

ATARI USER

The Resource for the ATARI CLASSIC and the ATARI ST

Issue 68 - OCTOBER/NOVEMBER 1994 \$2.50



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(October 1989 to January 1990)
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Vol. 4 No. 12, Vol. 6 No. 7, Vol. 9 No. 6

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Vol. 2 No. 2 no disk (Oct 1989)
Vol. 3 No. 4 no disk (Dec 1989)
Vol. 3 No. 5 with disk (Jan 1991)
Vol. 3 No. 6 no disk (Jan 1991)
Vol. 5 No. 6 with disk (Feb/Mar 1991)
Vol. 5 No. 7 with disk (Apr/May 1991)

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**MORE
MAGAZINES
ON
PAGE 5**

SOFTSIDE

Another US magazine that concentrated more on type in listings and games, especially adventures. Covered other areas but with heavy Atari content. Not an easy one to find in the UK.

ISSUES 33, 44, 45 and 46
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POSTAGE

The prices do not include postage which will be charged at cost. The size of the magazines varies considerably (other than issue 10-12) and therefore postage is not quoted. In addition the more copies you order the lower the postage per issue. Postage costs will vary from 50p for a single issue up to a maximum of 04.25 for a large parcel.

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Atari UK used to produce their own magazine featuring famous Atari users such as Paul Davies (3 users included a feature on one Ian Ellingham). Not brilliant but an interesting slice of Atari UK history.

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SUBMISSIONS

PAGE 4 welcomes and encourages its readers to submit articles, programs and reviews for publication. Programs should be submitted on disk or cassette. Reviews should wherever possible be submitted as text files on disk. We like to encourage your participation and do not have strict rules for submissions. If something interests you, write a program or article and submit it.

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The next issue of
NEW ATARI USER
will be on sale 30th September
Editorial copy date is 28th October

CONTENTS

Issue 68 - October/November 1994

PROGRAMS

EASY PROGRAM VIEWER A quick way to scan your programs	16
DESIGNAID Design your own 24-pin printer fonts	19
THUNDER ISLAND Great fun as well as a PMG tutorial	24
DISPLAY LIST READER All the display lists you'll ever need	30
PROGRAM PRINTER Listing programs on an Epson compatible	34

FEATURES

THE JAGUAR Is Atari's latest machine as good as they say?	10
BUG SWATTING How to deal with bugs in your programs	38
TEXTPRO - USING MACROS	42

REVIEWS

SAM EXTRAS Programs to use with the SAM desktop	12
SOFTWARE CLASSICS Mig Alley Ace - Asteric Challenge - Millpede	14
NOVAUS PD TAPES Yes, someone does support tape users!	22
THE DALLAS QUEST ... MAZE GAMES I	37
MIDNIGHT ... HUMANOID	44

ST FILE

HARD DRIVEN Part Deux Accessories and Utilities	52
MAKING MUSIC Further on in the world of MIDI	54
CHAMPIONSHIP MANAGER 93	56
F1	58
ST PD ROUNDUP	60
BATTLEHAWKS 1942	62

DEPARTMENTS

EDITORIAL	4
MAILBAG	6
THE TIPSTER	28
THE CLASSIC PD ZONE	32
DISK BONUS - ALIENS	41
THE ACCESSORY SHOP	45
CONTACT	49

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Editor & Publisher: Les Ellingham - Advertising: Sandy Ellingham

Printed by Stephens & George, Market Tunn, 0800 5551 - Page layout by PAGE 4

Post issued by Page 4 on a 147 Gannet St. Originated by Elcom 0479 0780

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

IT'S GOODBYE TO ... GRALIN INTERNATIONAL

Sadly another Atari supporter is no longer with us as Graham and Colin at Gralin International have decided to call it a day. Gralin was a "square deal" business which supported the Atari for a good number of years but the pressures of full time employment in other fields have forced the lack in a decision which we all regret but which enables Gralin to move on with freedom. This is how Colin and Graham wanted the closure to be announced.

It is with regret that Gralin International are no longer trading. As many of you are aware Gralin has been a great time project and due to increased pressure in our full time jobs we are unable to continue. We do hope that in the future we will be able to continue to provide enhancements in our own Gralin products and we will let you know through PACER, but this will be done on an individual basis. We should like to take this opportunity to thank all our customers and suppliers for their support. This has been a fun time for us and we have enjoyed working with all the 8-Bit users. We catch all news messages in the future - if you have any problems, please write to us and we will endeavour to sort you out.

So we say goodbye, but let's also say thanks for the support and for all the new products that Gralin introduced over the years.

AND HELLO TO ... 8-BIT'S FOREVER!

Many of you will have enjoyed Gordon F. Hooper's occasional articles in New Atari User which take a very good scanning look at aspects of our hobby which we are all familiar with. Gordon's stories of life in the computer world combine an enjoyable break from all the technical stuff and now you can enjoy even more with the publication of a collection of Gordon's writings.

8-BIT'S FOREVER is the title of the A5 size booklet which brings together 17 articles which have been published in various magazines including New Atari User. If you enjoy Gordon Hooper's sense of humour you will love this collection very much though some articles are almost laughing rather than non-poking.

8-BIT'S FOREVER is available to European readers for 84 including postage. Gordon says he would prefer payment by money order but the book is now cheap £7.50 for an International Money Order so that is not. Check with your local post office as a British postal order may well be valid in Canada (Canadian postal orders can be ordered in this country). Alternatively you might be able to take 84 along to your bank or local business to change the travel agent and get the equivalent in Canadian dollars. Whichever way do give Gordon a little support and thanks for his articles in New Atari User.

Send your money to: **GORDON F. HOOPER, 225 MADISON AVE., VICTORIA, B.C. CANADA V8V 1A9** and your copy of 8-BIT'S FOREVER will find its way to your door.

MORE MAGAZINES

COMPUTE!

Possibly the most famous of U.S. magazines that covered several micro but with very heavy Atari coverage. Excellent ratings and regular contributors such as Bill Wilkinson. Some of the best technical articles for the Atari appeared in Compute! Some of the issues are mentioned:

ISSUES: 1981 - 9, 10, 18, 16, 17, 18, 19
1982 - 20 to 21 complete year also, Nov (11 issues)
1983 - 32 to 40 complete year (12 issues)
1984 - 48 to 55 complete year (12 issues)
1985 - 68 to 67 complete year (12 issues)
1986 - 68 to 70 complete year (12 issues)
1987 - 88 to 88 Jan to May (5 issues)

Prices: £1.50 per issue

COMPLETE YEARS £15.00 each plus postage

ATARI EXPLORER

In the U.S. Atari produced their own magazine. Although it appeared rather sporadically it was a good read with a mix of news, tutorials, programs etc. When PCM magazine was folded it was incorporated within Atari Explorer.

ISSUES: Feb 1985, Apr/May 1985, Summer 1985, Sep/Oct 1985, Nov/Dec 1985, Winter 1986, Jan/Feb 1987, Spring 1987, Summer 1987, Sep/Oct 1987, Nov/Dec 1987, Jan/Feb 1988, Mar/Apr 1988, Sep/Oct 1988, Mar/Apr 1989

Price: £1.50 per issue

COMPUTER GAMING WORLD

Almost entirely devoted to reviews of games. Covers several micros but with good coverage of the Atari. An interesting nostalgia trip for games junkies!

ISSUES: Nov/Dec 1982, Jan/Feb 1983,
May/June 1983, July/Aug 1983

Price: £1.00 per issue

**See Inside Front Cover
for lots more magazines
and ordering details**

Mailbag

Allan J Palmer delves into your latest letters

*"Good Morning, Mr Palmer,
Your mission, should you decide
to accept it, is to compile
another Mailbag column for
PAGE 6'S NEW ATARI ESKEN
magazine. As usual, should you
or any of your impossible Mail-
bag Forces fail to fill a page, the
Editor will disown any knowl-
edge of your existence ..."*

Well, with the Birmingham's post-Easter holiday (so there was a delay in getting the mail relayed on from Stafford) and my personal commitments (like some decorating around the house, etc), the art of getting this column together in time for issue 66's deadline certainly seemed an impossible mission. If you're reading this in issue 68 then you know I succeeded, if not ...

MAILBAG is YOU!

Join in the debate
by writing to

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PAGE 6 WRITER

John (writing from Chesterfield, Derbyshire) responds to Graham Phipps' enquiries in issue 66:

"I am in the process of compiling data for PAGE 6 WRESTER (P6W) and as a base I am using the data for SPEEDSCOPY. When complete I will pass the disk on to Les in the hope that he can put it in the PAGE 6 FD Library. I can tell Graham that SPEEDSCOPY is a very close relative (shared text) perhaps of P6W. There are subtle differences but nothing fundamental except perhaps for P6W's ability to read DCS. There was a number of SPEEDSCOPY's font files, not mentioned in Phil Cawthra's article which are still present in P6W. In particular, keys 1, 2, 3 and 4 when entered with SELECT give ESCape, stoppage print (one line), start command print and cancel (undoes) print respectively. I can confirm that there is a problem entering print when then standard; it is necessary to reset the right margin - SELECT is used a number (by between 60 and 70 depending upon the length of the text) and some experimenting may be necessary. I seem to remember that when I had a 1024 printer it was not too happy when receiving any oblongated text and this will only seem to complicate matters.

"I could not understand Graham's problem with pressing SELECT on this disk on to clear the screen on my disk version as I loaded the cassette version and got, by its quite correct - as should, Graham, it told that is the disk I am compiling."

Thanks for the input John. We look forward to seeing your P6W disk-disk.

Frank (John from Chappell in Hampshire has some further notes on PAGE 6 WRESTER), including the reminder that the listing in issue 64 had one line (1600) relating about a third of its observations - the corrected list was printed in issue 65). Frank is also surprised at Graham having a concern to mention of P6W as he wasn't aware that a cassette version had been 'officially' produced. Frank notes that his cassette version came by way of the RAMBIT man.

Dave Richardson, who was able to supply Frank with a TURBO Load tape of P6W. Frank is pleased that RAMBIT is "...and around with a number of useful items including pointers from a really nice Atari craftsman." RAMBIT's address is 35 The Green, Tharby, Devons, Lincolnshire. TEL: 0533 8383; phone 0776 4244536.

Frank also made one puzzling statement

in his letter. He writes "...I have been a subscriber for a number of years and I have every issue from issue 3 of The UK Atari Computer Owners Club magazine, that was before it was called PAGE 6...". I would suggest Frank here, before joining NEW ATARI UNIC, this magazine was always PAGE 6 from issue 3. The UK Atari Computer Owners Club was a separate entity operating from Brighton in Essex from 1983 and published an irregular magazine which from issue 8 was called Atari NEWSLETTER. This group folded in 1988. I believe and the last issue of NEWSLETTER that I received was issue 21. Does anyone know what happened to the UNACOC FD Library which had a good selection of prog runs for that time?

SATISFIED READER

James Kendall from Newark in Lincolnshire tells you about Steve Richardson, James' is pleased to read "...an appeal note to let you know about the sale offered by PAGE 6 (N66). After placing the advert in the Connect column of issue 65 for Milton (N76) I had several calls on the first two days after the magazine was delivered. I got the game I required and after an wait for a very reasonable price. After a couple of weeks I received a letter from Stewart B just gone to show that if there's something you want for your Atari, please go on to PAGE 6 - you may be pleasantly surprised!"

DOS HELP

Mr P Hayman from Port Talbot informs us that he has "...acquired a 8008L from 1980 and was just got hold of a 1050 disk drive. I have DOS 2.0, but only a DOS 2 manual which doesn't help me very much. I would like to know how the DOS menu works and how I can access Heavy Load and Base on the menu."

"Well Mr H, I believe Derek Povey of Micro-Disknet has advertised copies of the DOS 2.0 manual in the past - he may still have copies available. As an alternative, if you can't find the official Atari printed manual, invest in a copy of Disk 4107 - THE DOS 2.0 REFERENCE GUIDE from the Page 6-4-48 FD Library. This should get you off to a flying start with DOS 2.0.

Mr Hayman also notes that he "...used to get Atari Clue, but after November 1988 I

was unable to get any more copies". November 1988 was, of course, the last issue of Atari User published by Database Publications (now CompuPress). There was a small miscellaneous inside that issue announcing that future issues would be published by Page 8. Sadly the number of magazines supporting the Atari Classic page has dwindled. If you're looking for another Atari User publication try the Type & Wear Atari User Group (P.O. Box 8, Wallasey, Tyne & Wear NE28 6BQ) who produce a regular 45 page magazine devoted to the Atari Classic.

My biggest tip also an Adventure looking for help: "...I am having trouble with 'Quest for Glory' - getting past the clock area. I have read the manual, program, but nothing my book...". Can anyone assist?

SUPERDOS

Robert De Letter of Zolste, Belgium is "...an enthusiastic SuperDOS 5.1 user. It is fully compatible with Atari DOS 2.0 and it really speeds my slowest 2000K1 drives high speed transfer (between sections), although it did cost a lot more. However, one somebody will not hear I can put the DUP-ITS file of SuperDOS into the RAMdisk so that it will be loaded from there every time I run DOS. The DUP file in SuperDOS resides under the Operating System and a lot of utilities use that name too. I wonder if somebody can develop a patch file so that DOS is loaded the way I want. If Mr. Phil Matthews (developer of SuperDOS) is still an Atari fan now, then he may be able to solve this problem."

POWER PACKS

Mr Tomblin of Hamilton, Essex is still having problems with his 8-bit systems: "...first my 1020 printer card kept, then my keyboard powerpack has followed it, what will be next? My 1050 disk drive won't off to AC powerpack which gives an output of 5 volts at 3 amps in this context? It seems to work okay like this but will this be the next thing to go? Perhaps someone could write in with details of the various conversions and power usage of the various Atari hardware units."

This sort of technical information would be useful. Does anyone have the details to produce a guide to what power packs/transformers, etc. are suitable for which Atari hardware units? (Yes, please, I have a whole lot of power supplies built up over the years and no idea what they belong to! If nobody has access to all the hardware perhaps readers could write in with details of their equipment and maybe Alan could compile them for a Mailbag Extra? Ed.)

TRANSFER TIP

Michael Clatworthy of Great Barr, Birmingham tells us that "...after working on Atari for about 30 years, I finally decided to buy a disk drive this year. To be precise, I came across it in Miles Dutton Software in Cusworth whilst trying to find a J445007 Rubin (it was more difficult to find than most). I was given the telephone number of FUDGE and purchased TransDisk and other bits and pieces. Having transferred most of my valuable software to disk, I have incidentally found that some programs won't transfer, one being Football Manager by Addictive Games due to its unconventional loading technique from BASIC.

I devised a very simple program to overcome this problem, which is as follows: - first load DOS and format a disk, then write DOS files to that disk into a BASIC and then type DOS "DISKMANAGE.DSK" to create a RAMdisk position the Football Manager tape at the beginning, and type the following program:

```

10 OPEN #1: A-B: *
20 OPEN #2: R-D: "MANAGE.RAM"
30 GET #1:A
40 PUT #2:A
50 GOTO 10

```

When this program, press PLAY on the cassette recorder and RETURN and the program will be transferred to disk in about 15 minutes. To load the program afterwards, just use RUN "MANAGE.DSK:RAM" after entering to BASIC: from DOS.

If you have Disk 482 - MICRO MANAGER from the Page 8 File Library, you can create an AUTOMATE.ITS file so Football Manager loads instantly without having to use DOS, by using the AUTOMATE program.

On the subject of tape to-disk transfer, has anyone had any luck with M.U.L.E. (Elektronik or Gemini)? I've tried everything, but just can't get them to load from disk."

TRANSDISK IV INFO

Referring back to the correspondence on TransDisk IV (TD4) in issue 64, Richard Kaplan (of Peterborough, Cambridgeshire) adds these comments:

"...you can transfer files from one disk to another with any DOS that is DOS 2.0/2.0.5 compatible and/or supports double density. Daniel Sternbach's original problem was that he was trying to transfer the games onto a double density disk that the DOS he used in one disk's support double density, hence the error messages. Dave Hedder notes that he has some sectors on the disks when using MICROITS from Future, that is because he's using enhanced (hard) density. I can't help but feel that the checker has gone full circle, since in my article in issue 67 I pointed out that the

format TD4 uses for enhanced density is different to that used by DOS 2.0 and most if not all other DOS's which support enhanced density. It is this difference that makes you lose sectors on the disks as well as corrupt one of the TD4 menu screens. Hence the creation of DOS 2.0550 based in the article. DOS2.0550 enhances the knowledge of TD4 games from an enhanced density disk to another enhanced density disk without corrupting the distribution disk. To copy files from an HD-disk to, say, a Double Density disk, the best way would be to copy the file from the original disk onto a newly formatted ED temporary disk using DOS2.0550, and then from there onto the HD-disk using a DD-DOS. The same procedure applies in reverse, first copy from the HD-disk to a temporary disk using a DD-DOS, and then from there onto the destination disk using DOS2.0550. I hope this, finally clears things up somewhat. The basic rule is that if you want to use ED on your DOS with TD4 then use DOS2.0550, otherwise your disks will be get corrupted. If you don't use ED then feel free to use any other DOS to copy the files across, as long as that DOS supports the density you are interested in. Don't try and copy files to a double density disk with DOS 2.0."

Thanks for that information on TransDisk IV, Richard. It would be nice to see how the complete picture on how to manipulate TD4 files.

ATARI vs SEGA!

Christopher Jones of Oxford is "...the proud owner of an Atari 8000, an Atari 2800 TVG, and a Sega Master System. I am disappointed in the lack of support our Atari users hear when it comes to retro releases. I've been doing some research into the Master System on the Nintendo Game Boy and have found some interesting comparisons. For a start, the 8000L, Sega and Nintendo each have 64K RAM. My Atari has 4 reduced sized and the other machines only have 8 bytes. From this comparison we see that a 7200K could have a larger scope for programming than either of these 'retro' machines. Our Atari has 288 colours and the other machines have between 8 and 64, and they have the same screen resolution as the Segas. Also when are the other releases like Afterburner or Pitfall of Phoenix? I've seen them on the Commodore 64 and feel that on the Atari they could be a success."

Christopher also has a few questions which I will try and answer: "I have an Atari 1050 and I would like to know what it does on an 8000L?"

The 1050 was a memory expansion module specifically designed to increase the 8000L's 148 KRAM to the same 64K level of the 8000L. As far as I'm aware, plugging a

Mailbag

1050 into a RAMDISK has no effect - at least I've never seen it documented anywhere. Has anyone got any info?

"What exactly is the 1200XL?"

The 1200XL was the first new Atari 8-bit model after the original 400 and 600 models. It was similar in styling to the later 600XL and 800XL models and introduced a number of the XL features; however, it was not as compatible as it could have been, and after a short period of U.S. only distribution disappeared when the 600XL and 800XL appeared.

"Why did the Atari 400 have two cartridge slots?"

The Atari 400 only had one cartridge slot; the Atari 600 had two slots. At the time of their appearance, the Atari 8-bit range was built around the concept of cartridge software. These cartridges were contained in containing approx. 5K of programs to supplement the machine's RAM. In the larger 600, the concept was that you could add a cartridge to the left slot normally, and future developments might see the need for a second cartridge to sit alongside the first to give greater scope (this was before the appearance of the larger "super cartridges" which copied with 256K in one cartridge). I believe the only cartridge designed to specifically work in the 600's right hand slot was Monkey Wrench, a suite of utilities.

THE ATARI 1200XL

On the subject of the newer Atari 8-bit, Raphael Kaplan adds these points about the Atari 1200XL mentioned in a previous column:

"...ignoring the built-in CDROM for quite awhile (that's what Turbo-DISC does as well as a lot of other programs), and the ability to double the keyboard and the screen is also built into the rest of the XL/XXL series. The only problem is that the 1200XL function keys did not appear on later models. However, I do know of a commercial program that allows you to simulate the 1200XL function keys on any other XL/XXL and so allows you to double the keyboard and screen at a bargain."

EDUCATIONAL SOFTWARE

Mr. J. Phipps from South Harrow, Mid-Gloucestershire writes:

"Upon my using my 800XL several years ago, but just recently I decided to take it out of mothballs as my son, who is now 4 years old, is of an age when he can enjoy playing games on a computer. The one thing that threw me was to be back of a computer for children. I recently purchased

a copy of your I LOVE MY ALPHABET (PD Library disk #2332), which he likes very much, but that seems to be just about it. I don't mind his playing games, but I do wish there were more educational programs available."

Yes, educational software always seems to have been scarce in this country for the Atari Classics. You might like to investigate **JUGGLER HOUSE**, **JUGGLER RAINBOW** and **SPELL ME** from the Page 6 Astronomy Shop. TB shows this out to our readership - what educational programs would you recommend on the Atari?

1050 PROBLEMS

Denise Fogarty from Salisbury, Wiltshire offers these tips in respect of disk drive problems mentioned in a previous column: "This article in issue 87 has readers hearing inside with their 1050 drives which will not write or format yet loads perfectly, and it reminded me I had the same problem a few years ago. This time, replacing the pressure pad had no effect. I think it must have been a tiny piece of debris that which had broken off and obstructed the write-protect sensor because I eventually solved the problem by pushing a portion of cotton wool/bamboo, lightly moistened with Steri-Prin Ster, into the left hand side of the disk carrier aperture. I used a credit card as a guide and, afterwards, normal service was resumed. Since then, the fitting of a write-protect switch still does credit to the inventor Mr. David Pevet, but not his great problems."

Also on the subject of 1050 problems, Raphael Kaplan from Peterborough, Cambridgeshire writes: "...about the drive that would read but not write or format - I had exactly the same problem with my 1050's while back and tried the suggestion of wrapping up the felt pad but with no luck. I discovered that the problem was with the sensor that detects whether the disk in the drive is write-protected or not. The solution I found was to build a write-protect switch such as that featured in RAM issue 87 for my son from Micro-Dynamics if you don't feel like building your own to begin with the sensor. I'm happy to say that the drive is still working."

Thanks for these comments, Denise and Raphael

RAMDISK HELP

Denise Fogarty also has this information regarding multiple RAMdisks: "Andrew McRobbie asks if it is possible to have two RAMdisks on a 1050 machine. The TORNY SUPPORT disk, on Enhanced

Denise Fogarty also has this information regarding multiple RAMdisks: "Andrew McRobbie asks if it is possible to have two RAMdisks on a 1050 machine. The TORNY SUPPORT disk, on Enhanced

David Rogers from Southampton offers these comments:

"I regularly use 3 RAMdisks using Sports-DISK 5. With Sports-DISK, it is possible to use some, all or none of the extra RAM, the default being 4 banks for use with BASIC. I'd need all remaining banks for TRS-80. The defaults can be overridden using a batch file on startup. This isn't much use for people without Sports-DISK I know, but may be of interest to some."

Again I hope Denise and David's comments will be of assistance to those wishing to use the power of their 1050 machines.

ANTIC & ANALOG MAGAZINES

Denise Fogarty also notes: "You mention references to September 1989 ANTIC and indeed, M&M often mentions articles that have previously appeared in the defunct ANTIC, ANALOG and COMPUTE magazines. But we never see them? How about printing a few in M&M, or is there a problem with copyright? Back in 1987 Grails International were contacting people, but not recently, is there still a UK source of supply?"

At one stage, Page 6 had a reciprocal agreement with ANTIC where they could reprint articles from each other's magazines (I think even Page 6 items appeared in ANTIC) then they ceased. It was not when the copyright situation in it regard to this. Perhaps our concerned publishers could clarify the situation? It can not really save about the copyright but I suspect that, even though ANTIC agreed that their programs could be reprinted as public domain, the strict legal situation is that the copyright remains with the original publishers and only commercial reproduction would require special permission. Of course ANTIC and ANALOG are no longer being published but check out this issue though for a new offer on ANTIC and offer American magazines for your Atari. Last chance to complete your collection? E&J

DISK BOXES

Brad Hughes of Southampton, Hampshire responds to an inquiry about the availability of storage boxes for 5.25" disks:

"Why I suggest that anybody wanting them look at adverts in magazines (or PCs, e.g. 'Computer Shopper') is that some PC users still use 5.25" disks. The same advertisements will also sell 5.25" disks, which are now available at almost ridiculously low prices."

You might also look in one of the Atari-specific magazines - users of the IDEC machine still use 5.25" disks and you'll find advertisements of 5.25" disk casettes there also.

RAPHAEL'S
RAMdisk

Raphael Epstein from Peterborough, Cambridgeshire responds to Andrew Molybdeu's letter: "...an easy code for the moment being of the DOS 2.0 RAMdisk - I've always used what you mean, and it actually has nothing to do with the FORGE files (it thought to do so) should have had a WAP after the NAME TO: PARAMS. However, that doesn't matter as I've improved on the code and the new code is included below.

The improvements over the old code are: it actually works; it will now tell you what the RAMdisk number on the "Setting up start LOAD RAMdisk" screen; there is no longer any need to modify the DOS.003 file (you don't have to go to DOS and use menu option 3); all the modifications are done directly from the NAME.COM file and the new version is in Atari BASIC rather than TURBO BASIC (just that there is that small difference); using it is simple; just run it with the NAME.COM file that you want to change on the disk in drive 1. The advantages of my code over Bill Williams's is in the Mailbag column is that with his you have to load and run the program every time you want to remember the RAMdisk from the default "MS". With mine you just change it once and it stays changed and you don't need to run BASIC so you can remember the RAMdisk and load with out BASIC which can be useful with other programs such as TrueType. The advantage of Bill's code is that with a little tinkering in the code you can remember the RAMdisk without having to reload, so every time on you like. There is also a slight trailing input "yes/no" to Bill's code anyone using the code to remember the RAMdisk will note that that when you try to access the remembered RAMdisk there is always a small delay accompanied by a beeping sound from the TV speaker. To fix this there needs to be another line included in the code:

FOR FORGE 4100, RAMDRIVENUM
This modification will get rid of the "beepers".

Now here's my improved code:

```

RAMDISK=0: REM change RAMdisk number here
RAM=0: CNT=0
IF CNT=RAMD THEN 30
RAM=RAM+1: CNT=CNT+1: GOTO 1
GOTO 1
30 DATA 1000: DATA 1000: *
30 OPEN #1:A,B,"D:RAMDISK.DCM"
30 FOR Q=1 TO 1000: GET #1:
DATA%D:CHRD%: NEXT Q
40 CLOSE #1
50 DATA%0%0%:CHRD%(RAM+40)
60 DATA%0%0%:CHRD%(RAM+40)
70 DATA%0%0%:CHRD%(RAM+40)
75 DATA%1%44%:"DISK"
DATA%44%44%:CHRD%(RAM+40)
75 DATA%0%0%:CHRD%0%
80 DATA%0%1%:0%0%:CHRD%(RAM+40)
80 NEXT Q: FOR Q=1 TO 33: READ Q:
DATA%0%000%Q+1000%:CHRD%Q: NEXT Q
90 DATA%0%:0%0%:CHRD%(RAM)
90 OPEN #1:A,B,"D:RAMDISK.DCM"
FOR FOR Q=1 TO 1000: Q=ASC:
(CHRD%Q:Q): PUT #1:Q: NEXT Q
110 CLOSE #1
FOR DATA 0,0,41,00,00,0,41,1,0,7,0,41,
1,7,11,11,0,7,0,0,0,0,0,2,0,7,2,0,0,0

```

Thanks for doing what I couldn't repeat, and finding the solution to the reported bug.

SOLUTIONS OR NOT?

Raphael Epstein also has three comments "...concerning Eddie Grosser's" note about the Tipster printing the complete solutions in games and therefore spoiling his enjoyment, his main gripe seems to be against the printing of the solutions to Tiger Development's "Turkiss and the Crystal of Fear". Finally, the solutions were printed even a year after the game was released so I don't think the comment about "...as find the solution is published within weeks of its launch..." to be adequate in this case.

In fact in my experience, the solutions usually come through a long time after the game is released (the only exception I have found was with Tiger Development's "The Citadel and Turkiss and the Orb of Doom" solutions to that same issue, obviously that was more importantly I wonder if he actually played the game through even once, with or without the solution (in fact I wonder if anyone did) since the solution printed in the Tipster's pages is actually wrong! However, I have not seen anyone correct the mistake as of yet. True it is only a small mistake, but significant."

AND FINALLY...

Amongst some flattering comments about the Mailbag column, Dennis Faggerty adds "...my mind boggles just to think of the work involved in compiling 4 pages of Mailbag on such a regular basis".

Well Dennis, let me tell you my mind is usually boggled by the time I've completed work on each column! Luckily, we're still getting a mix of letters that mean we'd get no writer - that's itself and you, the reader, do a bit of the hard work by including new topics of discussion and responding to other people's comments (and correcting me where necessary) - I

can't see thought, if you're into "classical" TV, have you seen that Masterpiece impressive episodes are now available on video - they're starting with the first episode and look to be releasing them in sequence ...

"...this tape will self-destruct in 5 seconds!"

News Extra

NEW SHOP AND
REPAIR SERVICE

Long time Atari fanatic Keith Hughes has recently opened a shop which, along with the usual logic, hardware, design and PC stuff will include support for all Atari machines. In addition to offering a repair service for 8-bit machines and equipment (probably ST's as well), The shop is:

BLITTERCHIPS
118A Bridgecroft Road,
Wollaton, Nottingham,
West Midlands
Tel. 0384 823457



Not yet an endangered species ...

THE ATARI JAG

Only a few Jaguars have made these shores so far but Peter Davison and Mike Airey managed to track one down for us. Here's what they thought of Atari's latest wonder machine



Having begun with their series of 8-bit Classics then advancing to the 16-bit ST, Atari have now beaten the race of the world to develop the first ever 64-bit games console - the Jaguar.

Whereas most companies have just gone to 32-bit machines, Atari have plunged straight in at the deep end with a revolutionary new machine. It boasts some pretty impressive technical specifications too, being 64 bit with a sixteen million colour palette (16,777,104 to be exact). There is no fixed screen resolution, this being totally software dependent. It will go up to the equivalent of Super VGA (high resolution, 256 colour graphics on the PC, or it can display 24-bit colour graphics at 720x576 resolution but this will probably only be used on CD games due to the immense strain it puts on the processor. The sound system is 16-bit stereo (CD quality), which is based on Atari's Digital Signal Processor technology (DSP - also found in the Palm). This is a big step forward from the ST where 16-bit sounds were rare. It runs remarkably quickly, handling up to 100 MB/s of data per second.

The Jaguar has five main custom chips (collectively known as Tom and Jerry) each containing four major components. The Jero chip contains the DSP sound circuitry, 8k of SRAM (Static RAM), a neural block, and a block for timers, joysticks and clock control. The Tom chip contains a memory controller, object processor, Graphics Processing Unit (GPU) with 48 SRAM and a timer (as found in the ST) which speeds up several graphics operations. The Jaguar contains 18 MBs of RAM, and is based around the MC88000 processor clocked at 13.2 MHz, which is used mainly for co-ordinating the data flow between the specialised processors. Jaguar's game playing performance is designed to be similar to a high-end IBM PC and,

for the price (\$229.99), it represents a very good deal.

The hand control pad is a very complex affair and looks rather daunting at first. It contains a directional pad, three fire buttons and a telephone style keypad at the bottom. Each game provides an overlay for this keypad to show what each button does.

The graphics capabilities are very impressive. The chips with the unit can do real-time shaded polygons (three-dimensional blocks) and can create bitmap graphics quite fast at a remarkably high speed. This makes for some stunning visuals.

ANY GAMES YET?

At the time of writing the only game generally available in the UK is **CYBERMORPH**, which is packaged with the Jaguar. Any Delander or Illusion or Fractalus fan will recognise the style of gameplay in Cybermorph. It mainly revolves around flying over a smooth scrolling 3D planet built of polygons and grabbing little yellow pods before alone take them away. The action is quite fast, but the game has limited 'sustainability' as gameplay becomes quite monotonous after a while.

The graphics move quickly and smoothly, and they are all shaded to look quite impressive. A special technique known as Z-buffering is used, which allows polygons to be merged with one another. This is all used in Cybermorph to create some absolutely stunning special effects. The main chip performs some incredible 'morphing' between its different forms and this in again, done very smoothly. The sound, however, isn't really using the machine's full capabilities. For instance, the engine noise sounds almost the same as Delander on the 8-bit Atari!

GUAR

There's also an extremely annoying green head in his hair Hells in the flod (that's TV program) which pops up screens all too frequently making someone remarks in a very patronizing way. Fortunately the speech volume can be turned down, a great relief since the quality of it has gone off. If Atari had left in this option there would probably be a noticeable increase in sales of replacement television sets, caused by Jaguar users feeling controllers of the screen in fits of exasperation! The speech used by this 'character' is very clear but the too averaged sounding, which makes it appear so unconvincing.

Gameplay is extremely hard, and there isn't an option to change the difficulty level (very frustrating on certain stages). It plays quite well for a while, but soon becomes a little boring once the innovations of the fancy shaded polygons has worn off. It's basically the same old way through collect pool, shoot enemy, collect pot, avoid obstacles, etc.).

Overall, Cybermorph is a good game but we've seen so many of the likes before. It's basically Defender's gameplay cranked with the 3D view of Pacman on Pac-Mania. If a few extra ideas had been added, this would be a brilliant game, but as it stands it's a little disappointing in the first release of a major new format.

There are lots of new games planned for the future. These include DOOM, ALIEN VS PREDATOR, KICK OFF 3, CHECKERED FLAG 3, CLUB DRIVE, JAGUAR FORMULA ONE RACING and BATTLEZONE 3000. Four games are scheduled for release during April '94. These are BARRON, EVOLUTION, DEMONSTERS (known as HUMANS on other formats), TRINFEST 2000, and TRIFOR BATTLE IN CRESCENT GALAXY.

A COMPARISON

The Jaguar is certainly an amazing machine but how will it fare against the established console favorites of today?

Compared to Nintendo's Super Nintendo and Sega's MegaDrive the Jaguar looks immensely powerful. It's much faster at handling graphics, it can zoom and rotate much quicker than the SNES, and has much clearer sound than either, however this is only to be expected from a console using technology a generation on from its competitors.

How does the Jaguar compare to Atari's other 'main' games machines, the hard-hold Lynx? It's certainly a lot quicker and has better graphics. The Lynx is second with it's sound, but the Jaguar can do it even more badly. Then again the Lynx is only 16-bit, and what it does, it does extremely well. Many people who worked on games for the Lynx are now producing for the Jaguar, so are many other software houses, so the future outlook is good - assuming Atari get their Jaguar

marketing act together!

Many of the games planned are major rewrites of old favourites from the Atari Classic and the ST with such added delights as full scaling and rotation, stereo sound effects, and improved gameplay. For example, Tempest, when it was released on the ST, was slated for it's terrible graphics and sound. On the Jaguar, however, Tempest 2000 has already been dubbed by one magazine as 'the best shoot 'em up ever!'

FUTURE ADD-ONS

Already out in the USA, the CD-ROM drive for the Jaguar allows you to play much bigger games than you could of cartridge. It also allows you to play regular music CDs and Kodak's new Photo-CDs. It plugs into the Jaguar's cartridge port and sits in a groove on top of the machine. According to one industry expert, it looks a little like a toaster, and the bit even lifts up like one! It uses a double-speed CD-ROM drive and so can play video clips and produce superb sounds at a decent speed, in turn increasing your enjoyment of the machine.

There's also a custom edge connector on the back of the Jaguar for linking to a modem. This allows multiple player games all across the country via the telephone lines.

AVAILABILITY

The Jaguar is not generally available yet. Only a few have been shipped into the UK so far and these have been snapped up by magazine reviewers and other lucky people. There's very unlikely to find any of the shops just yet, but they should start appearing in a few months time.

Quite a big surprise came when IBM announced that they would be responsible for producing the machine for Atari. They are also in charge of distribution. This is a shock, because IBM are mainly involved with business computers, and the Jaguar isn't really their style.

Atari have announced that the games coming out for the machine should cost no more than Nintendo or Sega games. If they do cost more, Atari will lose many sales, because prices of the Negative games are now rising above the \$50 mark. For example, the Virtual Racing cartridge, which contains a new chip to speed up graphical operations, costs over £75!

OVERALL COMMENTS

The Jaguar is an amazing machine without a doubt, but it does need the protection from Atari which has been sadly lacking with other Atari products. We have heard that Atari are planning to spend \$45 million on worldwide promotion of the Jaguar. If they achieve this, we feel that the Jaguar could be THE biggest selling console around. This also depends on the price and quality of the games produced over the next year. Hopefully these new games will exploit the machine more than Cybermorph. With the imminent release of the modem and the CD-ROM drive, the Jaguar looks like being the future of gaming as we know it.

Special thanks to John Duxson, Jr., Managing Editor of Maxxixx Magazines, for the loan of the machine and Cybermorph game.

SAM EXTRAS

In Issue 83 I examined the SAM Desktop System, a new 80 volume operating environment designed by Harold Schwabedissen and Andrew Blomax. SAM introduces your Altair's "hard core" from an unimaging Ready prompt or DOS screen to a mouse driven DOS like desktop with windows, pull-down menus and several integral utilities. The catch is that SAM cannot launch standard DOS programs, so its usefulness is limited to the scope of those facilities provided. Recognizing this drawback, the authors have been working on a new range of accessories which can be launched from SAM's "Screen/Info" menu option. SAM Utility Extensions 1 and SAM Budget are the first two accessory disks to arrive via the UK distributor, Dean Carraghy Software.

SAM UTILITY EXTENSIONS 1

SAM Utility Extensions 1 comprises two separate programs. Firstly, **SAM CONVERT** is a file conversion utility for the SAM Texter application which is supplied on the desktop system disk. Its purpose is to transform documents created using a variety of word processors into the unique format required by Texter (and vice versa). When you select Convert from the accessory list, a menu presents five alternative options - ANCE to SAM, Atari Writer to SAM, Star Texter to SAM, Amstar Text to SAM and SAM to ANCE. I haven't come across Star Texter and Amstar Text before, but they are apparently well known to German users. Because SAM Texter restricts file lengths to 14400 bytes, you may need to convert large external files in several passes. This point aside, the whole procedure is quite straightforward.

The second accessory, **SAM CREATOR**, is an extension to SAM Painter which, like Texter, is a utility that's provided with the main desktop. It allows you to import files from the popular Micro Painter format, and also from hard disks (e.g. compressed) gained via the network. If you find something artistic looking within the network, it can be saved as an individual file for subsequent transfer to either Micro Painter or SAM. There are two pull-down menus in Creator - File and Options. From the File menu you can load from or write to a disk at a selected start sector, and also load or save a picture file in the desired format. The Options menu lets you toggle the picture format, set the warty and wavy status and select a disk drive number to use.

If you plan to experiment with Texter or Painter then these Utility Extensions should certainly prove helpful. Both accessories are based upon the standard user interface conventions of the SAM Desktop, so if you're accustomed to this system you'll know what to expect.

SAM BUDGET

More or less, computers are good at performing rapid calculations. Spreadsheet programs act as interfaces to the computer's raw processing power - they allow you to calculate numbers and formulas and subject these to complex or repetitive computations. **SAM BUDGET** is a basic spreadsheet application for users of the SAM Desktop. An obvious use is to keep track of your personal finances, hence the title of this program.

Spreadsheets vary in their size and power. SAM Budget provides a total table size of sixteen by sixty-four cells - not exactly huge but probably sufficient for modest purposes. Thanks to SAM's 80-column display mode, you can always view a "window" of nine by sixteen cells. Each cell is filled at a width of eight characters and may contain a number, descriptive text or a formula. Formulas can use the standard arithmetic operators and refer to actual numbers or the contents of other cells in the spreadsheet. The mathematical functions available are Square Root, Logarithm, Exponential and Absolute value. Other functions allow you to find the sum, average or extreme values of cells in a selected range. To perform the final calculation, you must click on "Calc" from the pull-down menu.

A variety of editing options enable you to carry out common tasks such as inserting new rows, moving to a particular cell, erasing portions of the spreadsheet and copying sections from one location to another. There are some noticeable omissions however - for example, you can't copy a formula to other cells so that the references are automatically adjusted. Having created your spreadsheet, the whole table or a section can be saved to disk for future reference. Finally, you can print out the entire spreadsheet using an Epson compatible printer. If your printer is not wide enough to accommodate the full width of the table, you can print the left or right halves separately.

SAM Budget is, by any standards, rather restricted in its capabilities. To be fair, the program is primarily intended for personal budget calculations and doesn't pretend to compete with more sophisticated packages. If you want to become a serious spreadsheet user this can't be said to impress but if you're accustomed to using SAM, SAM Budget is well worth having as an extra.

ORDERING INFO

SAM Budget is priced at £6.95 and SAM Utility Extensions 1 at £3.95. These programs will only work in conjunction with the SAM Desktop System, which is available separately, price £13.95. All items are produced by Power Per Post and distributed in the UK by DMS, 82 Thornton Avenue, Holly, Devon, DN1 5NG. Tel:0439 6302 858028.

reviewed by Paul Rixon

SOFTWARE CLASSICS ★

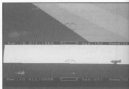
There are hundreds of famous games for the Atari Classic but most of them are no longer available. Software Classics looks at the games with a difference - you can still buy them today!

MIG ALLEY ACE

MIG ALLEY ACE is an aerial combat simulation by Microprose. Software who had a base in Berkeley, California. The game was written at the height of the Atari Classic boom, back in 1986, and is Atari 400/500 and XL/XE compatible (68K memory required).

Microprose were a highly respected software house in Atari and other computer circles, and they produced some real gems including *Sea Flight*, *F-15 Strike Eagle*, *Redout Ace* and *Spitter Ace*. They also produced war simulations, a submarine simulation (*Silent Service*) and an Air Traffic Control simulation (*Stealthy Approach*), among others. Microprose in the USA were reported as spending \$1 million developing each simulation in the mid 1980's, so the quality of this game is obvious.

In *Mig Alley Ace* you play the part of a pilot (you choose leader to lead in charge of a jet fighter during the Korean War. The Korean War commenced in 1950 when the USSR moved its troops to its southern Korea. A three year conflict ensued, and *Mig Alley Ace* simulates five stages of the conflict. Each of the five scenarios presents a different challenge, using different aircraft, and can be selected for play at the start of the game. After beating the game, you are given three choices of game state: solo (against the computer), two player head-to-head,



Have you got what it takes to become an air pilot? **MIG ALLEY ACE** is still one of the best combat flight simulators

and two player cooperative. The latter option allows two players to do battle with the computer jointly. I have not tried this option yet, although I am sure it would be great fun. You may also choose from five scenarios available and four skill levels. The scenarios in chosen from are as follows: *Battle for Pusan* September 2nd 1950 - using an F-86; *Traverse Airfield* October 20th 1950 - using a modified C-119 transport plane; *Mig Alley* December 7th 1950 - using an F4U Corsair; *Strategic Airfield* January 23rd 1951 - using an F-86 Sabrejet; and *Operation Struggle* June 20th 1951 - again using the Sabrejet.

The graphical presentation of the game is excellent. The screen is split between two cockpit views, one for each player (computer or otherwise). A most impressive 3D view opens up from the cockpit of each plane, with a target and range of instruments on display. The simulation is definitely combat based, rather than flight, although a few basic flight concepts require learning. Instruments include power, altitude, air speed indicator, speed and ammunition. The instructions also give a brief outline of some basic flight manoeuvres. The aim of the game is to destroy an enemy enemy aircraft as possible before you lose three lives. You lose a life each time you are destroyed, although, having been hit, you may be lucky enough to eject or ditch the plane safely. Each enemy plane destroyed is worth 1000 to 2000 points, dependent on the amount of time taken to hit it, and upon the skill level selected.

I was very impressed with the graphics and smooth scrolling in this game, particularly as an enemy plane approached. Instead of the usual dot in the distance growing and growing into a plane shape, a real perspective is given to enemy aircraft. If the enemy pulls away from you, the perspective changes accordingly. I found the game reasonably easy to control, although I did find it was a bit sluggish (compared with *Fighter Pilot* for example). However, this is a simulation of a 1950's jet fighter, and I have no doubt that the handling of the plane reflects this point. What is very difficult at times is controlling the plane whilst in a combat situation. I found the best tactic was to try to get behind the enemy, and take him out whilst on his tail. I have only tried the first two scenarios, and I am quite sure that other tactics will be necessary to be completely successful.

The whole package is of a high standard of quality. The instructions are reasonably detailed and not only give you the basics of playing the game, but also background on the Korean War, background to each scenario, flight techniques, combat tactics and advanced fighter pilot techniques. It is obvious that the designers have given a good deal of thought to the in-

demonstration of this simulation and this game is probably the closest any of us are likely to get to flying jet fighters. One impressive feature is the constant change of brightness brought about by flying towards or away from the stars. Indeed, the game experienced when flying directly towards the sun can be quite alarming.

All in all I found this to be an excellent game, well written and implemented, and a great addition to any collection for it as a flight simulator or combat simulator. Don't miss out on this classic.

AZTEC CHALLENGE

AZTEC CHALLENGE was a Top Ten Hit release of Maynard International Limited, Berkshire. The cassette tape states that the game is for Atari 8000's and 1300's, however it is only a very short loader and will definitely run on a 6500 and probably other models.

Aztec Challenge is set at the ancient Mexican pyramid of Teotihuacan, where the Aztec gods have descended in human savviness and games which is but one... Your only hope of escape is to survive a series of tests in which your agility and stamina are pushed to the limit. The cassette tape continues 'Over the centuries, your race has developed amazing abilities in running, jumping and leaping. This is your only chance of surviving the Aztec Challenge - a challenge on an epic scale'.

Once the game has loaded, you are presented briefly with a title screen, and a short blast of the title music to *The Good, the Bad, and the Ugly*. Unfortunately, this is the extent of the musical accompaniment in this game. The game itself is basically a test of your coordination in jumping over and through a variety of objects. There do not appear to be any goals to collect, any enemies to shoot or any demons to recruit, kill, if I were about to be sacrificed to a pyre I don't think I would worry too much about green collecting!

The graphics are not over impressive, with a small figure set in a running motion and a constantly scrolling screen sparsely decorated with various plants and obstacles such as walls. I tried to speed up and slow down the figure constantly during game play, and as there was no response, the game did not seem to run smoothly. I also found the jumps very difficult to place as they seemed to need just perfect reactions. I worked my way through *The Emerald Jewel* 3 and some of *The Colossus* level 3. The game is well refers to *Grounds and Colossus*, *Fire Games*, *The Heroes*, *The Gems*, *The Walls* and a note to say that 89 levels are featured in the game. This gives

some variation on the jumping theme as you must jump over, under, through and over various obstacles throughout the game.

In the end, my conclusion is that although this is not a great game, and is certainly not a sophisticated game, it is certainly a challenge to which I devoted more time than I care to admit. If it keeps you playing to last that one extra hour then it must be worth the £3.95 for local asking price. Once again, this one is Translatable: AT or XL/800 Miss - New Standard Tape Read - default settings.

MILLIPEDE

MILLIPEDE is an arcade blockbuster straight from the pub machine, brought to the Classic by Atari Inc. It was released in 1984 on cartridge for all Atari computers with a minimum of 128K memory.

Millipede is a close relative of the other arcade game, *Centipede*, and is very similar in game play. A number of extra features are incorporated in *Millipede*. These include different legs to wipe out, 1200 levels to help wipe out large numbers of insects, increasing physics and the ability to set a starting score.

The instructions state that 'An army of marching millipedes - consists of the fastest centipede - have invaded your garden paths, and you must shoot arrows at them to rid your plot of these pesky pests. The millipede is not the only problem you have to deal with, an alien presence in the garden are jumping spiders, buzzing bees, buzzing beetles, mosquitoes, dragonflies, tadpoles, and snails. Each insect has its own characteristics, and its own value when destroyed. Particularly bothersome are the snails which are difficult to hit, and poison every mushroom they come into contact with. Poisoned mushrooms are bad news as the millipede will go absolutely crazy when it comes into contact with one, and charge directly at you!

The game is played with either a joystick, or a track-ball. I only have a joystick, so I wasn't able to try the game with a track-ball. I am sure that the game is really playable with a track-ball, which allows more flexibility to movement. Having said that, it is also very playable with a joystick. One feature which did puzzle me was the selection of starting points. I really can't imagine why anybody would want to start a game with 30,000 points. Perhaps it is for those people who are just desperate to beat that elusive high score.

With many new games I am amazed at the intricate graphics and numerous functions programmers manage to produce with our classic 8-bit. However, no matter how well implemented some of these new games are, they never seem to challenge the simple playability of the older *Millipede* in an old, simple game that is just addictive and fun to play. This game, and many of the other cartridge based arcade games will be around long after the last legs is laid to rest.

REVIEWED THIS ISSUE

MIG ALLEY ACE

Publisher: Maynard
Price: £3.95
Disc only

AZTEC CHALLENGE

Publisher: Maynard
Price: £3.95
Cassette only

MILLIPEDE

Publisher: Atari
Price: £3.95
ROM only

All these titles are currently available from the JAMES E. ACCESS SORTY SHOP and some may be available from other retailers

reviewed by
Mark Stinson

EASY PROGRAM VIEWER

If you want to check some routines in the middle of a programming session try this handy viewer by David Sargeant which allows you to scan through any Atari Basic program

When I write programs on my Atari Classic, I often want to refer to previous listings to remind myself of how I have handled a particular programming problem in the past. The sort of utility I need would be executed from BASIC. It would read a listing from a disk file into a text buffer and would allow me to browse through it at will. A Word Processor, of course, would let me do this, but I would prefer not to use such a dedicated piece of software. Nor do I need any editing facilities that a Word Processor would provide, so one would be desirable. A BASIC program purposely written to meet my requirements would be more useful and this is the premise of my program.

PROGRAM DEVELOPMENT

The input procedure is a loop consisting of 3 modules, which are mainly in machine code for speed. The loop is exited when the last line of the input file has been read or the text buffer is full due to insufficient memory being reserved. The size of the text buffer is determined by the variable `IBSIZE` which is a calculation of the maximum number of pages allowed times the size of the video RAM. The current setting is for a maximum of 32 pages which gives a text buffer of 16000 bytes and is enough for a listing of approximately 160 program lines. The 3 modules are:

READ: A program line is read from the listing file into the text buffer and the line length is returned to BASIC. A line number is then calculated to make sure that there is enough space in the text buffer to add this line, if there is the input

loop is continued, but if there is not, the loop is exited and a message is printed to inform the user that the listing is truncated. The line length is decreased by 1 to exclude the Carriage Return and of line marker in subsequent modules.

CONVERT: Data is stored in the listing file as ASCII bytes, but for this program to make sense of the data each byte has to be converted to it's relevant Atari Internal Character Code. This module converts all the data in the line buffer.

COPY: This module copies all the data from the line buffer to the text buffer. It also updates the buffer offset address and the line number which are used later in the file viewing section. The machine code routine is taken from Page 8, Issue 27.

The output procedure uses the same machine code routine as in the Copy module above. After the index into the text buffer has been calculated a pre-defined number of bytes are moved to the video RAM.

USER GUIDE

After a short initialisation delay the user is prompted for the name of the listing file. Enter the name or press the RETURN key to end the program. If a name has been typed the program attempts to open the disk file. An error message is printed if it is unsuccessful and the user is prompted to start again.

The listing is then read into the text buffer and the first page is printed. The next or previous page can be accessed by pressing the respective up/down arrow/cursor key. The viewing can be terminated by pressing the ESCAPE key where the user is prompted again to enter a file name or to press the RETURN key.

Although this program is meant to be used with program listings files (BASIC programs saved with the LIST command), it can also handle any file using a Carriage Return (ASCII 15) to delimit each line.

Source code listings overleaf 

DESINAID

A 24 PIN CHARACTER DESIGN AID

Eddie Bennett has developed this fine program for use on his Epson LQ-500 printer but it should work on any other 24-pin printer that has true Epson compatibility

The program "DESINAID.DAT" allows you to design your own characters without the stress of squared paper, calculating data values and then typing in the data. You design your character on screen, with a joystick to point out, on a matrix 24 pixels high by between 1 and 37 pixels wide, giving a maximum of 888 pixels. It will print out the new character, print a copy of the design matrix or write the data statements into the program ready to be saved to disk in LPT format for future use.

On the first screen you select Atari Basic or Turbo Basic. The next screen asks if you want to load an old screen or go to the design screen. If you select the design screen you can select inverse or normal. If you select to load an old screen you can select inverse and/or mirror image. If you select one or both of these options you will not see the result until you press OPTION from the design screen. Now when you print, binary print or load old screen from the menu you will see the result.

SETTING UP

If you chose DESIGN SCREEN it asks for the attribute bytes, which are the first three data statements preceding the character data, the character to change and confirmation for disk file name which will have the extension ".LGT". The file name to make up from the CHR# number, a row, the width, then LQ (this will become the file name for all screens until you leave from the main screen). The screen can be changed if you redesign one character more than once as one does not overwrite the other on disk. You can't download the same character twice at one go obviously.

The right margin is set at 1 as it has no effect on my print out

but is needed in the data for downloading.

The fill starts to 24 minus the width of your character divided by 2. (this puts it centered). For the moment leave the margin values as they are. I will explain why later.

If you pressed "L" you will be asked for the CHR# number and width of the character you wish to load. The file name will be displayed. Press RETURN to confirm or change the drive by pressing D and the number before confirming. The file will be loaded and the SCREEN SETUP screen will be displayed showing the attribute bytes and character loaded. Again press RETURN to confirm or change the values first. When you load an old screen to get a mirror copy don't forget to change the character to be SAVED on the "Screen Setup" screen.

CREATING A DESIGN

Now, at last you come to the DESIGN SCREEN.

With a joystick to point one you can now draw your design, or alter the existing design. To set a point hold the trigger down and move all 6.

When complete, before pressing one of the control keys, leave the cursor on a point to be plotted otherwise you will have a stray dot. The marks at the sides of the box are the bottom line of a normal character, the top line of a lower case character and the top line of an upper case character. Lower case characters use the area below the bottom marker. Numbers are one row taller than upper case letters.

Pressing SELECT gives you a printout of the screen and START a printout of the redesigned character. The screen remains displayed after START and SELECT. You can go between designing, START and SELECT as often as you need. Once satisfied with your design you can leave the design screen with OPTION.

On pressing OPTION the data statements will be written into the program at lines 5750 to 5994 and you will come to the main menu.

This is how the main menu looks:

```

Dr MacCopy
Load current screen
Save data to disk
Enter (Have data file)
Print Character
Binary Dump
Save for Mapping.
Quit (L.M.99) to get back here.
Your choice—?
    
```



Dean Garraghty Software

SPECIAL OFFERS

These special offers are open to PAGE 4 readers, and are valid from now until the next issue of PAGE 4 arrives

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DESINAID

continued

There is characters C188-93 to F0. It does not matter what the original were assigned to. In the group 33 to 79 are the FULL STOP and the COMMA, which meant switching on and off the character set which was a pain so I redesigned the full stop and comma to be the same as HAM or HOB. I could have split the download into two, 33 to 43 and 47 to 79. As it was the punctuation marks were easy to misplace. The LG files therefore do not all correspond to the DESID disk files.

If you only downloaded a couple of characters then Entry and run each one as a stand alone program keeping in mind the remarks in lines 2152 and 2153. The C188 numbers don't need to be consecutive in this case.

On the disks are some examples of characters I've redesigned. Note CH84000.LG runs the program and you will see I've left a gap at column 28 row 12 (empty dump). Complete this line to the vertical line, print it, and you should see that the vertical line is now deleted. Use this as a test when you design certain characters.

USING THE CHARACTERS

Once downloaded you can load your word processor or use them from Basic. When I want to use LETTER WIZARD or MISS OFFICE I after downloading I do not switch off and reboot. I PRESS 866, I RECALL then REPLY. For LETTER WIZARD I use OPTION down also.

To use the new set from Basic I use the code "Esc,3" and then reverse the character which increases its ASCII number by 128.

Word Processors, (print), don't like inverse characters so, the LETTER WIZARD I use the control codes "esc", "W" and then CH11 to inverse to switch on and to switch off "esc W" and then, again to inverse, CH10.

MISS OFFICE I works with the print code strings 27,27,1 (end) and 27,27,0 (end).

The program will not Basic compile nor Turbo-compile but it will run with Turbo and faster than with Basic. To make it compile I would need to change the LIST and ENTER routines which would defeat my object. As it is, it is a simple matter to enter a character for downloading from basic, or load a merged group of characters without first having to load a special program. If I have one or two to download I store them in LIST boxes. If I have merged a block I save them to HAVE format as I have done with the file DESID.D88 on the disk. For my own purposes TURBO basic is fast enough.

The layout made routines were inspired by an article in the old ATARI USER of September 1985 by Richard WADDELOWE.

I have not been able to test the program on other systems, therefore any problems may be due to my setup - the printer or the interfaces.

Because of its length the DESINAID program is only available, ready to run, on the disk for this issue - check the DISK BONUS page for details on how to order

NOSAUG PD TAPES

Public Domain on cassette is as rare as an Atari advertisement on TV but Paul Rixon has found a source and checks to see if the tapes are any good

There hasn't been much joy for cassette users recently. Budget tapes used to be the 'in' medium for most games releases but nowadays, in the absence of mainstream software house support, non-5.25 products are almost exclusively disk oriented. Disk tapes are a popular source of software and information, but how many tape shops have you heard of? Public domain disk libraries offer a great opportunity to buy cheap software, but how many stock PD cassettes? Does the NOSAUG have a future?

WSE, RONALD thank you, **RONALD's** eager rascal Stuart Murray, who is well known for producing the rather good *Pirates* magazine that to mention his NMI contributions, freely believes in equal opportunities for cassette users. Not only does he offer relevant extracts from *Pirates* on tape, but also maintains a unique contact library of public domain software. *Pirates* has featured in these pages on several occasions, so this time we'll focus on the PD collection. I've selected four cassettes for review here but there are many more available - twelve at the last count, not including issues of *Pirates*. More are planned for the coming months and, of course, Stuart will gladly send you full details of the up-to-date collection just send him an NMI.

FUN AND GAMES

I can't remember the last time I used my PD II - it seems like years, and probably is. However, I encountered no problems sampling the contents of the first PD cassette - **GAMES 1**. This tape is good quality C90 and contains seven games, all of which load in the absence of Atari Basic. Printed documentation is supplied.

Ali Hooking is a very playable simulation of your general AI too looking for one or, preferably, two players with joysticks. It's a bit like the old *Arkanoid* Ping in that each player operates a bat and tries to guide a ball for pencil through the opponent's goal mouth. The start-up screen allows you to alter parameters such as friction, bounce and velocity. The next game - **Death Race** - was originally listed in the now defunct *Monitor* magazine and is an excellent *Excelsior* clone. As you press into the colourful 3-D landscape, your machine detects an alien. As it screams into view you wisely back off, firing unless of energy balls. You have rendered this fine, but how many alternatives can you withstand in the *Death Race*?

On a less violent theme, **Castlemania** is a classical puzzle for two players. The joystick manoeuvres two characters - one red, one blue - who jump around a four-by-five grid. Whenever the character land, the square is converted to the corresponding colour. Each time four identically coloured squares are connected in a

row, the appropriate player gains a point on the progress bar, it's simple, but good fun and very well implemented. In **Amphibian** you have to climb a tree and knock down fruit onto the enemy dinosaurs below. There's some nice sound here, but the game itself won't hold your attention for long. Fortunately the next one - **Tom Man** - is a real treat. It's a version of *Pacman* as needless to say you have to eat the dots and avoid the bad-dies. There are three levels of difficulty and single or dual player modes.

The Empire Strikes Back is a PD version of the Parker Brothers VCS game - your job is to defend the rebel base from approaching imperial walkers. By firing your x-wing fighter over these strange monsters and hitting a small target on their backs, it's quite a challenge on the higher levels. The final game, **Koalas**, is a cross between *Frigger* and *Lunar Lander*. You must dodge an asteroid belt, then manoeuvre the atmosphere forces to sit your space craft on a small landing pad - greatly does it if successful, you obtain a container to take back through the water and fire into the cargo bay of an orbiting mothership. I liked the shading of the background scenery, though otherwise this game is rather dull.

SERIOUS STUFF

That's enough fun and games - onto the serious stuff! **SPREADSHEET-1** contains no less than two programs, three machine code and the remainder Basic. **Page 8 Writer** requires an introduction to long standing NMI readers, since it appeared as a type in listing back in issue 58. **Page 8 Writer** is a word processor incorporating the usual editing, search/replace, format, printing and DOS facilities. Unlike many it can be used to save and retrieve documents on

inserts as well as disk. Another treat is Art Minton's *Collaboration*, originally a commercial release but placed in the public domain during 1993. Described as a light synthesizer, the program is much easier to use than explain. You basically press some buttons, wiggle the joystick and watch the screen come alive with amazing patterns. For best results, turn down the lights and crank up the CD player. There are loads of adjustable parameters, preset patterns, special effects and other goodies. Printed instructions summarize the numerous commands.

For fun, is down to experimentation. For those with artistic ability, **HWK Artist** is a drawing package with all the expected functions - draw, text, fill, circle, rays and many more. It's compatible with *Quake*, *Micrograsp* and *Magnum* picture formats but unfortunately you can't save pictures onto tape. This draw-back aside, **HWK Artist** is a very competent package. **Green Calculator** has nothing to do with dealing when it's time to mow the lawn. It was created by the Grand Rapids Atari! System Supporters' Basic programming class, and is basically a desktop calculator. As well as all the standard arithmetic operations, it can handle hexadecimal in decimal for the usual conversions, odds, square roots and percentages. Meanwhile **Sea Plotter** will tell you the time difference, sunrise, sunset, longitude and latitude figures for any selected area of the world based on date and GMT information entered at the start. Draw a world map to display, you simply point with the joystick to discover the relevant info.

The remainder of *Utilities 1* is filled with less complex basic programs. **Sketch Sketcher** is another drawing package which lets you design pictures constructed from "3-D line" sections in a chosen color. **Metric** is a two-way conversion program for those people who get confused with centimeters, kilometers, grams, Celsius and their imperial equivalents (isn't it two grams to the inch?). In **Door Price**, the computer selects winning numbers between pre-defined limits. The results are presented in an attractive manner, which could be useful if you want to run a raffle. **Gas Miles** prints or displays a table showing the cost of various journeys, based on the input cost of fuel and average consumption of your vehicle. Finally, **Typing Tutor** provides a means to improve touch typing skills. It presents randomly generated words which you must copy while the computer keeps track of your speed and accuracy.

DEMOS!

There are only six programs on the **AMAZING DEMOS** cassette, but rest assured you will not be disappointed with the content. The **FullBook Demo** is probably the best known of all Atari Demos. It features a spinning and beeping Atari flag symbol, plus on one side and numbers shaded on the other, all presented on a clipped-out background. You can press Option to change the direction of the symbol's spin. An innovation in its time, The **Playbook Demo** screens a little subtitled by more recent developments.

Verice, for example, is a brilliant demonstration of page flipping and colour register rotation techniques. It depicts a constant spiral - a vortex, in fact! **The Little Demo**, from the Dutch High Tech Team, was produced after their highly acclaimed **HW Demo** and consists of two components. The first is a scrolller, with messages to read and musical accompaniment from the Ninja Commando theme. The second is ... another scrolller, complete with a digitized photo of the High Tech Team, more messages and more music! **What's F** is the name of a demo by the World Federation of Mad Hackers. It illustrates the power of 3-D vector graphics by displaying various objects - the Atari logo, a floppy disk, a tin-lighter, a clock face etc. - spinning through space. **Bad Things II**, from the Atari Spaceward Research Laboratory is an older demo of a ball and associated shapes, bouncing as if on a squash court. The music is rather forgettable! Last but not least, **The Home Entertainment Demo** was created by the Home Entertainment Center, who justify its presence at the time that Atari home computers had the best graphics and sound capabilities available. Customers bearing the missing soundtrack and viewing the incredible kaleidoscope

graphics would surely not have disagreed.

SOUNDS GOOD

As you might expect, **MUSICAL MADNESS** is a collection of music games. Several items were composed for computer games using the Advanced Music Processor - **Substance**, **Cosmic**, **Twinkle** (one of my personal music favourites), **Mr. Noodle**, **Monster Smash** (another favourite) and **Alternate Reality**. Most songs are accompanied by a second-to-lighter display, but **Substance** and **Monster Smash** have step-along words instead! The next three items - **Triemann**, **Don't Be a Major**, **One Way Ticket**, **Bill** and **Football** **Particula** - were all created using a disk-based alternative package called **Music 16**. **Five Drucker** and **The Sign** **Shampoo** are theme programs (as you can imagine, the latter) but you wouldn't guess from the earliest musical output. The final offering, **The Sages Brothers Sound Demo 2**, is a demonstration of the Enhanced Music Box and comprises a selection of ten different tunes. They're not bad at all. Anyway, it's almost impossible to describe the contents of the **Musical Madness** tape. All you can do is listen!

HURRAH!

Despite my reluctance to return the program recorder (on long-term storage), I was impressed by the high standard of **NOSAU'S** PD cassettes. Many items have never been available in this format before, whilst others are six-commercial releases which were difficult to find in my game. They are all of excellent quality. Tape users can now rejoice!

PRODUCTS REVIEWED:

NOSAU'S PD CASSETTES

CD1 - Games 1
CD3 - Utilities 1

CD4 - Amazing Demos
CD6 - Musical Madness

The price per cassette starts at £2.95 but reduces to £2.50 if you buy four (and £1.95 if you order more than seven). Orders and enquiries should be addressed to Stuart Murray, NOSAU, 71 Water Road, Eury, Aberdeen, Scotland, AB1 3DA.

THUNDER ISLAND

*A super maze game by
Craig Patchett originally
published by Analog
magazine*

THIRTY OPTIONS!

One of the interesting features of the Atari home computer is the priority register. This reserved memory location works together with the Atari Player-Missile Graphics system to allow screen objects to pass behind or in front of other objects, an effect that can give the illusion of depth.

The priority register is called, appropriately, PRIORITY and is found at memory location \$23 (POOP hex). The accompanying chart shows the effect of PRIORITY various values (see it. Note that a high priority object will appear to come in front of an object with lower priority.

A GAME USING THE PRIORITY REGISTER

Thunder Island uses the priority register to control which section of the maze immediately surrounding you can be seen at a given time. If you draw a maze to playfield one and set the colour of playfield one to that of the background, under normal circumstances we won't be able to see the maze. But, by setting PRIORITY to 3, we can have players two and three appear between the background and playfield one, thereby making the section of the maze 'in front' of other player stable. That's all there is to it!

PLAYING THE GAME

Thunder Island is located in the middle of the Pacific about a thousand miles north of New Zealand. An internationally renowned player event, its main attraction is a huge transparent maze. This maze can be set up in any one of an almost infinite number of floor plans, so that it is impossible to memorise the layout.

Because it is transparent, the maze is normally easy to solve. The island, however, is subject to frequent thunderstorms, and the power generator that lights the maze is often knocked out. As a precaution to this, those entering the maze carry lanterns, allowing them to see that part of the maze immediately surrounding them. It is the challenge of navigating the darkened maze, however, that has drawn you to Thunder Island. A different maze will be generated each time you play. Good luck!

Use the chart to pick the type of game you want to play. A one player game is good for practising but you'll find that the two player games are more fun. You can choose to play a daylight game, in which the whole maze is always visible, or a night time one, in which only part of it is visible. You can also choose from three maze difficulty levels, and each player can choose from three lantern stars (allowing better players to take a handicap). The OPTION key chooses a one or two player game and SELECT chooses the level. Once you have selected the game you want, press START and the computer will begin generating the maze. Once it's finished, your lantern(s) will light up and the game will start.

Using your joystick, you must manoeuvre your player in the corner of the maze diagonally opposite to the one you started at, and exit the maze. There is a timer at the bottom of the screen that keeps track of how long you've been in the maze, so you can compete for the fastest time. As soon as someone escapes, the storm will end and the maze will start reflecting a rainbow. Press START to run the program again.

PRIOR SET TO

8	4	2	1
PF0	PF0	P0	P0
PF1	PF1	P1	P1
P0	PF2	PF0	P2
P1	PF3 or PF4	PF1	P3
P2	P0	PF2	PF0
P3	P1	PF3 or PF4	PF1
PF2	P2	P2	PF2
PF3 or PF4	P3	P3	PF3 or PF4
BAK	BAK	BAK	BAK

PFn refers to player n

PFn refers to playfield n (as in SETCOLOR n)

PF3 or PF4 refers to the fact that all missiles can be given the colour of playfield 3 and used as an extra player (player 5). This is done by adding 80 to the value being FOREd into PRIORITY

When two players overlap, you can also choose to have a third colour in the overlap region. This is done by adding 80 (decimal) to the value being FOREd into PRIORITY.

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1982/04-37	1982/04-49	1982/04-61
1982/04-38	1982/04-50	1982/04-62
1982/04-39	1982/04-51	1982/04-63
1982/04-40	1982/04-52	1982/04-64
1982/04-41	1982/04-53	1982/04-65
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XL/XE TUTORIAL

DISPLAY

Take all the hard work out of calculating display list data with this program by John Foskett which will give you the details of 47 available display lists!

The Display List Reader will read any of the internal display lists up to mode 47 (16+32) and print it onto the screen. All display lists are printed in 30 columns of 21 statements in each, enough for the largest to be printed in a single screen. Once a display list is printed on the screen, pressing **START** will write it to disk in the form of Basic data in the **LIST** format. The file name used is "DISPLAS 37", where 37 is the mode number selected. Pressing **OPTION** exits back to the title screen.

ON SCREEN INFO

Important data is given at the top of the screen as follows...

PEREG000	Starting address - low byte
PEREG040	Starting address - high byte
PEREG07F	"DISPLAS" current mode
ADDRESS06	Starting address
MODE	Selected mode
TOTAL	Total number of statements

HOW THE PROGRAM WORKS

The program works by selecting the chosen mode and loading the display list data into an array, reselecting mode zero and printing the data on the screen.

The display lists are located by PEREG000/040/07F/00000000 in the normal way, and each row address (byte) after detouring the number "00". The number "00" is always found in a display list three bytes from the end.

A fixed screen is used for clarity which is generated by a custom display list loaded into page 6.

The CLASSIC PD ZONE

FOR THE CHILDREN

Due to other work commitments our pilot was unable to fly us into the Classic PD Zone last time. All tickets remain valid for the next January. Until then, we will expedite the flight training of young Air Marshall cadets.

The Purdue have hyperboarded us three educational offerings to improve the skills of our rear seats. These offerings were recommended by the Inauguralistic School's Pedagogical Education in the Key to Life beyond the Classic PD Zone...

LEARN WITH MAX

I LOVE MY ALPHABET features a cute character by the name of Max. Max wiggles, blinks, dances, runs, grows, shrinks and kicks his way all over the screen whilst at the same time helping a child to learn the alphabet and improve identification skills.

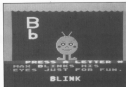
After a long loading time you are greeted by the main screen. It is set up like a stage with large green curtains. Max walks onto the stage and begins to dance to some hokey music (Twinkle Twinkle Little Star). He is a fancy-looking orange ball with legs, eyes, a mouth, antennae and ray red cheeks. He is wonderfully animated and moves smoothly across the stage switching his antennae, kicking his legs, blinking, smiling, etc. Max is a happy character which will keep children glued to the TV screen!

When the music ends and Max stops dancing he asks you to play one of four games with him. These are Watch the Letters, Press a Letter, Find the Letter and Letter Quiz. Use Select to choose your game and press Start to begin.

Select Watch the Letters and a letter below the stage transforms into a query keyboard. A letter flashes and Max performs a task. With great detail and wonderful animation he does all manner of things. For example, beginning with the letter A, you are shown the word "Antennae" with the "A" highlighted. You are told, "Max wishes his antennae went off the stage" and our orange friend proceeds to do exactly that. It is very cute!

Next up to "B" and you are told, "Max blinks his eyes just for fun." Some of my favourite letters are I for Ice Max skates on ice, D for Dance Max dances to some hokey music, F for Feet Max picks at you from behind the curtain and R for Rock Max turns green. You just have to see Max in action to appreciate how good a program this is!

The second game is Press a Letter. Here Max asks you to press a letter on the keyboard. If you wait too long Max speaks to you... "If anyone is out there please press a key... Press anything. Max is getting bored... OK, let's play another game..." and he moves onto the next game. This sums up the joy of I



Love My Alphabet!

Getting back to Press a Letter, you are asked to press a key. Do so and Max will perform the task which begins with that letter, e.g. press G and he grows! When Max is ready for another letter a nice appears at the side of the stage.

The next game is Find the Letter. Max walks to the right of the stage and reaches behind the curtains for a letter. It then appears on the stage to appear again. Your job is to look at the letter and then press the corresponding key on the keyboard. This game will help children identify letters.

If you enter the correct letter it will appear at the top left in upper and lower case. Max then nods and gives his performance, e.g. a correct F and Max will run fast across the stage.

Enter the wrong letter and it will appear at the top left on a computer screen to be made with the requested letter on the right. Max will also tell you that you are wrong by shaking his head and asking you to try again. There's wrong games and he will show you where the letter is on the keyboard by lighting the query keyboard back on stage and flashing the letter.

Letter Quiz is the final and most difficult game of the four. You must watch Max give his performance and then guess the correct key to match what he did, e.g. if Max hops about the stage you would enter H for Hop. Go to right and Max will nod his head. You have three guesses with Max helping you along the way.

The sound effects during each game are very impressive. There are footsteps as Max walks, changes as he watches his antennae, squeaks as he talks, etc. The supporting music is hokey and full of life!

I Love My Alphabet is a wonderful piece of software! It is without a doubt one of the best educational titles (PD or commercial) for the Atari 8-bit. If not THIS level it was only best created by the commercial title by their series.

The animation is smooth and classy. The four games are expertly designed to offer a varying challenge to young children. The graphics are excellent and well drawn. Best of all, there is Max! This adorable little character is a joy to watch and will gain the attention of any child!

If you have children who are learning their alphabet or if you just want to experience a truly great piece of programming then you must see I Love My Alphabet! Forget all of those commercial educational titles and cartridges of the past... Max is here and he is top of the class!

CLASSIC PD ZONE RATING: 95%

ONCE UPON A TIME...

If your children enjoy a good story then perhaps you should take a look at **STORYTELLER**, an interesting program which tells you one of ten classic bed-time stories-in-action. You can read it to or with your child by changing the speed at which you wish to read that, louder or slower.

After loading the disk, select **HELP** from the menu and you will find yourself at the Storyteller menu. Here you are shown the ten stories featured on the disk and asked to select a story by pressing the corresponding number (0-9). After doing so you come onto a black screen with blue background. The title of the selected story is given in white Graphics 0 text and the tale begins to read sentence by sentence on the screen.

Storyteller is basically a text viewer program with children's stories available. The stories include Little Red Riding Hood, The Three Billy Goats Gruff, The Bremen Musicians, The Three Little Pigs, The Spider and the Fly, The Little Red Hen and The Gingerbread Man. There, sure, so fast as you can. You can't switch one. I'm the gingerbread man", brought back some pleasant childhood memories for me!

Obviously, Storyteller is not the same as a full-colour pop-up book but it is an interesting alternative. You can also input your own stories by using the main Storyteller sub-menu and storing the DATA statements in the program. By entering DATA N you signal a new file. DATA 999 signals the end of the story. It is easy to create new story files for use with the main Storyteller program.

Storyteller is a concept which will hopefully be built upon, by adding larger text, pictures, animated sequences and an interactive component to allow the child to "participate" in the story (e.g. make Yes or No decisions, spell objects, answer simple arithmetical sums, etc.) it could become a top-quality program.

As it is, Storyteller is a first step towards an **SL/SE Magic Story Book**.

CLASSIC PD ZONE RATING: 55%

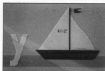
AS EASY AS ABC

MY SECOND ALPHABET is a disk which is similar to the first the Letter game in I Love My Alphabet.

There are 26 picture files on the disk, each showing a lower case letter and an object which begins with that letter. After examining the letter and object you must press the corresponding upper-case letter on your computer keyboard. Only when the correct key is pressed will you hear a random set of musical notes (which often sound like the sequence from Close Encounters).

With My Second Alphabet your child can improve identification skills whilst learning the alphabet and the difference between lower and upper case letters.

The main picture loader is very fast and you move from



picture to picture at a quick rate. The pictures are very well drawn with great care having gone into producing quality artwork. My favourites were 'Y' for train (Thomas the Tank Engine), 'V' for disease, 'Y' for cat and 'V' for vacuum cleaner. Colour is used to great effect in all 26 pictures.

My Second Alphabet is almost a very good educational program, however there is one major flaw - each successive picture file is chosen at random from all 26 files in other words, the same picture often appears two or three times within a short period of time! This is a pity, brought by the author which makes the program less interesting to children. After enjoying the first few pictures, my young cousin Lewis got quite annoyed when the 'Y' for cat appeared three times out of five. It's ended up asking for this again!

The program should be allowed to allow random selection of picture files but only from those which have not already been shown. After all 26 files have been shown the program can begin again. This way, I think children would really enjoy My Second Alphabet. If anyone decides to alter the program, why not write to Page 8 Mailbox so the necessary changes can be published for all to see.

My Second Alphabet is a good educational title which unfortunately is let down by a single programming oversight!

CLASSIC PD ZONE RATING: 45%

SEE-YA!

As part of An AtariII reader training, all events must undertake a new computer-logic into the Classic PD Zone. What they will find there is anyone's guess! Until next time... Remain always on the happiness point and keep feeding your What we grow jolly best!

This issue's reviews have been:

DISK #232 - I LOVE MY ALPHABET

DISK #102 - STORYTELLER

DISK #182 - MY SECOND ALPHABET

with Stuart Murray as your guide

PROGRAM PRINTER

by David Sargeant

If you have an Epson-compatible printer, such as the Citizen 1200s, it soon becomes clear that it cannot cope with printing an Atari BASIC program listing. Normal text is printed alright but the Atari's graphics characters are interpreted by the printer as normal codes and inverse text is printed as normal text in italics. This is not a fault of the printer, of course, it is because the computer and the printer use different character sets. So the question is how can the printer be made to use the computer's character set when printing a listing?

Diving into the printer's manual reveals its Dot Graphic capabilities. A graphic character can be printed from a pattern of dots stored in the printer's memory. It would seem possible to use the 8 bytes that represent an Atari character as Dot Graphic codes to enable the printer to print the desired character. However, this reveals two problems:

- The bitmap of an Atari character is designed in such a way that each byte represents a row of that character. Yet, since the print head of the printer prints dots in columns and not in rows, each Dot Graphic byte should represent a column. Using bytes from the computer's character set causes characters to be printed on their side. So the 8 bytes that the printer requires for each character are not the same as the ones stored in the computer's memory.

BITMAP FOR LETTER 'A'	Atari
0 0 0 0 0 0 0 0	0
0 0 0 1 1 0 0 0	24
0 0 1 1 1 1 0 0	60
0 1 1 0 0 1 1 0	100
0 1 1 0 0 1 1 0	100
0 1 1 1 1 1 1 0	128
0 1 1 0 0 1 1 0	100
0 0 0 0 0 0 0 0	0
0 30 60 100 100 60 30 0	Printer

- The program that actually prints the Atari BASIC listing needs to use the ASC function to provide an index into the character set. This means that the characters should be in ASCII sequence. Unfortunately, the Atari has what is called an Inverse Character Set which is not in the

same order as the ASCII one.

	Atari ASCII	Internal
Character code	0 - 21	04 - 05
	22 - 63	0 - 21
	64 - 95	22 - 63
	96 - 127	96 - 127

The answer to these problems is to have not one program to print a listing but two. The first to calculate a new character set in ASCII order based on the Atari's internal one and to store it on file, the second to do the actual printing using this file.

CHARACTER SET MODIFIER

This program modifies the Atari's Internal Character Set as outlined above. It is very slow but, as it need be executed only once to create the new Dot Graphic character code file, speed is not important.

When you run the program all 256 characters are re-calculated and stored in an output buffer. You are then prompted to insert your diskette where the codes are output to a file.

VARIABLES USED IN PROGRAM

FILESPEC	File to hold character codes - set to 0:DISK00001.PRT
MC0	Character code to save character codes in file
DOBAS0	Buffer for Dot Graphic character codes
DOBAS	Starting address of Dot Graphic buffer
ROBAS	Starting address of ROM based character set
MIN,MAX	Range of ASCII character codes to modify
DCMIN	Value of corresponding character in the Internal Character Set
OFFSET1	Offset into the computer's internal character base
OFFSET2	Offset into the Dot Graphic character base
CHARACTER	Loop counter through the entire 256 characters
BYTE	Loop counter through the 8 bytes of each character
NUM	Value the current byte being processed
BIT	Value of Dot Graphic bit
I,A,I	Control variables

PROGRAM PRINTER

Listing 2

```

00 1 000 *****
01 2 000  BASIC LISTING PRINTER  W
02 3 000  by David Salzman  W
03 4 000  W
04 5 000  W
05 6 000  W
06 7 000  *****
07 8 000
08 9 000 *****
09 10 000 *****
10 11 000 *****
11 12 000 *****
12 13 000 *****
13 14 000 *****
14 15 000 *****
15 16 000 *****
16 17 000 *****
17 18 000 *****
18 19 000 *****
19 20 000 *****
20 21 000 *****
21 22 000 *****
22 23 000 *****
23 24 000 *****
24 25 000 *****
25 26 000 *****
26 27 000 *****
27 28 000 *****
28 29 000 *****
29 30 000 *****
30 31 000 *****
31 32 000 *****
32 33 000 *****
33 34 000 *****
34 35 000 *****
35 36 000 *****
36 37 000 *****
37 38 000 *****
38 39 000 *****
39 40 000 *****
40 41 000 *****
41 42 000 *****
42 43 000 *****
43 44 000 *****
44 45 000 *****
45 46 000 *****
46 47 000 *****
47 48 000 *****
48 49 000 *****
49 50 000 *****
50 51 000 *****
51 52 000 *****
52 53 000 *****
53 54 000 *****
54 55 000 *****
55 56 000 *****
56 57 000 *****
57 58 000 *****
58 59 000 *****
59 60 000 *****
60 61 000 *****
61 62 000 *****
62 63 000 *****
63 64 000 *****
64 65 000 *****
65 66 000 *****
66 67 000 *****
67 68 000 *****
68 69 000 *****
69 70 000 *****
70 71 000 *****
71 72 000 *****
72 73 000 *****
73 74 000 *****
74 75 000 *****
75 76 000 *****
76 77 000 *****
77 78 000 *****
78 79 000 *****
79 80 000 *****
80 81 000 *****
81 82 000 *****
82 83 000 *****
83 84 000 *****
84 85 000 *****
85 86 000 *****
86 87 000 *****
87 88 000 *****
88 89 000 *****
89 90 000 *****
90 91 000 *****
91 92 000 *****
92 93 000 *****
93 94 000 *****
94 95 000 *****
95 96 000 *****
96 97 000 *****
97 98 000 *****
98 99 000 *****
99 100 000 *****

```

```

01 000 *****
02 000 *****
03 000 *****
04 000 *****
05 000 *****
06 000 *****
07 000 *****
08 000 *****
09 000 *****
10 000 *****
11 000 *****
12 000 *****
13 000 *****
14 000 *****
15 000 *****
16 000 *****
17 000 *****
18 000 *****
19 000 *****
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57 000 *****
58 000 *****
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66 000 *****
67 000 *****
68 000 *****
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77 000 *****
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81 000 *****
82 000 *****
83 000 *****
84 000 *****
85 000 *****
86 000 *****
87 000 *****
88 000 *****
89 000 *****
90 000 *****
91 000 *****
92 000 *****
93 000 *****
94 000 *****
95 000 *****
96 000 *****
97 000 *****
98 000 *****
99 000 *****

```

XL/XE SOFTWARE

THE DALLAS QUEST

You are in the living room. You see a bag, a rifle and five files. What now? Perhaps I should explain. This is the opening sequence of **THE DALLAS QUEST**, a graphical adventure from Dataquest, dating back to 1984. Dallas may no longer be shooting on the box, but Dallas to Micro Dimension you can now relive the daily terrors of the Dating Inevitable. Good, thanks M.D.

The Dallas Quest adventure begins at Southfork, where you've been summoned by Sue Ellen to consider a proposition. She's in possession of a letter from Jack Kering in Miss Ellen which describes an extremely rich oil field he has discovered in South America. Poor Jack didn't survive the return trip, but the letter reveals he has lodged a copy of the oil field map with an old friend, together with instructions to hand it over to the person in possession of a special tag. This ring is enclosed with the letter, and Sue Ellen believes that with your help she can get the map and use the results to escape

from J.R. Oil, who just happened to overhear your entire conversation, does not want this to happen and will use any means to stop you. An unbelievable story? Well, Dallas always was!

The game loads up with pictures of JR, the South Fork entrance and scenes from the television series. The screen is split roughly in half, with the top portion displaying an artistic drawing of your current location with occasional animation and the lower part as a text area for inputs and replies. You can turn off the graphics if you want to speed up the response. The parser is fairly straightforward, recognizing standard two-word phrases such as 'Get Mouse!' and 'Go North'. There's a clear facility that will give you up to nine hints, if needed. Alternatively you can refer to issue 43 of *N&A*, where the *Spexer* offered a complete solution!

I must admit I've never been an adven-

ture fanatik - they all seem too much effort for me! However, I have it on good authority that *The Dallas Quest* is not particularly challenging and may not keep experienced adventurers puzzling for more than an hour or so. The graphics are excellent, but the adventure is let down by a poor (and sometimes illegal) plot. You might be able to invent in some 80' themes instead!

Title: THE DALLAS QUEST
Publisher: Dataquest
Supplier: Micro Discount
Format: Disk
Price: £9.95
Reviewer: Paul Hixon

MAZE GAMES 1

The games in this thematic compilation were advertised on the back cover of the very first *Page 9* magazine - and printed at more than £55 in total! Originally launched in 1980 by Steve Co-Loss, **JAWBREAKER** and **MOUSEBATTLE** have now been rescued from obscurity for the author's sake and re-released as a disk-based double pack.

As the compilation's title suggests, both games involve mazes and they are, in fact, variations on the Pac-Man theme. In *Jawbreaker* your joystick controls a set of teeth and the aim is to gobble up a load of candy. As you munch your way through the maze you are constantly pursued by five 'happy faces'. If caught, your teeth drop out and you lose a life! *Jawbreaker* is positioned in each corner of the maze and is swallowed to temporarily stop the tables on the sweets, but this useful effect doesn't last for long. When

you've cleared the screen of candy there's an amazing pause while the keyboarders are cleaned by a giant toothbrush, then it's into the next level. Once you've achieved a satisfactory highscore, you might wish to try an alternative maze. Simply press the Shift key during boot-up to reveal a slightly different design. *Mousebattle* presents a similar challenge, except that rather than having to collect items, you need to deposit them. You are equipped by the Robot Mouse Company and have been told to lay water pipes in each corridor of a maze. Unfortunately the maze inhabitants, three extremely large cats, are out there for you to succeed! Contact with the rats is a little unpleasant, but fortunately your employer has equipped you with some handy cones - two signs and two 'defence cats'. The cones trap any painting rats for a short time, during which they are vulnerable to attack from you. The

defence cats can be placed anywhere in the maze to obstruct the robots' path - each action is often essential to complete a level. Another problem is that due to defective plumbing, some corridors may have to be sealed once they occur to lay the correct pipe configurations. If it's too much to handle alone, you can invite another player to participate using a second joystick.

These games may be very old, but they're still quite playable, amusing and show I say additive. If you like Pac-Man, this is your lucky day!

Title: MAZE GAMES 1
Publisher: Richard Gere
Supplier: D.G.S.
Format: Disk
Price: £8.95
Reviewer: Paul Hixon

BUG SWATT

You don't have to put up with bugs in your programs. Ann O'Driscoll has one or two ways of dealing with them.

Program errors or "bugs" occur for lots of reasons and take many different forms. Some will prevent your program from running at all, while others may remain hidden for ages and only become noticed when, say, a particular key is pressed or data entered.

Start errors are lucky because, unlike some other BASICs, we have a TRAP command which is used to prevent a program from stopping when it comes across an error. This takes the form

TRAP n

where "n" is the line number in which the program is directed when it needs the bug LISTING 1 shows this in operation for the INPUT command: LINE 100 sets the trap. If anything other than a number is typed in LINE 100, the program goes to the routine at LINE 200, the line specified in the TRAP statement. This section of the program outlines the mistake and, after a short pause, goes back to wait for another input. Without the TRAP statement entering, say, a letter, at LINE 100 would have generated an "Error #1 at LINE 100" message and the program would have stopped. Error code number 8 means that there has been an input statement error, while line 100 is where the mistake occurred.

In memory terms, location 190 holds the number of the error code while locations 180 and 187 hold the line number of the error in low byte, high byte order. LISTING 2 shows these locations in use. The program generates a few errors and sets a trap in LINE 900 for each one. The error routine displays the "ERROR # AT LINE Y" message, goes to the bug if appropriate and goes back to the main program when you press START. For instance, LINE 500 introduces a string called AB, which does not exist. This causes an error (code 8), the program goes to LINE 900 and, because PEEK(180)=8, AB is dimensioned (LINE 920). The program returns to LINE 300 (specified by the routine, L0) when START is pressed. There are no further problems when it hits LINE 300 because the error has been corrected. LINE 100, which generates a dividing-by-zero error (code 1), works the same way. This time LINE 810 solves the problem by setting the variable it initially uses (because it

```

100 LINE NOW *****
200 LINE NOW
300 LINE Y "INPUTTING NUMBERS: "
400 LINE NOW *****
500 LINE TRAP 900
600 LINE INPUT A
700 LINE DATA L0
800 LINE NOW *****
900 LINE Y "ERROR NUMBER: 8 AT "FOR B0 L Y
    GOTO B0 L
910 LINE DATA L0

```

wasn't defined) equal to 1. Of course, in real programs things would be more complicated than this as the error "0" would not be so evident as in the case here. Nevertheless, the listing may give a few ideas on how some program faults error messages might be built into your programs.

READING DATA

The line number highlighted in an error message tells you where the program stopped - or would have stopped if you've set a trap - because of the error. While in general this is where the offending line is, this is not always the case. For example, Error 6 is generated when the computer tries to READ past the end of the program's DATA list. In this instance the end of data message references the READ line, not the DATA statement line. As a simple illustration of how easily the "transferred data" problem can arise, take a look at the following two statements:

```

DATA 1,2,3,4,5,6,7,8,9,10
DATA 1,2,3,4,5,6,7,8,9,10

```

Both appear to be the same at first glance, and both could be correct. But the first one only contains 9 DATA items while the second contains 10 (1-10 on top is not empty; 3 and 4 on the bottom are two separate entries). LISTING 3 is a small demonstration of how a TRAP can be set to catch DATA errors like this. The trap is put in before the READ statement and, after

ING

the error message is displayed, the program is returned to a line after the end of the FOR-NEXT loop so that the program can continue. Knowing how each DATA line feeds READs can be a useful guide to finding out where the problem is. While it might be as simple as typing a full stop instead of a comma, thus making one data item out of two, a whole line or more of DATA could be accidentally omitted if you are copying a listing from elsewhere.

TYPE-IN LISTINGS

Of course, if you are entering a listing from a book or magazine, you should use an error checker - like Page 6's "Type 3" for the programs in *New Atari User* - if you can. While line by line checkers can't pick up on whether or not you have entered out on lines, they will be able to tell you if the lines you have typed have been copied correctly. Problems with type-in listings are often simple. Missing up characters which look similar - the zero and the letter O, or lower case 'l' and the digit '1' - are common mistakes. Another one is to substitute a variable name for one you are familiar with. For instance, if you always use 'L' for lines in your own programs and the listing uses something else, you may accidentally use 'L' in the program you are copying, and so prevent it from functioning properly.

TRACING ERRORS

In tracing bugs, both in your own programs and copied listings, it's a good idea to try and track down - and deal with - each one as it crops up; it often helps if you LIST the lines immediately before and after the line number indicated in the error message as well. It is easier to spot transcription and other simple errors if you concentrate on just a few lines at a time, on an uncluttered screen. If the line shows in the error message has more than one statement, try to split it up into a number of 'stand alone' statements, giving a separate line to each one if possible. Then re-RUN the program to see which of the new lines is the one causing the problem.

With a bit of luck, you will be able to correct the fault once you have the error code and the line number, with the help of your computer manual. For instance, if your message tells you that you have an undimensioned array, find the section of the program which initializes the array and take it from there. You should always bear in mind that the bug may not be in the line indicated by the error message, as we saw above with *READING DATA*.

Variables may also cause problems in this way, because they can pick up incorrect values long before they are spotted.

```
00 100 REM *****
01 100 REM
02 110 REM *****
03 100 LINE/LIN:TRAP 999
04 100 T "PLEASE INPUT A NUMBER: ";
05 100 INPUT A
06 110 REM *****
07 100 LINE/LIN:TRAP 999
08 100 T A*8
09 110 REM *****
10 100 LINE/LIN:TRAP 999
11 100 A*17/100:GOTO 100
12 100 REM *****
13 100 T "*****";PRINTLN;" AT LINE ";
PRINTLN:PRINTLN:GOTO 100
14 100 IF PEEK(100) < 128 THEN GOTO 100
15 100 IF PEEK(100) > 128 THEN GOTO 100
16 100 T "PRESS [ENTER] TO CONTINUE"
17 100 IF PEEK(100) < 10 THEN GOTO 100
18 100 GOTO 100
```

These bugs tend to be more difficult to track down in typed-in listings as the inter-relationships between the different elements may not be clear, whereas in your own programs you would probably have a good idea of what the values of the variables should be at different stages. In any event, it often helps if you divide the program up into sections and put in temporary STOP statements after each one. Then RUN the program through each stage and print out the values of the variables - not just the offending one - each time. While this may be time consuming if the listing is long, it may enable you to track down the area of the program where the faulty variable is being generated.

Sometimes, of course, a problem with variables can turn out to be very simple. Like using two variables for the one thing. A constant one here would be to accidentally use both 'N' and 'DN' for zero. If 'N' is incremented during the program, then a line beginning

IF DN=100 THEN ..

will never be acted on. A utility like *lex* (Pridgen's Variable Checker, published in issue 85 of *NUJ*), can be very useful in cases like this as it enables you to list out all the variables in a program.

INPUT VALIDATION

While your own programs, errors caused at the input stage - wrong keys being pressed accidentally or deliberately - can be caught in a variety of ways. For instance,

```
40 IF PEEK(764)<35 AND PEEK(764)>43 THEN 40
```

keeps the program on line 40 until either 'Y' (PEEK(764)=35) or

IF (PRESENT) IS pressed, if, say, a whole range of input values are acceptable, then a few lines such as

```
50 INPUT N
60 IF N<MIN OR N>MAX THEN 50
```

will do the trick, where "MIN" and "MAX" are predefined minimum and maximum values set earlier in the program. A TRAP might also be used here, to catch errors involving non-numbers (apart from 0). The trap must be set before the INPUT statement. Other useful aids to catch unwanted inputs are

```
POKE 760,64 to disable lower case
POKE 696,0 to disable inverse
```

These should be put in before the INPUT line. You may also like to disable the BREAK key as an additional safeguard. This is done with

```
POKE 14,64 followed by POKE 55774,64
```

At the end of the day, if you plan your program well you should be able to cut down on accidental (single) errors and thus eliminate a lot of likely errors at source. For instance, if your program requires a lot of user input, it's a good idea to try and use the same methods of response and prompts throughout. If you start off using the GET command, and then suddenly change to INPUT, the user might get confused as he/she now has to remember to press return after the keys as well. Aim to be consistent if your program has lots of menus too - if the first menu has options A to C, don't have one later in the program with options 1, 2 and 3 or menu A, B and C, as this increases the chances of an incorrect response. While you may have taken adequate steps to flag these "errors", it's even better if you can prevent them happening in the first place.

PROGRAM PRESENTATION

Just as some clear, user friendly prompts can make all the difference at the input stage, giving a bit of thought into the program as a whole can cut down on "presentation errors". For example, at one stage or another, most people have come across statements like

```
"YOU HAVE 1 LIVES LEFT"
```

There are no fixed rules about fixing this type of "bug", other than to go through the finished program carefully and think of the possible glitches or inconsistencies. Often one or two IF THEN statements will do the trick. For instance, a few lines like

```
200 ? "You have "L;"
210 IF L=1 THEN ? "is left":GOTO 230
220 ? "lives left"
230 REM continue program
```

will solve the "1 LIVES" problem here. An alternative way of

```
57 000 REM *****
58 001 REM
59 017 REM *****
60 020 L=1:GOTO TRAP 100
61 030 FOR N=0 TO 9
62 040 READ A$
63 050 NEXT N
64 060 DATA 0,1,2,3,4,5,6,7,8
65 070 REM *****
66 070 ? "ATTEMPT NO. 00000000000000000000"
67 080 ? "PRESS TO PLAY THE COMPUTER"
68 090 ? "PRESS '1' TO GO TO POSITION 100"
69 100 ? "0000...000"
70 100 END
71 000 REM *****
72 000 ? "2000 HAVE ONLY "M;" DATA 100
73 000
74 010 ? "PRESS RETURN TO CONTINUE"
75 020 IF PRES=CHR$(13) GOTO 100
76 030 GOTO 000
```

giving over the singular/plural problem is to use a few such as

```
200 ? "MEN LEFT: "M
```

Another common presentation error is to forget to rub out the "zero" values in a variables comparison, as it reads 12, 1, 10, 80, 80, etc. This can be fixed by putting a space for two spaces to rub out the "zeros" values after your number, as in

```
POSITION 20,0 ? C, "
```

The few extra hours spent on debugging and crash-proofing a program are generally worth the effort in the long run. If you spend a long time tracking down an error first time round, you are less likely to make the same mistake again. Similarly, trying to anticipate problems as you build up your input routines may help you develop some customised procedures for use in other programs. In this way, "bug hunting" can be looked on as a valuable learning experience. Finally, while presentation errors do not affect the running of a program, correcting them can give your work that "touch of class" which makes your program special.

DISK BONUS

ALIENS

Derived from David Gungame, *Aliens* is a 3-D virtual space adventure in which cooperation among players, rather than competition, is the key to success.

Learn absolutely how The Computers are attempting to transport dangerous alien infestations to Earth. A freighter leaving LV-426, a low speed sophisticated Earth base. Your mission is to:

1. Meet your Mariner and get it off with all players and board the freighter.
2. Collect any alien specimens found for later deposit.
3. Get out alive!

You, or you and another player, must get past hordes of crawling danger; you lose strength each time an Alien sees you, and you must constantly guard your positive vests and sometimes to replenish your strength by eating yourself with one needs when your strength deteriorates.

Should you lose all strength, you stand up in limbo, but your partner can revive you by shooting into one of the many large blue alien eggs scattered throughout the freighter. If you are playing *Aliens* in the single play mode and your strength drops to zero, then YOU ARE DEAD! You're out.

Items can be picked up along the way and dropped at strategic times to help neutral aliens in the area. They will also shoot at you if they know you're not the favored attacks of the freighter. Once you receive a level, going into Alien and entering up to the Alien specimens, you need for the square disk base point in the mode to be transported to the freighter.

PLAYER STATUS DISPLAY

STRENGTH: A player's strength starts out at 100%, which is the maximum you can attain. Being hit by Aliens reduces your strength by a percentage equal to the type of Alien you encountered. They all look the same. Ugh!

VESTS: A player may carry up to nine protective vests. Players start a game with no vests.

BOMBS: A player may carry up to nine bombs. Players start a game with no bombs.

BOWTORNERS: A player may carry up to nine bowtorners. Players start a game with no bows.

SCORE: Each player has a six digit score at the right end of the status line. Gathering Alien specimens is killing five-Marine adds to this score.

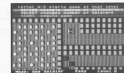
While playing the game, the screen shows the position of the freighter and Mariner are normally appearing. Each level is three positions high and three screens wide. Side regard it and all your party members of the screen, nothing happens to him. The off-screen Mariner just can't live or see where he is going, unless he spots the main group. The group cannot advance until he spots them.

PLAY CHARACTERISTICS

Each alien is represented on the screen by a little Marine wearing a colored uniform. Players can be dressed in blue, and player levels depend on level. Plasma guns are fired with the space bar and are used to kill the many monsters you will run into. They do no harm to other members of your party. To collect specimens, etc., just move your Mariner across them.

To maintain your strength level you must put on new protective vests. To do this, just press the number key on the keyboard that represents your vest screen figure. (For example, "1" or "5".) If you have any vests, the number of vests indicated on the status line or your figure will then decrease by one, and your Mariner's strength level will increase by 10%. NOTE: your strength level will only decrease if you get covered by an Alien.

Border history of Aliens visible on the screen. At times, bombs are your only defense to keep from being overwhelmed by Aliens. To explode a bomb that is on the screen, just shoot it with your plasma gun. To explode a bomb that you have picked up previously in your hands, hold down the Shift key and



press your player number on the keyboard. A life indicator (but you will get the hang of it).

Weapons are needed to open airlocks, represented by buttons. Pick up as many bowtorners as you can find, and use them freely. You cannot get through a closed airlock without a bowtornor. Pressing the SPACE BAR pauses the game. To start again, just press the SPACE BAR once more. Pressing any of the function keys will also start the game over.

THINGS YOU WILL ENCOUNTER

ALIEN SPECIMENS: will look like a small blue creature.

BOWTORNERS: look a little like a crossbow.

BOMBS: look like miniature bombs.

ALIENS: look like bugs, angling like forms. Can be killed with 1 to 3 shots.

Some Aliens are actually in pairs, other Aliens, sometimes cannot locate their partner will shoot off. These take off the wheel, thus preventing them from reaching more Aliens, but it's not easy.

Sometimes Aliens can become so thick at an airlock that the only way to save yourself is with a bomb. Use the bombs wisely, and that only as a last defense. There are not too many bombs to be found.

CREATING YOUR OWN SPACEBASE

Load up ALIENS on to the title screen. Remove the Alien disk and place it in the drive if there is no formatted disk. Press the space bar to get to the game menu. At the game menu, press SELECT key until Alien editor displays, and then press START.

Move the joystick around the screen. You will see the character currently under the cursor displayed in the "indicated character" slot designated by the "1" on the top of the screen. To choose that character for placement in your new game level, just press that character on the keyboard. Then use your fire button on the joystick to place it where desired on the screen.

Alien edit the current level to read of where a level design. The "1" key indicator at the bottom lets you what level is the current one. The "1" key moves you toward level "0" while the "1" moves you toward "2". Pressing "0" will enter your new level to disk. Pressing "0" leads a level from disk. If level is not on disk, Alien will create a blank level with just an up and down passage for you to edit.

PRINTING HARD COPY OF ALIENS

Included on the disk is a Basic program called PRINTLEVEL.BAS. This will print Alien levels to your printer. After running this file with your Alien level disk in the drive, the screen will prompt you asking which level you wish to print. The "1" will print all levels.

Just type the level that you wish to print. The program will read in that level and prompt you to ready your printer. Press return and the printer begins.

ALIENS LEVEL FORMAT

An Alien level consists of 50 lines of 80 squares each. Each character can be any one of sixteen items, so each byte of data in the file can represent 16th squares.

Level file and equipment with this great game. It can be as easy or challenging as you'd like to make it.

ALIENS is the SOULS of the New Alien User Issue 88 disk. Disk subscribers will have received their copy with this issue but the disk is available separately for just \$2.95. Send your check or postal order to: PACE & CO. BOX 54, STAFFORD, ST16 1DR or order by phone with your credit card. Telephone 0789 273365.

Ian Finlayson's TUTORIAL TIME

TEXT USING

I hope that all of you have had time to use *Textpro* and to develop your knowledge through trial and error. I know some of you are having a go because of the letters you have written, and some are thinking of trying but have not yet acquired the program.

Sam Williams from Ohio (yes New Atari User is seen all round the world!) has written with three questions. Two can be answered quite quickly and the third will take the rest of the article, as it gives me an opportunity for a practical example of the use of macros.

First he asks whether *Textpro* prevents the use of double density. Yes it does. In fact *Textpro* works with many of the different operating systems that are available for the Atari. The documentation particularly recommends the use of *Spasmodic*. The only DOS that they advise against as being incompatible is *Million*. If the DOS you are using supports double-density so will *Textpro*, and if you have a high speed disk drive (with *Double* or *Planet* and a DOS like *Spasmodic* that can take advantage of the enhancement) then your *Textpro* file transfers can really fly.

Sam's second question asks where he can find an ad to use and if necessary, I am not certain of the answer to this. I know that over the years there have been one or two programs that made use of extra memory by bank switching, but memory add-on never sold in large enough numbers to establish a large user base and so commercial software has generally stuck to the standard Atari memory configurations. The only common use of extended memory that I know of is for RAM disks, and *Textpro* takes advantage of extra memory in this way if your DOS supports it. Once again *Spasmodic* is very good here. My 800XL was expanded to 256K many years ago and with *Spasmodic* this gives a RAM disk (D01) with 1536 sectors. If you have a RAM disk *Textpro* can swap files in and out of it very fast giving you the ability to cut and paste between documents.

Finally Sam's third question was: "Does *Textpro* permit print out in a two (2) column format?" This is the one that takes some answering.

TWO COLUMN FORMAT

The answer to the two-column question is "Yes ... and No" if you want to be able to turn on two columns working at a key press the answer is no, but *Textpro* does not stop you from achieving a two column print out. It just needs a little ingenuity. I have developed a set of macros that assist in automating the process, and even if you do not use double columns very often this will give you an example which shows how easy it is to create macros and use them.

WRITING THE MACROS

Although writing macros is not difficult it requires care and precision. It is essential to know the exact key sequences that you are going to put into the macros. The best way to prepare to do this is to go through all the actions you want to automate, writing each keypress down before you start to write the macros.

Start with a blank new "document". First we will write a short description of the purpose and use of the macros. This is useful later when you have forgotten what "CYCLEMMB.MAC" does. It does not effect the functioning of the macros at all. Type in the following text:

```
Macros for creating double columns (RETURN)RETURN  
L for left column, R for right column, S for screen display and T to  
insert appropriate codes at the top of the document (RETURN)RE-  
TURN
```

That is the easy bit. Now we type in text strings that are the equivalent of the key presses that we wish to automate. I will explain a line at a time.

Type (SELECT)- (SELECT)- (SELECT)- (SELECT)- (RETURN)

Remember the convention I started in the previous articles: names in brackets like (SELECT) refer to the key of that name and the + sign means hold-down the key and type the next letter (only the next letter, no more). If I find I need to use the + key in its own right for any macros I will explain at the time!

What does this first line mean? The L is the selected letter that makes this macro, so when the macros are loaded (OPTION)-L will cause all the rest of this line to execute. (SELECT)- results in an inverse + sign on your screen. This is the standard delimiter which indicates the start of a macro string.

(SELECT)-L results in an inverse I on screen. It is the print code to set the left margin (just the same as typing 0 into a document normally). The S moves five characters from the left edge of the paper.

(SELECT)-R is very similar. It sets the right margin to 98, just under half-way across an 80 character page.

Now a short cut. Move your cursor till it is on top of the L at the beginning of the line, and press (CONTROL)-O for delete. The top line goes red with the prompt "Delete (S,W,P)". Press P for paragraph and the line you just carefully typed disappears!

Do not despair - deleted text is held in a buffer. Press (RETURN) to get out of delete mode then (CONTROL)-R and it reappears. Now move your cursor down a line and press (CONTROL)-R again and the line is repeated. Now change the first letter of the duplicate line from L to I and this will create

PRO MACROS

that the "L" macro operates with either upper or lower case L.

The next two lines are almost identical to the first line. Just replace L and l with R and r and change the left margin from 10 to 41 and the right margin from 28 to 75. These are the settings that form the right text column.

The fifth and sixth lines are for the [OPTION]-S macro. Type
[SELECT]-[ESC][CONTROL]-[PAGE]DELETE BACK SPACE
[ESC]DELETE BACK SPACE[RETURN]

[SELECT]-[ESC]DELETE-S as the macro key.

[CONTROL]-P macro prints. It brings up the prompt "Print File?" as the top line, but by putting [ESC] in front we stop it writing immediately, though it works when the macro is run. The two [DELETE BACK SPACE] comments merely have an [ESC] in front to stop them writing immediately. They cause the cursor to stop back deleting the "L" from the end of the print prompt and this is then replaced by "S" to collect the print material to the screen. The [RETURN] at the end of the line starts the printing. As before this line is duplicated so that it works as well as S.

Finally the two "T" lines. These are created by T for t followed by [SELECT]-[ESC][CONTROL]-[PAGE][CONTROL]-[ESC]
[SELECT]-[ESC][SELECT]-[CONTROL]-G[RETURN]

The two [ESC][CONTROL]-H commands take the cursor to the top of the document then the [SELECT]-W inserts an inverse in which screens print out to page at the bottom of each page when you print. The [ESC][SELECT]-[CONTROL]-G calls the macro that we defined for L earlier and inserts the left and right margin settings for a left hand column.

Once all the typing is complete the macros are saved to disk by [CONTROL]-S and the file name - I suggest COL-IMPRO.MAC. If you use the IMAC editor for all your macros it is easy to pick them out from other documents in the directory list. If you have had difficulty with the above and you have a disk subscription you will find a copy of COL-IMPRO.MAC on the disk.

USING THE MACROS

Now that the macros are defined and saved to disk how can they be used? First load the text file you wish to print into Trojans (use [CONTROL]-M to list the files on your disk). It will be listed if it is a bit more than a page long. Trojans will handle any file - a LHMED basic program or even a machine code program, but it is easier at this stage to see what is going on if a plain text file is used.

Now load the column macros by [CONTROL]-V COL-

IMPRO.MAC and [RETURN]. When you load macros any other macros that were already in memory are lost, so all the built in Trojans help system (which is a big set of macros) is temporarily disabled. Now use the "T" macro to put the current codes at the top of the page by pressing [OPTION]-T. The text is now configured to print as a single narrow left hand column with a pause at the bottom of each page. Use [OPTION]-S to display the text on screen in the same format that it will print on paper. The display stops and prompts for a keypress at the bottom of each page, so you can see where all the page breaks come.

Make a note of all the page breaks as you go through the document. When you have been right through the document Trojans will return to the edit screen. Now move down the editor to the first page break position and use [OPTION]-H to insert right column margin codes. Go to the next page and use [OPTION]-L and so on alternating through the document. When you have finished you can use [OPTION]-S again to view the text. The left hand column will display as they will print, but the right hand columns appear to be double spaced. This is because the right columns start 41 characters from the left margin and the first screen is only 40 characters wide so they wrap to the next line.

The position of page breaks can be tidied up if necessary by inserting [RETURN] when in the edit screen, but remember that each change can have a cumulative effect later in the document. A little trial and error is needed. While you are in the editor it can be useful to use [CONTROL]-W to find out where you are in the printed document - the page and line number is displayed in the top line so you can find out if the cursor is at the bottom of page 1 or the top of page 2 without "printing" to the screen each time.

Now you can print your document in two columns by printing the first page, reentering the same sheet of paper (single sheet) or turning back to the top of the page (continuous paper) and then printing the second "page" - it becomes the second column on the first page. Repeat this procedure for subsequent pages. There are a very few printers that allow reverse line feeds and if you have one of these it is possible that you could realize the reverse line feed codes on your document to take you back to the top of the page automatically.

Now you can do double column printing, and you have an introduction to the use of macros. If you need to use the Trojans help it must be reloaded when you have finished with your column macros by [CONTROL]-V TEXTPRO.MAC.

If you have questions about Trojans or any good macros of your own you would like to share please write to me. If you enclose a SASE I will try to send you an answer.

My address is:

**Ian Flinlayson, 66 Roundstone Crescent,
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HARD DRIVIN'

Scott Durose Brindley brings you the sequel to his article for new owners of a hard drive. Wondering what to do next with this box humming with super power? Read on.

HEY, THAT DESKTOP'S BORING!

The instructions with your drive software should tell you how to install the icons for the various partitions on your hard drive. If it doesn't, the procedure is to simply highlight the icon for Drive C: which will appear when you boot up the drive, select Install Disk Drive, change the drive letter to C: and click on Install. Repeat this for however many partitions you have.

So, everything looks okay and normal. Let's have some fun and modify the desktop. First, the hard drive icons can be moved to make loading files easier. Starting with Drive C:, click on the icon so that it turns black. Select Install Disk Drive from the options menu and an alert box will be displayed with the information of that drive. An 'C' is usually the best drive change to make from Hard Disk to either Boot Disk or Hard Drive, then press RETURN. Hey Presto! You have re-named an icon, if you have more hard drive icons repeat this process for each one and label them according how they are to be used. On my Work hard drive I have three partitions, Hard Disk, Graphics and Utilities. Now you can arrange the icons on the desktop by dragging them round the screen to where you want them.

WHAT RESOLUTION?

We have re-named and positioned the icons, but what about the screen resolution? If you have a colour monitor this question has already been answered that with a colour system you have two choices, low or medium resolution. Unless, of course, you have a STX with VGA 11 lined which refuses to boot in medium resolution without the aid of a small patch program. As a rule of thumb, if you use your ST for a variety of tasks I would say, from experience, boot up in low resolution.

SAVING THE DESKTOP

After some experimenting on the layout of desktop you can save it by selecting Save Desktop from the options menu. A file called DESKTOP.INP will be created on your boot disk. If you want to change the name of the Trash Can you can load DESKTOP.INP into a word processor or text editor. Where you see the words 'Trash Can' appear, change them to something appropriate and save the file back under its original name. When you reboot the computer, the Trash Can will have a new name.

DESKTOP ACCESSORIES

These are mini programs that are loaded into the ST's memory and run independently from any other program loaded from the desktop providing a sort of limited multi-tasking system. Accessories are loaded on boot-up of your computer. Normally you are allowed to load six DA (Desktop Accessories) on a STX machine, although there are programs which allow you to load more. The trouble with Desk Accessories is, the more you have, the less free memory you have. If you have been an ST owner for a while you have most probably built up a varied collection of these files by now.

Installing Desk Accessories is quite straightforward, just copy the file ending in the extension .ACC into the root directory of your boot disk. When you next reboot your ST the accessory will be installed. To select one first go to DESK and double click on the one you require.

WHAT ACCESSORIES DO I NEED?

This is a matter of your own choice and is only limited by your system's memory limitations. I can however, give you some ideas on which are the most useful.

CONVEX PANEL: Yes, the program that was supplied on the many disks you received with your computer. If you were lucky enough to afford a Mega ST/STE or TT/STC you got something called **CONVEX**. If you want a copy check out your favourite PD library i.e. Page 61 who will undoubtedly have a copy. **ACONTROL** has its own module called **CPC** which, in essence, are Desk Accessories. The beauty of **ACONTROL** is that a **CPC** can be loaded/unloaded without having to reboot the computer. You can tailor your system by selecting the **CPC** you need. Another feature of **ACONTROL** is you can shut it down, thus freeing up more RAM for the system. If you occur the PD libraries you can come interesting **CPC's** ranging from games to text editors.

Part Deux

FREE RAM INCREASE: The trouble with the OEM desktop is that it does not give you any indication of how much free RAM you have. When you turn your ST on, some of the operating system is copied from ROM into RAM. Regardless of how many Desk Accessories you have loaded, the system always takes up some memory. Knowing how memory you have free comes in handy when you're creating large documents through DTP or WP. While writing this document on my IBM ST: I have 120k left, more than enough for an accessory use. Note the difference between using an extra font or importing a picture into your final document.

CLOCKS: If you have a clock in your hard drive or the Page-At-A-Time clock cartridge, a clock Desk Accessory is a useful addition. If you do not have either of those, the system clock can be set through control panel but, unfortunately, it has to be done each time you turn your ST on, which can become a real chore.

Clocks come in all shapes and sizes which range from the analogic clock to a digital clock to the speaking clock. What do you think I say a speaking clock? On the Falcon, you know, the new computer from the people who made your ST: there is speaking clock which tells you the time to a digitized female voice. There is an ST version but it takes up a lot of memory and sometimes crashes with your Desk Accessories so I would not recommend it.

VTS2 EMULATOR AND CALCULATOR: These two Desk Accessories are worth only a brief mention as they were supplied with your computer. According to the ST's user manual "The VTS2 Emulator is an industry standard telecommunications terminal program". It may have been back in the early days of the ST's design, but nowadays it is very dated. When you purchase a modem you usually get the console software with it anyway. Failing that, try one of our good Public Domain programs that are more powerful than VTS2. If you have not got a modem you will not need to use it.

The calculator, at first, seems a good addition to your desktop environment. After all your ST is a number crunching machine with attitude. Apart from the one Atari supply, there are others which can do hex and binary addition. There is one small flaw to this - time. It takes a fair amount of time to move the mouse pointer around the screen to select a digit. If the owner to use a pocket calculator!

MACHINE GUN: This is one of my all time favourites if it is not of any practical use except for getting rid of stress. It comes into its element when you have had hard day. Say you have been programming or word processing when you delete your work by mistake, or your printer runs out of ink when printing the last page of your document. Instead of hitting your computer, the cat or the dog, just select Machine Gun from the Disk Menu. This can shoot up your screen to your letter's content. It even makes gun noises and puts holes in your

desktop too! Once your eyes have changed back to their normal colour from a glowing red, a quick click on the right mouse button and desktop returns to normal.

AUTO FOLDERS AND FILES

As you may be aware there are many bugs in TOS and these vary depending on what version you have. One of the famous ones is TOS 1.6 (STX) was mentioned earlier in this article. Other bugs limit the number of folders you can have. To fix these limits and to turbocharge your ST, you can place several programs into an Auto Folder on your hard disk.

How do these patch programs work as TOS is held in ROM. Well, as stated previously, TOS is copied into RAM and when it is RAM Resident it can be edited to remove bugs from the system. Screen accelerators such as MVA and WAMP fix certain sections of TOS to speed up screen redraws.

To install one of these programs, create a directory called AUTO on your hard disk. Once this auto folder is established, just copy the relevant file to it. There may be other files associated with the program but these usually live in the root directory of your hard disk. A prime example is GDDK (Graphical Display Operating System), which has a file called ADMIN.STX.

Again there are a plethora of programs which take advantage of this powerful feature of the ST. What you use your computer for will guide you to your choice of program. If you are still using the standard ST mouse (let's face it, it does look great) you have, at some time, suffered from arm ache after using it for a prolonged period. This is due to the mouse being less than 100 dpi (dots per inch) which means you move it a fair distance before the pointer on your screen actually moves. To combat this, the mouse accelerator was born. Even those 'rollers' at Atari wrote their own version called MACEL. It is well worth getting hold of a copy. It will save you a few pounds on buying a new mouse especially if you have just bought a hard drive.

There are two rather important points I would like to make regarding AUTO folders. Firstly when you copy files into your AUTO folder they are not executed as they appear in the window but run in the order they were copied into the AUTO folder. This can cause conflicts between programs and can may make your ST crash. The solution to this is to purchase some sort of boot management software. There are many about, either commercial or PL. These allow you to select which programs you want to boot and in what order. They can also let you select what Desk Accessories and DISKTOP.MPF files to load. One the whole a good investment.

The next point is, when installing auto-loading programs by them on first on a floppy disk and boot your system without the hard disk. This saves you the agony and torment of having your ST locking up and dropping you access to the hard drive to remove the offending program. I speak from experience here! This happened to me within the first week. It is no fun reformatting your hard drive and re-installing over 20k of data!

I hope you now hard drive users have found this of interest. Those who don't yet own a hard drive can benefit too, as much of this can be applied to a floppy based system. If you have any queries drop me a line via New Atari Drive.

Oh yeah! One last thing. Get hold of a virus killer. Viruses can do nasty things to your data!

MAKING MUSIC WITH YOUR ATARI

THE BASICS OF MIDI

Welcome to the third installment of our journey into the world of MIDI. So far we've covered the outer topics, but now the going is about to become a little tougher as we'll be exploring some of the more arcane aspects of the subject.

The MIDI messages we've mentioned to date are given the overall classification of "Channel Voice" messages. These include MIDI Note-On and Note-Off, Channel Pressure, Polyphonic Key Pressure, Program Change, Control Change, and PitchBend Change. Their purpose is to provide a detailed level of control down to the individual MIDI channel level, affecting the sound of each "voice" being played in various ways. There are also several other classes of message, so we'll see later in this and following articles.

CONTROLLING MIDI RECEPTION

Next up for consideration are the so-called "Channel Mode" messages, whose function is to set a synthesizer to one of three possible reception modes. Each mode is a combination of certain operating characteristics, so let's examine these first.

OMNI is the name used to describe the "listening" characteristic of a device, and governs whether it listens and reacts to all MIDI messages it receives or restricts its attention only to those for particular MIDI channels. "Omni-On" means it reacts to all messages no matter what channel they're sent on. "Omni-Off" means the device will react only to those messages on channels it has been set to receive on, and ignores the rest.

MONO results in the device only playing one note at a time - the reception of a second Note-On message causes the note triggered by a first Note-On to immediately stop playing until the second one is started. No intervening Note-Off message is required, useful for playing solo lines in a piece of music.

*John S Davison's
regular music guide*

POLY is the alternative to Mono, allowing a device to play many notes simultaneously. I.e. chords. Each Note-On now needs a corresponding Note-Off to stop it sounding, otherwise it may play on forever.

MIDI MODES

Combinations of the above characteristics are used to define four MIDI operating modes as follows:

MODE-1 consists of "Omni-On/Poly", which is usually the default mode for a MIDI instrument. It virtually guarantees you'll get a second out of it when first connected into a MIDI system, as it responds to messages on all channels and can play many notes simultaneously. However, it's usually considered only so you'll have to switch to a different mode if you need several different simultaneous sounds.

MODE-2 combines "Omni-On/Mono", a little used mode which is said to have resulted from one of the participating manufacturers' misinterpreting the requirements when the original MIDI specification was designed!

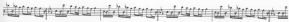
MODE-3 represents "Omni-Off/Poly", allowing you to play multiple notes simultaneously on a specified channel.

MODE-4 reinforces the "Omni-Off/Mono" characteristics, permitting you to play several monophonic lines each using a different sound on a different channel.

Most modern synthesizers usually include a more standard hybrid mode combining a cross between Mode 2 and Mode 4, and often sporting a manufacturer specific name such as "Multi" or "Special" mode. It's like a polyphonic version of Mode-4, permitting you to play several simultaneous polyphonic lines, each using a different sound on a different channel. It's the most useful mode of all, as it divides up a polyphonic multi-voiced instrument into several smaller mono or polyphonic mono-voiced instruments. It's this which enables a single MIDI synthesizer to sound like a whole band of instrumentalists, for example playing drums, bass, piano, and string parts simultaneously. If you need this feature (and most people do) make sure it's on the instrument you buy. It may not be present on older secondhand instruments, where Mode-4 may be the nearest you can get.

There are two more Channel Mode messages, these being "Local Control" and "All Notes Off". Local Control is useful when you're operating a synthesizer keyboard linked to a separate expander module via MIDI. When you play the keyboard you're likely to hear the sounds produced by the keyboard's internal sound source AND those from the expander. By using "Local Off" the keyboard may be disconnected from its internal sounds, but continue to transmit MIDI messages to whatever else is attached, so all you'll hear now is the expander's sounds. "Local On" re-connects the keyboard to its sound source again.

"All Notes Off" is like a panic button you can hit when re-protecting the cherished "MIDI Drawn". Occasionally notes get



'stuck', usually when you're doing something that unexpectedly interrupts the MIDI message stream. Notes may have been already triggered by Note-On messages, but their associated Note-Offs never arrive because of the interruption. The result is one or more simultaneously sounding notes which don't cut off. The All Notes-Off message addresses them with one simple command.

THE MIDI SEQUENCER

In the discussion has been oriented more towards the use of MIDI in a live performance situation, i.e. where you're playing sounds from a keyboard or other MIDI controller in real time. This was how MIDI's inventors originally intended it to be used, but very quickly another medium opened up, instead of generating a MIDI message stream from scratch each time, why not record it into a suitable medium so it's played? This it could be subsequently employed from that medium into the MIDI system to recreate the original performance. This was how the MIDI sequencer, the recording/playback facility which has become the centerpiece of every modern MIDI system.

Although dedicated hardware based MIDI sequencers appeared (and some are still being produced today) it didn't take long for the computer to assume a leading role at the heart of a MIDI system. The computer's floppy and hard disk recording media proved an acceptable way of storing MIDI data, and software soon appeared which could easily perform the recording/storage/playback tasks required. The next logical step was to add editing and some correction capabilities, allowing MIDI data to be changed after it had been captured by the computer. This was a major breakthrough, as it allowed performance errors to be easily fixed. It also meant that virtually anyone could now produce a 'near perfect' performance of any piece of music.

The *Stein RT* soon became the number one music application computer as software houses began falling over themselves to produce software exploiting its unique built-in MIDI ports. Steinberg produced their classic Pro 24 sequencer (see review in *NAU Issue 26*), which sold in the UK for the staggering price (at the time) of around £200. Despite its high cost it sold in volume, ensuring it had the *Stein RT* become part of every serious hi-tech musician's studio. Pro 24 may be ancient history now, but you can still get new copies of it for around £70, or about half this secondhand.

SYSTEM REAL TIME

It's all very well recording MIDI messages as data on a floppy disk, but how does a sequencer know when to transmit each one on playback? It needs a timing reference of some sort, and this is where the 'System Real Time' class of MIDI messages come in.

At the heart of MIDI there's a precise clock, providing a reference for timing the triggering of every MIDI event (e.g. Note-On, Note-Off, etc.). By accurately timing the time of each event the sequencer can send out the required messages exactly when needed. It also allows that note durations are easily handled - duration is the difference between the times of associated Note-On and Note-Off messages.

MIDI's clock doesn't use absolute time like a traditional clock,

but works more like a metronome. You can vary the speed of it to suit the music you're emulating, but instead of it ticking once per divided beat (e.g. a quarter note) it generates 24 'pulses' per quarter note (24ppq as it's known) and everything else is tied to this reference. So a sixteen note 4th pulse and a sixteenth 8th pulse, similarly quavers, sixteenth, and demisemiquavers last 1/2, 1/4, and 1/8 pulses respectively, and even triplet notes can be accommodated.

A MIDI event is always positioned on the nearest clock pulse, so some 'rounding errors' in timing occur when compared to the original performance. MIDI clock resolution isn't particularly high which can mean these rounding errors may become visible, as most sequencers operate internally at a higher rate. For instance C-Lab/Enigma's Notator sequencer runs at 100ppq (or optionally 204ppq) which allows finer positioning of events triggered from within it. Sequencers record time information along with the other MIDI information, and often represent it visually on-screen with a bar/beat/pulse timescale. For example, a note occurring on the first beat of the first bar could therefore be stamped 1/1/1, and the second quarter of the third beat of the fourth bar an 8/3/1/3 (assuming 24ppq). This notation is often used in a sequencer's 'event editor', so we'll see in a later article when we look at a sequencer in detail.

MASTER AND SLAVES

A MIDI system often contains several devices, each of which may have its own clock. For instance you may have a drum machine and a synth keyboard each containing its own built-in sequencer, plus a software sequencer running on your PC. You could have sequencers connected on each, and want to play them all back together. Obviously you only need one timing reference, otherwise chaos would reign - it would be like having a separate conductor for each section of an orchestra! You avoid the problem by connecting one of the devices as the 'master clock' and the others as 'slaves' which can follow the master.

Normally the *RT* sequencer is the master, achieved by switching it to 'Internal clock' mode. The others become slaves by switching them to 'External clock' mode. When you then start the *RT* sequencer playing, it transmits MIDI clock messages with the rest of the MIDI message stream, so the drum machine and keyboard sequencers can synchronize with it. It's also possible to operate the other way round, to slave the *RT* to a drum machine or keyboard's master clock. This is achieved by setting the *RT* sequencer's clock to 'external' and the master device's clock to 'internal'.

You can even get a shared device to follow master timing pulses derived from a human source. For example, by using one of the special 'bassoon clock' interfaces kits now available it's possible the timing pulses to be generated by a live drummer beating out a drumbeat in real time. These could then be used to sync the rest of the MIDI system to that.

These core MIDI commands are available to control the playback of a MIDI sequence, namely 'Start', 'Stop', and 'Continue'. These are usually triggered by pressing the appropriate buttons on the MIDI device or by clicking the mouse on the software sequencer's on-screen control buttons. Start always sets a sequencer running from the beginning. Stop halts the sequencer, and Continue causes it to start from the point at which you previously stopped it, or from the point indicated by a MIDI Song Position Pointer, one of the MIDI messages we'll hear more about in the next issue.

CHAMPIONSHIP



back when I examined the directory of the disks and found a .HTF program that automates the copying process for you. No mention is made in the manual to this feature.

Based for you. They vary from the long ball to the Continental style that Man Utd employ.

KICK OFF

Now you've sorted out who's playing, where and what's on the bench and who'll be taking the oranges in at half time, it's time for the match itself. This section is probably the most original of the game due to the fact that it is more original than any other game of this type. The screen has the time counting down in the top corner with the score and competition in the other and the two teams in the goals. There are three bar graphs under each team for attack, midfield and defence which move up and down as time goes on to indicate the strengths of the individual sections of your team. The best thing about the match report is the running commentary that reads match events exciting, rather than the usual method of just watching the goals hit up. Comments vary from attempts at goal that are palmed over by the keeper to descriptions of clinically finished goals. The names of players are also included to add that little bit extra. This sort of thing makes the, normally boring, process of playing matches much more exciting.

Remember Football Manager? The game that appeared on every computer format under the sun, from DOS1 to IBM PC. It was a trend and started a demand for football management games that is still going strong today. Computer users like to see themselves as the next litan. Now then young man? Clough or "Ranger" Ron Atkinson chasing the glory and riches of the big leagues.

This is where Championship Manager 99 comes in. It is the latest in a long line of management games that claim to be the next best thing to being a real manager. How many times have I heard this?

PICKING THE SQUAD

Once you are in you are presented with a screen that allows you to go to any point in the game and alter many of the options such as checking national squads, finding a new manager job and match reports. The one screen that you are going to spend the most time in is the squad details of your players. From here you choose who does and doesn't play, who you transfer in and out of the team and you decide whether to sack your backroom staff and choose which players your scouts are to keep an eye on.

Selecting players for your team is a bit different from previous games of this ilk. You first have to select the number at which you wish them to play and then select the player. It's useful that the player isn't injured, suspended or out of their contract and therefore out of consideration until you re-sign them. This screen also allows you to inspect different sections of the club such as the accounts, transfers, league positions and fixtures. The individual attributes of different players can be viewed as well as their history and averages.

Before you get around to playing a match you can alter the way in which your team plays in terms of the formation and position of the players in that formation. There is a choice of about 7 or 8 formations and they can be altered more for more later. Tactics available are prede-

BRING ON THE SUBS

During matches you can make substitutions if one of your sections is becoming tired or someone has been booked and you would rather not take the chance of them being sent off. You can also make a tactical decision such as pulling players back or changing formation. Once the game is over you'll be given the stats on the game.

Once you have won a couple of matches your players might become tired and need a rest so wouldn't it be good if you could play someone in their place? You need to buy some players (providing

THE BUILD UP

Before you can even start you have to install the game which means that you have to copy the program onto 3 blank disks and install from these. You have the option of starting a new game which will mean that you can choose which team you manage and whether you have real or fictional players. Settings up can take anything up to 30 minutes to complete but you do have the option of a quick start which means that you go straight in as manager of Man Utd, with the real players. Another option is to load up a previously saved game and continue from there. You can even load it onto the hard disk if you've got one and the program can be double clicked on from the desktop. I only found out about this by

MANAGER '93

you've got the money of course). When looking for a player you can do a search for a particular type of player or look at a checklist of players that your scouts have laid an eye on for you. Before you can buy the player you've got to put in a bid. This can be anything up to £5,000,000 for players like Gascoigne. You can put in a bid at the asking price or slightly above or below that price if there are other teams interested in good players. It then comes down to a battle of wits to see who will get the player without paying too much. Once you've got him you've then got to negotiate a contract and wages which are worked out in the same way.

IN THE BACK ROOM

Playing games and selecting players is all very well, but there is more to a football club these days than just the match. Today you have businessmen people who keep the team looking nice, people like coaches, scouts and physios. Each of these can be hired and fired if you think that the person isn't doing their job well enough and you can recruit a better person in the same way that you do with players. You can also resign from a club if you think that there is a better job elsewhere.

Finally there is a nice weekly news update that keeps you up to date with the goings on in your club such as injuries and suspensions and, on a wider scale, job opportunities at other clubs and takeovers.

THE LOOK OF THE GAME

The game itself is very well presented with nice big bold graphics and realistic features such as a videotape for the match results after a game that can be turned on and off as required. The graphics are just right for the different



'94
UPDATE
OVERLEAF



versions of the game and don't make it look cheap and cheap as some of its competitors do. The nice touch of the team colours being used for the team names during matches and for the commentary is especially good as it easily identifies who the team is control in. The ability to pack large amounts of data and information on the screen at once is very well done and you never feel overwhelmed by all the options and data.

The sound in this game doesn't really exist. You do get an nice tone at the beginning but nothing that would win a BRIT award. I was expecting perhaps a few white noise crowd cheers but I'm afraid that this game makes, about as much noise as an excited infant!

Playability is what counts in this genre of game. It doesn't matter how many bells and whistles you give it, the game will get nowhere if you can't get into it. This isn't the case with this game as you begin to submerge yourself in it very quickly and minutes rapidly turn to hours, as I know to my peril (I lost 4 hours to this game without even missing it). The depth and the number of options make this game a worthy successor in the position that has been held by the original Football Manager for too long.

The ability to move from one team to another is a very innovative option that means that you can start off in the 3rd division and then rise slowly through the leagues with your team or make the leap first to higher divisions or more successful clubs. The involvement in more than just picking players and letting them get on with it is another point that needs to be mentioned. It means that for the first time you are more directly responsible for the outcome of games due to the fact that you can now make substitutions and change tactics during the game.

This is the sort of game that I would recommend to anyone who has an interest in football and even to those people, like myself, who don't. It didn't take any more than five minutes before I was hooked, a good sign seeing as I only like rugby! This game is definitely worth the money being spent on it. This game is no exception!

With the move of porting the game across to Microsoft's Windows we can expect to see the game take expand dramatically in the past were we have three point expansion disks along with crowd noise and irregular dealings disks in the distant future (neither things have happened).

CHAMPIONSHIP MANAGER '93

Publisher : Domark

Compatibility : ST's, Falcon and Hard drive installable

Price : £25.99

Reviewer : Nicholas Bavington

ST GAMES

CHAMPIONSHIP MANAGER

'94 SEASON DATA DISK

are useless, you can't see a thing in them. The club board is tiny and the clubs and stadiums are hard to read in a hurry and are totally obscured by your hands as you turn the wheel of the car. Besides, perhaps, but not a lot of good if you are trying to game out of a corner with a manual gearbox. The map in the status window of the scores has a funny shape that that represents you as the driver. When I say that this dot is tiny I mean it. It can easily be seen supposed to find it in the middle of a race I don't know. A larger dot would have been fine but, oh no, it must fit on the track and represent the car to exact scale. How about the designers thinking of the player rather than aesthetes next time?

ONLY ONE VIEWPOINT

All other games of this style at the moment have the ability to view the race from various different points. This is made possible by the use of vector graphics, which this game doesn't use, so I'm afraid your stock in the money cockpit for the entire race.

Second is of the type that you would expect from this type of game, moving engine and wheel assemblies are intermingled with the display effect of passing other cars. Don't expect sound/tracker modules.

Gameplay, as I have said, is very good and will keep you amused for a few hours. I don't think it will last more than that in any one sitting because it doesn't offer the variations that Grand Prix gives with the background being appropriate to the location.

The very short races of only 4 laps mean that this game is for the casual more so for a fix of high speed adrenaline rather than the dedicated learner thruster ready to slog it out with the boys over 70 grilling laps as in Grand Prix. This is a game is for the racer that likes the article but perhaps doesn't want the complexity offered by Grand Prix. If you want that kind of thing then this game is right up your street but if you like a more cerebral challenge then go for the slightly more expensive but more satisfying Grand Prix. ■

A new disk has recently been released for all those people that can't get enough of the original Championship Manager 93 with all the updated transfers of the football leagues, all the transfers, take-overs, promotions and relegations all bang up to date.

This disk is for those that felt that they'd played the game up to its limits but were still playing 93's teams in the 94 season. The installation process is the same as before needing three blank disks and the original disks. Inserting with the new disk starts up the update process and makes a new game for you. This causes you to lose any games that you might already have scored so beware. This, I feel, is a big mistake. Starting from scratch again after building yourself up, even possibly suffering the setback of failure, is not a laughing matter. I would suggest that you make a separate copy of the game and keep your old 93 version so that you can keep your scored games.

The data disk provides you with all the updated information on last year's league and information on this year's. The inclusion of Glenn Hoddle as player manager of Chelsea and other transfers are all there as are all the stats. The game play hasn't changed and if this is one of the reasons you might want to update the game I'm afraid this disk doesn't do that. Arguably, though, you could say that the new stats makes it a new game due to different teams with different managers.

The interest factor of seeing whether you can make a better job managing your club this year than you did last year against new teams is the only reason to update, apart from the fact that it is bang up to date, which some people like, and this makes me personally like it. Although the data disk does add a certain amount of realism there is no more depth than that in the original. Also you must have the original version to play the update which means that people just considering buying a football game have to buy two games and update the first one, rather than buying a new '94 version. I know that this would cost more to produce but games like Oh My, More Learnings managed to produce an upgrade and a stand alone version so why can't a big company like Domark do the same thing?

I know that I have said this before but the one thing that is missing from this update is the ability to use a previously saved game from the 93 version. It could not have been very difficult to have included a conversion utility to update the saved game and then re-appear the update accordingly. Apart from that the data disk proves to be a worthwhile upgrade for those people who are really interested in the game or something worth looking at for those who want to get more from the games they buy.

CHAMPIONSHIP MANAGER '94 SEASON DATA DISK

Publisher : Domark
Compatibility : SP's, Falcon
Hard drive installable
Price : £9.99
Reviewer : Nicholas Bovington

ST PUBLIC DOMAIN



ROUNDUP

48 DOUBLE CLICK SOFTWARE PROGRAMS



This time I've decided to take a look at some ST utilities. There is only one click reviewed but it features an amazing 48 folders! Yes, on disk 00004 you'll find 48 Double Click Software programs!

As many of you will know, Double Click are synonymous with useful, quality software. I would need about a dozen pages of this magazine to review each of the 48 programs in detail. Therefore, this issue's 48 Knowledge features an overview of as many DC utilities as I can squeeze into my treatment envelope!

48 DOUBLE CLICK UTILITIES

First up is **DC HOMEY**. This is a small utility which positions the mouse pointer at the centre of the screen. You can now find the pointer instantly!

DC MOURER will turn the mouse pointer on or off at the press of a key. This allows you to hide it from busy fingers.

With **DC MOUSE SAVER** you can turn the mouse off after a defined period of inactivity. Defining the period of time is easy - you just choose the program from DC000A01E.PRG to DC000A077.PRG where 77 is any number of seconds from 00 to 99. As soon as the mouse is

moved it becomes active.

DC INVERT will produce a screen flash whenever a bell character (ASCII 7) is printed. This way, if you are listening to some music or you have the TV volume turned down, you can tell when an alert bell is sounded. DC Invert will also be useful to deaf users. You can set the flash rate from 1/20th of a second up to 1 full second.

DC J-CHAR lets you assign a character to a direction of the joystick. By pressing the joystick button you enter the character through the keyboard. This is very useful for scrolling through long text files and reading BBS messages - you can relax in your chair rather than fiddling to find over your ST. It may also be useful in the disabled as you can assign up to eight keyboard characters to the joystick, one for each direction. Non-printable characters such as Home and Line Feed are also entered by. Pressing the joystick button without choosing a direction represents pressing the right mouse button.

DC FLIGHT (Floppy Light) installs a routine into the read/write vector of storage devices (hard disks, hard drives, etc.) so that each time such a device is accessed the Drive A light will come on until the operation is complete. This allows you to monitor device usage and also acts as a perfect substitute for devices which do not have a 'busy' light, have a non-working 'busy' light or are situated where they are not to place view.

DC DISK INFO is designed to give you brief information on any disk. There are six screen details of file allocation, free space, used space, maximum storage space, bad sector count, volume label, number of folders, number of files, etc.

For those of you who need to know even more about a disk there is **DC DISK STAT**. Information given includes: Total Bytes, Total Sectors, Bytes per Sector, Sectors per Cluster, Total Clusters, Reserved Sectors, Hidden Sectors, Disk Size in Kilobytes, Number of File Allocation Tables (FATs), FAT Size, Directory Size, Number of Entries, etc.

DC DIRDUMP is a very useful disk utility which will alphabetize the current directory and dump it to screen, printer or disk. If you are like me and have a very unorganized software collection then DC DirDump might be just the answer!

If you need to load a boot disk from the desktop then use **DC BOOTIE**, insert your boot disk and key presto! This may be useful for changing the booting sequence.

DC BACKSPACE HELP is a unique utility which prints a backspace character when you press the Help key. Why would you need that? Well, if you use your ST keyboard a lot then you will know how easy it is to press Help instead of Backspace! DC Backspace Help will put your mind at ease. For a regular Help keypress just use Control-Help.

BATTLEHAWKS 1942

Battlehawks 1942 is a World War II flight simulator, it's quite similar to "The Flight Deck: The Battle Of Britain" released a couple of years ago, however this game was actually produced BEFORE Battle of Britain and, to be honest, it shows.

The game simulates the major air/sea battles between the Americans and Japanese in the Pacific. There are four scenarios to play - The Battle of the Coral Sea, The Battle of Midway, The Battle of the Eastern Solomons and The Battle of the Santa Cruz Islands. Each scenario contains four or five missions including dive bombing or torpedo attacks against enemy ships, fighter escort of bombers, and air superiority sorties.

The graphics used in the game are quite lame by today's standards. They are a little blurry, but they do simulate quite accurately. The planes move fairly quickly and shooting one down can be spectacular - first it begins to smolder, then you can see flames, then it plunges into the water's surface and sinks. Apart from these colors the overall types are almost indistinguishable from each other - unless you get very close to them, that is. Cockpit layouts look very similar too.



ships, the latter usually shooting flak to your direction?

Being a naval air combat simulation, there are bombing and torpedo missions against enemy shipping, however when you get very close to a vessel the graphics quality deteriorates somewhat. It's then quite difficult to tell what you're attacking, because the target becomes peculiarly blurry - the plane is so small and it doesn't look very good at all.

In between missions there's a briefing screen, this is reasonably done, but is too 'cartoony' for my liking, and the colours are a bit gaudy (birds don't usually have orange coloured skin, do they?)

Sound isn't bad considering the age of the program. Your plane's engine sound is a boring drone, but at least it rises and falls in pitch as you throw the plane about the sky. It can be turned off if you find it too annoying. The other sound effects consist mainly of explosions, gunshots, and splashes as a downed plane hits the water - which sometimes sound more like a motor boat splashing against a wall than a splash! I was surprised to find that the only sounds in the game come in the flying sequences - there's no music or sound effects between missions.

support) and the keyboard controls are somewhat unpredictable - sometimes you press a key and nothing happens. You press it again and still nothing happens. Then suddenly your plane is rolling wildly and you can't stop the stupid thing! This is very frustrating and leads to many crashed planes. Mouse controls are a lot better - they respond quicker, but they make the planes seem too agile to the eye.

The missions are really not bad. The air-to-air combat sequences are quite exciting and realistic - for example you have to master the art of 'The Boxcar Shooting' - aiming ahead of the enemy planes to be able to hit them. The bombing missions are harder than in a modern jet fighter sim, as there are no electronic weapon delivery systems to help you. You just die at the target, manually release the bombs and pray you don't blow yourself up! If you're being stupid you could always shoot down a bomber that you are escorting, but you get severely penalised for this after the mission ends.

SMOKE AND FIRE

There are some very effective explosion, flak, and burning effects which add a lot to the game because they actually look quite realistic. Shoot something and it actually smokes, hits falling off, and if it's a plane it explodes or splashes into the sea. Ships leave swirling huge billowing clouds of smoke. All the missions are over the sea so there's not much to look at, apart from an occasional glint of light on the water's surface and a few enemy

NO TAKEOFFS?

Disappointingly there are no takeoffs or landings at all in the whole game. You can choose your starting altitude before the mission begins, but there's no takeoff as such. Similarly, when you've blown up your target or parts of enemy planes, the screen simply fades out and you're back in the briefing screen. You don't even have to fly back to where you started!

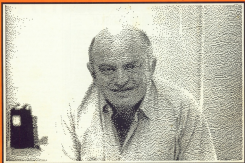
I've seen better flight simulations. Battle of Britain, for example, which is still available and is much more satisfying. I suggest that if you want a decent WWII flight sim, you go for that one which is more stimulating and variable to play, especially with its wider variety of planes and missions. You can take off and land the aircraft, but ultimately, Battlehawks was written in 1988, so it was probably good in its time, but now it simply falls into insignificance against today's flight sims. It's a pity really, as with a bit more polish and gameplay it could have been an excellent game.

NO JOYSTICK?

Now, the gameplay. It's quite good, but does seem a little basic compared to more recent 3D games. There are a couple of design flaws too, and those detract from your enjoyment. There's no joystick

Title: BATTLEHAWKS 1942
 Publisher: LucasArts/Kixx XL
 Price: \$12.99
 Reviewer: Peter Davison

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