

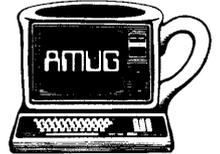
POSTAL ADDRESS ----- 36 STURT ST., ADELAIDE 5000

This newsletter is a monthly circular produced by the members of the ADELAIDE MICRO USER Group Inc. who are interested in general microcomputer applications. We cater, however, for any serious users regardless of their interests including CP/M, MS-DOS & related application software etc. Nevertheless, the main focus of interest is towards Tandy computers and their various 'workalikes'. The group attempts to meet the needs of hobbyists, serious users and business applications etc. but all are welcome.

ANNUAL SUBSCRIPTION IS \$18.00...CHECK LABEL FOR YOUR EXPIRY DATE!NEXT GENERAL MEETING

7.30pm THURSDAY 6th JUNE
SENIOR CITIZEN CENTRE
18 Arthur Street, Unley

Pre-meeting drinks & 'counter tea'
5.45pm WAVERLEY HOTEL
25 Unley Road, UNLEY

SPECIAL INTEREST GROUPS

Colour Computer 4th Tuesday
6809 M/L & Assembly 2nd Monday

SERVICE CLUB CENTRE, 49 Oxford Avenue, UNLEY
7.30pm Contact Peter Turner
7.30pm Contact Steve Eisenberg

COMMITTEE

Rod Stevenson (Secretary) a.h. 337-6682
Greg Sharp (Chairman) a.h. 297-1727
Geoff Lane (Treasurer) a.h. 79-3627
Ian Robertson a.h. 263-0653
Allan Dent a.h. 276-7233
John Ross a.h. 45-6332
Peter Turner a.h. 276-1407
Mark Weston (Librarian) a.h. 79-3960
Ed Grigonis (Editor) a.h. 261-5416

GROUPS & INFORMATION

280 Hardware	Allan Dent	a.h. 276-7233
6809 Hardware	Peter Liandis	a.h. 352-8648
System 80 Users	John Ross	a.h. 45-6332
TRS-80 Model II	Bob Lesiw	a.h. 46-4102
Modems, Software	Richard Newcombe	a.h. 272-3081
Radio Hams	Garry Herden	a.h. 297-4950
Colour Computer	Peter Turner	a.h. 276-1407
Business Applic.	Richard Newcombe	a.h. 272-3081
Education	Greg Sharp	a.h. 297-1727
Member List	Russell Bambridge	a.h. 264-8324
Super 80	Emlyn Jones	a.h. 258-1675

AMUG Bulletin Board Service - (08) 271-2043

10am-10pm weekends & holidays & 9am-9pm during the week. (8 bit word, 1 stop bit, no parity)

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NEXT NEWSLETTER CLOSING DATE => Sunday 16th JUNE

NEXT MEETING

So many of us hobbyists are asked "but what do you DO with it?". At the June meeting we will attempt to provide a set of answers to this very question, as well as allowing an insight into what interests our fellow members. We will have a succession of members each giving a SHORT (6 minutes) resume of their own particular attraction to the realm of hobby computing - telling where they see the fascination and interest from their own strictly personal viewpoint. We are purposely excluding business users, but are most anxious to hear from as many "true hobbyists" as wish to come forward being willing to share their own 'peculiar' area of interest with us: contact Greg Sharp.

There will be no minor attractions this meeting. Instead we expect the abovementioned speakers will form a panel on the stage after they've all had their say, and will answer any (well, almost any!) questions about what has been said, or indeed, about any area of computing generally. Perhaps it will become a continuation of last month's spontaneously organised 'trouble-shooting' panel? And that would not be a bad thing if one reads the last meeting report.

LAST MEETING

The promised (threatened?) major topic of amateur radio didn't eventuate, so rather than leave the minor attraction of John Ross to hold the night with a warning on the pitfalls of kit assembly, we organised an impromptu 'trouble-shooting panel'. With an enormous degree of success we are pleased to modestly report. So successful that we were able to stem the flow of audience participation after 10 o'clock only with the promise that we will do it again.

ADELAIDE

MICRO

USER

NEWS

Had we known it would be so successful we would have publicised it widely as a star attraction instead of keeping the notion for a backup in case something fell-through!

What was so pleasing to us (the committee) was the degree of audience participation, providing feedback such as we've been wanting for years. See the Committee News section this issue for the administration matters covered; the actual technical questions and answers are summarised elsewhere.

Even though the session went so late, there were still the many small gatherings in the hall afterward. We repeat that this ^{is} see as the real purpose and self-benefitting attraction of our Group: putting people with similar interests in touch.

FORTHCOMING

July: Our A.G.M. (see the Committee News for more on this), followed by a talk on Computer Crime by the S.A. Police Department.

August: Artificial Intelligence, with possibly a Tandy demonstration of new equipment as a minor.

September: The Amateur Radio night which was to have been in May, followed by John Ross covering the pitfalls of kit assembly.

October: A members only 'bring equipment' night.

November: Demonstrations of the Wang PC and the Amstrad.

December: A talk on the basics of computing (at the bits & bytes level).

EXTRACTS FROM THE MAY 'TROUBLE-SHOOTING PANEL'

Q. What is the problem with making a double-sided double-density booting disk for a Model 1 under LDOS using a Percom doubler?

A. The quick answer lies with the proper use of SOLE 1 & 2, but for a full and detailed answer see Frank Marten's article elsewhere this issue.

Q. Scripsit & Visicalc on a System 80 are OK, but just about every other program produces horrendous keybounce.

A. Both Scripsit & Visicalc have their own keyboard driver which slows down (the rate is adjustable) the key-strobe delay. The real problem is that certain much-used keys become worn and make an unclean contact. Cleaning with Freon or similar will help in the short term, but the real remedy is to replace the keys in question: they can be ordered from Dick Smith's Sydney stocks. Contact John Ross.

Q. After exchanging data by modem & switching back to voice, sometimes the line drops out & one must re-dial. What's the problem?

A. It doesn't always happen, but it appears that the originator of the call should switch back after the receiver does, i.e., after the carrier light goes off on the originator's modem. Contact Frank Marten.

Q. There is a program called Trashman advertised as being the ultimate cure for string garbage collection problems. Is it?

A. Certainly there does seem some basis in the outrageous claims of the advertisements. One test on a member's program reduced sorting time from 44 minutes to less than 2! We hope to have a review in a future issue? Contact Chris Gill or Peter Wade.

Q. There seems to always be a new incompatibility revealed when running Model 1 programs on the System 80; is there an end to it?

A. John Ross has a list of all the known incompatibilities and their remedies: most are simply fixed.

Q. What about games that won't run on a System 80?

A. To get sound from the cassette port the program needs to be modified, or (a better solution) a simple switch installed (contact John Ross). The problem games may have originally been intended to run on a level 2 tape system, in which case the problem exists for a Model 1 disk system just as much as a System 80 disk system. The same problem exists in trying to use a Model 1 game on a Model 3. The certain answer in these cases is to restore the Level 2 fixed RAM vectors so the program is indeed running in the Level 2 environment it expects; there has been a program (called APPEND) in an earlier newsletter, and is now in the library. Contact Frank Marten, Rod Stevenson, or Allan Dent.

Q. Why won't the SKIP command in DOSPLUS read 40 track diskettes in an 80 track drive, when this is supposedly what it's for?

A. The obvious answer would seem to be drive alignment, which is more critical on an 80 track drive. Generally alignment doesn't go out on its own, but if you're writing and reading your own disks on the same drive there's no way you'd know if it is out. Contact Allan Dent or John Ross.

Q. Is there a way to transfer data (or programs for the necessary modification) from 8inch Model 2 format to 5inch Model 3 format?

A. If it's a once-only need it's probably quicker to do it via the RS232 ports using a terminal program. For a repeated need it may be worth writing a program (or looking for a commercial one). Contact Allan Dent.

Q. What has happened to Micro 80 magazine.

A. It's claimed the first issue (a combined one) for this year is at the printers. Our former contacts no longer work there so we have no more information than anyone can get on the phone.

Q. When Scripsit says 'no more room' and it is saved to disk, it shows a file of 30K on the directory, yet won't load back.

A. Seems to happen irregularly, and is probably related to the 60 byte buffer Scripsit uses when writing text. The solution is to use a monitor or utility program to delete the last few words and put a zero byte to mark the end of text; no need to fiddle with the disk's directory at all. The ideal utility is FED which allows loading just the last sector into memory, modifying it, and re-saving. Of course FED requires LDOS, which only goes to re-inforce our LDOS users' bigotry! Contact Ian Robertson or Rod Stevenson.

Q. Why doesn't Disk Basic honour the protected memory specified when it is loaded in?

A. Disk Basic will protect memory the same as Level 2 basic does, but it's intended that the protected memory will be used

after the Disk Basic has loaded. Because Disk Basic uses a 256 byte buffer at the top of memory (as indicated by the HIMEM pointer, which therefore need not be the actual physical top) to load itself, it will over-write anything previously there before it gets to the point where it realises it should have protected that memory; use the MEMORY command to protect memory from DOS before loading Disk Basic. In LDOS the command is MEMORY (HIGH=xxxx); similar commands exist in most DOSes. Contact Frank Marten or Rod Stevenson.

Q. There have been a number of articles on converting a Model 1 or 3 to CP/M, but is there any information on converting a Model 80.

A. The May 1985 issue of Sydtrug News has this very information supplied by Bruce Orr, 8 Glenside Street, Balgowlah 2093 (02)94 6520. Although Bruce doesn't say why one would want to!! Members with a Model 4 which will run CP/M in the natural state are still waiting for that question to be answered.

Q. How easy is it to align disk drives, and how often should it be done?

A. As mentioned in an earlier answer, drives do not normally go out by themselves. The actual aligning is like many tasks, easy when you've the right tools for the job: an alignment diskette (\$100+) and a suitable oscilloscope (\$4000+). John Ross offers this service at a very cheap price to members: contact him at his shop on 45 9820.

Q. Why has the bias of the newsletter changed to disk when it was aimed at tape users not so long ago?

A. A show of hands indicated the validity of this admitted bias: only 4 out of the 50+ present were solely tape-based. We do hasten to point out most strongly that we still support 100% those tape-based members among us; we were all there once! In fact, we're somewhat distressed to find so many of our disk-based members are using their disk-system only as an alternative to tape storage, by-passing most of the special facilities available to the DOS user. (The bias of the newsletter is dictated by the subjects of articles submitted for publication. I rarely receive articles relating to tape. Ed6)

Q. Are 3inch drives compatible with 5inch?

A. Possibly! We don't have enough information on all the 3inch drives to be able to give a blanket answer. Certainly some are, but then some are not actually 3inch anyway! Contact John Ross or Allan Dent.

Q. Why hasn't there been any information on Viatel in the newsletter?

A. We have not received the information promised from Telecom. We repeat the advice that if you can't wait till someone else finds out, the most effective way at the moment seems to be to buy the terminal Telecom is promoting. Nor have we had any information from Viatel users to say whether or not they are satisfied.

Q. In the newsletter there was mention of a printer driver to get the (now superseded) Tandy LP7 to do lower case. Will this work with the Dick Smith GP80 and GP100?

A. We don't know! Try it and tell us so we do know and can advise others! Contact Allen Dent.

FOR SALE

Stringy Floppy wafers from 5' to 50'. Model 15 Teletype \$15. Model 100 Teletype \$50. Contact Peter Lynn 263 7800.

Twin disk drives in one case 40 track double density \$250. 80 track double sided drive \$250. Contact John Webber 258 6176.

IN THE MAIL - The Librarian has the originals.

Enterprise Computing, 7 Deuridin Street, Clayton North 3168, (03)544 4891, has CoCo programs, printer ribbons for rare models, amber screen monitor with sound for \$170, and general consumables. Call or write for a catalogue and price list.

Creative Design Craft from California has sent a catalogue containing products from some of the smaller software and hardware houses: Printer Optimiser, Arranger, Dostamer, MScript, DOSPLUS IV A, Modem Tamer, Hypercross, Hyperzap, Floppy Pockette, Disk Docette.

COMMITTEE NEWS

We are delighted to advise that John Morris has nominated for Committee at the AGM. Although this does mean we now have our required six members, we still have plenty of room for more. We repeat last month's message that what we badly need is a source of new ideas.

As mentioned above in the report of the last meeting, we were absolutely thrilled to get the feedback resulting from the impromptu panel organised from the non-appearance of the advertised attraction. We were saddened however to find that some of our members had not even seen the message in three separate issues of this newsletter that we were intending to suspend the equipment expo this year if there was no interest expressed. There was no interest expressed so we did suspend it at least for this year (1985), with the thought that the incoming committee may wish to re-instate it in 1986 - planning needs to start in February if it's to be held in October! The comment that it's not easy to write a letter we discount in favour of the more common method of a phone call. Too late for this year, perhaps next...? At least we will be having a members' equipment night in October!

Of more concern is the fact that these pages are the only medium of communication we have with all our members (only 25% on average attend meetings, and not always the same 25%), and if this is not a valid means, what then?

We did consider the request that we consider the purchase of an alignment diskette for the use of members. After some discussion we came to the conclusion that this is not an item such as a technical reference manual which can be loaned out to those in need, rather it is only one item needed for a disk drive service, and is therefore but a component in the cost of such. Our recommendation is that members avail themselves of the discount offer John Ross has from his shop at 45 9820.

We were pleased to receive the request for a repeat of the Amstrad demonstration, and the idea of a demonstration of a member's favourite software. The former we have scheduled for November, the latter we have not set down for a particular date but have added it to the list of future attractions.

We have decided to try again the idea of "quickies" prior to the main topic. This is in response to a demand for quite


```

.
. Programs required on Dos disk are :
.           1) Sole1 and Sole2 (if model 1)
.           2) patch/cmd
.           3) normal sys files
.           4) normal utilities (backup,format etc)
.           5) log/cmd (if double sided)
.

```

```

.   ** Warning, there is no turning back from FORMAT **
//if -n1
//assign n1=1dossys
//end
//if -s
//assign s=2
//assign t1=11
//assign t2=16
//else
//assign t1=0f
//assign t2=18
//end
.
//alert 1,0
//pause %1dPlace target disk in drive 1 and press <ENTER>.
.

```

```
format :1 (name="#n1#",q=n,dden,cyl=40,sides=#s#,abs)
.

```

```

//alert 1,0
//pause %1d format O.K.? <ENTER> if yes, <BREAK> if not.
//if -m3

```

```
sole1 :1
end

```

```

patch sys8/sys.system (d00,ff=#t1#)
backup sys0/sys:0 :1 (s,q=n)
backup sys6/sys:0 :1 (s,q=n)
patch sys8/sys.system (d00,ff=#t2#)
backup sys7/sys:0 :1 (s,q=n)
patch sys8/sys.system (d00,ff=#t1#)
backup sys:0 :1 (new,q=n,s)
patch sys8/sys.system (d00,ff=01)
patch sys8/sys.system:1 (d00,ff=01)
backup lbasic:0 :1 (q=n,i)
backup /cmd:0 :1 (q=n,i)
backup /dvr:0 :1 (q=n)
backup /flt:0 :1 (q=n)
backup :0 :1 (q=n,i,new)
backup :0 :1 (new)
%1f.

```

```
Steps to complete.
```

- 1) type LOG :0 and switch disks when prompted (if double sided)
- 2) configure your new disk
- 3) type SYSTEM (SYSGEN)
- 4) execute SOLE2 :0 (if model 1)

```
Press <ENTER> to exit.
```

```

//alert (1,0,7,0)
//exit

```

```
Configuration JCL
```

```
%1f. Set up Configuration
```

. If you did not enter the ksm file on entry, the default
 . is setksm/ksm.

.
 . i.e. do conset (k=filespec)

././alert 1,0
 ././flash %ld Press <ENTER> when disk is ready.

.
 system (drive=0,cyl=40,step=0,delay=on)
 system (drive=1,cyl=40,step=0,delay=on)
 system (drive=2,cyl=40,step=0,delay=on)
 system (bstep=0)

system (blink,small)
 set *ki ki (j,t,d=25,r=1)

././if -k
 ././assign k=setksm/ksm
 ././end
 filter *ki ksm #k#

.
 ././alert 1,0
 ././FLASH %ld Press <ENTER> to exit and then sysgen the disk.
 ././exit

If using LDOS 5.1.3, apply the following patch to sys8 before using the dos creation jcl:
 patch sys8/sys.system (d00,fe=2e 01 00 00 00 00)

NORTHERN BYTES

Many members will have at some time seen at least one issue of Northern Bytes. This very worthwhile publication, edited by Jack Decker, is a collection of the best from the many newsletters received from Computer Groups from all over the world. Originally as a Computer Group newsletter, Jack now produces it entirely on his own with mostly his own resources. Unfortunately it is now at the stage where Jack is suffering "Newsletter Editor Burnout", and needs some help with the production. To this end he is offering Northern Bytes on a paid basis: just send your MasterCard or VisaCard number and he will charge \$2 per issue and posting. Certainly there can be no doubt at all that each issue is worth at least two dollars, and (as Jack himself points out) under this arrangement there is no risk of any future subscription being lost should the publication cease. Past copies we've received on an exchange basis are available from our Librarian, but being filled with such meaningful information, they're often out on loan. The address to send your number: Northern Bytes, c/- Jack Decker, 1804 West 18th Street, Lot 155, Sault Ste. Marie, Michigan 49783.

In the current issue the Newdos Users' column continues with an account of the alleged re-introduction of support by Apparat, zaps and patches for version 2.5, mention of a patched version of EDAS (the extremely good editor-assembler from Logical Systems) to run under Newdos, and many more items of probable interest to Newdos users. In fact, Northern Bytes seems to favour Newdos Users (suppose it's just as well someone supports it?), so this may be another reason for the "serious" hobbyists among us to support it as mentioned above. Certainly Northern Bytes is aimed at the "serious" hobbyist, and one undoubtedly needs a huge amount of expertise to make the most of Newdos, so probably the two go together. (Wonder who wrote this somewhat bigotted report, Rod? Ed.)

THE COLOR COMPUTER SECTION - By Peter Turner

There is only one submission for this month's newsletter from another coco owner. I would like a lot more. I mean, What's the use of having a color section sub-editor (Me), when, apart from two or three times a year, most of the color section is written by him? One thing, I don't suppose I'll have to pay a subscription for a while. (As you should know by now, If you have an article in the newsletter, your club membership is extended for an extra month.) Give me a call if you want any information on delivering articles.

I would like to start a 'beginners' session at the color section meeting, perhaps for half an hour before the main session. (ie at 7:00.) If you were not at the last meeting (May 28th) and you would like to comment on this, please call me. If you are interested in attending such a session, you MUST call me, so that I can make arrangements. If I get NO CALLS then I will have to assume there is NO INTEREST, and the beginners session will not be started. If it is a goer, it will start next meeting (June 25th).

HIGH SCORE KEEPING - By Richard Schmidt

This is a way to put a 'high score' facility into your games (can also be used to protect the contents of any variables in your program).

15 'Reserve a space near to the
 20 'top of RAM
 25 '&H7F00 for 32k or 64k, or

```

30 '&H3F00 for 16k systems
40 CLEAR 10,&H7F00
50 INPUT"CLEAR HIGH SCORE(Y/N)";CL$:IF LEFT$(CL$,1)="N" THEN 70
60 FOR CL=0 TO 10:POKE &H7F00+CL,0:NEXT CL
65 'Assign a variable to content
6a)' of RAM
70 HS(1)=PEEK(&H7F10)
80 HS(2)=PEEK(&H7F11)
90 HS(3)=PEEK(&H7F12)
93 'Assemble variable
95 HS=HS(1)+HS(2)*100+HS(3)*1000
-
{Rest of program goes here.}
-
285 'HS=High Score,SC=game score
290 IF HS<SC THEN HS=SC ELSE 360
295 'Break variable into single
296 'or double digit numbers
297 'ready for POKEing into RAM
300 HS(3)=INT(HS/1000)
310 HS(2)=INT((HS-HS(3)*1000)/100)
320 HS(1)=HS-HS(3)*1000-SC(2)*100
325 'POKE values into RAM
330 POKE &H7F10,HS(1)
340 POKE &H7F11,HS(2)
350 POKE &H7F12,HS(3)
360 PRINT"GAME OVER"
370 INPUT"ANOTHER GAME(Y/N)";GM$:IF LEFT$(GM$,1)="Y" THEN 45 ELSE END

```

COLOR COMPUTER HINTS - Compiled By Peter Turner

Although this list has been on the BBS for some time, I know that there are many who don't have modems, and therefore, can't download it. So here it is:

To get an orange background with red letters:

Extended & Disk Basic: POKE 359,57:SCREEN 0,1

To go back to normal: POKE 359,&H7E

Color Basic: POKE 65314,8

To get back a green screen: POKE 65314,0

To obtain the maximum amount of memory for BASIC programs, when using extended BASIC:

CASSETTE only systems: POKE 25,6:PCLS:NEW

DISK systems: POKE 25,14:PCLS:NEW and, if no disk data files are to be used, type: FILES0

To get more colours in PMODE1 or 3: POKE 178,n Where n is a number from 0 to 255

Then use LINE, DRAW, PAINT, CIRCLE etc. (Without defining colour) to see what colour(s) that number produces.

To stop people from LISTING your BASIC programs: POKE 383,158

To escape this mode: POKE 383,0

To slow down the rate at which listings are printed to the screen: POKE 359,60 (Color BASIC)

POKE 359,60:POKE 360,57 (Disk & Extended BASIC)

To escape this mode: POKE 359,57 (For Color BASIC)

POKE 359,126:POKE 360,130 (For Extended Color BASIC)

POKE 359,126:POKE 360,203 (For Disk BASIC)

This slow print poke will probably not work with graphic text utilities such as Superscreen, Rainbow/Super Screen Machine, or similar.

For those with Machine Language knowledge, this pokes a CWAI (and RTS) into the above locations. (A hook for BASIC's print routine.)

To speed up BASIC's access of the Read Only Memory routines (ie the 'Speedup' POKE):

POKE &HFFD7,0 (= POKE 65495,0)

But do not attempt to use cassette files while the POKE is in effect, they are accessed at a faster speed than normal, which mucks them up! (Unless you own a utility such as 'fastape')

Disk access can also be affected with the POKE in effect, but I've never had any trouble with mine.
To slow down again: **POKE &HFFD6,0** (= POKE 65494,0)

To disable the <BREAK> key while running a program, add the following lines to the start of your program:

```
1 'CoCo Break disable
2 'With thanks to Carl Cranstone, who found it.
10 FOR ADDR = &HFB TO &HFE
20 READ HEX
30 POKE ADDR,HEX
40 NEXT ADDR
50 FOR ADDR = &H19A TO &H19C
60 READ HEX
70 POKE ADDR,HEX
80 NEXT ADDR
90 POKE &H19A,&H7E
100 DATA &H32,&H62,&H1C,&HAF,&H7E,&HAD,&HA5
110 DATA &H39,&H0,&HFB
```

To stop the heads of disk drives from banging against the stop, do this after every cold start:

```
POKE234,0:FORI=0TO3:POKE235,I:EXEC&HD66C:NEXT
```

This resets the heads of all drives to track 0, which is where basic expects them to be after a cold start. If you only have one drive, then just type EXEC&HD66C, this will assume drive 0. but only immediately after a cold start or switch-on.

(Note &HD66C assumes Tandy Dos V1.0. If you have a different version or another dos, type:

```
PRINT HEX$( PEEK( &HC004 ) * 256 + PEEK( &HC005 ) )
```

to find the correct execution address.)

REVIEWS - By Peter Turner

SHAMUS - By Synapse Software. Available from TANDY. (Cat #26-3289). \$49.95

Requires 16K, Joystick, and 1 Disk Drive

SHAMUS is a Hi-Res graphics, machine language arcade type game, loosely based on BERZERK and TUTANKHAM. You are Shamus, a sort of interplanetary detective. Your goal is to catch the elusive arch-villain, the Shadow. You have followed him to his base, armed with an inexhaustable supply of deadly 'ion-shivs' you teleport into his lair.

His lair is a four-level maze of rooms. Each room is protected by a number of deadly drones and robots, and to touch the wall is death. You start with 10 lives, you can get more lives if you find a potion of extra life. Also in some rooms is a '?' If you move over this it could be a bonus, an extra life, or disaster!

You can fire your ion-shivs in eight directions, to destroy the innumerable defenders. Once a room is empty of defenders, you can move twice as fast as before to escape the room. If you wait in a room too long, the Shadow will enter the room to attempt to kill you. He cannot be killed at this stage, as he is wearing his Tri-Gamma body armor, the only thing that can stop an ion-shiv! However, if he is hit, he is stunned for a few seconds, and you can escape.

Once you have left a room, it is re-stocked with defenders. So it's fight, fight, fight, every step of the way.

To get to the next lower level, you must find the correct key(s) to unlock the door(s). The keys are 'color coded' to the lock. This is unfortunate for us Australian users. Because, what would be red and blue in the US, is indistinguishable stripes here.

There are three levels of play, each higher level increases the speed of play considerably. At the Expert (highest) level, you move so fast that, if you are not careful, you will find yourself hitting a wall, or a robot, before you have time to even fire.

This game is a very good one, I still cannot get past the second level. However, I do not understand why it was not brought out on cartridge. The game takes up about 13K, and could have easily been put into a 16K ROM.

Also, the disk is protected, so a backup cannot be made. However, there are two disks supplied in the package, in case one is damaged.

WARNING - Write protect the disk before you insert it for the first time. The BASIC and M/L loaders are visible in the directory, but the bulk of the game is stored on tracks 12 to 14 of the disk WHICH ARE FLAGGED AS UNUSED in the granule allocation table. If anything is accidentally saved to the disk, it will overwrite the game!!!

FLIGHTSIM I - By Greg Zumwalt - Available from TANDY. (Cat #26-3108). \$39.95

Requires 32K, Disk Drive, 2 Joysticks (Preferably Deluxe Self Centering Type).

You are in control of a high performance jet. With your flight manual and map in front of you, you start your takeoff procedure. Power to maximum, and you start moving forward over the runway. As your speed reaches 150 knots, you gently pull back on the joystick, and the wheels leave the runway. You're flying! You set your course and altitude on the auto-pilot, and let it take over, so you can do some sight-seeing. Unfortunately, there's nothing to see. Just the horizon, and a totally blank landscape. At least until you reach your destination.

The joystick control is very sensitive. The slightest touch seems to send you into a stall or spin. I have not yet been able to control the jet manually at all. I let the autopilot do the takeoff, cruise and landing!

The instrument panel is complete. There is the airspeed indicator, the digital compass, the attitude deviation indicator, rate of climb indicator, fuel, flaps, and power indicators, and a glidescope indicator.

The indicators all function as normal, and are updated continuously. The glidescope is useful, it tells you if you are lined up with the runway when you are landing.

The simulation is not bad, but I found the waiting, while flying between runways, to be very tedious with no scenery to look at.

The program is unprotected, so a backup can be made for safe-keeping.

You are supplied with a map of distances and angles to each of the 9 runways, but if you fly at an angle not on the map, you can become lost. There are a few landmarks, besides the runways, but they are few and far between. Take care to prepare a flight plan, work out the estimated time to get to your destination etc. I once thought I'd arrived at my destination, but found no airstrip at this particular landmark.

The simulation has a crash-override mode, which is very useful to the novice jet-pilot, you CAN'T crash! A cloud ceiling can be set by the user, if you want to practice your instrument flying ability!

CLARKY'S COLUMN - by David Clarke

A few more of my programs for the public domain program library. As for last months programs, these are also all in Basic.

RADACT - Calculates the remaining radioactivity in a mixture of radio-active isotopes at various times.

LAGRANGE - A computer adaptation of Lagrangian interpolation. The program interpolates or extrapolates the value of a function from a number of known points. The points may be at unequal intervals.

RELATIVE - Uses one of the relativity equations to calculate displacement between two bodies with relative motion. It also contains a crude double precision square root routine.

SCALE - Calculates time to travel across or around various astronomical or geographical objects at any one of a number of velocities. It is meant to give children some idea of the scale of the universe.

TRIG - Calculates the Cartesian co-ordinates of an object from a bearing on it from each of two reference points.

HALFLIFE - Solves the halflife (radioactive decay) equation for any one of the four variables involved.

CAMPFOOD - An aid in planning food requirements for a bushwalking trip, or similar. Gives total calory requirements for the group of people (allowing for age and sex), and then helps put together a list of foods to fulfill the requirements.

DERIV - Evaluates the derivative of an equation of one or two variables at a given X and B.

DERIVP - Calculates the derived function of a polynomial function.

MSQUARE - Produces 'Magic Squares' with odd numbers of columns.

DIFERENC - Takes first, second, etc. differences between a series of values of a defined function.

FRICITION - Calculates head loss for water flowing in a round (with optional central shaft) or rectangular pipe with given velocity, length, etc.

SCGRAPH - Produces a graph on the screen of any defined function and between any given numbers (and any number up to 127 plots). Will also copy the graph from the screen onto paper with an Itoh Prowriter or similar printer if desired.

If any members want more details of the operation of any of these programs or of my programs summarised in the April Newsletter I will be pleased to answer inquiries. I would prefer inquiries in writing, so that I can take my time over answering them. There are also a number of programs I've written on various groundwater (underground water) applications available, but as these were written for my employer, The Department of Mines and Energy, I can't give them away. I can give details and a price list to anyone who may be interested though.

Rod recently sent me a note saying that he's had a request from someone for a couple of programs that I mentioned in the April newsletter. This is a form of FEEDBACK! I was amazed, nay, flabbergasted! Surely there is an unwritten rule among newsletter readers that this sort of thing must never happen. I can't get over the nerve of this man. What if others did this sort of thing? Then those who write for the newsletter would have some clues about the interests of those who read it, and would be able to try to cater for those interests. NEVER!

More seriously, the programs enquired about were my rainfall statistics ones, RAINSTAT/BAS, and RAINCOR/BAS. The reason I had not put them in the club software library was that Rainstat requires data from disk files, and as the whole exercise was originally just to satisfy my own curiosity, I had used a program written for entirely another purpose to write the disk files. There was no way that other people could have used it in that form. I've just written a very simple program called RAINDATA/BAS, which will allow users to write and correct their own data files for Rainstat. All three programs are now in the club library.

RAINSTAT/BAS - A program for taking a look, statistically, at total annual rainfalls for one recording centre (per data file). It does the following.

1) Sorts the data into order of increasing rainfall. (Built in simple, fast, machine language bubble sort). So you can read off the driest, second driest, wettest year on record etc.

2) Prints the data on paper. (To give a tidy listing of rainfall against year in either sorted or unsorted form).

3) Prints dry and wet periods on paper. (It picks out the driest 2, 3, 4, 6, 8, 10, 15, 20, and 30 year periods, then does the same for the wettest periods).

4) Measures the average rainfall for years immediately preceding and following exceptionally wet and dry years.

5) Graphs a moving average rainfall. (The user gives a figure, say 5 <years>. The computer then graphs the average rainfall for the first five years, the five years starting with the second year on record, etc. etc.) This works on an Itoh Prowriter printer, but probably not on most others, it uses block characters to produce a histogram.

6) Prints a graph of annual rainfall.

7) Calculates the 10th., 20th., . . . 90th. percentile rainfalls, mean annual rainfall, standard deviation, mean absolute deviation, mean absolute deviation as a percentage of the median annual rainfall, and standard deviation as a percentage of the median.

8) Removes extremes (both high and low), and replaces them with averages. This is to allow graphing of moving average rainfalls etc. with the effects of extremely wet or dry years on those averages removed.

9) Prints the data on the screen. To show the user the present data and form of the data.

RAINCOR/BAS - A more limited program, this one uses monthly rainfalls as data statements and has only two options.

1) It will measure the correlation coefficient between two vectors such that the first vector contains the deviation from the mean rainfall (for that calendar month) for each month's rainfall. The second vector contains the same data, but offset by one month. Cross correlation of these vectors then gives a measure of any tendency for a more than normally wet month to be followed by another more than normally wet month (or more than normally dry month) etc.

2) Similar to the above, but this time cross correlating the total summers (deviation from average) rainfall with the following winter.

RAINDATA/BAS - Produces data files for Rainstat. It's operation is straight forward so will not be detailed here.

Now, an entirely unrelated subject, calculating percentiles (and the listed program PERCENTL/BAS).

```

1 REM ***** PERCENTL/BAS *****
2 REM * Last modified 28/4/85
3 REM * By D.K. Clarke, Crystal Brook
10 DIM D(1000)
20 REM -- Demonstration front end.
30 INPUT "The number of values (max. is 1000) "; N
40 FOR I=1 TO N
50 D(I)=RND(200):PRINT D(I);
60 NEXT:PRINT
80 INPUT "The required percentile"; M
90 IF M<=0 THEN END
100 REM === Calculation of percentile ===
105 IF F=0 THEN CMD"O",N,D(1):F=1 'Fast Dos sort.
110 FOR I=1 TO N:PRINT D(I);:NEXT:PRINT
120 NB=N*M/100
140 P4=(N-1)*M/100:IF P4=INT(P4) THEN P=D(NB+1):GOTO 220
160 P1=D(NB):P2=D(NB+1):P3=P2-P1
210 FP=NB-INT(NB):P=D(NB)+P3*FP
220 PRINT "The percentile No. ";M;" is ";P
230 GOTO 80

```

$$\sqrt{N} \sum_{i=1}^M x \alpha_i^2 + 3y \beta_i$$

For those who may be unfamiliar with percentiles. A percentile is a level of frequency or probability. I think it can best be explained by a few examples. If the height of a 6 year old girl is at the 90th percentile then she is taller than 90% of girls of that age. If the 86th percentile maximum daily January temperature for some place is 36 degrees, then you could expect, on average, one day per week (in Jan.) above that temperature. The 50th percentile is the median.

This is all very well, and seems simple enough. When I came to write PERCENTL though, I found a slight problem. Consider that your data are the numbers from 1 to 101 inclusive, and you want the twentieth percentile level. In this case the desired number must be 21, because there are 20 numbers below, and 80 numbers above 21 in that vector. (The datum 21 is neither above nor below the number 21, and so is not counted). Now, what is the 20.1st percentile? This must be a number that has, as nearly as possible, 20.1% of the data below it, and 79.9% of the data above it. The number of data is 101. $20.1/100 \times 101 = 20.3$ app. so the required number is just above the twentieth datum in the vector, and is about 20.3 in this case. The percentile level 20.1 is below the percentile level 20 then, or is it? The computer says it is and WE know that computers are always right, don't we? I'd be interested in some feedback on this. (I'm an incurable optimist).

SCRIPSIT modified again.

I've been toying with the idea of buying a new word processor, after using Wordstar at work the limitations of Scripsit are a bit hard to put up with. So I phoned our friendly word processor expert, Ian Robertson, and asked for some advice. (I was considering LeScript, but at about \$100+ Aust. even for a bulk order I was a bit reluctant). Ian pointed out that the Scripsit modifications he put in the August Newsletter should not be too difficult to convert for an Itoh Prowriter. So now Scripsit can under line, double strike, print double wide, and print in Elite pitch as well as the standard Pica pitch for me (the Itoh does not have italics, Ian, so I settled for Elite instead). There are other improvements as well, but the extra print options were the most important to me. I've sent the source code (SCRIPMOD/SRC) and the modification object code (SCRIP/CMD) down to the library. The program's set up to use the special function keys of my Dick Smith 'Educator' version of the System 80 to get into and out of the print options, but that can be easily changed in the source code if necessary. There are no notes in the source code, see my article for that. I could not combine the patch with SCRIPSIT using Ian's method for some reason, but it was easy to do using the Dos+ utility, TAPE.

Since writing the above I've made some more modifications of Ian's modifications. The equation below was produced by this latest modification. More on that next month. (See the equation adjacent to PERCENTL/BAS above. Ed6)

ANSWER TO "TRY THIS PUZZLE" - by Leonard Yates

Reprinted from Sydtrug News.

I hope you all had a go at last month's puzzle. For those of you who still have not managed to arrive at an answer, the details of the Computers, Operating Systems, Printers and Modems follow.

COMPUTER	Model 4	Model I	LNW80	System 80	Model III
DISKETTE	Verbatim	Xidex	Scotch	Control Data	Maxell
DOS	TRSDOS	LDOS	NEWDOS80	DOSPLUS	MULTIDOS
PRINTER	Admustr	LP VIII	C.Itoh	Epson MX80	Okidata
MODEM	Cicada	Sendata	Aytek	Dataphone	Acoustic

Therefore to answer the problem posed last month:- The Computer using Multidos was the Model III and the Admustr printer was connected to the Model 4.

DOS COMPARISONS (Continued) - By David Hollands.

Last month I continued a series looking at DOSPLUS and LDOS in greater detail than is possible in a single article. I covered the library commands BOOT, BREAK, BUILD and CAT. This month I cover CLEAR, CLOCK, CLS and CONFIG. Once again I invite questions, comments or criticism on the subject.

CLEAR - (Fill a file or RAM with user defined data)

DOSPLUS only. This allows you to fill a file or an area of memory with a repetition of a two byte character. Useful if you want to dispose of the rubbish in RAM for any reason. Perhaps you want to look at start and end addresses. Simply clear the area of RAM, load the file and the start and end can be seen when memory is displayed. Also useful if you definitely want to dispose of a file. CLEAR the file first then KILL it. Otherwise the file can be retrieved. When a file is killed, almost all DOSes simply mark the file as not required any more in the directory. Then when more file space is needed, that file is partially or fully overwritten. Until the file is overwritten it can be recovered, either by DOSPLUS's RESTORE command or by some of the utilities on the market.

CLOCK - (turn the system clock display on or off)

TRSDOS, DOSPLUS and LDOS. The system will display the time in hours minutes and seconds in the top right hand corner of the screen. Each system will increment the date when midnight is reached.

CLS - (Clear the screen)

DOSPLUS only. A very useful feature when programs are written in JCL. When you consider how often you use CLS in basic programming it is a surprising omission from the LDOS command library.

CONFIG - (Configure for non standard disk drives)

DOSPLUS command. The first choice a new convert to disks must face is the considerable variety in disk formats these days. From Tandy's model 1 single sided 35 track 87.5K drives to double sided double density 80 track drives with a capacity of 720K. Disk drive technologies are rapidly advancing to 1 megabyte drives with 5 megabyte drives being discussed. Prices are not expected to increase significantly. The humble TRSDOS will handle the 87.5K drives. I opted for double sided 40 track drives as they can read and write the standard 87.5K disks so retaining my compatibility with the Tandy standard but also allowing me to store 200K per drive. A double density conversion will lift the capacity to 360K and still retain compatibility as they can also operate in single density mode. However the software must be able to handle the hardware and this is a Disk Operating System's main reason for existence. CP/M is supplied with the configuration fixed for whatever drives the supplier is selling and cannot be altered by users. LDOS indicates that it can use 8" drives or hard disks but the manual is not clear. Presumably special drivers can be purchased. LDOS uses the SYSTEM command to configure it's drives. DOSPLUS documents clearly the requirements and if any reader will donate a hard disk I would be delighted to test it (no advice on how to format the hard disk though). DOSPLUS also describes how your 80 track drives can read (but not write) 40 track disks. DOSPLUS offers a wider range of options for strange disk drives, recognises number of tracks automatically, and will boot from any of these formats. This is not true of LDOS.

To continue my totally subjective scoring of the systems; on these four commands, I award DOSPLUS 16 (total 34), LDOS 9 (total 29), TRSDOS 2 (total 5) and CP/M 1 (total 8). In response to questions on the scoring, the system is 2 points for trivial commands, 4 for average commands and 8 for very important commands (perhaps more for utilities later). Next month we look at COPY, CREATE, DATE and DEBUG.

NEW BBS

A (relatively) new bulletin board in Sydney is run by Ted Romer. Even at STD rates it is WELL worth a look, although its value also makes it VERY popular; it's 24 hours access, so you may need to try at some unconventional hour. (02)498 2495. The initial question to allow access requires you to know that TRSDOS is the standard Tandy DOS. Full access is available if you're prepared to give some answers to a questionnaire. There is at times some garbage on the screen, but at the vital times all is well. Have a go & see if you agree that it's the best board you've ever been on; if not, put a contribution here detailing your own best, so we can all share your good fortune.

VDU SCREEN DUMP - Submitted by Carl Cranstone

Some time ago, I had my first crashed disk which would not format, no matter what I did. I tried every format program I had, even erased it with a magnet, but to no avail. That disk was well and truly up the creek. Maybe I had been using the disk constantly for 2 years (virtually every day) but that's no excuse! The casing, strapped up with sticky tape, had fallen to pieces long ago. It was useless! It sat idly on my computer desk staring up at me in defiance - its only function in life being a coaster for my coffee cup. That was, until an idea popped into my head & I found a use for it. The first few sectors of the disk could

still be used & I had thought of a simple program months earlier. The program was short, only a few bytes, and wasn't really worth tying up a whole disk for. The program is here & uses a total of 7 sectors.

The main purpose of the program is to enable you to capture any screen you like at any time on your TRS80 Model 1. (It should work on Models 3 & 4 but I haven't tried it). What you must do first is to put the data printed below (or above - depending where Ed. puts it!) (Actually, if you want it you will have to contact Carl as it was not presented to me in a suitable format for inclusion in the magazine by way of SuperScripts. EdG) onto a blank disk formatted in single density (Model 1). The BOOT sector is the one that is produced by Super Utility + 3.2. If you have SU+, you can simply use the REPAIR BOOT SECTOR function to put this on the disk & then type in the other 5 sectors. The TRK (Track) and SEC (Sector) numbers are on the left hand of the screen dumps. Type in the data & save the sectors to disk. You will need a ZAP utility to do this. e.g. SU+, Superzap (Newdos80), LZAP (LDOS), DiskZap (DOS+) etc.

Once you have the program on a disk, load any program into your TRS80, put the VDU DUMP disk (the one you've just made) into drive 0. When the screen that you want a copy of is on the screen, press the RESET button. The VDU DUMP program will display a full screen message and then stop. The screen is now in memory at 8000 HEX and can be manipulated with a separate program. The program at this point, is in an indefinite loop. You will now need to put your DOS diskette into drive 0 and re-BOOT. From BASIC, type in & run the following program.

```
10 CLS:FORT=15360T016383
20 X=PEEK(&H8000+(T-15360))
30 POKET,X
40 NEXTT
50 GOTO50
```

The screen that you captured is now back on your screen. You can do what you like with the screen, e.g. Newdos80 users could replace line 50 with :

```
50 CMD"DUMP FILESPEC/EXT:d,3C00H,3FFFH"
```

This will dump the contents of the screen to disk. Other DOSes have similar methods of saving screens to disk (or saving 8000H to 83FFFH) - check your manual.

Using VDU DUMP, games players can now save a copy of their high scores & for cheats, edit them too!

The actual program is merely a block move routine in assembly language which moves the memory area 3C00H - 3FFFH into a higher memory location at 8000H - 83FFFH. The other space used up in the 5 sectors is a title page which is displayed when you BOOT the VDU DUMP disk. The program that created the title page is in the public domain & can be downloaded from the Bulletin Board in the TRS80 SIG. The program is called LATCA (neat name, huh?) - it stands for Logo And Title Creation Aid and was written by myself.

THE LAST BUG - Author Unknown

Reprinted from Sydtrug News.

'But you're out of your mind,'	The mumbling got louder,	He died at the console
They said with a shrug.	'Simple deductions,	Of hunger and thirst,
'The customer's happy -	I've got it, it's right, just	Next day he was buried
What's one little bug'	Change one instructio'	Face down, nine edge first.

But he was determined.	It still wasn't perfect	And the last bug in sight,
The others went home.	As year followed year	An ant passing by,
He spread out the program.	And strangers would comment,	Saluted his tombstone
Deserted, alone.	'Is that guy still here'	And whispered, 'Nice try!'

The cleaning men came. The
Whole room was cluttered
With memory dumps, punch cards,
'I'm close', he muttered.

QUOTES - Reprinted from Canberra Micro-80 Newsletter

If debugging is the process of removing bugs in programs the programming must be the process of putting them in.

A compiler is a program for translating errors into machine code.

FAMOUS LAST WORDS - Reprinted from Canberra Micro-80 Newsletter

I just found the bug that's causing all the trouble.

QUOTE - Reprinted from Eastern Suburbs 80 Users Group Newsletter

Real programmers don't comment their code - if it was hard to write, it should be hard to understand.