likewise, the programmers out there would surely like a challenge or problem, but have thought their talent is useless, not good enough or wanted as a dying community. Snap-out of it! Let's get together and make this world an 8-litler place!

For those who claim to be of neither group, articles, hints and tips are well within your capabilities - even a letter to the Mailbag expressing your opinion of the Atari situation would help on Atarians - everyone has something which they can submit to Page 8 and/or similar 8-bit magazines.

Overall, it can be seen that a lot can still be done, and the possibilities can never end. If we all pulled together, the 8-lit can survive well into the next century.

DISCLAIMER: Although the Timmies were mentioned in the story, I do not wish to ridicule or embarrass them for becoming engaged in a few odd I think that they are all great guys, and that they all weigh their weight in gold. I would gladly shake any of them roundly by the left hand.

Should you wish to agree, disagree, comment, send words of support etc, or offer/exchange ideas/programming skills, write either to Page 8 (address in front cover), or via James Whitehead, at 28 Whitehead Court Road, Redwade Castle, Merion, POB 6265

HOLD SCREEN

by John Foskett

USING THE ROUTINE

Each of the routine's three functions are described separately as follows...

1. EITHER OF TWO KEYS

The routine will exit only if either of two keys are pressed when using two parameters as follows...

```
KEY=USR(ADR)(HOLD)(I,J,A,B)
```

Where 'I' and 'J' are the hardware codes for the chosen two keys required for exit. To determine which of the two keys were pressed, the routine returns a value of ONE to BASIC if the key representing the first parameter in the call is pressed and a ZERO if it is the second.

2. A SPECIFIC KEY

The routine will exit only if a specific key is pressed when using one parameter as follows...

```
KEY=USR(ADR)(HOLD)(A)
```

Where 'A' is the hardware code for the specified key required to exit.

3. ANY KEY

The routine will exit if any key is pressed if used without any parameters as follows...

```
KEY=USR(ADR)(HOLD)
```

The hardware code for the key pressed is returned to BASIC so that the actual key pressed can be detected.

SOME EXAMPLES

```
KEY=USR(ADR)(HOLD)(12,3)
```

This would be used to hold the screen when either RETURN or ESCAPE is to be pressed to exit, all other keys being ignored. If RETURN is pressed, then KEY=1 because 12 is the hardware code for the RETURN key which is the first of the two parameters in the call. If ESCAPE is pressed, then KEY=3 because 3 is the hardware code for the ESCAPE key which is the second parameter in the call.

```
KEY=USR(HOLD)(43,3)
```

This is the same as above except that the routine only responds to the 'Y' and 'N' keys, 43 is the hardware code for 'Y' and 38 for 'N' and therefore KEY=1 only if the 'Y' key is pressed.

```
KEY=USR(ADR)(HOLD),2)
```

This is used to exit where a specific key is pressed. In this case the ESCAPE key because 28 is the hardware code for ESCAPE.

```
KEY=USR(ADR)(HOLD)
```

This would be used to hold a screen where any key is used to exit. If the key pressed was the SPACE-BAR, then KEY=33 because the hardware code for the SPACE-BAR is 33.

HOW THE ROUTINE WORKS

There is only one extra memory location used in the routine which is the zero page location 203. If required, this may be employed with any of the unused locations anywhere in RAM.

The first operation of the routine is to place a zero into locations 203 (FREEBDD), locations 210 and 211 and then to load the X register with 255 and store it in location 764 in case any key press that may result. A value of 255 in location 764 means that no key has been pressed. The next operation is to remove the first parameter from the stack to determine which of the routine's three functions to perform. If the parameter was a zero, then control is passed to the ANY KEY section, but if it was 1, then control is passed to the SPECIFIC KEY section, if the value was greater than 1 then it is 2, then control is passed to the EITHER OF TWO KEYS section.

Apart from the start of the routine as described above, the routine is basically split into three separate sections, each of which is described separately. In order to understand the following descriptions, it is important to know that location 764 always stores the hardware code for the last key pressed.

1. EITHER OF TWO KEYS

This section first removes the two parameters from the stack and stores them in the X and Y registers respectively after which a loop (LOOP) is entered where they are continually compared with the contents of location 764. If the contents of location 764 is equal to the contents of the X register then the loop is exited via the label EXIT1, but if it equals the contents of the Y register, then the loop is exited via the label EXIT2. Once leav-

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ST PUBLIC DOMAIN



ROUNDUP

Hello there, and welcome to the ST PD Round! If you've read the 8-bit section, you'll already know that I'm doing the column this time so Stuart is missing house! I must confess that I've given over to my gaming bias this issue and so I'm bringing you reviews of two top-quality games. Without any more wittering, here are those reviews!

THEY'RE COMING OUT OF THE GODDAM' WALLS!

ALIENS (ST907) is, as the name suggests, a game based upon the film of the same name. The disk starts off with a very impressive three-dimensional digitized still

and sound clippers from the film, e.g. "There's nothing back here", "Look, I'm telling you, there's something moving and it ain't us!", etc. After this impressive start, the disk is accessed again and the main game screen appears.

Aliens is basically a semi-strategy arcade game, a little in the style of *Quake* yet not shown from a first-3D perspective. The object of the game is to get your marines from the left hand side of the screen to the exit on the other while avoiding or killing the Aliens on the way. If you think this sounds simple, don't let on till!

The majority of the screen is divided up into squares. Only one marine may occupy a square at a time, and each marine may only make one move at a time, be it aiming/shooting his weapons or moving. Bullets are taken off the main marines. After every marine has had two moves, the turn ends and the aliens get a chance to attack. Should they land on the same square as a marine, you may have time to shoot it dead before it kills the marines. On the other hand, you may not. Although you

can shoot without aiming, aiming first facing up out of your turret greatly increases the damage that is done.

Aliens is one of the most impressive PD games I have ever seen. Graphically, the game is very good. The aliens and marines are well drawn and, at the bottom of the screen is a digitized picture of whatever marine you are controlling. Also in this section are the marine's name, health condition, weapon, firing range, etc. Depending on which weapon you have, the accompanying fire mode changes - a heavy torch. Each weapon even has its own digitized sound!

Weapons include flamethrowers (great), pistols, machine guns and shotgun. The digitized sounds and graphics really make the game - at various intervals, marines shout things such as "come in" and "they're closing in". If you've seen the Aliens film and enjoyed them, you'll love this as it captures the mood and atmosphere perfectly. If you haven't seen the film, buy this anyway and waste away those precious hours! You, it's truly excellent!

WHAT'S THIS ABOUT A GLASS BUTTOCK?

GLASS BUTTOCK OF THE BIRD (ST905), formerly referred to as *OBSC*, is yet another excellent game from the author of the "Roundup" series of games.

The story goes that many years ago on the island of Tharg, Queen Emerelda suffered a nasty accident involving a goat, some soft cheese and an electric socket. Consequently, her left buttock was sliced off. To combat this problem, a witch from a neighbouring island was called in to make a new buttock from glass. When the Queen found that she kept sliding off of her throne, the witch was frustrated. However, before leaving the island she put a spell on the buttock which, when the Queen died, allowed it to take control of the whole island. Your task is to control 16 citizens of Tharg in an attempt to overthrow the buttock!

When the disk starts to load, you are greeted with a Tracker tune of some synth-style music. Soon enough, a screen appears from which you can either read the interesting background story and instructions or choose to go straight to the game.

The first game screen to appear is split vertically in half. The left half of the

screen shows a map of the island whilst the right half shows pictures of your twelve characters: Mr. Bean, Inspector Stone, Black Tebbell, Jerry Hordley, Reginald Wilson, Jerry Bowles, Timothy Lamson, Alan Orsard, Kathleen Turner, Kim Beestinger, Captain Pined and, of course, Granddaddy! Each picture has been hand-drawn but incredibly well - many of them look as if they've been scanned except Kim Beestinger who looks a bit like a basketball. By clicking the pointer on any of these characters, you take control of them and the screen changes to a first person perspective of that character's view. By clicking on the turn-left, turn-right and move forward arrows, you can walk your character around the island.

The characters start off on their own but, by visiting the various castles scattered around the island, more soldiers can be recruited to join the ranks. To help you with finding the castles, they are shown on the main map along with your character's own position.

Each character can make up to 80 moves per turn. After every character has moved or you choose to end the turn, the enemy soldiers get a chance to move around the island and attack you. Should you survive such an attack, you can either run away or choose to stay and fight.

Your eventual aim is to reach the castle on the North of the island but, as this game is only the shareware version, you have to register the game with the author to be granted access.

The graphics throughout the game are superb, from the pictures of your characters to the character's view of the island, everything is done in bits of luxurious detail. The game mechanics also make it extremely easy to play - you hardly even need to read the instructions to be able to play it! The game was written in ST005 so, if you're wondering what can be done with it, take a look at that!

The registration fee is only £5 and, in the future, once you've played the game, I'm sure you'll want to register to get into the main.

Overall, the Glass Buttock of Tharg is another excellent game. The author should be proud of his efforts... and his sense of humour, come to think of it!

by
**Kevin
Cooke**

ROUNDUP RATINGS:

ST937 - ALIENS	93%
ST905 - GLASS BUTTOCK OF THE BIRD	89%



JOURNEY INTO CYBERSPACE

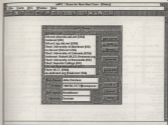
**John S Davison
explores the
Internet and
discovers all
the wonders
of a brave new
electronic
world**



JUST HAVING A CHAT

So far in this series we've looked at several ways people can communicate with each other via the Internet. For personal one-to-one communication we've discussed e-mail, for sharing your thoughts with groups of people we've looked at Usenet and its newsgroups, and we've mentioned the World Wide Web as a means of displaying information to the world at large. However, none of this takes place in real time - the activities are more like writing letters or displaying posters on a wall. Wouldn't it be nice if you could hold live conversations with people wherever they are on our planet - for the price of a local phone call? Well, you can - using **Internet Relay Chat (IRC)**.

In concept it's similar to the real-time local "chat" facilities available from its start several via standard communications software on many bulletin board systems - but it works on a global basis. Unfortunately IRC needs special software and I've not yet found an Atari version anywhere. If you know of anything, please let me know and I'll publish it here. I've included IRC in this series for completeness of coverage of Internet applications - and who knows, someone might yet produce an Atari IRC program. I currently use IRC via an IBM PC running a program called **atirc**, with Internet connection via CompuLink.



Choosing an IRC server prior to entering a channel

MULTI-CHANNEL CHAT

IRC began life in Finland in 1988, and since then its use has spread across the world. It's a multi-user, multi-channel "chat" system, allowing people to converse in real time via messages typed in at their computer keyboards. It works via a world-wide network of IRC server systems all linked to the Internet. By connecting to one of these using an IRC client program you can gain access to the IRC "channels" it handles. A channel is a place in cyberspace where people can meet in real or virtual conference rooms, and each is usually devoted to a particular topic of conversation. You then "join" a selected channel, at which point you'll be in the company of like-minded people scattered all over the world. You'll see conversations taking place between them displayed right there on your computer screen - as they happen. You participate in the conversations simply by typing comments on your keyboard. Anything you

type is immediately broadcast to everyone else on the channel and displayed on their screens, and they can respond accordingly. IRC gained widespread fame in 1990 during the Gulf War. First hand news of the hostilities were broadcast live from the area by IRC users, while other users all around the world gathered on appropriate channels to hear about and discuss what was happening. A similar thing happened in 1993 in the camp against Boris Yeltsin, where eye-witnesses in Moscow gave live reports on the action there. When you log onto a server you can request a list of the channels it's handling, and the server will display them on your screen. There are often hundreds of channels to see at any one time, so deciding which to join can be a problem in itself! If you're a complete IRC beginner like me! It's probably best to find out of the "general" channels where you can just pop in for a friendly chat on any old topic with whoever you find there. These channels tend to have names like "chat" or have the word "talk" or "talk" somewhere in their title.

Listing
showing
some of the
290 chan-
nels avail-
able on the
DANnet ser-
ver in Char-
lotte, North
Carolina.



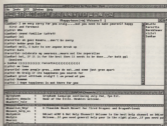
BAD TASTE WARNING!

Much to be made in the realm of pornography on the Internet, but I've found that it's generally not that evident, and doesn't really hang out at you as the Press would have you believe. Except on IRC, that is. When creating a full channel listing you're likely to see channels with rather stark pornography-related titles as well as others in pretty bad taste. You'll probably also experience bad language on some channels, too. If you're really offended, you shouldn't use IRC. However, there are plenty of other good, wholesome channels, but if there's really nothing that appeals, you can even start your own channel.

Channel topics range from the doubly serious, through outrageously funny, to the downright weird, obscene, and sick. I've even occasionally stumbled upon Atari-related channels, but so far have found no one logged into them. I guess they must belong to cyberspatial Atari addicts who exist there at

specific times. Just because a channel is listed doesn't necessarily mean there's anyone actively using it at that time. It's possible to list only active channels, so you can quickly find someone to talk to.

You don't use your real name on IRC, but operate with a "nickname" instead. This can be anything, as long as no one else is already using it. For instance, I sometimes use BAXMAN or BOMBROWER (as one of my interests is playing saxophone). Your nickname appears on other users' screens as a prefix to anything you type in, so everyone knows who typed it. You'll be addressed by your nickname when anyone speaks to you directly. The nickname also enables other users to also private message directly at you, without other users seeing them, or even to invite you into a "private conversation" group with one or more other selected users. A further function available is the private linking to a directly connect two users' computers together and transfer files between them.



Conver-
sation
in
progress
on the
'Tappy
hour'
general
chat
channel.

WATCH OUT, BOTS ABOUT!

There's something else to beware of in IRC—the "bots" (short for robots). These are like "automated characters" in adventure games, and are in effect simulated people, i.e. software creatures that behave like real people. You can talk to them and they'll respond, often quite convincingly, so it's sometimes difficult to spot them. Occasionally, though, they give themselves away by the nature of their responses. These are completely limited on most servers, while on others they have to be registered with the system operator.

Here's one little bot anecdote: I arranged to meet two friends at a certain time in a Cyberworld channel on a particular server. We all logged on around the appointed time and my'st was greeted in turn by someone with the nickname WATTSRMA, who passed around

making smalltalk and asked us what drinks we wanted to order! Existing into the spirit of things, one of my friends (no really, it *wasn't* me) happily "blasted up" WATTSRMA with someone else in the Cyberworld eventually pointed out that WATTSRMA was a bot, which caused much amusement at my friend's expense.

Going even further down this route, in the strange world of IRC you can be yourself as pretense to be anyone or anything else you want and no one will know the difference.

Obviously, on the channels devoted to "serious" discussion you'd keep your own persona, but some of the wackier channels encourage totally eccentric behaviour and role-play. Sometimes this can even break out spontaneously on a normally sane "talk" channel, perhaps using IRC's facilities to describe actions in the third person, rather than just transmitting first person conversations.

For instance, I could generate a message on other users' screens saying "BAXMAN takes

