

Sorry, no computers



but I can sell you a hard disk drive

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Page 6 supports your Atari with the world's oldest and best dedicated magazine ...
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as well as providing commercial software ...

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Page 6 Publishing's

NEW

ATARI USER

The Resource for the ATARI CLASSIC and the ATARI ST

Issue 77 - July/August 1994

\$2.50

FOR THE ATARI CLASSIC



⊕ SOFTWARE ISSUE

Reviews of half a dozen recent software releases

⊕ MACHINE CODE GRAPHICS

It ain't easy but we show you how it can be done

⊕ HIGH SCORE TABLE

Add the professional touch

THE TIPSTER

brings you incredible maps of MERCENARY!



PLUS... TUNING TIPS ... TEXTING BACKS ... CHARACTER SET REDEFINER ... AND MUCH MORE!

This issue's

Thanks

Lee Ellingham puts it all together and fills up the gaps but the real thanks goes to the following who made this issue possible

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

For their regular contributions

John & Dawnen
Paul Dixon
Alan G'Drivedit

Alan J. Palmer
Stuart Murray

For their contributions this issue

Philip Eglins
Alan Demetriou
Daniel Bowerstock
John Paskett
Peter Fovee

Bill Galsford
Andy Goldbourne
Raviid Sand
Frank Walters
J & S Wood

Inspiration

It's Kathy Morton once again, at the very through this issue although The Incredible String Band did get one letter. There that I would like to have had on the planet was that Young who looks to have another good one just out and Mark Krogger whose solo effort I listened to in Wookwoko and it sounded rather good. Early on I thought the music had had a few good as the CD just sort of died, but like New Start User it's made of sterner stuff and came back to life a few days later

CONTRIBUTIONS

Without contributions from its readers, NEW ATARI USER would not be possible. PAGE 6 welcomes and encourages its readers to submit articles, programs and reviews for publication. Programs must be submitted on disk or cassette, articles should wherever possible be submitted on text files on disk. We seek to encourage your participation and do not have strict rules for submissions. If something interests you, write a program or article and submit it!

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Dedicated Atari User"

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APOLOGIES

I am still extremely poor at acknowledging contributions and I apologise to everyone who has sent in work (and thought it has gone through the woods). The intention is to reply to everyone in time but due to time constraints I can't if you have not heard. Thank you and keep watching the mail, you might be surprised.

HOW IT'S DONE

Each edition goes what you can do with your best NEW ATARI USER has always been created entirely with Atari equipment, initially on the SL but more lately with a Mega BT and other stuff, who sends PCs to their hardware includes a Mega BT (supported by AT&T), the 114 Monitor (copy of the Atari 114) or a 114 Concept SL, Color 1245 printer (Shupac 1245) or even 1200L, a couple of 1200 disk drives, 800 interface, NEC 8025 printer. Original software used in Project and Atari Home includes the 100, other software includes Kamin, TurboTalk, Turbo Basic and various custom written programs on the SL-02. Articles submitted on SL-02 disks are transferred across to the BT via TURNTALK. Programs are coded on the 800 and printed out directly but leaving in effect the typesetting is completed, all matter relating to disks with. Panels and pages are laid out with Postscript Publisher. Each page is output directly from Postscript to a HP LaserJet II which produces individual pages from the job via the 114. All text is set in a type in the settings and photos.

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

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It was great this time to receive not one, but three, quality programs that we can use for the Dark Forces as thanks to Bill Habel, Robert de Letter and George Ferench who will tidy us over for the next few issues. We have a number of articles in reserve but, as always, rely entirely on you to keep the ideas and articles coming. Even if you have submitted things in the past, keep up the momentum and let us have a new article or program for the coming issues.

In the Mailbag column Brad Rogers puts forward the idea that the mag be put on a quarterly basis because we have been a bit late with recent issues. The reasons for the delays have been touched on in previous issues and, overall, I think that we are doing quite well to keep the mag going given all the pressures and difficulties of making a living in Mr Major's 'most successful European economy'.

One of the advantages of a bi-monthly schedule is that it keeps the magazine going to keep producing regular issues and even if we fall behind from time to time it's generally not disastrous. If we officially go to a quarterly basis the temptation might be there to slip behind on that schedule as well because we all know that no matter how much time there is to do something, it is always done at the last minute! With a bi-monthly schedule you will get at least five copies in a twelve month period and that is better than four, or even three! Talking of the last minute, you will find that several regular columns are missing from this issue because I wanted until the last minute but they didn't arrive. We had a number of deadlines forced upon us by the printers announcing their annual holiday schedule and we had to get the mag to them by a certain date or wait an extra three weeks for it to be printed. I know that the columns were posted to us for the deadline but you still cannot rely on Royal Mail, even though they put their prices up to a few days time. Whereas we would normally hold on for a day or so to allow the post to arrive I thought it more important this time to make sure that the mag was printed without the three weeks delay. See, I do try to get it out on time!

The thing to do is to stick with us, understand that there may be delays now and then and appreciate that you will have a magazine that supports the Atari Classic. We have had many letters and comments of support and they are all gratefully received.

Les Ellingham

TURBO BASIC BACK TO DOS

This short program modifies your copy of DOS 2.0 so as to allow you to easily return to TURBO BASIC after entering DOS without re-booting.

To use it, first boot up with TURBO BASIC, type in the program and save a copy before running it. Then run the program and, when prompted to do so, insert a disk containing the copy of DOS 2.0 that you want to modify and press RETURN. After a short wait you will then be transported to DOS. Once in DOS, select the L option (LOAD FILE) and enter the filename ENVDOS. Your version of DOS should now be modified. This can be confirmed by pressing RETURN. The D RUN COMMANDS option should now read RUN TURBO BASIC. Finally you must save the modified version to disk. This is done by using the H option (WRITE DOS FILES) from the DOS menu.

Now whenever you are in DOS and want to return to TURBO BASIC all you need do is press H and RETURN, and there you have it. There are two things to watch out for though, firstly this new version of DOS can only be used to return to TURBO BASIC and NOT to ATARI BASIC or any other language so you should only modify the DOS's on your TURBO BASIC disks. And secondly you need to have the ENVDOS file on the disk at all times. If you use any commands that invalidate ENVDOS, i.e. DUPLICATE FILE, then you will not be able to return to TURBO BASIC.

Ralph Espino solves one of the real bugbears for Turbo users - how to get back to Turbo once you've called DOS

```

01 | 000 *****
02 | 000 | 000 ENVDOS FOR TURBO |
03 | 000 |                               |
04 | 000 |                               |
05 | 000 |                               |
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Underscore = INVERSE CHARACTER - | = CONTROL + CHARACTER - * = INVERSE CONTROL + CHARACTER

Mailbag



Oh, no! Not again!

If you are looking forward to Allan Palmer's Mailbag this issue then sorry! Once again it didn't quite work out as by the time we got enough letters for the column it was too late to send them on. You are stuck with me again this issue. Please try to write as soon as you can after you have read this column so that we can try and get Allan back on board.

Les Ellingham

MACHINE CODE GRAPHICS

It is great when problems posed in one issue are answered by the next and we must thank David Rowland from Grantham for his help in solving a problem posed last issue. David writes: "In the last issue there is a letter from James Mackintosh asking how to change graphics mode in machine code which I would like to answer."

You say that you have played around with location \$23. Maybe you are looking for a simple POKE command that would change the mode for you, but as far as I know this can't be done. In BASIC you point to a graphics screen using the PRINT #8 command and this should give you an idea of how to solve your problems. You set up an Input/Output Control Block in the same way as BASIC does when you use a graphics command such as GRAPHICS 3. ICG's have been covered in past issues of MRL, so I will not go into any detail here. They are usually used to interface with disk drives, printers or the keyboard, but one can also be assigned to the screen.

This is how I would write a routine which could be called

from BASIC with the I/OB command.

```
100 100
10100 P1: Number of values
10200 I: Input Data after
10300 10000
10400 10000 Open ac-
10500 10000 ments I/OB
10600 10000 Size in and top
10700 10000 bits
10800 10000 I/OB address
10900 10000 I/OB I/OB
11000 10000 I/OB I/OB
11100 10000 I/OB I/OB
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19900 10000 I/OB I/OB
20000 10000 I/OB I/OB
```

The machine produced is 104, 102, 14, 109, 3, 157, 06, 3, 189, 32, 157, 68, 3, 189, 8, 157, 68, 3, 106, 24, 157, 74, 3, 189, 3, 187, 78, 3, 32, 98, 228, 96, 93, 94

I have checked this routine to make sure it was correct before sending it to you and hope it works alright. If you print it in the next issue of MRL, I hope it will be helpful to James in his programming."

Again many thanks, David. We are more than happy to publish your letter which will

no-doubt help others besides James. This is what Mailbag is all about.

XIO HINT

A little hint here from Peter Fuchs in Düsseldorf which you might find useful. "A quick hint, maybe a tip, regarding the use of BASIC graphics statements. A problem I recently had with the XIO command was that: XIO 18, #0,0,0;" followed by LOCATE X,Y,C created Error 101 - I/OCB Write Only. To correct this use the command: XIO 18, #0,0,0,0;"

⚠ Many thanks, anyone else got any handy tips like this?

MULTIPLE QUERIES

When reading in his column David Bennett from Coventry listed a number of queries which are of general interest so I thought that we would put his letter in Mailbag and maybe provide answers to some of the things other readers have been wondering

about. There are quite a few questions so let's tackle them in order. David starts by asking "Is there a telephone number - in this issue - 24 hours or are there specific times when someone is there to answer queries, as opposed to an answering machine?"

Well, the phone is not exactly answered 24 hours a day. I do like to get some sleep sometimes! We no longer use the answering machine, except on rare occasions, so if you ring you will either get an answer or know we are out. The phone is really for routine enquiries and orders and is not intended to be a help line for problems although I am happy to help out if I can. All that I ask is that anyone phoning does so at a reasonable time. I just rather feel up some years ago when people would phone at 11 pm on a Sunday expecting us to help them out.

The next question is "Are there any PAGE-8 binders still available?" I took the original Atari User magazines since the first issue and New Atari User since the original Atari User ceased. I have also taken other magazines on a less regular basis and have been getting ST Forum for some time as it now seems to be the main magazine for the ST. My problem is that the ST User binders, like the old

Atari User binders, have wire rails to hold the magazines in place and take up about twice the width needed for the magazines. The PAGE 6/ New Atari User binders had elastic to hold the magazines in place which made them slimmer, much better for my shelves. Naturally neither type shows a manufacturer and I cannot find any local stockists for this type of binder.

I have always hated the "wire rail" binders as they are bulky and the magazines tend to be a bit floppy. Other companies use them though because they are cheaper than the type we used to use. The binders were specifically designed for us to hold a dozen issues exactly of the magazine and were quite neat. The problem was that they were expensive and the local bookies we ordered meant that we were selling them almost at cost by the time the postage costs taken into account. Add to that a minimum order of about 400 binders and you can understand why we decided to discontinue them. This is also the reason why no binders are available for the new smaller size magazines, it simply wouldn't be cost effective for us to have them designed and made. They would have to sell at around £8.7 each and three





would be the few readers wanting them at that price. Some years ago there was a company that supplied "one off" binders with the wire fittings which came with a set of transfer letters so that you could add your own title but I have not seen these advertised for many years. Does anyone know if these are still available?

The next query concerns the CD catalogues. Can you please confirm the latest issues of the Catalogue? I have a loose lot XL/XXI catalogue dated 05/95, various update pages and a 1993 XL/XXI catalogue which is presumably out of date and should be scrapped. The ST catalogue I have is dated 1992 - is this the latest or can I please have the latest issue?

¶ The old style stapled XL/XXI catalogue is out of date and was replaced in 1995 by a new style loose-leaf catalogue which we intended to keep up to date by regularly issuing new pages. This idea was fine but we never quite worked out how to ensure that readers who purchased the catalogue got the updated pages. We should have kept a database of purchasers but kept forgetting. In theory we could send out updated pages now but everything changed now with the famous hard disk

crash which affected the last issue. The new style catalogue was one of the things that was lost and I had to recreate it from scratch. Unfortunately it turned out to be different in format than the original so that the pages are not the same. Any updated pages will have some blank overlapping, a bit messy but not too much of a problem. The best thing for anyone to do about getting updated pages for their XL/XXI catalogue is to drop us a line, or phone asking for updates and telling us the last disks (included and CD) on their current pages. We can then mail out the new pages.

As I am saying this it occurs to me that we could evolve an "update request form" with each catalogue which readers could mail back every so often for their new pages. Sounds like that could work.

As for as the ST catalogue goes, we no longer print a full catalogue so long as it what you have as it won't be replaced. All of the disks are still available and we can mail out individual updates although these are not in a form that fits in the catalogue. Again simply let us know what the last disk is in the catalogue you have and we will send details of any new disks added.

Next question is slightly bar-

dic to answer "All the adverts for machines, etc. seem to be from places that I can't get to as I no longer have a car. What is the best way of arranging sale collection or delivery?"

¶ If you want to be sure of something arriving don't use Parcelpost! The last lot of disks we ordered were sent on a 48 Hour guaranteed delivery with a bar-coded tracer system on the parcel. When they hadn't arrived 10 days later we asked Parcelpost what had happened only to be told that they had no trace of the parcel anywhere in their system. Royal Mail and Forcepost are certainly the cheapest but be prepared for something to be lost sooner or later. The only other way is by the regular carriers who generally are more reliable but you have to pay quite a bit for the service. Is there actually a service that is 100% reliable?

Telexed queries now with "I have an 800XL with a 1027 printer and an RTE with a Citrus bank print. Is it possible to connect both computers to a switch and just use the Citrus printer. If so could you advise me of a supplier for switch and leads and is it worth doing?"

¶ Well, you can certainly get a switch box to connect two computers to a single printer.

I don't know a supplier I'd trust that they get a variety of companies that advertise in the PC magazines that could probably help. These kinds vary in price from around £200 to up to £250 or so, so it is worth looking around. The main problem is that you are going to need an interface for your 800XL. Although the XL works with the IXTT, it cannot be connected directly to a Citrus printer such as the Citrus and you need a Citrus interface. You can get one of these for around £30 from Micro Computers. All in all it is likely to cost you around £200 if not more, only you know if that is a price worth paying.

And lastly - "A last point, mainly with using Shareware. Most things I use and would consider paying the sum to ask for payment in foreign currency which makes it expensive. There was some talk quite a time back of a clearing address in the US that would accept payment in US currency and forward payments. Is there still such an organisation and do you have any information about it?"

¶ Shareware is a nightmare on regards payments. How do you know whether the guy making for the donation is still supporting the software? How

do you know that an "international" will pass on the money? As far as I know no one has come up with a totally satisfactory way of handling shareware issues. It is probably best to treat the matter as a question of convenience and with the knowledge that you may never know whether your cash has arrived. Best thing is probably to decide whether you can risk the amount asked for and then pop down the bank, get some dollars or Deutschmarks, send them off and hope for the best.

HARD DISKS ETC.

Regular correspondent David Rogers from Southampton includes a number of points raised last issue taking Allan Palmer to task for the information about hard-disk drives, when in fact it was David who provided the spurious answer. Here's what David has to say - "In issue 28 in connection with hard disk interfaces, you claimed that they are pretty much a dead duck. This is far from the truth in fact. There are currently three different systems available. Surely they all originate from the USA so aren't particularly cheap."

First, the Supra system you

mentioned is still available, albeit from a different manufacturer. Supra hold the rights. Secondly, there's the MD board. Not only a HD interface, but it allows the addition of RAM too. Finally there is the Black Box which is similar in concept to the MD. Of the three, probably the MD is the most popular (it used to be manufactured by ICD) with the Black Box coming a close second. The Supra system is too limited in that it can't accept additional drives, whereas the other two systems can.

Thirdly, I don't have pricing information available here at the moment, but it is readily available from the Internet. If there is sufficient interest, I could acquire details for publication.

Which leads me, quite nicely, to the second topic. Again, you indicated that around £1000 was required to "get connected". Simply put, this isn't true! I offer as evidence an article in the very same magazine (issue 28) by Gordon Hooper. In this article he explains what is required to get your Atari 8-bit on-line. Being on the "net myself", I've seen evidence that it is true. There is plenty of Atari Classic software available, too. Talking of software, one of the perennial arguments in comp.usa.atari.8-bit is





whether or not we [Markand] should put copyright material up on the net, about 90% of the commercially produced material we have is no longer in production. You'll be pleased to hear that any attempts at this sort of piracy I see the need (admittedly) has so far failed to get anywhere. Sadly the same cannot be said of commercial CD-ROM software. Nor, for that matter, PC software.

Now I have a question about the continued late arrival of NAA through my letter box. Resolving this, Sandy et al have to make a living, wouldn't it be better to slow the rate down? That is, turn the magazine into a quarterly, rather than the current (supposed) bimonthly? I have little doubt that there's still sufficient interest and material available to justify the bimonthly cover dates, but when the schedules are consistently not met, it makes you wonder doesn't it? (Hence don't misinterpret any intentions, I'm trying to make life easier for you, not sting you all.) Most assured my subscription has been renewed.¹

7. This just the sort of letter we want for Mailing. Great, a few points concerned, some comments and a few thought-provoking ideas to mull over. Let's talk about the hard disk

matter first. I am delighted to be proved incorrect in my comments, an endorsement also by other letters received on this subject. Maybe it's time for someone to do a definitive article on just how far the 8-bit can be expanded and where the bits can be purchased and at what cost? An agenda getting concerted on the Internet I stand by what I said. I wasn't talking about 8-bit when I said New Atari 8/ver and other computer magazines who use 'bit' computers already had the wrong person (for reads newspapers, magazines, computers, or the TV) and maybe stabilise such as Omega but does not already have a computer. Now he is going to get corrected? Simple, he goes into his local library, or library, or maybe PC World and asks for advice. Of course you can get on the Internet etc, use have a budget system here which starts at only £7,000. What mate?

The question of commercial software being made 'public domain' is very interesting and one which I would like a bit of feedback on in future Mailing columns. The argument is long and complex but, on the whole, I tend to feel that the time has come to release all commercial software that is no longer being sold into the public domain. After

all, what is going to happen in this software. Is someone going to release it again in 20 years time? No chance, it is dead (or for all commercial gets to commercial, so where's the problem? As I say, it is the complete an argument to cover here, but let's have some of your views sent here.

Lastly, Howl raises the question about New Atari than going quarterly and this is certainly one for discussion but I'll tackle that in the future (hopefuly).

THE INTERNET

Read Angus' letter about links on newly onto a letter received from Axel Doolittle which wasn't intended for Mailing but which evoked an outstanding thread! from the Internet. As many people have said, there is something for everyone somewhere on the Net and in the comp.sys.atari.8bit section in a Readers and Developers List of computers and individuals who support the Atari Classic. Who is absolutely amazing in that this list now lists details of around 135 commercial supporters of the Atari Classic around the world!

How many of the people list and may have missed on it

offer printers but even if half of them are still going that is an astonishing amount of support for a computer that has been out of production for many years. Interesting to see that Axel themselves are on the list!

BULLETIN BOARDS

Alexander Klawer is a new reader from Germany and jumps straight in with some advice regarding Bulletin Boards. In issue 75 Ray Thompson of Lantz asks if there are any ATARI 8-bit Bulletin Board Services around. Well, I don't know any in the UK but here in Germany is one called **ATARI-8BIT** run by the great ATARI BIT BITTER LIZARD CLUB in Herten. It can be called by the phone number 059 554 59 32 00 on Monday - Friday from 19.00 to 07.00 and Saturday and Sunday from 15.00 to 08.00 (German time).

The BBS is run by Heiko Dornbrun, who's a very well known person here. Having any problems he surely will help you. The computer used is an ATARI 800XL with 320KB RAM and a hard disk connected by the Black Box. Use **PCNTDSM** or any other software for connecting you

can choose between various protocols) and log in as **QUICK**. The bad news is that your phone bill will raise to heaven if you call for too long a time and that most of the messages are in German, but many of the sites in Britain are in English, e.g. the ones from The Netherlands or the U.S.A.

You can call **ATARI-8BIT** via Internet too on <http://www.comp.rug.ac.uk/stg/ale/8bit/> 1400/atari.8 and you can e-mail anything at 020080 9898 1 40 online de V Wang GmbH, Alexander, I am sure that we will be hearing more from you in the future.

HARD DISKS AGAIN

Well, what did I say? The very next letter comes once again from Alexander Klawer in Germany who has more specific information about connecting a hard-disk to your Atari. You'll know in Darrington asked if it is possible to connect a hard-disk to the 1200X. As you said this is possible, but why buy an expensive Super interface. Have you ever heard of the Black Box? The Black Box is a T-formed plastic which offers

¹ 08-202 serial number port.

* parallel printer port and
* a RAM/ROM hard disk port
That this extension exists and works fine is proved by the **ATARI-8BIT** mentioned in my earlier letter. Sadly I don't know whether it is available in the UK but you can buy it here in Germany for about £20000 (approx. £177) as shown in the latest catalogue of **BIT Patterns**, Postfach 11 03, D-24110 Lütjenburg, Germany. The prices are from 1993/4 but may not have changed much. Originally the Black Box was sold for \$199.95 by CDS Computer Software Systems, P.O. Box 17900, Rochester, NY 14617, U.S.A.

I would be very delighted if you could spread this information among your readers. Think of all the disks you could save if it is possible to load from HD - and it costs less, think of Lantz! The Black Box allows hard disks with 20MB to 200MB or more to be connected and offers additional features.

CASSETTE HELP

Most of the same information about hard-disk drivers also come from Don Magliaro in Spokane, U.S.A. for which much thanks but also to make





ly concerned about trying to get some Trenzable copies of certain cassettes that he bought a couple of years ago. I am sure that we printed this request quite some time ago but got no response, until now! R. McGeary from Dublin has helped out with Universal Hero, Final Fantasy, Bob and Jerry's House but Ron still needs copies of the following: Wild Race, Arkonoid, Storm, Huntmaster, Twilight World, Thunderfox, Little Devil and Speed Hawk.

Ron has bought all of these cassettes from us and also Trenzable but cannot get Trenzable to work on his U.S. system. If anyone can supply Trenzable copies of these games send them direct to Ron McGeary at Box 10573, Spokane, WA 99208, U.S.A.

JOYSTICKS

Finally a query from James Martin from Oklahoma "This is a question concerning something that I have been wondering about for some time now. Does anyone know if the Sega joysticks and

Joykeys are compatible with the Atari Classic?

I am looking for a joystick controller for the 610 and the Sega controllers had the same pin connector just like the Atari, however I haven't tried it. I read somewhere, long ago, that the joysticks were compatible. Maybe someone could do an article on controllers available for the Atari Classic."

↑ Well, has anyone checked using their Segas and kept the joystick for use on a better computer? Won't take you long to drop us a line if you have.

That's it for Mailbox this issue. Only a few letters but some very interesting points raised and some thoughts for you to write to about. Let's hear from you about the question of commercial software going public domain or anything at all to do with the Atari Classic or the world at large. Alan might be back next time if we can sort out a few logic problems for us (any more), if your letters are in the Mailbox bag for the next issue they will get published. Write! Now!

WRITE TO US!

We will respond to all things Atari or help your fellow users with their queries. Write us for help yourself if you want. It's all free, so write if you want to share.

MAILBOX
NEW ATARI USER
P.O. BOX 84
STAFFORD
ST10 1TB

BACK ISSUES

Back issues of
NEW ATARI USER
are still available
from **ISSUE 31**
up to **ISSUE 76**
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the following

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DISK BONUS JURASSIC GOLD

Another great arcade adventure
from Bill Halsall

After successfully recovering the treasure in Old Gold and Indian Gold your fortune awaits you once more in the final part of the trilogy.

Your task is quite straightforward. Honour has it that there is a lost world, somewhere up there, and it is brimming with treasures you can only dream of. It is believed that there is a diamond the size of a boulder and a correspondingly large gold nugget.

All you have to do is collect both treasures and deposit them where you started. The down side is that there are stories of prehistoric monsters roaming the land. The good news is that nobody has returned to say that they have actually seen any. The bad news is that nobody has actually returned from the river at all!

Use the joystick to move your player and press the button to pick up or drop objects. As before, to kill adversaries you normally walk into them whilst carrying the appropriate weapon. However, on this occasion, things could be easier or harder, but that would be telling. Also, don't throw anything away, you never know when it might come in handy again if you do happen to get run over by a reptile simply press the button to continue.

If you find yourself in an impossible position and want to start from scratch press **RESET** then load and run the program again.

Anyway, enough telling. Don your leoprd skin and venture forth. At least the odds are better than the lottery - just!

This great program is the **BONUS** on this issue's disk. If you are not a disk subscriber you can still obtain a copy for £2.95 from **NEW ATARI USER**, P.O. BOX 84, STAFFORD, ST10 1TB. Please make cheques payable to **PAGE 8 PUBLICATIONS** or order by telephone with your Visa or Access card on 01765 241155

PLEASE RELEASE ME

No it's not Dinky-Donk crooning once again but Avram Dumitrescu taking a look at some items of software that never saw the light of day or sparked briefly then faded away

One upon a time, way back in 1989 in fact, Kirk Harbington wrote a fascinating piece on rare and extremely elusive Atari games. Most of the software he talked about could only be bought at expensive import prices from America. He takes Kirk's idea further and looked at games that only exist as forgotten sparks in

the eyes of old Atari programmers. Why? Is there a point in trying to re-visit you about concepts and embryos instead of complete programs? I think there is, if only to let you know what may be hiding in a filing cabinet in an unused storeroom, somewhere.

SHOOTING STARS

Around 1990 two new Atari ranked computers began their tentatively bright but already short lives.

Harlequin and *Fantasy* both became known in the news pages of *New Atari User* magazine with snippets of intriguing program names and descriptions seen before only on the most popular night and weekend hit machines. *Harlequin* was headed by Stephen Gosz and told the Atari world they were starting to convert a limited range of titles from other computer systems. How does *Paperboy* sound? *Ghosts 'n' Goblins*? *1942*? *Maniac*? *Last Ninja 2*?

Such a prestigious range of software would require the very best machine code programmers and, after requesting help, Stephen Gosz later announced that his pits for an army of high-flying minds had been very successful. Everything seemed fine up to fairly noticeable restrictions had been introduced amongst programmers and the public, negotiations with big software houses had started and the entire Atari community waited for something big. Out of all this came *Planetron*.

Planetron had to be a good game to show how impressive *Harlequin* could be and it was. Graphically, it looks very pretty and Mike Gifford would be proud of the music. Wait a minute. Didn't *Harlequin* claim they were going to convert games from other machines? Where is the arcade version of *Planetron*? What computer did it come from before?

Planetron was an original program and so was their next release, *Zero Wars*. If *Harlequin* was to release software in a market where other companies feared to sell them it obviously was not going to sink thousands of pounds into a license for a 'tester' game. *Planetron* was not that original as the idea was taken from an ancient Atari game called *Miss Buggy*. While *Harlequin* did an admirable job dressing up the music and creating the gameplay name still wearing velvet shoes, *Planetron* quickly became boring because the simple gameplay does not change with each level.

Nevertheless *Planetron* was a piece of software *Harlequin* were proud of. So proud, in fact, they overestimated demand and produced thousands and thousands of copies. And why not? Here was an impressive looking game from a new company with a very shiny future. Selling software in the 1980s for an eight bit machine is a risky occupation. Trying to make lots of profit from software for a machine that has a community far too small to make millions from is a bad idea.

Planetron did not sell well enough. *Harlequin's* next release, *Zero Wars*, was a disappointment compared to their initial game. It lacked the wild expectations of release *Planetron* had and the concept was not treated well enough. It was not fun to play.

After this no more was heard from *Harlequin*. But let's speculate. Their catalogue of software was two programs with average gameplay. What would we see from these today? Would they become Atari's equivalent of Ocean software? Lots of Ocean style and success hit software was movie and arcade

machine licenses that looked nice but played unimpressively. Try, if you dare, *Chase HQ*, *Terminator 2* or *Total Recall* on the Commodore 64.

Conversions are difficult to do as the original movie or arcade machine sets very high standards. *Harlequin* may have introduced a lot of failures but it's almost certain that they, just like Ocean, may have released some super software if only they had survived.

PURE FANTASY?

Fantasy were not quite as successful as *Harlequin*. Their proposed bag of goodies contained their own home of games - *Pod 1* and *2*, *Plan the Plan*, *Marble Fan* and *30 Downing Street*. Screenshots were forwarded to *New Atari User* and Len Kittingham commented on how they resembled Zappella's best games. Curiosity crept out again but not with the same zeal of *Harlequin's* titles. It seems very hard to whenever it looks because *Fantasy* did without releasing an electronic message. Maybe the company name should have told us something?

COUNTING ON MICRO DISCOUNT

Let's move onto something more substantial. *Derek Potts* has, over the years, released some interesting stuff. One project was a multi-master sound card from Creative Labs. Sound cards give the PC computer the ability to play music and sound effects very, very well (the soundchip ordinary PCs originally have been a bit but not much else) and so he wired a soundboard to an Atari 1300CX. To advertise the hardware Derek offered demo tapes of the

modified Atari playing a selection of songs. Compared to FRODOE, Atari's built-in chip, the sound is astonishing, though some tunes on its tape resemble supermarket music.

Shadow of the Beast was another big name game Haslopain intended to release but never did. The programmer, however, has completed a few levels of the game and Derek Fenn said his company, Micro Discount, may push for it to be finished and released. The game's selling point was the incredible graphics - the Amiga version had thirteen layers of parallel scrolling and adventures too large to fit on the screen.

Even more exciting to the Atari's Commands. The game plays like Command - you control a soldier moving vertically up the screen blasting the enemy, throwing grenades and so on. Atari planned to launch Commands as our title-only. Why? Because one cartridge (1024K - most Atari games are 64K in size) of several graphics and code does not fit on floppy disk!

Believe you live in the West Midlands for copies of Commands, I have some bad news. Commands is a prototype cartridge - it has not been finished. The title screen is there, the character you control is well animated but only a few levels exist and any enemies are only funny blocks. I doubt the game will be finished due to its immense size unless, perhaps, it comes out on three floppy disks.

Do you remember Elektrogrübler? The racing on game with spectacular graphics by Adam Bilbyard? Ian Klingham, editor of New Atari User, told me (recently programmer Joel Coakley contacted Adam on the Internet and found out he had some unreleased games. They may come out soon.

Neil Kilmartin in Australia brought, from Atari, sixty pallets of hardware and software, a pallet's size varies on its contents but I estimate each one is a three to four foot square, a few feet high. Imagine what secrets are held in Dave Kilmartin's warehouse.

Most of the merchandise may be standard Atari hardware and software but it's very interesting. Some pallets contain programs only known inside the deepest and most secret rooms of Atari Corporation.

SOME ESCAPED

Finally, have you ever wondered what game names exist illegally? I have come across lists of games never officially released but which still somehow escaped into the public.

I have heard Elite and the Last Ninja 1 exist, Indiana Jones may, Superman could, Pac-Man does (I have played this unreleased game - looks fantastic and is one of the most enjoyable Atari games I have experienced).

Will any of these programs ever be sold? Micro Discount and Page 9 are companies most likely to bring them out. At the moment any new release generates lots of excitement so imagine the frenzy if Last Ninja 1 and Shadow of the Beast are advertised in the next issue of New Atari User.

As a follow-up to this article I want to investigate Vapourware on the right bits and VCS systems. Companies that almost hit the shops but didn't quite. Do you know anything about the 8500EP, the 8500SE, Atari Cosmos, even the 14000LD? I also would like to add any more unreleased games to my small list and look at Haslopain, Fantasy and any other interesting Atari company in more detail. If you have any interesting snippets of information, write and let me know. My address is:

Arvan Dumitrescu
190, Collinville,
Poleglass, Donnybrook,
Belmont,
Northern Ireland BT17 0AU

TURBO PROGRAMMING

HIGH SCORE TABLE

by Andy Guillaume

So you want a Disk based High Score Table for your Turbo Basic program? Here it is, dispelling the myth surrounding 'complicated' routines in our style.

All of the scores are held in the array HIG where n is the position in the table, the names being held in NMS. After a game score, SC, has been found and a name input the program just works from the bottom of the table upwards comparing SC to HIG(n) for each entry. If SC is greater or equal to the current HIG(n) score then this score is moved down one entry and the current HIG set to SC. The name is also moved and updated in the NMS array. There has to be one more entry in the table than required so that the last entry has somewhere to be moved to, thus the H array is dimensioned to 11 elements and NMS to 110 elements (10 characters per name).

The Lead routine retrieves a previously saved table from disk. Take out the HIG on line 90 after a table has been saved to make the program load the table on each run. The Save routine does just what it says, saving the table on disk. Take out the HIG on line 290 so that the table is saved after each new entry.

Note that the PLAYERS SCORE AND NAME section of the program should be replaced with ... your game!

10 1 HIG	XXXXXXXXXXXXXXXXXXXX	10 140 POSITION 10,540:7 HIG,P,10
20 2 HIG	XXXXXXXXXXXXXXXXXXXX	20 150 POSITION 21,540:7 SIO
30 3 HIG	XXXXXXXXXXXXXXXXXXXX	30 160 HIG 0
40 4 HIG	XXXXXXXXXXXXXXXXXXXX	40 170 HIG PLAYERS SCORE AND NAME
50 5 HIG	XXXXXXXXXXXXXXXXXXXX	50 180 POSITION 30,5:INPUT "ENTER SCORE"
60 6 HIG	XXXXXXXXXXXXXXXXXXXX	60 190
70 7 HIG	XXXXXXXXXXXXXXXXXXXX	70 200 POSITION 30,5:INPUT "ENTER NAME"
80 8 HIG	XXXXXXXXXXXXXXXXXXXX	80 210
90 9 HIG	XXXXXXXXXXXXXXXXXXXX	90 220 HIG UPDATE TABLE
100 10 HIG	XXXXXXXXXXXXXXXXXXXX	100 230 FOR N=0 TO 10 STEP -1
110 11 HIG	XXXXXXXXXXXXXXXXXXXX	110 240 FOR H=0 TO 11
120 12 HIG	XXXXXXXXXXXXXXXXXXXX	120 250 IF SC>HIG THEN 270
130 13 HIG	XXXXXXXXXXXXXXXXXXXX	130 260 SIOXC(5)=SC:5:500-SC
140 14 HIG	XXXXXXXXXXXXXXXXXXXX	140 270 HIG(P,10)=P:HIG(P,10)=H
150 15 HIG	XXXXXXXXXXXXXXXXXXXX	150 280 HIG(P,10)=P
160 16 HIG	XXXXXXXXXXXXXXXXXXXX	160 290 HIG
170 17 HIG	XXXXXXXXXXXXXXXXXXXX	170 300 HIG
180 18 HIG	XXXXXXXXXXXXXXXXXXXX	180 310 HIG
190 19 HIG	XXXXXXXXXXXXXXXXXXXX	190 320 HIG
200 20 HIG	XXXXXXXXXXXXXXXXXXXX	200 330 HIG
210 21 HIG	XXXXXXXXXXXXXXXXXXXX	210 340 HIG
220 22 HIG	XXXXXXXXXXXXXXXXXXXX	220 350 HIG
230 23 HIG	XXXXXXXXXXXXXXXXXXXX	230 360 HIG
240 24 HIG	XXXXXXXXXXXXXXXXXXXX	240 370 HIG
250 25 HIG	XXXXXXXXXXXXXXXXXXXX	250 380 HIG
260 26 HIG	XXXXXXXXXXXXXXXXXXXX	260 390 HIG
270 27 HIG	XXXXXXXXXXXXXXXXXXXX	270 400 HIG
280 28 HIG	XXXXXXXXXXXXXXXXXXXX	280 410 HIG
290 29 HIG	XXXXXXXXXXXXXXXXXXXX	290 420 HIG
300 30 HIG	XXXXXXXXXXXXXXXXXXXX	300 430 HIG
310 31 HIG	XXXXXXXXXXXXXXXXXXXX	310 440 HIG
320 32 HIG	XXXXXXXXXXXXXXXXXXXX	320 450 HIG
330 33 HIG	XXXXXXXXXXXXXXXXXXXX	330 460 HIG
340 34 HIG	XXXXXXXXXXXXXXXXXXXX	340 470 HIG
350 35 HIG	XXXXXXXXXXXXXXXXXXXX	350 480 HIG
360 36 HIG	XXXXXXXXXXXXXXXXXXXX	360 490 HIG
370 37 HIG	XXXXXXXXXXXXXXXXXXXX	370 500 HIG
380 38 HIG	XXXXXXXXXXXXXXXXXXXX	380 510 HIG
390 39 HIG	XXXXXXXXXXXXXXXXXXXX	390 520 HIG
400 40 HIG	XXXXXXXXXXXXXXXXXXXX	400 530 HIG
410 41 HIG	XXXXXXXXXXXXXXXXXXXX	410 540 HIG
420 42 HIG	XXXXXXXXXXXXXXXXXXXX	420 550 HIG
430 43 HIG	XXXXXXXXXXXXXXXXXXXX	430 560 HIG
440 44 HIG	XXXXXXXXXXXXXXXXXXXX	440 570 HIG
450 45 HIG	XXXXXXXXXXXXXXXXXXXX	450 580 HIG
460 46 HIG	XXXXXXXXXXXXXXXXXXXX	460 590 HIG
470 47 HIG	XXXXXXXXXXXXXXXXXXXX	470 600 HIG
480 48 HIG	XXXXXXXXXXXXXXXXXXXX	480 610 HIG
490 49 HIG	XXXXXXXXXXXXXXXXXXXX	490 620 HIG
500 50 HIG	XXXXXXXXXXXXXXXXXXXX	500 630 HIG
510 51 HIG	XXXXXXXXXXXXXXXXXXXX	510 640 HIG
520 52 HIG	XXXXXXXXXXXXXXXXXXXX	520 650 HIG
530 53 HIG	XXXXXXXXXXXXXXXXXXXX	530 660 HIG
540 54 HIG	XXXXXXXXXXXXXXXXXXXX	540 670 HIG
550 55 HIG	XXXXXXXXXXXXXXXXXXXX	550 680 HIG
560 56 HIG	XXXXXXXXXXXXXXXXXXXX	560 690 HIG
570 57 HIG	XXXXXXXXXXXXXXXXXXXX	570 700 HIG
580 58 HIG	XXXXXXXXXXXXXXXXXXXX	580 710 HIG
590 59 HIG	XXXXXXXXXXXXXXXXXXXX	590 720 HIG
600 60 HIG	XXXXXXXXXXXXXXXXXXXX	600 730 HIG
610 61 HIG	XXXXXXXXXXXXXXXXXXXX	610 740 HIG
620 62 HIG	XXXXXXXXXXXXXXXXXXXX	620 750 HIG
630 63 HIG	XXXXXXXXXXXXXXXXXXXX	630 760 HIG
640 64 HIG	XXXXXXXXXXXXXXXXXXXX	640 770 HIG
650 65 HIG	XXXXXXXXXXXXXXXXXXXX	650 780 HIG
660 66 HIG	XXXXXXXXXXXXXXXXXXXX	660 790 HIG
670 67 HIG	XXXXXXXXXXXXXXXXXXXX	670 800 HIG
680 68 HIG	XXXXXXXXXXXXXXXXXXXX	680 810 HIG
690 69 HIG	XXXXXXXXXXXXXXXXXXXX	690 820 HIG
700 70 HIG	XXXXXXXXXXXXXXXXXXXX	700 830 HIG
710 71 HIG	XXXXXXXXXXXXXXXXXXXX	710 840 HIG
720 72 HIG	XXXXXXXXXXXXXXXXXXXX	720 850 HIG
730 73 HIG	XXXXXXXXXXXXXXXXXXXX	730 860 HIG
740 74 HIG	XXXXXXXXXXXXXXXXXXXX	740 870 HIG
750 75 HIG	XXXXXXXXXXXXXXXXXXXX	750 880 HIG
760 76 HIG	XXXXXXXXXXXXXXXXXXXX	760 890 HIG
770 77 HIG	XXXXXXXXXXXXXXXXXXXX	770 900 HIG
780 78 HIG	XXXXXXXXXXXXXXXXXXXX	780 910 HIG
790 79 HIG	XXXXXXXXXXXXXXXXXXXX	790 920 HIG
800 80 HIG	XXXXXXXXXXXXXXXXXXXX	800 930 HIG
810 81 HIG	XXXXXXXXXXXXXXXXXXXX	810 940 HIG
820 82 HIG	XXXXXXXXXXXXXXXXXXXX	820 950 HIG
830 83 HIG	XXXXXXXXXXXXXXXXXXXX	830 960 HIG
840 84 HIG	XXXXXXXXXXXXXXXXXXXX	840 970 HIG
850 85 HIG	XXXXXXXXXXXXXXXXXXXX	850 980 HIG
860 86 HIG	XXXXXXXXXXXXXXXXXXXX	860 990 HIG
870 87 HIG	XXXXXXXXXXXXXXXXXXXX	870 1000 HIG
880 88 HIG	XXXXXXXXXXXXXXXXXXXX	880 1010 HIG
890 89 HIG	XXXXXXXXXXXXXXXXXXXX	890 1020 HIG
900 90 HIG	XXXXXXXXXXXXXXXXXXXX	900 1030 HIG
910 91 HIG	XXXXXXXXXXXXXXXXXXXX	910 1040 HIG
920 92 HIG	XXXXXXXXXXXXXXXXXXXX	920 1050 HIG
930 93 HIG	XXXXXXXXXXXXXXXXXXXX	930 1060 HIG
940 94 HIG	XXXXXXXXXXXXXXXXXXXX	940 1070 HIG
950 95 HIG	XXXXXXXXXXXXXXXXXXXX	950 1080 HIG
960 96 HIG	XXXXXXXXXXXXXXXXXXXX	960 1090 HIG
970 97 HIG	XXXXXXXXXXXXXXXXXXXX	970 1100 HIG
980 98 HIG	XXXXXXXXXXXXXXXXXXXX	980 1110 HIG
990 99 HIG	XXXXXXXXXXXXXXXXXXXX	990 1120 HIG
1000 100 HIG	XXXXXXXXXXXXXXXXXXXX	1000 1130 HIG

continued on page 23

SUMMER GAMES

It seems a long time since we had some major reviews of recently released software so this batch of reviews from Daniel Baverstock is most welcome

There's nothing like trying to achieve the all-over sun tan. The hour or two (before counting?) seems to creep by. Every few minutes you glance to see your skin tone even whiter than when you first cleaned your shorts! It's only when you accept the fact that you never tanned anyway, that you discover the few apparently indifferent hours of sun light has tanned you into a human *Flamingo!*

As ever you pledge you'll never look under the great sun lamp in the sky again. You undergo the gradual and sometimes painful repetition shot of skin, making you an ideal candidate for a B-movie monster! Before your ordeal is over you find yourself avoiding any social interaction until your skin recovers. It's familiar 'Tanned white' complexion. In the end you have to ask yourself if it worth all the time and labor, (sorry, I mean commitment?)

Well, I am sitting in the sun on this Wednesday afternoon, writing this account of what I shall be thinking of in a few hours time. Think I think, for a few reviews of some nice and not so new Atari games.

For the last few months I have been rather inactive in the Atari arena, so the number of titles to review has steadily been rising, giving me a nice selection to nibble on about. I recently bought a few titles of a friend and after an extremely long wait, thanks to Royal Mail's usual incompetence I expect, some new titles from Micro Dynamics. I have **BARBARIAN**, **STARBALL**, **CRIPPS OF EGYPT** and **YUKI BADDEN** in my sights, covering a wide range of different gameplay styles.

BARBARIAN

The personally eagerly awaited *Barbarian* was the first to be viewed. Undoubtedly *Barbarian* is derived from the *Barbarian* I and II games that appeared on most 8-bit formats, as well as the *Amiga*, in the late 80's.

Barbarian is a single screen one to two player back 'em 'up, pitting two sword bearing Arnold 'Conan' Schwarzenegger look alike against one another in an arena. The game views the combat from the side in a 2-D perspective like most other best 'em 'ups. Mortal Combat for example.

You can choose between one or two players on the title screen before playing. The title screen itself has the *Barbarian* logo, and the credits below, with credits listed around words at either side. A suitably appropriate and fairly catchy chip music plays.

The game begins in a few seconds, randomly looking out of three possible entries, giving the backdrop locations a little variety. The arena opens up under half the lower screen, with the title, players' money levels and a tiny second time limit displayed above.

I was very surprised to find the whole screen, title, arena backdrop and characters, were all in one colour scheme. This is a mistake since the characters, though distinct, are indistinct from the background. Don't stand

out like they could. The programmers haven't done the game any justice since the colours could have been far more exciting.

Sound effects are even more disappointing, almost non-existent and those used less than adequate for the task of the likes of clanking swords. 'Buckle' is a better word to describe it.

The game is initially played better in two player mode. Both players then have a chance of getting accustomed to the moves as their disposal which include various overhead, mid, and lower sword hooks, two blocks, left and right ground rolls, a shin kick, crouch, jump, and a great flashing move. Your *Barbarian* picks like a ballerina on his feet, twirling his sword over head before beholding his opponent, whose corpse fall to the floor as his head spins off the screen!

Fighting against your inactive second player gives you even more practice, and while happily looking away at him, I found out a fairly disappointing in the gameplay. The game duration is way too brief! Once you kill your opponent in the first round, remember sixty seconds a round, you have another two rounds before the game finishes. You are returned to the credits to enter your name. That's it! Only three minutes of play!

The game has some close similarities with *International Rescue*, like *World Name Championship*, which at the same time overflows *Barbarian* completely. For re-

ample, the characters, if left, live and talk to you like those in International Karate, and when they win, they throw their sword away in victory.

Exactly in comparison with International Karate, Barbarian's limited three round gameplay is the biggest mistake and ultimately the Achilles heel of the game. Yet it never had to be! International Karate uses the disk space to load many screens of colorful backdrops, locations, while you progress through the increasingly difficult levels. This incentive of progress and challenge is totally lacking in Barbarian.

Other than to beat the computer opponent (almost impossible), beat player two or simply to better your score (attained after the three rounds but not saved there) is hardly any reason to play the game. Because your computer opponent is so hard to attack, the moves at your disposal are almost never used. I found myself constantly being locked to the ground in my seven screens. It completely eliminated any feeling of skill or combat as I wobbled the joystick in circles to no avail.

All games of this kind rely on the fundamental element of gameplay, for without it there is no game. I suspect the storage ending of gameplay is because the game was more likely made for primarily the cassette market and a 64K memory limitation. If this is the case, the quality of gameplay should have taken precedence over making a game for tape limitations only. If however, this was targeted for disk drives, this is a needless waste of the 128K available on a disk slide! What's the point in saving a drive with increased speed and storage specifications over that of standard cassette storage if the games never use it?

Had the game been fully optimized, it would have utilized the whole disk slide, had perhaps side two as well, would have loaded a variety of colorful backdrops, had difficulty settings, and sampled sounds. International Karate pretty much managed it, so what's the

problem? I put that question to future software developers.

If their counter argument is on the basis of financial investment and incentive, I would agree that had this game satisfied all the criteria I have mentioned, the resulting gameplay and challenge would prove more popular and give a better financial return than making a uninspiring and limited game more accessible to cassette based users.

As for a 64K memory limitation, if the great platform adventure *Blower Valgria II* can fit it's enormous level size and countless characters (each with fantastically detailed animation) into 64K, then surely a detailed six screen beat 'em 'up is more than possible! I always think that new releases should be an improvement on old software. Hopefully it is not the case with Barbarian.

A welcome attempt at a long needed beat 'em 'up, but despite the great old price tag, the good animation and music, it's a big let down. Recommended for two players only.

STARBALL

Starball is an aerial perspective 360 degree scrolling arcade puzzle. You control Starball, who is deflating resistors as it's an escapee, acting near enough as your level timer to keep you on your toes. The collection of crystals scattered around the plane allows you to continuously replenish your air for as long as they last, while you set about the task of negotiating gaps in the floor through which you fall to the ground (or below, and grabbing barrels that periodically emerge from the ground to pull you under).

The aim is to collect all the crystals scattered around and limited away by obtaining green and red keys and a few other items located inside the locked chambers. Control of Star-

ball initially couldn't be any simpler. Push in a direction and it moves. Soon, you find out it isn't that simple, as your speed and inertia increases and everything you hit while moving causes you to rebound in the opposite direction.

The precise joystick control you have to have over Starball can prove frustrating. You sometimes better precariously over the edge of huge gaps in the ground, and may have to move slowly despite your decreasing time limit.

The various chambers containing keys have to be opened in the correct sequence. You may open a chamber, and therefore waste keys, to find you can't collect enough in that chamber to open up any of the remaining ones due to the number and combination of green and red doors locking any one chamber. The starting level's first key is found in a chamber with a constantly opening and closing door which has to be quickly negotiated or missed to be opened.

Gameplay is viewed in the top two thirds of the screen, the bottom being the status panel where score, air level, life status, and the number of red and green keys you have is shown.

You have three lives available. The level loading each time you run out of air, fall through a gap in the floor, or get pulled under by a grabbing barrel. Each time you die you start right back at the beginning, adding to the frustration.

Not having passed the first level, I am only currently aware of two items. A dynamite plunger used to blow a space there by three squares opening up a hole in another chamber, and a hammer, the purpose of which I have yet to discover. Both are found in chambers and are activated by rolling over them and in the case of the plunger then getting out the way. *End!*

The chip music from the title screen and gameplay is fairly standard but variety never-

theless. Unfortunately sound effects are few and none too inspiring. The graphics aren't bad at all. From the blue starfield title screen to the in-game visuals, everything is pleasing to the eye.

The Starball itself is small and shaded grey. Your level is suspended way above the ground, indicated effectively as the scroll for the ground and platform moves at different speeds, and you can see the ground below through the gaps. The chambers are patterned blocks, while the floor is striped. Items and crystals are drawn really and the orientation of the barrels is quite a nice touch as they tend to grab and pull you under.

Overall, this game will appeal to those who have a talent for precise joystick control and are quick thinkers. The gameplay is challenging and rewarding, if frustrating at times. As I can't even pass the first level, I must assume there are many levels to keep you busy.

I shall no doubt come back to this game now and again, for it's one of those games that I enjoy to watch alone. Two much of it when you keep starting at the beginning after falling through a gap in the floor for the tenth time may cause violent temper tantrums! Not speaking from personal experience of course, being a gentle and patient man!

CRYPTS OF EGYPT

Another pixel perfect game, this time a platformer, repeating even more precise control over yet another trap appeal! You control a smaller version of Zappella's *Caveira* character. You know, the guy with the backpack and hat with the life of it's own!

The title screen is nicely put together, rather

like the small scurrying rats drawn from European dance crews. The in-game graphics are very good, almost identical to the style of *Genesis* only with Egyptian undertones, using lots of shades of yellow.

I made sure I had sufficiently played the game to the limits of my playing ability before entering it but actually I have only got to the fourth screen (like the environment in *Demons*, the *Crypt* is very large and detailed, with many traps which I continually set off by tripping on the wretched Moring apkins and flickering fire pits have to be contended with. Most have a switch that can be turned on or off by throwing a pebble at them, which you have plenty of in your pockets. Some traps can only be turned-off temporarily, sometimes from another screen, so persistence and speed are essential.

A large green ghost, bounces more and more like *Genesis*, haunts parts of the screen, and can be temporarily vanquished with your trusty pebbles, though he'll reappear a few seconds later somewhere else. After exiting the screen, the next part of the *Crypt* is ready for you to proceed with, sometimes with exits to all four directions. Exploration of all available chambers is essential. It can lead to switches that deactivate traps in the previous screen, as mentioned earlier.

Music and sound effects are adequate, but they always are with games of this kind. Pip! Again, the frustration factor is present, even more so since you only have one life. You have an energy bar which depletes when injured although small ease like artifacts can be collected to replenish your energy levels.

I liked this game from the moment of loading. Greatly detailed and colourful graphics, well animated sprites, and extremely frustrating gameplay requiring precise platforming eventually I found it strangely compelling to play. *Crypts of Egypt* joins *Demons* and *Genesis* among the ranks of my favourite frustrating platform games.

TUBE BADDIES

Tube Baddies is a true arcade game. It is an old Atari UK game that never got the release it deserved. Programmed by well known programming geniuses Ian Macintosh and Richard Mason, Richard Gore and Miers (Discrom) obtained the rights to publish it last year.

It has such simple yet addictive gameplay and colourful graphics which, combined with some excellent chip music, makes for a greatly playable arcade game.

The basic story introduces you to Flip and Dap, the handymen of the Tubular under-world from characters that look like small blobs of gum. They have the job of fixing all the pipes, which have been falling apart from neglect and from the unwise attention of the Tube Baddies, small metal mousing creatures that make the holes on the pipework. The typical 1980's Atari arcade powder plot and characters really! Armed with a sponger and a bucket called Harvey you have to rid the levels of these creatures and fix the pipes.

The title screen and music is great, colourful and frenetic. Here you can select two players, although the game is as equally playable with one player. The levels themselves are very colourful and detailed. The pipework takes around the screen and Tube Baddies emerge from existing holes in panels around like mousing purple road cones wearing shades making holes wherever they go.

Below Harvey the bucket, who is curvy and dressed and well animated rolling his eyes and displaying various facial expressions, awaits any Tube Baddies who you start, to be deflected into the bucket. It number indicates the number successfully bounced in the bucket,

while those missing Harvey go back into the pipework.

The more Tube Baddies collected the more bucket bonus points you'll collect every two levels. The bucket bonus is timed, so if you don't complete the game before the bonus timer runs out, it gets set to zero, and you lose all the bonuses collected. Patching up pipework is accomplished by pressing fire. Cover a hole to deposit a custom style player over it, a nice touch.

After stomping a Tube Baddy, they'll occasionally rebound off the sides until you can fire them into the bucket. A level is completed when you patch up the pipes and eradicate all the tube baddies from it. Patching up pipes isn't essential for level completion, but worth it while capturing existing tube baddies as it stops any additional Tube Baddies from emerging into the level.

There are various hazards to contend with. Chewing gum and spider's webs slow you down as you pass over them. Walls restrict you, but not the Tube Baddies, so you have to be careful not to get trapped, especially if they are stumped, as they move faster than you. Later on, electric coils which emit bolts of electricity make things more difficult. Careful timing is required here.

Other items can be picked up, some detrimental and some beneficial to your health. A joystick lock removes your controls for a few seconds which can be very frustrating, while a backwards 'S' icon stops you in the next level. You have four lives and any contact with Tube Baddies, the hazardous environment or a dangerous item causes loss of life.

The overall quality of the game is very high, from the vibrant-neon colours and jungle-style music, to the increasingly challenging variety of levels.

The bucket bonus screens are amusing, where the Tube Baddies are duly punished by Flip and Dap in their own way on the top of the screen. The graphics are really chunky, but

HIGH SCORE TABLE

continued from page 17

07 340 BOM <u>SHRE TABLE</u>
08 310 PRIC <u>TABLE</u>
09 320 OPEN <u>WOL 0,20, "0 SCORES" 140"</u>
10 320 FOR <u>WOL 10 10</u>
11 340 OPEN <u>WOL 2,000</u>
12 320 NEXT <u>N</u>
13 340 OPEN <u>WOL 4,000 140, 100</u>
14 320 CLOSE <u>EC</u>
15 300 <u>EMPROG</u>
16 290 BOM <u>LONG TABLE</u>
17 400 PRIC <u>TABLE</u>
18 410 OPEN <u>WOL 4,20, "0 SCORES" 140"</u>
19 420 FOR <u>WOL 10 10</u>
20 420 NEXT <u>N 1, 1, 1000-0</u>
21 440 NEXT <u>N</u>
22 420 NEXT <u>WOL 4,000 140, 100</u>
23 440 CLOSE <u>EC</u>
24 470 <u>EMPROG</u>

so colourful that it doesn't matter, as are the Hi-score input and display screens.

The whole game has been programmed with all gaming aspects cleverly considered. Playing the game is great on your own, and even better when you are working both in competition for points and in co-operation to complete the level. There are plenty of challenging levels to keep you engaged as this game for a long while.

In my mind *Tube Baddies* is the best of the particular branch and comes highly recommended!

All the games reviewed are available for 64 each from Miers Discrom, Darlington, Starbuck and Crypts of Egypt are copyright of Poland's MERAGE software, while *Tube Baddies* is copyright of Atari UK. No, cats were pressing buttons, my last! I don't seem to have even been touched by the sun. Not one shade of orange? Perhaps it has something to do with the fact that it has been raining for the past hour?

HEY? HEY?

It's **The TIPSTER**

Let some John Hall ask for some info on *Mercenary* and, lo and behold, it all appeared. Along with some clear *Reid* (and from *Nippon*) sets in some fabulous maps, probably the best maps we have ever had, so we are holding over the tips promised last time to next time and are donating this issue's *Tipster* to *Mercenary* - maps, clues and info.

MERCENARY 3?

Groenke Reinick Up north in Dundee hopes he can answer the question about the existence of *Mercenary 3* with the information. He says: In response to the *MERCENARY* question last issue I'm slightly confused as to which game John Hall is talking about when he refers to *Mercenary 2*. Does he mean *Dinocles* or, as I suspect, the *Second City*? Anyway to help clarify things, here's a list of all the *Mercenary* related stuff available or for as I know.

MERCENARY (I) - the original available on the Atari 8-bit amongst others

THE SECOND CITY - add on/disk for *Mercenary 1*. The *Second City* has never, to my knowledge, been officially referred to as "*Mercenary 2*". Available on Atari 8-bit and others

DINOCLES (MERCENARY 2) - I've never played this, but as far as I know it's 16-bit only (if not Amiga) at least. Billed as "*Mercenary 2*" it featured some 320x200 and a whole lot of other

MERCENARY MERCENARY MERCENARY

This issue's major contribution comes from *Reid* based in Norway who supplied the maps and this info: I have read in *New Atari User*, issue 70, that John Hall wants some talk about *Mercenary*, games 1 and 2. I am not sure, but I suspect that what he refers to as *Mercenary 2*, really is "*The Second City*", which actually is not *Mercenary 2*, but more like an add-on to *Mercenary 1*. There is a *Mercenary 2* game, but that is known by the name *Dinocles*. I have both *Dinocles* (*Mercenary 2*) and *Mercenary III* on disks for the Atari ST. I doubt that any of these games exist for the Atari 8-bit (XL/XX).

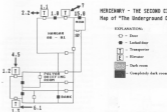
I have completed *Mercenary - The Second* →



DATA DISKS FOR MERCENARY 2 - don't know much about these but, if I remember correctly, there were two of them. Presumably some format as *Mercenary 2*

MERCENARY III - the final game available on ST and Amiga. Not such a radical difference this time (as far as I know) but I've got this for my Amiga and it was great fun! No CD-ROMs available as far as I know

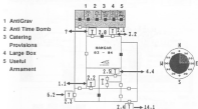
So, there you have it. As far as I can devote only *Mercenary* and the *Second City* are available for the Atari 8-bit.



MERCENARY - THE SECOND CITY
Map of "The Underground Complex"

EXPLANATION

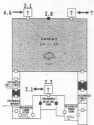
- - Door
- - Locked door
- T - Trapdoor
- T○ - Elevator
- - Dark room
- - Completely dark room



→

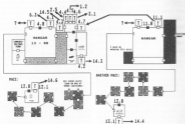
City a long time ago and I also made some maps. I have not found it use for all of the objects, and the maps are not 100% complete, but I am scanning them in the hope that someone else can be found. Thank.

Still believing that John wants hints for "*The Second City*", NOT "*Dinocles*", this is what I found out when playing the game: Just like in the original *Mercenary* game, there are two maps (as far as I know) to

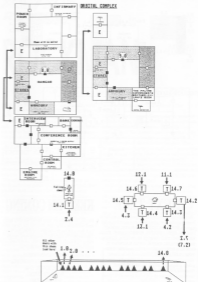


complete it. If you take the antenna to the communications room, you will be offered the chance to buy a spaceship. The less expensive way is to find the interstellar ship. You need to carry the receiver to be able to take off with the ship, and you should also have the pass to be able to bring the ship to the surface. (If you could carry the ship in another hanger where the elevator does not need the pass to work. To carry the ship you need the antenna, and you will also need the right key to get through all the doors.)

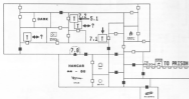
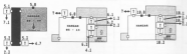
To be able to walk through all locked doors, you should pick up one of your own bullets by shooting and pressing 'T' while flying at exactly the right speed. This bullet needs to be carried together with another object to work as a key, but unfortunately I do not remember what object it is.



Page 6's First Alert Clue



Page 6's First Alert Clue



NEXT TIME

As indicated the tips provided last time have been squeezed out but look out next issue for tips on INTERNATIONAL KARATE, MEXAS FIGHT, SPILLINGUNK, SPEED BRAWL, YOGI BEAN AND THE GREED MONSTER, CHERYLIA, OLYMPIC GAMES, STAR WARRIOR II, DAVID'S MIDNIGHT MARCH and PROCTOR TOM PAIN (say that YOGI read to be first). These tips come courtesy of Miguel Arriaga Gillet, Jason Kinnell, Daniel Yelland, Graham Proulx and C. Agre (but don't let them grab all the glory, send in some of your own).

KEEP 'EM COMING

Need David's maps when playing this time and we have a few tips in stock for next time but don't sit back and get complacent. The Tipster is a feisty little puppy and needs more tips each time, so do the usual and send him something. Pop it in the post to

THE TIPSTER
PAGE 6 PUBLISHING
P.O. BOX 54
STAFFORD
ST16 1DR

Page 6's New Alert Diary

XL/XE REVIEWS

ROCKMAN

reviewed by Paul Rixon

The Mirage Software label usually introduces a graphically advanced game and Rockman - a 1985 release from the Polish company - is no exception to the rule. The best sequence is accompanied by an amazingly large digital read-out representing the score-down to program launch. This pleasant visual touch sets the scene for a game that's characterised by brilliant graphics and music. To demonstrate the point, the game includes not one soundtrack, but THREE! There's an option to choose your personal performance before the action commences.

Visual and audio both aside, Rockman is a fairly ordinary game. It's based on a 'grab the goodies and navigate the mazes' concept with the necessary ingredients of platforms, doors, keys, bombs, ammo, lives, bonus points and intriguing objects of the good, bad and sometimes indifferent variety. No doubt there's also a complex way to justify the effort, but unfortunately I wasn't supplied with an English translation!

Each level comprises a single screen design, presenting a unique layout of platforms and objects. Rockman, the character, takes the form of a luminous green hovering ball. By issuing joystick commands, your task is to assist Rockman as he hops onto ledges, slides along platforms and leaps horizontally over various unpleasant features. Tinkering in anything else, say, since contact with anything nasty usually results in the death but

accurate message - 'You're Dead - Try Again!'

Despite the irritating factor of ever-present lethal objects, the smooth movement of Rockman contributes towards a generally unobtrusively fun. The mazes can be overcome by careful avoidance tactics or tapped with a blast from your character's steam-gun. The ammunition is limited, though, so it's not wise to be trigger-happy. Once you've collected the goodies, an exit point to the next level is revealed. Status lines at the foot of the screen record your remaining lives, ammunition and bonus time allowance, together with the current score and game level.

To recap, Rockman is a desirable game. It's reasonably addictive, is hard to criticise on playability, and includes the welcome feature of a highscore table. These positive attributes are further enhanced by the high quality of graphical and musical support. Incidentally, it'd like to see what the obviously talented authors can do with a game involving their substance. No doubt the answer lies among the wide range of imports supplied by Micro Discant.

Title:	ROCKMAN
Publisher:	Mirage
Support:	Micro Discant
Format:	Disk
Price:	£4.00

Page 6's New Alert Diary

USING THE ROUTINE

The routine is used via the USB command and is configured as follows:—

```
RAMTOP=USR(ADR)CHR(TE),INT ADR(CHAR,
LLEN)(CHARS)
```

Where:—

CHR(TE) is the machine code routine.

ADR is the predefined character data as a string.

INT is the internal code of the first character to be redefined.

```
LX 300 PORG 02,27:POSITION 27,12:FOR 1-4
  TO 3: "aRbRcRdR" ? "wxyz":
  NEXT 1: ? "aRbRcRdR"
DZ 300 PORG 02,27:POSITION 27,12: "000
  CRJ" "000CRJ"
E2 300 POSITION 27,12: ? "aINDEPENDENT
  CRININDEPENDENT" :FOR 1-4 TO
  3: ? "000xxxxxxx01" :NEXT 1: ? "aR
  CRININDEPENDENTININDEP
  E"
G2 400 FOR 1-4 TO 3: ? "A,B,C,D,E,F" :NEXT
  1
YD 410 PORG 02,1:FOR 1-4 TO 20 STEP 2:POG
  2:100 A,1: ? "aYXZ" : ? "aYXZ" :NEXT
  1:POSITION 0,20: ? "aYXZ" : ? "aYXZ"
  ?
AD 420 POSITION 7,21: ? "aELECTRIC LIGHT
  " :POSITION 7,20: ? "aELECTRIC LIGHT
  OR CHARACTER"
DX 430 3-PEEK(32770):IF 1-5 THEN PORG 750
  ,25:FOR 1-4 TO 400:GOT 1-POG 750,20
  RTOP:GOTO 430
BF 440 ON 1(1) GOTO 430:PORG 800,17:END
```

inverts = INVERSE CHARACTERS - [] = CONTROL +
CHARACTER - < > = INVERSE CONTROL + CHARACTER

RAMTOP is the variable returning the new RAMTOP value to BASIC.

When using the routine within your own program, RAMTOP must first be loaded after which a GRAPHICS call is activated in the normal way as follows:—

```
100 L=PEEK(100):POKE 100,1-4
110 GRAPHICS 0
120 DIM CHR(TE)(0),CHAR(ANY)
130 CHR(TE)=""
140 CHR(TE)=" "
150 RAMTOP=USR(ADR)(CHR(TE),INT ADR-
  (CHAR)(LLEN)(CHARS))
```

HOW THE ROUTINE WORKS

The source code can be divided in two sections, both of which are described separately as follows.

CHARACTER SET COPIER

This section is responsible for copying the character set from its position in ROM into a position in RAM occupying 4 pages in RAM above the previously loaded RAMTOP. It is important to note that, in effect, RAMTOP is loaded from location 300 and CHRAS (loaded from location 700) are the high byte values when considering them with respect to the normal 2 byte addressing. Although the low bytes do not actually exist because both RAMTOP and CHRAS must begin on a page boundary, they must be considered as zero. CHRAS and RAMTOP are loaded into the zero page locations 204 and 205 respectively and the corresponding low byte addresses are 203 and 206 which are loaded with zero. Because both now have high and low bytes, it can be seen that it is a simple matter to copy from

one to the other via a loop.

The loop (LOOP1) copies one page at a time (200 bytes) by indirect indexed addressing using the Y register after which the high bytes are incremented so that the loop can be repeated to copy the next page. After copying all 4 pages that is when the X register has been decremented to zero, this section of the routine is exited and the next section activated.

CHARACTER REDEFINER

This section is responsible for redefining the chosen characters and stores the same page zero addresses as used before by the previous section, loading them with the three parameters used in the USB call. Location 203 and 204 is used to store the internal code of the first character of the group to be redefined, but note that both locations at this stage contain the same value. Location 205 and 206 are used to store the address of the redefining string (CHRAS) in the normal 2 byte byte format and location 207 is used to store the length of the string.

Because the characters are loaded up using 2 bytes each, the internal code loaded into locations 203 and 204 must be multiplied by 2. The multiplication is achieved by shifting the contents of location 203 three positions to the left using "ASL,203" and the contents of location 204 to the right five positions using "LSR,204" effectively dividing the contents of this location by 32. Since location 204 is the high byte, its contents are effectively multiplied by 256 and shifting its contents by 32 in effect multiplies by 8 (256/32=8). Shifting the contents of both locations in this way multiplies by 8 as if the contents of location 203 was shifted within a 16-bit byte using location 204 as the corresponding high byte. The next step is to add the contents of location 204, the high byte of the multiplication to the new value of RAMTOP, which is used in effect a high byte.

```
00 100000000000000000000000000000000000
0Y 20 000 1 CHARACTER SET COPIER 1
0Z 20 000 1 AND REDEFINER 1
0A 40 000 1 MACHING CODE ROUTINE 1
0B 20 000 1 CHARACTER STRING MATTER 1
0C 40 000 1 BY JOHN FORRETT FEB 74 1
0E 70 000 10000000000000000000000000000000
FJ 00 GRAPHICS 0:POG 14,14:POG 32770,14
  :GPI 70:100:70:0:STRING LIST"
K0 70 PORG 752,1: ? ? "CHARACTER STRING H
  A(TE)" : ? ? "PRG0:GOTO 100:GOTO 100"
K1 00 00 PEEK(32770):GJ 0:GTO 000: ? ? "W
  0:GTO 0: G100 - PLEASE WAIT" :G100:
  :GPI 0,1,0,1,0
M0 100 00 Machine Code String
G1 00 7 01:"INDEPENDENT";CHR(100);
M1 100 000 1:IF 1:10 THEN 100
T2 40 7 01:CHR(10):GOTO 100
M2 100 00 End
M3 100 7 01:CHR(100):G100 0: ? ? "FILE
  WRITTEN ON THE FORM" : ? ? "FILE
  NAME: " : ? ? " : ? ? " : ? ? " : ? ? "
E0 070 00 Machine Code String Data
G0 000 001A 107,1,100,100,200,100,200,100
  ,210,100,1,170,200,2,100,200,100,100,1
  ,20,200,107,200,100,200,200,200
M0 000 001A 200,200,200,200,200,200,1
  00,100,100,100,200,100,200,1,200
  ,1,200,100,2,70,200,200,200,200,100
M0 000 001A 200,20,100,100,100,100,200,100,100
  ,2,200,100,100,200,100,100,100,100,100
  ,100,200,200,170,200,200,200,100
M0 210 001A 000,100,100,100,200,2,70,-1
```

inverts = INVERSE CHARACTERS - [] = CONTROL +
CHARACTER - < > = INVERSE CONTROL + CHARACTER

The above calculations allows access to the first byte of the first character of the group to be redefined. With this address, location 260/264 and the address of the redefining string (CHARS) location 205/208, it is a simple matter to copy bytes one to the other within a loop (LOOP). The loop will continue to copy the redefining string into the selected part of the new character set until the value stored in location 267 (the length of the redefining string) is met after which the loop is exited.

The last action achieved by the routine is to point CHAR (location 78) to the new character set (that is RAMTOP) and to return the value of RAMTOP (and to BASIC via location 212 (location 213 being previously erased) should it be required).

THE DEMONSTRATION

The actual machine code routine is the string immediately below the ROM header and the rest of the listing is the demonstration program.

The demonstration program redefines all 26 of the lower case characters which are displayed on the screen when the program is run in various patterns to show how they might be used. Note that when the program is run, the character set is copied into RAM and the stored characters are redefined instantly. You may find some, if not all of the of the redefined characters useful for your own purposes and of course it is up to you how many and which characters you wish to redefine.

In the demonstration program, the characters are redefined as follows...

- Printed sign
- Curved apostrophe (alternative to Shift-7)
- Curved opening quote (alternative to Shift-2)
- Curved closing quote (alternative to Shift-2)
- Underline (opposite of underscore)
- Double underline
- Curved left hand real block (the inverse character)
- curved right hand real block (for inverse characters)
- Left pointing arrow head
- Left pointing arrow tail
- Right pointing arrow tail
- Right pointing arrow head
- Diamond
- Square
- Curved top-left corner (alternative to Control-Q)
- Curved top-right corner (alternative to Control-R)
- Curved bottom-left corner (alternative to Control-S)
- Curved bottom-right corner (alternative to Control-C)
- Top-left corner Used for completing
- Top-right corner corners when using
- Bottom-left corner Control-U/W/Y/V
- Bottom-right corner characters
- Large chequer pattern
- Small chequer pattern
- Top-right to bottom-left diagonal cross hatch pattern
- Top-left to bottom-right diagonal cross hatch pattern

- Curved closing quote (alternative to Shift-2)
- Underline (opposite of underscore)
- Double underline
- Curved left hand real block (the inverse character)
- curved right hand real block (for inverse characters)
- Left pointing arrow head
- Left pointing arrow tail
- Right pointing arrow tail
- Right pointing arrow head
- Diamond
- Square
- Curved top-left corner (alternative to Control-Q)
- Curved top-right corner (alternative to Control-R)
- Curved bottom-left corner (alternative to Control-S)
- Curved bottom-right corner (alternative to Control-C)
- Top-left corner Used for completing
- Top-right corner corners when using
- Bottom-left corner Control-U/W/Y/V
- Bottom-right corner characters
- Large chequer pattern
- Small chequer pattern
- Top-right to bottom-left diagonal cross hatch pattern
- Top-left to bottom-right diagonal cross hatch pattern

REDEFINING THE CHARACTERS

There have been many articles published over the years which describe exactly how to redefine the character set and redefining characters for this routine is achieved in exactly the same way.

To briefly outline the procedure for example, consider the first redefined character in the

00	00	000000000000000000000000	00	00	000	12,12,24,8,8,8,8,8	
04	20	001	1	00	200	120	Repeating Sign
08	20	002	1	00	200	204,204,202,8,8,8,8,8	
0C	40	003	1	00	200	240	Closing Quote
10	20	004	1	00	200	244,244,242,8,8,8,8,8	
14	40	005	1	00	200	280	Underline
18	20	006	1	00	200	284,284,282,8,8,8,8,8	
1C	40	007	1	00	200	320	Double Underline
20	20	008	1	00	200	324,324,322,8,8,8,8,8	
24	40	009	1	00	200	360	Left Hand Block
28	20	010	1	00	200	364,364,362,8,8,8,8,8	
2C	40	011	1	00	200	400	Right Hand Block
30	20	012	1	00	200	404,404,402,8,8,8,8,8	
34	40	013	1	00	200	440	Left Arrow Head
38	20	014	1	00	200	444,444,442,8,8,8,8,8	
3C	40	015	1	00	200	480	Left Arrow Tail
40	20	016	1	00	200	484,484,482,8,8,8,8,8	
44	40	017	1	00	200	520	Right Arrow Tail
48	20	018	1	00	200	524,524,522,8,8,8,8,8	
4C	40	019	1	00	200	560	Right Arrow Head
50	20	020	1	00	200	564,564,562,8,8,8,8,8	
54	40	021	1	00	200	600	Right Arrow Tail
58	20	022	1	00	200	604,604,602,8,8,8,8,8	
5C	40	023	1	00	200	640	Left Arrow Head
60	20	024	1	00	200	644,644,642,8,8,8,8,8	
64	40	025	1	00	200	680	Left Arrow Tail
68	20	026	1	00	200	684,684,682,8,8,8,8,8	
6C	40	027	1	00	200	720	Right Arrow Head
70	20	028	1	00	200	724,724,722,8,8,8,8,8	
74	40	029	1	00	200	760	Right Arrow Tail
78	20	030	1	00	200	764,764,762,8,8,8,8,8	
7C	40	031	1	00	200	800	Left Arrow Head
80	20	032	1	00	200	804,804,802,8,8,8,8,8	
84	40	033	1	00	200	840	Left Arrow Tail
88	20	034	1	00	200	844,844,842,8,8,8,8,8	
8C	40	035	1	00	200	880	Right Arrow Head
90	20	036	1	00	200	884,884,882,8,8,8,8,8	
94	40	037	1	00	200	920	Right Arrow Tail
98	20	038	1	00	200	924,924,922,8,8,8,8,8	
9C	40	039	1	00	200	960	Left Arrow Head
A0	20	040	1	00	200	964,964,962,8,8,8,8,8	
A4	40	041	1	00	200	1000	Left Arrow Tail
A8	20	042	1	00	200	1004,1004,1002,8,8,8,8,8	
AC	40	043	1	00	200	1040	Right Arrow Head
B0	20	044	1	00	200	1044,1044,1042,8,8,8,8,8	
B4	40	045	1	00	200	1080	Right Arrow Tail
B8	20	046	1	00	200	1084,1084,1082,8,8,8,8,8	
BC	40	047	1	00	200	1120	Left Arrow Head
C0	20	048	1	00	200	1124,1124,1122,8,8,8,8,8	
C4	40	049	1	00	200	1160	Left Arrow Tail
C8	20	050	1	00	200	1164,1164,1162,8,8,8,8,8	
CC	40	051	1	00	200	1200	Right Arrow Head
D0	20	052	1	00	200	1204,1204,1202,8,8,8,8,8	
D4	40	053	1	00	200	1240	Right Arrow Tail
D8	20	054	1	00	200	1244,1244,1242,8,8,8,8,8	
DC	40	055	1	00	200	1280	Left Arrow Head
E0	20	056	1	00	200	1284,1284,1282,8,8,8,8,8	
E4	40	057	1	00	200	1320	Left Arrow Tail
E8	20	058	1	00	200	1324,1324,1322,8,8,8,8,8	
EC	40	059	1	00	200	1360	Right Arrow Head
F0	20	060	1	00	200	1364,1364,1362,8,8,8,8,8	
F4	40	061	1	00	200	1400	Right Arrow Tail
F8	20	062	1	00	200	1404,1404,1402,8,8,8,8,8	
FC	40	063	1	00	200	1440	Left Arrow Head
100	20	064	1	00	200	1444,1444,1442,8,8,8,8,8	
104	40	065	1	00	200	1480	Left Arrow Tail
108	20	066	1	00	200	1484,1484,1482,8,8,8,8,8	
10C	40	067	1	00	200	1520	Right Arrow Head
110	20	068	1	00	200	1524,1524,1522,8,8,8,8,8	
114	40	069	1	00	200	1560	Right Arrow Tail
118	20	070	1	00	200	1564,1564,1562,8,8,8,8,8	
11C	40	071	1	00	200	1600	Left Arrow Head
120	20	072	1	00	200	1604,1604,1602,8,8,8,8,8	
124	40	073	1	00	200	1640	Left Arrow Tail
128	20	074	1	00	200	1644,1644,1642,8,8,8,8,8	
12C	40	075	1	00	200	1680	Right Arrow Head
130	20	076	1	00	200	1684,1684,1682,8,8,8,8,8	
134	40	077	1	00	200	1720	Right Arrow Tail
138	20	078	1	00	200	1724,1724,1722,8,8,8,8,8	
13C	40	079	1	00	200	1760	Left Arrow Head
140	20	080	1	00	200	1764,1764,1762,8,8,8,8,8	
144	40	081	1	00	200	1800	Left Arrow Tail
148	20	082	1	00	200	1804,1804,1802,8,8,8,8,8	
14C	40	083	1	00	200	1840	Right Arrow Head
150	20	084	1	00	200	1844,1844,1842,8,8,8,8,8	
154	40	085	1	00	200	1880	Right Arrow Tail
158	20	086	1	00	200	1884,1884,1882,8,8,8,8,8	
15C	40	087	1	00	200	1920	Left Arrow Head
160	20	088	1	00	200	1924,1924,1922,8,8,8,8,8	
164	40	089	1	00	200	1960	Left Arrow Tail
168	20	090	1	00	200	1964,1964,1962,8,8,8,8,8	
16C	40	091	1	00	200	2000	Right Arrow Head
170	20	092	1	00	200	2004,2004,2002,8,8,8,8,8	
174	40	093	1	00	200	2040	Right Arrow Tail
178	20	094	1	00	200	2044,2044,2042,8,8,8,8,8	
17C	40	095	1	00	200	2080	Left Arrow Head
180	20	096	1	00	200	2084,2084,2082,8,8,8,8,8	
184	40	097	1	00	200	2120	Left Arrow Tail
188	20	098	1	00	200	2124,2124,2122,8,8,8,8,8	
18C	40	099	1	00	200	2160	Right Arrow Head
190	20	100	1	00	200	2164,2164,2162,8,8,8,8,8	

continued

Utilities: INVERSE CHARACTERS: [] • CONTROL • CHARACTER • • • INVERSE CONTROL • CHARACTER

demonstration program, the second sign ...

BYTE	CHARACTER	CALCULATED	DATA
NUMBER	PUTTER	VALUE OF BYTE	VALUE
Byte 1	00001100	16-48-4	+ 20
Byte 2	00110110	32-16-4-2	+ 54
Byte 3	00110000	32-16	+ 40
Byte 4	01111000	64-32-16-4	+ 132
Byte 5	00110000	32-16	+ 40
Byte 6	00110000	32-16	+ 40
Byte 7	01111110	64-32+16+4+2	+126
Byte 8	00000000	0	+ 0

Therefore the DATA for the second sign would be...

DATA 20,54,40,120,48,40,126,0

Note that the above is the same as the first DATA line (the second sign) in the utility program.

Because this routine redefines up to 32 characters instantly, at machine code speed, a character string is required to represent the DATA obtained from the above procedure and this is achieved in the demonstration program using CHARS.

THE UTILITY PROGRAM

With experience, the string can be constructed directly by hand, but it is far more convenient to use a separate utility program to write the string for you to disk from the calculator DATA. To write the string, simply run the program and press START after which the string will be written to disk using the file name "STRING.LST" in the LIST format. Once written to disk, all you then need to do is to ENTER the string into your program.

The utility program is prepared for writing CHARS as it appears in the demonstration program. When redefining your own charac-

ters, it is a simple matter to replace the DATA statements at the end of the listing with your own DATA. The first line number used for CHARS is defined on line 120 which may need to be changed to suit your own needs.

TYPING THE CHARACTER STRINGS

As described above, the utility program will write CHARS for you and a third program has been included to write the machine code string itself from DATA. Run the program and press START to write the string to disk using the file name "STRING.LST" in the LIST format. Once written, the string can then simply be ENTERED into the program as before.

```
AC 438 REM 120 Chara String-Defn.
M 448 DATA 1,1,1,1,1,1,1,1
CH 478 REM 121 Chara String-Defn!
M 488 DATA 121,121,1,1,1,1,1,1
M 498 REM 122 Large Chara
M 708 DATA 122,122,1,1,1,1,1,1,1,1,1,1
M 718 REM 123 Small Chara
M 728 DATA 123,123,123,123,123,123,123,123,123
M 738 REM 124 Cross Hatch-1/2
M 748 DATA 204,123,20,112,204,123,20,112
M 758 REM 124 Cross Hatch-1/2
M 768 DATA 21,123,204,112,21,123,204,112
M 778 REM End of DATA files.
CS 788 DATA -1
```

[Invert] = INVERSE CHARACTERS - [] = CONTROL + CHARACTER - < > = INVERSE CONTROL + CHARACTER

Features and OPINIONS

DESERT ISLAND DISKS

Swirling round our local John Monroes shop recently, I came across a new Atari magazine IST only I'm afraid, called Atari world. It was a refreshing change from the usual PC title and Mac that and, since I'd recently acquired my first SE, I decided to take the plunge.

Reading through the magazine I found an article that I thought might be ideal for Page 6. The idea was that users of the SE were to decide which three items of software they would like to have with them if they were marooned on a desert island. Of course, a little bit of imagination would be needed since this island would have to have all the comforts of home! Well it got me thinking, so here follows my selection of Atari Classic Files. I bought my first Atari ROMEL and 3050 Disk drive in 1985 in a well off package from Curry's for the princely sum of £125. The bundled in software package comprised the drawing program Paint, the adventure game The Pop-Oil and the first of my choices, THE HOME FILING MANAGER. This was a use database has been in use almost since the day I first tried it. It takes the form of a card index system, allowing you to flick through each record easily. Also included are search, edit, copy and printing functions. Its many uses include the good old address and contact list, and listing the contents of all my Atari units and Page 6 magazines.

My second choice is that lack of all tracks, NEXT OFFICE II. This lengthy period piece of software is a combination of 6 different utilities comprising a word processor, spread-

sheet, database, graphics display, label printer and communications modules. In fact this article has been prepared using the word processor package. The spreadsheet module has been an absolute Godsend in getting our 8-manues back on track, while the database module has found use in organizing my catalogue of software. As yet I haven't used the other modules (after all I don't need a graph to tell me I'm back!) but the label printer and screen packages may yet find use.

My third and final choice is an extremely useful utility entitled VIDEO TITLE MIRROR. The complete 3 disk package comprises the Video Title Strip program itself, the Micro-Printer art package and the Graphics Components 1 and 2. The many uses of the complete package go far beyond that of putting titles onto videos. The graphics components themselves contain many fonts, border styles and clip art that may be used in text processors and art programs and while the Micro-Printer art package does have something to be desired, the complete package is worthwhile when used as its primary role of video titling. It has certainly given a lot more life to my home "Video Master".

There are many excellent programs that I have not included as one of my 3 choices. Certainly, I do use more software than I've listed here. If you disagree with my choices why not write in and tell us of your 3 favourites. After all, variety is the spice of life, especially on a desert island!

This article seems to be overgrown as there was no room on the disk. If it has become unmanageable from a covering letter see explanation. Thanks, whenever you can, if you would like to cover up we'll credit you next issue.

The Desert Island Disk also seems to be a good one, and one that is easy for almost anyone to write. Think about your three favourite programs of all time and write about them and we'll get a regular Desert Island column going that will recognize those who are the most respected programs of all time.

TEXTPRO MACROS

PART 2

Frank Walters
continues his
exploration of the
macro facility of
the Atari's best PD
word processor

There are nine characters (CONTROL characters) that have special functions when used in a macro. On your screen they look like fancy block characters. Each special macro command must be entered in the ESCape mode. [SELECT] must then be pressed while typing [CONTROL] then the desired letter. The key strokes would be as follows:

[ESC][SELECT][CTRL][desired letter]

After you press all these keys, only one fancy looking character will appear on the screen. So, while all the examples in this installment look long, they don't really take up much screen space (not typed).

In the last part of this series we used one of three special macro commands - [ESC][CONTROL][X] to "GoX" or link one macro to another. Now I will explain the other eight special macro commands: A, E, I, R, M, P, N and Y in more detail.

ASK PROMPT

[ESC][CONTROL][A]-

[ESC][CONTROL][A] should be followed by the desired prompt which is then terminated by a [RETURN]. The 'Ask' prompt requires the user to reply with 'Yes' or 'No'. The default is 'No' so if [Y] is not pressed then No is assumed. If 'Yes' is the reply, then the macro continues with whatever you wish it to do, which is whatever keys follow the [RETURN] character after the 'Ask' prompt line. If No is the reply, TextPRO will look for the macro defined by the [A] key and will execute it. If [A] is not defined as a macro, then the macro will end after a 'No' response.

The 'Ask' prompt will display your prompt in the status line at the top of the screen. It will automatically add the following message to your text:

: Sure? (YN)

Note that a colon immediately follows your question, in place of a carriage return. Here is an example macro using the [CONTROL][A] Ask prompt:

```
#<->[ESC][CONTROL][A]XClear  
Screen[RETURN]  
[ESC][SHIFT][CLEAR][Y]Clear The screen  
don't clear!
```

The [R] is the [START] key macro. Now, load this macro with [CONTROL][M] and press [START]. What you will see in the status line is the following:

Clear Screen? : Sure? (YN)

If your reply is 'Yes' the macro will execute the 'Clear screen' command on the next line of the macro. Remember, you need to be in 'Escape Mode' to send the 'clear screen' command. When you type [ESC][SHIFT][CLEAR] you will only see one character that looks like an arrow pointing up and to the left. The [Y] after

[ESC][SHIFT][CLEAR] answers the question you normally get when you try to clear the screen from the editor (IFRM) ALL TEXT? - See (Y/N). Note that there is no [RETURN] between the [Y] and the R, otherwise that carriage return would print on the screen after it was cleared.

If the response is 'No' for the above macro, the [A] macro is executed and the message "The screen don't clear?" will be typed on the screen. Sometimes you will want to send a message to the status line (not the screen) to indicate how to restart the macro. This message would be done with the special [ESC][CONTROL][_][Y] key described later.

ERASE FILE

[ESC][CONTROL][E]-

Simply follow the [ESC][CONTROL][E] with the device and filename you wish to erase. For example:

```
[ESC][CONTROL][E]D1 DUMMY.TXT  
[RETURN]
```

The filename must be followed by a [RETURN]. You might want to use the Erase File function in conjunction with the Input command [ESC][CONTROL][_][P] which passes the macro to permit the user to type the filename to erase. [ESC][CONTROL][_][P] is described later.

GOTO ANOTHER MACRO

[ESC][CONTROL][_][G]-

In the following example the macro ends with the Ctrl's command, followed by the macro key you wish to execute next. When defining a letter macro key, I normally define both upper case and lower case letters to the

some macros so it doesn't matter which one is selected by the user. The [I] macro must be defined somewhere else in the macro file.

```
! <ESC>[CONTROL_] [S] < (no RETURN added)
```

This is a somewhat trivial but powerful example. Both [OPTION_] [I] and [CONTROL_] [I] will execute the same macro (one [I] is defined). This special macro consisted was more fully explained in the first part of the series last issue.

INPUT MODE

[ESC]-[CONTROL]-[I]->

This is a powerful macro. It permits the macro to guess the user input, similar to INPUT in Basic. When [ESC]-[CONTROL]-[I]-> appears in a macro, it may either be preceded by a prompt in the status line to explain what is requested, or it might follow a [CONTROL_] [Save] or [CONTROL_] [Load] command which displays the prompt automatically.

The user types the information and ends the input Mode with a [RETURN]. Just like Basic, the RETURN is not part of the input and will not be sent to the editor unless your macro has a [RETURN] character following the [ESC]-[CONTROL]-[I]->. During input Mode, the cursor keys are suppressed and only a limited number of TextPRO CONTROL characters are available to the user until input Mode is terminated. Here is an example of the input Mode that I use to enter printer codes for status 'on' and 'off' while typing in the editor. I've defined the printer codes for status (as inverse <I> for 'on' and inverse <O> for 'off. I use the [OPTION_] [I]

[OPTION_] [I] as the macro for status:

```
! <ESC>[CONTROL_] [O] < <I> <ESC>[CONTROL_] [I] < <O> < (no RETURN added)
```

Invoking the macro type inverse <I> into the editor to turn status 'on'. Then the input Mode is entered. The user continues typing and the characters are printed to the editor as they are typed. Backspace/delete keys are not available in the input Mode. When the user decides to end the status printing he presses [RETURN] and the inverse <I> is typed automatically and the input Mode ends. With an [RETURN] following the [ESC]-[CONTROL_] [I]-> in the macro, the user's [RETURN] is not sent to the editor, but is simply an indicator to the macro to end the input Mode and continue executing to the end of the macro by typing an inverse <I> into the editor.

KEYPRESS WAIT

[ESC]-[CONTROL]-[X]->

[ESC]-[CONTROL]-[X]-> is a macro press the macro until the user presses any key. The key will not be sent to the editor, but the macro will resume with whatever follows the [ESC]-[CONTROL]-[X]-> in the current [TEXTPRO] file. It can be used in place of a message in the status line to inform the user of something. The "PRESS ANY KEY" message is not sent automatically when using [ESC]-[CONTROL]-[X]-> but you can print a message there with a [ESC]-[CONTROL]-[I]-> message immediately preceding the [ESC]-[CONTROL]-[X]->.

MENU DIRECTORY BRANCH

[ESC]-[CONTROL]-[M]->

This is the TextPRO macro equivalent of the GOSUB command in Basic. It is a bit complicated so I will leave it out here and come back to it later in the article.

PRE-SELECT MACRO

[ESC]-[CONTROL]-[P]->

[ESC]-[CONTROL]-[P]-> is used to designate any macro key to execute automatically after another macro is loaded via the [CONTROL]-[P] command within the macro. The syntax requires that [ESC]-[CONTROL]-[P]-> be followed by the macro key to be executed after the next macro is loaded and then the [CONTROL]-[P] command with the device and filename of the macro to be loaded from disk:

```
? <ESC>[CONTROL_] [P]-> [DEVICE]-[CONTROL_] [TEXTPRO] [MAX] [RETURN]
```

Here the [REL] key [P] is designated as a macro key to pre-select the [MP] (autoexec) macro key also TEXTPRO MAX basic. [CONTROL]-[P] is the "Load Macro" command. TEXTPRO MAX is the filename of the macro to be loaded and must be terminated with a [RETURN]. When TEXTPRO MAX is loaded, if [MP] is defined as a macro elsewhere, it will execute automatically. Any macro key can be used following the [ESC]-[CONTROL]-[P]-> not just the [M], but for simplicity and standardization, the [M] key is normally used as the automatic macro key. This is the key TEXTPRO MAX designates when it loads another disk macro file via the [START] key.

RENAME A FILE

[ESC]-[CONTROL]-[R]->

Here's the syntax:

```
[ESC]-[CONTROL]-[R]-> [R] [OLDNAME.TXT, NEWNAME.TXT] [RETURN]
```

Just like using Atari DOS, include the drive number for the old filename, so TextPRO can find it. Just the new filename is required following the comma. This special macro command must be terminated by a [RETURN].

PRINT MESSAGE

[ESC]-[CONTROL]-[Y]->

This must be followed by your message and terminated by a [RETURN]. Your message and characters up to the [RETURN] will be printed on the status line until the next keypress. This is one of the most useful of all special keys as you keep the user informed as to what is to next, but without crowding up what is in the editor itself.

Returning back to a previous example, I use the [ESC]-[CONTROL]-[Y]-> Print Message to status line to indicate status 'on' mode. I insert it immediately before the [ESC]-[CONTROL]-[I]-> in the macro. I also add another [ESC]-[CONTROL]-[Y]-> following the <I> to remind the user when status is 'off'. Here's what that looks like when added to my previous example:

```
! <ESC>[CONTROL_] [I] < <I> < <ESC>[CONTROL_] [Y]-> < <I> < [RETURN] [ESC]-[CONTROL]-[I]-> < <ESC>[CONTROL_] [Y]-> < [RETURN]
```

LET'S TACKLE THE HARD ONE!

That just about concludes the special macro keys list, if you recall, we said we would come back to one. The premessage message in the status line is no longer available for use in macros after version 4.50 as that special macro command [ESC]-[CONTROL]-[M]- is now used for the Menu directory branch [CONTROL] function. This macro is very powerful (and confusing!) so let's tackle it now.

I had more trouble figuring out how to use this special macro key than any other function of macros. It can be tricky and you can get yourself lost as you sometimes do when using DOSUB with IF/THEN statements in Basic. If you don't program Basic, it could be even more confusing. I will get lost sometimes with the Menu Branch.

WHAT IS THIS KEY?

[ESC]-[CONTROL]-[M]- selects the Menu Branch function within a macro set. To review the keyboardology you must press [ESC] first, then hold [CONTROL] for a moment, then press [CONTROL]-[M] to type the character. It will look like a small white box on your screen.

This is a very powerful macro key that allows the user to optionally branch to any number of macro keys available by just pressing a single key without [OPTION]. When the Menu Branch is invoked, if a key is pressed that has no defined macro key (an illegal keypress), then the current macro simple steps after the keypress and no branch takes place. If the

next item following the [ESC]-[CONTROL]-[M]- is the definition of another macro, then the macro simple steps after an illegal keypress which may not be desirable. Also, when one of the selected macro keys is pressed after the Menu Branch is executed, the macro continues to the next key AFTER the Menu Branch command and whatever (if anything) follows the Menu Branch is executed at that time. This is what can get confusing when using this function.

Think of it like DOSUB and RETURN in Basic. [ESC]-[CONTROL]-[M]- is the DOSUB. The user picks the "line number", in this case which macro key to CONTROL to, at the end of that macro, it RETURNS to the statement (or character) following the [ESC]-[CONTROL]-[M]- special command and continues from there.

HOW DO I USE THE MENU BRANCH?

[ESC]-[CONTROL]-[M]- will automatically point to the status line whenever you type following the Menu Branch key. Your "prompt" must end with a [RETURN]. Normally you list the macro keys you have available to choose from the menu. I recommend using inverse characters to highlight the available macro keys. Number keys are easy to use and simpler to define as macros store them to no upper/lower case to easily allow back at the following example:

```
##=[ESC]-[CONTROL]-[M]-<1>=Print  
2>-Skip <2>-Repeat <4>-Quit[RETURN]
```

The first thing we must think about is what

happens if 1, 2, 3, or 4 are not pressed. One way to "trap" an illegal key is to continue following the Menu Branch with a "GoTo" back to the Menu Branch macro function, as shown below:

```
[ESC]-[CONTROL]-[M]-# [no Return  
needed]
```

So any key other than a defined macro key will go back to the prompt again. (See CALLTRM later in the article, though)

Also, after executing 1, 2, 3 or 4 the Menu will be displayed again because TESTPRO will RETURN from any of the defined keys to the GoTo statement. When this technique is used, you must include an option to quit or exit from the loop. [HELP] (?) is usually defined to exit back to TESTPRO.MAX and in the above example you can link macro key 4 to GoTo the [HELP] or (?) key as follows:

```
4=>=CTR], <2>-17=>[CTRL]-V[EX-  
TEND].MAX
```

"V" could load TESTPRO.MAX directly, bypassing the use of 1, but for standardization of all my disk macro files, I always define 17 to reload TESTPRO.MAX. Besides, the Menu Branch may only be a small part of this particular macro and the [HELP] key might be used to terminate at another point in the macro. You would now go on to define 1, 2 and 3 keys (if whatever you intended for this menu).

CAUTION: Using the "GoTo" back to the Menu Branch macro immediately after the macro prompt makes it almost impossible to break out of the loop except by loading another macro file from disk or hitting the Break key, which is messy. So don't use this technique if you want to have other functions besides the Menu Branch in your macro set. Having the [START] (R) key define the Menu Branch makes it easy to get back into the loop if you

hit an illegal key to end the loop by mistake.

I'M CONFUSED ALREADY!

Are the keys shown in the menu the only ones you can choose? No. You show the macro keys you want the user to pick from, but all macro keys defined in the macro file are legal keys and can be used from the Menu Branch prompt. They would execute and return to the point following the [ESC]-[CONTROL]-[M]- statement.

ANOTHER EXAMPLE

Type in the example shown in the box, overkill and save it as CR.MAX so we can go through it step by step.

CR.MAX is a macro I made to selectively remove carriage returns (CR) and replace them with a space. I use it to reform messages captured in 80 columns where I don't want the Returns removed from the headers or between paragraphs. It doesn't use the "GoTo" loop back to the Menu Branch command so I can break out easily to edit and then return to the Menu with [START]. I begin by defining the macro name with `cls` so it can be printed in the prompt line. If the previous macro pre-selects `cls` for execution, then the name of CR.MAX will be displayed in the status line after it loads. I then define the [HELP] key (?) to reload the default macro.

Notice that I also pre-select `cls` to execute prior to loading TESTPRO.MAX. That way after TESTPRO.MAX loads, the `cls` macro in it will execute, loading the name of the macro (TESTPRO.MAX) into the prompt line. Using `cls` in this way with parentheses is pretty

TURBO TIPS

by Robert De Letter

Here is a useful programming list that will save memory and make for more compact programs when using Turbo Basic.

Firstly when you want to set the colour registers you would usually use, for example:

```
POKE 710,40:POKE 710,40:POKE 710,40:POKE 711,40:POKE 711,40
```

but you can use instead:

```
MOVE 40@("4-00"),700,5
```

The letters in the brackets have the ATASCII values of the numbers 00000 into the registers in the previous example. To discover the letters/symbols to use simply type ? CHR\$(000) for example and the character will be shown on screen.

Look out for another useful list from Robert next issue!

There have to be many more great tips like these in your programming notebook so share them with others. Send in your Turbo Tips!

Try [CONTROL][T] from the keyboard and you will see the prompt:

```
Get [M,R,L,T,A,U,I] RETURN to exit
```

Used in a macro, you can set certain 'toggle' modes to ensure your macro commands are going to function correctly.

M - Selects Main bank. If you want to ensure you are in a specific bank, then use [CONTROL][T] mode followed by [M] the [SELECT][CONTROL][X] to switch to Bank 1, or add a [CONTROL][B] to switch from bank 1 to 2.

R, I - [CONTROL][I] implies Insert mode

T, A - (Main Logo key) Text, Atascii mode

U, L - Upper, Lower case

WHAT KEYS CAN'T BE USED AS MACROS?

I can't think of any keys that could not, theoretically, be defined as macro keys by using the Insert mode key. I thought maybe the <0> itself might be difficult but I tried it and it works. There is a problem if the <0> is defining itself unless it is the very first character in the macro file.

The <0> acts as a delimiter that defines the end of the previous macro. When a macro is executing, it is also looking ahead and when it sees a <0> it will stop executing when it reaches the character preceding the <0>. With two <0> in a row, the first <0> will prevent the previous macro from executing the last character in the macro because it thinks that character is being defined by the

continued on page 50

XL/XE PROGRAMMING

GRAPHICS USING MACHINE CODE

by Peter Foote

Reading James Malhotra's letter in issue 19 of XLU brought to mind a similar program I had previously written - see XLU issue 17. The problem James posed was how to change the graphics modes using machine code. Here is a quick guide.

FIRST IN BASIC

To produce a screen in BASIC you can use either:

```
GRAPHICS NO$TEXT,NOCLR,MODE
```

Where NO\$TEXT = 0 for a text window, 16 for text window, NOCLR = 0 clear screen, 30 no clear screen, MODE = (0 to 15) screen lines.

or

```
CLOSE #CHANNEL  
OPEN #CHANNEL,READ+WRITE+TEXT,  
NOCLR,MODE,"0"
```

Where CHANNEL = channel number (1 to 7), READ = 0 no read, 4 read from screen, WRITE = 0 write to screen, TEXT = 0 no text window, 16 text window

```
00 10 REM DIMS - TRIANGLE  
01 11 REM BY P.J.FOOTE 1996  
02 20 CLOSE #CHANNEL GRAPHICS 3  
03 30 OPEN #A,"0,2,3","0"  
04 40 REM WRITE IN TEXT WINDOW  
05 50 POKE 454,1:POKE 457,17:POKE 458,1  
06 60 PRINT "MAME!"  
07 70 POKE 454,3:POKE 457,13:POKE 458,1  
08 80 PRINT "COMPRESS"  
09 90 REM DIMS TRIANGLE  
10 100 COLOR 1  
11 110 PLOT 5,17:REM DIMS 2 SIDES  
12 120 DRAW 25,17  
13 130 DRAW 28,2  
14 140 POKE 745,3:REM FULL COLOR  
15 150 POSITION 5,17  
16 160 GOTO 16,84,4,8,"0"  
17 170 REM CYCLE POINT  
18 180 #DEFEND 20+100:REM REM WAIT  
19 190 IF A=255 THEN A=0  
20 200 IF POKE(20+CA THEN GOTO 200  
21 210 LOCATE 28,18,C  
22 220 COLOR 0:1:PLUT 28,18  
23 230 GOTO 170
```

Include - INVERSE CHARACTERS - [] - CONTROL - CHARACTER - < > - INVERSE CONTROL - CHARACTER

continued on page 50

9019 - GRAPHICS DEMO
 9020 BY P.A.FOOTE 1984
 9021
 9040 RTCLK=414 REAL TIME CLOCK
 9050 ROWS=354 CURSOR ROW
 9060 COLS=485 CURSOR COLUMN
 9070 CLR=484 CLR ROW
 9080 COL=485 CLR COLUMN
 9090 ICCB=30343 ICCB BASE ADDRESS
 9100 TROW=30396 TEXT CURSOR ROW
 9110 TCOL=30391 TEXT CURSOR COLUMN
 9120 ATCHR=30395 CHARACTER COLOUR
 9130 FILDT=30370 FILL COLOUR
 9140 CHAN=30803 CHANNEL NUMBER
 9150 GRMODE=30661 GRAPHICS MODE
 9160 GRTYPE=30662 SCREEN FUNCTION
 9170 CIOV=3E456 CIO VECTOR
 9180
 9190 *-48000 START ADDRESS
 9200
 9210 START LDX #H70 CHANNEL 8
 9220 STX CHANNEL
 9230 JSR CLOSE CLOSE #0
 9240 LDA #0 GRAPHICS 3
 9250 STA GRMODE
 9260 LDA #08 CLEAR SCREEN
 9270 STA GRTYPE TEXT WINDOW
 9280 JSR GROPEN & SCREEN READ
 9290 BNE SWP BRANCH ON ERROR
 9300
 9310 LDX #H70 SELECT
 9320 STX CHANNEL TEXT WINDOW
 9330 LDA #17 POSITION 17.1
 9340 LDY #1
 9350 JSR TDFOS
 9360 LDY #0 PRINT
 9370 JSR PRINT "ATARI"
 9380 BNE ERROR OUT OF RANGE?
 9390 LDA #15 POSITION 15.2
 9400 LDY #0
 9410 JSR TDFOS
 9420 LDY #4 PRINT
 9430 JSR PRINT "COMPUTER"
 9440 BNE ERROR OUT OF RANGE?
 9450 LDA #0 POSITION 0.0
 9460 LDY #0
 9470 JSR TDFOS

9480 LDX #H70 SELECT
 9490 STX CHANNEL MAIN WINDOW
 9500 LDA #1 COLOR 1
 9510 JSR COLOR
 9520 LDX #5 PLOT 5.1
 9530 LDA #0
 9540 LDY #17
 9550 JSR PLOT
 9560 JSR PLOT
 9570 BNE ERROR OUT OF RANGE?
 9580 LDX #08 DRAWTO 08.17
 9590 LDA #0
 9600 LDY #17
 9610 JSR DRAWTO
 9620 BNE ERROR OUT OF RANGE?
 9630 LDX #20 DRAWTO 20.2
 9640 LDA #0
 9650 LDY #2
 9660 JSR DRAWTO
 9670 BNE ERROR OUT OF RANGE?
 9680 LDA #2 FILL COLOUR
 9690 JSR FILCOL = 2
 9700 LDX #5 FILL
 9710 LDA #0 END AT 5.17
 9720 LDY #17
 9730 JSR FILL
 9740 BNE ERROR OUT OF RANGE?
 9750
 9760 LOOP LDA RTCLK WAIT 2
 9770 CLC RECONNECTS
 9780 ADC #108
 9790 WAIT CMP RTCLK
 9800 BNE WAIT
 9810 LDX #20 LOCATE X,Y,0
 9820 LDA #0 AT 20.10
 9830 LDY #10
 9840 JSR LOCATE
 9850 BNE ERROR
 9860 LDX ATCHR COLOUR = C-1
 9870 INC
 9880 TGA
 9890 JSR COLOR
 9900 LDX #20 PLOT 20.10
 9910 LDA #0
 9920 LDY #10
 9930 JSR PLOT
 9940 BNE ERROR OUT OF RANGE?
 9950 JMP LOOP REPEAT LOOP
 9960 ERROR BNE STOP

9970
 9980 TATTAB=AVORD TXT1,TXT2,TXT3
 9990 WORD TXT2,TXT3-TXT2
 1000
 1010 TXT1,BYTE "ATARI"
 1020 TXT2,BYTE "COMPUTER"
 1030 TATT
 1040
 1050
 1060 CLOSE LDA #12 CURSOR CHANNEL
 1065 JMP EXECUTE
 1070
 1080 GROPEN LDX CHANNEL GET CHANNEL
 1085 LDA #0 SET COMMAND
 1100 STA ICCB-0.3 BYTE
 1110 LDA #RTVEC0286 POINT TO
 1120 STA ICCB-4.8 HANDLER I.D.
 1130 LDA #RTVEC0286
 1140 STA ICCB-5.3
 1150 LDA #0 SET LENGTH TO
 1160 STA ICCB-6.8 TWO BYTES
 1170 LDA #0
 1180 STA ICCB-8.3
 1190 LDA GRTYPE GET TYPE OF
 1200 STA ICCB-10.X SCREEN
 1210 LDA GRMODE GET MODE
 1220 STA ICCB-11.X
 1230 JSR CIOV EXECUTE OPEN
 1240 RTS EXIT
 1250 GRVIC BYTE "B" SCREEN I.D.
 1260
 1270 POSITION STX ROWS=POSITION X,Y
 1280 STX COLS=0
 1290 STX COLS=-1
 1300 RTS
 1310
 1320 TDFOS LDA #0 POSITION X,Y
 1330 STY TROW FOR TEXT
 1340 STX TCOL, WINDOW
 1350 STA TTXCOL-1
 1360 RTS
 1370
 1380 PRINT LDX CHANNEL GET CHANNEL
 1390 LDA #11 SET COMMAND
 1400 STA ICCB-0.X FOR PLOT
 1410 LDA TATTAB+Y GET TEXT
 1420 STA ICCB-4.X ADDRESS
 1430 LDA TATTAB+1,Y
 1440 STA ICCB-5.X

1450 LDA TATTAB+2,Y GET TEXT
 1460 STA ICCB-6.X LENGTH
 1470 LDA TATTAB+3,Y
 1480 STA ICCB-9.X
 1490 JSR CIOV EXECUTE PRINT
 1500 RTS EXIT
 1510
 1520 COLOR STA ATCHR COLOUR X
 1530 RTS
 1540
 1550 FILCOL STA FILDT FILL COLOUR
 1560 RTS
 1570
 1580 PLOT IMY PLOT X,Y
 1590 STY CLRROW
 1600 STX CLRCOL
 1610 STA CLR=1
 1620 DEY
 1630
 1640 DRAWTO JSR POSITION DRAWTO X,Y
 1650 LDA #0
 1660 JMP EXECUTE
 1670
 1680 FILL JSR POSITION FILL
 1690 LDA #0
 1700
 1710 EXECUTE LDX CHANNEL DO
 COMMAND
 1720 STA ICCB-0.X
 1730 JSR CIOV
 1740 RTS
 1750
 1760 LOCATE JSR POSITION GET PIXEL
 1770 LDX CHANNEL COLOUR
 1780 LDA #7 AT X,Y
 1790 STA ICCB-2.3 ANSWER IN
 1800 LDA ATCHR=286 ATCHR
 1810 STA ICCB-4.3
 1820 LDA ATCHR=286
 1830 STA ICCB-5.3
 1840 LDA #1
 1850 STA ICCB-6.3
 1860 LDA #0
 1870 STA ICCB-8.3
 1880 JSR CIOV
 1890 RTS
 1900
 1910 END END OF PROGRAM

TEXTPRO MACROS continued

```
NOCLR = 0 clear screen, 32 on clear screen  
and MODE = (3 to 15) screen format
```

```
—  
CLOSE #CHANNEL  
XIO SUBCHANNEL, READ=WRITE=TEXT,  
NOCLR,MODE,"S"
```

XIO is the same as the OPEN command. All variables are as shown in the example above.

BASIC user channel 4 for most of its graphics commands, the exceptions being either a GRAPHICS 0 screen or the text window. The last two examples show that the Atari uses the input/output control blocks (IOCBs) to execute most of the graphics commands that are available in BASIC.

Once a screen is obtained you no doubt will wish to write graphics and text to it. Check out the BASIC program, PROGRAM 1, which draws a colored triangle on a graphics 3 screen with a text window, then copies the entire plot through the four playfield colors.

NOW THE SAME THING IN MACHINE CODE

In machine code it would look like program 2. It looks quite frightening but you should be able to pick out the equivalent routines for the graphics statements. Notice that there is a separate position command for the text window. This only applies in the split screen mode.

If during the execution of a graphics command an error occurs, say the cursor is out of bounds, then the negative flag of the processor is set and the "Y" register is set to the error code of the fault as described in the BASIC

first -> it sees in the past. Well, in fact, that is exactly what it is doing. So you would need to put a dummy character before the double -> [OPTION[]-] the dummy character would actually type the second zero in the editor and then, execute the first -> macro command, so I would use a difficult-to-type character key like [ESC][95,ESC][,][SHIFT][,] (screen backslash).

This is just a theoretical discussion but it shows how the logic of macro execution operates.

NEXT TIME ...

In the next installment I'll give you some exciting examples which bring together all we have learned so far.

This article originally appeared in the U.S. magazine *Current Notes* which, alas, no longer exists for the Atari Classic.

reference manual. The processor will run the routine and, in my example, stop at the line called **ERRORS**.

Assemble and execute the program using either the Macro assembler or the Assembly/Editor cartridge. You should see exactly the same picture as with the BASIC program. Modify a few of the coordinates to get a feel for the program then you may progress to more complex shapes, say an octagon!

You will notice that the plot routine uses a table that holds pointers to the text and the length of the text. So to plot a line of text which may be the "nth" entry in the program set the "Y" register to a 4 and execute the **PRINT** routine. The graphics **PLLOT** and **DRAWTO** commands can be adapted to be table driven. The programming possibilities are almost endless.

I hope you find this article useful and maybe we'll not some of your programs in future issues.

XL/XE PROGRAMMING

TWO MACHINE CODE MONITORS

*Machine code
programmers are
always looking for
ways to make
their program-
ming tasks easier.
Here H.S. Wood
presents a couple
of utilities that
could be just the
job*

When one intends to program in Machine Code or Assembly Language (the two are not the same) then a Monitor is essential. Such a Monitor allows assembled code to be executed and run. It will allow the program to be stopped at preset Break Points so that registers etc. can be examined and it will allow the program to be restarted as if nothing had happened. In other words a program can be "debugged".

The two programs on this issue's disk, **MONITOR4.COM** and **MONIMAIN.COM** carry out the above tasks. These Monitors are based upon the extended Monitor supplied to 1979 with the UK 101 R3 computer but they are considerably more useful and are suitable for the ATARI 8 bit MODEL and 1300SE.

DOUBLING UP

Why are there two almost identical programs? Well it is a question of location is necessary. Both programs are 2K bytes long, but while **MONITOR4** is loaded at \$B000 to \$B000, **MONIMAIN** is loaded at the Basic ROM at \$A000 to \$A000. Each is independent of the other and can be used singly or both may be in memory at the same time.

If you want to examine the Basic ROM then you must use **MONITOR4** but, if you want to see locations \$B000 to \$B000 then you must use **MONIMAIN**.

MONITOR.CMD, once loaded, can be accessed from Basic by the command
GOTO\$MON10. To exit, press **RESET**.

MONMAN3.CMD cannot be accessed directly from Basic because it uses the Basic addresses. This is essentially the use of a short routine (9 bytes) which is placed at \$0C00 - the start of screen memory. From Basic G-USER(20000) will access MONMAN3 and **RESET** will exit back to Basic. However, if you are using Graphics screens, then this "screen routine" will be overwritten. You overcome this by writing the 9 bytes somewhere else in memory (such as page 6). A short Basic routine can install these 9 bytes. Use the ROMMAN3 to set the 9 bytes so that you can copy them.

Note also that MONMAN3.CMD has a loading routine which switches off Basic when the program is loaded from disk. This loading routine will overwrite some memory but is not used after loading is complete. To prevent problems MONMAN3.CMD should be loaded at the start of a session if it is to be used.

HOW TO USE THE MONITORS

Both Monitors are identical in operation and keys **A**, **B**, to **Z** control the functions. **SHIFT** **#** and **SHIFT** **2** are also used.

When a key is pressed it must be followed by other input. Most keys expect an address (added in HEX but some keys need a number 1 to 8 - i.e. **IK** etc.).

The CPU registers are displayed as you would expect with keys **A** **K** **Y** **F** and **E**. **F** is the "flag" register while **K** is the LS256 of the Stack Pointer (the MS256 is always **0000**). Key **I** will display all CPU registers together. Key **G** **0000** will display our screen full of

disassembled code starting at 'address'. Key **J** will show the next screenfull, and key **Z** will show the next commands one at a time. **RE-MARK** will exit this function.

SHIFT **#** **0000** will display the byte at 'address'. This byte may be changed by entering a new value and key **J** will go to the next address. **RETURN** will exit. **SHIFT** **#** can be used to enter Machine Code routines by hand if required. Be careful not to change Monitor locations.

One of the most important functions is to trace a program to find out why it does not work as you intended. The program must be in memory at a known address and keys **B** **0** **0** **0** **F** are used as follows:-

Decide where you would like the program to stop. Press **B** followed by a number 1 to 8 followed by the address. Press **F** and the addresses of the break points (BP's) will be set. Unused BP's will be **0000** but the ones you have set will display their addresses.

If you are not satisfied with the BP's you have set, press **B** for the number you entered and that BP will be eliminated. Press **Return** to exit. Up to eight BP's can be set so that they will operate as the program reaches their addresses.

Next enter **G** **0000** before 'address' is the start of the program followed by **Return**. The program will stop at the BP and print out the address and all the CPU registers. The register values can be changed or other parts of the routine can be changed. When you are satisfied enter **C** to continue. In this way a program's progress can be followed through and any errors should be found. **NOTE** to change a register, press its name (A etc.) and enter the new value. Press **RETURN**.

To calculate values in HEX press **H** as follows:-

H number,number+answer - you enter the two values of 'number' and the + which may be - or /. The contents, the = and 'answer'

are printed by the MONITOR.

To load a disk sector from drive 1 to Page 0 enter **L** sector where 'sector' is the sector number in HEX. Next enter **D** **0000** **0000** and the sector values will be dumped on the screen. Alternatively **G** may be used to provide an assembly listing. i.e. **G** **0000**.

An unmentioned above entering **D** **0000** **0000** will dump the code from the first address to the second on to the screen. The screen will scroll so you might need to use **CONTROL** **I** to stop it.

Key **F** is a FILL. Press **F** **000** **0000** byte (the Monitor inserts the contents and the equal). Memory from the first address to the second will be filled with byte. This is a good way to clear memory by using byte=00.

Keys **M** and **B** behave similarly. **M** copies a block of data while **B** relocates a copy of a block of data. The original data is unchanged unless it is overlapped by the block limits. The data relocated will have its codes changed so that it will BEH at the new address. Show only codes the data.

B **000** **sector** **L** **0000** will relocate from 'address' to a block starting at 'address' and ending at address. The equal sign and the screens are put in the line by the Monitor.

Keys **N** and **W** behave similarly. **N** searches for a sequence of bytes (less one to eight) while **W** searches for a string of ASCII characters (1 to 8). The entries are:-
N byte byte - byte >0000 **0000**
W string **0000** **0000**

The greater than sign '>' has to be entered when all the values have been put in but the MONITOR enters the comma. The MONITOR will search from the first address to the second for a match. When a match is found, the address of the first character and the value

is put on the screen where it can be changed if required. Using key **J** steps through the memory. **Return** will return to MONITOR.

SHIFT **2** will display the ASCII value of the character for the value shown when using **SHIFT** **#** or the **M** and **W** functions.

SPARE KEYS

WARNING although addresses are given below for MONMAN3.CMD it is recommended that if these are used it is only on a temporary basis. This is because MONMAN3.CMD has a loading routine and if it is re-loaded it will not load again. In any case it is important that only copies of these MONITORS are modified.

Keys **0** **0** **U** and **V** are not used by MONITOR and can be set to point to a User routine if required. The addresses are as follows:-

KEY	MON4	MON3
0	\$007E/F	\$A17E/F
U	\$008A/7	\$A18A/7
V	\$009A/D	\$A19A/D
Y	\$00BC/D	\$A1BC/D

To put an address in the above locations key **Key** **0** press **SHIFT** **#** **0000**. Enter the 16 byte of the address. Press **J** and enter the MS256. Press **Return**. Check using **G** **0000**. Future presses of key **0** will run the routine at the entered address. If you put **00** (0000) and **17** (0000) then **KEY** **0** will go to **DC00**.

If the change is to be permanent (MONITOR3.CMD) then the MONITOR must be saved using **DC00**. Use a different number to identify the changed program.

The two programs mentioned in this article are on this issue's disk ready to run. They are not available as a type-in listing.

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MULTI-POKE

Atari Basic is one of the best Basics of all but there are areas that could be improved. John Foskett has found a way to add a simple command that can save a great deal of time

There are times when writing even a simple program when it is necessary to calculate the high/low bytes of an address such as when using custom display lists, interrupts, etc. and Turbo BASIC has two commands which simplify this problem. Arguably who programs in Turbo BASIC will be aware of its double poke (DPOKE) and

double peek (DPEEK) commands which ease this process by accessing the stated location and the following location together at the same time, doing the calculations for you automatically.

As an example, consider the following two comparatives, firstly when finding the address of the display list ...

Using Atari BASIC ...
100 DL=PEEK(560)+256*PEEK(561)
But in Turbo BASIC, it is simply ...
100 DL=DPEEK(560)

Secondly when finding the address of, for example, a display list interrupt string (DLIN) and writing the vector to point to it ...

Using Atari BASIC the routine is ...
100 L=ADD(0LH)
110 H=HT(020H)
120 LDA=HT(25H)
130 POKE H+L,D
140 POKE H+L,H
But in Turbo BASIC, it is simply ...
100 DPOKE H+L,ADD(0LH)

The routine presented here performs both the DPOKE and DPEEK functions for Atari BASIC, automatically selecting which is required. The routine also performs a normal single POKE as well, the DPOKE function again automatically determining which is required. Also the routine is multi-function and will perform on many POKEs and DPOKEs in any combination as required in our operation.

USING THE ROUTINE

The function of the routine is determined by the number of parameters used in the call. When used with only one parameter, an address, the routine performs the DPEEK function returning the combined contents of the specified location and the location which follows in BASIC. When used with any number of pairs of parameters, the routine performs the multi-POKE/DIPOKE function by POKEing (or DPOKEing) the address parameters which is the first of each pair with the value of the parameters which follow, that is the second parameter of each pair. The routine will perform a maximum of one POKE or DPOKE function using two parameters, an address and a value and the maximum is limited by the number of parameters that can be included in the call. Apart from using a single parameter for the DPEEK function, the routine must be used with an even number of parameters otherwise a crash may occur.

To clarify how the routine is used, for DPEEK (double PEAK).

In this example, for finding the address of the display list ...

```
DLIN=ADD(ADR(DPKE),560)
Note the use of ONE parameter
```

The equivalent in Turbo BASIC is ...
DLIN=DPEEK(560)
or the equivalent in Atari BASIC ...
DLIN=PEEK(560)+256*PEEK(561)

To clarify how the routine is used, for DPOKE (double POKE) ...

This example demonstrates using the routine to set the display list address vector to point to page 9 (150H) ...

```
L=ADD(ADR(DPKE),560,150H)
Note the use of TWO parameters
```

The equivalent in Turbo BASIC is ...
DPOKE 150,150H

```

MULTIPOKEDPOKEDPEEK LOOP
: for Atari BASIC LDY #0 RTS
: Version 1 Jan/90 PLA : DPEEK
: Written by John Foskett STA ADDR DPEEK
: PLA PLA
: STA ADDR STA ADDR
: PLA PLA
ADDL = 204 STA VALH STA ADDRLO
ADDR = 204 PLA LDY #0 LSA (ADDL),Y
VALH = 204 STA (ADDL),Y STA YL
: LDA VALH STA YL
: Start of Code BEQ SINGLE BYY
PLA INY LSA (ADDL),Y
DBF #1 STA (ADDL),Y STA YL
BEQ DPEEK SINGLE RTS
DPEEK DEX
TAX DEX

```


This forms a very flexible routine which enables any number of parameters to be used in the command so long as they are in pairs.

In the loop the two parameters removed from the stack are stored in page zero addresses. The first parameter (the address) is stored in locations ADDR0 and ADDR1 in the normal 2 byte hi/lo format which are defined at the top of the listing as locations 200 and 204. Any of the named locations may be used for this purpose but they must be in page zero. The high byte of the second parameter (the value) is stored in location VALUE0 defined as location 208 at the top of the listing. Any named location equivalent to RAM may be used for this purpose. There is no temporary storage for the low byte of the value parameter because this is stored directly into the specified address using indirect indexed addressing. The accumulator is then loaded with the high byte of the value from VALUE0 which is then checked for zero using BZQ and if found, access to the second memory location (specified address plus one) is bypassed so that the routine returns a single POKE. If the contents of VALUE0 was not zero, then the original value of the parameter was greater than 255 and hence a double DPOKE is actioned instead, incrementing the Y register to enable access to the next location again via indirect indexed addressing.

Note that if an ordinary single POKE is assumed because the value parameter is less than 256, then there is no access to the next address in sequence such that its contents remains unchanged. This is the only difference between the routine and Turbo BASIC's DPOKE command where DPOKE actually does access the next memory location in sequence, loading it with a zero if the value is less than 256. Allowing the use of single POKEs in this way was deemed to be more important because it allows the advantage of multi-functions. That is of combined POKEs and DPOKEs.

THE DPEEK SECTION

As previously stated, control is passed to this section whenever there is only one parameter used in the USE command. This section first, removes the parameter (the address for DPEEKing) from the stack and stores it in the previously mentioned locations ADDR0 and ADDR1. Next, the Y register is cleared to allow access to the specified address via indirect indexed addressing the contents of which are stored in location 212, the low byte of the value is then returned to BASIC. The Y register is then incremented to allow access to the next location in sequence again via indirect indexed addressing and its contents are stored in location 213. High byte of the value is then returned to BASIC. The final value returned to BASIC is automatically calculated from the hi/lo bytes stored in locations 212 and 213 by the floating point routine.

THE DEMONSTRATION PROGRAM

The actual machine code routine is the string immediately below the REM header and the rest of the listing is the demonstration program.

The demonstration program shows how the routine is used by DPEEKing the two screen colour locations 709 and 710 with a random number between 256 and 65535. As a result, the screen is coloured accordingly and the contents of the two individual locations are displayed on screen separately along with their combined value found by DPEEK. Note that the value found is always the same as the original random number.

Please bear in mind that because the screen

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is manually coloured, the brilliance of the characters may equal that of the screen itself resulting in a blank screen. The program includes a small DEL routine to ensure that the bottom line of the screen is always visible for displaying the PROGRAM START prompt.

Note that the demonstration program uses the routine itself as follows ...

Line 100 gets the address of the display list by DPEEKing then ...
DLIST=USRADR(DPQL,566)

Line 200 performs multi-POKE/DPEEK functions using ...
USRADR(DPQL,DLIST+27,100,512,
100,5000,100,702,1)

This increments ...
POKE DLIST+27,100
DPOKE 512,100
POKE 5000,100
POKE 702,1

Line 300 DPEEKs the random number into

locations 709/710 using ...
USRADR(DPQL,709,0)

Line 510 prints the value found by DPEEKing location 709 using ...
PRINT USRADR(DPQL,709)

TYPING THE MACHINE CODE STRING

Because of the difficulty involved with typing machine code strings, the second program has been included to write the string for you from a bank of numeric data. Simply run the program and press START after which the string will be written to disk using the file name "MACHINE.LST" in the LIST format. It is then a simple matter to ENTER the string from disk.

VAGABOND

reviewed by Paul Rixon

A new game? Well no, but it's a welcome addition to Micro Discosoft's unique range of imported titles, to continue with many others, Vagabond (or "Wloczyk" for those with linguistic talent) originates from Poland. The game was published by LK Avalon in 1990 and, judging by the shape of its glossy insert, was probably intended for circulation on tape.

Thanks to the efforts of MD's interpreter, an English version of the story sheet is provided. We're told that Vagabond - an eternally cheerful green 'blob' with blue arms, blue legs and a red nose - has returned home from a characteristically life-wandering and is here to go some rest. But his lackadaisical intentions are frustrated when a friendly alien lands on the front door (as they do) and asks for help in restoring the passengers of a stricken space ship. Heed!

This means, of course, that your job is to help Vagabond jump onto platforms, collect passengers and steer clear of obdigious monsters. The lower two-thirds of the playfield encompasses the side-on view of a rectangular landscape. This incorporates platforms, clouds, trees, gates and similar forms of scenery which slide horizontally as your character strolls around. The upper screen portion displays counters to represent the number of lives and passengers remaining. There's also an egg-timer as you won't be tempted to laze.

The joystick controls are straightforward.

Pushing left or right prompts Vagabond to walk in the corresponding direction, whilst an upwards push makes him jump - in a snappy, head-over-heels fashion. As he jumps, you can make horizontal adjustments to improve the chances of a safe landing. Some monsters are static and must be avoided, but others are mobile and can be knocked out by a well-timed manoeuvre. There are no bonus points for aggressive behaviour, so it's probably wise to concentrate on the key task of rescuing helpless passengers. A simplified map can be found below you can access the following level.

Vagabond benefits from a high standard of visual design. Music is also good, though fairly repetitive, and there's an alternative option of sound effects. Playability wise, the first level is more demanding than some of the later ones - peppers and your confidence grows. The game could do with a high-score table or a level-passed access system, but otherwise it must be recommended.

Title	WLOCZYK (VAGABOND)
Publisher	LK Avalon
Supplier	Micro Discosoft
Format	Disk
Price	£4.00

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