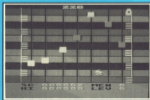


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Issue 67 April/May 1994

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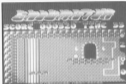
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The next issue of
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will be on sale 31st May
Editorial copy date is 15th April

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Editorial address: P.O. Box 14, Stafford, ST16 1QR, ENGLAND Tel. 0786 212628

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ATARI USER

Issue 57
April/May 1984

"The Magazine for the Dedicated Atari User"
ISSN No. 0888-7708

THE CREDITS

All of the usual stuff is on page 3. I don't have any of the people who made this issue possible.

Leo Ellington sent me back to the, or sleeping, machine. The idea was to be managed to stay awake, but being through to.

Heady is going to be a lot better from now on than that. I'm sure that after this month they will be doing all of the usual order, copying, order making and mailing stuff, and so on. For the time being, please let the printer know what the mailing list is for the Atari.

As to our very good friend **Producers** who has found himself a full time job but who I find the time to spend all the money that she's now making. I'm sure that in the future she's working with us for as long as we're doing everything we could have desired. I only hope we'll be able to see her again. I'm sure that she's going to be happy to be back. What's the matter with her?

Talking of **Heady** who has promised to come and help us with this issue, but that she's a couple of weeks late so we'll see what happens.

The **Magazine Contributors**, who provide the backbone of the magazine, and who generally do a great job of it. We'll see you all in the next issue.

John J. Dickson **Steve Morris**
Paul Wilson **Ken Pinkney**
Alan J. Palmer **Jim Burlington**
Mark Johnson **Tim Tipton**

All other contributors for this issue are well, all well, and happy. I'm sure that they'll be back in the next issue. I'm sure that they'll be back in the next issue. I'm sure that they'll be back in the next issue.

Mike magazine this time has been there. I'm sure that they'll be back in the next issue. I'm sure that they'll be back in the next issue. I'm sure that they'll be back in the next issue.

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Editorial

A MIXED BAG

This issue we'll have a real mixed bag editorial as several unrelated topics come to mind. The first is how quickly the ST seems to have gone the way of the Atari Classic. Or has it?

Did you know that Atari haven't actually been selling the ST to the UK for about six months? We had a lot of calls at the end of last year from folks asking where they could buy an ST as they could not find one in their local shops. Steve Sleep sold out long before Christmas and it turns out that Atari had not been importing any machines into the UK for several months. In February they changed their minds and began importing machines from the USA, but how many sales had they lost in the meantime? Atari's recent efforts have been in promoting the Falcon on, rather, just hoping that someone would buy one. Remember the Falcon? It was Atari's latest best computer in the world, but how many Falcon owners do you know? The Falcon looks as if it will be as popular as the ... man ... the ... Well, in a couple of years time you won't remember the Falcon either!

If you check the mailing column this issue, you will find a letter from a French Atari fanatic who says that the shop where he worked stopped selling Atari software when the machines were no longer being sold and this is what is now happening to the ST. All of the big stores have dropped ST software and very few of the major publishers are releasing ST titles. Whose fault is it? Well, it was Atari who stopped importing the machines, so you tell me. Atari seems to have found themselves a unique niche. The only thing they can do well is fail to sell the amazing computers they produce. As well, there are rumours that they are going to buy Eurohistory, so we'll see what happens then.

LACK OF INTEREST?

The other topic touched upon by our French friend is the store where he worked complaining that they weren't selling Atari software there, all the time. They failed to mention that they sold Atari software in their adverts. Well, you might remember in the last issue I asked companies that were going to the upcoming **SABE** show in April to let us know what they will exhibiting. Well, only one exhibitor bothered to get in touch and that was Denis Goughly, all the others we had to chase. I am amazed that, of all the folks who are supporting the Atari, only one had enough presence of mind to realize that you can't expect customers to come and see you unless you let them know you'll be there. Maybe it's that old Atari attitude that has rubbed off?

NEW USERS START HERE

We've had quite a few new readers in recent months that have had problems in typing in the listings and I realized that we had fallen into the old trap of assuming that all Atari users know everything about their computer. We need to publish the TYPO listing every issue but dropped it many years ago on the assumption that everyone would have a copy. That's not the case of course, so for the benefit of those who have been equipted by those strange two letter codes that the Atari won't accept, we are publishing the TYPO 3 listing again this issue. If you have never used TYPO before, get it up and running, it's a real minute of a program.

A DEAD LASER

One of the real problems of sticking with a minority interest computer is when things go wrong. Half way through this issue there was a big bang from the direction of my SLAB048 laser printer and a chestful full of the annoying white of the box. It was dead! This means that there may well be one or two mistakes in this issue since proofing the mag as a dot matrix is such a slow process that I would have to start work on issue 58! It also means that I have to travel half way across the country to find someone who is willing (or able) to repair it. It is hard enough an Apple fixer, for disk top publishing I could have taken it down the coast. And to think that a few years ago Atari tried to push the ST as an ideal DTP system. It would make you laugh, if you weren't crying so much.

Leo Ellington

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Mailbag

Keep 'em coming!

Although this will be appearing in the April/May 1994 issue, this will be my first Mailbag column compiled in 1994. I'm pleased to see an interesting and varied selection of letters again - please keep them coming!

Allan J Palmer is sitting in the hot seat at the sorting office awaiting your letters on all things Atari - get writing!

**Write to MAILBAG at
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Stafford
ST16 1DR**

THANKS

Mark Watson of Eddington asks for thanks to be passed on to Daniel Davern, much for his correspondence, and to Andrew Larkin-Hall for helping to build a robot before going on to several other subjects.

AMS

Mark does not regret attending AMS-7 and sends these comments:

"The amount of Atari support was extremely good and there were all sorts of bargains - Exxos at £20, Kenex on Phoenix 5000 at £2.90, 870 drives for £15! Among the new items on sale were Quik - an excellent language that I encountered, Traveller - a straight copy of Lemmings albeit comp. job, and a number of hard-core kits including Micro-Discuss's Storm Opposite. Quite a lot of overseas orders were there. AMS had some excellent software and were advertising a new disk magazine. Ki-Soft were also in attendance and on the 1050 stand was Harold Schenfeld holder of Quik. DOS had their eye-catching Atari News-Paper too (longer a disk). Despite the above being so good, the number of people attending was quite small. Hopefully more people will attend the next show."

MUSIC CONSTRUCTION SET

Another question from Mark to:

"Does anyone know how to print to an Agnos-compatible printer from Electronic Arts' Music Construction Set? I bought this disk software from AMS without instructions and can't work out the printer codes."

USER GROUPS?

Mark Watson has also been thinking about starting up a User Group for the Atari Classic in the Yorkshire area. If anyone has any advice or wants to be part of the group, please contact Mark at 189 94, James Road, Brighthelm, S. Humberside, YO15 2NS.

Miss J Adams asks if there is a User Group in the Edinburgh area. If there is, please drop a note to Mailbag. In the

meantime Miss Adams, drop a line to Stuart Murray, MAILBAG (North of Scotland Atari User Group), 73 Walker Road, Torry, Aberdeen AB1 5EA, or to TWALIG (Tynes & Wear Atari User Group), P.O. Box 8, Wallsend, Tynes & Wear NE26 6DQ, either of whom may be able to put you in touch with someone in the year 1994 that keeps writing out.

PLAY THE GAME!

From Basildon in Essex, we have a letter from Mr Tomlin, self-confessed M.A.C.C. (that's Whacky Atari Classic Owner). Mr Tomlin is disappointed that having responded by telephone to a request in the Contact column for Classic software and offering to send the advertised a printed list or a disk file on receipt of a disk and/or S.M.L. the advertiser was unwilling to send even a S.M.C. I share Mr Tomlin's frustration, he's offering help but the person who wants it can't be bothered to contribute.

Money is tight, so Mr Tomlin is asking "... is it possible to make up the cable that plugs into the A/D port with the analogue plug on the other end in contact in third party printer? Two plugs and a cable connector that had to make up - I cannot afford to buy one, perhaps if there are other electronic components in the assembly, I am good with a soldering iron and can get both plugs if I can find out which plug goes to which pin on both ends."

It's not as easy as that, Mr Tomlin, as the Atari Classic does not have an inbuilt Centronics interface so this has to be built into the cable or as a separate interface. Some projects have been published over the years and a kit is available from Micro-Discuss but there are no short cuts. Your best bet if you want to save money is to ask Micro-Discuss for details of their kit.

1050 PROBLEMS

Two readers are having problems with their 1050 drives. Paulo Rodrigues, R. Dr. Salomao Pais 27 R-C, 3875 Colinas, Portugal cannot save files or even format a disk (errors 144, 139), however the hard function works perfectly.

Well, I must refer to the Mailbag column of New Atari User issue 50 and to quote Mr Eddington, himself!

"We have discovered this our several years before. Quite often the only thing that is

wrong is that the file just that feeds the disk into the read/write head but become compressed so that there is not enough pressure to feed the disk against the head. Just remove the case and you will see a small area just behind the spindle which feeds the disk center. You can lift this a little and you will see a small file just about one eighth of an inch square on the top-facing disk. Grit is paperlike, opened out, and very carefully roughen up the surface of the pad holding great care not to touch the head underneath. You should find that, once you put it all back together, the drive writes again. This works in nine cases out of ten but if you hear the clicking track one, then you'll have to find someone to get it repaired. Thanks for the help. Lew

Deane Saunders finds that sometimes the busy light does not come on after inserting a disk and leaving the lever, and sometimes the busy light remains on and fails to go out. Can anyone advise how to rectify these faults?

DISK BOXES

Boris Cooke from Esher, Devon is worried about "the availability of 5 1/4" disk boxes. Jags and Indec seem to have stopped selling them, as have the main chain stores. Perhaps the Page 6 Advertising Shop would consider selling them as people will need disk boxes as long as they need still need disks."

How about it, Lew? Would the Advertising Shop consider 5 1/4" disk boxes as a viable item? They are not that easy to find, our regular disk supplier has now stopped stocking them but we'll have a look round. Ed

ACE C WORKS!

Back in issue 81, John Young asked if anyone could demonstrate that 'Ace C' on Page 6 PD disk D0818 works. An interested previously, I've received an example disk from Daniel Carandian showing that the program is usable, and now I have some correspondence from David Bagshaw of Devonham, Lincs who thinks that "...[the C] is excellent. In September last year I started a college course in programming in C and I find 'Ace C' very useful in helping me with my studies. I have written several programs and they all compile and run perfectly. The only system which I have encountered was that it my own disk. It appears to be the program file here to be on the same disk since disk swapping is not supported. I do not have 'Drip Blue C' though, so I cannot comment on Mr Young's problem of installing programs, but 'Ace

C' definitely does work.

In case it would help anyone, here is a description of how I create an executable program with 'Ace C'. Before you start make a system disk with these files:

D05.ETS	Normal D05 2.0
D1P.SYS	
AUTORUN.SYS	Text Editor
DUMPLER.COM	Compiler
LINK.COM	Linker
ACECRO.OCX	Library of pre-compiled C functions
ENGLISH.GAL	C English. The coding which makes the language interface with the user
ENGINE.ORG	

1. Boot the system with the Option key held down and the Author file executes the Text Editor. I have tried several editors with success, but I prefer 'TextPro'.
2. Type your C source program and save it with the extension '.C'. A different extension or a filename containing numbers is not allowed. Exit the Text Editor back to DOS.
3. Choose D08 Option 1 and execute the compiler. At the prompt, type the source filename - without the extension (.C) in quotation. The source file is compiled into pseudo-code and the resulting file is stored with a '.COX' extension. Return to DOS.
4. Choose Option 1 again to execute the linker. At the prompt, type the compiled filename - without the extension (.COX) in quotation. The pseudo-code file is processed along with the C library and the C engine files to produce an executable binary file with a '.EXE' extension. Return to DOS and try executing your new program from Option 1."

Thank you David for that mini-tutorial. Has this helped anyone?

NEW NOTES FROM THE NETHERLANDS

Hil Walkers from Brede, the Netherlands was pleased to see some answers to his questions in an earlier issue. He's written again with some more observations which I'll comment on, if applicable, as we go through. He starts "What's the status of Turbo BASIC? Since PD is 87 in Holland and England it is available on PD but it was published by 'Happy Computer' in Germany.

Turbo Basic has certainly been accepted around the world as public domain, although as it is registered as a type-it magazine listing it's true status may not be strictly public domain. Most start magazines copyrighted their programs but

allowed free distribution after a short time, thus retaining the copyright but also releasing the material into the 'public domain'. The American magazines Amiga, Amaze and Computer basically agreed that all of their listings could be public domain and Page 6 has never objected to circulation of its listings to the public domain, although the copyright is strictly ours as the original publisher. This is a complex issue and it probably won't serve the start community much by trying to confuse the issue. Just accept that almost every user in the world has come to accept Turbo Basic as 'public domain' but don't try to incorporate it into any software that is to be sold commercially and you should be quite safe.

"With reference to Jack Barrow's printer conversion query in issue 80, for my Star LC-10.800 I received the following advice from Star:

```
printer C = 800. P = printer card
C14 F1 = Starco, computer says "DATA READY"
C2 F2 = D0-database
C3 F3 = D1-database
C4 F4 = D2-database
C5 F5 = D3-database
C6 F6 = D4-database
C7 F7 = D5-database
C8 F8 = D6-database
C9 F9 = D7-database
C10 F10 = Busq, printer says "RAM"
C11 F11 = Error detected by printer
C12 F12, F13 = END, signal generated
```

else 80 and the following can be done but are not essential
C9 F9S = Select in, printer 'traces' computer to an IBM/PS10-100 may all be wired to each other P17 is probably connected to wire mark of cable handle if present
F24 & F25 are unconnected
Thanks for that info, which should help a few Star owners. Hil continues with a question:

"I have run (and a program that allows a complete disk track, e.g. sectors 128 to 256) before and all these sectors light?"

I am unsure what you mean by a complete track and user sector bytes. Page 6's D049, Disk Editor, has proved useful for us in examining the contents of disks. Anyone care to suggest more powerful? utilities?

Can you be more specific about the 'start classes'? i.e. those where the letter is shown in their disks by coding the angles between groups. (these various sectors to be the amount, but my math is not up to it...)

Heaven? Good as it is, in our beloved Start Classic powerful enough to cope with this? Never saw wrong, someone please. Hil goes on to say that J. Dijkstra's printer kit in issue 84 is only for C, E, printers and comments that "In response to B Pearson's enquiry in issue 84, build-it-yourself projects and instructions and ready-made are

Mailbag

will available in Germany, e.g. I got a spare WEPAN interface these interested?

First the program "Flower Garden" in issue 81 - I figured it is practically identical from an issue of MICRO in 1980? that it's nice to have it revised.

Let's comments on this one - the program was sent to us (as about three years ago) by Alessandro Bonaldi and we had an opinion to suppose that it was not his own work. It could well be that he submitted it to Micro many years earlier.

"I want to learn Forté. Who can help? I would like to write a program that could control from a disk."

Forté seemed to gain popularity in the 1980s but appears to have lost ground to C. There were a number of articles in ANALOG magazine - issues 13 to 21.

Thanks, Bill, for a number of interesting comments that may well stimulate correspondence for future issues.

FROM ST to XL/XE

Bill Higgins of Lewis was pleased to see the article "...by Peter Hall in issue 85 about the transfer of files across to the ST. If Peter will forgive me, on comparatively recent systems like me find it a bit hard to understand the principle could I suggest that Peter gives a full schematic diagram detailing all the necessary hardware and software in their relative positions with connections. I am certain that any further explanations would be most welcome to many more people other than me."

BR ANNOUNCEMENTS

Our regular corresponders from Southampton, Brad Rogers (see, he does have a first name!) responds to some points in previous issues:

"In reply to Phil Perry, I didn't ever go to the field promoter meetings at I was an advisor of my Atari City Group meeting in Southampton at the time.

In reply to Deborah Phipps' enquiry about the J45000LZ, you explained to mention the J2000LZ which is locally now distributed in the USA for a limited period of time. Features of the machine included:

- the possibility of bypassing the built-in operating system,
 - the ability to disable the keyboard,
 - the introduction of the XL features international character set, file scrolling, etc.
- The second of these features could be quite useful, but bypassing the OS? Sure of writing your own files, which, what are you on the point? One final point about the XL computers, if you've not considered why the key input to the keyboard isn't used because I took anything like your keyboard, it's because the one displayed

belongs to the J2000LZ.

(Does anyone remember Alan announcing a CP/M module for the XL range?)

The reason I didn't mention the J2000LZ was that it predated the other XL models that were announced together about a year later. The J2000LZ was almost a pilot for the new range, the later models correcting some of the problems found with the J2000LZ. I suppose if I wanted to do a complete history of the range we could have included the 8550P or the 6558M or how about "Infinity", the integrated combination of spreadsheet, word processor and relational database for any 64K 8 bit Atari? Or going further back into history, what about the 800 disk drive?

Back to the March 1985 issue of COMPUTER. Bill Wilkinson notes in his "Straight Atari" column that the keyboard will now ignore those and show any Control+Shift combinations, and it can't see Control+I or Break. On the J2000LZ, additionally the Control+function key combinations don't display properly.

RESET, RAMdisks and Other Questions

We now have a number of questions from Andrew Matthews of Haverhill. Starting with stacks, again. To comment on us we go along.

"Can you help me locate an article that I think was in either Page 5 or 6 of 8/82 about programming the Reset key in BASIC?"

I think the article you are looking for is "No-Hurry" by Phil Cardwell on page 24 of issue 44 of New Atari News.

"Is it possible to have two RAMdisks available at the same time on a 2MBK machine and, if so, how?"

As David Carrington has sent me a disk which contains an enhancement for Daisy Disk II using 2 RAMdisks on a J2000LZ, I don't believe there was for a problem in running 2 RAMdisks on a J2000 machine.

"Is it possible to utilize extended memory and RAMdisks also at the same time and, if so, how?" On my J2000 machine in DOS 2.0 the maximum size of the RAMdisk available only gives 1024 free sectors instead of 20480 where it gives 1240 free sectors. Is there any way I can set the RAM disk size to use a total of 128K of extended memory rather than using all the J2000?"

The best reference I've found for J2000 machines and RAMdisks is one I've mentioned before in this column: Tim Patric's "RAMDISK 2.0" in the September 1985 issue of ANALOG (vol. 5/No. 5).

For some time I have been considering getting MicroMaster II; however, is there any commercial package that supports the IBM interface for the Atari 5400?"

This sounds like a question for John S. Davidson, or anyone else with Atari Clus-

ter master interests. (MicroMaster comes with its own software, Ed.)

"In issue 45, Robert Chace and Andrew Horner described the construction of an Atari Clusster to a PCB. I have used this just to get the video taken in the Atari. I did get a picture through the video on a TV but the picture was very faint. Can anyone tell me how to get a good picture either through an aerial or monitor lead?"

Unfortunately, I have no experience of connecting any Atari to a VCR. Can anyone assist?

"I have been able to pick up copies of PDSII 6 Issues 2 to 12 and from Issue 14 on. But I have been wondering what happened to Issue 13? Additionally, what was disk D0918 in the 4-86 PD Update?"

Issue 13 must have sold out quickly! Disk D0918 was "Database 3". I believe it was with the issue because it was buggy, but I'm sure Les will confirm the reasons. It was buggy! Ed.

"I have been trying to remember the RAMdisk in DOS 2.0 in "D3". Raphael's Update told me that the RAMdisk is in fact an integral part of the DOS 2.0 file and the file RAMDISK.COM is merely a program that formats and copies DOS 2.0's and MEM.SAV to the RAMdisk. Raphael also wrote a short program that would change the RAMdisk number in RAMDISK.COM file and make the required paths and press reset, then go to DOS execute DOS 2.0's files to disk. The paths are less used are shown in the program below. But where I read the customized version, RAMDISK.COM formats drive "D1" instead of "D0". Can anyone tell me why it's doing this and how to correct it?"

The following performs Raphael's changes in Patsy BASIC.

```
1
2
3 FROM DOS by RAYNOLD JAMES EDING
4
5 RAMD=0: REM NEW RAMDISK NUMBER
6 DIM DATE1(100): DATE1(0)=0
7
8 OPEN #1 A+:D1:RAMDISK.COM
9
10 EXEC @1:ADDRESS1:END
11 CLOSE #1
12
13 DATE1(0)=0:CHDIR=RAMD
14 DATE1(0)=0:CHDIR=RAMD
15 DATE1(0)=0:CHDIR=RAMD
16 DATE1(0)=0:CHDIR=RAMD
17
18 OPEN #1 A+:D1:RAMDISK.COM
19 INPUT @1:ADDRESS1:END
20 CLOSE #1
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```

I haven't figured out the problem with Raphael's program - I suspect the PDSII OS does the same for me, formatting D1, but I have found a solution. Once again, it

comes from one of Bill Wilkinson's "Tonight, ASAT" columns, this one from the August 1988 issue of COMPUTE! The following short program is for use with RAMDRIVE.COM. After you load DOS 2.0 and RAMDRIVE.COM, running this short BASIC program changes the DOS memory locations so that the RAMdisk is addressed as D0: for any other drive in the range D0: to E0:.

```
100 REM
110 REM ***** REPLACE.BAS *****
111 REM BY BILL WILKINSON
112 REM COMPUTE! AUGUST 1988
120 REM
130 REM A program to replace D0: with
140 REM D:, where D: is any drive
150 REM Number from 0 to 7 (or even 8)
160 REM
170 IF PEEK(1800)=128 THEN PRINT "No
RAMDISK installed" STOP
180 REM
190 RAMDRIVEVNUM=0: REM Change the os
device
200 REM
210 POKE 1800,RAMDRIVEVNUM
220 POKE 1803,RAMDRIVEVNUM
230 POKE 2400,48+RAMDRIVEVNUM
240 POKE 1802,PEEK(1800)+128
250 REM (to change to line 260, see "Wag-
ging the Tail")
260 IF PEEK(1800)=1: REM
RAMDRIVEVNUM=THEN POKE 1802,0
270 DIM INT(4)
280 FOR I=1 TO 4:READ DATA
290 INT(I)+CHR$(DATA):NEXT I
300 DATA 104,102,101,7
310 J=PP+(ADRWRITE)
320 REM
330 REM Verify it worked
340 REM
350 DIM DRV(8)
360 DRV(0)="D:"
370 DRV(0:2)=CHR$(48+RAMDRIVEVNUM)
380 REM
390 OPEN #1:LOC=DRV(0)
400 TRAP 400
410 CHT #1:BYTE:PRINT CHR$(BYTE)
420 GOTO 410
430 END
```

Remember, don't thank me - thank Bill Wilkinson!

1027 SPARES

Finally, Devco founders would also like to know where to obtain more type characters for a 1027 printer to replace the discontinued originals.

A VIEW FROM FRANCE

I've been an Atari Classic-enthusiast since 1983. In France, the Atari XL 1200 has never been greatly loved by the public but those who have bought one have enjoyed it so much that only five of them sold it. I don't know if a lot of French Atari users subscribe to PCW & but I personally think that even if we are not too many, we really appreciate our Atari Classic.

During 1989 - 1990 years, I worked for a magazine called MICRO NEWS which was selling the Atari 800XL for 200 French Francs (25\$. They really didn't care about the Atari Classic but I tried to test the most software possible. Of 50 tests I've done, less than 15 have been published. In France when you purchased your Atari 800XL, you could buy some software at the same shop but when the stocks of Atari 800XL were finished, they stopped selling the software. The argument was - no more computer, no more software because not enough money could be made importing Atari software. A shop I visit working with collect COCONUTS tried to continue selling Atari classic software but when you take a lot of advertising in computer magazines and you don't say that you sell Atari software, it's sure that you'll be not gonna sell a lot!

They used the same recipe as some software houses that I won't name "We are still loyal to the French Atari Classic community, we continue to sell the programs". Sure they do, but when more than 2000 people who have bought an Atari 800XL at 200 francs don't know any source of Atari software, their computer is going to finish in the classic store between the collecting tree and the ocean. So in 1990, we have lost a little bit more than 2000 French users. You know what, I hate French people, they only think of themselves!

Every two months NEW ATARI LINK gives you the ability to explore Atari programming. They sell Turbo Basic and they surely have the biggest public domain library ever seen in Europe. Their issue disk is full of titles and good programs. So that's very simple - in 1991, it never has been so easy to learn Atari programming.

Now if only 50% of the European Atari Classic is shown but right and we (50%) commercially could program real commercial software, it would revolutionize the market. But it doesn't stop there: I'm sure you'll see a lot of software houses for the Atari 800 in recent times (ASC, TIGER, ICE-SOFT ...) but they all have the same problem: they don't sell enough of their programs to make profits. But does there have to be profit? Supposing we could sell our own Atari software to other users who don't have the time to program, we could then earn some money but we could not spend this money on sales, alcohol or whatever, we could introduce it to the Atari market. It would be a closed circle which could be very profitable.

Some of you have surely seen the beautiful music-BOY2 IN FIRE MANSION directed by John Angleton. In one scene, Larry Fishburne explains to his "brothers" a method of escaping from the white conspiracy about black people (if there is one and NEW ATARI USER is not a political publication). His idea was simple - don't spend any more money on guns sold by white people, don't consume any more drugs sold by black dealers but imported to the beginning by white people. Create black industry/culture and make it work independently from other markets. That's where the parallel comes in. If we could use the same idea in the world's Atari market (because the problem doesn't exist only in Europe but also in Australia, South America ...) we could make it as active as it was at the beginning of the eighties and maybe more!

To tell you the truth, I'm now programming my first real commercial program that won't be expensive and all the money I will earn with this one, I will introduce to buying from other suppliers or companies. In France, we say "Change takes endless centuries just not mine". In English - Change begins at home.

P.S. I don't eat Apple! It's time to do it real personally ...

Floris Andre Barthélemy-Mico
Paris

TIME TO GO

That just about wraps up another Mailbag column. I might not be able to find some time to play Trononline? Or catch up on some of my other correspondents...

In the meantime, don't forget to drop us a few lines with any questions you have or suggestions. How about your personal Top Ten of favorite programs? What's your

favorite Adventure? Which word processor is the best? What strategy game keeps you glued to your Atari Classic for hours?

One final thought, "The New Adventures of Superman" (EBC1) is a great series - very deftly handled, possessing Lois and Clark with character. But Perry White being an Elton John? Great-Chester's (Great)

Up, Up and Away!

SWIFT SPREADSHEET

**Les Ellingham checks out
a rarity - a newly released
application program for the
Atari Classic**

Atari earned its reputation as a games machine many years ago with the result that very few companies bothered to develop serious application software and those who did seldom promoted it widely. A case in point is the Swift Spreadsheet, developed in 1986 by Adalogics, a company much more widely known for their games on the Spectrum and other machines. Now The Atari Classic Programmers Club have bought the rights to this little known piece of software and given us all the opportunity to put the Classic to serious use.

Swift does not carry the reputation of VisiCalc but it is a very competent spreadsheet that should cope with most needs of Classic users. Most of the common uses of spreadsheets are accommodated and, thanks to some quite powerful extra features, some rather more complex applications can be handled.

STARTING UP

The first thing to impress is the fact that the program will recognise what type of computer you have and will load the appropriate version of the program. On the 800XL or 1050L, the spreadsheet consists of 26 columns and 254 rows whilst on the 1300XL there are 64 columns and 254 rows. The two versions are not directly compatible although you can interchange them if you use only the first 26 columns.

Swift works in exactly the way you would expect a spreadsheet to work with text or numbers entered into cells from the keyboard and a number of formulas available for specific tasks. The program automatically distinguishes between text and numbers where relevant and has a number of formatting options. For numbers you can choose negative values by using brackets, a minus sign or the letters 'E' to indicate a debit. Currency can be to 4 or 6, commas can be added every three digits, letters can be suppressed and precision can be up to 8 digits. The choice of configurations is good.

Other ways to format the spreadsheet include the option to alter the column width either by individual column or globally, a feature which is, surprisingly, missing on some spreadsheets. Moving columns width is achieved by using the cursor 'arrow' keys so that you can immediately see the result. A much more powerful feature allows the access to be split into two independent sections, either vertically or horizontally,

which can be implemented or not. Such an option is vital for any large application.

MOVING AROUND

Entering information into a cell is achieved either with the Format key or with the arrow keys which will immediately move you to an adjacent cell. As well as moving a single cell in any direction, key combinations allow you to move up or down by 20 cells at a time or to locate the cursor to the top cell of the visible screen or the top of the spreadsheet. Strangely there does not seem to be an option to move several columns at once.

Many operations can be performed on ranges of cells. As well as formatting a selected range you can copy a range of cells elsewhere on the worksheet, erase a range or sort a range alphabetically. This last option can prove a useful arrangement to a word processor, for example the Times index in this issue was first entered and sorted as a spreadsheet before being typeset. A selected range can be saved and loaded into another worksheet or can be printed out.

CALCULATING AND FUNCTIONS

The real power of a spreadsheet is determined by its abilities to calculate and to perform spreadsheet functions. Swift recalculates automatically as data is entered but this can be disabled and done manually when the worksheet gets to be quite large. Automatic recalculation can slow things down quite considerably on a large worksheet. You can choose the method of calculation, either by row then column or vice versa as a different result could be obtained depending on how you have used your formulae.

The functions available in a spreadsheet ultimately determine its strengths and weaknesses and I am pleased to say that Swift has a very impressive array of functions available. The most common formulae take the contents of a specified range of cells but Swift can also give you the lowest or highest value in a range, can average a range, count the number of cells with values, return the square root and calculate the variance or standard deviation of a range.

Non-arithmetic functions include IF, AND and OR enabling actions to be taken depending on results of calculations, together with the ability to jump to other cells with a GOTO command and print out a range during recalculation. Other functions include the ability to prompt the user to input numbers or text into a given cell.

One of the most unusual functions, and one that is not found on some more complex spreadsheets, is the LOOKUP function which enables the worksheet to be used as a sort of economic database. You can, for example, enter a selection of products

SPRING A.M.S.

After seven successful shows in the autumn, Showworld Services feel that the time may now be right to extend the *All Mins Show* to a twice yearly event with a Spring show due to take place on Saturday 18th April at the Ringier Hall in Stafford. Given the appalling weather on the day of last November's event, a touch of Spring sunshine will be more than welcomed by exhibitors and visitors alike.

Readers of *New Atari User* will, of course, be primarily interested in what they can find for their Atari but there will plenty of interest on the other stands. Those supporting the Atari Classic will include:

PAGE 6 who, along with their usual stock of commercial software and hardware of *New Atari User* will have a selection of "one-off" commercial items as well as the **CLASSIC PD ANNIVERSARY**, available to order on the day.

MICRO DISCOUNT with their range

of disk software imported from the Continent, Turbo load cassette and the new range of software from Zappella available at an amazingly low price.

DEAR GARRAGHTY SOFTWARE will bring along their range of commercial products which, as well as being for sale, will be demonstrated to interested parties.

ORACLE INTERNATIONAL intend to hold a clearance sale of several stock lines as well as offering special prices on regular items on some bargains may well be found.

Also in attendance will be **T.W.A.U.G** who will welcome you for chat and advice. **ST** users will also have a great deal more to see this time as the organizers have persuaded some real heavyweights to come along. These include **STREET BT USER** magazine and **ATARI ST REVIEW** along with several other computer retailing **ST** equipment and software. Of course it's not only directly related

Atari products that are of interest. **S.A.M.S.** is the place to get all those new drives such as disks, linking paper, printer ribbons and all sorts of holiday hardware. Almost everything you can think of in the auxiliary line will be available somewhere. Don't forget that there is also a huge listing and they corner so that you can pay for the trip by bringing along some surplus equipment.

The number of stands representing the Atari for customers those for any other make at **S.A.M.S.** is certainly the place to be for every Atari owner this Spring. Last November you could pick up a working and tested disk drive for £25 or an **8088**, for spare for a fiver. Who knows what bargains there will be this Spring. See you there!

CLASSIC PD ZONE and ST ROUNDUP

We apologise to readers for the lack of these two features within this issue due to circumstances beyond the editor's control. Hopefully full services will be resumed next issue.

with their prices in one part of the worksheet and then use the **LOOKUP** function to copy the price alongside product information related into another section of the worksheet. This is a little difficult to visualize but, very simply, it would enable the user to enter any product from a stock list and have the price shown immediately alongside. Quite impressive.

PROGRAMMABLE

Unusually Swift is fully programmable so that more advanced users can create their programs of actions that will be acted upon whenever recalculations is performed. Any of the available functions can be included and the manual gives some guidance although it is far from adequate. A general book on spreadsheets should give you many ideas although, of course not all of the functions of spreadsheets like Lotus 1-2-3 will be available with Swift.

EASE OF USE

Swift is the ideal spreadsheet for those who want something that can be used with the minimum of knowledge. Almost everything you might need is included and the manual gives a step-through example, although this might leave you absent in tears! One very frustrating feature in that a calculation that results in a number too big to fit in the width of a column gives an error message rather than a series of asterisks like most spreadsheets, and you will encounter this with the example given. I spent a good many minutes trying to figure out what I

had done wrong before realising the problem. If you ever get an error try simply extending the width of the column.

The manual with the review copy really lets the package down as it is written for the Commodore version of the program. Although **ACPC** provide a reference card giving the Atari versions of the Commodore keys, following the example in the manual, translating every command as you go through, is extremely frustrating. To be of use the example should be completely reworked showing the Atari equivalents. Indeed the whole manual should be rewritten rather than relying on the abbreviations shown provided. I understand that **ACPC** do have this in hand and can now provide a version with a new manual.

COST AND AVAILABILITY

The Swift Spreadsheet is available exclusively through The Atari Classic Programmer's Club, currently in a number of versions. The version with the Commodore manual and original packaging, as reviewed, is £49.95 on disk with a reduced price of £37.95 for **ACPC** members. The new version with a rewritten Atari manual is £52.95 reducing to £39.95 for members. Also being developed is a cassette version which will retail at £7.95 or a Turbo load cassette at £9.95. Further details on these versions, and possibly on special customised versions, are available from **ACPC**.

Swift is certainly a competent product and can be highly recommended to any user who wants to use their Classic for home or business finance or similar applications. You can get your copy from **ACPC** at Fox-Bylbye, Capet Court, Mangrove, Angelsey, Devonald LL77 7UR.

THE CATALOGUE

Robert de Letter wrote this cataloguing system for his software collection but the program can be used for many other record keeping purposes

USING THE CATALOGUE

There is no need to explain SC5 really, as the program is quite simple to use, just follow the prompts. Pressing ESC brings you back to the menu at any time and sometimes an empty RETURN performs the same action. Thirty-eight characters are available for each entry (e.g. SOFTWARE CAT SYSTEM P-D Utility (2007) but you are not restricted to the format shown by the heading which you can change if you wish. You may also want to make other changes to the program.

The printer output is set up to line 1300 which is set for my U.K. printer (condensed print), some changes may be necessary for your printer so check your printer manual. In line 1300 instead of my name, type in your name in lower case letters characters. Omit one of an older 480 or 800 must leave out FORCE 328-798 FORCE 738-527 to line 1800, assuming of course they have a copy of Turbo Basic that will run on the 480/800.

SC5 uses two-machine language routines, and because I still don't know how that language works I borrowed the routines from other authors. The LIBRES routine is by Leo Goldberg from Atari User, June 98 and the Start routine comes from C.P. Fogarty and was published in ANALOG 8 98 2078.

The program is designed as a disk based system but tape users could alter the program although they will need one tape for every letter!

This excellent disk based cataloguing system can easily be adapted to suit any purpose where the information to be stored requires only one file. It is based on a series of alphabetical files, one for each letter of the alphabet, which are loaded as required. Once in necessary the retrieval of data is extremely fast. The program can easily be adapted to suit your own purposes by simply changing a few headings within the Basic program.

The Software Cataloguing System (SC5) is a simple program to store your software collection. With each letter (A..Z) you can save up 328 entries, making a total of 6,520 files. Although the files are stored as letters of the alphabet, you are not restricted to using them in that way, you could, for example, use letters like Q and X to store miscellaneous items.

PREPARING YOUR DISK

To set up the system you will need, firstly, to format a disk, write the DOS files to that disk and then delete DUP-DOS. Next, copy Turbo Basic as AUTODISK.BVN to the SC5 disk. Now load Turbo Basic and type in listing 1 into TYPE IN. Once you have typed in the program correctly, save the program to your SC5 disk as AUTODISK.BAS.

After clearing the computer's memory (MEM), type in Listing 2 (see need to save it) and SC5 is with your SC5-disk in drive 1. Twenty-six files (SOFTWARE.A to SOFTWARE.Z) will be written to the SC5 disk, and you are ready to start using the program.

```

01 5 REM *****PROGRAM*****
02 0 REM
03 50 REM PROGRAM
04 00 PRINT:SOFTWARE, ""
05 00 FOR I=0 TO 26
06 00 PRINT:LET I=I+1
07 00 OPEN "A..Z",FI:CLOSE FI
08 00 NEXT I
09 00 GOTO 1000
    
```

Listing 2 - Run this to create 26 alphabetical disk files for your data. There is no need to keep this program after it has been run

```

10 A DIM .....
15 B DIM B .....
20 C DIM C .....
30 D DIM D .....
40 E DIM E .....
50 F DIM F .....
60 G DIM G .....
70 H DIM H .....
80 I DIM I .....
90 J DIM J .....
100 K DIM K .....
110 L DIM L .....
120 M DIM M .....
130 N DIM N .....
140 O DIM O .....
150 P DIM P .....
160 Q DIM Q .....
170 R DIM R .....
180 S DIM S .....
190 T DIM T .....
200 U DIM U .....
210 V DIM V .....
220 W DIM W .....
230 X DIM X .....
240 Y DIM Y .....
250 Z DIM Z .....
260 AA DIM AA .....
270 AB DIM AB .....
280 AC DIM AC .....
290 AD DIM AD .....
300 AE DIM AE .....
310 AF DIM AF .....
320 AG DIM AG .....
330 AH DIM AH .....
340 AI DIM AI .....
350 AJ DIM AJ .....
360 AK DIM AK .....
370 AL DIM AL .....
380 AM DIM AM .....
390 AN DIM AN .....
400 AO DIM AO .....
410 AP DIM AP .....
420 AQ DIM AQ .....
430 AR DIM AR .....
440 AS DIM AS .....
450 AT DIM AT .....
460 AU DIM AU .....
470 AV DIM AV .....
480 AW DIM AW .....
490 AX DIM AX .....
500 AY DIM AY .....
510 AZ DIM AZ .....
520 BA DIM BA .....
530 BB DIM BB .....
540 BC DIM BC .....
550 BD DIM BD .....
560 BE DIM BE .....
570 BF DIM BF .....
580 BG DIM BG .....
590 BH DIM BH .....
600 BI DIM BI .....
610 BJ DIM BJ .....
620 BK DIM BK .....
630 BL DIM BL .....
640 BM DIM BM .....
650 BN DIM BN .....
660 BO DIM BO .....
670 BP DIM BP .....
680 BQ DIM BQ .....
690 BR DIM BR .....
700 BS DIM BS .....
710 BT DIM BT .....
720 BU DIM BU .....
730 BV DIM BV .....
740 BW DIM BW .....
750 BX DIM BX .....
760 BY DIM BY .....
770 BZ DIM BZ .....
780 CA DIM CA .....
790 CB DIM CB .....
800 CC DIM CC .....
810 CD DIM CD .....
820 CE DIM CE .....
830 CF DIM CF .....
840 CG DIM CG .....
850 CH DIM CH .....
860 CI DIM CI .....
870 CJ DIM CJ .....
880 CK DIM CK .....
890 CL DIM CL .....
900 CM DIM CM .....
910 CN DIM CN .....
920 CO DIM CO .....
930 CP DIM CP .....
940 CQ DIM CQ .....
950 CR DIM CR .....
960 CS DIM CS .....
970 CT DIM CT .....
980 CU DIM CU .....
990 CV DIM CV .....
1000 CW DIM CW .....
1010 CX DIM CX .....
1020 CY DIM CY .....
1030 CZ DIM CZ .....
1040 DA DIM DA .....
1050 DB DIM DB .....
1060 DC DIM DC .....
1070 DD DIM DD .....
1080 DE DIM DE .....
1090 DF DIM DF .....
1100 DG DIM DG .....
1110 DH DIM DH .....
1120 DI DIM DI .....
1130 DJ DIM DJ .....
1140 DK DIM DK .....
1150 DL DIM DL .....
1160 DM DIM DM .....
1170 DN DIM DN .....
1180 DO DIM DO .....
1190 DP DIM DP .....
1200 DQ DIM DQ .....
1210 DR DIM DR .....
1220 DS DIM DS .....
1230 DT DIM DT .....
1240 DU DIM DU .....
1250 DV DIM DV .....
1260 DW DIM DW .....
1270 DX DIM DX .....
1280 DY DIM DY .....
1290 DZ DIM DZ .....
1300 EA DIM EA .....
1310 EB DIM EB .....
1320 EC DIM EC .....
1330 ED DIM ED .....
1340 EE DIM EE .....
1350 EF DIM EF .....
1360 EG DIM EG .....
1370 EH DIM EH .....
1380 EI DIM EI .....
1390 EJ DIM EJ .....
1400 EK DIM EK .....
1410 EL DIM EL .....
1420 EM DIM EM .....
1430 EN DIM EN .....
1440 EO DIM EO .....
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8-BITS, ST'S AND STEAMROLLERS

by Gordon F. Hooper

There is always some controversy regarding the relative merits of the 8-bit and ST, and user groups can spend much time debating this topic. I would like to take this opportunity to express on the computer I use and why it is far superior to the ST. You got it, I manufacture these insightful, intelligent and thought-provoking articles on an 8-bit.

My 128KE is no obviously preeminent that I wonder why I bother to spend the time characterizing it. I could be debiting time something important, like why I always vote for the best candidate, only to watch him/her become an excellent incumbent when elected. I have no characterizable feelings here. Trainers have proven themselves to be as ignorant, biased and opportunistic as men when the trough beckons.

Oh, well, back to the subject at hand. The main reason the 8-bit is superior is price. After all, being cheap is the number one reason given for buying an Atari. The 8-bit today can be picked up for anywhere from \$5 to 75 dollars used. Don't go looking for a new one. Start quit manufacturing them when it appeared they might become wildly overvalued. Compare this price to a 128K ST and you will be forced to admit defeat before I go any further.

8-bit software is easier to use. This is because any time there is an increase in memory, some other programmer will fill it up. This is the main reason you want to avoid it all costs an IBM 486. With that much memory, your word processor will do an untold number of things you will never have access to one that you'll have to learn it simply because it's there. This is the same line of reasoning given by other idiots for why they climb mountains. At least you won't get a frustration maze trying to compute a piece of software. And if you lose your grip on your computer chair, it can't 1800 feet straight down to the floor.

The reason is another good reason to avoid an ST. It used to be when you had a Model T Ford that any repairs could be accomplished in your own backyard. Try doing this on your computerized BMW that cost \$60,000 and has interchangeable fuel injection and a compact disc player. Adding more to computers just gives me more things to go wrong. And it will be out on my SE.

The 8-bit has a smaller footprint (square inches of desk space it occupies than an ST. This allows you to put important things like a six-pack of beer on those bare areas of desks for the times you are so angry you wish you had never heard of the word "computer". This happens to me more often than I am willing to admit. One of these days I will be able to afford my dream car, a ST T-tiled with a supercharged

487 in it. Then, my life's objective realized, I will leave ten strips of rubber like one and a half feet long by eighteen inches wide before running over whatever computer I happen to be using at that point in time.

The single-sided drives of the 8-bit also have an intrinsic advantage over the double-sided ST drives. Because you get another exercise flipping disks, you don't run the risk of becoming a complete computer nerd.

To connect a printer to the 8-bit requires an interface rather than a simple Centronics connection cable required to wire it to an ST. This fact causes the 8-bit owner to exercise his intelligence trying to coordinate DIP switches on the interface. The ST owner, meanwhile, mindlessly connects the Centronics cable between the computer and printer and then has to spend two and a half days trying to think of something intelligent enough to dump out in the printer. In that length of time, the 8-bit owner normally has had enough time to reason out how to set the DIP switches. If the hacker figured it out by then, it is considered a neat idea to get the steamroller kept out of his sight.

The 8-bit's 5 1/4 inch disks are easily superior to the ST's 3 1/2 inch versions because the smaller are there is, the easier it is to lose. If I have a deadline coming up in 10 minutes, I want to be looking for the biggest disk possible. It's too bad the 8-bit disk is no longer available because I will lose something not stapled in my body. Compare it to losing your job and my career in a shag rug. I'll find my career and be reuniting it and it's long before you even realize the only way to find your job is to walk backwards through the rug and an excessive amount of pain causes you to indulge in words your mother never taught you.

I was going to end this article here after having given you the irrefutable evidence of the superiority of the 8-bit compared to the ST. However, to be fair about it, I feel I have an inherent duty to present the other side of the story. After due consideration, the only advantage I can see to the ST is that it is heavier. This is a distinct advantage when killing rats in your basement, but I'll leave it to the ST owners to fill us in on any other supposed benefits.

READ ALL ABOUT IT!

ZONG was created in 1989 by Ke-Soft. It's a printed magazine for German Atari 8-bit users and is accompanied by a disk containing various software. I described the May 1992 edition in a previous article but could not really recommend it to English readers since, like me, they would probably not understand the content! However, following discussions with Micro-Digest, Ke-Soft's proprietor Konrad Egan decided to produce a limited print run of an English language Zong. This was first offered at the All Micro Show in Stafford last November, and is still available from Micro-Digest - while stocks last.

The magazine comprises twenty-four A4 pages, and a double sided disk attached to the inside front cover. The first five pages are mainly devoted to reviews of Ke-Soft games such as *Beasts*, *The Bravelles and Demals*, a couple of guides (*Blades - Final Legacy* and *Star Raiders II*) - are also described (both can be purchased from Ke-Soft). The next section suggests handy cheats for eighteen different games, including *Archie*, *Franklin*, *Top Gun* (to see some of the cheats you need a "cheat" program that lets you change the memory contents of a running game, while others require a sector editor to modify specified bytes). For administrators, maps of *Alternate Reality - The City*, *Dark II* and *Blade of Blackspore* are provided and elsewhere some are public domain disks are reviewed. A "workshop" section discusses six different sorting algorithms with several examples and there is a lengthy tutorial on games programming in Turbo Basic. There are more programming problems solved in the remainder of the workshop section, which features a simple video-tile program and an illustration of BEO text. The closing pages detail the contents of the attached disk.

Paul Rixon tries to find what else there is to read about the Classic and comes up with two other magazines for you



On side A the disk provides seven programs. *Evil Shooting* is a simple "hit-the-target" game and *Castles of Conundrum* is a great arcade adventure, the object being to collect treasures and find your way to an exit. *Invention No. 10* is a musical masterpiece by some other than Sir David (an Atari addict too!) in *Doctor World II* you become a daring Wizard who needs to retrieve a hidden treasure and avoid a monster at the same time. *Moose* is a sliding-tile based puzzle in which you have to form a path for the advancing mouse, to help him reach the cheese. *Sabotage* is another shoot-em up, this time set in the headquarters of Dr. Business, whilst *Searcher* should be a rating expedition - but all I encountered was a Basic run-time error! On side B you will find a commercial product from Ke-Soft, though I won't name it here (the title isn't nearly tactically sound!) better to say you may utter something similar during play.

If you'd excuse the old ad game for two, Zong is well worth an investment. The written content arrives largely on Ke-Soft products, but includes such highlights as the game writing tutorial. The availability of future English Zongs will ultimately depend on your response to this first edition. Why not try one?

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READ ALL ABOUT IT continued

THE ATARI 8-BIT NEWS-PAPER

has taken the place of a previously published disk-mag. Remember the News Desk? Don Garraghy's regular disk-based magazine has now migrated to paper format, and has accordingly been renamed THE ATARI 8-BIT NEWS-PAPER (a descriptive title, albeit not too snappy). Its construction takes the form of an A5 booklet, with a neat cover and around twenty pages of fairly small print. The standard applied to the contents page informs us that readers' submissions are encouraged to be fact, essential and rewarded by two PD disks from the DGS library.

Issue one kicks off with a gaming column, covering reviews of Tiger Developments' releases Klub and Micro Voltaire. There follows an in-depth review of the Panasonic RX-F1 CD3 printer, which appears to be a good choice for anyone seeking a budget priced (but high quality) dot matrix. There is an article describing the procedure for adding a write protect switch to your 1080 disk drive (at your own risk!) and a brief Atarian justifies his loyalty to the LOGIC. In the final two pages, the history of computers is discussed from the Pausanias mechanical calculator of 1642 to the launch of the 6800 chip, as implemented in your favourite micro (but nothing worth mentioning has happened since then).

The second issue begins with a very detailed report, by several authors, of the seventh All Micro Show. The gaming column continues with a look at the Brundage, Ko-Soff's brilliant Lem-

ming clone that stands out for more verbose coding events). Gaming features are also treated to a round-up of beta clones in both the commercial world and public domain. If you have purchased QUACK - the powerful new programming language from Germany - you'll be delighted to find the first instalment of a Quack tutorial series. In the hardware section, the answer to 1080 disk drive noise problems is revealed - all you need is foam and WD40! ASCII stores upgrade available, available from Griffin and Micro direct, is reviewed in favourable terms and finally there is a review of PD software, all available from DGS. If you like to read about Atari matters and want to help sustain support for your machine, you should certainly consider subscribing to the Atari 8-bit News-Paper. The biggest advantage is that, unlike a disk-based magazine, you can sample this one over breakfast.

USEFUL INFO

ZONG is published by Ko-Soff of Germany but the English edition is distributed by Micro-Source, 2955 Chester Road, Sterling, Fairfax County, New York 22164, USA. The price is \$4 inclusive.

THE ATARI 8-BIT NEWS-PAPER

is published by DGS who are located at 60 Thomson Avenue, Basing, Duncroft, D24 9SU. A four issue subscription costs £5.

TAPE TANGL

Steve Hooper has a few ideas for problem tapes that anyone can try. If you have problems with tapes, try these ideas before binning them or sending them back to where they came from.

A person who has ever owned a cassette data recorder (and who hasn't?) will, no doubt, have experienced problems at some time or another with this temperamental piece of hardware. Although arguably 99% reliable, your recorder can, sometimes, stoop to the same efficiency level as an X-100 popstar after a light grilling with Warner's.

The cassette recorder leaves you to think aloud. You have to adapt some of your life to it. You have to take into account its capabilities as a peripheral. You have to make decisions. You have to think if want to play Gaussian shortly (it's an hour/not at all), so if I start the load procedure now (8 hours ago/never), the probability of it actually loading will be 9% (95% - 0%), and I have had three pins of tea and watched the worst bits of *Elizavet*.

Even though the Compact Cassette can be, at its best, extremely reliable (recently beating the floppy disk hands down as a reliable recording medium), we still end up with LOAD ERRORS occasionally. The error isn't exactly reported in the most graphic detail possible when loading games from cassettes - a LOAD ERROR is flagged to the corresponding user, and the tape stops (if you're lucky). I'm not on my soap box, but why can't an error message be displayed? Sometimes the problem is almost as obvious as why Atari decided to stop manufacturing anything and everything associated with the combined words "left" and "right bit". Unfortunately, the recorder is not very helpful at giving reasons, whereas Atari Corp. (AC) are really rather good at giving reasons... er, 3 times, reasons.

What do you do, then, should you be unfortunate enough to encounter a LOAD ERROR?

BLAME THE CASSETTE

If your new piece of software doesn't load first time (no old hardware do, the Finger of Suspicion must surely point to the actual cassette itself), specifically, the physical tape itself within it. The recorder can't be expected to read data from a lucky cassette!

The tape inside the cassette can become too tightly wound on the spool with the result that, when you attempt to load the program, the tape unreefs too slowly across the read head, or fluctuates in speed (this is technically known as Wow and Flutter). If the tape is tightly wound, the recorder's relatively fragile motor struggles to play the tape at the near constant speed that the Operating System requires for correct data transfer to the computer, resulting in a LOAD ERROR. The O.S. is quite clever in this respect, because it works out the speed of data transfer (the *load*) at the start of each record using marker characters on the tape. The input rate is assumed to be a constant 900 (and 9000 bits of data per second), but is adjusted by the O.S. to account for drive motor variations (that is, different speeds) and stretched tape. Theoretically, load rates in the range 200 to 1400 (bits) could be handled (at, on a practical level, this is probably not the case). The trouble is, if a significant speed change occurs in the middle of a record, it is unlikely that the Operating System could compensate and you would be on the receiving end of a load error! In particular, poor quality cassettes can also cause load errors if the tape unreefs against the inside of the cassette shell or on the guide wheels. For this reason avoid cheap and nasty "hip market stall" cassettes for your own recordings if possible and write to your MP if you find that commercial offerings are not up to scratch (are what kind of response you get).

WHAT CAN YOU DO?

I have explained the main problem with cassettes, but what can you do about it?

If the cassette is tightly wound then try repeatedly forward-reeling the tape on the spools. Check the results by reading out of the spools in the correct direction (using a pencil - it is easier/difficult to read my lips also a few more times). Alternatively, not only will you be very fed up, but you might also have a cassette which will now load first time, and on subsequent occasions. Note that this method is more useful for long

ES?

tapes, as they tend to get more tightly wound. Do this with all blank cassettes and new software you buy as well, because when a tape leaves the factory, the spools might be packed too loosely or too tightly. Repacking, using the method described, eases the tapes out and makes for better tape alignment and less or no recordings.



GIVE IT A CLOUT!

No, what else can you do? Hit the cassette against a table a couple of times! Although this sounds ridiculous, by doing this you will feel much better (unless you have a hangover). You will probably also find that the tape "wax" properly inside the cassette shell, reducing the likelihood of the tape snapping. Don't be too enthusiastic, otherwise you may find that the cassette will have disintegrated itself into many differently shaped pieces which cannot be reassembled.

A permanent solution to these problems is to make a backup copy of all software that you use regularly (as if you were many readers do). Many older games if any games because there is little serious software available to cassette users - see Super-script, News Station, Page Master, Street Home, Print Shop etc. I use zippos to replace now.

Blank cassettes are usually well made and, if a good copy is produced, your programs will load perfectly many times over, which has got to be good news for your sanity! Two or three 15 minute plus tapes can be fitted on one side of a D90. Of course, if commercial tapes were a bit more reliable, you probably wouldn't need to copy them to make them load in the first place.

I recall having to reuse tape from an original cassette shell in one belonging to a blank cassette, just to get a game to load (there's that word again!). The game was *Loon by Alligator* and had been stored by a friend in his loft for many years, after his 80000 gave up the ghost and kept diving into hell! Best. The cassette had got a bit damp and looked bad. Fortunately, it was held together by screws as opposed to being of the moulded type. The (un)glad was obvious. If you buy (or inherit) any software like this, why not give this idea a try? As a last resort though, just remember to reseat the tape to its beginning and only handle the plastic tape leader. Lift the two spools off the opened, flat shell and carefully place them into the new shell. Make sure the leader is correctly around the guide wheels and through the plastic runners, otherwise the tape could get damaged and tangled. Then simply screw on the

other half of the new-cassette shell, fairly loosely but so that the spools don't fall out of place (why else it would be simple?). You will have to reseat the spools which in the means for not tightening the shell tightly, or because the tape might get jammed. When you are satisfied everything is working as it should and is visibly okay, tighten the screws.

COULD IT BE YOU?

Other points to consider include checking that you are following the loading instructions properly (then who doesn't?), does the OPTON key really need to be held down as well? Some games would have you believe they need BASIC to run, when they don't. Correct me if I am wrong, but I think some of the Mastertronic range suffer from incorrect printed loading instructions. Certainly, Crystal Master and L.A. Seal are two examples which require both BASIC and OPTON to load.

Always wind the tape off the leader in the case of the commercial tape - the computer doesn't seem get confused with random garbage noises that cause failure.

Get to know the Honey 1/2 feature. This is provided so that the success of reading the tape can be determined - this is really only available with CLAMM. We've all heard those wored noises through the TV headphones before (and we've turned the volume down before the neighbours start complaining, etc) - refers to the SHRE Using Manual coming in there, sorry!

LET'S BLAME THE RECORDER

So what of the recorder itself? Keeping the room and read heads clean of magnetic particles is a necessary entry on the "must-do after 30 hours use" list. Large amounts of magnetic particles left on the heads can wipe away the tape on other

coincides with the result that, in extreme circumstances, bits of data can be lost. You'd be forgiven for wondering what this is all about, as this subject isn't even mentioned, for example, in the ZX-12 owner's manual. Head clearing is not a luxury - it's certainly not expensive. For clearing stripes are available from your local retailer, as is (supposedly) alcohol - a cleaning solution. Cassette retailers probably sell the all-in-one kits from Alps and OK for a price three times the clearing process automatically. You will, of course, need to clean all parts of the mechanism in contact with the tape - this includes the pinch roller and capstan as well. Press **PLAY** on the recorder, type **POKE 54038,52** and press **RETURN** to get the roller and capstan spinning so that they can be cleaned easily. Press **RESET** when you have finished.

USE ANOTHER RECORDER?

If you are absolutely fed up with your recorder, there's no reason why you could not use an external tape recorder or deck to make better, more reliable, recordings at least. You'll have to use your Atari recorder for loading purposes as the interface is required for this process. If you have a tape recorder for tape decks with standard phone line sockets, details of how to make the appropriate connecting lead and other valuable info can be found in John S. Davison's Secret Recording article on pages 34 and 35 of Issue 34 of Page 8 ZX1.

On the subject of cables, if you are continually getting load errors, check that the serial cable is pushed home correctly and that all metal lugs in the serial cable connector are clean of corrosion and locked into position correctly. If one or more lugs are corroded, it is useful to remove them for cleaning purposes. The lugs are made of spring metal and can be removed with the plastic 'triangle' cover all. By pressing on the notch on the top of a lug with the end of a small screwdriver, the lug can be unlocked and removed. It will return when pushed back into position from the other direction.

NOT THE TRACKING!

I should mention tracking (Automatic). The tracking error allows minor adjustments to the position of the read head so that information is read at an optimum from the tape. The optimum position for the read head being perpendicular to the tape path. Tracking allows the clarity of signals being read off the tape, however, small variations in correct tracking do not matter when reading just two different signal frequencies (512K Hz for a 1-bit and 1024 Hz for a 2-bit with the Atari system), however if the tracking is way off then these load errors may occur. Head tracking becomes important when using Ranelec Turbohead tapes, where there is little room for error during the fast data transfer. However, though, because any recordings made with the tracking in its original position may fail to load after the tracking has been re-aligned, particularly if it was far off line in the first place. (Stern said that I haven't experienced any problems with this.)

If you think the tracking in your recorder may need altering, and aren't sure how you should go about it, here's how! After it is your own risk!

Firstly, you will require a small Phillips type screwdriver. Type **POKE 54038,52** to turn on the cassette motor and open the

BACK ISSUES

The following back issues of
NEW ATARI USER are still available

Issue 23	Issue 45	Issue 56
Issue 24	Issue 46	Issue 57
Issue 26	Issue 47	Issue 58
Issue 27	Issue 48	Issue 59
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A - ERASE HEAD
B - READ/RECORD HEAD
C - CAPSTAN
D - PINCH ROLLER
E - TRACKING ADJUST SCREW

Figure 1

View of tape mechanism with play depressed

1/30 audio channel. Listen to a cassette with data on it or, alternatively, an old music cassette which you wouldn't dare listen to in public any more. **RESET** the tape and press **PLAY** once more. Fractionally turn the adjust screw in one direction (the adjust screw is directly below the notch in the case, in the left of the read head). Listen to the tape again. If the sound has become more dull, turn the screw in the opposite direction and listen again. As you make these fine adjustments, a point should be reached where the sound is at its loudest and clearest to the human ear. The tracking is now set properly.

That's it - some ideas which may go some way to ensuring your cassette recorder behaves itself. If you have a spot of bother, try them (the spot will clear up immediately).

TYPO 3

Here is our unique TYPO 3 program which we recommend that all readers use when typing in programs. This utility will ensure that each line you type in is correct as you type it in. We worry because about which lines you may have typed in wrongly when a program won't run. This version is fully self-proof so that it will remain in memory at all times.

WHY USE TYPO?

The program listings in **NEW ATARI USER** are prepared carefully to ensure that they can be typed in as easily as possible. Before typing any listings ensure that you are familiar with the use of the **SHIFT** and **CONTROL**, and **INVERSE** keys as outlined in your computer manual. The listings are prepared to match exactly what you learn as you go. By using **TYPO 3** you can ensure that you type in the programs **EXACTLY** as they are printed. Furthermore, a single typing mistake may mean that a program will not run.

WHAT ARE THOSE CODES?

Each line of a program printed in **NEW ATARI USER** begins with a column two letter code. **THESE SHOULD NOT BE TYPED IN**. They are compared with a similar code produced by the **TYPO** program for you to check whether you have typed the line in correctly. If **YOU HAVE NOT ALREADY TYPED IN THE TYPO 3 LISTING, PLEASE DO-SO NOW**. The program can be used as you type in each line of a program so to check an already typed program. The code for each line should match but if you have problems about the **CONTROL** character's shown in your manual, as the most common mistake is using a **CONTROL** character incorrectly, **TYPO 3** cannot check whether a line has been missed, so if the **TYPO** codes match and you still have problems in running a listing, read the lines in the program and ensure that none are missing. If the **TYPO** codes match, there are no missing lines and the program will also run. **USE** it to ascertain if data using **LIST "C"** or **LIST "B-Banner"**, switches off the computer, re-load and then **ENTER** the program using **ENTER "C"** or **ENTER "B-Banner"**. Save this version in the manual file.

HOW TO USE TYPO 3

1. Type in the listing carefully for, although you can use **TYPO 3** to check itself (see 6 below), it may not work if you have made mistakes.
2. **SAVE** or **CBSAVE** a copy of the program.
3. Each time you want to type in a program listing run **TYPO 3** first. The program will install a machine code routine in memory and then delete itself. Now type in a line as shown in the magazine, including the first two letter code, and press return.
4. A two letter code will appear at the top left of your screen. If this code matches the one in the magazine, carry on and type the next line. Note, the code will not match if you use abbreviations; if you prefer to use abbreviations, **LIST** the line you have just typed, move the cursor to that line and press **RETURN**. The code should now match.
5. If the code does not match, use the editing keys to correct the line and press **RETURN** again. Repeat if necessary until the codes match.
6. To check a line that you have already typed, **LIST** the line, place the cursor on that line and press **RETURN**.
7. When you have finished a listing, just **SAVE** or **CBSAVE** it in the normal way.

You can type in a program without using **TYPO 3** and then check it by **SAVE**ing or **CBSAVE**ing a copy of the program, running **TYPO 3** and then **LOAD**ing or **CBLOAD**ing your program and proceeding as in step 4 above.

Always **SAVE** or **CBSAVE** a program before running it and always use **TYPO 3** before testing so that a program will not run.

HOW TO TYPE IN THE LISTINGS AND GET THEM RIGHT FIRST TIME!

OUR UNIQUE LINE BY LINE CHECKER
WORKS ON ALL ATARI XL/XE
and earlier 8-bit machines

```
00 10 00H TYPO 3.0 by GILL BRADSHAW JAN 87
01
02 00 00H a great loader for 8000 and 800
03 H
04 00 00000000 H
05 10 00 00000 10 0000 0000 00000000
06 00 0 00000 0
07 10 0 0 00000000 0000 0000 0000 0000
08 00 00 00000000 0000 00000000
09 10 0 0 0 00000000 0000 00000000
10 00 00 00 00 00 00 00 00 00 00 00
11 00 00 00 00 00 00 00 00 00 00 00
12 00 00 00 00 00 00 00 00 00 00 00
13 00 00 00 00 00 00 00 00 00 00 00
14 00 00 00 00 00 00 00 00 00 00 00
15 00 00 00 00 00 00 00 00 00 00 00
16 00 00 00 00 00 00 00 00 00 00 00
17 00 00 00 00 00 00 00 00 00 00 00
18 00 00 00 00 00 00 00 00 00 00 00
19 00 00 00 00 00 00 00 00 00 00 00
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25 00 00 00 00 00 00 00 00 00 00 00
26 00 00 00 00 00 00 00 00 00 00 00
27 00 00 00 00 00 00 00 00 00 00 00
28 00 00 00 00 00 00 00 00 00 00 00
29 00 00 00 00 00 00 00 00 00 00 00
30 00 00 00 00 00 00 00 00 00 00 00
31 00 00 00 00 00 00 00 00 00 00 00
32 00 00 00 00 00 00 00 00 00 00 00
33 00 00 00 00 00 00 00 00 00 00 00
34 00 00 00 00 00 00 00 00 00 00 00
35 00 00 00 00 00 00 00 00 00 00 00
36 00 00 00 00 00 00 00 00 00 00 00
37 00 00 00 00 00 00 00 00 00 00 00
38 00 00 00 00 00 00 00 00 00 00 00
39 00 00 00 00 00 00 00 00 00 00 00
40 00 00 00 00 00 00 00 00 00 00 00
41 00 00 00 00 00 00 00 00 00 00 00
42 00 00 00 00 00 00 00 00 00 00 00
43 00 00 00 00 00 00 00 00 00 00 00
44 00 00 00 00 00 00 00 00 00 00 00
45 00 00 00 00 00 00 00 00 00 00 00
46 00 00 00 00 00 00 00 00 00 00 00
47 00 00 00 00 00 00 00 00 00 00 00
48 00 00 00 00 00 00 00 00 00 00 00
49 00 00 00 00 00 00 00 00 00 00 00
50 00 00 00 00 00 00 00 00 00 00 00
51 00 00 00 00 00 00 00 00 00 00 00
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69 00 00 00 00 00 00 00 00 00 00 00
70 00 00 00 00 00 00 00 00 00 00 00
71 00 00 00 00 00 00 00 00 00 00 00
72 00 00 00 00 00 00 00 00 00 00 00
73 00 00 00 00 00 00 00 00 00 00 00
74 00 00 00 00 00 00 00 00 00 00 00
75 00 00 00 00 00 00 00 00 00 00 00
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94 00 00 00 00 00 00 00 00 00 00 00
95 00 00 00 00 00 00 00 00 00 00 00
96 00 00 00 00 00 00 00 00 00 00 00
97 00 00 00 00 00 00 00 00 00 00 00
98 00 00 00 00 00 00 00 00 00 00 00
99 00 00 00 00 00 00 00 00 00 00 00
100 00 00 00 00 00 00 00 00 00 00 00
```

TYPO 3 READY TO RUN

If you prefer not to type in the listing above, you can obtain a copy of **TYPO 3** ready to run on cassette or disk for just £1.00 including postage. Send 1 pound or 1000 notes, or 10000 notes (order of Visa number), to the usual address. Be sure to state whether you want the disk or cassette version. **TYPO 3** is available from PAGE 3, P.O. Box 34, Shalford, S11 2SR. Telephone orders for payment by credit card accepted on 0755 212000.

JUNGLE HUNT

How many of you wish that they had a simple game that they could actually get some enjoyment? Whether for your own aging machines or a young child's play, **JUNGLE HUNT** could be the game you're looking for.

Savage cannibals have kidnapped your darling, and you must rescue her before they turn her into their latest take away meal. Struggling from rope to rope and leaping the cumbersome depths, you must rescue her before their cooking pot is ready for the final ingredient. Fast, and they may well have take extra ingredients for supper.

In the story of this game that was actually copyrighted in 1987, I remember first playing it on my Atari 2600 (about 8 years ago), and when I saw that Micro Discount had it in stock for my XL/XE, I had to get another copy. The action starts off in a jungle where all you see in front of you is a vine that you find you just have to jump to. Pressing the fire button will make you do this and you will

then see another vine, swinging in a different pattern. This will carry on for about another 10-20 vines when you will get to the next level, but don't expect this simple swinging task to be easy as a small error of judgement will send you crashing down in the jungle below.

On the next level you will find yourself swimming through the forest river but watch out as crocodiles are numerous and murky water can push you straight into their waiting jaws. If you should find a crocodile getting too close for comfort, a quick stab with your knife should do the trick, but do not rely on this as the success rate isn't very high. You will also need to keep an eye on your air gauge and come up for air whenever it gets a bit low. Should you get past this level, you will find yourself swimming along and dodging boulders by either jumping or sticking their faces out. This level is probably the easiest as I can usually get to it but die while trying to get past it.

At the final level you will be confronted with two of the cannibals who you must

jump over to reach your sweetheart. At this point you must jump and grab her at the right time or fall into the cooking pot yourself.

Although this game is often thought of as a game for young children, it has to be said that it is also quite a challenge for adults, especially on the harder skill levels. Even on the easiest skill level, I often can't complete the third level, which shows how challenging it really is. Alright, the graphics are very simple, and the sound consists only of little blips tunes. The game however, is great fun to play, and it should be considered a definite purchase for anyone with young children.

Don't expect flashy sounds or awards if you decide to buy this game, but do expect a game that your children will love and you will probably find yourself playing more often than you would care to admit.

Title: JUNGLE HUNT
Supplier: Micro Discount
Format: ROM
Price: £5.00
Reviewer: Kevin Cooke

MARIO BROS

Many of you may have seen the latest Mario games on the Nintendo consoles, and some of you may even own or wish you owned one of these consoles yourself. But how many of you know that the original Mario Bros. game is available for the Atari? Probably not many if you, the reason being that it has only recently appeared in the UK thanks to Micro Discount.

In case you don't know or have just come back from a holiday on Mars!, Mario and Luigi are a pair of plumbers whose antics are set in a plumbing system. Their task is to kill the various nasties that are preventing them from taking a bath (what I want to know is where they intend taking it!).

These creatures can only be disposed of by jumping up and thumping the ground directly beneath them, and then giving them a good kick to knock them out of the plumbing. Some of the later nasties may require more than one thump before they can be killed though, and as the levels get higher, you can bet that you'll

be introduced to more and more nasties. The nasties to kill are the SHELLCRUSHERS who only require one thump, but the more difficult FIGHTERFLYS will keep around making it more difficult to hit them. Another nasty to watch out for is the BOBBLE who may spin about the level to hinder your progress even more.

One helpful feature is the "you" block that you can hit, which will act as if you had just given all of the nasties in the level a punch. This can only be used three times though, so use it wisely. After completing every five levels, you are given a chance to collect all of the coins on the screen before the timer at the top runs out. Completing this will give you a new life bonus before putting you into the next level.

Alright, so the game's above are a little weird, but what is the actual gameplay like? Well, the graphics look just slightly disappointing at first, but this isn't quite so noticeable as you get into the game. The sound is also a little basic in rate based on the games title screen and

various other small sound effects in the game!, but the gameplay makes up for this as it is purely addictive, even if your character's speed is a bit frustrating. The two player option also makes the game better as it is a true two player game if you both play on the same playfield at once.

The main question of a game has to be "would I buy it again?". Well, it is a little expensive, but then again it is on ROM cartridge, so will last straight away without any problems. I probably would get it again, even if only to play a proper two player game. If you do buy it you can be sure of a challenging game, and something to come back to again and again.

Title: MARIO BROS.
Publisher: Atari Corp.
Supplier: Micro Discount
Format: £10.00
Price: ROM
Reviewer: Kevin Cooke

THE



TIPSTER

HEY?

THE

An index to games for which hints, tips, maps or solutions have been published in *The Tipster* column from issue 38 up to issue 66

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At times, it's not. No it's not the Tipster but the facts man himself. This issue I have decided to give The Tipster a rest, and to give you a little time to get some more hints, tips, cheats, maps and solutions coming in. Don't worry though because there is still a Tipster column, of sorts, this issue which may well turn out to be one of the most useful columns of all.

Over the past months several people have asked if we have published tips for certain games and, while I can state one fact, I couldn't remember where or when. So I went through with the idea of putting together an index for The Tipster's column. I was surprised to discover that The Tipster actually began life in issue 38 - that was back in June 1985, nearly four years ago! I was even more surprised to discover that, during that time The Tipster had published over 220 hints, tips, maps or solutions for no less than 224 different games! That's absolutely astonishing. Maybe one reason for the tip drying up in recent months is that we've already covered all of the games that most people are likely to come across!

Anyway, here is the promised index. It lists all of the games that have been covered and gives some further information if maps or complete solutions have been given. Of the rest, the hints or tips could range from a simple one line tip to a near complete exposé. It was an impossible task to give more detail in the index. Most of the magazines in which these columns appeared are still available on back issues so you can order them if your collection is incomplete.

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Wow, that's some list!

THE TIPSTER BOOK

Compiling this index has been an amazing insight into the depth of material that has been covered by The Tipster, material that would make a great reference book. So how about it? Would you be interested in buying The Tipster's Reference Book to Atari Games? (It might not be called that of course). To make it viable we would need to be able to sell at least 100 copies so we are asking you to write to us if you would be interested in buying a copy. If 20 people write to us to say they are interested then we will go ahead with the ultimate hints and tips book for the Atari Classic. If we don't get that many letters, then I'm afraid that it is a no go.

It's up to you - do you want it?

BACK NEXT ISSUE

The Tipster will be back with you next issue and the hints and tips are already rolling in, but we need more. One great thing about the index in this issue is that you can check the games which have not been covered. Do you have a game that is not included here? Can you give some hints or tips on how to play it? Maybe a map or a complete solution? Send it to us and we'll make other Atari users' lives more interesting. Start working on it now and get it to us quickly.

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That's right, many of the back issues are only £1 each - so check the index for the game you are stuck on and send money for the issue - you'll probably get a lot more besides!

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A QUAD DISK BONUS!

FOUR great programs to enjoy! A quiz program, an adventure and TWO arcade games. Something for all the family!

POP QUIZ

by David Preston



Do you think you know a thing or two about Pop Music? Try this pop quiz and you might well be left a little disappointed with the extent of your knowledge!

Pop Quiz presents you with a series of questions based on pop music of the past 30 years or so in a mixture of rounds of 10 questions each. There are 50 points on offer each round but you'll have to be top notch to score highly. Unlike many games which reward you with a choice of answers, this one requires you to type in your answer and, by applying a degree of artificial intelligence, will award you points even if you only get close to the correct answer. Once you have exhausted all the questions supplied you can add your own with a utility included.

Isn't the pop music? Well, this program can easily be adapted to any type of quiz, you just can just define the starting questions and add your own within the program. Use it a try for family fun or for a challenge during the local club or pub.

BREAKDOWN

by Peter Kirton

You are stuck and stuck inside your car, driving in terrible traffic conditions. You can see only about three metres ahead and the road is winding up a hill. You lose faith in your car as it starts to miss out and finally the motor stops altogether. It is raining and, in the distance to the right of your car, you can see a third light. Your battery is flat and nothing works. Perhaps someone at the nearby house can provide a spare battery. Little do you expect, the adventure is over before you regain the safety of your car.

This traditional text adventure comes from an Australian reader so you might need to know a thing or two about Aussie lingo as you try to find your way into the mysterious house. There again, maybe not. One thing is sure, you will need all your wits about you as you try to solve the many puzzles which abound.

BASE HUNTER



An enemy ship hides on the left side of the screen protected by a force field of pulsating rainbow patterns that ripples before it in the vacuum of space. Against a background of stars and alien planets your tiny craft has to penetrate the force field and destroy the enemy but the task proves harder than it seems.

The propulsion system on your craft is jammed so you can only control your position by constant maneuvering, firing on the fly at the force field and hoping that you will get a shot through. The gaps created also enable the enemy to shoot at you so you must be constantly aware of your position. Chances are that he will get you before you get him!

Base Hunter is a great little arcade game that is very challenging. If you can survive - and succeed - then you certainly have what it takes to be a great arcade player.

ELEVATOR REPAIRMAN



For a simple diversion try and get the elevator repair man up to the top of the building to fix those darn elevators that keep going up and down without stopping. Trouble is that he will have to climb the ladders to the top as he can't stop the lifts and the ladders are either side of the building. This means that he'll have to dodge the lifts on every floor and it isn't easy!

Elevator Repair Man is a simple game that is hard to play and will provide many an hour of challenge and enjoyment to players of all abilities.

THIS QUAD-DISK BONUS is available on the issue 87 disk which disk subscribers will receive with their magazine. The disk is also available separately for just \$29.95. For your copy of the above programs, plus all of the other programs from this issue ready to run, send your cheque or postal order for \$29.95 to Page 6, P.O. Box 24, Stirling, G71 4BB. Or you can order with Access or Visa by post or by telephoning 0955 219995.

SOUNDTRACKER

2.0

Les Ellingham turns off the CD to listen to sampled sound from the Atari Classic

One of the most beneficial effects that the ST and Amiga have had on the Atari 8-bit is in pushing the capabilities of the machine way beyond what was previously thought possible. Almost every aspect of the 8-bit has been pushed beyond previous boundaries in recent years and sound sampling is one such area.

Although there were some experiments in sound sampling in the early days, notably through the Format samples, most users, and developers, felt that the limited memory of the 8-bit was capable only of a few seconds of sampled sound. Now, thanks to the borrowing of techniques pioneered on the ST, sampled sound is readily available on your Atari Classic although it still has some limitations.

SoundTracker is a sample player and converter developed by A.N.S. Software in Holland and Mirage of Poland which can play, or convert, MOD files created on ST, Amiga or IBM machines. MOD files are complete tunes that have been sampled and edited to give, usually, quite long pieces. They may not exactly recreate the originals as the samples are cut about and repeated to extend their playing time on limited memory machines (even 1 Megabyte on the ST is limited for proper sampling purposes), but they are generally recognizable.

WHAT'S IT FOR?

Sound modules are strange things that seem to serve no other purpose than to let an Atari owner declare "Wow, I didn't know my computer could do that" or "Look how great my computer is". I cannot figure out what else a couple of minutes of sampled music does. It merely can't be the interesting pleasure as a CD, cassette or even a portable transistor radio can knock spots off any sampled music available on a home computer. Am I missing something?

As far as the Atari Classic goes, the pride in having a very capable computer (in memory terms) levels out several minutes of properly sampled sound is indeed justified and SoundTracker is a good tool to impress your mates with. The first time you hear it, you will be amazed but after that the thrill quickly fades. There is a certain excitement in seeking

out more 'modules' to try and hear just how great your Atari is but I'm not sure how long the interest will last.

QUALITY OF SOUND AND PRESENTATION

The quality of sound from SoundTracker is generally, but not always, very good, considering the necessary limitations of the computer, but it can't be appreciated on paper, you just have to listen to it. Quality of presentation is another matter.

SoundTracker is presented in full-colour 'wrap around the disk' packaging which is fine given the limited market nowadays but a little more thought could have been given to the instructions. Seeing as the program does nothing more than play or convert sound samples you might think that very little instruction is needed, and so do the authors. Most of what you need to know but it is so annoying when simple instructions are omitted. The disk boots up to an introduction screen which just hangs there, nothing tells you that you have to press START. You are then presented with a simple choice of three options: Play samples, or convert MOD files in either SMI or IBM. You select option 1 and a very small menu appears in the middle of the screen with a one line instruction stating 'ESC - menu SPACE for Directory'. You press the space bar and ... nothing happens. Somehow else it tell you that the MOD files are on the back of the disk. Once you have flipped the disk and pressed the space bar again a choice of three modules appears, one of which you can select and load by using the cursor keys and Return.

Your choice on the main disk is SMI, FLEPCB or SLE. No further information is given so you select one hoping that you will learn more when it loads. The sample loads in and is ready to play but you still don't know what tune you are going to hear, maybe the graphics will help? No luck as the graphics consist only of a sort of vertical metronome that flashes in time with the music. To be honest you are lucky to get any graphics at all given the fact that almost all the memory is engaged in processing the sample, but it would still be nice to know what tune you are supposed to be listening to. It only is just how good it should be.

Maybe you think this is just nit-picking but it would have been so easy to give some information on the instruction sheet. Even the names of the tunes would help but the whole pack-



Dean Garraghty Software

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SEND A CONTRIBUTION!

Remember it's your contributions that keep New Atari User alive. Whether it's a set of mini programs like those in previous issues or a comprehensive technical article, or an arcade game we need to be able to give other Atari users the opportunity to enjoy your work. Look out your programs, polish them up and send them in!

you would have much more appeal if it gave details of what the samples were, where they came from and how they were processed. Simple details like this add a degree of professionalism to commercial software but are, sadly, all too often missing nowadays.

MORE SAMPLES

Have you been interested in the three samples provided in the program disk you can purchase additional MOD disks and three are available so far. Each of these is double sided but my criticisms of the lack of information provided with the main program apply doubly so with the extra modules.

With these data disks you get a photocopied sheet of packaging to which the disk envelope is stuck and an instruction or information other than 'For use with Soundracker version 2 only!' The lack of the package even has the words 'PO Disk' misspelled by a sticker saying 'DISK' FM Software! I know that packaging costs money, but a little thought and care costs nothing and it would be an easy process these commercial offerings in a more professional way.

The Atari Classic versions of MOD files are 'MEW' files and an 'MEW' file 1 you get an envelope with an introduction of all, and even the filenames which can only be obtained from DOS on the Soundracker screen. Some names can be worked out like 'WIKELDAN' or 'WIKELIGHT' but what on earth is 'EET' I played it and I still haven't got a clue! 'MEW' file 2 gives you another six files and 'MEW' file 3 gives you seven more. The same criticisms apply to these, what is 'PLM' or 'SP?'

I would love to know what these various samples are, where they came from, how they were created but I am left guessing. I suspect that the publishers don't know themselves having

merely downloaded them from a bulletin board and run them through the converter.

The quality varies from sample to sample, presumably due to the equipment and care taken in sampling the original. The shorter files are of good quality but some longer files like the mysterious 'YOS' sound rather like a badly tuned radio.

STILL WORTHWHILE?

Many of the comments in this review have been quite negative but, I believe, rightly so. A commercial offering should have a degree of care and attention paid to it. There is nothing wrong with the Soundracker program itself, it does exactly what it is supposed to, but it is a 'bare bones' program that could be greatly enhanced with some disk presentation.

Is it worth buying? Well, if you are fascinated by the prospect of hearing sampled sound on your humble Atari Classic then Soundracker cannot be faulted. If you want more, then the module disks are essential unless you have access to an ST or Amiga with the ability to put files across to your Atari. If you have you can convert files yourself the free.

If you love your Atari to bits then you might well want to hear what the little fellow can do when the sound chip is pushed to the limits. Expect to be amazed but don't expect to come back here and time again like you would with a good game. Good as it is, a budget CD will beat sampled computer sound any day - and that goes for the ST and the Amiga too!

SOUNDTRACKER 2.0 is available from Micro Discount at £6.95 or direct from A.K.G. Micro Discount can also supply you with the additional module disks

SOFTWARE CLASSICS ★

Much Classic software has now disappeared but Mark Stinson concentrates on the classics of Atari software that have one vital difference - they are still available!

RESCUE ON FRACTALUS

Rescue on Fractalus is probably the most famous game released on the Atari Classic format, it got started by thousands of Atari fans. Many Classic owners would vote this one to be the game on the Atari 512k, a sentiment I agree with completely.

Rescue on Fractalus was produced by Lucasfilm Games, and was originally released in the mid 1990's. I bought the cassette version when it was first released and spent many, many hours glued to my joystick. The game is now available on ROM from the Page 5 Accessory Shop. I was always happy to wait the long lead time for this game, but now I have the ROM version it is pretty well in constant use.

The game is set amidst a life and death struggle which is raging through the galaxy. The hostile Juggi race are threatening the future security and peace of the entire galaxy. This threat has now become critical as the Juggi have dug in on the indefensible planet known as Fractalus. Elsewhere pilots were building their own against the Juggi, but since the digging in on Fractalus, large numbers of pilots have been taken out by the enemy. It is our job to take lightly armed rescue vessels



Rescue on Fractalus is regarded by many as the best Atari game ever!

down to the planet surface and rescue the downed pilots.

A mother ship takes air pilots to within booster range of the planet's surface, but from the moment we enter the planet's atmosphere we are on our own. The mission is very difficult, and very dangerous. The Juggi have installed gas emplacements on mountain tops. Flying in the formidable terrain of Fractalus is difficult enough, but then coping with the Juggi defenses makes the most seasoned of pilots uneasy prey. On top of this there are programmed sensors which lock on to ships and can inflict serious damage if not destroyed before impact. *Rescue on Fractalus* is a real test of your skills.

Once play is underway you find yourself in the cockpit, with a control panel and viewports above. The viewports present a panoramic view of the planet as the craft is guided by the pilot. There are a few game controls to learn, though thankfully not many. These are for thrust, burners, weapons, systems, landing, and air lock. There is also a visual read out for a number of functions such as altitude, artificial horizon, compass, gas rights, shields, long range sensor, pilot range indicator, energy level, wing clearance, and a targeting scope. The targeting scope is particularly useful for slipping the ship to attack or targets before they are in visual range.

The game offers a great many levels of mission difficulty. The selected level affects the number of pilots to rescue, and whether or not night flight will be necessary. Once you reach or select level 18 you have to contend with both day and night flight, as the planet rotates so fast that it only has nine minute days. Coping with the mission in complete darkness is extremely difficult, and must be completed using instruments.

You must use your long range sensors to locate ships which have crashed on the planet surface. These usually contain stranded pilots. Try to destroy any gas emplacements nearby and then land within a short range of the stranded ship. If you do not destroy enemy guns they can lock on to you while you are grounded and unable to defend yourself. All being well you will have landed within pilot range of the stranded ship, and you then turn off your systems. This alerts the stranded pilot to your presence and he or she will make their way to you. This is where the programmed flashing beacons make this game a classic. You watch as a little dot in the distance gets bigger and bigger, until a pilot can be seen running towards you. Once the pilot arrives he or she jumps on the air lock door. You should now open the air lock to let the pilot on board. If you don't, the beeping continues but shows as the

pilot dies gradually in the cyanide acid atmosphere! If you turn on your systems inadvertently you can also fry the pilot instantly. Be warned, some ships contain eggs. I nearly died with fright when instead of the usual beeping of the pilot, a huge and very ugly alien appeared, waving the steamroller and started to smash his way in. Only one thing to do, fly him!

There is too much in this game for me to do justice to in this review, but rest assured, this is a classic if there ever was one. The programmers have put real effort into this game, and it shows. The game is simply of the very best quality, and I cannot find any single reasons for complaint. The outcome of the programmers' attention to detail allows the game to pass the ultimate test ... this game is addition at its highest. If you don't see it, you are missing a true classic.

SPACE WARS

Space Wars is a budget offering from Byte Back, a software publisher that released a number of good quality budget games before going the way of most other Classic supporters.

The game is based on the usual 'blast em first and worry later' philosophy, a point which is acknowledged as the play, after a little tongue-in-cheek. In fact, the whole scenario for the game is set out in this fashion: the play opening with 'Out to the dark depths of space lurked a race of beings so respectably stumpy and venerable, they wouldn't even talk to each other. Their whole society was based on passing notes around and using computers to calculate who had been the coolest that day. Games were out'. The scenario goes on to explain that after an ambassador from Earth was caught playing a computer game he was behemoed and war declared.

In the game you control one powerful war ship, and only one. Once you have been destroyed that's it, no second or third shot to continue with. Instead of three ships you get a shield which can (theoretically) withstand a fair battering before leaving you completely unprotected.

After boosting the cassette you are sent to face the first wave of enemies, shield intact and trigger finger at the ready. Alien ships or bombs drop down the screen from above as the pace starts off frantic and gets worse! These enemies drop down at you, drop off the screen and sometimes come back for a second shot from behind. Thankfully every three aliens (the good) and if you are lucky enough to keep your shields and ship intact through the onslaught you zoom up the screen through a wave computer's barrier. The next stage is an asteroid belt which you have to navigate through each time you successfully complete a level. From here on in the action gets madder, and the 'The Man' (alias) threatens to real your game. No worries here please, this one is tough.

The game does differ slightly from many other shoot-em-ups in that some aliens contain special prizes. These are usually bonus points, but some can affect the game. In this respect the

game is similar to Jetpack. For example, some aliens contain a 'star' attribute, making other aliens easier to kill.

The final verdict is that this may be similar to other games you have, but it is still a worthwhile addition to any overall collection, especially at the price. It is also Unbreakable: SE Micro System, Standard tape read, 3 stages.

TRIVIAL PURSUIT

The board game, Trivial Pursuit, is widely known to everybody. It has become the favourite of many people, both for general family fun and for entertaining guests. It had to be only a matter of time before a computer house took the basic concept of the game and ported it to computer. Donkey took the honours, and the disk version for the Atari Classic was the result. All credit must go to Donkey for producing an excellent game which can give hours of amusement.

The basic game is so different to the board game, so those of you that have played Trivial Pursuit will soon adapt to its computer equivalent. For those of you that haven't played the game, a brief explanation is in order. You are presented with a board of different coloured locations, including a central hub and six outer controlling sections. You choose a tile for a start on the computer version and select an appropriate square to move to. To move on you must answer a subject question, determined by the colour of the square you are on (unless you land on a '1000' square). The object of the game is to visit each of the six special squares and answer a question correctly, then return to the hub and answer the final question to win.

In my opinion, the computer version captures the board game without doubt. The computer allows much greater flexibility in play by use of graphics and music. For example, some questions in the computer game involve naming a piece of music played by the computer, or identifying a country (unless displayed graphically on screen). Also available are instant statistics for current state of play, and even a graphical representation of the ratios of questions answered correctly by each player. A masterpiece of programming brings you an extremely playable game which can be enjoyed by the whole family.

Special attention to detail on the computer version adds substantially to the atmosphere of the game. The question Master is a little animated man called TP, who walks from the view of the board in his ability to ask the questions. If you take too long to answer the questions put by TP he gets a little impatient and starts to tap his foot. If he asks a trivia question, he walks over to his screen and plays it; you can even see a mini graphic equivalent of words! Questions involving a graphic display are shown on a portable movie screen, and game length is measured by a lit candle as TP's study!

The game has to be seen to be believed and is a tribute to its programmers, who produced such a high quality piece of work. I have absolutely no hesitation in recommending this one - its brilliant.

REVIEWED THIS ISSUE

RESCUE ON FRACTALUS

Publisher: Atari
Price: £7.95
ROM only

SPACE WARS

Publisher: Byte Back
Price: £3.95
Cassette only

TRIVIAL PURSUIT

Publisher: Donkey
Price: £2.95
Disk only

All these titles are currently available from the PAGE 6 ACCESSORY SHOP and some may be available from other advertisers.

reviewed by
Mark Stinson

ADDING NEW COMMANDS TO ATARI BASIC

If you are fascinated by the additional commands available in Turbo Basic, you might like to know whether you can extend Atari Basic yourself. Well, Len Golding knows how to do it and shares the secrets with you.

SNEAKING PAST BASIC

First, how can we sneak a word like DISK past Basic, without triggering the error message? The answer is that we write a routine which intercepts the command before Basic sees it, executes our own command, then changes the command word into a nice straightforward MEM before handing it on. This way Basic gets thinking that you've just typed "MEM" and let it carry on, so it obediently prints "READY" and forgets the whole thing, never suspecting what's been going on behind its back.

Intercepting the command is a bit tricky, since we have to modify the Display Editor. This is a "device handler" in the operating system, whose function is to control data transfers between keyboard and screen. It's in ROM, so we can't alter it directly, but it can be copied into RAM, where modifications are easy to make.

Every device handler has a table of pointers, called a "vector table". This tells it where to find the various routines which it might need - routines such as Open, Close, Get characters, Put characters and so on. Just below this, called HATABS, holds the addresses of all the vector tables. Every time a handler routine is called, the operating system first examines HATABS to find the appropriate vector table. Then examines that vector table to locate the specific routine it needs.

Whenever you press RETURN, the Operating System calls the Editor handler via HATABS, looks to see which line the cursor is on, then uses the Editor's GET CHARACTERS routine to copy the whole of that logical line from the screen into a buffer. Basic then examines the buffer to discover what you've typed, sorts through its vocabulary to find a matching word or words and takes appropriate action.

To intercept this process, we must first write a new GET CHARACTERS routine, and store it safely somewhere in RAM. Then we copy the Editor's vector table from ROM into RAM, where we can change it easily. The third address in this vector table points to the Editor's normal GET CHARACTERS routine, and we alter this so that it now points to the new routine we've written. Finally we change HATABS (which is already in RAM) so that every time the Editor is called, it jumps to our new vector table rather than the original ROM one.

The new routines are protected by changing the MEMLO pointer, to ensure access at the low end of our RAM. This means that our operations will always occupy the same area regardless of the host computer's memory size, so we can use

Atari Basic is a masterpiece of compactness, but it lacks several useful commands. There's no line-number, Auto-number or Delete, for example, and no direct access to DISK entries without loading the entire DISKSYS package. You can, of course, write your own machine code routines to add a few of these features, but they would normally need to be accessed through the USR function - a rather cumbersome and error-prone technique.

Wouldn't it be nice to simulate commercial toolkit programs, and just type REN or DEL or DIR whenever you want one of the new routines? The problem is, of course, that Basic will usually give you ERROR 12 if you try to type any word which is not in its vocabulary. And Basic lives in ROM, so you can't alter it in any way. So how is it possible to insert new commands?

To understand the answer, you'll need to know a fair amount about machine code, and quite a bit about the Atari's operating system, so the technique is not for beginners. Also, it's not really suitable for casual users, because of the inconvenience of having to load a lengthy, unformatted tape before you can do any programming. But for the growing army of machine-code programmers with their drives, here's how to add your own direct-mode commands to Atari Basic.

HANDS ON TO BASIC

non-editable machine code. Typing **NEW** won't erase it, and we can easily make it immune to **RESET**.

A READY WRITTEN ROUTINE

Now take a look at the source listing. Everything from line 180 to line 700 - except for the **JOB QODOS** at line 200 - is executed during power-up. The **COLDST** section traps the **RESET** routine and copies the Editor's vector table from ROM into RAM, at a place we've called **NEWTAB**.

Everything from **WARMST** to line 780 is executed again whenever you press **RESET**. It starts by doing the normal **DOCS** initialization, then changes the screen buffer colour, so that you get a "full screen" effect. This is a convenient way of reminding you that the new routines are installed and ready for action. The rest of **WARMST** ensures that various pointers stay as you want them. Despite the **RESET** routine, the **HNTAB** entry is altered at line 550, and the **GET CHARACTERS** pointer inside our new vector table is changed at line 570.

Whenever a key is pressed, the OS jumps through **HNTAB** to **NEWTAB**, and thence to our new **GET CHARACTERS** routine at line 600. This starts by executing the original **GET CHARACTERS** routine in ROM, then checks whether it was the Return key which set things moving. If so, **ENGINE** scans all the values which will need to be restored when control is eventually handed back to Basic, then **SETVEC** uses sub-routine **TRNT** to see whether the test buffer contains one of our new commands. If not, it lets Basic have the unchanged line for processing as usual.

If **TRNT** finds the command in **COMTAB** (line 1300), it stores its address in a page zero pointer (**COMPTR**). Lines 1000 to 1100 have this address into the operand of **JOB EXECUTE**, so that line 1170 produces a **JOB** to the routine which implements that particular command.

ERASE (line 1100) forces the test to **LEAVE** into a full stop - Basic's abbreviation for **REM** - followed by a carriage return. Then all flags and registers are restored to their original values, and the simulated **REM** statement is passed to Basic for processing. This results in the normal "READY" message

Source Code Listing overleaf

All our new commands are held in a table starting at line 1300. Entries can vary in length, but they all start with the two-byte address of their corresponding routine. This is followed by the command name in ASCII code, with the last letter typed in reverse to indicate end-of-entry. You can easily add new command names of your own, but the table must end with 0, and line 1500 puts three in the good measure.

All general all commands except **END**, **END** and **END** jump straight to **RTS** instructions. You won't get an error message if you type any of these, but of course nothing will happen until you insert appropriate routines.

The **DIR** command - line 1800 - illustrates the kind of routine you will need to write. It starts by checking that the next non-blank character after the command "DIR" is a carriage return. Anything else means that there's a syntax error, so the routine exits via **ERRORS**, storing an error number at the address labelled **ERRNO** (line 240).

If the command is acceptable, **DIR** first checks channel 1, then re-opens it to read the directory from Disk 1. Since we've asked it to search for "D*" (line 2000), all records in the directory will be printed, along with the "line number" figure.

The **RTS** at line 2320 sends us back to **ERASE** (line 1100), where the test buffer is changed to simulate a **REM** statement, then Basic is allowed to take control.

AUGMENTING EXISTING COMMANDS

NEW and **DOCS** illustrate a different kind of command. These words already exist in Basic's vocabulary, so we've just augmented their normal routines. **NUMBER** (line 1800) simply restores the default buffer colour, and **INDEX** (line 1700) restores default values for **SCREEN** and the Editor error table.

But in both these cases Basic must now carry on processing the command, so we can't do an **RTS** to **ERASE**. Instead, two **PLA** instructions restore the return address from the previous stack, then **JOB HANDLEACK** gives control to Basic without affecting the test buffer. This means that Basic will receive the

continued on page 37

Adding Commands to Atari Basic

Draw the letters "length counter"

Change the Editor's entry to 000000
so that it points to our new number
table at 000000

Change the Editor's entry to point
to our new table

Point the address of the original
BASIC's routine into the spot of
our 000000 table

```

0000 000000
0010 000000
0020 0000000000
0030 0000000000
0040 0000000000
0050 0000000000
0060 0000000000
0070 0000000000
0080 0000000000
0090 0000000000
0100 0000000000
0110 0000000000
0120 0000000000
0130 0000000000
0140 0000000000
0150 0000000000
0160 0000000000
0170 0000000000
0180 0000000000
0190 0000000000
0200 0000000000
0210 0000000000
0220 0000000000
0230 0000000000
0240 0000000000
0250 0000000000
0260 0000000000
0270 0000000000
0280 0000000000
0290 0000000000
0300 0000000000
0310 0000000000
0320 0000000000
0330 0000000000
0340 0000000000
0350 0000000000
0360 0000000000
0370 0000000000
0380 0000000000
0390 0000000000
0400 0000000000
0410 0000000000
0420 0000000000
0430 0000000000
0440 0000000000
0450 0000000000
0460 0000000000
0470 0000000000
0480 0000000000
0490 0000000000
0500 0000000000
0510 0000000000
0520 0000000000
0530 0000000000
0540 0000000000
0550 0000000000
0560 0000000000
0570 0000000000
0580 0000000000
0590 0000000000
0600 0000000000
0610 0000000000
0620 0000000000
0630 0000000000
0640 0000000000
0650 0000000000
0660 0000000000
0670 0000000000
0680 0000000000
0690 0000000000
0700 0000000000
0710 0000000000
0720 0000000000
0730 0000000000
0740 0000000000
0750 0000000000
0760 0000000000
0770 0000000000
0780 0000000000
0790 0000000000
0800 0000000000
0810 0000000000
0820 0000000000
0830 0000000000
0840 0000000000
0850 0000000000
0860 0000000000
0870 0000000000
0880 0000000000
0890 0000000000
0900 0000000000
0910 0000000000
0920 0000000000
0930 0000000000
0940 0000000000
0950 0000000000
0960 0000000000
0970 0000000000
0980 0000000000
0990 0000000000
1000 0000000000

```

```

10 00000000
11 00000000
12 00000000
13 00000000
14 00000000
15 00000000
16 00000000
17 00000000
18 00000000
19 00000000
20 00000000
21 00000000
22 00000000
23 00000000
24 00000000
25 00000000
26 00000000
27 00000000
28 00000000
29 00000000
30 00000000
31 00000000
32 00000000
33 00000000
34 00000000
35 00000000
36 00000000
37 00000000
38 00000000
39 00000000
40 00000000
41 00000000
42 00000000
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81 00000000
82 00000000
83 00000000
84 00000000
85 00000000
86 00000000
87 00000000
88 00000000
89 00000000
90 00000000
91 00000000
92 00000000
93 00000000
94 00000000
95 00000000
96 00000000
97 00000000
98 00000000
99 00000000
1000 00000000

```

```

10 00000000
11 00000000
12 00000000
13 00000000
14 00000000
15 00000000
16 00000000
17 00000000
18 00000000
19 00000000
20 00000000
21 00000000
22 00000000
23 00000000
24 00000000
25 00000000
26 00000000
27 00000000
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30 00000000
31 00000000
32 00000000
33 00000000
34 00000000
35 00000000
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39 00000000
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75 00000000
76 00000000
77 00000000
78 00000000
79 00000000
80 00000000
81 00000000
82 00000000
83 00000000
84 00000000
85 00000000
86 00000000
87 00000000
88 00000000
89 00000000
90 00000000
91 00000000
92 00000000
93 00000000
94 00000000
95 00000000
96 00000000
97 00000000
98 00000000
99 00000000
1000 00000000

```

Adding Commands to Atari Basic

```

1070 GOTO 1070
1080 GOTO 1080
1090 GOTO 1090
1100 GOTO 1100
1110 GOTO 1110
1120 GOTO 1120
1130 GOTO 1130
1140 GOTO 1140
1150 GOTO 1150
1160 GOTO 1160
1170 GOTO 1170
1180 GOTO 1180
1190 GOTO 1190
1200 GOTO 1200
1210 GOTO 1210
1220 GOTO 1220
1230 GOTO 1230
1240 GOTO 1240
1250 GOTO 1250
1260 GOTO 1260
1270 GOTO 1270
1280 GOTO 1280
1290 GOTO 1290
1300 GOTO 1300
1310 GOTO 1310
1320 GOTO 1320
1330 GOTO 1330
1340 GOTO 1340
1350 GOTO 1350
1360 GOTO 1360
1370 GOTO 1370
1380 GOTO 1380
1390 GOTO 1390
1400 GOTO 1400
1410 GOTO 1410
1420 GOTO 1420
1430 GOTO 1430
1440 GOTO 1440
1450 GOTO 1450
1460 GOTO 1460
1470 GOTO 1470
1480 GOTO 1480
1490 GOTO 1490
1500 GOTO 1500
1510 GOTO 1510
1520 GOTO 1520
1530 GOTO 1530
1540 GOTO 1540
1550 GOTO 1550
1560 GOTO 1560
1570 GOTO 1570
1580 GOTO 1580
1590 GOTO 1590
1600 GOTO 1600
1610 GOTO 1610
1620 GOTO 1620
1630 GOTO 1630
1640 GOTO 1640
1650 GOTO 1650
1660 GOTO 1660
1670 GOTO 1670
1680 GOTO 1680
1690 GOTO 1690
1700 GOTO 1700
1710 GOTO 1710
1720 GOTO 1720
1730 GOTO 1730
1740 GOTO 1740
1750 GOTO 1750
1760 GOTO 1760
1770 GOTO 1770
1780 GOTO 1780
1790 GOTO 1790
1800 GOTO 1800
1810 GOTO 1810
1820 GOTO 1820
1830 GOTO 1830
1840 GOTO 1840
1850 GOTO 1850
1860 GOTO 1860
1870 GOTO 1870
1880 GOTO 1880
1890 GOTO 1890
1900 GOTO 1900
1910 GOTO 1910
1920 GOTO 1920
1930 GOTO 1930
1940 GOTO 1940
1950 GOTO 1950
1960 GOTO 1960
1970 GOTO 1970
1980 GOTO 1980
1990 GOTO 1990
2000 GOTO 2000

```

Insert a CR character to mark the end of the string in LINE.

If a string contains a character in a CR, it is a blank line, so ignore it. Set up for the next routine.

Search CHR\$(1) for the command. If it is a string, it's not there.

Parse the address of the appropriate routine into the address of the DOGOUT.

Do the new command.

Now the line into a DOG statement.

Zero the length counter.

Ready for the next line.

Advance initial flag and register values.

Send a CR.

and return control to the Editor.

If it wasn't one of our new commands, then let the Editor have it.

Now CHR\$(1) contains all your new commands address table, then the command word itself.

CHR\$(1) is the address of the routine (eg. a table entry) and followed by a string of ASCII characters ending up the command word itself (eg. "PRINT").

END -DOGS DOGS

```

1000 GOTO 1000
1010 GOTO 1010
1020 GOTO 1020
1030 GOTO 1030
1040 GOTO 1040
1050 GOTO 1050
1060 GOTO 1060
1070 GOTO 1070
1080 GOTO 1080
1090 GOTO 1090
1100 GOTO 1100
1110 GOTO 1110
1120 GOTO 1120
1130 GOTO 1130
1140 GOTO 1140
1150 GOTO 1150
1160 GOTO 1160
1170 GOTO 1170
1180 GOTO 1180
1190 GOTO 1190
1200 GOTO 1200
1210 GOTO 1210
1220 GOTO 1220
1230 GOTO 1230
1240 GOTO 1240
1250 GOTO 1250
1260 GOTO 1260
1270 GOTO 1270
1280 GOTO 1280
1290 GOTO 1290
1300 GOTO 1300
1310 GOTO 1310
1320 GOTO 1320
1330 GOTO 1330
1340 GOTO 1340
1350 GOTO 1350
1360 GOTO 1360
1370 GOTO 1370
1380 GOTO 1380
1390 GOTO 1390
1400 GOTO 1400
1410 GOTO 1410
1420 GOTO 1420
1430 GOTO 1430
1440 GOTO 1440
1450 GOTO 1450
1460 GOTO 1460
1470 GOTO 1470
1480 GOTO 1480
1490 GOTO 1490
1500 GOTO 1500
1510 GOTO 1510
1520 GOTO 1520
1530 GOTO 1530
1540 GOTO 1540
1550 GOTO 1550
1560 GOTO 1560
1570 GOTO 1570
1580 GOTO 1580
1590 GOTO 1590
1600 GOTO 1600
1610 GOTO 1610
1620 GOTO 1620
1630 GOTO 1630
1640 GOTO 1640
1650 GOTO 1650
1660 GOTO 1660
1670 GOTO 1670
1680 GOTO 1680
1690 GOTO 1690
1700 GOTO 1700
1710 GOTO 1710
1720 GOTO 1720
1730 GOTO 1730
1740 GOTO 1740
1750 GOTO 1750
1760 GOTO 1760
1770 GOTO 1770
1780 GOTO 1780
1790 GOTO 1790
1800 GOTO 1800
1810 GOTO 1810
1820 GOTO 1820
1830 GOTO 1830
1840 GOTO 1840
1850 GOTO 1850
1860 GOTO 1860
1870 GOTO 1870
1880 GOTO 1880
1890 GOTO 1890
1900 GOTO 1900
1910 GOTO 1910
1920 GOTO 1920
1930 GOTO 1930
1940 GOTO 1940
1950 GOTO 1950
1960 GOTO 1960
1970 GOTO 1970
1980 GOTO 1980
1990 GOTO 1990
2000 GOTO 2000

```

This routine will go there, do possibly all the commands (except TAB, END and END) and go back to the DOG instructions.

This routine will parse the default number value, then search the command "DOG" table to the DOGS, for processing.

Calling DOG-DOGS erases everything. This routine returns default values for DOGS1 and DOGS2 vectors before DOG-DOGS is loaded.

Now ready the command DOG for the Editor for processing.

Now that there is

Adding Commands to Atari Basic

```

2000 PRINT
2010 GOTO 1000
2020
2030 REMARK
2040 PRINT THE LAST LINE OF SCREEN, AND ERASE OVER ANY OTHER SCREENS.
2050 USE TABS, LIGHT CHARACTERS OR SPACEBARS, AND GRAPH POINTS TO
2060 SHOW EXACT CHARACTER FOR POSITIONING
2070
2080 LOW GRAPH
2090
2100 REMARK
2110 PRINT CHARACTERS
2120 IN IT A SPACE?
2130 GOTO 400
2140 END
2150
2160 REMARK
2170 PRINT, GOTO 400 TO NEXT CHARACTER
2180
2190
2200 REMARK
2210 PRINT GRAPH
2220 PRINT GRAPH, A BOLD VALUE
2230 GOTO 400
2240 REMARK
2250 PRINT GRAPH
2260 PRINT GRAPH, A BOLD CHARACTER
2270 GOTO 400
2280
2290 REMARK
2300 PRINT, THEN SET CARRY
2310
2320 REMARK
2330 PRINT, THEN SET CARRY
2340
2350 REMARK
2360 PRINT, THEN SET CARRY
2370
2380 REMARK
2390 PRINT, THEN SET CARRY
2400
2410 REMARK
2420 PRINT, THEN SET CARRY
2430
2440 REMARK
2450 PRINT, THEN SET CARRY
2460
2470 REMARK
2480 PRINT, THEN SET CARRY
2490
2500 REMARK
2510 PRINT, THEN SET CARRY
2520
2530 REMARK
2540 PRINT, THEN SET CARRY
2550
2560 REMARK
2570 PRINT, THEN SET CARRY
2580
2590 REMARK
2600 PRINT, THEN SET CARRY
2610
2620 REMARK
2630 PRINT, THEN SET CARRY
2640
2650 REMARK
2660 PRINT, THEN SET CARRY
2670
2680 REMARK
2690 PRINT, THEN SET CARRY
2700
2710 REMARK
2720 PRINT, THEN SET CARRY
2730
2740 REMARK
2750 PRINT, THEN SET CARRY
2760
2770 REMARK
2780 PRINT, THEN SET CARRY
2790
2800 REMARK
2810 PRINT, THEN SET CARRY
2820
2830 REMARK
2840 PRINT, THEN SET CARRY
2850
2860 REMARK
2870 PRINT, THEN SET CARRY
2880
2890 REMARK
2900 PRINT, THEN SET CARRY
2910
2920 REMARK
2930 PRINT, THEN SET CARRY
2940
2950 REMARK
2960 PRINT, THEN SET CARRY
2970
2980 REMARK
2990 PRINT, THEN SET CARRY
3000

```

```

3010 LOW GRAPH, A
3020 GOTO 1000
3030
3040 REMARK
3050 PRINT THE LAST LINE OF SCREEN, AND ERASE OVER ANY OTHER SCREENS.
3060 USE TABS, LIGHT CHARACTERS OR SPACEBARS, AND GRAPH POINTS TO
3070 SHOW EXACT CHARACTER FOR POSITIONING
3080
3090 LOW GRAPH
3100
3110 REMARK
3120 PRINT CHARACTERS
3130 IN IT A SPACE?
3140 GOTO 400
3150 END
3160
3170 REMARK
3180 PRINT, GOTO 400 TO NEXT CHARACTER
3190
3200
3210 REMARK
3220 PRINT GRAPH
3230 PRINT GRAPH, A BOLD VALUE
3240 GOTO 400
3250 REMARK
3260 PRINT GRAPH
3270 PRINT GRAPH, A BOLD CHARACTER
3280 GOTO 400
3290
3300 REMARK
3310 PRINT, THEN SET CARRY
3320
3330 REMARK
3340 PRINT, THEN SET CARRY
3350
3360 REMARK
3370 PRINT, THEN SET CARRY
3380
3390 REMARK
3400 PRINT, THEN SET CARRY
3410
3420 REMARK
3430 PRINT, THEN SET CARRY
3440
3450 REMARK
3460 PRINT, THEN SET CARRY
3470
3480 REMARK
3490 PRINT, THEN SET CARRY
3500
3510 REMARK
3520 PRINT, THEN SET CARRY
3530
3540 REMARK
3550 PRINT, THEN SET CARRY
3560
3570 REMARK
3580 PRINT, THEN SET CARRY
3590
3600 REMARK
3610 PRINT, THEN SET CARRY
3620
3630 REMARK
3640 PRINT, THEN SET CARRY
3650
3660 REMARK
3670 PRINT, THEN SET CARRY
3680
3690 REMARK
3700 PRINT, THEN SET CARRY
3710
3720 REMARK
3730 PRINT, THEN SET CARRY
3740
3750 REMARK
3760 PRINT, THEN SET CARRY
3770
3780 REMARK
3790 PRINT, THEN SET CARRY
3800
3810 REMARK
3820 PRINT, THEN SET CARRY
3830
3840 REMARK
3850 PRINT, THEN SET CARRY
3860
3870 REMARK
3880 PRINT, THEN SET CARRY
3890
3900 REMARK
3910 PRINT, THEN SET CARRY
3920
3930 REMARK
3940 PRINT, THEN SET CARRY
3950
3960 REMARK
3970 PRINT, THEN SET CARRY
3980
3990 REMARK
4000 PRINT, THEN SET CARRY
4010

```


Some Basic Notes on ... DISPLAY

A display list is a list of instructions to the AMTIC chip telling it how to draw data on the screen. The AMTIC has some pre-programmed display lists which are generated automatically when you give a graphics command. You can also set up your own display lists, so after the ones that are there already.

The display list starts immediately above the memory area used for programming. You find it by `PROGRAMS>DISP*LIST*5000`. Different display lists use different amounts of memory. For instance, the Graphics 2 display list only takes up 24 bytes, while the XTMA display lists (Graphics 8 to 11) each use 202 bytes. The details are shown in Table 1.

So what kind of values do you get when you `PRINT` the display list locations? The numbers fall into different groups depending on the display list instructions:

Blank scan line instructions (Numbers 0, 16, 32, 48, 64, 80, 96, 112) Blank scan lines are lines with no text. They are used, for example, for the border at the top of the screen and also to split up the screen display. An individual scan line is one pixel deep and is obtained by putting a 0 (zero) in the display list. You set the number 0 to get 2 scan lines, 16 for 3 scan lines and so on in multiples of 16 up to 112 for 8 scan lines. Eight blank scan lines equates to the height of a Graphics 0 character.

Display text instructions (Numbers 2, 3, 4, 5, 6, 7) The number 2 is used for a Graphics 0 line, 3 for a Graphics 1 line and 7 for a Graphics 2 line. You need to redefine your character set to utilize the others. 4 and 5 are for Graphics 12 and 13 respectively and 6 is for a character set which is 10 scan lines high.

TABLE 1

NUMBER OF BYTES USED BY DIFFERENT DISPLAY LISTS

BYTES	GRAPHICS MODES
24	2 and 13
32	0
34	1, 3 and 12
54	4 and 5
94	6 and 7
174	14
176	8 and 15
202	9, 10 and 11

Display graphics instructions (Numbers 8, 9, 10, 11, 12, 13, 14, 15) These numbers are used as follows: Numbers 8 to 11 are for Graphics 5 to 8 respectively; number 12 is for Graphics 14; number 13 is for Graphics 7; number 14 is for Graphics 15 and number 15 is for Graphics 9 to 11 inclusive.

Jump and Load Memory from LMS instructions (Numbers 1, 64, 80) Load Memory from LMS, indicated by the number 64, means load a memory address. The instruction is always followed by 2 other bytes, the 2nd and 3rd being the low and high bytes respectively of the memory location in question. JMP, indicated by the number 1, means go to a particular location in memory, and it is always used in conjunction with an LMS instruction so that Amtr knows where to jump to.

The text and graphics display instructions are summarized in Table 2. Incidentally, other display effects - such as scrolling and interrupts - are achieved by setting ("working on") some of the high bytes in the instruction bytes i.e.

- Enable vertical scrolling:** Set bit 5 of the instruction
Load 200
- Enable horizontal scrolling:** Set bit 4 of the instruction
Load 180
- Enable an interrupt:** Set bit 7 of the instruction
Load 1200

LOOKING AT A DISPLAY LIST

PROGRAM 1 asks you to input a Graphics number between 0 and 15 and then prints out the display list for that mode on the screen. If you try out a few different numbers you will see that they all more or less follow the same format:

First, 112, 112, 112 This means show 0 blank scan lines three times - i.e. 34 scan lines (the height of 3 Graphics 0 characters) in all.

Next, 2 numbers: These tell Amtr what part of memory it is to access on the screen. The first number is a Load Memory from

Y LISTS

TABLE 2
DISPLAY TEXT/GRAPHICS
INSTRUCTIONS

2	Graphics 0
3	Not available in BASIC
4	Graphics 12
5	Graphics 13
6	Graphics 1
7	Graphics 2
8	Graphics 3
9	Graphics 4
10	Graphics 5
11	Graphics 6
12	Graphics 14
13	Graphics 7
14	Graphics 15
15	Graphics 8 to 11

instructions 800 plus a display text/graphics instruction (2 or 4 to 15). The other two numbers point to the starting address of the screen data. This memory area is called "screen RAM" and it is located between the display list and the top of RAM.

Next, a series of the same number: These are the display list or graphics instructions.

Next, the numbers 99, 99 and 65535: These are more instructions to Aster telling it what part of memory to draw. This line we're dealing with the first instruction: 99 means Load Memory Scan (LMS) plus 1, mode 0 line (L1, 99 and 199 are the low byte,

```

80 1 REM *****
81 2 REM *   DISPLAY LIST NUMBER *
82 3 REM *   00 AND 00000000 *
83 4 REM *   *****
84 5 REM *   NEW SCREEN DATA - APRIL '74 *
85 6 REM *****
86 7 REM
87 800 REM 0-DRAWING MODE 0, 0-DRAWING 0:1
  *****
88 110 7 ***** YOU INPUT A GRAPHICS MODE
  BUT THE COMPUTER WILL PRINT THE DISPLAY
  LIST *
89 120 7 * PUT THE SCREEN AND GET ONE TO ME
  000 * ANOTHER NUMBER. INPUT '00' TO
  PAUSE. *
90 130 POSITION 0,0:PRINT *
                                     *****
                                     *****
          GRAPHICS NUMBER 00 - 001 *
91 140 STOP 0-DRAWING MODES
92 150 07 * 00000000 FROM 000 0-DRAWING 0-DRAW
93 160 07 * 00000000 FROM 000 0-DRAW 0-DRAW
94 170 REM --- FROM THE DISPLAY LIST
95 180 GRAPHICS 000000000000000000000000000000
  00000000
96 190 00000000000000000000000000000000000000
  0
97 200 0000000000000000
98 210 FOR I=0 TO 000000000000000000000000000
  PRINT 00000000
99 220 REM --- FROM THE DISPLAY LIST
100 230 GRAPHICS 000000000000000000000000000000
  00000000
101 240 FOR I=0 TO 100000000000000000000000000
  AND
  WITH FROM ?
102 250 0 000000000000000000000000000000000000
  *****
103 260 FOR I=0 TO 100000000000000000000000000
  *****
  
```

by
Ann O'Driscoll

high byte pointers to the start of text window screen memory, which starts at memory location 40000 (00 + 250*250) for all Graphics modes.

Note, the numbers 2, 3, & 4: These are the remaining three text window Graphics (0) instructions.

Finally, 5 more numbers: These direct Auto back to the beginning of the display list so that the process can be repeated for the next screen frame. The first number is always 00, comprising a Load Memory from (04) and a Jump (10) instruction. The other two are the start of the display list address in low, high byte order.

A few of the display lists are a little more complicated than this because they have a 5 byte LMS instruction somewhere around the middle. You can see this with Graphics 8 to 11, and with Graphics 15. This arises because these modes use a lot of memory - more than 4K - for their screen display. Auto must have a LMS instruction for every 4K of memory because it can't deal with more than this amount in one continuous block. Also, Graphics 9 to 11 don't have the "00, 00, 100, 2, 2, 2" sequence because these modes don't have text windows.

ALTERING A DISPLAY LIST

Display lists can be altered easily because they are located in RAM. All you have to do is POKE new instructions into the chosen display list locations. For instance,

```
10 G0:DL=PEEK$800+250*250
20 POKE DL=10,7
30 POKE DL=10,7
```

puts two lines of Graphics 0 text around the middle of a Graphics 0 screen. Generally speaking, you can mix graphics and text modes any way you want, although you should watch out for a few things.

First, the screen is only physically capable of showing 100 vertical scan lines of graphics/text at a time, so your new display list should reflect this. For instance, Graphics 0 characters are 8 scan lines high and you can fit 24 rows of them on the screen. Graphics 2 characters are 10 scan lines high, so you can only fit 12 rows into the same space. Table 3 gives details on scan lines used by different modes. Simply divide the scan lines into 100 to see how many rows of characters or graphics lines can be accommodated on the screen.

Secondly, different modes use different amounts of bytes per line and your screen display can get a bit confused if you replace 'high memory' lines with 'low memory' ones or vice versa. For example, the following listing replaces the second row of a Graphics 0 screen (80 bytes per line) with a row of Graphics 1 (20 bytes per line)

```
10 G0:DL=PEEK$800+250*250
20 POKE DL=80
30 POKE DL TO 2:1"LINE"=PRINT N
```

If you RUN this you will see that the text gets displaced half way across the screen after the Graphics 1 row. This is because the screen display is still working in terms of 80 bytes per line. The usual solution is to put in compensating rows to bring the positioning back into sync. For instance, in this case a second (0) line, such as

```
20 POKE DL=70
```

restores the alignment to normal. Table 4 shows the bytes per

TABLE 3

NUMBER OF SCAN LINES PER CHARACTER/BLOCK IN THE DIFFERENT GRAPHICS MODES

SCAN LINES	GRAPHICS MODES
16	2, 13
8	0, 1, 3, 12
4	4, 5
2	6, 7
1	8, 9, 10, 11, 14, 15

TABLE 4

BYTES PER LINE IN THE DIFFERENT GRAPHICS MODES

BYTES/ LINE	GRAPHICS MODES
10	3 and 4
20	1, 2, 5, 6, and 14
40	0, 7, 8, 9, 10, 11
	12, 13 and 15

line used by each of the Graphics modes.

Thirdly, you must remember that the computer will continue to "think", and accept commands, in terms of the original screen display rather than the intended list. For instance, if you put a Graphics 2 line on a Graphics 0 screen, then you should use the normal PRINT command, rather than PRINT #0, to display text.

That just about covers the basics on display lists. The best way to figure out what you can do with them is to experiment. At the end of the day, even if you mess up the screen totally, just remember that the original display list address is restored when you change graphics mode - so simply type Graphics 0 and start again!

SCREEN RAM

A knowledge of screen RAM becomes useful as you delve deeper into display list modifications. For instance, if you put a text instruction on a graphics screen, you can use screen memory to display your message, as the normal PRINT commands don't show characters in the drawing modes. This is among the topics covered in my article in issue 66 of New Start (see their - check it out!

XL/XE software

ARTEFAKT PRZODKOW

Not an easy one to pronounce, this — as it's just as well that Micro-Discout prefer to call it plain **ARTEFAKT** instead! The game is one of B&B's latest Polish acquisitions stemming from their exclusive distribution arrangement with Hellman's A.S.F.

Artefakt is an arcade adventure in the traditional mould, with the usual helping of objects to utilize, mazes to avoid and locations to explore. Acting out the penultimate role of Mark Graham — 'The Karak's greatest secret agent' — you engage upon a top priority mission to recover a lost spearhead. To you will need to collect dozens of artefacts and determine exactly where they must be used, to enable your progression into new areas of the sprawling maze-lens.

The screen are drawn using high-resolution mosaic graphics with excellent use of shading and animation effects. Sound, however, is strangely absent. My Graham — who is dressed as an adventurer — is large, intricately detailed and well animated. He can walk in either

direction, stop to pick up artefacts and 'fly' by firing his jet-pack. The jet responds rationally and requires some practice to avoid overshooting the intended target. Although there are literally dozens of objects scattered

throughout the maze-lens, you can only hold three items simultaneously. When you pick up an object, it's placed in one of three 'windows' below the main play-field. If all windows are full you must either exchange an existing object for the new one, or 'use' something at an appropriate location. For example, a key will open up a locked door, and poison can change a mummy — but some of the problems aren't quite so obvious!

Occasionally you're asked to enter a security code. You must refer to the card-board photography meticulously table of pass codes supplied with the game, and note the font characters corresponding to hex digits displayed on screen. The procedure is reasonably straightforward and



must be a readable and pricey exercise — but mind you don't lose that card-board!

It seems that your mission is complete if you are invited to a short 'film', though I've a feeling I may not sample this potential delight for some time. Artefakt is an enjoyable arcade adventure blessed with an outstanding graphical component. The asking price may be slightly higher than average, but the game itself will not disappoint.

Title: **ARTEFAKT PRZODKOW**
Publisher: **A.S.F.**
Supplier: **Micro-Discout**
Format: **Disk**
Price: **£9.95**
Reviewer: **Paul Nixon**



MIECZE VALDGIRA II

MIECZE VALDGIRA II (hereafter **MVI**) is, as you might have guessed, the sequel to *Micro-Valdgira* which was reviewed back in issue 85. Micro-Discout have obtained the necessary title from Polish software house A.S.F. and have provided an English translation of the instruction booklet (the game itself remains Polish text). **MVI** is supplied in a relatively thick lens which additionally holds a card-board code table that's required as part of a copy protection system. When prompted, you have to enter an appropriate hex character code from a selection of 255 possibilities.

We've told that King Alda, who's well known to the Kingdom of Helgers, has discovered that a bloodthirsty knight

named Zornis has stolen the 'magic eye of cyclops'. Zornis is using the power of this eye to invade the tranquil green land of Dale and, to restore peace, he must be stopped. The King has decided to track down Zornis, to capture the eye and thereby free Dale from the horrors that might otherwise unfold. Your job in this arcade adventure is to manoeuvre the King through a variety of screens, collect objects that may be useful later on and endeavour to avoid snakes. When you come across something worth retaining, you can deposit it into one of three 'pockets'. Obviously you'll then need to find out where the item should be used.

Graphics are generally well done, limited if it may be by the brownish colouring of the first few screens which set the standard for the game, but later screens are much more pleasantly shaded. Detail is good and the various mazes are certainly not boring exercises. The main screen portion is bordered by high-re-

solution drawings of a treasure chest and other artefacts, together with a read-out of your remaining lives and current score. You can choose to have continuous musical accompaniment, or sound effects only if preferred.

MVI is a competently programmed game but loses some playability through the lack of English screen text. You will need to write down your perceptions of the objects found (not always easy) against the Polish descriptions, or simply use them by trial and error. Micro-Discout say they're going to provide additional help in due course. Hopefully this will be in the form of a translation sheet (if all stars, as this would improve the playability rating as well).

Title: **MIECZE VALDGIRA II**
Publisher: **A.S.F.**
Supplier: **Micro-Discout**
Format: **Disk**
Price: **£7.95**
Reviewer: **Paul Nixon**

GRAVITY AND 0

Learning a programming language is only one part of writing a successful program. Even if you are an expert in Atari Basic you will not be able to create programs if you don't understand the theory behind certain concepts. Here John Young explains how gravity can be simulated in your programs

This article is about using your Atari to simulate something from science. In this case the Law of Gravity. The program listed is written in standard Atari Basic, but runs quicker with Turbo Basic. It plots the path of a satellite orbiting the Earth. By changing the initial situation, it is possible to get a range of different trajectories.

The Law of Gravity was proposed by Isaac Newton as long ago as the seventeenth century and is, at first glance, simple: two point masses will attract each other with a force inversely proportional to the square of the distance between them. This means that if you move two masses twice as far apart, the attraction is quartered (i.e. divided by 2 squared). I am reluctant to put an equation in, as in this case it will put people off, but it simply means what I have just said in words, and the program I am going to introduce relies on it.

$$F = G \frac{M_1 M_2}{r^2}$$

M_1 and M_2 are the masses (measured in kilograms) and r is the distance between them. G is what is known to us physics jockers as a constant of proportionality, and it is just a number which tells us how big the forces are. The minus sign means the force is attractive.

The situation we are going to apply this Law to is a satellite orbiting the Earth. The Law also applies to everything else actually this isn't quite true, but we'll let it pass, as there will be a force between two-pin jays on your kitchen table, but this

is so small compared with the forces between the earth and such jays that we don't notice.

The satellite thing is quite typical, as we can pretend it is the Hubble space telescope (well it was typical when this was written, but it could be the moon).

We need to know what happens to the satellite when the gravitational force acts on it, and we are indebted to Sir Newton again, because his second Law of Motion is $F=Ma$ (mass \times acceleration). Rearranging this gives $a=F/M$. There it is: an acceleration on the satellite given by the force acting on it divided by its mass, the force being given by Newton's Law of Gravity above. Acceleration is just the rate of increase of velocity, but in a specific direction, which in this case is towards the Earth.

Because we have a satellite which has a velocity in a certain direction, and has a force on it, and hence an acceleration towards the Earth (which is likely to be a different direction see diagram 1), we have to use a bit of trig to find components of velocity and acceleration. Now, we pretend that the acceleration is constant over a small time interval (say ΔT seconds, where ΔT is a fraction). This means that the change in a component of velocity in a time ΔT is just the component of acceleration at that time multiplied by ΔT .

I shall now describe the program, which plots the path a satellite will take if placed above the Earth with a certain velocity (if still, the satellite will fall straight towards the Earth). The path will be in two dimensions only as, provided the satellite is not moving into or out of the screen to begin with, there is no force to make it do so.

Lines 20 to 80 set various constants used. These include the position and velocity of the satellite. Line 90 calls a sub-routine to draw a disc to represent the Earth. The movement loop first sets the acceleration due to the force of gravity to change the velocity (lines 210 & 220), as described in the previous paragraph, and then changes the position (lines 230 & 240), putting the position in plotted co-ordinates and colours with the Earth to check the fit.

The approximation of constant acceleration mentioned above can lead to problems, if the calculated path of the satellite is



Diagram 1

RBITS

not smooth it is likely that this is not the true path, and the value of DT used needs to be reduced.

The box shows exactly how I get the formulae used in lines 218 and 220, but you can ignore this if you want.

As printed, the program places the satellite above the Earth, travelling parallel to the surface below with speed UX . This results in a very nearly circular orbit. Changing UX (line 60) changes the inclination of the satellite significantly. Try the values 0.1, 0 and 0. For the latter two UX results to be reduced to 0.2. In all cases the orbit is an ellipse, and the size and shape depends on UX . For the value 15 the ellipse is very large, and goes off the screen, giving error 8 (going off the other side gives error 1411). When UX is 0, the orientation of the ellipse changes as the satellite moves. Reducing UX to 5 gives an ellipse which goes through the Earth, so the satellite crashes.

I haven't mentioned how satellites get into orbit in the first place. A rocket, or the space shuttle for American ones, is used to accelerate the satellite through the strong gravity close to the Earth. You can see why this is necessary by noting the initial position close to the Earth's surface (e.g. $X=0$, $Y=11$) and giving the initial velocity a vertical component (UY can vary). You will find this has to be very large to avoid an immediate crash.

The principles outlined here could be used as the basis for a game. For example a satellite could be given rocket thrusters controlled by the player, who must guide the satellite into a stable orbit. If anyone could write such a game and make it playable, I'm sure it would stand a good chance of being included in the magazine.

That's it for now, and I hope some of this was interesting.



FEEDBACK PLEASE!

I thought that I'd try something a bit different from the usual puzzle games but it's quite difficult to know where to pitch this article so I would appreciate any feedback through Mailbox. It would be useful to find out if you find this sort of material interesting, and whether more or less depth is wanted.

```

21 1 REM *****
22 2 REM ***** PROGRAM 8 *****
23 3 REM *****
24 4 REM *****
25 5 REM ***** By John Young *****
26 6 REM *****
27 7 REM ***** STARD ORB *****
28 8 REM *****
29 9 REM *****
30 10 *****
31 15 *****
32 17 *****
33 19 *****
34 20 *****
35 21 *****
36 22 *****
37 23 *****
38 24 *****
39 25 *****
40 26 *****
41 27 *****
42 28 *****
43 29 *****
44 30 *****
45 31 *****
46 32 *****
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80 66 *****
81 67 *****
82 68 *****
83 69 *****
84 70 *****
85 71 *****
86 72 *****
87 73 *****
88 74 *****
89 75 *****
90 76 *****
91 77 *****
92 78 *****
93 79 *****
94 80 *****
95 81 *****
96 82 *****
97 83 *****
98 84 *****
99 85 *****
100 86 *****

```

TECHNICAL DETAILS

Here is the detailed stuff. It is meant to be read in conjunction with the main article.

The force between two masses is given by

$$\text{Force} = -GM_1 M_2 / r^2$$

The acceleration of the mass M_2 due to this force is, therefore, so

$$\text{Accel, } A = -GM_1 / r^2$$

Splitting this into components (see diagram 2) Ax and Ay

$$Ax = A^2 \cos \theta \quad Ay = A^2 \sin \theta$$

$$Ax = A^2 \cos \theta \quad T = A^2 \sqrt{\cos^2 \theta + \sin^2 \theta}$$

$$Ay = A^2 \sin \theta \quad T = A^2 \sqrt{\cos^2 \theta + \sin^2 \theta}$$

Putting in the expression above for A

$$Ax = -GM^2 \cos \theta / r^3$$

$$Ay = -GM^2 \sin \theta / r^3$$

(GM is a new constant equal to GM^2)

These expressions are used in lines 218 and 220 of the program, the changes in velocity components being then multiplied by DT .

TUTORIAL TIME

TEXT MOVING

Before I start the main part of the Textpro tutorial I would like to thank John Beating for his letter. He wrote to advise on the comment I made about the Textpro automatic printing progressively further down each page. As this can be a recurring problem I will go into it a bit further and pass on his advice.

Two things contribute to the phenomenon. It usually occurs when the software uses line feeds to advance the paper to the top of each page. The paper in the USA is nearly all quarto (8.5" by 11") smaller than which is A4 (31.625" long). Most continuous printer paper follows the American standard (size A4 can be obtained, but is rather difficult to find and generally more expensive), but single sheet printers in this country are more likely to use A4. At the normal 6 lines per inch the US paper can accommodate 66 lines while A4 can in theory take 68, so if the print commands are made line by line with no page break commands a printer using A4 continuous paper will start to print the first lines of the second page at the bottom of the first.

I use A4 paper in my HP Deskjet, and so if my reasoning above was correct each page of the manual would be 3 lines higher on the page than the previous one, but in fact it actually means I DON'T know what is going on! Inkjet printers have expandable areas at the top and bottom of the page due to the paper handling mechanism (the rollers that hold the paper in place). The maximum number of lines I can make it print is 67. If I just print a string of numbers down the page using a very simple one line program:

```
10 FOR X=1 TO 70:PRINT X
```

I get 1 to 64 on the first page and 65 to 70 at the top of the second. This is exactly what the document printing program of Textpro achieves - two lines short of the US quarto 68 and so your printed page line lines down the page each time.

There is one more problem that can happen you if you need to use A4 continuous paper for a printer. The paper length (31.625") is not a whole number of inches or half - this means that there are not an exact number of lines on a page. It is 8.125 on one eighth of an inch out from the line above and 0.5625 on one twenty-fourth from the line below. This can cause a print not to transfer very nicely up or down the page, probably only noticeable when a multi-page document is printed.

BACK TO TEXTPRO

Moving on from the absolute basics of Textpro introduced last time, I have prepared a letter for us to manipulate into a letter form. I assume that you do not want to learn to type, just to use Textpro, so the text (all of the letter in us this issue's disk as LETTER.TXT). What I have done is type the text of a letter in really horrible ones without any consideration for format, just typing and putting in a [RETURN] at the end of each paragraph and a second [RETURN] where I want a whole line space

between paragraphs. If you print it out as it stands it looks like Figure 1. Probably the easiest way to find this is to put the Page 1 disk in your drive and type [CTRL]+H. This will list all the files on the disk. Use the arrow keys to move the highlight over LETTER.TXT and type [CTRL]+L.

FORMATTING

First we need to format the letterhead (as we did last time - remember?). First make certain that your cursor is in insert mode. Type [CTRL]+I and look at the top line of your screen. If it says "Toggle Mode" press [CTRL]+I again and it will read "Insert Mode". Now move to the beginning of each of the first three lines and insert [SELECT]+I to create them, and at the beginning of the date line put [SELECT]+E to align it with the right edge.

The line that starts "Account No. ..." is the letter title or reference so we will underline it. Move your cursor to the beginning of the line and type [SELECT]+U. [SELECT]+E and [SELECT]+U only affect the line they are in, but [SELECT]+U is a toggle that switches underline on until it is used again to turn it off. [CTRL]+E will move the cursor to the end of the line to put the second [SELECT]+U in place.

In the line that starts "Item" we need to put a [SELECT]+W at the start and end of each word in the three words are headings for the columns of data following. In Textpro everything is contained including spaces when [SELECT]+W is used (unlike on, so if you do not want to underline spaces it is necessary to switch on and off for each word). Do not worry that inserting the [SELECT]+W characters upsets the alignment of the headings with the columns - these characters do not take space in the printing, only on the screen.

It would be a good idea to indent the columns of data from the main text. Position the cursor on the line above "Item" (it is just a "form arrow" [RETURN] symbol). Now press [SELECT]+I followed by 10 both on space between). This changes the left margin from the default (5 characters) to 10. This can be reversed to normal (below the tabulation, so go to the line above "Thank them in order..." and type [SELECT]+B two times, and 1 and 5).

SEARCH AND REPLACE

Enough of formatting, lets go on to something a bit different. Search and replace can be a very useful tool particularly in long documents. For instance when I was preparing this docu-

PRO ON

ment I realized that [CTRL]-e and [SELECT] would be coming up several times, and as my typing skills are not very good with unusual characters slow down my progress markedly. So I just got to use [CTRL]-e and use [SELECT]-e and then at the end did a global search and replace of each in turn. This also works with macros. You can use the abbreviated form while typing and then expand to the full form for the convenience of your readers.

In Troops there are two ways to do search and replace.

Global replace is done with [CTRL]-g. First remember that the replace starts at the cursor position and goes on to the end of the document, so use two [CTRL]-g's to get to the top of your document (Home) before you start. Continuing with our letter to the fictitious Building Society type [CTRL]-g and the prompt 'Find' appears in the top line. Type in 'Indoor' and hit [RETURN] (note the capital I as before). The prompt in the top line changes to 'Change to', so type in 'Street'. Now as soon as you hit [RETURN] the search and replace goes quickly through the whole document.

If you scroll through the document you will see that the correct entries has been taken in the table and the title of the Direct Detail paragraph, but there is still an 'Indoor' in the body text of that paragraph. This has not been changed because the search and replace is case sensitive and will only find exact matches. Let us change this one using the other method.

Go back to the top of the document. Now type [SELECT]-[CTRL]-e. The 'Find' prompt appears again. Type in 'Indoor' and hit [RETURN]. Now type [SELECT]-[CTRL]-e and the 'Change to' prompt appears. Type in 'Street' and [RETURN]. This time nothing seems to happen. We have set up the search and replace strings like each can be up to 80 characters long, but the search has not yet been carried out. Type [CTRL]-e and the cursor will jump to the first occurrence of the search string 'Indoor'. If we want to replace it [SELECT]-e will carry out the change, otherwise another [CTRL]-e will move on to look for the next occurrence. In our document there are no more occurrences so 'Not found' appears in the top line. This method for search and replace is longer and slower than the global method that we used first, but it is much safer as you get a chance to review each replacement before it is acted on. As hitting [RETURN] sometimes input at both the 'Find' and 'Change to' prompts you may think that you can not search and replace a [RETURN]. Fortunately the authors of Troops realize that this would be a very useful feature (and one that is not available in many other word processors) so they made it possible. If you want a [RETURN] in the search or replace strings just it in by pressing [SHIFT]-[RETURN] then [CTRL]-e. At this stage you may wonder why this is useful - one example would be editing a pre-formatted document like from another form -



Figure 1. The 'bare bones' letter as it would appear without the effect of forwarding - check working to see the effect of a few simple commands

Typed source. The source document might have each line formatted with a [RETURN] at the end and you want to strip these out to make continuous text up to the paragraph end. This can be done quickly by the following sequence:

1. Search for paragraph ends (usually [RETURN] [RETURN]) and replace with any nonnull string (say FN).
2. Search for line ends (single [RETURN]) and replace with a single space.
3. Search for FN and remove the paragraph breaks ([RETURN] [RETURN]).

INTRO TO MACROS

Now we will take a first look at macros. Troops has a very powerful macro capability that allows you to automate the things that you do most regularly and I will avoid the subject in a later article, but this time I will just show you how to load and use one of the macros supplied on the Troops disk. First go to the top of the letter again. Now type [CTRL]-e and the top line will prompt 'Load Macro-D'. Type [RETURN] and [RETURN], this loads the macro. When activated this macro scans through the document and if it finds "a" any

Continued

where it will replace it with a number in sequence from 1 to 50. This provides a handy way of automatically numbering paragraphs after you have completed a document, allowing you to shuffle the order of the paragraphs as much as you like during the revision without having to worry about changing the numbering. Now you know why "a" is typed at the start of each paragraph, just hit [CTRL] and match. The macro first saves your place in a temporary file TEXTPRO.TMP so if anything goes wrong you can get it back. Then it goes on to change each "a" to a number. Scroll through the letter and you will see the numbers in place. You may have noticed that the NUMBER macro disables the help system. This is because the help to itself a macro. It can be restored by [CTRL]+v TEXTPRO.MAC.

PAGE BREAKS

Before you print out your text it is best to look at the page breaks to make sure that you are not splitting the text at a bad point. Take your cursor to the last line of the letter and hit [CTRL]+w before you [F] if your letter is still the same as mine after all the changes the top line of your screen will show "Page 2, Line 23". This is where the cursor position will appear on the printed page. Go up to the heading "4. Direct Debit" and press [CTRL]+w again. This time you will get "Page 1, Line 50". Line 50 is the last line on the page and line 51 the first line of text on the next page with the set up that we have, so we are not just above the end of the page. You can move the cursor through the text to find the last word on page 1 (RIGHT) or (RIGHT ARROW) will take you along a word at a time. I make the last word "by" in "increasing by 4 pounds".

It would really be better if the whole of paragraph 4 was on the second page. Move your cursor to the start of the line "4. Direct Debit ..." and type [SELECT]+w - this forces the end of page. If you move your cursor down to the bottom line of the document and type [CTRL]+w again you will get "Page 2, Line 23" showing that 3 lines have been pushed down from page 1.

Well, I must not have. Although this article seems to have grown very quickly, I have not covered as much ground as I expected. I am finishing Textpro quite a complex word processor, but that means it is also very capable and can be tailored to suit a great variety of needs. If you have had particular problems with Textpro please write to me and I will try to solve them for future articles.

My address is
Ian Finlayson, 60 Roundstone Crescent, East Preston, West Sussex, BN16 1BQ

60 Roundstone Crescent
 East Preston,
 West Sussex BN16 1BQ

The Message
 Daily National Business Directory
 Multi-Lingual
 West Sussex BN16 1BQ

10 February 1988

Dear Sir,

NUMBER.MAC.APR880001

I write to enquire about some mistakes which I have noticed in the monthly statement for the above account sent to me last week. I am puzzled by the following items, each of which is described in detail later.

DATE	AMOUNT	DESCRIPTION
01/11/87	1,000.00	Transaction Charge
000000	1,000.00	Standing order
01/11/87	1,000.00	Regular entry
000000	10,000.00	Interest total

Nothing done in order?

1. Transaction Charge

I wish to query the 10 pound transaction charge. I understood of the name named by account that I would not have to pay any more charges if I kept the account continuously in credit. I show that the balance did not hit my bank but that I did during the last accounting period. Had my charge not been of 1000.00, an 10p charge had appeared now.

2. Standing order

Behind the standing order passed on 1 January - this should be for an amount of 10 pounds, but appears in the statement with an additional 10 pounds added. Is this a "standing order charge" or the last month's owing anything about charges for direct debits or your conditions.

3. Money lent

Being 10,000 seems to have erroneously duplicated the 10 pound payment made in the previous transaction period. This should be 1000.00 or 10 pounds.

4. Direct Debit

Finally the direct debit has changed from earlier months, increasing by 4 pounds. The 400 increase originated from the page-02 to 01 but neither of your bookkeeping accounts?

I need your investigation and reply of these questions via. Enclosure and some explanation.

Yours faithfully

Ian Finlayson

Figure 2. The letter after the formatting commands have taken effect. Note the revised headings, underlining, indentation and numbering of paragraphs. The page break occurs before heading number 4, although we have put the two pages together in some space.

TEXTPRO is available from The PAGE 6 PD Library at the regular price of £2.50. Send a cheque or postal order, or order with Visa or Access, to Page 6, P.O. Box 54, Stafford, ST16 1TB. Telephone 0785 213928

INSTANT MENUS

by David Sargeant

A programming tip for fellow Atariists - always save the back issues of New Atari Users. They can give useful hints on future programming projects. There was an interesting article in issue 48 from Ian Parkinson about screen flipping. This provides a way of storing more than one screen image in the computer's memory and instantly flipping between them as they are needed. A similar technique can also be used to flip the text window. I originally developed this to make menus instantly accessible, but you might find other uses. Here is a short program to demonstrate any meaning.

DEMONSTRATION - This part shows how to print text to the main screen. Note the use of the PRINT\$ command. Although this screen is used for text, the computer regards this as Graphics One. Text does not scroll as in a normal screen, so be careful of printing outside the borders.

CHANGE MENU - After the starting system has been installed, it is all controlled by the variable TWINDEX with the range of 0-9 to indicate one of the 9 screens in the system. This variable is used to access the array TEXTWINDOW to find the high byte of the storage address for the respective menu, the low byte is always 0. These 2 bytes are then copied to the two window pointers in the display list which has the effect of the menu being displayed instantly.

INITIALISE - Throughout this demonstration routine the screen display is turned off by storing 0 in address 559. It is turned on again by storing 34 in the same address.

RESERVE SPACE - The text window in a graphics mode is in mode 0 and requires 160 bytes (40 bytes per line, 4 lines). There are 9 screens in this demonstration and I want to use a page for each, so 9 pages need to be reserved behind BASICP.

CHANGE DISPLAY LIST - For this demonstration I need 9 main text screens of mode 0 proportions (20 rows, 40 columns) and a normal mode 0 text window (4 rows, 40 columns) for menus. I have chosen to adopt a standard mode 0 screen, it is really for multi-columned text, but it gives the right number of rows and columns and it automatically provides a text window. Its display list can then be altered to print normal text by changing it to Auto mode 0.

SET UP MENUS IN TEXT WINDOW - For each screen I turn the high byte of its storage address in copied to the array TEXTWINDOW and the text window RAM addresses 560-561 (text window equivalents of 560,56) are updated. The 9 menu lines are read in here from the data statements and stored by setting the cursor to the top of the text window and printing in the normal way. After the menus have been processed, the variable TWINDEX is set and the menu displaying sub-routine is called to begin the demonstration.

```

90 1 2000 #*****
91 7 2000 # INSTANT MENU *****
92 3 2000 # by David Sargeant *****
93 4 2000 #*****
94 0 2000 # *****
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THE ACCESSORY SHOP

ISSUE 67

CLASSIC ROMS

RESCUE ON FRACTULAS



ROM
CARTRIDGE

One of the few classic aviation games, you need to rescue the Britannia plane stranded on the planet Fractulas by fixing your rescue craft in through the mountains and completing the tricky landing. You don't have long as the plane will soon die in the zero-gravity atmosphere. Developed by George Lucas, of Star Wars fame, and regarded the founding father of home computer game design, this flight simulator, part arcade shoot, totally addictive, totally compelling.

OUR PRICE £7.95

AVAILABLE AGAIN!

A lot of the games that long time owners regard as the original classics have been unavailable for some time but we are delighted to be able to bring you, once again, a selection of these classic cartridges - including some of the best games ever for your Atari. If these games are not in your collection, your collection is not complete. And if you are a new owner these are guaranteed winners - grab a couple today!

BALLBLAZER



ROM
CARTRIDGE

The year is 3007 and you are the contestant in the most competitive and by far the most popular sport in the universe. Jump immediately into head-to-head action against a friend or hone your skills against a selection of bots. (Very easy, very fun to bot this master of the century). Excellent graphics and split screen action have made this one of the Atari classics.

OUR PRICE £7.95

LODE RUNNER



ROM
CARTRIDGE

Back again, but only for a short time. One of the most highly rated and challenging platform games of all time that let's you play forever! Uniquely for a ROM game, Lode Runner allows you to create your own games and levels. It has a disk drive, with its built in editor. Run, jump and take your way through the catacombs in its challenging levels before you start to design your own. Sure to be in great demand but we only have a limited stock.

OUR PRICE £7.95

TENNIS

Forehands and backhands, driving approach shots, angled volleys, inverted smashes and tricky lobs - you've got all the strokes in tennis! Plus a ranked score that gives you an idea of how the scores panned game that challenges you to play at your best. Play singles against the computer or another player in doubles against another player. Either way the action is fast and furious.

ROM CARTRIDGE
OUR PRICE £8.95

POLE POSITION

Everyone has heard of Pole Position, the racing game that inspired almost every racing game since. It may be the original and some other games may have copied responses but Pole Position still remains its challenge after many years. One of those games that has exactly the right balance of game play and graphics to make it a classic that will last forever. If it is not in your collection, make it yours now while it is still available.

ROM CARTRIDGE
OUR PRICE £5.50

MILLIPEDE

Design clearly bugs the jumping spiders, leeching bees, leeching beetles, mosquitoes, dragonflies, mosquitoes and even a few insects! Your garden path - and you've got to keep feet to get rid of them! But watch out! The mole is the most vicious insect of all! Fast action graphics and real bug sounds make this game just like the real thing. In. Lode Runner or TRAX BALL.

ROM CARTRIDGE
OUR PRICE £5.95

JOUST

In days of old when knights were bold - they never saw anything like this! You don your helmet, heat your lance - and mount your steed to do battle with the evil Buzzard Riders in deep danger! Place yourself to the right of you, aim your lance to the left - learn to fly so you won't die so early far from home. All the thrills of the arcade game for one or two players.

ROM CARTRIDGE
OUR PRICE £8.95

BASKETBALL

The original basketball game ever built to become one of the PCB version, it was a hit. You can dribble, shoot, pass, block shots and even foul shots. The different game routines allow you to play players to compete on the outside and take on the AI. Supports the two player, single processor and two player alternative play and a lot of fun.

ROM CARTRIDGE
OUR PRICE JUST £4.00!

MANY ITEMS ON THIS PAGE ARE NOW IN LIMITED SUPPLY SO WE ADVISE EARLY PURCHASE

SEE ALSO OGRE AND BATTALION COMMANDER ON DISK OVERLEAF

More new software

OGRE



Challenge the Ogre, a splendidly intricate program... really, suitable according to its title. For the century battles, the game of strategy for other one or two players. Individualistic tactics and the various units and units battles, including unit reforming must be carefully designed to defeat a unit... The comparison and placement of units in order to destroying the Ogre which has managed to escape... a most important battle game will be open to all strategy fans. A game which is suitable for testing eyes.

DISK ONLY

OUR PRICE £6.95

BATTALION COMMANDER



NOW ON DISK!

An exciting real time tactical game with you in command of one of two's armoured battalions. Choose from five different scenarios from a leading mission against a found name battalions to tough assignments against the Chinese. You can adjust the relative strength of your forces and the opposition and choose from 40 different terrain maps and the different scenarios. Enough variety to last for years!

DISK

OUR PRICE £5.95

FIGHT NIGHT



Fight Night brings you all the thrills of the boxing ring as you face five of the most famous fighters ever. In five separate battles you total war with adrenaline action. The Boxing Car... should tell you you and your opponent to create your own perfect punches, including elbows, knees and clubs. Tact, spin and step into the ring for all your perfect moves against the computer or another opponent. For one or two players.

ROM

OUR PRICE £7.95

FOOD FIGHT



Charlie loves to eat. One day he visits the carnival and meets... strategy for the Food Fight... contain many Charlie food's amounts of food... food at designated points. Spoons, bananas... sometimes, moderation will be shown about as you try and make the plate empty. You are after the great low cream ones that people if you miss to access the screen. Enjoy the fight... and the meat!

ROM

OUR PRICE £7.95

CENTIPEDE

Imagine you live in an enchanted mushroom patch filled with butterflies and bugs. Get those Centipedes with your bug blaster. Watch out for the spiders, bees and scorpions, they all have magical powers - and they are after you! 1 or 2 players.

ROM CARTRIDGE
OUR PRICE £5.00

ASTEROIDS

Asteroids surround you! Use your photon cannon to defend your spaceship from a field of asteroids. These enemy asteroids become progressively smaller, swifter and more dangerous. Watch out for enemy swarms too! For 1 or 2 players.

ROM CARTRIDGE
OUR PRICE £5.00

ARCHON

A unique battle combining elements of fantasy with the strategy of the chessboard. You see represented the forces of good and evil and when they meet every the same space like board... battle into life with battles, points and bonuses. They cost spells, magic flames, even take on each other's shapes and characteristics. You can play the Light or the Dark either alone or with another player. A totally unique game.

ROM CARTRIDGE
OUR PRICE £7.95

HARDBALL

All the thrills of American baseball can be yours on a summer afternoon in the ballpark. Hit behind home plate, along the left field line, down the right field line or join the manager in the dugout. Look over the pitcher's shoulder as he throws the ball. You control all the action of the ballgame, pitchers and batters as you try and battle your way to the top of the league. An exciting game for one or two players.

ROM CARTRIDGE
OUR PRICE £7.95

ONE ON ONE



Play basketball with two of America's top players in this great sports simulation which features realistic offensive and defensive moves, fatigue factors, hot streaks, a shot clock, even instant replay and a shattering basketball! Like the game of basketball itself, One-on-One rewards you for playing with your head as well as your hands. Master the joystick moves, sharpen your timing and hone your reflexes. Jump! Shoot! Score!

ROM CARTRIDGE

OUR PRICE £7.95

US FOOTBALL



American Football is a big craze in this country and you can now play at home. Outsmart the defence, pass with amazing accuracy, run with speed and agility, make tackles, select offensive and defensive plays and more. You can take on the computer in a practice game or challenge a friend to a dramatic video based game of your team in a packed stadium. All the thrills of the gridiron.

ROM CARTRIDGE

OUR PRICE £7.95

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Your Laser Hawk helicopter is ready to go, but are you? To destroy the five command centres of the evil Iron tribe, your ship will have to outfly or blast away its state-of-the-art defence systems which include all sensors, search missiles, landing mechanisms, heat rays and high level bombers. Eye stunning graphics and impenetrable non-stop action make this game a winner!

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THE COUNT

One of Scott Adams' famous graphics adventures in which you probe in an antique house and in a dark, sinister world. It soon leads like you are going to meet a certain faculty Professor Count who goes by the name of "Dreadful Will" you escape or become one of the living dead? An adventure with full graphics, moderate level for ages 13 to adult.

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HARD DRIVIN'

No, this article is not about the game but the hardware. This is how one of the best times to purchase a hard drive for your computer. Why? The cost of course. With many models dropping as much as £200 since the beginning of the year, it has put them in the reach of many users for the first time. Power without the price tag of the old slogan.

So what is a hard drive? Well, it is usually a grey metal box that makes a loud humming noise and then under your control, it will require one more power socket than you have. It is made up of four main parts, which are as follows:

- 1) The Host Adaptor
- 2) SCSI Drive
- 3) Power Supply and Fan
- 4) Case

THE HOST ADAPTOR converts the signals from the ST's DMA port into SCSI signals (Small Computer System Interface or SCSI), allowing connection to such exotic things like CD ROMs, Physical and Optical as well as hard drives originally designed for the MAC and PC. There are several host adaptors on the market at present. They are HD Link, GE Soft and FAST Controller. They can allow up to eight SCSI devices to be connected. I use the GE-Soft adaptor connected to disk drive and have no complaints at present.

A SCSI DRIVE is a black box about the same size as the 5 1/4 inch drive inside the ST. It contains, variously styled, a rigid nylon coated disk that revolves around its own laser like a floppy disk does. Data is accessed from the disk by a pair of read/write heads which live about the width of a smaller particle away from the surface of the disk.

If you are planning on building your own hard drive, SCSI drives can be picked up quite cheaply (around £40) at computer machines. If you do this, make sure you do by a SCSI, not an IDE or EISA, as they will not work on the ST with any of currently available host adaptors.

POWER SUPPLY AND FAN - These two items are the cause of that noise you hear from your drive. It is okay if you use your computer as an office, as this noise seems gets drowned out by other things, its base is in a different matter. The noise can be very distracting when you are concentrating hard when programming or word-processing. A good solution to this is a CD player, installation and The Best of The Doors CDs playing in the background! The power supply should be at least able to power two drives in case you decide to expand your data storage capacity.

THE CASE is the final part of the hard drive. They are made out of steel, are industrial-size and could survive a direct hit from a road vehicle. Their main job is to keep all the electronics safe from any heat, dust, shocks, children etc. - but also doubles as a stand for your machine so you don't lose any disk space. Again, if planning to build your own make sure the case is big enough to fit everything in.

Scott Durose Brindley
explains why you should
consider a hard drive for
your ST

WHY DO YOU NEED ONE?

If you are using your ST for serious applications such as DTP, WP, Graphics and Music, floppies are not really good enough. They are slow and have a finite storage capacity and endless disk swapping can become tedious and can also reduce the life of your disk drive. Much of the serious software nowadays comes on three or four disks and their output files can run into MBs instead of K. With all this data in one easily accessible place there is no need to go rifling through your disk box looking for Disk #3 or that disk with all your DMC pictures you spent hours converting, only to find that you formatted it by mistake last night.

If you play games on your computer you may think a hard drive is just for those people who are into that serious stuff. Well, you're wrong. Like serious software, games are coming on more disks. The "Insert Disk #5 into Drive A" can really put a downer on your game-play when you are in the middle of something, grounds on some alien race. Although not all ST games will install on a hard drive (software companies are worried about piracy, although nearly all PC games are hard drive compatible), some do like the excellent Civilization which I recently purchased because of this fact.

I bought my STC because my 10MB drive died and as they are now just as rare as a commercially produced STC, I gave me I upgraded to a 16MB machine. After a month, I had requested to do I did and was being digitized my favourite bits from my video collection with the excellent Video Master. The files created by this were enormous and required a great deal of storage space and numerous floppies. I never really had any spare disk when I needed one. So I bought one and have never looked back since.

If this article has made up your mind, go out and buy a hard drive. They are a great deal cheaper and of a higher quality than a few years ago and very rarely diagnose themselves by crashing (hardly ever).

If you are planning to build your own hard drive, you need to purchase a DMA, SCSI adapter and a power supply to complete the kit. All you need to assemble it is a couple of screws, drivers, pliers and a few cups of tea. If on the other you don't want to fiddle with all the DTP stuff just buy one, the prices are quite remarkable now. When buying, make sure the drive has a DMA three port, is auto locating and auto parking.

So go on, go out and buy it. It will be the best thing you have bought, except for the ST itself of course! After a while, you may be wondering how you survived without one.

MAKING MUSIC WITH YOUR ATARI

MORE MIDI BASICS

In the last issue we looked at the fundamental concepts of MIDI, covering its roots, how it works, and some of the jargon associated with it. We'll now expand on this and also look at the basic terms of music hardware needed if you want to start exploring the exciting world of music making via MIDI.

The first essential is something to produce musical sounds, which means adding some form of MIDI equipped synthesizer. There's a mind-boggling choice of it available, ranging from cheap and cheerful "basic keyboards" costing from around £200 up to unbelievably expensive professional studio-quality synthesizer keyboards. As with computers the rate of development of electronic music equipment is frighteningly fast, so today's best technology is obsolete in a depressingly short time. The upside of this is that there's a first-class second hand market, so you can easily pick up first class equipment at a fraction of its new price. I'd advise the complete beginner to buy from a reputable music dealer though, as he'll help you choose the best instrument for your needs (and budget). Hopefully, having read the rest of this article you'll have some idea of the main considerations involved.

There are two main classes of MIDI instrument - the "MIDI sound source" and the "MIDI controller", although the two are often combined in a single unit as in the ubiquitous synthesizer keyboard. The sound source generates audible sounds under the control of an incoming MIDI message stream. The MIDI controller in the device (such as a keyboard) which generates that stream. If supplied without an integrated MIDI controller the sound source is usually known as a "MIDI expander module". A keyboard without a sound source is known as a "mother" or "master" keyboard. Mother keyboards and expander may be connected by a standard MIDI cable, as outlined in the last issue.

*John S Davison's
regular guide to
music making*

SOUND SOURCE

Each instrument manufacturer tends to employ his own proprietary technology for generating sounds. Some use pure mathematical synthesis of sounds, others rely on manipulating digital recordings of real sounds as a basis, and yet more utilize a mixture of the two. The end result is audible sounds which can be played over a wide range of pitches and thus be used to make music. Many instruments are now "General MIDI" compatible, which means they have a standardized set of characteristics including a common set of sounds. A General MIDI compliant sound source is a good starting point for the beginner.

One very important consideration is sound quality. Different instrument models even from the same manufacturer often have their own distinctive sounds, and just because two instruments have a selling-point "feature" doesn't mean both accurately mimic a piano. One may sound like a Stravinsky concert grand and the other like a nursery toy. When choosing an instrument make sure you LISTEN to it first, especially to those sounds you know you'll use frequently. Pianos, guitars, and massed strings are often a disappointment, so pay particular attention to those if they're important to you. Price plays its part too - you get what you pay for, so don't expect a £200 basic keyboard to sound as good as a £200 model.

If you're interested in producing your own customised sounds you should ensure your choice of instrument has "voice patch editing" capabilities and can upload/download patches via MIDI. Some cheaper models don't have these features, which usually means you're stuck with the sounds the manufacturer provided. Most instruments from respected companies such as Roland and Yamaha do permit editing, but check before buying just to ease.

POLYPHONY AND MULTI-TIMBRALITY

There are two other very important synthesizer characteristics to check when choosing an instrument. The first is the number of notes it can sound simultaneously, known as the instrument's level of "polyphony". Many old synthesizers, such as the vintage models from the legendary Moog stable, were limited to playing one note at a time and were known as "monophonic" instruments. They were great for playing earthshaking bass parts or soaring solo lines, but less suited to background pads as they couldn't play chords. Later models were "polyphonic", and could play many notes at once. Today, stereo rate polyphony is commonplace, with thirty two not unusual. For general use I'd recommend sixteen notes minimum, but get more if possible.

The second characteristic is the number of different sounds (or "timbres" that can be played simultaneously, known by the ugly term "multi-timbrality". It's this which gives a single synthesizer the ability to sound like a complete band. For

example, it might play a bass guitar line, a wide selection of drum kit sounds, string section chord backing, rhythm guitar part, and piano solo - all at the same time! If programmed right you might consider it a musician - say less would probably prove restrictive in the long run.

The second source can't function without input from a MIDI controller of some description. This is a device capable of generating and transmitting a MIDI message stream to tell the sound source what to play. The most popular controller is the MIDI keyboard - a piano-style keyboard which generates Note On, Note Off, and other MIDI messages as you play it. In addition to keys are often "velocity" and "aftertouch" sensitive, so let me explain these a little more.

VELOCITY AND AFTERTOUCH

On a piano if you press a key gently the sound plays quietly. Hit it harder and you get a louder sound. In fact, it's usually the SPEED of key depression rather than the force applied which affects the volume of sound produced. A MIDI keyboard electronically measures the speed (or "velocity") with which you strike each key and turns this into a numeric value between 0 and 127. This velocity value becomes part of the Note On message - it's the second data byte. If you remember the message structure from the last issue, when the message is received by a sound source it starts playing the specified note at the volume indicated by the velocity value. This makes the keyboard "touch sensitive" like a piano's, an essential prerequisite for expressive performance. For this to work both keyboard and sound source have to be velocity sensitive. Not all are, so beware.

The velocity value isn't restricted to controlling sound volume, it can also be used to vary other characteristics of the sound, typically a sound's overall tone or timbre (e.g. "brightness"). This is useful, for instance, when using a trombone sound. Hitting a key harder could change the sound from a soft and mellow tone to an aggressive rasp typical of a trombone being blown enthusiastically!

"Aftertouch" is the name given to the way a keyboard responds to continued downward pressure applied to a key after originally being depressed by your finger. As you "bore" on a note and change the pressure a series of MIDI "Channel Pressure" messages are generated, the number depending on how quickly you apply or remove the pressure. Each message consists of a status byte identifying its type and channel number, plus two data bytes linked to form a single binary number in the range 0 - 127 which referring the pressure applied. A sound source receiving the messages could be set up to add varying levels of vibrato, tremolo, wah-wah, or similar effect to the basic sound, depending on the aftertouch value - the pressure again to add expression to your playing. Channel pressure applies globally to all notes currently sounding on the channel, even if you've triggered aftertouch on just one of the keys. Once more both keyboard and sound source have to be aftertouch capable. These features aren't usually found on lower priced instruments.

There's a more complex form of the above included on very expensive keyboards. It's called "Polyphonic Key Pressure", which allows you to apply a different amount of aftertouch to each note sounding. It also generates vast amounts of MIDI data, an effectively each note has its own stream of pressure messages.

WHEELS AND PEDALS

Piano keys aren't the only controls used. Most keyboards have a thumb wheel for varying the pitch of a note as it's played (known as "pitchbend"), and a "modulation" wheel for varying the level of other effects applied to a sound, such as vibrato. Sometimes there are joystick, sliders, or rotary controls for adjusting additional variable elements of a sound where you need to provide a specific data value to get the effect you want.

There may also be inputs for pedals, usually a "volume" pedal for setting the overall volume level of the instrument tone to be combined with velocity, which applies to individual notes) and a "sustain" pedal which works like its piano equivalent, causing notes to continue playing until you release the pedal. There may also be a switch for a "breath controller", a pressure sensitive device a player holds in his mouth so he can play the keys with both hands and still vary some characteristics of the sound by varying his breath pressure.

When activated, most of these controls make use of the "Control Change" message to communicate their information to the sound source, with data sent depending on the type of control. Some, such as the modulation wheel, are classed as "continuous controllers", which means they generate a series of messages reflecting a continuously changing set of values which vary smoothly between two limits as the control is moved. Others, such as the sustain pedal, are simple on/off switches with essentially two values indicating the current position of the switch, e.g. sustain on, or sustain off. The pitchbend wheel generates its own special message - the Pitchbend Change message. It's different from the others as the wheel may be moved either way from its present central position, to vary the note up or down in pitch. The control position has a value of 0 (Hz), nothing if turned gives a maximum value of 30,000, and pulling it back a minimum value of 0.

Finally, there could be one or more switches used for sending specific control values to a MIDI sound source, for instance to change from a piano sound to a violin sound. The switch is usually associated with a means of setting a specific numeric value, usually in the range of 0-127, so when the switch is operated the chosen value is transmitted. MIDI achieves the sound change via its "Program Change" message.

WHO NEEDS A KEYBOARD!

Can't play a keyboard? Never mind, keyboards aren't the only form of MIDI controller. Other possibilities include MIDI drum pads - hit these with your hands or sticks to generate MIDI Note On/Off messages you can use to trigger drum sounds - or any other sounds for that matter. Clarinet or sax players can use "electronic wind instruments", which are played like a clarinet or saxophone but produce MIDI message streams based on the player's lip pressure, breath velocity, and finger positions instead of making audible sounds. Guitarists can use a MIDI guitar which generates MIDI messages from string movement and finger position. Still no MIDI beggones yet, though!

Based on our definition above a computer can also be considered a MIDI controller when running appropriate software. We'll pursue this topic further next time.

A BATTERED FE



Infelix Jones is back and better than ever in this re-release of the Lucasfilm game of the third 'Jones' film.

The game, as you may already know if you've seen the film, has you, as Infelix, engaged on one of the most famous quests of history. The quest is for the Holy Grail, the cup that caught the blood of Christ at the crucifixion which is said to bestow eternal life on those that drink from it. For this reason the Grail has been sought for centuries by those wishing to use its powers.

In *The Last Crusade*, you must try and find the Grail because your father has gone missing while in search of it. You are called in to find it, and your father, to stop the Mad's from creating a super army with its powers. The quest will lead to thrilling encounters in Venice, Sicily, Berlin, and Palestine as you encounter all sorts of nasty characters on your journey, all of whom stand the Grail's powers.

A LITTLE HELP

One thing that may be of use to you in the Grail Diary that your father has compiled over 40 years of hard research. It has all the secrets that will lead you to the Grail provided you can understand it fully. To this end you are given a copy of

the diary in the game box and it contains all the notes and drawings that Henry Jones, your father, has made. It is advisable to read this as it will put on your journey and provide valuable knowledge.

throughout the game. It is also worth reading because it has some humorous references in Henry's

diagram to his young son, who goes off on all sorts of wild goose chases and wonders what he might go after next, the Ark of The Covenant perhaps?

The game is protected by a unique code system that encompasses as a translation that you have finally done for Microsoft. Once this is out of the way you can get to grips with the adventure itself.

PLENTY OF ATMOSPHERE

This particular game is the adventure version of the film as opposed to the arcade version and is much the superior of the two versions. The adventure game

is much more closely related to the film than the arcade game ever was. It uses much of the atmosphere of the film to set the scene and to make the game of the more interesting to the adventures. One example is when you find the diary or have to justify your little stunts before you can get into your office. The game trips along quite nicely with you having control of either Indy or his father Henry.

MAINTAINING INTEREST

Play begins with you returning to your university after finally finding the cross at Jerusalem. It continues the close association with the film throughout but with enough flexibility so as not to be boring and linear. There seems to be a lot of thought given to playing a game such as this, as it isn't something that is going to be finished in a hour-hour. I should imagine that a game of this size would take someone like me several days to complete, but you may take more or less depending on your experience and enjoyment of this type of game. The diversity keeps the interest alive as you can go flying as you fire the Crusader castle, travel to Berlin to see how the Diary and finally discover the final resting place of the Grail.

The Last Crusade marks on the mind and tested Lucasfilm interactive technique that has proved so popular in games like Monkey Island and Kings Quest. It works by you specifying an action and then clicking on your experience and enjoyment of this type of game. The action is then carried out or you are told, in a polite way, that it doesn't do anything. This kind of interaction makes the game more interesting when you play it because you get a more animated response if you are on the right track.



E DORA

With this interview, you actually become much more involved than if you were just to type in commands as has always been the case in the past with adventures. It can bear the cross now, from the default text adventurer, of the lack of imagination required from the players, which may be justified, but many of us just like to play games, not sit down and listen our minds on unexcitingly difficult puzzles after a hard days work before has a standard over close final word - EDD.

THE LOOK OF THINGS

The graphics are not the best to ever grace the Atari but can be forgiven due to the fact this is a graphical adventure... there's about game play and involvement, than pretty pictures. The graphics do, however, hold true to the Lucasfilm unwritten philosophy of applying the most appropriate graphics to the game. Items that can be used are easily identifiable, but not to the extent that you can see how to use a useful item and what is scenery. That might seem a little unclear but it is all too easy to confuse the two if not thought about carefully beforehand. The characters are animated well with body and the others walking nicely, and apparently talking when they have a message to say. A nice touch that gives the game a little polish.

Sound is minimal with just a library tone knocked out at the beginning during the titles. The titles feature the young lady fleeing along the top of a tree and finally falling through the roof of a carriage. Otherwise there are very, very occasional spot effects so don't buy the game if you are expecting sounds that will blow your socks off! What there is simply highlights the fact that you have done something that is useful (sometimes)! Movement of your character is through the scenes at the cursor keys. You simply point at the position you want to walk to and Inly or Henry walks there. This is



the same with the actions that have to be performed, but less time you sometimes have to give two commands in one such as "Use the candle on the shelf" and there are what happens. Sometimes nothing, sometimes a lot. It all depends on what you have done previously. You can load and save your current position and store it on a separate blank disk. You can store more than one game and so build up a library of important turning points in the game to come back to in the future to try out alternative moves.

NOT PLAY IN A DAY!

You won't be disappointed with the length of time that this game will keep you entertained. Pencil in several days if to play it to the hilt. Loadability is a personal thing but even those people who

have very little interest in adventures will be interested by the Indiana Jones connection. Probably just about the entire population of England know of Inly because of his, meaning, and several adventures. The whole feel of

The Last Crusade is one of class, sophistication and quality. This is a game that has had a lot of work put into it. The feel of the game is just right and it contains the ideal balance of atmosphere and cerebral stimulation to keep you interested, inspiring an element of humour whilst sticking closely to the files. It is the kind of game that you will be coming back to for more several months from now.

It might be a little while since it first came out but with the current state of the ST games sector, it is a welcome addition. The overall feeling is that you have one hell of a game to get stuck into.

ADIOS!

So, as the sun sets over old England, I pick up my battered Pegasus, Inly and Magnus and head out in search of the one thing that all men seek. "Power and glory kid, power and glory!"

INDIANA JONES AND THE LAST CRUSADE (THE ADVENTURE GAME)

Published by KIXX XL

ST and Falcon - Hard drive installable

Price £14.99

Reviewed by Nicholas Bawington

ST ZIP

There are several file compression utilities available for the ST but in our opinion the easiest to use is ST ZIP. Here G. Richard Yamagata explains the ins and outs of a program you may well come across on your next public domain disk

THE HISTORY OF COMPRESSION

Compression of programs has long been popular in the world of telecommunications. Although numbers have become faster, growing from the days of 300 characters per second (cps) to 14,400 mbps, computer programs and files have become larger. Compression of the files to smaller packages, like 100k for the STZIP21 ZIP file that was 161k uncompressed, is needed to keep connect time short and, consequently, long distance telephone charges down and fees for using premium services like CompuServe at a minimum.

In the stone age of ST computing, the first program and file format that was widely used was something called SQUARE.PRG. To uncompress a file you used the ugly named UNOSQUARE.PRG. This was extensively used by the early ST magazines to give their readers more programs than normally allowed on the early 200k single sided disks used in those bygone days of ST computing.

ARC TTP replaced this system of programs. ARC not only compressed and uncompresses your files, it gave you a full complement of tools and commands which allowed you to compress a group of files together. Whole application packages with resource files, data files and accessory files could be compressed into a single file. An early example of this is the SAM driver ARC file that contained all you needed to set up and configure your system to use the SAM 804 laser printer. This contained the programs that went into the AUTO folder, accessory programs and some fonts.

ARC was replaced by LZH TTP as the method of choice for file compression. LZH not only placed at your disposal a battery of tools for compressing files, it was more efficient in its compression. LZH is now being supplanted by STZIP TTP for reasons that will become apparent as the features of STZIP are enumerated and explained.

Actually, STZIP is a misnomer. This ZIP program runs on any of the ST computers (TOS 1 to 1.6) and will uncompress the ZIP files compressed with PKZIP2.04, present on any bulletin board server that supports IBM and PC clones. Since TOS 1.4 supports the IBM V20k format, STZIP is the perfect compression program for you on your ST system if it has IBM emulation capabilities (i.e. Supercharger, PC DMS etc.).

STZIP will also uncompress files that have been processed by the Unix system's tar-ZIP program. This gets a little tricky for people using operating systems other than TOS or UNIX. STZIP commands and string functions are identical to those of PKZIP for MS-DOS systems. UNIX has its own way of doing things and may give some ST users a pain attack.

THE ACID TEST

Table 1 directly compares the compression efficiency of ARC, LZH and STZIP. ZIP v2.2 clearly has the best compression, making the smallest files. The LZH system and ZIP v2.1 are competitive with ZIP v2.2. If you are using a 14,400 baud modem, you will not notice the 0.89% more efficiency of v2.2 versus 2.1. If you are using a 1200 baud modem, this can mean minutes more time on-line for larger files.

The areas where the LZH system lags far behind are in the ease of use and cost. ZIP has an extremely friendly-GEM interface and can be operated entirely by using the mouse. The LZH system, supplied as LHAM602.TTP, uses a command

Table 1: Shows the sizes of files that have been compressed using ARC, LZH and ZIP. This comparison gives an idea of the efficiency of these compression programs for a picture file (PIC), a program file (PRG) and a text file (TXT). All values are given in bytes. The version number tested is indicated.

FILE TYPE	UNCOMPRESSED	ARC 5.01	LZH V6.02	ZIP V2.1	ZIP V2.2
DECLAR.PIC	33,088 bytes	7,314	4,904	4,904	4,904
PROGRAM21.PRG	136,323 bytes	109,891	66,162	64,009	63,910
TEXT21.TXT	83,032 bytes	11,152	9,769	9,613	9,578



Figure 1. Shown is the main window menu of STZIP. Except for the displayed version number, the window is the same for v2.1, v2.2 and v2.3. All selections are made by using the mouse. File names can be entered by hand.

low system, where you have to have the commands memorized or written out for reference (or typing in). The ARCHIVE, program makes LHM and ARC more user friendly, but by the time you have read in the shareware files for LHMARC and ARCHIVE, you have spent over \$60. STZIP is painless. All the author, Vincent Penney, asks is that the users of STZIP send a nice postcard to his address in France.

NUTS AND BOLTS

Version 2.1 comes as a self-extracting ZIP file. After double clicking on STZIP_21.TOS, it uncompresses itself and you will soon have six files: README, STZIP-DOC, STZIP-PRO, STZIP-CRM, WHATSDOCS and STZIP-PRO. Version 2.2, as supplied as a ZIP file that contains the same files for 2.1 plus a file called ZIP-4.TTP. If you print out the docs, you have 15 pages of reading.

Using the STZIP program could not be easier. It is intuitive and the docs may be superfluous for experienced users of ARCHIVE. Double click the program and it first asks you for the name of the ZIP file you wish to work upon. If you have an improved name selector, such as the one of TOS 1.4 or Universal Item Selector, you can select a pre-existing ZIP file with a click of the mouse. If you are creating a ZIP file, you type in the file name, i.e. ABC.ZIP. If you are a TOS 1.3 or earlier user with more than one drive, you will have to type in the path file on the directory line. This is no different than for any other file selection.

Once the ZIP file has been designated, you enter into the STZIP program proper. The screen is shown in Figure 1. The ZIP file name that I chose is DSK1_1.ZIP and is shown at the top of the left hand file selector menu. I have chosen drive A for the right hand menu. STZIP has an improved file selection interface. You can choose any drive or partition that is active on your system. Since I

have a hard drive with partitions C to G, these are shown. Floppy users will be given only two choices. A and B.

To compress a file, just click on the files you want zipped in the right hand menu, highlighting them, and click on the Compress file box with the arrows showing file movement from right to left. You can cancel any operation at any time by hitting the (ESC) key. If you want to insert a comment that will flash on the screen whenever the ZIP file is uncompresssed, just click on the status bar containing the file name which, in this case, is DSK1_1.ZIP. A window will open that will let you type in your comment. This feature will only function in versions 2.1. The status option displays the status of the compression, as in view of the size of the compressed and uncompresssed file or folder and the number of files present in the ZIP file for v2.1 and v2.2. Extract to the inactive window of Compress.

You click on the files you want uncompresssed in the left-hand menu, choose the file directory you want these to go to on the right and click the Extract file(s) box with the arrows going left to right.

If you do not have an empty disk to place the uncompresssed files on, you can click on the Format box and a fully interactive comes up that is user configurable. You can make the disk access fast by altering the format or you can format to high capacity with up to 80 tracks (if your drive is capable) and 18 sectors per track. You can experiment for the fastest and most efficient format settings for your floppy drives.

If you want the files to go to a particular folder, the CreateDir box allows you to create a folder. If you need to delete a folder or the ZIP is creating a conflicting folder name (you cannot have two folders with the exact same file name), just use the Delete function to delete it. This can also be used to delete files.

What makes STZIP superior to LHMARC is the ability to control comments from the ZIP file and the ability to make the files not only self-extracting but able to extract not to the folders that the person who compressed them wanted them to go to. No more having to remind the users to ensure that you have the

continued

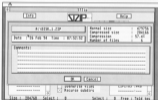


Figure 2. Shown is the window accessed by clicking on the left-hand menu bar. In this case, the file name DSK1_1.ZIP occupies the menu bar.

proper files in the proper folders to get that compressed STOS program to work. An example of this is that the DEFALT.ZIP file has the folder ST_ZIP_2.1 compressed and will uncompress that folder with all six of the files of 1.2. If you wish to turn off this feature when extracting files, click and e-out the Feature subfile box at the bottom of the STZIP window. The extracted files will be written to the selected directory and no folders will be created.

The Check Zip option will go through the extraction algorithm and tell the user if the ZIP file will correctly uncompress to usable files. The Config option allows the user to select the criteria by which the files are ordered in the displays for the ZIP file and the drive or partition. You can select which of the four algorithms available you will use for compressors. You can set the program to delete all files as they are added to the ZIP file or query for deletes. Other options are listed, but have little utilization use.

The Add mode selection can switch STZIP from compressing to adding all files selected to the ZIP file or to "insert" or "update" them. Insertion adds the file if it has a date newer than the one in the ZIP file. Update will add the file if the file is newer or is not in the ZIP file. The selection date criteria for these two actions is set by the user.

An interesting feature is the ability to encrypt a ZIP file. When the user compresses in a ZIP file, he can designate a password. If the password is not input into the STZIP program when the ZIP file is uncompress, the extractor is alerted. This is an excellent method of ensuring the privacy of files when using public bulletin board services.

The most useful feature of the STZIP system for the PC's updaters is the ability to create self-extracting files. The ZIPTOYS.PPO will ask for the user to select a ZIP file to make into a self-extracting TOYS file. This means the user does not have to have a copy of STZIP to uncompress the files. You just copy the file to an empty disk or partition, double click on it and it extracts out to all the folders and files that were placed into the TOYS file by ZIPTOYS.PPO.

Of the two, version 2.1 is my favorite, because of the functional command options. Version 2.2 has been for bugs that are experienced by users of version 2.1, in medium resolution. Version 2.2 also has a feature where you can select individual compressed files in the ZIP file for output to a printer. If you regularly use a non-diskette computer, you will be just as happy using V2.1 instead of V2.2.

All told, STZIP is superior to UNRARC and ARC and I recommend using it for all your compression needs, especially if the person you are sending the file to has trouble working ARC-TTP, UNARC-TTP and/or Arcserve.

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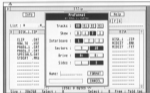


Figure 3. Move to the Format option of STZIP, accessed by clicking the Format box.



Figure 4. The addition mode window, obtained by clicking the Add mode window. This option allows quick updating of the files in your ZIP file to the newest version of the option.



Figure 5. Move to the configuration option window of STZIP, accessible by clicking the Config box from the main menu.

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