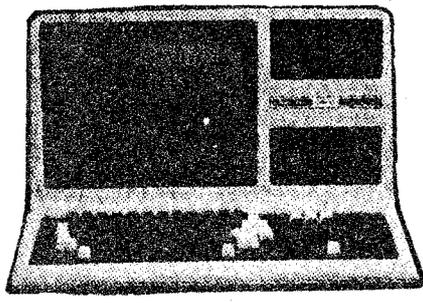


TRS-80 SYSTEM 80 COMPUTER USERS GROUP INC.



POSTAL ADDRESS:
41 MONTCLAIR STREET
ASPLEY, QLD. 4034

CLUB NEWSLETTER March 1991

REGISTERED BY AUSTRALIA POST, PUBLICATION # QBH3667

COMMITTEE 1989-90:

			<u>Preferred Hours</u>
PRESIDENT/CHAIRMAN	: Warwick SANDS	801 2715	(8 a.m. - 9 p.m.)
VICE-PRESIDENT	: Jim WRAGG	273 5543	(6 p.m. - 8 p.m.)
TREASURER	: John BURNS	379 9467	(6 p.m. - 9 p.m.)
GENERAL SECRETARY	: Fred SECCULL	263 6313	(9 a.m. - 9 p.m.)
NEWSLETTER EDITOR	: Bill ALLEN	343 5771	(10 a.m.- 3 p.m.)
BOOK & MAG. LIBRARY	: Geoff LORNE	269 7015	(7.30 pm -10 pm)
DOCUMENT CONTROLLER	: John BIRD	261 1952	(6 p.m. - 9 p.m.)
MEMBER PROBLEMS.	: John BIRD	261 1952	(6 p.m. - 9 p.m.)
PROGRAM CO-ORD.M4	: Leon MOYA	800 3914	(10 a.m.- 3 p.m.)
PROGRAM CO-ORD.M3	: Denis FLOYD	260 5366	(6 p.m. - 8.30 p.m.)
PROGRAM CO-ORD.M1	: Bert ARTHUR	408 2839	(10 a.m.- 7 p.m.)
TOPICS CO-ORDINATOR	: Ray Green	805 1391	(5 p.m. - 8 p.m.)
NEWSLETTER. DISTRIB.	: Alf WEST	399 5620	(10 a.m.- 7 p.m.)

CLUB BULLETIN BOARD

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Presidential Notes

Salutations and greetings,

Well here it is Easter again. In no time at all it will be time for Annual General Meeting. I hope that all the club members will examine their circumstances with a view to standing for a position on the club committee.

Things are starting to slow down for me now. I don't foresee any trips away in the near future, so I may be able to get some things accomplished at home. Currently, I am finalising a mechanism for partitioning (a fancy term for dividing up) hard disks. Unforeseen problems aside, this will probably be at the beta testing stage next month.

I hope to see you at the April meeting.

Happy computing

Wak

SECRETARY'S REPORT

At the March meeting, we had almost a full Committee present, only Jim Wragg being unable to attend. Peter Sharp was able to put in a brief appearance but the hand-over to John Bird has been finalised. John is now wearing two hats, Members Problems and Documents Controller. We welcomed John Benson, from Lismore, who joined us recently.

I received during the month the latest issue of Computer News-80, which contained an article, reprinted by Bill in the February issue of B&B by Peter Ray of Anitek, on the proposed development of the TRX-280 motherboard. The proposed new board's cost might be around US\$600, which would translate here to around \$1000. Support for this project seems to be fairly enthusiastic in the U.S., but I doubt if it is a goer here. After all, its appearance is a year or so down the track and some software still has to be written for it to use its added capabilities. With AT clones selling for \$1500 or thereabouts now, what will be the price of a 386SX in a year or so's time? In the meantime, the base machine is getting older and spare parts will probably be harder to find, although, of course all the motherboard will be new, and it makes use of the latest memory chips etc.

John Burns presented the Treasurer's report for February. Bill Allen needs more articles. He asked for some members to review the exchange Newsletters with a view to selecting articles for reprinting or discussion in B&B. Bill always gets these exchanges first, but he would like a second opinion from some other member or members. The librarian reports that borrowing of these exchange newsletters is minimal -- a pity. It might well be that an article that Bill discards could prove to be very interesting to someone else. If we could get two or three members to take one publication each, it wouldn't be an arduous job.

I received the Avtek 3+12 modems, almost by return, so I was able to distribute them to the members who had ordered them. They were such good value that I had another enquiry about them. If anybody else is interested we can see if there are any more left. These modems have baud capabilities of: 300/300, 1200/75 and the reverse, 75/1200.

After the meeting date I received the latest issue of TRSTimes, which has an article on PDRIVE in Newdos 80. This is highly recommended reading for those who have trouble understanding the Newdos manual. There is also a program, written by Lance Wolstrup for making a menu for your PDRIVE specifications. It appears they haven't caught up with Newdos 86 and 90 yet!

There will be a Special Interest Group meeting for Computer Basics, to be held at Alf West's, probably on April 14th. This will be confirmed at the April meeting. Let Alf know early (399 5620) if you are going.

SELF ASSESSMENT: At the time of writing this I have now received EIGHT self assessments. I hope I shall have received many more by the time you get to read this.

Until next meeting, happy computing!

NEXT MEETING:-

Sunday April 7th at 2pm.

FOR INFORMATION:-

If any member needs to be contacted at the hall, in an EMERGENCY, the telephone number is 854 1917.

SOFTWARE FOR SALE:

#NEWDOS90 -- Warwick Sands' completely re-vamped Dos based on NEWDOS80 V2 (for Model I, System 80, Model III, Model 4/4P in Model III mode), has just about all the extra DOS functions you've always wanted, plus very powerful CUSTOM BASIC FOR '80 USERS programming and runtime enhancements to Disk Basic and screen oriented Enhanced Line Editor (downwards compatibility is maintained with your current software). Ongoing support always available. \$75 for either Model version, \$80 for both versions (Installation disk(s) and 150+ page manual). Model 3 mode Hard Disk version (supports Tandy 8X600 and WD1010 controllers) available as an extra for \$5. SCSI controller hard drive version under development. All orders add \$10 for P&P if by mail. Obtain from Bill Allen at meetings (order first), or write 16 Laver St., Macgregor, Qld. 4109, (07) 343 5771 (make cheques payable to W.J. Allen, who is acting as Warwick's agent).

#HELPDISK -- a facility to interrupt most programs under NewDos80 (or Newdos86) or from Basic or Dos Ready (both Model I and Model 3/4(3 mode) versions available) to comprehensively, rapidly and flexibly view information on any of the specially formatted and indexed /HLP files in the system and return with the interrupted status completely restored. Latest version allows scanning of ordinary text files, too. Currently supports NewDos80, Newdos86/90 (registered users only), Visicalc, Lazywriter, Dotwriter, Superzap, AidsIII, Macasmon (owners only) -- other applications being developed (new one just finished: TYPE/HLP for Warwick Sands' printing program on his ND86 public domain disk). Proceeds from HELPDISK go to CLUB FUNDS. Once only cost: \$10 (contact Bill Allen as above). **HELP YOURSELF AND YOUR CLUB.** Update (Version 3) now available to current users -- present your Master Helpdisk to Bill Allen for the upgrade. New /HLP file now available with the Z80 assembler instructions in alphabetical and numerical order -- very handy for info while debugging or zapping programs or writing A/L code.

#MACASMON -- a very powerful MONITOR program for the Models 1, 3, and 4/4P. (See review in Bits & Bytes No.47 P.8) Full documentation files on issued disk. Features 6 separate screen displays, excellent disassembler (forwards AND backwards), screen snapshot capability, buffers last 7 executed instructions, calculates and keeps running total of T-states, etc etc etc. \$10.00 to order and pick it up at any meeting (contact Bill Allen) or send \$15.00 (includes P&P) to Bill Allen's address above.

#TIME MACHINE FOR 128K MODEL 4 or 4P - Model 3 mode (Background Utility): BARGAIN!!! NOW ONLY \$20 + \$6 p&p anywhere in Australia. Includes Disk and manual. (See review on Page 10, Bits & Bytes No. 45) Add concurrency to Model 3 dos's on the 4P, run 2 programs simultaneously in the machine, cheat like crazy at games (learn to master even the most difficult key control -- e.g. would you believe over 200,000 scored from Volcano Hunter?), plus numerous other functions using banked memory and sophisticated key control of the machine available at all times. Contact Bill Allen as above (specify Model).

#TRAINER, by Kevin O'Hare. Self-booting disk that presents all Z80 instructions screen by screen and also allows you to test code sequences while viewing effect on all flags, registers by bit and Hex + much more. A must for assembly language learners and programmers. \$10 + P&P (\$2). Contact Bill Allen at meetings or 343 5771.

#BASIC LESSONS ON DISK -- Club generated package. (See BNB #79 P10). A must for EVERYONE -- far better than the manuals. \$25 for the set of 6 disks. PROCEEDS TO CLUB FUNDS. Contact Alf West at meetings or 399 5620.

BOOKS:

SPECIAL PRICE - Reduced by \$5.05:

#NEWDOS/80 HACKERS HANDBOOK by Kevin O'Hare. Packed with useful info for programming under this DOS and memory usage in our machines -- VERY USEFUL FOR OTHER DOS USERS ALSO. Reduced to \$19.95 (add \$6 for P&P). Contact Bill Allen as above.

CLUB SOFTWARE LIBRARY ON DISK.

The titles of all Public Domain software for Models III & 4 held in our library are available on disk as normal ASCII files. These can be viewed by RUNNING a small basic program 'Menu/bas' supplied with the library disk. Also included FREE is an index program to keep track of your many disks. Cost is only \$2.00. Upgrades as the library grows will be gratis if you return the disk by hand for same. See Leon or Denis at club meetings or write to the Secretary. Also on sale are copies of the FILE CABINET LIBRARY catalog, listing 186 disks FULL of Utility, Business, Education, Game and Communication programs for the model I or III and 158 disks in the same categories for the model 4. Cost is \$2.00 for M4 and \$3.00 for MI/III. If writing for catalogs, please include \$2.00 to cover the cost of postpak and postage. And whilst at the monthly meetings, pick up a box of blank disks at \$8.00 per box of 10. Any proceeds go towards club funds -- and therefore more facilities for you.

FOR SALE:

Sell: Model 4 gate array + DMP105 printer, 2 spare ABM drives + docs -- all in good condition -- \$550 or near offer. Ph. Yvonne Bennett 345 5574.

Sell: Model II (yes, 2) w/- 4 8" drives, business application programs & manuals -- all original and in good condition. \$100 or near offer. Ph. Peter Sharp 824 0606.

Sell: Model 4 (non/gate array model) with DWII (large high speed daisy wheel) Printer with original software. \$500. Also Printer Ribbons for Tandy DWP210 \$5 ea. Contact Noel Hodge, on 287 5020.

Sell: Model I greycase keyboard, 2 power supplies, green monitor, 1 disk drive (all working Tandy checked), plus spare keyboard, disk drive, line printer (NR), original manuals, cables etc. \$280 ono. Contact Barry Henderson, Corinda 379 7380 after 7pm.

Sell: Model 4 Gate Array 64K + BMC-80 printer + Many Programs, Documentation & Books. Any reasonable offer considered. Contact Daniel Huyghe on 394 4701 Business Hours or 397 4159 other times.

Sell: LP V printer (this is a super printer -- wide carriage and high speed) and Model III computer, cables etc., Manual and software. \$400 the lot, will negotiate for separate items. Contact John Hurren, 207 5732.

MEMBERSHIP SURVEYS

1. SELF ASSESSMENT:

I have had a disappointing response, so far, to my requests for you to submit details of your Computing capabilities, and more particularly, of the areas where you would like more advice and assistance.

So far, out of 107 Members, I have received only 8 replies. This makes it rather difficult for the Committee to arrange a program of activities to assist YOU. It boils down to this -- that YOUR elected Committee is awaiting information from YOU as to what we should do to assist YOU.

We hope that ten or so minutes of your time is not too much to ask. Perhaps you have been put off by the term ASSESSMENT and there is a reticence to classify yourself. Not to worry -- we emphasise that the info is confidential, BUT we would like to know what YOU desire. Just as an example, a long standing member gave me the information which follows and I would like to thank him for the thought that he had given to the matter. Perhaps if you don't feel certain of your competence in any of the fields, you could give us a similar indication of your desires.

(In this extract, refer to Bill's list in Page 14 of Bits & Bytes #94)

Class A - Yes, I am able to turn a switch on.

" B - Have a lot of misconceptions - am awaiting optical drives.

" C - Yesteryear (A long standing & very experienced member).

" D - Love what I call HACKING

" H - Spreadsheets - Just starting

" J - Hi-res Programs - No.

" N - Able to write Basic programs up to 5k. The answer was "Not Well" (It so happens that this Member's self assessment was, to say the least, from my knowledge, somewhat "In rerum natura", knowing his reticent nature.

Class P - Able to program using Newdos 90, the answer was "Love to". (An example of what we are looking for, even although in this member's case, he was a significant contributor to the enhancements we have with Newdos 90.

Class W to Z - Answer was "Not my cup of tea".

The above answer to the Committee's enquiry may not be in the form that Bill had in mind when the matter was raised in B & B #94, but it certainly gives the Committee an idea of this member's interests. Please do not hesitate to submit any comments that you wish.

2. MEMBERS' HARDWARE:

In the last Newsletter we published the list of Members including in the last column, the make or type of Computer that each Member owned. Included in the database that we keep are details that have been submitted on the Hardware Forms -- such information as the make of your printer, modems, hard drives etc., (although, for reasons of space, only the computer type is printed out on the list of members). The idea behind this is that we can provide a service to you where you may wish to check up with some other Member who has similar equipment.

(For example, a Member may have a Model III, and in using a program with a certain Printer, may wish to know which other Members have the same model computer and printer, so that he can compare notes on the operation of the program.)

The database is kept by Alf West (in so far as Members have supplied the details), - SO if you have such a query, do not hesitate to ring him.

Since this information is only as good as that which has been supplied, Alf asks that, if you have made any changes to your equipment at any time, to either let him know, or to put a message for him on the Bulletin Board. In addition to this, please advise any changes to address or telephone numbers to me, the Secretary.

BITS & BYTES

ISSUE No. 96

TRY AN 80 TRACK DOUBLE SIDED DRIVE AS A POOR MAN'S HARD DISK

by John Bird

I was looking for new/bigger/better drives and this is the story of how I fitted two eighty track, double sided drives to my computer.

The conventional 80 track double sided drives for our computers have been "impossible" to obtain for some time. What I bought was advertised as a 720K 3.5 inch IBM drive and there are several differences between these and the conventional drives. I purchased the drives from Jaycar Electronics at Buranda for \$69 each. Another club member, Ray Otto, followed in my footsteps but the two drives he obtained are a different brand to mine and ... I advise you that Ray advised me that Jaycar advised him that ... "we've sold out and won't be getting any more in". Ray enquired around town and the next best price was \$104 each at Formosa Technology.

You don't get much for your money. They are absolutely tiny! They are a fraction wider than the 3.5 inch wide diskette they use. Our normal drives are wider than the 5.25 inch floppy diskette that you are used to. The new drives are only one third the height of the old full height drives. You can fit three into the space left when you remove one drive from a Model 4. The new drives are only about two thirds the length of the old drives so you certainly don't have any problems clearing the Model 4 mother board frame like some other drive conversions. And they weigh next to nothing: during the testing of one new drive, the weight of the 34 way ribbon connecting cable hanging over the side of the table was sufficient to drop one new drive from the table to the floor! The same drive still runs super quietly!

How to mount them? Well, you can remove one of your old drives and put three of these in the space with room left over on one side. Also, you could enlarge the space for one old drive by

cutting right up to the Radio Shack name badge on the front of your computer and you can fit six of these on their side. "Can fit" does not necessarily equate to "can use". But if you don't want to get involved in the ironmongery of making your own mounting bracket, there are commercially available units available to convert your (one third height) 3.5 inch drive to mount as a half height 5.25 inch drive. They come with a neat escutcheon and the finished result looks "just like a bought one". Only \$8 each; at Formosa Technology again. The catch is that the existing drive mounting tower inside the Model 3 or Model 4 extends from the bottom of the computer case to "just above the mounting screws for the top drive". If you want to replace the top drive in your old system with two new half height drives, there just isn't anything solid to screw into for mounting the upper of the two new drives. The simplest way to do it is to replace the old drive in the bottom position of your computer. Oh, and you think that you have finally worked out where to get those weird 6-32 screws used for mounting disk drives? They've changed it again and the new mounting brackets are threaded for 6BA screws.

How to get power to them? The power connector on the new drives is something totally new. Actually, it looks exactly like the power connectors to the drive controller and RS232 cards. You don't need a new power supply. The new drives draw only 4mA on standby and 250mA to run and they only use 5 volts, the 12 volt supply doesn't go anywhere. So you could run four of these new drives on the power required for one old drive. A convertor cable with 5.25 inch type power socket on one end and 3.5 inch type power plug on the other end costs \$3 each from Formosa Technology. For those members who haven't met Ray Otto yet, he is one of those real nice types that only tell you this sort of thing after you have paid \$6.95 at Dick Smith for the same cable! You can buy two convertor leads, cut the 5.25 inch type plug off one and splice the two leads together to form a double adapter lead (from one 5.25 inch to two 3.5 inch) or if you want to throw money at it, go to Dick Smith and buy one double adapter (one 5.25 inch plug to two 5.25 sockets) and two convertor leads.

How to get data to them? The new drives have a 34 way data connector. It is not a card edge connector but is two rows of 17 pins each. No problem, the matching plug is only \$3.50 at Dick Smith and simply crimps onto the existing 34 way ribbon cable. Actually, this could be your biggest problem! Pin 1 on the new drives has the same function as pin 1 on the old drives. Pin for pin they are the same function but pin 1 is now located on the left of the drive instead of the right. Ray Otto mounted his two drives in an old drive case/power supply saved from a Model 1 and connected them as external drives on his Model 4; he took great care to crimp the new connectors on right but thought he ended up getting it wrong because the 34 way cable from the computer headed towards the front of the computer -- i.e., it runs straight into the rubber foot under the corner of the computer. With my new drives mounted internal to the computer, I identified two solutions. I could mount the drives upside down; nobody would notice until they tried to insert a diskette "upside-down". Alternatively, I could twist the 34 way ribbon cable. There is enough room inside the case now to accommodate the twist in the cable but twisting the cable also shortens it! I had to make up new cables to connect my drives to the drive controller card. I have a full height, double-sided forty track 5.25 inch drive in the top slot and the two half height, double-sided eighty track drives in the bottom slot. The forty tracker and the top eighty tracker are connected on one cable to the top of the controller card: they are my internal drives. The bottom eighty tracker is connected by a twisted cable through a ventilation slot in the bottom of the computer to the bottom of the drive controller card: it is my first "external" drive.

I also had it in my head to be able to boot off the new 80 track drives and I wanted a switch to swap drive 0 and drive 2. There is room on the escutcheon of the mounting bracket adapter to mount a switch. There is only one location on the drive controller board to make the connections and that involves bending out the leads on an IC. It looked easy on paper but in the end, I had to grind the IC off the board and install a new IC (only \$1.40 but it saved a lot of frustration trying to unsolder the original IC). My advice to anybody is that if you want to have the option of booting off either a 40 tracker or an 80 tracker, then swap drive 0 and drive 1 by splicing into the 34 way ribbon cable.

Formatting the diskettes takes a long time. I can squeeze 83 tracks out of my Mitsubishi drives, Ray Otto can get 84 tracks on his Copals. That gives me 736.5K free on a 747.00K diskette. That is an awful lot of files and it takes

just over 10 minutes for me to format a disk and backup DOS onto the disk. I dread the thought of backing up a full disk!

The diskettes are neat and compact. They do fit into your shirt pocket and the hard case means you can write on the label AFTER you have put it on the diskette. I am paying \$9.75 for a box of 10 no-brand diskettes. One big advantage is that I can immediately spot the difference between the diskettes for my Model 1 and Model 4 computers. I did think that the hard case of the 3.5 inch diskettes would be more appropriate for my three year old son to handle. I had ideas of allowing him to play on the Model 4 but he has shown me how easy it is to insert a 3.5 inch disk into the 5.25 inch drive and I have discovered how difficult it is to remove same.

The name "Formosa Technology" appears frequently throughout this story. They are located at 80 Hope Street, South Brisbane. "Formosa" is the name that Taiwanese use for their homeland. The receptionist speaks good English. I didn't get past the front display foyer and it had a neat array of laptops, clones and cards. I didn't get close enough to read prices but it was obvious that you should stop there if you have any interest in purchasing same. Their prices on mounting brackets, converter cables and the actual drives are certainly amongst the keenest in town.

I am certainly happy with the end result. Even the diskettes are colour co-ordinated with the drives. Anybody else who wants to follow the same path should budget around \$100 per drive. I am willing to point out the finer details of how to make up the new cables and how to set the drives as DS0 or DS1. I did have trouble with the drive selectors on Ray's Copal drives: I was looking for some miniature jumper plugs and was slow to recognise the gigantic slide switch!

I have kept the double sided forty tracker so that I can maintain compatibility with the rest of the world for exchange of programs. I can boot off single sided or double sided forty track 5.25 inch diskettes or boot off the new 3.5 inch disks. With only three drives, I have 1.8 megabytes of disk storage on line. The option of a hard disk as discussed in Bits and Bytes about eight months ago would have given me 20 times the capacity at about 5 times the price. However, my budget doesn't extend to five times the price and, for the moment, I find the performance of the 3.5 inch drives to be more than satisfactory.

-----<BNB>-----

STAR NX-10 PRINTER MODE UTILITY

by Shawn Synstra (047) 513941

One fine day while I was strolling through the exchange newsletters I found a routine for setting printer modes for my printer (Star NX-10) in TRSTIMES (volume 2 no.2, to be exact). Unfortunately, well for me anyway, it was for a model 4. It used supervisor calls, special screen functions etc, so I felt that conversion would be too cumbersome and wouldn't achieve what I wanted. So I wrote my own.

This program is designed to run under ND86/90 using the PSF option. This means that the program may be loaded from anywhere (BASIC, MINI-DOS etc), making it reasonably useful. If used under any other DOS, the ORG will have to change so it will load in ordinary user RAM (I don't know of any equivalent to the PSF option).

Upon loading, the program opens a 'window' on the screen. The window is scrolled with the arrow keys. Use the relevant alphanumeric keys to turn a function on or off. Number keys are reserved for functions that don't require switching. Otherwise, lower case turns a function on and upper case turns a function off. If you are unsure whether you have just turned the function on or off, hold the key down and the bottom graphic line of the window will show it.

After the program loads, it saves the small portion of the screen in RAM straight after the program so the screen may be restored upon exit. Remember this when customising, so the program doesn't flow past 51FFH if used as a PSF. By the way, the NX-10 is reasonably Epson compatible, so most people shouldn't need to put in too much effort to adapt it.

A suggestion was made in the original article for it to be an interrupt driven routine, but is there enough RAM to put it in? If you would like a copy, contact me.

;NX/ASM
;Mod I/Sys 80 (check printer routine)
;NewDos86/90 version (set PSF=Y)
;change ORG for ND80
;May be loaded from DOS or BASIC
;Written by Shawn Synstra

```
X      EQU      27      ;equate for <ESC>
ORG    4D00H      ;change if not ND86/90
START1 LD      B,8      ;Start screen store
      LD      DE,STORE
      LD      HL,3C88H-52
LOOPA  PUSH    BC
      PUSH    DE
      LD      DE,52
      ADD     HL,DE
```

```
POP    DE
LD     BC,12
LDIR
POP    BC
DJNZ  LOOPA
LD     HL,3C88H      ;draw border
LD     (HL),188
INC    HL
LD     B,10
LOOPB LD     (HL),140
INC    HL
DJNZ  LOOPB
LD     (HL),188
BOTLIN LD     HL,3E48H      ;bottom line
LD     B,12
LOOPB2 LD     (HL),131
INC    HL
DJNZ  LOOPB2
CALL  DRAWIN
CALL  0049H      ;Wait for keypress
CP     '*'
JP     Z,EXIT
CP     91      ;Up arrow
JP     Z,MOVUP
CP     10      ;Down arrow
JP     Z,MOVDN
CP     '1'      ;reset all modes
JP     Z,RESET
CP     '2'      ;test print
JP     Z,TEST
SUB    65
CP     12      ;12 FNs available
           - change to suit
JP     C,TOFF      ;turn off routine
SUB    32
CP     12      ; change as above
JP     C,TON      ;turn on routine
JP     MAINLP
EXIT  LD     B,8      ;Exit routine
           - restore screen
LD     HL,STORE
LD     DE,3C88H-52
EXLPA PUSH    BC
      PUSH    HL
      LD     HL,52
      ADD    HL,DE
      EX     DE,HL
      POP    HL
      LD     BC,12
LDIR
POP    BC
DJNZ  EXLPA
RET     ;Back from whence you came!
MOVUP LD     A,(PAGE)      ;Scroll up
      OR     A
      JP     Z,MAINLP
      DEC    A
      LD     (PAGE),A
      CALL  DRAWIN
      JP     MAINLP
MOVDN LD     A,(PAGE)      ;Scroll down
      CP     14      ;scrollable lines
           - change to suit
      JP     Z,MAINLP
      INC    A
      LD     (PAGE),A
      CALL  DRAWIN
      JP     MAINLP
DRAWIN LD     A,(PAGE)      ;Draws window
      LD     L,A      ;(except top & bot border)
      LD     H,0
      ADD    HL,HL      ;*2
      PUSH  HL
      ADD    HL,HL      ;*4
      ADD    HL,HL      ;*8
      POP   DE
      ADD    HL,DE      ;*8+*2=*10
      LD     DE,WTEXT      ;now add offset
      ADD    HL,DE      ;HL now has text source
      LD     DE,3C88H+64
      LD     C,6
DRWLP0 LD     A,191
      LD     (DE),A
      INC    DE
      LD     B,10
      LD     A,(HL)
      LD     (DE),A
      INC    DE
      INC    HL
      DJNZ  DRWLP1
      LD     A,191
      LD     (DE),A
      PUSH  HL
      LD     HL,53
```

```

ADD HL,DE
EX DE,HL
POP HL
DEC C
JR NZ,DRWLP0
RET
TOFF LD HL,664FH ;Turn function off
LD (3E4FH),HL
LD (3E4EH),HL
LD L,A
LD H,0
ADD HL,HL
LD DE,TABLE1
ADD HL,DE
LD E,(HL)
INC HL
LD D,(HL)
EX DE,HL
LD B,(HL) ;skip turn on code
TFLP1 INC HL
DJNZ TFLP1
INC HL
LD B,(HL)
INC HL
TFLP2 LD C,(HL)
CALL PRINT
INC HL
DJNZ TFLP2
TFLP3 LD A,(15359)
OR A
JR NZ,TFLP3
JP BOTLIN
TON LD HL,6E4FH ;turn function on
LD (3E49H),HL
LD L,A
LD H,0
ADD HL,HL
LD DE,TABLE1
ADD HL,DE
LD E,(HL)
INC HL
LD D,(HL)
EX DE,HL
LD B,(HL)
INC HL
JP TFLP2
RESET LD C,X ;resets all codes
CALL PRINT
LD C,'g'
CALL PRINT
JP MAINLP
TEST LD HL,TMESS ;test print
message LD B,19
JP TFLP2
PRINT PUSH HL ;--Print routine--
LD HL,37E8H ;has to be changed
PRTLP LD A,(HL) ;to suit interface
CP 63
JR NZ,PRTLP
LD (HL),C
POP HL
WTEXT RET ;End of print routine
DM 'Star NX-10' ;Window text
DM 'Setup util' ;Remember to keep
DM 'by VEGSOFT' ;same width
DM '1991 v1.0' ;throughout!!!
DW 8383H,8383H,8383H,8383H,8383H ;Horizontal bar
DM '*'Any Exit'
DM 'a)Expanded'
DM 'b)Compress'
DM 'c)Elite'
DM 'd)Italic'
DM 'e)NLQ'
DM 'f)Bold'
DM 'g)U/line'
DM 'h)Super Scp'
DM 'i)Sub Scrp'
DM 'j)Dubl hi'
DM 'k)Quad hi'
DM 'l)Emphasiz'
DM '1)Reset'
DM '2)Test prt'
TMESS DM 'test VEGSOFT! test',ODH
;test print message
;now we have look up table
TABLE1 DW EXPAND,COMP,ELITE,ITAL,NLQ
DW BOLD,ULINE,SUPSCR,SUBSCR
DW DUBLHI,QUADHI,EMPH
EXPAND DB 3,X,'W',1,3,X,'W',0
COMP DB 1,15,1,18
ELITE DB 2,X,'M',2,X,'P'
ITAL DB 2,X,'4',2,X,'5'

```

```

NLQ DB 3,X,'x',1,3,X,'x',0
BOLD DB 2,X,'G',2,X,'H'
ULINE DB 3,X,'-',1,3,X,'-',0
SUPSCR DB 3,X,'S',0,2,X,'T'
SUBSCR DB 3,X,'S',1,2,X,'T'
DUBLHI DB 3,X,'h',1,3,X,'h',0
QUADHI DB 3,X,'h',2,3,X,'h',0
EMPH DB 2,X,'E',2,X,'F'
PAGE DB 0 ;window position
STORE EQU $ ;takes up 60H bytes
END START1

```

The table is coded as follows: 1st byte is length of on code followed by on code. Next byte is off code followed by off code. X is equated at start to escape.

Here is an alternate print routine for System 80 interfaces that only use port OFDH (Part number X-4010). The program should also be able to work on the Model III using the following routine, if you replace port OFDH with OF8H.

```

PRINT IN A,(OFDH)
CP 63
JR NZ,PRINT
LD A,C
OUT (OFDH),A
RET

```

BACK COPIES OF BITS & BYTES

Back issues may be borrowed from the club library to photocopy if desired. A wealth of information is there waiting for the newcomers. There is an index maintained of the articles and is due for reprinting soon. The last one was published after issue # 75. Another method of obtaining Bits & Bytes is via disk. Plain ASCII files are maintained of the issues (without any print formatting). They are not broken down into individual articles, but into approximately 20K segments. These currently are on 4 80-track disks, but individual issues may be ordered on any wanted format. Contact the librarians concerned as per committee list or write to the Secretary.

A RETHINK ON THE FUTURE OF HELPDISK

by Bill Allen

Warwick Sands and I have had a long discussion about Helpdisk and what we envisage for its future.

After a lot of reappraisal, I had realised that this really should be a major applications package and we seem to be the only ones in the TRS-80 world that have done and are still doing anything in this field.

Let us survey the main applications for computers as we use them:

1) Word Processing 2) Spreadsheets 3) Databases 4) Business Oriented Applications 5) Specialised Information Retrieval 6) Games etc.

I perceive that Helpdisk could become the sole occupier of type 5 for our machines. Maybe further development will demand a different name to more clearly describe its real purpose.

Plans are in hand for a completely new indexing method. It will be simplified to enable much more user-participation in moulding current information files or self-generated files to individual requirements. The screen write code will be changed to handle word wrap like word processors, so that both screen modes can be supported without any special conditions. There will be utilities for a user to completely index a new file; one for extending indexing within a currently indexed file; and I have already done one to convert the current files' indexes to the new format.

To simplify the internal organisation, the index you will see on the screen will be read directly from the "invisible" index, thus obviating the need for the other index added just before the text. Every time you press the @ key to return to the index, it will be extracted from this invisible index, which is always memory-resident anyway. The graphics banner etc will be built into the driver. All this will mean that an indexed file will now consist of the index together with the file offset bytes to each item, a spare blank sector for possible future extension of the index, then the text file itself. The text will no longer contain special markers -- the index offsets will consist of the number of sectors into file (in two bytes -- allowing for a VERY large file -- like 65536 sectors); another byte will record the offset in the sector to the item (previously we used two bytes to do this, but the maths involved gave complications and

we didn't really save much with that method. The byte following the ASCII descriptor of the item records whether the match has to be exact or partial.

You haven't been told before, but already built into NewDos90 is a DOS command to call the Helpdisk driver as well as the usual interrupt method with the 123 or shift-123. The command is simply: HELP. HELP can be followed by the filename required to be scanned. There is absolutely no restriction on the type of file you may scan, now that the driver adjusts itself according to whether the file has the special index or not. Of course, if you specify a machine language or tokenised Basic file, I don't know what you would be able to derive from scanning them!

No promises at this time, but we believe this driver can be adapted to work with the Model 4 mode DOS's to give it a complete range of usage.

Another facility to be added to this application is a search function, which is really a must to round off the flexibility of its other functions. The search will allow wildcard characters if required, plus partial matches by implication.

Are there any other ideas for this application out there before we finalise the code? We would like any suggestions/requests to be sent to us as soon as possible. There will be a few months delay while the new package is put into order for general distribution.

The new package would be a replacement file for the driver (in ND80 or ND90) or the standard club package, plus the extra utilities; so it would not take much space on a disk. Maybe we can refine it to the stage of a selling applications program in USA and generate more funds for club facilities from the royalties.

There is no end to the things you could do with it. E.g., the wife might like to have a large file of all her favourite recipes, indexed for retrieval instantly to the spot required for the occasion. Oh, did I forget to say that a print facility of selected pieces of the text is to be added, too.

This application has been and will be even more down-to-earth usage of a computer -- even easy for a person who hates computers. There is very little to learn in how to use it, but much to look up and learn about any subject at all -- not necessarily anything to do with computers.

-----oOo-----

Disk Editor Assembler written by David Goben

A review by Warwick Sands

This is a review of the Editor Assembler written by David Goben. The package is distributed by Computer News 80 and retails in the USA for \$49.95. For an extra \$15.00 you can receive an upgrade that provides some other features including a faster assembly time and some more information on where exactly the assembly is at.

Version 1 is case insensitive. `ld a,24` translates to `LD A,24` during assembly, obviously message strings are left unchanged. Version 2 gains its speed increase by expecting all assembler commands to be entered in upper case. I haven't used version 1 of DEA, I went straight to Version 2.

I suppose I should give a little background about myself. My first editor assembler was the tape version produced by Microsoft. I bought that in 1981. I used that for about 2 years until I progressed to disk, then I used EDTASM as supplied on the Newdos80 disk for several years. Finally I settled on EDAS as supplied by Misosys, I am currently using EDAS version 4.3. From 1982 through 1984, I was writing enhancements to BASIC, firstly for tape based systems and then for disk. Since 1985, I have been writing enhancements specifically for NewDos80. NewDos86 was released late 1986, NewDos90 in August 1990. I haven't counted up the amount of code that I have written, but I suppose I would have over 2 Megabytes of source code on hand, not counting out of date material I keep for reference.

I will briefly overview the features of DEA and then try to compare it with some of the other Editor Assemblers available. The package includes a 118-page manual and 1 disk (2 disks if you get the upgrade to version 2). 70 pages of the manual explain the workings of DEA. The other pages are devoted to an explanation of the various utilities supplied on the disk.

DEA has some great features. I particularly liked the paging feature that allows one to browse both forwards and backwards through the text. The period list the current line, the comma edits the current line. Hatch lists the first line while asterisk lists the last line. You can find and replace text strings, either globally or it will prompt you at each occurrence of the string whether or not you wish to change it. You can copy or move lines of text around the program.

The assembler commands are fairly standard, two handy features are the QE and NE commands. QE is Quit on Error, abort the assembly if an error occurs and No Error which aborts output to the /CMD file if an error occurs. A MAP function is also available which when used in conjunction with the CREF utility (supplied with DEA) provides a detailed cross reference of all symbols used in a program along with their values. This cross

reference works across multiple files and is a god-send if you are writing a large program that requires many files. (At the moment I am re-writing the COPY and FORMAT portions of NewDos86/90 and SYS6 requires more than 14 /ASM files).

DEA allows you to nest include files to a depth of 8. This should be ample for most applications. The SYS6 assembly mentioned above only nests files to a depth of 2.

There are some very nice assembler directives available. Message strings can be defined in several different ways. DB is the standard method and is most often used to define a string of one or more bytes. DEFM is used to define an ASCII message. DEFE allows you to define a string that is encrypted during assembly. DEFT is like DEFM except that the first byte of the string is the length of the following message. DEFC is like DEFM except that bit 7 of the last character of the string is set.

DEA supports IF...ELSE...ENDIF constructs to a nesting level of 15. The conditional tests supported are IF True, IF False, IF Minus, IF Positive, IF Defined IF UNDefined, IF pass1 and IF pass2. These are used in conjunction with the standard operators.

The standard operators include:-

EQU. =	Equals
.NEQ.	Not equals
.GT.	Greater Than
.GE.	Greater Than or Equal to
.LT.	Less Than
.LE.	Less Than or Equal To
() + - */	The standard arithmetic operators
^	Exponentiation
.MOD.	gives the remainder of A/B
.AND. .OR. .XOR.	Logical operators
.NOT.	Logical Not
.LSB. .MSB.	Returns the Least/Most Significant Byte

Shift and Rotate functions are also supported.

DEA provides for 3 segment operators. To quote from the manual "Segment operators allow you to group certain portions of your code into pre-selected areas of memory without having to place them consecutively together in your source code." The manual devotes several pages to the usage of code segments for those programmers who have never used them previously.

The above has been a fairly brief summation of DEA. DEA is definitely superior to EDTASM. If EDTASM is the only editor assembler package you have used I can definitely recommend DEA. Its command syntax is very close to that used by EDTASM, so you should have little trouble adapting to DEA. Like EDTASM, it prompts for confirmation before it will overwrite an existing file. In fact, I would say that if the original authors had continued to support EDTASM, then the latest version would be very much like DEA.

When it comes to comparing DEA to EDAS the situation is somewhat harder. DEA has better editing facilities, however EDAS supports Macros. While files are readable by both packages, differences in the syntax of the Assembler Directives mean that some editing needs to be done before compilation without errors is possible. Also the command line syntax of EDAS is different to that of EDTASM and DEA, so some relearning is required.

DEA has some problems if you are a NewDos80/86/90 user and I have included some zaps that need to be done below. EDAS also needs to be altered to run under NewDos86, so the packages are even on that score.

Both DEA and EDAS assembled a 1300 line file in about 35 seconds. They both support conditionals and the ability to include files.

Also supplied with DEA are several utilities. These will run under Model 1, 3 and 4 Dos's. As expected, they seemed to work fine under NewDos86/90, but I didn't spend a great deal of time testing them.

There is the CREF program, mentioned above, which provides a detailed cross reference of what is happening in the program. It lists where variables are defined (and changed), and where they are referenced.

DISASM/CMD is similar to the DISASSEM/CMD supplied with NewDos80, but it doesn't produce the cross reference listing that DISASSEM does. DISASM runs fine under NewDos86/90.

XREF/CMD is used to produce the cross reference listing. It is very fast and produces a wide range of information. It has the added advantage that you can turn off various reference types. If you are only interested in CALLs and JPs then you can disable all the other reference types.

PTCH/CMD is similar to PATCH/CMD, and it allows you to patch /CMD files by specifying a load address, the string of bytes that should be there and the substitute string of bytes.

OK. I've mentioned all the things that I liked about the program. What are my dislikes? Very few. Only one in fact. But, to be fair, I should mention it. I don't like not being able to have comment fields inside a /CMD file.

A lot of my programs use overlays. These overlays are stored in the same /CMD file as the main program and follow it. The DOS loads the program until it reaches an 0202 xxxx sequence. This provides the program execution address and signals the DOS to stop the load process. To save the hassle of having multiple assembly and EQUate files along with an append mechanism, I normally separate each module with a two byte comment. This allows me to assemble the entire file and then simply edit the comment block sequence (1F02 xxxx) to the transfer address sequence (0202 nnnn)

of the module involved.

(I must admit that on re-examining this paragraph after re-reading the DEA manual, that the use of the *REF directive and then appending the resultant files would probably solve my problems 99% of the time. I still think that the limitation on where COMMENTS can be used is somewhat arbitrary, however.)

Taking the chance of invoking the wrath of David Goben, I would like to list some of the things that I miss. Please note that most of these are due purely to my personal preferences and reflect my personal programming style. It is hard for an old programmer to change his techniques.

TITLE and SUB-Title directives. These are very handy when dealing with large assemblies having many included files. I normally set the TITLE to the name of the application, while the SUB-TITLE is always on the first line of each include file and is the name of that file. It is much easier to look at the top of the page and know that you have to fix line 1020 of SYS6G, than having to remember that SYS6G spans the memory area 5CEFh through 5FDEh. The title line on the hardcopy could also include the date and time of assembly along with the DEA logo.

DATE and TIME pseudo-ops. It is nice to be able to automatically include the date and time of assembly within your program banner.

The facility to examine, or view, a file while editing a different one is most useful. Also nice to have is the ability to execute commands under Mini-Dos mode. I know that not all DOS's support this, so perhaps the inclusion of some user-defined vectors/keys could be supported.

Originally, I was only going to include the mandatory zap for NewDos86/90. But the amount of page space the optional zaps use is very small. The mandatory zap allows DEA to read in text files without locking up. The optional zaps for NewDos80 allows DEA to be controlled by JCL files and enables the KeyBoard Type Ahead in NewDos86/90.

Other optional zaps include a routine that converts all lower case text up to the comment delimiter (the semi-colon). The patch for Model 1 clones (Video-Genie - System 80) so that the correct printer port is used may also be of interest to those users who own a Video-genie. I have also corrected a problem that if you entered several "tabs" and then hit <Shift Backspace> the cursor wouldn't return to the beginning of the video line.

The zaps listed below are to DEA version 2.0.0 dated January 1990. I have overwritten a comment at the beginning of the file and extended the file length by 1 sector. The simplest way for you to extend DEA/CMD is to create a file 256 bytes long and then APPEND it to DEA/CMD. The zaps can then be applied.

Alternatively these zaps are available on the latest NewDos90 Public Domain Disk #3. This disk includes the /ASM file of the changes and an assembled version of the changes called DEAZAP/CMD. The simplest way to apply the zaps is to:

- 1) Copy your existing DEA13/CMD to DEA/CMD.
- 2) Using a file editor, find the end of the file, indicated by the sequence 0202 4D53
- 3) Change this to 1F02 4D53. This fools the DOS into thinking this is a comment block.
- 4) Exit back to DOS and APPEND DEAZAP/CMD to DEA/CMD

This mechanism works under NewDos80/86/90. I can't guarantee what will happen under other DOS's.

The bulk of the zaps merely change the end of text location and frees up 256 bytes for zaps. The old value was 91EFH. The new value is 92EFH. Also included is the address of the DEA active flags. This area is checked each time DEA loads. If the area is unchanged, then DEA * is allowed. The old value was 91E1h. The new value is 92E1H.

I allowed 256 bytes for the zaps for two reasons. Firstly, I did not know how big the zaps would be and secondly, I did not know whether Index registers were used at all. Increasing the value by 256 would keep the offsets identical and I like to play safe.

Processing DEA13/CMD

This changes the logon banner and provides a safe place to store some NewDos86/90 specific initialisation code.

```
Sector number 0
Change from:-
00 0506 4445 4120 2020 1F2C 2863 2920 3139
10 3839 2062 7920 4461 7669 6420 476F 6265
20 6E2E 2041 6C6C 2052 6967 6874 7320 5265
30 7365 7276 6564 1F16 5665 7273 696F 6E3A
To:-
00 0506 4445 4120 2020 012C A651 AF32 2344
10 CD2B 00E1 D1C9 0D0D 001F 0101 0B1B 0A1A
20 0818 093E 2020 0000 0000 0000 0000 0000
30 0000 0000 0000 1F16 5665 7273 696F 6E3A
Change from:-
F0 6564 2E20 2095 0DAA 2020 2020 2020 2020
To:-
F0 6564 2E20 2095 0DAA 2020 2020 5665 7273
```

```
Sector number 1
Change from:-
00 2020 2020 2020 2020 2020 2056 6572 7369
10 6F6E 2032 2E30 2E30 2020 2020 2020 2020
20 2020 2020 2020 2020 2095 0D82 8383 8383
To:-
00 696F 6E20 322E 302E 3020 204D 6F64 696E
10 6965 6420 666F 7220 4E65 7744 6F73 3836
20 2F39 302E 2020 2020 2095 0D82 8383 8383
```

```
Sector number 16
Change from:-
10 0321 EF91 220A 592A 0A59 5E23 5623 EBCD
To:-
10 0321 EF92 220A 592A 0A59 5E23 5623 EBCD
Change from:-
C0 11EF 91CD E977 282C EB23 2301 0000 7EB7
To:-
C0 11EF 92CD E977 282C EB23 2301 0000 7EB7
```

```
Sector number 22
Change from:-
90 10F9 18ED 2A0E 5911 EF91 A7ED 5211 9E77
To:-
90 10F9 18ED 2A0E 5911 EF92 A7ED 5211 9E77
```

**** Mandatory Zap for NewDos80/86/90 ****

The technique that DEA uses for loading text files relies on bit 5 of byte 1 of the FCB being reset until data in the sector is no longer valid. NewDos80/86/90 always sets this bit after reading the sector. This means that DEA will only read the first byte of each sector. (NewDos does this because, if the sector is read successfully, then the next field in the FCB is incremented. This automatically implies that the data in the sector buffer is no longer valid.)

```
Sector number 24
Change from:-
50 3E2F 12D1 C9C3 3644 CDCA 6F2A 4940 C02A
To:-
50 3E2F 12D1 C9C3 E191 CDCA 6F2A 4940 C02A
```

```
Sector number 26
Change from:-
30 1B1F 00CD 1070 B7C8 FE01 2819 FE60 280A
To:-
30 1B1F 00CD 3892 B7C8 FE01 2819 FE60 280A
Change from:-
60 71AF 3276 5D11 EF91 2A0A 59ED 5230 062A
To:-
60 71AF 3276 5D11 EF92 2A0A 59ED 5230 062A
Change from:-
80 11E1 9106 0E1A BE20 1213 2310 F83E 2032
To:-
80 11E1 9206 0E1A BE20 1213 2310 F83E 2032
Change from:-
A0 EC57 0136 0377 EDB0 21EF 9122 0E59 36FF
To:-
A0 EC57 0136 0377 EDB0 21EF 9222 0E59 36FF
Change from:-
D0 9101 0E00 EDB0 2106 52CD CB71 CDA6 7411
To:-
D0 9201 0E00 EDB0 2106 52CD CB71 CDA6 7411
```

```
Sector number 27
Change from:-
80 B846 235E 2356 2320 19D5 2A0E 5911 EF91
To:-
80 B846 235E 2356 2320 19D5 2A0E 5911 EF92
```

This zap fixes the <Shift Backspace> function. If you had multiple tabs in the text, hitting <Shift Backspace> would not take you to the beginning of the video line.

```
Sector number 28
Change from:-
10 3803 E65F 7723 18F3 212C 5A42 3E08 05F4
20 A874 F206 7536 0021 2059 221C 5A16 00CD
To:-
10 3803 E65F 7723 18F3 3E08 4205 F48D 75F2
20 0375 212C 5A36 0021 2059 221C 5A16 00CD
```

```
Sector number 29
Change from:-
40 C9CD EA76 37E5 11EF 91F5 E52A 0E59 CDE9
To:-
40 C9CD EA76 37E5 11EF 92F5 E52A 0E59 CDE9
```

```
Sector number 30
Change from:-
00 E521 2059 78B1 C8ED B0C9 062C CD32 77E5
To:-
00 E521 2059 78B1 C8C3 ED91 062C CD32 77E5
Change from:-
20 91E5 2212 59E1 444D 5E23 5623 D55E 231E
To:-
20 92E5 2212 59E1 444D 5E23 5623 D55E 231E
Change from:-
90 19D1 C914 1520 D4FE 2321 EF91 2818 FE2E
To:-
90 19D1 C914 1520 D4FE 2321 EF92 2818 FE2E
```

USING A TEAC 1.2MEG DRIVE (FD55GFR)

by Bill Allen

A problem that has been simmering in my menage for a long time -- about a year, in fact -- was how to get the TEAC 1.2M drive (type FD55GFR) to operate as a normal 720K type, i.e., run at 300 rpm instead of 360. It was cheap enough -- a little over \$120, but no info came with it. It is expected to be plugged as is into an AT!

Enquiries eventually led me to AWA in South Brisbane (the agents for TEAC). No manual available -- and anyway it costs over \$300 (!) and the only copy is down in Sydney floating around in someone's briefcase (very helpful, eh?). I toyed with the idea of writing direct to America, but put the project aside as there were many more pressing items on the agenda and the put aside has added up to about 12 months.

Lo and behold -- all things (eventually) come to those who wait! This month the Natgug (England) newsletter arrived with an article about this very drive and how you jumper it to run in an XT -- it turns out that there are 3 extra jumpers to bridge. No wonder my meagre experiments did no good! I found 3 spare jumpers and placed them as directed -- the drive is still waiting to be tested, though, and I will report when actual success is experienced. In the meantime, here are the jumper specs for the both IBM types: AT; FG, DC. XT; FG, DC, LG, I, IU. The designated drive number pins have obviously to be bridged as well. Naturally, I have jumpered it as an XT configuration. It came with the AT specified pins bridged as standard. I've also put a sticker on the side of the frame with both specs for future reference.

One of these days it is hoped to experiment with 1.2Meg floppy capability on our machines. There will have to be a hardware switch to double the clock frequency to the FDC. As the clock generator is already halved in the circuit, this would be no great drama -- probably a couple of piggy-back chips (to decode the designated 1.2Meg drive and switch the clock speed accordingly. There would be some changes to PDRIVE specs to take advantage of the increased capability and this is no drama with ND90, we anticipate. We'll wait and see.

I've never come across a quieter 5.25" floppy drive, but I must warn that its locking lever is on the opposite side to most drives and it has a longer frame than a normal full height drive. The total length from front face to the back is 208mm or 202mm from the flange of the faceplate. Both plugs are inserted from the rear direction, so one needs a roomy mounting scheme for this type. It should pose no problems mounting it in a 4P.

```
Sector number 34
Change from:-
40 0100 00ED 5B0E 5921 EF91 CDE4 793E 1ACD
To:-
40 0100 00ED 5B0E 5921 EF92 CDE4 793E 1ACD
Change from:-
70 B7C8 47CD D377 21EF 9122 0A59 7821 0000
To:-
70 B7C8 47CD D377 21EF 9222 0A59 7821 0000
```

```
Sector number 40
Change from:-
20 CDAB 7418 F7CD 6180 21EF 9122 1659 3E1E
To:-
20 CDAB 7418 F7CD 6180 21EF 9222 1659 3E1E
```

```
Sector number 55
Change from:-
50 EF91 220A 593E 00B7 C821 0A00 2210 5921
To:-
50 EF92 220A 593E 00B7 C821 0A00 2210 5921
```

The following two sectors hold most of the code necessary to implement the modifications.

```
Sector number 57
Change from:-
60 71E1 3600 061F 0111 D291 CDC3 70DA FB73
70 7EC9 F5AF 322B 5AF1 C902 024D 53xx xxxxx
80 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
90 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
A0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
B0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
C0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
D0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
E0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
F0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
To:-
60 71E1 3600 061F 0102 D291 CDC3 70DA FB73
70 7EC9 F5AF 322B 5AF1 C9CD 3644 C013 1ACB
80 AF12 1BAF C97E FE3B 2003 EDB0 C9FE 2728
90 04FE 2220 1132 0592 EDA0 E07E FE00 20F8
A0 EDA0 E0BE 28F2 FE61 3807 FE7B 3003 E65F
B0 77ED A0E0 18CF 0000 0000 0000 0000 0000
C0 0000 0000 0000 0000 0000 0000 0000 0000
D0 3A31 5AB7 CA10 70E5 2189 42CB F6E5 CD6A
E0 92E1 CBB6 FE01 2009 CRAE 2174 42CB 9EE1
F0 C9FE 6028 F5FE 2020 07CD C46F 20FB 18EA
```

```
Sector number 58
Change from:-
```

The contents of the sector will be unknown. I suggest that you fill it with 00's before you start to apply the zaps.

```
To:-
00 E1C9 CDC4 6F3E 20C0 3A23 446F CB7D CA10
10 70CB 4D3E 60C0 7DE6 01C9 0000 0000 0000
60 0000 0000 0000 0000 0000 010C D292 0000
70 0000 0000 0000 0000 0182 8054 E5CD CA6F
80 0170 4211 CB42 2175 4228 293A AD05 FE32
90 2809 3EFD 320C 70AF 320A 7021 5843 22DB
A0 5421 5F43 22E5 5401 6343 11AB 4321 6943
B0 2241 922B 3A27 44FE 8220 3D7E FEA5 2038
C0 1AFE A720 332B 2253 920A E605 023D 2006
D0 2150 1822 0252 3A65 42E6 8028 1721 1C70
E0 226C 4221 A651 1112 7001 1B00 EDB0 2A41
F0 92CB CE00 AF32 2344 E1C3 4D53 0202 8054
```

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MODEL 4 CORNER

by Leon Moya

The response to the File Cabinet Public Domain program offer resulted in 24 disks being ordered by members. These were received from America in time to be distributed at the February meeting. The group now holds the originals of these disks and members are able to obtain copies of any material that may be of interest to them. Listed below are the catalogue numbers of the disks we hold, so check these against your File Cabinet catalogues to determine if any of the programs are suitable to your needs. If you do not have a catalogue, they are available at meetings or by contacting myself or Denis Floyd. (Phone numbers listed on cover of this newsletter.) A printed list of the disks and the files contained therein will be available for perusal at meetings.

GAMES Disks -: M4GAM01 M4GAM02
M4GAM05 M4GAM10 M4GAM12
M4GAM13 M4GAM19 M4GAM24

UTILITY Disks -: M4UTL10 M4UTL13
M4UTL36 M4UTL45

BUSINESS DISKS -: MBUS01 M4BUS05
M4BUS08

COMMUNICATION DISKS -: M4COM04
M4COM10 M4COM11

EDUCATION DISKS -: M3EDU02
M3EDU03 M3EDU07 M3EDU08 M3EDU12
M3EDU18

While on the subject of software, I see from the latest membership list (108 members) that we have more than a few first timers, so perhaps it would be worth while speaking about the ways and means of obtaining programs to run on your new machines. The best way is to come along to the monthly meetings and look through the printed catalogues you will find on a table in one corner of the hall. Models I, III & 4 are well covered. Ask around to find out which particular program or version of that program is most popular among other members. If you choose a less popular application you will find there are fewer people that will be able to help you later on. Most people that attend meetings will be able to answer the bulk of your questions. When you have made your choice, fill in the order form for the model that you require the software to run on. I.e., if you're ordering a program to run in MIII mode then use the Model III form even though your machine is a M4. The order forms can be found in the same location as the program catalogues. The

software you order can then be collected and paid for the next time you attend a meeting. Software will only be posted to members on a prepaid plus P&P basis.

For our friends who are unable to be at meetings there are catalogues available on disk. Orders and the appropriate funds can then be sent to the various software co-ord for processing and speedy return.

The cost of pd software is -:

\$5:00 per disk (one application prog. or five games per disk)

\$2:00 per Club catalog.(contains both MIII & M4 material)

\$2:00 per File Cabinet catalog. Model 4

\$3:00 per File Cabinet catalog. Models III & I

\$2:00 covers postage on most orders.(stamp & post pak)

On the matter of M4's v MI's raised by John in his Debut of Model I Corner in the Jan issue of B&B, I would like to see one or more of my fellow M4 owners take up the challenge. Here is a good opportunity for someone out there to write their first article for the newsletter and give some others a bit of a break. Believe me, it's not that difficult. Just put your thoughts to paper (or disk) and our editor will do the rest, correcting grammar and typo's. If nothing else it will afford you plenty of practice on your favorite WP.

Sunday 10th saw a group of eager VisiCalc students gather at the home of John and Jacki Hurren for a very informative SIG (special interest group) meeting. I for one enjoyed the afternoon immensely and came away with a much greater understanding of VisiCalc than I had been able to glean from the manual. In addition to the main subject matter, members were able to offer and receive hints and tips on a whole range of other problems. I hope we can keep this type of forum going, as it is a pleasant way of learning more about our machines. Thanks again to John and Jacki for their hospitality.

Until next time, happy computing.

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PRINTER RIBBONS

by David Clarke

I have been asked to investigate a supplier for printer ribbons now that our current supplier is no longer available. I have looked at original suppliers for replacement and because we cannot buy in large enough numbers would have to pay nearly full price, plus tax. We all know how much the replacement costs are for our particular printer so I have looked at the alternative of repacking the cassette or re-inking the ribbon. I personally do not recommend re-inking, particularly of the smaller ribbons (Riteman, Amstrad etc.) due to the wear factor on the ribbon fabric causing holes to appear and these can wreck the pins in the print-head. The larger ribbons from the Citoh, Epson etc. are OK to re-ink only if the fabric is in excellent condition.

As the ink lubricates the fabric of the ribbon (as well as the pins in the head), to be successful with re-inking one has to do it early rather than later. This is because, if the ribbon dries out too much, the pin action damages the fibres in the ribbon leading to rapid deterioration of the ribbon. The cost of re-inking is within 20% of the cost of re-packing so I don't think it bears up under economic scrutiny, either. If you must go this way, "The INKas at 119 Leichhardt Street, Spring Hill Ph. 8320000 are probably the best. The biggest problem is finding somewhere to park. They also only have an overnight service.

I have tried two other suppliers who refill the printer cartridge with a good quality nylon ribbon. The current quality of the refill ribbon is very good, much better than of some years ago. Also the ink quality is such that normal lubrication of the head takes place. I am currently trialling one ribbon from Jane's Computer supplies of 95 Castlemaine Street, Milton Ph. 3690799. This was done while I waited, about 10 minutes. (Times for this service is between 1000 to 1315, and 1430 to 1545 only.) I have dealt with Jane over the years and her product has stood the test of time and appears to be better than ever.

Prices range from \$6.00 for Citoh/Epson to \$8.00-\$12.00 for the larger 15 inch flat packs for DMP III/IV. The carbon on mylar type for Amust80 etc. can be refilled for \$8.00. This is quite a saving and there is plenty of parking also.

The other supplier is Wilson Stationery Suppliers of 159 Given Terrace, Paddington Ph. 3695111. Similar prices with the While U wait times of 0900 to 1400 apply. I have a suspicion

that the ribbon used is the same quality (may even be from the same overseas supplier). Wilsons also supply the complete range of stationery and I will put their latest catalogue in the library. Parking is not a problem.

My only reservation at this time about refilling ribbon cartridges is the quality of the weld in the ribbon.

This depends on the skill of the operator and if it is not done well, varying results, from broken ribbon (no print) to entanglement with pins (no pocket money for a long time due to buying new head for printer). Also care has to be taken with the cassette itself being in tip-top condition as the ribbon feed mechanism can become worn causing slippage and possibly jamming of the ribbon, this can cause the ribbon drive mechanism to break or at least cause uneven spacing of the print when the head motion is the driving force for the ribbon. I am running a Citoh C310 which is a 300 cps 80 column printer serving 3 operators on rather heavy duty cycles and a Citoh 1550 which is a 180 cps 136 column printer doing light duty. I will report on any problems, but feel free to contact me, either phone or BB if you need advice etc.

TIPS FOR MODEM USERS

A most important thing to remember when using modems is to pay CLOSE attention to the INDICATOR LIGHTS. The first priority is the CD (carrier detect) light -- if it is not lit, then the modems are not talking to each other and one or both of them still has to be switched to the desired configuration. Only when the CD is lit and transmission is not working can you start blaming the software condition at one or both ends. If, during transmission, the CD light goes out, then it's no good sitting twiddling your thumbs -- the connection has been broken between the modems -- i.e. at least one has been reset or switched out altogether. Usually, if the CD is blinking on and off, it means that the person on the other end wants you to return to voice transmission (phone).

MEMBERS' PROBLEMS

by John Bird

PRIOR FOLLOW UP

Not many of the people reporting problems at the February meeting turned up at the March meeting to report progress.

I presume that Rob Lewis has not repaired the RS232 on his Model 4P.

Bert Arthur wanted to know how to join printer ribbons when they break. There is a company called Aussoft at Cleveland that will do this for \$2. Their brochure about Macinkers gives a very good explanation of various types of ribbons and re-inking. But Bert lives at Bribie Island and his ribbons break on week-ends (or is it weak-ends?). Noel Hodge suggested putting an aluminised write protect tab from a diskette on the back of the ribbon joint and apply the heat of a soldering iron to melt the glue and force it into the fabric of the ribbon. Noel emphasised that you must remove the aluminised label after you have transferred the glue to the ribbon.

I do not know how John Purcell progressed with service to his disk drives. In the last Bits and Bytes, I suggested using gun oil to lubricate the rails: this should be Teflon based gun oil!

I do not know how Jim Wragg progressed with his Panasonic 1091 printer (an Epson clone) that was printing additional spurious characters.

MARCH PROBLEMS

The first problem is that I left my copy of Bits and Bytes with notes about new problems at the hall. Leon Moya collected it but it is a bit difficult to compose this column without my notes in front of me and Leon advises me that there are only two notes on the copy of BNB. Perhaps as compensation, somebody else left a complete set of bits and bytes from number 76 to present at the hall and I have those! The owner can collect same at the next meeting. The following is composed from memory and I apologise to those who have been forgotten. Please remind me at the next meeting.

Bev Floyd found some old cassette tapes of educational programs and was having problems loading these into her Model 4. Denis Floyd (no relation) has succeeded in loading and/or reconstructing the programs for her.

John Benson (from Lismore, might have been the longest distance travelled to attend that meeting, John, but not the record: Jim Forayter recently came down from Biloela and our president, Warwick, shifted from Townsville to Brisbane so that he could attend meetings!) has some problems with baud rates on his modem and I hope that he was satisfied with his discussions with other members after the meeting.

Bill Mason wrote in with three problems relating to his Model 3's (plural). First, one Model 3 has a non-functional shift key on the left hand side: it needs a new keyswitch. Secondly, the other Model 3 has a loose door on Drive 0 and it won't boot: he needs a new drive. Thirdly, he is missing two of the ten screws holding the case together. These screws are not essential: many of us who repeatedly hack the hardware in our machines don't have any screws in the case at all.

Cameron Richards asked how can he tell if his Model 4 is a gate array machine and what is the significance of the gate array. The quick (approximate) guide is that a non-gate array machine has the up and down arrow keys on the left of the keyboard, a gate array machine has all four arrow keys in a cluster on the bottom right of the keyboard. The gate array machine has the RS232 connector sticking out of the back of the case, the non-gate array has space for the RS232 connector underneath the computer. A gate array is a special integrated circuit that can be programmed to functionally replace several other chips. Tandy found it cheaper to redesign the Model 4 to use the (then) new gate array chips. I think Leon will cover this question in more detail in "Model 4 Corner".

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