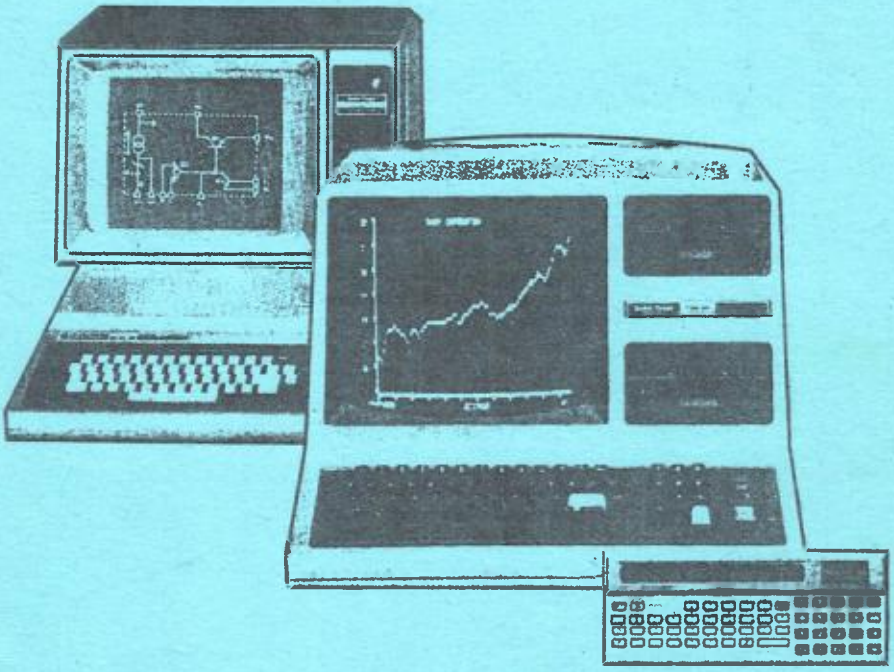
U.K. Bulletin Board List

REM 80



The North West TRS 80 Users Group

Volume 7 Issue 1

March 1985

Pharmlab Systems Ltd

COMPUTER SOFTWARE COMPANY FOR THE MEDICAL AND PHARMACEUTICAL PROFESSION

40 Cowlees,
Westhoughton,
Bolton. BL5 3EG.
Telephone Westhoughton (0942) 812843

SPECIAL THIS MONTH

NEC PC8201 16K PORTABLE MICROCOMPUTER . . . £299.00

MODEMS

UNICOM MODEM	£ 49.95 **
DACOM 2123AD	£349.00
DACOM 2123GT	£498.00
DACOM BUZZ BOX (300/300)	£ 69.00
DACOM BUZZ BOX (300/300 Auto Ans)	£119.00
STEEBEK MINIMO (300/300)	£ 99.00
STEEBEK MINIMO (300-1200/75)	£145.00
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ANSWERCALL MINI (300/300)	£ 65.00

DISKS

5.25 DOUBLE DENSITY/SINGLE SIDED	£ 14.00
5.25 DOUBLE DENSITY/DOUBLE SIDED	£ 15.50
5.25 DOUBLE DENSITY/DOUBLE SIDED (96TPI)	£ 19.50
5.25 PLASTIC LIBRARY CASES	£ 1.95
3.25 DOUBLE DENSITY/SINGLE SIDED	£ 48.00

PRINTERS

EPSON FX80 F/T	£438.00
EPSON RX80 F/T	£285.00
SEIKOSHIA GP100A	£199.00
SEIKOSHIA GP250X	£270.00
BROTHER HR5	£157.00
BROTHER HR15 (Daisy Wheel)	£445.00
BROTHER HR25 (Daisy Wheel)	£750.00

CABLES

Cables are made to order but as a guide an RS232 one metre standard cable would cost £18.00
Printer cables normally cost around £22.00 depending on the actual configuration.
'T' switches for printers and RS232 from £80.00

All above prices are Exclusive of VAT & P.P

Members may deduct 5% from the above prices that are NOT marked '**'

Bulk purchase prices are available.

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EDITORIAL

Well now, here we go again, another year to look forward to. A lot is happening in the micro world at present as you may or may not know. Oric have the receivers in, Prism has gone to the wall, Peachtree are in serious trouble, Acorn have the little men in to find out why their shares are worth next to nothing, several magazines have stopped appearing, etc..etc..etc....

Mind you, it's not all bad news. Tandy have got it's act together with ACT, sorry about the pun, (thats the Sirius/Apricot people if you don't know), maybe TACTful (ooo another one) or maybe that there's something I haven't heard about that caused the join up. The Tandy IBM compatible (1000) was launched at the Which computer show, and it is compatible as I'v tested one thoroughly. Tandy's price reductions are bringing there micro's into the real marketplace, they seem to have realised they can't keep making all that large profit margin, mind you the dollar may intervene somehow, we'll have to wait and see. More bulletin boards are springing up weekly and modems are on the want list of most micro users where printers or disk drives used to be.

Ok then lets get on with 1985, send in those articles and programs and lets have an even better year than 1984.

Carolyn.

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Any articles or programs for inclusion in this Newsletter must be addressed directly to the Editor, preferably on cassette, disk or uploaded, (all normal communication protocols are acceptable), at the following address :-

40, COWLEES,
WESTHOUGHTON,
BOLTON,
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Tel. ... 0942-812843

ACTIVITIES PAGE

By Brian Disley

Future meetings at Barton Aero Club are as follows:-

March 27th. UNIX OPERATING SYSTEM.

If you don't know what that is then I suggest you attend and hopefully we will all find out!, as the one and only (thank goodness) Steve Costello explains what it is, and how good it is at making toast (or something!). But If you already know all about it then don't dispair I can assure you that when Steve gives us a chat at one of our meetings it will be most entertaining and enjoyable even if you don't like toast!.

April 24th. BULLETIN BOARD SIMULATION.

I know we seem to talk about communications a hell of a lot just at the moment after all it isn't new, we have had computers chatting away to themselves in this country for years but now that the equipment is readily available at a reasonable price and there are now plenty of computers just waiting for you to dial their phone number and you have access to all sorts of information, you won't beleive what can appear on your VDU (or would you?) If only you can afford the phone calls (sorry B.T. but I can moan if I want) and in some cases the cost of registering as a user and/or accessing the data, but don't let that bother you there are plenty of totally free systems knocking about just crying out for you to connect your system to the phone line with a B.T. approved modem of course (but of course!) throw in a bit of terminal software and dial away. don't forget to put a 10p in a tin for every five mins. or you might get a shock when the next phone bill arrives!. Anyway come along to this meeting and Melvyn will show you what to expect when a computer answers the phone and makes noises like a cassette program!

May 29th. GRAND AUCTION

Last May the group decided to have an auction, and most members realy enjoyed themselves and picked up some real bargains to boot, so its up to you to make this auction a success again, if you're like me you'll have something you have no further use for that you could bring along to auction off, don't forget Sothebys wont be coming so we don't want antiques, just try to make it computer related if you can. The group will make a 5% token charge to help boost club funds. So don't forget bring along your goodies early please and dont forget to fill your wallet with those silly bits of paper from under the matress or bring your cheque books.

June 26th. SYSTEMS MEETING

This is your opportunity to bring your system to the meeting and show off your favourite piece of software, don't forget to bring along your extension leads and adaptors as sockets are scarce in the club room. I would like to point out that we do not allow copying at the meetings in fact we do not encourage this disgusting practice at all unless you have personaly written software you wish to make available to other members of the group.

Please note my change of address should you wish to contact me.

Brian D.Disley,
198 Turks Road,
Radcliffe,
Manchester,
Tel ... 061-723-5033

6809 FORUM

Hello again, if you were able to get to the Christmas Meeting you may have heard most of this preamble before. I spoke of the way that I get this column from a tape or disk copy of a program on the colour computer into a word proccesor on Melvyn's Model I.

I still own a Model I and so I can produce disks for Melvyn to read, the problem is that if I type colour computer programs into the Model I they will not run there and if I make mistakes in my typing, and I always do, I can never be sure that I have found them all. I have no wish to publish listings that are full of errors.

80-Micro to the rescue. Many issues ago there was published in the magazine 80-Micro a program which enables the Model I to receive programs from the colour computer via an RS232 serial interface and to store them onto the Model I disk in ASCII format. This was just the thing I was looking for, I could now RUN my program on the colour computer until there were no typing errors (?) and then SAVE it to the Model I. It was a simple task then to convert it to and ELECTRIC PENCIL file (the BASIC program to PENCIL file conversion routine is published elswhere in this issue of REM 80) so that I could add my comments and then send the disk to Melvyn for him to format it for REM 80. I am also able to read a program from a colour computer tape or disk and send that to the Model I and that means less keying for me. The most important thing is that when you type the programs from this column, I (and you) know that they will work.

And now a first for Forum 6809!!! By the wonders of the electric telegraph and despite the efforts of British Telecom, but mainly because Brian Disley has lent me his modem (thanks Brian) this months column was sent half way around the world from Rossendale to Westhoughton via the telephone. (I have typed this now so I just hope it works!)

The program for this issue first appeared in HOT-CoCo which is the colour computer spin off from 80-Micro. The cost of a subcription is 25 dollars a year and the address is HOT CoCo, P.O. Box 975, Farmingdale, NY 11737. It is not as big as The Rainbow but it is only half the price.

The program draws a random maze. You may then trace your way through the maze and having done so press BREAK and run the program again for a different maze. When you get bored with that then change Line 390 to read 390 POKE 65494,0 : GOTO 420. Now run the program again. When the maze is complete, the progam will choose two cells at random, one at each side, and open them to the outside walls. A dot will enter the maze from the left and you must guide it across the maze and out through the opening in the wall at the right using the arrow keys. If the dot hits any wall of the maze it returns to the start and you must try all over again! To play again press BREAK and type RUN.

Have fun in the Maze - till next time,
Barry,

6809 FORUM

```
110 PMODE4,1:PCLS1:CLS:CLEAR3000:DIM A$(6):SCREEN 1,1:CP=1
120 U=0:POKE65495,0:LINE(5,5)-(176,176),PRESET,BF
130 X=1+RND(17)*10:Y=1+RND(17)*10:LINE(X-4,Y-4)-(X+4,Y+4),PSET,BF
150 E=1+RND(10)
160 B=RND(4)
170 IF PPOINT(X-10,Y)=5 AND PPOINT(X+10,Y)=5 AND PPOINT(X,Y+10)=5 AND
    PPOINT(X,Y-10)=5 THEN 330
180 IF B=1 AND PPOINT(X-10,Y)=5 OR B=2 AND PPOINT(X+10,Y)=5 OR B=3 AND
    PPOINT(X,Y-10)=5 OR B=4 AND PPOINT(X,Y+10)=5 THEN 160
190 U=U+1: IF B=1 THEN FOR S=X-4 TO X-14 STEP-1:LINE(S,Y-4)-(S,Y+4)
    ,PSET :NEXT S:X=X-10
200 IF B=2 THEN FOR S=X+4 TO X+14:LINE(S,Y-4)-(S,Y+4),PSET:NEXT
    S:X=X+10
210 IF B=3 THEN FOR S=Y-4 TO Y-14 STEP-1:LINE(X-4,S)-(X+4,S)
    ,PSET:NEXT:Y=Y-10
220 IF B=4 THEN FOR S=Y+4 TO Y+14: LINE(X-4,S)-(X+4,S),PSET:NEXT
    S:Y=Y+10
230 CP=CP+1:IF CP=289 THEN 390
240 GOSUB 270
250 IF U=E THEN U=0:GOTO 330
260 GOTO 160
270 X1$=STR$(X):Y1$=STR$(Y)
280 IF LEN(X1$)=3 THEN X$="0"+RIGHT$(X1$,2) ELSE X$=RIGHT$(X1$,3)
290 IF LEN(Y1$)=3 THEN Y$="0"+RIGHT$(Y1$,2) ELSE Y$=RIGHT$(Y1$,3)
300 Q$=X$+Y$
310 B=RND(7)-1:IF LEN(A$(B))>249 THEN 310
320 A$(B)=A$(B)+Q$+CHR$(32):RETURN
330 FOR N=0 TO 6:K=INSTR(A$(N),Q$)
340 IF K>0 THEN A$(N)=LEFT$(A$(N),K-1)+MID$(A$(N),K+7)
350 NEXT
360 J=RND(7)-1:IF A$(J)="" THEN 360
370 K=LEN(A$(J))/7:H=RND(K)*7+1:Q$=MID$(A$(J),H-7,6)
380 X=VAL(LEFT$(Q$,3)):Y=VAL(RIGHT$(Q$,3)):GOSUB 310:GOTO 150
390 POKE 65494,0:GOTO390
410 '*   GAME SEQUENCE    *
420 Y=RND(16)*10+7:LINE(0,Y-1)-(6,Y+9),PRESET,B
430 Y1=RND(16)*10+7:LINE(5,Y)-(7,Y+8),PSET,BF
440 Y=Y+4:Y2=Y:X=3:X1=X:B=4:LINE(175,Y1)-(177,Y1+8),PSET,BF:Y1=Y
450 Z$=INKEY$:PSET(X1,Y1,5):PSET(X,Y,0)
460 IF X>179 THEN POKE 65494,0: PLAY"1":GOTO 460
470 IF B=1 AND PPOINT(X,Y-1)=0 OR B=2 AND PPOINT(X,Y+1)=0 OR B=3 AND
    PPOINT(X-1,Y)=0 OR B=4 AND PPOINT(X+1,Y)=0 THEN 560
480 IF Z$=CHR$(94) THEN B=1 ELSE IF Z$=CHR$(10) THEN B=2 ELSE IF
    Z$=CHR$(8) THEN B=3 ELSE IF Z$=CHR$(9) THEN B=4
490 X1=X:Y1=Y
500 IF B=1 THEN GOSUB 520 ELSE IF B=2 THEN GOSUB 530 ELSE IF B=3 THEN
    GOSUB 540 ELSE GOSUB 550
510 GOTO 450
520 Y=Y-2:RETURN
530 Y=Y+2:RETURN
540 X=X-2:RETURN
550 X=X+2:RETURN
560 PSET(X,Y,5):B=4:Y=Y2:X=3:GOTO450:END
```

1984 COSTELLO SHIELD WINNERS ETC

In 1984 there were, I'm glad to say an abundance of good articles submitted to the Newsletter, although written by a minority of the members. I believe that this increased the quality of the Newsletters, note Volume 6, Issue 6 equalled 29 pages, and this has been subtantiated by several members comments.

The committee studied the articles submitted and the result was that the series of articles Peter Mooney wrote throughout the year was nominated to receive the Costello Shield for the best article of 1984. For the rest of the members who submitted articles last year, we thank you very much and naturally are asking you to continue to do so in 1985.

Unfortunately the submissions of programs for 1984's Newsletters was very low indeed, come back Ray Pilling all is forgiven. Now seriously, the committee members were disgusted at the quantity of programs submitted and noticed that most of the software submitted was not original.

It was in fact Hugh Wyn-Griffith who submitted the most original program and therefore was awarded the Costello Shield for the best program of 1984. Well done Hugh and thank you very much.

It is apparent that most members are not actually writing software but are using their computers for various tasks other than programming. Perhaps the members would like to inform the Newsletter of any unusual uses they use their micros for along with any tips to gain the best value for money in software, as if you are not writing any you must be buying it.

Another very sore point at present is that the group is still being controlled by an Acting Secretary as not one member is willing to take over the role of Secretary. Perhaps you should think about that one as it will definately be noticed this year that Melvyn cannot devote the time required to promote and run the group.

One last point I would like to add is that we recently received a letter from A.J.Harding (Molimerx) complaining that some articles within the newsletter mentioned software, of various sorts and that points had been noted that a supplier for certain programs was unkown. It is my opinion that should members write articles relating to suppliers, that they do their homework on where to get things.

If you are looking for good software for Tandy machines, the first name as a supplier that should come to mind is, MOLIMERX. As we all know A.J.Harding has been supporting Tandy machines since the very start and as far a we know, will go on doing so into the future.

Ok, who has purchased a good piece of software lately, how about a report on it, as good software is getting very hard to come by nowdays and when a piece is good we all want to hear about it.

Watch for the review on Hypercross in the next Newsletter.

BULLETIN BOARDS AROUND THE UK

Below you will find a list of the known Bulletin Boards in the UK and the known state of their operation. The list was compiled with the aid of MOBBS Manchester's current list. If any member has any information that changes the data listed below please let the Editor know so that we can keep all other members informed and up to date.

ACC . .(CLOSED)	0908-44262
PIP	0742-667983
BETTESFIELD.(Back online) . .	0948-875378
BIRMINGHAM - NORTH	0827-288810 (24 hr)
BLANDFORD BOARD.(Oz)	0258-54494 (24 hr)
CHILTERN	07073-28723
CITY BOARD.(back online) . . .	01-606-4194
COMPUTER ANSWERS.(Magazine) .	01-631-3076 (24 hr)
CUMBRIA CBBS *	069-92314 (300 & 1200/75 baud)
DISTEL	01-679-1888
(Test Port)	01-679-6183 (300 & 1200/75 baud)
ESTELLE	0279-443511 (300 Baud)
(V23 Prestel Type) . . .	441188
(V22 1200 Full Dup.). . .	441222
HULL - FORUM 80	0482-859169 (24 hr)
LIVERPOOL - MAILBOX 80	051-428-8924 (24 hr)
LONDON CBBS - MG-NET	01-399-2136
LONDON - TBBS	01-348-9400 (24 hr)
LONDON - TBBS METRO	01-341-7840 (24 hr)
MANCHESTER (O'Donnell)	061-427-1596
MOBB (TBBS Manchester)	061-736-8449 (24 hr)
MAPTEL	0702-552941 (24 hr)
MICRO-USER (MICROWEB)	061-456-4157
MILTON KEYNES - FORUM 80 . . .	(CLOSED)
NBBS	0692-630610 *(22:00-00:30)
NORTH-EAST CBBS	BACK ONLINE ???????
NOTTINGHAM TBBS	(CLOSED)
SOUTHAMPTON TBBS	(CLOSED)
SOUTHERN BB (Portsmouth) . .	0243-511077 *
SOUTH-WEST (new number). . .	?????????? (24 hr) (300 & 1200/75 BAUD)
STOKE ITEC REMOTE CP/M	0782-265078
SURREY CBBS	04862-25174
WABBS	0903-42013 *
WEMBLEY FORUM-80	01-902-2546
WEST MIDLANDS - MAILBOX 80 . .	0384-635336 (18:00-08:00)

* Ring Back System

M I C R O - W O R D . . . . S O L U T I O N

The solution to the much talked about crossword we published in Octobers Newsletter last year.

I was amazed at the response we had, people were falling over each other to make sure they didn't take any notice of what is published in the Newsletter.

If there is 'A member out there who actually completed or even tried to complete it, if so, please let Laurie know so that he doesn't feel all his work was in vain.

Your comments and or complaints on the subject of publishing crosswords should be directed to the Newsletter Editor as soon as possible as we are contemplating publishing another one to maintain the size of the Newsletter.

Alternately you could write a program or article we could publish instead. Think about it, the possibilty of 16 pages of crosswords!

ACROSS CLUES

1,Atmospherics. 8,Owing. 10,Applecart. 11,Nooses.
12,Carve up. 13,Esoteric. 15,Image. 17,Nicad.
19,Upsetter. 22,Garbage. 24,Dragon. 26,Telephone.
28,Until. 29,Second string.

DOWN CLUES

1,Acorns. 2,Segments. 3,Here. 4,Rep. 5,Clear.
6,Camera. 7,Stepper. 9,Icons. 12,Cocos. 14,Route.
15,Interrupt. 16,And Gate. 18,Circle. 20,Eight.
21,Analog. 23,Ample. 25,Read. 27,0,0,0.

Sadly, nobody has come with a solution to the puzzle, so it seems that you don't want any more. I'll have to try and sell my efforts to Personal Computer World. Or perhaps we should offer #1,000,000 prize!

(Signed) Frustrated Author.

SERIAL PRINTER THROUGH THE CASSETTE PORT

The program listing that follows was originally written for use with a specially designed interface to allow a serial printer to be driven from the cassette port of the Model I.

The actual hardware was nothing elaborate but just converted the serial output from a DIN socket to a V24 RS232 standard connecter. I don't have to hand the circuit diagram but there must be someone in the group who has, if so come forward for those who want to be unable to produce one.

There are some very interesting ideas in the listing that could be adapted for your own use in other pieces of software. I know there is at least one routine that I have used time and time again.

If any member is still using the original designed interface, perhaps they would come forward so that interested members may learn from it.

A thought on the actual use of the driver routine is of course to use the cassette port on the Model I as a communication port, saving the cost of having to buy a full fledge Tandy 232 board at £50.00 upwards, or even the need for an expansion interface before you get into comms.

Now there's a thought, getting into comms without that extra cost. Anybody out there ready to adapt the listing to convert a 16K Level II to a dumb terminal??

```
1  'BASIC PROGRAM FOR INITIALIZING TRS232 PRINTER INTERFACE
10  CLS
15  PRINT"MEMORY SIZES ARE :"
16  PRINT
20  PRINT" 4K - 20360"
30  PRINT" 16K - 32650"
40  PRINT" 32K - 49030"
50  PRINT" 48K - 65420"
60  PRINT
70  PRINT"BAUD RATES ARE  110   450   2400"
80  PRINT"          150   600   4800"
90  PRINT"          300   1200   9600"
100 PRINT"PENCIL BAUD RATES (BX)"
110 PRINT"          110 (B1)  150 (B2)  300 (B3)"
120 PRINT"          450 (B4)  600 (B5) 1200 (B6)"
1020 '
1040 '
1060 'SET MEMORY SIZE (LEAVE AT LEAST 110 BYTES)
1080 POKE 16553,255 :INPUT "ENTER MEMORY SIZE";MS :MS=MS+1
1100 HB=INT(MS/256):LB=MS-256*HB
1120 POKE 16422,LB: POKE 16423,HB
1140 IF MS>32767 THEN MS=MS-65536
1160 '
1170 '
```

SERIAL PRINTER THROUGH THE CASSETTE PORT

```
1180 'POKE PROGRAM INTO MEMORY
1200 FOR I=0 TO 105 :READ D
1220 POKE MS+I,D :NEXT
1230 '
1240 '
1260 'SET BAUD RATE
1280 INPUT "BAUD RATE";B :BR=1
1290 IF B=110 THEN 1500
1300 IF B=150 OR B=300 OR B=450 OR B=600 THEN 1380
1320 IF B=1200 OR B=2400 OR B=4800 OR B=9600 THEN 1440
1340 PRINT "INVALID SELECTION" :PRINT :GOTO 1280
1380 BR=BR+1 :B=B-150 :IF B<>0 THEN 1380
1420 GOTO 1500
1440 BR=BR+1 :B=B/2 :IF B<>600 THEN 1440
1480 BR=BR+4
1500 FOR I=1 TO BR :READ D :NEXT
1540 DH=INT(D/256) :DL=D-256*DH
1560 '
1570 '
1580 'POKE BAUD RATE CODE
1600 POKE MS+24,DL :POKE MS+25,DH
1620 POKE MS+66,DL :POKE MS+67,DH
1640 POKE MS+76,DL :POKE MS+77,DH
1660 '
1670 '
1680 INPUT "ADD LF AFTER CR (Y/N)";Q$
1700 IF Q$="Y" THEN 1800
1720 IF Q$<>"N" THEN 1680
1740 FOR I=1 TO 4 :POKE MS+48+I,0 :NEXT
1780 '
1790 '
1800 INPUT "NUMBER OF NULLS (0-127)";N
1820 IF N<0 OR N>127 THEN 1800
1840 POKE MS+42,INT(N+1) :END
1880 '
1890 '
1900 'MACHINE LANGUAGE PRINT PROGRAM
1920 DATA 243,121,254,13,40,3,254,32,216,245,229,197,6,9,55
1940 DATA 245,245,33,1,252,205,33,2,33,222,0,43,124,181,32
1960 DATA 251,241,31,245,48,19,33,0,252,24,19,14,2,175,13,40
1980 DATA 2,24,219,62,10,24,215,24,47,198,0,33,1,252,205,33
2000 DATA 2,0,0,33,222,0,43,124,181,32,251,16,212,17,222,0
2020 DATA 203,74,40,11,33,0,252,205,33,2,27,122,179,32,251
2040 DATA 241,241,254,13,40,198,183,40,197,193,225,241,201
2060 '
2070 '
2080 'BAUD RATE TABLE
2100 DATA 615,450,222,146,108,51,23,8,1
2120 'END OF PROGRAM
```

NOTES ON SUPPLYING ATICLES AND PROGRAMS FOR THE NEWSLETTER

I have been requested to formulate a few suggestions as to how members can format and supply articles and programs for the Newsletter. To this end I have aquired some additonal hardware and software that allows me to read the vast majority of disks produced by Tandy machines.

The facility for me to be enabled to read assorted disk formats and operating systems should encourage members to send in articles for inclusion into the Newsletter and programs to contest the Costello Shield Trophies.

MODEL I

If you have a Model I, life is very easy for me, as I can read all Model I formatted disks and operating systems. Files containing articles can be produced in staight ASCII text, Scripsit, SuperScripsit, Electric Pencil, Lazy Writer, Copyart, AJEDIT or any Model I word processing piece of software that I know of.

MODEL III

Model III files don't cause much of a problem either as I can read and write Model III disks on my Model I. So, all the formats mentioned above can simply be copied across onto a Model I disk and delt with in the normal way. If you are using Model III CPM then I can still read and transfer text files across onto the Model I.

MODEL IV

Recently I have gained the facility to read Model IV disks without much problem so this should not be a barrier. Although I would like to add that some Model IV versions of certain word processor files, such as SuperScripsit, are not accessable by Model I versions of the program. I therefore request that any Model IV disks you send in should contain the files for the Newsletter in pure ASCII. Text files on Model IV CPM can also be copied across to my Model I disks.

COLOUR COMPUTER

This one causes a problem. If you supply articles or programs on cassette they MUST have been saved with the ASCII option so that I can just nip round to Lauries and use his dragon to access and print out the required data. The alternative is of course to print the listing or article yourself, ensuring that the printout is of good enough quality that we can photocopy it for the final proof copy.

DRAGON 32/64

Again this causes a bit of a problem although I can second Lauries Dragon to work on. However please bare in mind the above information on the Colour Computer.

ALL ABOVE or OTHERS ??

Alternately you can of course transmit, using a modem, the article or program directly to me or the Tandy Section of MOBBS. See elsewhere in this Newsletter for MOBBS telephone number. My telephone number is, for those of you who havn't got the best known ex-directory number in country, 0942-812843.

DON'T JUST SIT AND PLAY AT COMPUTERS
WRITE SOMETHING FOR YOU NEWSLETTER NOW !!!!

DOUBLE DENSITY DISKS ON THE MODEL I

By Bob Pick

Most machines launched since the Model I have had Double Density disks from the start, but double density controller chips were not available when the Model I expansion interface was designed. So anyone wanting to make a conversion kit, and support it with an operating system, has several decisions to make. One of these relates to the hardware, ond the others to the software.

The hardware decision to make is:

How are you to switch from one density to the other?

The software decisions are:

How many sectors are you to use, and how big should they be?

How are you to label the tracks and sectors?

What should be the basic unit of storage when extending a file?

In this first article I will deal with the hardware problem.

HOW DO YOU SWITCH DENSITY

The first thing to understand is that the disk interface uses a rather clever disk controller chip. In the Model I this is the Western Digital 1771 chip. But it is not so clever that it can handle double density. However its successors, the 1791 and 1793, (we can think of them here as being identical), were designed to handle both densities, and are very nearly pin compatible with the 1771. Unfortunately there is a snag. In writing data to a disk, each block is preceeded by a sync mark, so that when it is reading it back, the controller can correctly detect the start of the block. The 1771 can write, and detect, several different sync marks, but so few people used all of them that not all were included when the 1791 was designed. Guess which operating system used some of those left out! - TRS-DOS 2.3! Even if we could have used a 1791 on its own, the 1791 does not remember what density it is supposed to be using; it has to be told by a signal input to one of its pins; when pin 37 is held low, the chip reads and writes double densty, and it is held high for single density.

From the above, we can not just plug in a new chip which will do all we need. To maintain TRS-DOS compatibility we have to include a 1771, (our old one), and also provide a latch to switch from the 1771, for single density, to the 1791, which is used only for double density. Also, we have to include a phase-locked-loop circuit, a kind of electronic flywheel, which is necessary for reading double density, but which is not used in single density. So we need an additional circuit board to mount these extra chips on. It is not very big, so we can arrange for it to plug into the socket where the 1771 used to sit.

DOUBLE DENSITY DISKS ON THE MODEL I

Now comes the bit where the decision has to be made: how do we control the latch which switches density? In the Model III, density is controlled by Bit 7 of the Drive Select port. But if we want to avoid soldering some extra leads to the main circuit board, we have to use only such signals as can be passed to the extra chips via. the original socket for the 1771. From the design of the 1771 there are only 4 port addresses used to control it. These addresses are used as follows:

37EC - the Control/Status port,
37ED - the Track Register,
37EE - the Sector Register,
37EF - the Data Port.

Whichever address is chosen, a command code must be used which can never occur in normal operation. This rules out the Data Port, because all possible codes can occur in data. There are some spare combinations in the codes written to the Control Register, and since those used are defined by Western Digital, there is no fear of anyone wanting to change them. The Track Register and The Sector Register have the data written to them determined by the disk drives used. In practice, the numbers written to the Track Register are greater than those written to the Sector Register, and even if some very different disk were to become available, this difference is likely to prevail.

So, what have people actually chosen to do? The only answers I know are the following:

PERCOM use the Control Register,
AEROCOMP followed PERCOM and use the Control Register,
TANDY, who were last, had to be different and use the Sector Register.

In more detail, on both the PERCOM and the AEROCOMP, the following code, (or equivalent), will select single density:

```
LD  A,0FEH
LD  (37ECH),A
LD  A,0D0H
LD  (37ECH),A
```

and the following will select double density:

```
LD  A,0FFH
LD  (37ECH),A
LD  A,0D0H
LD  (37ECH),A
```

In each case the first write, the 0FEH or the 0FFH, makes the switch, but it seems that it causes something else to happen in the controller, because it seems always to be followed immediately by the Terminate Command code, 0D0H.

DOUBLE DENSITY DISKS ON THE MODEL I

If you have a TANDY kit the following code selects single density:

```
LD  A,0AOH
LD  (37EEH),A
```

and the following will select double density:

```
LD  A,80H
LD  (37EEH),A
```

Apart from these commands, there is no difference between operating systems intended for the different hardware. If you have a PERCOM kit, your system disk will not boot on a machine with a TANDY kit, but there should be no problem in reading your disks on a machine with a TANDY kit which has been booted with its own system disk, or vice versa.

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THE MODEL I ESCAPE KEY

FUNCTION KEY

By John Storey

There are times when it would be useful to have a function key, and the Model I cannot oblige in this respect.

Electric Pencil makes use of the right hand shift key as a 'control' key on some modifications, but some typists habitually use this key as a shift key, so this is not always suitable.

CLEAR is another contender, but this might interfere with the display.

The only other key that has no useful function is SHIFT-ZERO.

The following simple routine demonstrates how it can be employed in a Basic program.

```
10 CLS : PRINT"PRESS A FEW KEYS, THEN PRESS <SHIFT-ZERO>"
20 A$=INKEY$ : IFA$=""THEN 20
30 PRINT A$,ASC(A$),PEEK(14352)
40 IF ASC(A$)=32 AND PEEK(14352) THEN 60
50 GOTO 20
60 CMD"DIR" 'REM ** OR ANY OTHER FUNCTION REQUIRED **
70 FOR N = 1 TO 1000 : NEXT : GOTO 10
```

oooOOOoooOOOooo FOR SALE oooOOOoooOOOooo

48K Video Genie II, Double disk drive with internal interface(DMP2000)
Sanyo Green screen monitor, Shinwa CP80 printer.
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********** WANTED **********

Does anyone know of a supplier for Double Density Controllers for the Model I. We recently have been asked for names of suppliers of peripheral equipment for Model I's, Dragon's and Video Genie's, does anyone know of or has delt with any company that can supply anything in this line such as an alternative to the DMP1000 disk drive interface unit that was originally manufatured by Gnomic.

Please if you have any info inform Melvyn who is in touch with most of the members who are asking for add-ons.

BASIC FINDS ADDITIONAL SCOPE

The following program has been knocking around for a while waiting to be published. I believe it originates from the U.S.A. but I can't be sure as there are no markings or rems to indicate it's origin.

Within the program there are few ideas that may help you accessing the cassette port and reacting to sound input via your cassette deck. I actually compiled the program with several compilers, such as BASCOM, ZBASIC, ACCEL3 and ACCEL4 and it becomes quite acceptable. Although the only compiler that gave a massive speed up was in fact ZBASIC which may indicate which compiler to go for. BASCOM and both the ACCEL's hardly speeded it up at all. Any way have go with it in Basic and then if you have a compiler try speeding it up a little. We would love to hear from any member that has increased it's speed, by whatever means, let us know.

```
10 GOTO180
20 CLS:Y=24:A=-1
30 FORX=0TO127
40 IFINP(255)=255THENY=Y+AELSEGOSUB150
50 OUT255,0
60 IFY<0THENY=0
70 IFY>47THENY=47
80 SET(X,Y)
90 IFPEEK(14400)=4THENEND
100 IFPEEK(14400)=2THENGOTO10
110 IFQ>1THENFORW=1TOQ:NEXTW
120 NEXTX
130 IFPEEK(14400)=64THENGOTO130
140 CLS:GOTO30
150 IFY>24THENY=Y-1:A=-1
160 IFY<24THENY=Y+1:A=1
170 RETURN
180 CLS
190 PRINT"              OSCILLOSCOPE"
200 PRINT"              ";:FORX=1TO12:PRINTCHR$(131);:NEXTX
210 PRINT:PRINT"THIS PROGRAM PRINTS YOUR VOICE PATTERN WHILE YOU SPEAK."
220 PRINT"TO FREEZE THE DISPLAY PRESS <";CHR$(94);">"
230 PRINT"TO RETURN TO INSTRUCTIONS PRESS <CLEAR>"
240 PRINT"TO END PRESS <BREAK>"
250 Q=0:PRINT"ENTER SPEED (1-255) ";CHR$(14);
260 INPUTQ
270 IFQ<1THENGOTO250
280 IFQ>255THENGOTO250
290 PRINT"WHICH DISPLAY (1,2,3,4) ";
300 INPUTV
310 IFV<1THEN290
320 IFV>4THEN290
330 PRINTCHR$(15)
340 ONVGOTO20,350,560,690
350 CLS:Y=24:A=-1
360 FORX=0TO127
```

BASIC FINDS ADDITIONAL SCOPE

```
370 IFINP(255)=255THENY=Y+AELSEGOSUB480
380 OUT255,0
390 IFY<0THENY=0
400 IFY>47THENY=47
410 SET(X,Y)
420 IFPEEK(14400)=4THENEND
430 IFPEEK(14400)=2THENGOTO10
440 IFQ>1THENFORW=1TOQ:NEXTW
450 NEXTX
460 IFPEEK(14400)=64THENGOTO460
470 CLS:GOTO360
480 IFY>24THENY=Y-1
490 IFY<24THENY=Y+1
500 IFY<>24THENO=0:RETURN
510 IFO=1THENRETURN
520 O=1
530 IFA=1THENA=-1:RETURN
540 IFA=-1 THENA=1
550 RETURN
560 CLS:Y=47
570 FORX=0TO127
580 IFINP(255)=255THENY=Y-1ELSEY=Y+1
590 OUT255,0
600 IFY<0THENY=0
610 IFY>47THENY=47
620 SET(X,Y)
630 IFQ>1THENFORW=1TOQ:NEXTW
640 IFPEEK(14400)=2THEN10
650 IFPEEK(14400)=4THENEND
660 NEXTX
670 IFPEEK(14400)=64THEN670
680 CLS:GOTO570
690 CLS
700 PRINT"             V.U. LEVEL METER"
710 PRINT"             ----------------"
720 PRINT:PRINT:PRINT:PRINT:PRINT" 0  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
    17 18 19 20"
730 X=64
740 FORW=0TO127:SET(W,21):SET(W,25):NEXTW:FORN=22TO24:SET(0,N):SET(127,N):
    NEXTN
750 IFINP(255)=255THENX=X+1ELSEX=X-1
760 OUT255,0
770 IFPEEK(14400)=4THENSTOP
780 IFPEEK(14400)=2THENGOTO10
790 IFX>126THENX=126
800 IFX<1THENX=1
810 FORP=1TO2
820 FORZ=22TO24
830 IFP=1THENSET(X,Z)ELSERESET(X,Z)
840 NEXTZ
850 FORW=1TOQ:NEXTW
860 NEXTP
870 GOTO750
```

WOTSIT WOTSIT WOTSIT WOTSIT WOTSIT

QUESTION :-

WOTSIT take to get that famous piece of software STERM/CMD to transmit at 75 Baud and receive at 1200 Baud, (Prestel Standard)?

ANSWER :-

I have a patch to enable you to have a split baud rate (1200/75) when using STERM to access for instance the Manchester Bulletin Board, which runs at two speeds, 300/300 and 1200/75. This is of course ideal for downloading at a greatly increased rate, cutting your logon time very significantly. Care should be taken to remember though, that uploading would be very slow at 75 Baud, and it would perhaps be quicker to put a disk in the post.

All that is required is for you to change the relative file sector 0, byte 4, from 55 to 17. Yes just one byte and it works, because I tested it. Remember though that STERM in this mode is not very good for Prestel as you can't filter out those wonderful graphic producing control codes that Prestel in their wisdom pump out, which without the correct software will most certainly screw up your VDU display.

Anyone who knows of, or has any information that would in fact allow a Model I to use Prestel with reasonable ease and success, please let us know. Model III owners note their is a nice piece of software that will do this for you already, called NET811. I believe it originated from Prism but I can't be sure.

QUESTION :-

I have heard, through the grapvine that the Tandy Model I cannot address more than three double sided disk drives. Is this true and if so why?

ANSWER :-

You have heard correct, you cannot address more than three double sided drives on a Model I or a Model III. This is caused by the way that the disk controller chip addresses the back sides of the drives. There is a need to select the side of the drive when using double sided disks, to do this the Tandy's use the fourth drive select line as a side select. Therefore when using three double sided drives the fourth drive select line is used to address the back of the disks and cannot be used twice. Mind you if you have three double sided drives, especially if there 80 track, I would have thought that you would have enough disk space to enable the power of the Tandy to get it to take off.



Software News

INNOVATIVE
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from the professionals



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Info-Scan is an information reference and retrieval utility. It combines the features of a data base manager, a word processor and display utility.
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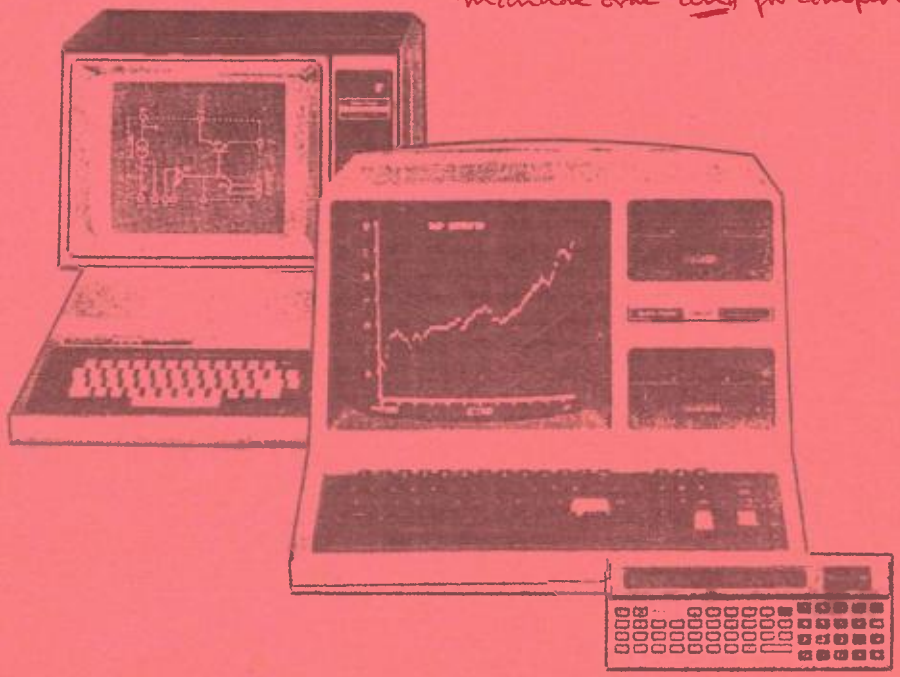
Excelsior Press Ltd., 1 Market Street, Westhoughton.

Decimal & Hex conversion prog.
PEEK(14400) = 0 if BREAK, CLEAR etc not pressed, ENTER, SPACEBAR

Rec'd May '85

REM 80

RING BACK system on communications (can use phone manual and for computer.



The North West TRS 80 Users Group

Volume 7 Issue 2

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E D I T O R I A L

Here we go again, another Newsletter another Month. As you will note from the contents, there are not as many articles as we would like, althought I hasten to add the ones we are getting are of very high quality nowdays. Anyway I am fed up with moaning every Newsletter so I won't go on.

There are a couple of points that have recently been rumoured that I thought members may be interested in. The first is that there doesn't seem to be anyone in Tandy working this side of the pennines that can talk about micros let alone sell you one. Have ACT tied them all up. The second is the fact that Tandy have recently sent out a flier advertising a sell off of all their old software, very cheap. This one I know has some truth about it, as I know of a member who has bought some.

One last thought, are there any members that are interested in micros and music, I have been contacted by someone who has made a Sirius talk and synthesize music. He's looking for someone that can assist him with developing a circuit board that will enhance his software. Can anyone help.

Don't forget, keep those articles coming for the June Newsletter as I will be on holiday for the June meeting and the newsletter will have to got to the printers early.

Carolyn

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Any articles or programs for inclusion in this Newsletter must be addressed directly to the Editor, preferably on cassette, disk or uploaded, (normal communication protocols are acceptable), at the following address :-

40, COWLEES,
WESTHOUGHTON,
BOLTON,
BL5 3EG
Tel ... 0942-812843

****
** ACTIVITIES PAGE **
** By Brian Disley **
****

Future meetings at Barton Aero Club are as follows:-

May 29th. GRAND AUCTION

I would like to take this oportunity to remind members to sort out your lofts, garages, computer rooms and radio shacks (sorry about that!) but don't throw out what you might regard as junk, someone out there might be just looking for it, just bring along your electronic bits and bats, old computers and peripherals.

That means almost anything you can associate with computers, as we have certain members who connect all sorts of things to them with amazing results!, you may be suprised at the cash return you receive for your "junk" and this will enable you to purchase some different junk .... er ... I mean items for your collection.

I am sure you will find some real bargains this time as quite a few members did last year.

The group will be making a 5% token charge to help boost club funds (you will get it back one way or another). So dont forget bring along your goodies early please and dont forget to fill your wallet with those silly bits of paper from under the matress or bring your cheque books.

June 26th. SYSTEMS MEETING

This is your oportunity to bring your system to the meeting and show off your favourite piece of software, don't forget to bring along your extension leads and adaptors as sockets are scarce in the club room.

I would like to point out that we do not allow copying at the meetings in fact we do not encourage this disgusting practice at all unless you have personaly written software you wish to make available to other members of the group.

I hope you all made a note of my new address as published in the last issue of REM 80. Well for those of you who have my business telephone number then that has also changed to 061-724-5402 if you didn't have my old number then please disregard the last sentence as I do not encourage you to use it unless you feel it is really necessary, and if that dosn't fool the tax man then I will probably change my name by deed poll and let you know in the next issue!.

One last point, your ideas and assistance to arrange activities for the monthly meetings are as always welcome. So please ring me if you are able to assist in making these meetings a success.

LATEST UPDATE ON MANCHESTER BBS

Downloaded from the BBS itself.

The following atricle was the lastest bulletin taken from the Manchester Bulletin Board of which The North West TRS-80 User Group is partially involved.

Well, there has been quite a lot happening, wot with the usual start of year hustle! This partially explains why the registrations have been coming through so slowly !

MOBB has been on the air for over four months now, and so I have taken the opportunity to step back and look, there has been a bit of a spring clean, and some new features added.

I've also been looking at message board useage, and may kill off some of the more neglected Special interest groups (e.g. Hardware, languages, help etc.), unless you feel differently! For those of you who have not already found them: there is a MUD (thats Multi-User Dungeon) Board in the Messaging menu, also a whole new feature, called the 'Journal' with articles and information, also a new feature, the gossip column, which is run by a certain 'Guy Klueless', and promises to contain many 'Scurrilous Musings'. There is also a new 'Personal' column, designed to be a sort of 'lonely heart/agony/????' all rolled into one, this section is in the capable hands of a young lady by the name of 'Mandy -', who has had to Migrate from The Birmingham Board due to Buzby's latest bill!

If you particularly want to find out who/where/what else is using this system, there is a Userlog search utility added in the Utilities Menu. Finally, I have added a method of reading the messages on the 'combined boards' one board at a time, for those who feel they need it.

The eagle eyes amongst you will have already noticed that the <C>hat feature has dissapeared - this is due to me needing time to get some work done, and also a small number of people abusing the facility, and thus making a nuisance of themselves (especially those who use it in the wee hours!), it may reappear at a later date.

Finally: you will be pleased to know that the hardware problems I have been having seem to have responded well to treatment, so MOBB should be less flakey, and online more!

So .... HAVE FUN !

Ken (SYSOP)

DEC & HEX conversion

THE CAMPAIGN FOR REAL ARTICLES
(or CAMRA for short)

Dave Sellwoods' attempt to get you writng more for your Newsletter.

Several shorties and little utilities are my offering for the month, starting with this little program to find the filename of a system tape, I don't know about you, but I have a knack of forgeting them :-

```
10 REM Display a SYSTEM cassette name
20 CLS : INPUT#-1,A$
30 REM Extract name
40 B$=MID$(A$,2,LEN(A$)-3)
50 PRINT"Filename is :- ";B$
```

Line 40 strips off the "U" form the start of the name and the "<" and CHR$(128) off the back end, short, but sweet and effective don't you think. As a matter of interest did you know that the SYSTEM command only checks as many characters as you type in (up to the limit of 6 of course) ? That means if you have a program called "SARGON", just typing "S" after the prompt will load it. Do you remember that spait of decimal to hexadecimal programs we had ? well I challenge anyone to write a shorter, simpler program than this one :-

' DEC TO HEX CONVERSION.

```
10 INPUT"Enter a positive integer decimal number";A : A$=""
20 B=INT(A/16) : C=A-16*B : IF C>9 THEN C=C+7
30 A$=CHR$(C+48)+A$ : IF B>0 THEN A=B : GOTO 20
40 PRINTA$ : END
```

It really is DEAD simple despite it looking a bit strange, line 20 gets the remainder in variable "C" as the inputed number is divided by 16, the rest of the number that is divisible by 16 is stored in "B". The IF C>9 THEN C=C+7 gets you past ::<=>@ in the ASCII character set if the number is 10 or larger to give A,B etc, then line 30 adds it on the end of the string so far and then checks to see if the number has been fully processed and line 40 gives the answer. As far as I can see this program will work on any size positive integer number and it is VERY fast.

Have you ever wanted to "white out" the screen of your wee beastie only to find that even by poking all the screen locations with 191 it takes even longer than it takes MacDonalds to make a cheeseburger? Well this little routine could be the answer for you, designed to run on a 16k machine it will white out the screen just about instantly and when used with CLS in a loop it produces a very neat effect :-

```
10 FOR N=16512 TO 16523
20 READ A : POKE N,A : NEXT N
30 DATA 33,0,48,1,0,60,1,0,4,237,176,201
40 POKE 16526,128 : POKE 16527,64
50 REM ** Call using :- X=USR(0)
```

THE CAMPAIGN FOR REAL ARTICLES

Not much to say on that except that it uses memory reserved for DOS use so no need to set Memory Size or things like that, but this does nicely lead me into one of the two games I have for you, TIDDLYWINKS or how to find a use for a subroutine that plots parabolas :-

```
10 CLS : RANDOM : PRINT@470,"Tiddlywinks" :
   PRINT@904,"Just set the length and try to fill the hole"
20 FOR A=0 TO 800 : NEXT
30 G=0 : P=RND(110)+10
40 CLS : PRINT@960,"0"; : SET(1,42)
50 FOR X=1 TO 127 : SET(X,43) : NEXT X : X=127
60 PRINT@1020,"100"; : FOR Y=42 TO 7 STEP-1
70 SET(X,Y) : NEXT Y : RESET(P,43) : RESET(P+1,43)
80 PRINT@0,"Set length"; : INPUT L : IF L<0 THEN 80
90 GOSUB 1000 : Z=Z-L/19 : IF INT(Z)=P OR INT(Z)=P+1 THEN 130
100 G=G+1 : PRINT@10,"   "; : IF G<3 THEN 80
110 PRINT@0,"Why don't you give up? You're hopeless!"
120 FOR A=0 TO 1000 : NEXT A : GOTO 30
130 SET(Z,Y+1) : PRINT@0,"Well done ! You got it in";G+1;"." : GOTO 120
1000 X=-6 : Z=X+7
1010 Y=X*X+6 : IFZ>=127 THEN 1030
1020 SET(Z,Y) : Z=Z+L/19 : X=X+.5 : IF X<>6.5 THEN 1010 ELSE RETURN
1030 PRINT@0,"Overshot a bit didn't we !!?!"; : GOTO 120
```

The routine for plotting parabolas is at line 1000-1020, when running the program all you have to do is input a number form 1 to 100 and the rest you should be able to get just by looking at the program.

The next little program might be successfully used with John Storeys' article on the usefulness of having a function key to give a sort of BASIC equivalent to the Newdos 80 JKL screen dump commmand :-

```
10 A$="." : K=VARPTR(A$) : POKE K,64 : POKE K+1,0 : POKE K+2,60
20 FOR J=1 TO 16 : LPRINT A$
30 IF PEEK(K+1)<192 THEN POKE K+1,PEEK(K+1)+64 ELSE POKE K+1,0
   : POKE K+2,PEEK(K+2)+1
40 NEXT J
```

If this program were used in place of line 60 in Johns article (see REM 80 Volume 7 issue 1 page 14) it would give screen dumps a the touch of a key, it works like this: line 10 sets up a dummy string and the variable "K" is used as the pointer to it and its length, it is first extended to 64 bytes (POKE K,64) and set to reside at the start of screen memory. The loop starting at line 20 just increments the start location by 1 line of video R.A.M. (64 bytes) until all 16 lines have been output to the printer, the only drawback with the program as it stands is that any strange character you may have poked onto the screen will also be output as part of the screen-dump and this may upset your printer, but for most applications this should not be a problem.

THE CAMPAIGN FOR REAL ARTICLES

I feel a one line wonder coming on .....

```
10 CLS : FOR J=1 TO 5 : N=RND(70)+5 : G=N+121 : FOR A=16383 TO 15360
   STEP -N : POKE A,G : NEXT A : FOR B=16383 TO 15423 STEP -N : POKE B,G
   : NEXT B : NEXT J : GOTO 10
```

Nothing to say about this except TYPE IT IN AND RUN and then when you're bored with it why not have a game of "Breakout", this is really quite fast for an arcade style game written in BASIC and I hope you like it, the way the program sets up the opening screen might be useful in your own little creations :-

```
10 RANDOM : CLEAR 200:DEFINT A-Z: SC=0 : SL=1 : NM=4 : GOTO 230
20 CLS : B$=CHR$(191) : S$=STRING$(63,149)
30 PRINT@10,STRING$(NM,136),"Score ";SC; : PRINT@33,"High Score ";HS;
40 PRINT@64,S$
50 FOR R1=2 TO 14 : FOR RH=0 TO BL : PRINT@R1*64+RH+D+30,B$; : D=1-D :
   PRINT@R1*64+RH+52,B$; : NEXT RH,R1 : PRINT@960,S$;
60 A=0 : X=24 : Y=8 : H=-1 : V=0 : K=15360 : B=K+512 : BA=140 : BT=170 :
   SP$=" " : POKE B,BT : BH=K+833 : BS=K+191 : FOR W=0 TO 1000 : NEXT W :
   GOTO 160
70 G=PEEK(14400) : IF G=0 THEN 100
80 IF G=16 THEN IF B<BH THEN POKE B,32 : B=B+64 : POKE B,BT : GOTO 100
90 IF G=8 THEN IF B>BS THEN POKE B,32 : B=B-64 : POKE B,BT
100 IF X=1 THEN 150 ELSE IF X>60 THEN 190
110 SP=X+H+(Y+V)*64+K : A=PEEK(SP)
120 IF A=32 THEN POKE X+Y*64+K,32 : X=X+H : Y=Y+V : POKE SP,140 : GOTO 70
130 IF A=149 THEN POKE X+Y*64+K,32 : V=-V : Y=Y+V : GOTO 70
140 IF A=191 THEN POKE SP,32 : H=-H : SC=SC+SL*10 : PRINT@22,SC; : IF
    SC<HS THEN 160 ELSE HS=SC : PRINT@43,HS; : GOTO 160
150 Z=PEEK(K+Y*64) : POKE K+Y*64+1,32 : X=2 : IF Z=170 THEN H=1 ELSE 170
160 V=RND(3)-2 : POKE X+Y*64,32 : GOTO 70
170 POKE B,32 : NM=NM-1 : IF NM<1 THEN 180 ELSE PRINT@10,"   "; :
    PRINT@10,STRING$(NM,136); : FOR DD=0 TO 1000 : NEXT DD : GOTO 60
180 CLS : SC=0 : NM=4 : FL=0 : SL=1 : PRINT : INPUT" Do you want to play
    again ";Q$ : IF Q$="Y" THEN 230 ELSE END
190 CLS : FOR G=0 TO 4 : PRINT@524,CHR$(23)" BREAKOUT !! " : FOR DD=0 TO
    200 :NEXT DD:PRINT@524,STRING$(20,32); : FOR DD=0 TO 200 : NEXT DD,G
200 CLS : IF SL>6 THEN 250 ELSE SL=SL+1
210 PRINT : PRINT : BP=BL*50 : SC=SC+BP : PRINT : PRINTCHR$(23) :
    PRINT,STRING$(BL,175);" X 50 "
220 PRINT : PRINTCHR$(204);"Bonus points awarded " : PRINT :
    PRINT,CHR$(191);"-";SL*10 : FOR TT=0 TO 1000 : NEXT TT : GOTO 250
230 CLS : PRINT@151,"* * Breakout * *" : PRINT@265,"Use UP arrow and DOWN
    arrow to control bat" : PRINT@406,"Hit <ENTER> to play"
240 IF INKEY$<>CHR$(13) THEN 240
250 IF SC>1000 THEN IF FL=0 THEN NM=NM+1
260 BL=2*SL : GOTO 20
```

PEEK (14400) 1 = Enter
128 - Space Bar

THE CAMPAIGN FOR REAL ARTICLES

Take a look at line 70 and you will again see PEEK(14400) this location tells you whether any of the following keys has been pressed, 1=ENTER, 2=CLEAR, 4=BREAK, 8=Up arrow, 16=Down arrow, 32=Left arrow, 64=Right arrow and 128=Space bar. Lines 80 and 90 look to see if the either the up or down arrow has been pressed, in this situation it executes far faster than INKEY$. NM in line 10 is the number of goes you have, if you want more change this variable. The PRINT CHR$(204) in line 220 is a space compression code, remember them, I don't think I have ever seen one used before.

And to help this bumper program issue on its way, I thought as a way to get you into doing more of Lauries' crosswords you could start off doing a couple of nice, simple wordsquares and here's a program to create them for you :-

```
10 RANDOM : CLEAR 1000 : CLS : PRINT"Word-Square for the TRS-80"
20 PRINT : INPUT"How many words do you want in your puzzle";NW
30 DIM WO$(NW) : LO=0 : FOR X=1 TO NW
40 PRINT"Please enter word no.";X : INPUT WO$(X) : IF WO$(X)="" THEN 40
50 IF LEN(WO$(X))>LO THEN LO=LEN(WO$(X))
60 NEXT X : LE=LO+NW : IF LE<10 THEN LE=10 ELSE IF LE>26 THEN LE=26
70 DIM WS$(LE,LE),W1$(NW) : PO=LO : P1=1
80 FOR X=1 TO NW : IF LEN(WO$(X))=PO THEN W1$(P1)=WO$(X) : P1=P1+1
90 NEXT X : IF P1>NW THEN P2=1 : GOTO 100 ELSE PO=PO-1 : GOTO 80
100 CO=LE*LE : CO=CO*8
110 C1=1
120 XP=RND(LE) : YP=RND(LE)
130 XD=RND(3)-2 : YD=RND(3)-2
140 IF XD=0 AND YD=0 THEN 130
150 CH=XP+XD*LEN(W1$(P2)) : IF CH>LE OR CH<1 THEN 280
160 CH=YP+YD*LEN(W1$(P2)) : IF CH>LE OR CH<1 THEN 280
170 CH=0 : TX=XP : TY=YP : FOR X=1 TO LEN(W1$(P2))
180 IF CH=1 THEN 220
190 IF WS$(TX,TY)=MID$(W1$(P2),X,1) OR WS$(TX,TY)="" THEN 210
200 CH=1
210 TX=TX+XD : TY=TY+YD
220 NEXT X : IF CH=1 THEN 280
230 FOR X=1 TO LEN(W1$(P2))
240 WS$(XP,YP)=MID$(W1$(P2),X,1) : YP=YP+YD : XP=XP+XD : NEXT X
250 PRINT"Done ";W1$(P2)
260 P2=P2+1 : IF P2>NW THEN 430
270 GOTO 110
280 C1=C1+1 : IF C1>CO THEN 300
290 GOTO 120
300 CH=0 : FOR XP=1 TO LE : FOR YP=1 TO LE
310 FOR XD=1 TO 3 : FOR YD=1 TO 3 : IF CH=1 THEN 400
320 IF XD=0 AND YD=0 THEN 400
330 IF XP+XD*LEN(W1$(P2))>LE OR XP+XD*LEN(W1$(P2))<1 THEN 400
340 IF YP+YD*LEN(W1$(P2))>LE OR YP+YD*LEN(W1$(P2))<1 THEN 400
350 TX=XP : TY=YP : TS=0 : FOR X=1 TO LEN(W1$(P2)) : IF TS=1 THEN 380
360 IF W$(TX,TY)=MID$(W1$(P2),X,1) OR W$(TX,TY)="" THEN 380
370 TS=1
```

THE CAMPAIGN FOR REAL ARTICLES

```
380 TX=TX+XD : TY=TY+YD : NEXT X : IF TS=1 THEN 400
390 CH=1 : PX=XP : PY=YP : DX=XD : DY=YD
400 NEXT YD,XD,YP,XP
410 IF CH=1 THEN XP=PX : YP=PY : XD=DX : YD=DY : GOTO 230
420 PRINT"Insufficient room to include ";W1$(P2) : GOTO 260
430 INPUT"Type in the title for this puzzle";TI$
440 LPRINT TAB(INT((80-LEN(TI$))/2));TI$
450 LPRINT TAB(INT((80-(LEN(TI$)+2))/2)); STRING$(LEN(TI$)+2,"-")
460 LPRINT:LPRINT:LPRINT
470 FOR X=1 TO LE : LPRINT TAB(INT((80-3*LE)/2));""; : FOR Y=1 TO LE
480 IF WS$(X,Y)<>"" THEN LPRINT" ";WS$(X,Y);" "; : GOTO 500
490 LPRINT" ";CHR$(RND(26)+64);" ";
500 NEXT Y : LPRINT : LPRINT : NEXT X
510 LPRINT : LPRINT : LPRINTTAB(35)"The Words" : LPRINT
520 FOR X=1 TO NW : LPRINT WO$(X), : NEXT
```

It is important for those of you with upper and lower case that you use only upper case when inputting the words that you want the program to use, otherwise it is really obvious where they are !!!

Well happy typing with this little lot, I think there is a fair amount to go at here and if you have any ideas for little routines you think may be of use to others why not get in touch with Mel ?! Any road up here is a fairly silly little program from a cassette in my collection labeled May to August 1980 !:-

```
10 DEFINT A,J,H,M,R,S : DR=3.14159/180 : FY=2.42
20 CLS : R=50 : FOR A=0 TO 354 STEP 6 : GOSUB 340 : NEXT A
30 R=51 : FOR A=0 TO 330 STEP 30 : GOSUB 340 : NEXT A
40 PRINT@51,"H  M  S"; : PRINT@95,"12"; : PRINT@501,"3";
50 PRINT@864,"6"; : PRINT@456,"9"; : PRINT@480,"*";
60 PRINT@173,"1"; : PRINT@308,"2"; : PRINT@692,"4";
70 PRINT@813,"5"; : PRINT@787,"7"; : PRINT@652,"8";
80 PRINT@268,"10"; : PRINT@146,"11";
90 PRINT@896,"Enter hour"; : INPUT HT : HD=HT*30
100 PRINT@896,"Enter next min"; : INPUT MT : MD=MT*6
110 IF MD>=180 THEN A=HD+15 ELSE A=HD
120 ST=15 : FOR R=10 TO 22 STEP 2 : GOSUB 330 : NEXT R
130 A=MD : ST=6 : FOR R=24 TO 38 STEP 2 : GOSUB 330 : NEXT R
140 IF AX=1 THEN 190
150 PRINT@896,"Hit <ENTER> to start"; : INPUT X
160 PRINT@896,"Hit <S> to advance 1 sec.";
170 PRINT@960,"Hit <F> to retard 1 sec.";
180 AX=1
190 ST=6 : R=40 : FOR A=0 TO 354 STEP 6 : GOSUB 330
200 PRINT@114,HD/30;MD/6;A/6;" ";
210 REM ** THE VALUE OF "A" CONTROLS THE ACCURACY
220 IF A=354 AND ABS(MD-270)=90 THEN 280
230 IF A=354 THEN FOR J=1 TO 20 : NEXT J : GOTO 280
240 FOR J=1 TO 59 : Q$=INKEY$ : IF Q$="" THEN 270
250 IF Q$="S" THEN A=A+6 : GOTO 270
```

THE CAMPAIGN FOR REAL ARTICLES

```
260 IF Q$="F" THEN A=A-6
270 NEXT J
280 NEXT A
290 MD=MD+6 : IF MD<>180 AND MD<>360 THEN 130
300 IF MD=360 THEN MD=0 : HD=HD+30
310 IF HD=360 THEN HD=0
320 GOTO 110
330 RESET(64+R*SIN((A-STD)*DR),22-R*COS((A-STD)*DR)/FY)
340 SET(64+R*SIN(A*DR),22-R*COS(A*DR)/FY) : RETURN
```

Well that, you will be pleased to know, is it, apart from saying that if you change what A is to be equal to in lines 220 and 230 you alter the accuracy of the clock.

I hope some of what is here you will find interesting and useful, if nothing else it has helped Mel fill your newsletter with something, how about more from you the reader O.K. ?

WOTSIT WOTSIT WOTSIT WOTSIT WOTSIT

QUESTION :-

I have just bought a very cheap copy of cassette Scripsit. I have used disk Scripsit for some time but I'm having trouble loading cassettes into my disk version. Wots the command to load cassette tapes and Wotsit mean when I cannot get them to load under Newdos 80 2.0.

ANSWER :-

Firstly, to load a Scripsit cassette the command is "L,C Filespec" from the command line. Secondly, the problem you may be experiencing when using a disk copy of Scripsit under Newdos 80 2.0 is most likely to be that you haven't done the mandertary zaps that are stated in the Newdos 80 manual.

If these zaps are not applied you will never get the tape to load, as the zap, I'm given to understand, deals with interupts and when they are not in the correct state tapes cannot be loaded. Remember, to load a cassette tape when using a disk system the command 'CMD"T" is required to enable cassettes to load. The action of this command in fact turns OFF the systems interupts.

BENEATH THE DRAGON'S SCALES

By E.P.Mooney

Well here we are in 1985, and the Dragon is back in production - even if it is in Spain. I don't suppose many of you will be rushing out to buy one, especially since Boots were selling their last remaining stocks of 64s so cheaply recently. Incidentally I see that sales of the Dragon User Magazine are running at 35,000+ each month, so there are lots of interested users around. I hope that some of you took advantage of John Redgate's hardware goodies - in particular the Disk Controllers, because I will have some notes about them later.

So what have I got for you this month?

First some neat ideas for Dragon 64 owners, although Co-Co owners may want to follow them up too.

As all 6809 users should know by now, our machines can be configured in two ways. The first is as a system which has 32k RAM space and up to 32k ROM - let's call this a 'ROM system', and the second is a system which switches out the ROM to leave room for a full 64k of RAM - let's call this a 'RAM system'.

As a further bonus, we are blessed with what is probably the finest of the 8 bit processors. Its great feature is its ability to handle POSITION INDEPENDANT CODE. Put simply, this means that it is easy to write machine code which will run properly even when it is moved around in memory. If you are a Z80 owner then you will appreciate that it is possible to achieve this to a limited extent by only using Relative Branch instructions in your code, but true PIC code is a real luxury.

Picture, if you will, a small room in the Tandy headquarters in Fort Worth.(OK then - make it a big room, since everything in Texas is bigger!). You have just been given the job of designing a new computer, with colour (sorry - make that color), sound, and this new 6809 processor. How will you set out the design? You will want to use Position Independant Code, won't you? And a neat memory map that allows you to switch easily from a ROM system to a RAM system? Sure you will. Unless, that is, you happen to be working for Tandy !!!

Hey!! Why not stick the ROM right in the middle of the address space - say at 8000 hex - all the better to split up the memory map and make life really tricky for folks who want a 64k system. And who needs PIC? Model I owners got along nicely without it. Yup! (thats Texan for yes!) - that should do the job.....

BENEATH THE DRAGON'S SCALES

.....and of course, as we all know, that's just what they did!!! But you wouldn't want to stop there, I mean would you? No!! Surely you could find one last trick?....

Remember all the fun with Model 1 systems? Putting the Disk Basic right where it would clobber everyones favourite programs? Sure you do!! Now isn't there a way you could do the same for CoCo owners?....

....right!! Put the Disk Operating system variables where the Graphics pages should be!!! That should do it !!!

....and no kidding, that's how it turned out. Model 1 owners can stop sniggering please!!!

Now, if your imagination can stand all this, switch your attention to the Temperence Tea Rooms in Port Talbot, South Wales, where the impoverished designers of the Dragon are feverishly scribbling on the corner of a serviette.....

...." ble mae'r ROM, yn y Tandy?"....(sorry!! I'll have to translate that....It means "where's the ROM in a Tandy?").....

...."8000 hex? There's funny .... still, they must have got it right!!! Let's put the Dragon ROM there too."....

...." ble mae'r Disk variables, yn y Tandy?"....(yes, you guessed that one!)....

...."on the first Graphics page?.....well, no sense in making our design any better. Let's put ours there too."....

And so it was that two design teams (independently, if we are to believe Dragon) came up with the same brilliant mess. And you and I are still trying to overcome the shortcomings.

Now if you are not yet using Disks on your CoCo or Dragon, then this may seem quite irrellevant, but it will be important if you are one of the new band of disk owners, 'cus some of your software doesn't run, does it?..... but help is at hand!!!....(this is the Good News)

Alan Butler and I have been sorting out the problem of the disk variables.....and it looks as if we have cracked it!!!..... but you need a 64k system....(this is the Bad News)

If you are a Disk user, and you have 64k RAM - whether Dragon or CoCo - then read on.....

BENEATH THE DRAGON'S SCALES

The problem really lies in the Disk Rom, which as part of the initialisation process sets up a variable table from 0600 hex to 0C00 hex.

The choice of this area is quite arbitrary, being a throw back to the original 16k CoCo, and there is no reason why it should not be elsewhere in RAM. However, the Disk Operating System has been written to address a variables area starting at 0600 hex, so the only way to alter this is to alter the DOS. You can in fact do this in one of two ways:- either you reprogram an eprom to replace the existing ROM, or you transfer the system into the RAM mode and alter it to run there.

The second method is the simpler. Here is what you do.

1. Switch the system from ROM to RAM

This short program will copy the contents of the ROMS, from 8000 to DFFF into the upper 32k of RAM, then switch modes to the RAM type.

```
      ORCC  #$50    * disable interupts
      LDX   #$8000  * start of ROM
NXT   LDA   ,X      * get ROM byte
      STA   $FFDF   * switch to RAM system
      STA   ,X+     * put byte in RAM and inc. X
      STA   $FFDE   * switch back to ROM
      CMPX  #$DFFF  * is it done yet?
      BNE   NXT     * get some more then
      STA   $FFDF   * OK go to RAM SYSTEM
      ANDCC #$AF    * enable interupts
      RTS           * Thats all Folks!!
```

You should know that $FFDE and FFDF refer to a SAM chip register which determines the map type - writing anything to FFDE switches to ROM system, while writing to FFDF switches to RAM. It acts like a toggle switching back and forth as each byte is copied. Disabling the interupts is necessary in order to prevent interupts from the Disk controller, clock or keyboards etc.

The use of OR and AND is necessary because the 6809 does not have a Mnemonic for disable and enable interupts (unlike the Z80 and 6502 processors).

I use a short BASIC program to poke this code into memory and then run it. It looks like the following .....

BENEATH THE DRAGON'S SCALES

```
10 PRINT "SOFTSYS BY E.P.MOONEY <c> 1985"
20 FOR X=&H7D00 TO &H7D19
30 READ C$:POKE X,VAL("&H"+C$)
40 NEXT X
50 POKE &HFF48 :REM switch disk off if running
60 EXEC &H7D00
70 DATA 1A,50,8E,80,00,A6,84,B7,FF,DF,A7,80,B7,FF,DE
80 DATA 8C,DF,FF,26,F1,B7,FF,DF,1C,AF,39
90 POKE &HBBC2,175 :REM change cursor colour
```

You will now have a system which seems just as it was before, only now you can use an area of RAM from E000 to FF00.

2. Altering the Disk Operating System

Once you have the BASIC and the Operating systems in RAM then you should be able to use them as normal - at least you can if you have a DRAGON with DRAGON DOS. Disk operations will work perfectly, double density is unaffected, and so on. You will not be able to make use of the speed up POKE (POKE 65595,0), because this does not affect the speed of RAM systems.

I would expect CoCo systems to work just as well.

If you have the Premier Delta DOS, then bad news I'm afraid. This DOS is written in a less sophisticated way than the other two. It does not use the SYNC or CWAI instructions to synchronise the passing of data. It uses software timing instead. You will find from the CONFIG command that you may use single or double density with your disks - the difference being that the DOS uses the speed up poke in order to cope with the faster data rates of double density. (incidentally if you access disk while in the fast mode, you will have noticed that it switches back to the slower speed when it finishes) Try moving the DOS into RAM, and the speedup does not work, so nor does Double Density. If you are happy to use single density then there are no problems - just don't forget to format some disks as single density before you try to use them.

The real purpose of the exercise is in order to be able to alter the DOS and move the disk variables area into the RAM which is above E000. To begin with Dragon DOS.....

The first requirement is a disassembly of the ROM from C000 to DFFF. Now get your pen and go through the listing slowly, looking for any references to addresses in the range 0600 to 0BFF. You will want to alter these so that they read E000 to E5FF. This can be done while the system is in the RAM mode, by using a machine code program, not by Poking from Basic. Be patient, it is not going to be a quick job, and you will have to check that you have ALL the addresses changed properly.

BENEATH THE DRAGON'S SCALES

All that is except C02B - don't alter this one. You may save a dump of the altered DOS on tape or disk, but if you want to reload it from disk then you will have to load it low down in memory, then disable the interupts as you move it to its correct place. I have a list of the addresses that need changing, but it would take too much space here.

Better still would be a program to do this for you..... SOFTSYS, altered DOS and a few extra refinements. You may want to take advantage of a special offer from Alan Butler, who is selling a finished version of our program.

If you are a CoCo owner then will have to follow the same steps. Stick with it, its worth it!!!

The Premier DOS owners are perhaps luckier here. Their system uses a different area for Disk variables and buffers. The area used is from 7800 to 7FFF. This has the advantage that more of the original tape programs run without problems, but some longer ones will conflict with the disk area and cannot be transfered easily to disk. Again the answer is to move the disk area above E000. You will not need to go through the whole of the DOS altering addresses, the secret is in the way Premier make use of the Direct Page Register. The DP register can be set anywhere in memory in order to allow easy reference to addresses in that block. Normally this is set at 0000 for BASIC systems, but Premier switch it to 7A00 when using DOS, and then back again to use BASIC - you will find this "toggle" at C018 in the DOS. The address used for the direct page need only be altered once when you transfer to the RAM system - you will find the code in the Initialisation section from CBED. Add this section to your copy of SOFTSYS.....

```
100 POKE &H03F8,&HEA
110 POKE &H03FB,&HEA
120 EXEC &HCC2E .....-...
```

... AND REMEMBER TO STICK WITH SINGLE DENSITY.

You should find everything works fine, but you will probably have to run SOFTSYS if you press reset. Again, we should soon be able to offer you a complete machine code program with all the refinements to handle resets, switching the disk in and out etc. See Alan for details.

The idea behind all this messing is to have a system whose memory from 0400 to 7FFF looks just as it does in a tape system - if it does, then all your old tape programs will run properly and can be saved and loaded from disk without problems. All you need then is a good Tape to Disk transfer program .....watch this space!!!

BENEATH THE DRAGON'S SCALES

If you stopped reading because you have a 64k system, but no disk, then how about running SOFTSYS anyway? There is still lots to do when you have a RAM based system.

How about your own personal message instead of the usual Dragon and Microsoft ones? Get in there and start Poking at B4BA. Want a different cursor? Poke a number in BBC2.(yes I know you thought it was a TV channel) Finally for some real fun - what about a Basic MISinterpreter? I really wanted to get this to you in time for April Fools Day, but the newsletter doesn't come out till the end of April - still you may get some laughs out of it.

In the ROM is a list of all the BASIC keywords, starting at 8033 hex. Each word has the last letter ORed with &H80 - this is so that the interpreter knows it has reached the end of a word. In a RAM system you can put your own words in place of the originals, how about LUST instead of LIST, HOP instead of RUN, PROD instead of POKE..... I expect your mind is already thinking up even more interesting versions!!! Of course this isn't new - CPM users learned to mess up MBasic like this years ago.(who says it was messed up before they started!!)

The first 47 keywords are from &H8033 to &H813F, starting with FOR and ending with OFF - you can doctor them with this little program.

```
 10 CLS:PRINT"BASICK MISINTERPRETER BY E.P.MOONEY"
 20 INPUT"WHAT IS THE KEYWORD YOU WISH TO ALTER";O$
 30 LO=LEN(O$)
 40 SEARCH$=LEFT$(O$,LO+1)
 50 REM look for Keyword
 60 FOR T=&H8033 TO &H813F ( 8133 to 81EB for CoCo)
 70 TARGET$=""
 80 FOR L=0 TO LO-2
 90 TARGET$=TARGET$+CHR$(PEEK(T+L))
100 NEXT L
110 IF SEARCH$=TARGET$ THEN GOTO 150
120 NEXT T
130 PRINT"THERE IS NO SUCH WORD - TRY AGAIN"
140 GOTO 20
150 INPUT"WHAT IS THE NEW KEYWORD";N$
160 LN=LEN(N$)
170 IF LN=LO THEN GOTO 220
180 PRINT"KEYWORDS ARE OF DIFFERENT LENGTHS - IS THIS OK?"
190 K$=INKEY$:IF K$="" THEN 190
200 IF K$<>"Y" THEN 20
210 REM swap them over
220 FOR L=0 TO LN-2
230 POKE T+L,ASC(MID$(N$,L+1,1))
240 NEXT L
250 REM set final character
260 F$=RIGHT$(N$,1)
270 F=ASC(F$) OR &H80
280 POKE T+LN-1,F
290 PRINT"ANY MORE THEN?"
300 K$=INKEY$:IFK$=""THEN 300
310 IF K$<>"Y" THEN END
```

BENEATH THE DRAGON'S SCALES

Oh, and remember that you will have to use your new keywords to list and enter a program. You'll get the idea!!!

Now what about some more serious stuff for 32k users?

Here's a little utility that I use quite often to send text to the screen as well as to the printer. It saves all that PRINT#-2 nonsense.

```
10 CLS:PRINT"ECHO SCREEN TO PRINTER"
20 POKE &H168,&80:POKE&H169,&HOF:POKE&H167,&H7E
```

....all that it does is to redirect the &H167 RAM vector to jump to the printer routine instead of the normal RTS.

What else is new?

Well I was hoping to be able to tell you about OS-9, since Frank managed to persuade Boots to part with it cheaply. Its a funny system - like the UNIX system that Steve talked about last month. They say its a friendly system!!! .... they must be kidding!!! I have never met such an obscure maze of pathways. All it needs is a message saying there is a Giant Vending Machine here that sells batteries.....(Pyramid 2000 or Collosal Cave fans will love it).

Seriously though, it has had some very good reviews, and is obviously a very powerful system so we ought to learn more about it and put it to use. Maybe by next time I'll know enough to say more.

....in the meantime, enjoy your computing and if there are any Texans, or Welshmen out there, I was only joking ..... honest!!! Yn iach !!!

ooOOOoooOOOooo FOR SALE oooOOOoooOOOooo

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Contact Laurie Bradshaw on 0204-697023

WANTED

The group has now formed a Model IV/IVp library.
How about donating some of your own, self written software of course, so we can get it going.

Contact Kevin Harper on 061-231-6840 NOW !!!

REVIEW ON HYPERCROSS

By J.G.Peasmold.

Firstly you will need know what Hypercross actually is. It's a piece of software for the Tandy Model I/III/IV/IVp and other computers that run normal Tandy disk operating systems.

Not very often does a good piece of software appear nowdays for the Tandy range of micros, but this program is, in my opinion, one of the few good programs that have come out recently. It's use is as a utility to convert files, 'ASCII' and 'BINARY' from, and to, CPM and MSDOS systems, all on that old faithfull Tandy.

Firstly you will need, for it to work, twin disk drives that are rated at double density and double sided if the disks you are reading are double sided of course. Hypercross comes in four versions at present, Model I, Model III, Model IV and Max 80. The Model I version will also run on the Video Genie and LNW systems. You need a TRSDOS type DOS, most of which I'm told cause no problems, although some restrict the DIR command. Hypercross uses your own DOS to handle all it's transfers together with it's own routines to handle disk I/O to the alien disk.

Hypercross supports file transfer from a very long list of CPM and MSDOS machines which I do not intend to list here, as it would take up a couple of pages of the Newsletter. I think is sufficient to say that, apart from that nasty disk drive speed changing Sirius, I have managed to transfer files to and from any CPM/MSDOS system I've needed so far. One machine that isn't supported, as yet, is the RAIR/ICL PC, which I was disappointed about, maybe they will include it in their next update. One point I should make sure you understand, is that, you must realise that if you wish to convert Tandy machine code software to CPM or MSDOS it is very unlikely it will run. This is due to a couple of reasons. One being that the Tandy is an '8 bit' system where MSDOS is a '16 bit'. Another is that the Tandy has it's ROM where CPM systems have RAM. The transfer of text files is no problem at all, they transfer prefectly. Basic is easier to transfer than machine code but still has its own problems. The programs must be saved in the ASCII format and are transfered using a ASCII transfer option. The Tandy Microsoft Basic interpreter uses, most of the keywords of MBASIC and MSBASIC but certain keywords have to be changed to enable the program to run. Another incompatablity is that the Tandy allows file handling to have records of 256 bytes but CPM and MSDOS only allows 128. So all the file handling routines will have to be altered to suit the machine the program has been transfered to.

As a final point, although Hypercross has saved me many hours of tapping. To transfer text files accross from my Tandy Word processor to MSDOS's Wordstar word processor, I sometimes got a bad read on the CPM/MSDOS system. This may not be the fault of Hypercross but is more likely to be disk drive alignment problems. Mind you if the fault occurred, a second transfer usually resolved the problem.

My final opinion is that if you are moving towards CPM/MSDOS machines from your Tandy, whether it be at work or play, Hypercross is a very time saving and efficient utility.

DOUBLE DENSITY DISKS ON THE MODEL I - Part 2

by Bob Pick.

In the first article I said that double density kits and operating system adaptations were developed by outside suppliers without reference to Tandy, so that different choices were made. I described the ways that different kits switch density. Next I will consider decisions that have to be made in the software.

HOW MANY SECTORS ARE YOU TO USE

The original 8in. floppy disks were developed by IBM, and each track had 26 sectors of 128 bytes each. They had a soft sector format, which required the disks to have only one index hole. When IBM developed the double density system, they kept 26 sectors/track, and wrote 256 bytes in each. However, they made provision in the sector identity field (ID field) of each sector to indicate the number of bytes in the data field of that sector, so that the field was open, so to speak, for people to chose other sector lengths.

What is meant by "soft sector", and what does a sector consist of, anyway? And what does a track consist of, for that matter?

When you buy a floppy disk it usually has no kind of magnetic signal recorded on it, and before you can use it, you have to FORMAT it. The format program has total control of what is written on the disk during the formatting operation. It uses a "write track" command, which is built into the controller. When the index hole in the disk is sensed by the disk drive, the controller starts to write bytes to the disk surface, sent to it by the format program, until the index hole comes round again, so that the whole of the track has got something or other written onto it.

This is never data that you will use, but it will be used by the disk controller whenever you want to read from, or write to the disk. The number of bytes that the controller writes depends on the rotation speed of the disk and on the crystal clock that is part of the controller. The clock will usually be very accurate, but the speed of a disk drive can vary by plus or minus 2%.

Because of this, if you allocate a certain space on a track for a number of data bytes to be written, you can not be sure that that number of bytes will use up that space. What you do is to be very precise about when you start writing the data, and leave a "gap" between the end of that chunk of data and the beginning of the next.

Also, there will be some small variation between different drives in the relative positions of the read/write head and the index hole sensor, so that when a disk which has been formatted on one drive is read on another drive, the byte passing the head when the index hole is sensed will not necessarily be the same one as on the other drive. So the track as written during formatting actually starts with a gap.

DOUBLE DENSITY DISKS ON THE MODEL I - Part 2

In principle you could have a track with only a single chunk of data on it, but if there was any kind of flaw in the magnetic coating, then the whole track would have to be abandoned, and if you wanted to write a short data file, you would waste a lot of space. So, after the first gap, the rest of the track is divided into "sectors". But once you have divided the track up, you have to identify one sector from another.

What IBM chose to do was to divide each sector space into two fields; a short identification (ID) field, and then a data field. But when a head starts to read a track to find out where it is, it just sees a stream of bits.

Somehow or other the controller has to identify whole bytes. It does this by saving the last seven bits that it received, and when the next bit is read, it is tacked on to the end of the previous seven. The controller is looking for a particular bit sequence which forms the "ID address mark". If, then this byte is followed by exactly the sort of bytes that the controller is expecting, it concludes that it has read a valid ID field. If not, it presumes that the "byte" that it read was an accidental sequence of bits from two bytes of something else, and it must keep looking.

Even if it was a valid ID field, it might not have been the one the controller was looking for, so it has to keep looking. And because the data in this sector will have been written since the disk was formatted, it will have ended at an odd position relative to the bytes originally written as the gap, and the controller will have to re-synchonize to the next ID sync byte.

Whenever data is written to a disk, the controller automatically computes a pair of special check bytes for each field, called "cyclic redundancy check" (CRC) bytes. The ID field contains four bytes of information after the sync byte: the track number, the disk side number, the sector number, and a code number for the data field length. These four bytes are followed by two CRC bytes. But the controller takes time to digest this information from the ID field, so another gap is left before the data field starts, which in its turn, is preceded by another, different, address mark.

The CRC bytes are checked by the controller itself, and if there is any error in them the controller can inform the operating system what is wrong. If the error is in the ID field, the controller says "record not found", and if the error is in the data field, it says "CRC error".

The data field length is indicated by the byte in the ID field as follows:

0 = 128 bytes
1 = 256 bytes
2 = 512 bytes
3 = 1024 bytes
4 = 2048 bytes
5 = 4096 bytes
6 = 8192 bytes

Ring Back

DOUBLE DENSITY DISKS ON THE MODEL I - Part 2

Some of these values would be impossible on a 5 1/4 in. disk, and sector sizes bigger than 512 bytes are uncommon on any disk. In addition to the reasons given above for not having too large a sector size, the reliability of the CRC bytes to indicate a read error is somewhat reduced as sector size is increased. This is because the possiblity becomes slightly less remote that two self cancelling errors could occur in one sector.

So what about the TRS-80 Model 1?

The original TRSDOS chose sectors of 256 bytes, and if you write adequate gaps between sectors, you can get 10 sectors on each track. When people fitted the double density hardware kits, I think the choice of sector size depended on the way that the DOS was written in the first place. In the original TRSDOS and all the "improved" DOS'es that I have seen, the disk drive handling routines are more or less integrated with the file handling routines, so that it would have been very complicated to use any other sector size than 256 bytes. This is not true, for instance, in CP/M, where file handling is done in the BDOS, and the drive handling is done in the BIOS. In CP/M, files are always managed in terms of 128 byte records, but in many systems the BIOS uses "de-blocking" to read and write larger sectors, because this allows more data to be written to each track. For example, in double density, you can get 18 sectors of 256 bytes on a track, which is 4 1/2K bytes, but you can get 10 sectors of 512 bytes, which is 5K bytes.

So the very simple answer to the question posed above is:

Single Density - 10 sectors of 256 bytes.
Double Density - 18 sectors of 256 bytes.

WOTSIT WOTSIT WOTSIT WOTSIT WOTSIT

QUESTION :-

I have seen printed in magazines etc, when referring to Bulletin Board Systems, 'RING BACK SYSTEM'. Wot is a Ring Back System.

ANSWER :-

Very simple really. A Ring Back System, when mentioned in connection with BBS's s designed so that the System Operator can use his telephone as normal as well as having it permanently connected to his BBS's system. To call the System Operator and talk down the phone, you just ring his number and let it ring until he answers. To call the BBS's system, dial his number, let it ring twice, hang up and immediatly call again. The second call will connect you to his computer.

This is achieved by having a piece of equipment that senses an incomming call and sets itself to grab the next one within a certain time limit. Thus it's called a Ring Back System.

COMMUNICATION SOFTWARE

By Melvyn D.F.Franklin.

There has been an awfull lot of talk in recent months, in and out of the group, relating to communication of micros. Maybe it's the way home computing is heading or maybe it's just because people in business have just realised that communicating with a micro is now cheaper and more efficient.

Some of the recent questions I have been asked relate to the supply of good communication software for group members. I have managed to get, via the Manchester BBS system, a couple of names that may be able to help Dragon/CoCo owners obtain some good communication software. The first is DAN O'Brien who left me a message that he has something that may help Dragon/CoCo users. He has suggested that interested members should contact him through one of the following BBS numbers, (a bit difficult if you have no software at all). The BBS numbers are :- 01-348-9400, 01-631-3076 and 01-606-4194.

Another chap who said he could help was Steve Bak, easier this one, call him on 0623-26375.

I don't know the exact software they have mentioned but suggest that interested members should contact them direct and let the Newsletter Editor know the outcome.

Most members should already know that there is a very good piece of communication software, that is public domain (FREE), called 'STERM'. Another recently came to light called 'LTERM'. If you are interested in obtaining a copy try asking around or contact the group library.

For members that are looking for communiction software for, say Tandy 1000 systems there is an abundance around, but be careful, some suppliers overstate the programs capabilities. So check with current users before parting with your cash, as the prices are not cheap, usually £150.00 upwards.

LATEST NEWS TIT BIT

Tandy are at it again, another microcomputer has just been launched in the States. The Tandy 200 lap portable.

They state it takes the Model 100 one step further and includes the 'state of art' technology, (that phrase is getting a bit long in the tooth).

It's said to have a standard 24K with room for expansion to 72K in banks of 24K. The price in the States is $999.00, and at the current of exchange comes out about £800.00, mind you by the time it gets over here it will probably be more like £999.00.



Software News

INNOVATIVE
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from the professionals

Info~Scan

Info-Scan is an information reference and retrieval utility. It combines the features of a data base manager, a word processor and display utility.

Each information record is composed, using the word processing feature, in any format that is meaningful to the user.

It is no longer necessary to sculpt your data to the requirements of the data base. The information can be stored in a record in almost any format required. Indeed, forms themselves can be used. A utility in Info-Scan allows the operator to compose a form and file it on disk, recalling it for completion as and when required.

Each record is allocated a key phrase or word, so that it can be re-called at will. About 1,800 characters may be entered per record, and 350 records may be held to a file. Any number of files may be maintained. Info-Scan is written in machine language for high speed operation.

As with all data bases, the contents of the records may be changed at any time. They may also be deleted and have information added to them. The record contents may be printed out to any standard line printer.

In addition to the above, Info-Scan features a full screen editor, extremely comprehensive error trapping and recovery, plus a demonstration file to get you going.

Info-Scan removes the shackles from the data base user. No longer does he have to abide by the format rules of the data base. Information is entered, retained and displayed in a form chosen by the user and one which is uniquely meaningful to him.

Info-Scan is compatible with TRS-80 Model I, III and Model 4 in mode III, plus compatible Genie machines. Info-Scan will operate with any TRSDOS compatible disk operating system including LDOS, Dosplus and Multidos.

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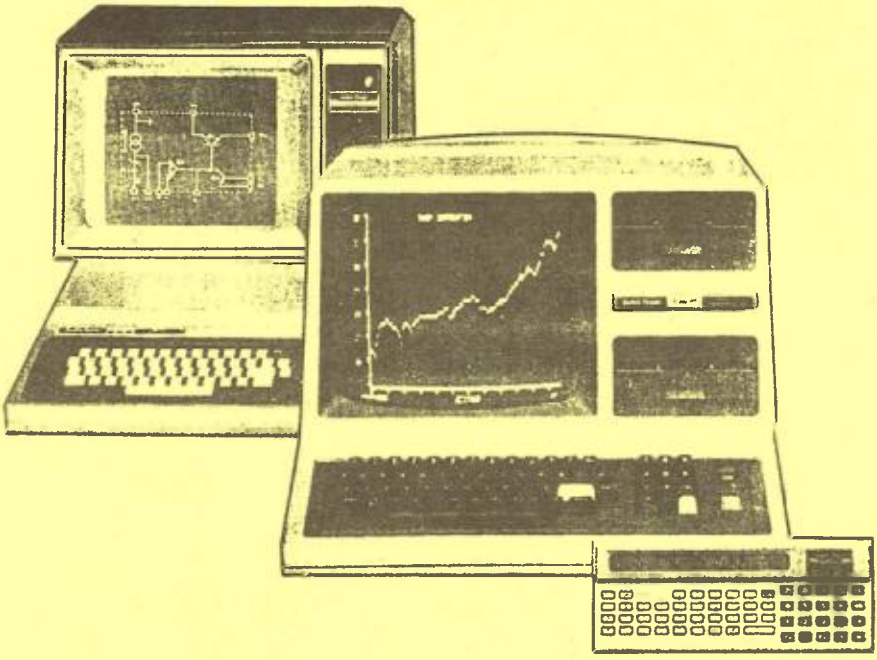
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REM 80



The North West TRS 80 Users Group

Volume 7 Issue 3

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E D I T O R I A L

Well, we nearly didn't make a Newsletter this time. I think this was the nearest we came to not producing a Newsletter due to the lack of material. I hope members realise how close we are coming to losing the Newsletter altogether through the lack of members support.

Melvyn tapped in almost all the newsletter by hand and has spent quite a few hours ensuring one is published. Members MUST try harder to supply items for future issues if they expect us to go on publishing.

As you may notice, we have lost A.J.Hardings advertisment and therefore the revenue to the group. If you know of any company or association that would like to advertise regularly on the rear of the Newsletter why not ask them to support the group and perhaps help their business.

Don't forget, members that ARE writing for the Newsletter, keep those articles coming for the August Newsletter, latest date for submissions is 10th August.

Carolyn

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Any articles or programs for inclusion in this Newsletter must be addressed directly to the Editor, preferably on cassette, disk or uploaded, (normal communication protocols are acceptable), at the following address :=

40, COWLEES,
WESTHOUGHTON,
BOLTON,
BL5 3EG
Tel ... 0942-812843

****
** ACTIVITIES PAGE **
** By Brian Disley **
****

I would like to thank everyone who attended the Grand Auction at the the May meeting despite the change of date, we seemed to have a very good attendance and we all seemed to thoroughly enjoy ourselves and pick up a few bargains to boot. I hope this doesn't mean that you did not get a good price for the items you brought for sale.

July 31st

The June and July meetings always seem to cause me some problems in getting a chat or demonstration organised due to the holiday spirit, therefore I intend to leave this meeting as a surprise meeting, (nobody will be more surprised than me if I do find someone to volunteer!) However I can assure you that I will do my best to see that you will have something to make your monthly pilgrimage to Barton worth while.

August 28th

Our temporary? acting Secretary and founder of the group, Mr. Melvyn Franklin will join forces with Mr. J.G. Peasmold our famous software author, to give us an introduction to the Pascal language.

September 25th

Now this meeting is one you don't want to miss if you are interested in graphics and animation, as Mr. Peter Mooney the well known remote control tank pilot! will guide us through a graphic example of those very powerful graphic commands in your colour computers. Most of you will be familiar with these commands but I am sure Peter will have routines to make your Dragons scales stand on end.

Finally, whilst I was in the process of sending out those letters informing you of the change of date for the May meeting, I found that Melvyn's mailing list program as used by the group for members names and address labels, would insist on pumping out lots of labels with the words "SPARE RECORD". I found this most annoying and wasteful so I decided to plough my way through the listing to find out how to stop it. I soon discovered that it only requires one line as follows :-

```
2195 IF LEFT$(NM$,6)="SPARE "THEN RETURN
```

This modification of course is only required if your mailing list data has blank records with the words SPARE RECORD in place of the name as does the groups members list as entered by our acting Secretary. This line also has the same effect when printing other lists eg. name and phone no. Of course if your mailing list contains someone who goes under the first name of SPARE then they will be omitted when the list is printed, this will most likely make them go spare? when they don't receive a Christmas card.

AUTODIALLING SOFTWARE AND COMMUNICATIONS

By A. N. Other.

The following line listing and article was submitted to the Newsletter Editor as a listing and not on disk or cassette, without any name or indication of its origin. Althought we had to tap it all in we decided to publish anyway, so after our fingers have been warn down I hope you apreciate it.

If the author will notify the Editor of his/her name we will then make sure that his/her name is submitted for the Costello Shield Trophy.

Since communications seem to be becoming fashionable, here's a listing to fill the pages of REM 80.

The first part of the program keeps a Directory of Bulletin Board numbers, dials any of these from a menu, or allows the user to input his own number, and then offers a selection of terminal programs for use. The program requires the homebrew Autodial hardware described later (naughty!), and a modem of course. It will even communicate without one of the recognised terminal programs if necessary using the Basic terminal section, that was from 80-Micro.

If you already have an external amplifier to generate sound from the cassette port of your Model I, then it can be used to good effect with this program, as a telephone amplifier. You won't even need a telephone! Take the earpiece out of an old telephone handset and glue a crystal microphone insert to it. Connect the microphone to the input of your amplifier and you can listen to the phone line (but not speak). Connect the old earpiece as shown after the listing.

Ignore lines 1000 onwards if you only want the Autodial part. The screen display could do with a bit of tidying up but you can't have everthing perfect.

```
10 CLEAR 2000
20 DIM NA$(50), NO$(50)
30 GOTO 380
40 IF NO=0 THEN NO=10
50 FOR LP=1 TO NO
60 OUT 255, 4
70 GOSUB 240
80 OUT 255, 0
90 GOSUB 210
100 NEXT LP
110 FOR DL=1 TO 140
120 NEXT DL
130 RETURN
```

AUTODIALLING SOFTWARE AND COMMUNICATIONS

```
140 NO$=NO$(I)
150 PRINT"<< PRESS ANY KEY TO STOP DIALING >>"
160 FOR X=1 TO LEN(NO$)
170 NO=VAL(MID$(NO$, X, 1))
180 GOSUB 40
190 NEXT X
200 RETURN
210 FOR DL=1 TO 7
220 NEXT DL
230 RETURN
240 FOR DL=1 TO 12
250 IF INKEY$ -"" THEN NEXT DL: RETURN
260 IN$=""
270 GOTO 280
280 OUT 255, 4
290 FOR DL=1 TO 300
300 NEXT DL
310 OUT 255, 0
320 IF IN$="a" OR IN$="A" THEN 530
330 PRINT
340 PRINT TAB(8)"PLEASE SWITCH MODEM TO <LOCAL TEST>, OFF LINE";
350 FOR DL=1 TO 1000
360 NEXT DL
370 RESTORE
380 FOR I=1 TO 50
390 READ NA$(I), NO$(I)
400 NB=I-1
410 IF NA$(I)="END" THEN 430
420 NEXT I
430 CLS
440 FOR I=1 TO NB
450 PRINT NA$(I); TAB(40)"< ";I;" >";TAB(50)NO$(I)
460 IF INT(I/14)=I/14 THEN GOSUB 570:  NEXT  I ELSE NEXT I:  GOSUB
570: GOTO 430
470 CLS
480 PRINT"    PLEASE ENTER THE NUMBER YOU WISH TO AUTO-DIAL   ";
490 LINE INPUT NO$
500 PRINT @ 168,"NOW DIALLING"
510 GOSUB 150
520 GOTO 700
530 PRINT @ 128, STRING$(40, 32);"PLEASE WAIT.";
540 FOR DL=1 TO 700
550 NEXT DL
560 GOTO 500
570 PRINT @ 960,"<SPACE> - NEXT PAGE, <M> - MANUAL DIAL, <##> -
    SELECT FROM LIST";
580 IN$=INKEY$
590 IF IN$="" THEN 580
600 IF IN$=" " THEN CLS: RETURN
610 IF IN$="M" OR IN$="m" THEN 470 ELSE 620
620 IF ASC(IN$)>47 AND ASC(IN$)<58 THEN NO$=NO$+IN$ ELSE 580
630 IK$=INKEY$
```

AUTODIALLING SOFTWARE AND COMMUNICATIONS

```
640 IF IK$="" THEN 630
650 IN$=IN$+IK$
660 I=VAL(IN$)
670 CLS
680 PRINT"DIALLING ";NA$(I);" ON ";NO$(I)
690 GOSUB 140
700 PRINT @  133,"   PLEASE CHOOSE YOUR TERMINAL PROGRAM:
STERM   <S>       LTERM  <L>       MODEM  <M>      BASICOM  <B>"
710 PRINT"      XMODEM (SEND) <X>   XMODEM (RECEIVE) <R>      TERM
5555  <T>DIAL SAME NUMBER AGAIN <A>       HANG UP  <Q> ?"
720 IN$=INKEY$
730 IF IN$="" THEN 720
740 IF IN$="S" OR IN$="s" THEN CMD"S=STERM" ELSE IF IN$="L" OR
    IN$="l" THEN CMD"S=LTERM"
750 IF IN$="M" OR IN$="m" THEN CMD"S=MODEM" ELSE IF IN$="B" OR
    IN$="b" THEN 1000
760 IF IN$="X" OR IN$="x" THEN CMD"S=XMODEM S" ELSE IF IN$="R" OR
    IN$="r" THEN CMD"S=XMODEM R"
770 IF IN$="a" OR IN$="A" THEN 280
780 IF IN$="T" OR IN$="t" THEN CMD"S=TERM5555" ELSE IF IN$="Q" OR
    IN$="q" THEN 280 ELSE 720
790 DATA LIVERPOOL MAILBOX   PETER TOOTILL, 0514288924
800 DATA FORUM-80  HULL  FRED BROWN, 0482859169
810 DATA FORUM-80  WEMBLY  VICTOR SALEH,019022546
820 DATA MAILBOX-80  WEST MIDLANDS  JIM RODEN,0384635336
830 DATA TBBS BLANDFORD   LEO KNAGGS,025854494
840 DATA PIP   QUINTIN RIDFORD, 0742667983
850 DATA TBBS  LONDON  JOHN NEWGAS,013489400
860 DATA BABBS  FELIXSTOWE  TONY GAME,0394276306
870 DATA CABB  LONDON  TONY DENNIS,016313076
880 DATA DISTEL   DISPLAY ELECTRONICS,016791888
890 DATA MANCHESTER BBS   ROBERT O'DONNELL,0614271596
900 DATA MAPTEL   MAPLIN ELECTRONICS,0702552941
910 DATA BRISTOL BB,0272421196
920 DATA TBBS  NOTTINGHAM,0602289783
930 DATA STOKE ITEC   IAN HICKMAN,0782256078
940 DATA SOUTHERN BBS   JONATHAN SANDERS,0243511077
950 DATA BIRMINGHAM BBS   PAUL SMITH,0827288810
960 DATA MANCHESTER OPEN BB   KEN FARNEN,0617368449
990 DATA END, 0000
1000 CLEAR 0
1001 REM** FROM 80-MICRO, JUNE 1982, PAGE 324, APPEARS WITHOUT
     AUTO-DIAL SECTION AS "BASICOM/BAS"
1010 CLS
1020 PRINT"   HIT ANY KEY TO START COMMUNICATION MODE  HIT <@> TO
     SELECT TRANSFER MODES   (YOU CAN RETURN TO COMM. MODE LATER)"
1030 PRINT"   PRESS <Q> TO RETURN TO PHONES MENU"
1040 PRINT"   TRANSMITTED FILES MUST BE IN ASCII FORMAT  (IE
     FILESPEC/EXT,A:D ) BEFORE SENDING."
1050 CLEAR 2500
1060 DEFINT A-F, R, X
1070 DEFSTR H-M
```

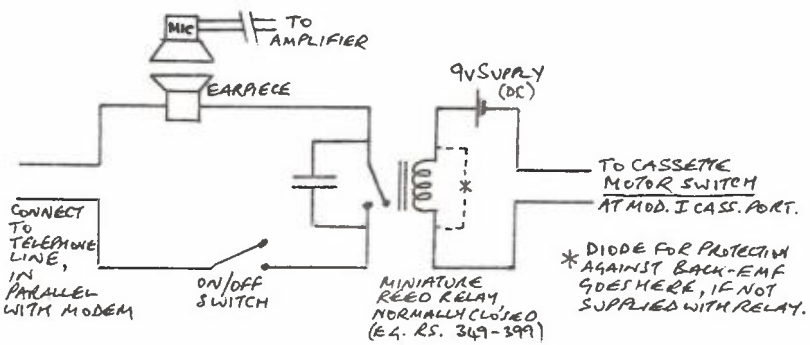
AUTODIALLING SOFTWARE AND COMMUNICATIONS

```
1080 ON ERROR GOTO 1920
1090 H=INKEY$
1100 IF H="" THEN 1090
1110 IF H="Q" OR H="q" THEN 280
1120 OUT 232, A
1130 A=INP(233)AND 248 OR 5
1140 OUT 234, 229
1150 OUT 233, 85  'OUT233, ** SETS BAUD RATE, FIRST NIBBLE FOR
                  TRANSMIT, SECOND FOR RECEIVE
1160 P=INP(232)AND 32
1170 IF P THEN 1160
1180 CLS  'CHECKS MODEM STATUS
1190 PRINT"COMMUNICATION MODE:" PRINT CHR$(14)
1200 RS=0
1210 GOSUB 1740
1220 IF A THEN PRINT CHR$(INP(235));
1230 H=INKEY$
1240 IF H="" THEN 1210
1250 C=ASC(H)
1260 IF C=31 THEN CLS
1270 IF C=64 THEN 1310
1280 GOSUB 1790
1290 PRINT H;
1300 GOTO 1210
1310 CLS
1320 PRINT"PROGRAM TRANSFER MODE"
1330 PRINT,"ENTER < 1 > TO SEND DISK",,,"ENTER < 2 > TO RECEIVE
     DISK FILE",,"ENTER < 3 > TO RETURN TO COMMUNICATION MODE"
1340 PRINT,;
1350 INPUT A
1360 ON A GOTO 1380, 1570, 1190
1370 IF A<1 OR A>3 THEN 1340
1380 RS=1
1390 J="TRANSMIT"
1400 GOSUB 1840
1410 C=LOF(1)
1420 GOSUB 1740
1430 FOR X=1 TO LOF(1)
1440 GET 1, X
1450 FOR F=1 TO 255
1460 C=ASC(MID$(MX, F, 1))
1470 GOSUB 1740
1480 NEXT F
1490 C=ASC(LX)
1500 GOSUB 1740
1510 PRINT @ 384,"TRANSFER OF RECORD NO. ";X;" OF ";LOF(1);"
     COMPLETE"
1520 NEXT X
1530 CLOSE
1540 CLS
1550 PRINT"TRANSFER COMPLETE"
1560 GOTO 1190
```

AUTODIALLING SOFTWARE AND COMMUNICATIONS

```
1570 RS=2
1580 J="RECEIVE" GOSUB 1840
1590 GOSUB 1790
1600 EF=B
1610 FOR X=1 TO EF
1620 MY=""
1630 FOR F=1 TO 255
1640 GOSUB 1790
1650 MY=MY+CHR$(B)
1660 NEXT F
1670 LSET MX=MY
1680 GOSUB 1790
1690 LSET LX=CHR$(B)
1700 PRINT @ 384,"SAVING RECORD NUMBER ";X;" OF ";EF;" TO DISK"
1710 PUT 1, X
1720 NEXT X
1730 GOTO 1530
1740 A=INP(243)AND 128
1750 IF RS=0 THEN RETURN
1760 IF A=0 THEN 1740
1770 B=INP(235)
1780 IF RS=2 THEN RETURN
1790 A=INP(234)AND 64
1800 IF A=0 THEN 1790
1810 OUT 235, C
1820 IF RS=2 THEN 1740
1830 RETURN
1840 CLS
1850 PRINT"PROGRAM TRANSFER MODE:  ";J
1860 PRINT,"ENTER FILESPEC:  ";
1870 LINE INPUT J
1880 INPUT"PLACE DISK IN CORRECT DRIVE, HIT ENTER WHEN READY TO
     CONTINUE ";H
1890 OPEN"R",1, J
1900 FIELD 1, 255ASMX, 1ASLX
1910 RETURN
1920 PRINT"OPERATIONAL ERROR "
1930 CLOSE
1940 PRINT"FILES CLOSED","STAND BY"
1950 D=(ERR/2)+1
1960 IF D>24 THEN D=(D/2)+2
1970 C=0
1980 A=19767
1990 B=PEEK(A)
2000 A=A+1
2010 IF B=0 THEN C=C+1
2020 IF C<>D THEN 1990
2030 PRINT CHR$(PEEK(X));
2040 A=A+1
2050 IF PEEK(A)THEN 2030
2060 PRINT" ERROR HAS OCCURRED IN LINE ";ERL
2070 END
```

AUTODIALLING SOFTWARE AND COMMUNICATIONS



-=-=-=-=-=- COMMUNICATION SOFTWARE FOR DRAGON -=-=-=-=-

At last we have available, from the colour library, a piece of software called VIP. This was written by Jim Bell who runs a BBS in the North East and runs on the Dragon and includes Upload and Download features as well as all the other goodies. Well done Jim and thanks very much.

Members can contact the program author through his own BBS system on 091-265-1944 once they have their own copy. To obtain your copy contact the Colour Computer Librarian, Laurie Bradshaw.

oooOOOooo F O R S A L E oooOOOooo

16K Level II Keyboard and Monitor, with numeric keypad.

oooOOOooo W A N T E D oooOOOooo

Model I expansion interface or 48K keyboard upgrade.

Contact :- Tom Walne, 8 Powis Rd, Ashton, Preston
Tel .... 0772-724837 (Evenings only)

Phoned him Wed 24 July '85. Agreed £30
Said he would send cheque tomorrow.

Rec'd (copies) 9
Sent (copies) 185
Tues 30 July

TITBITS FOR THE MODEL FOUR

By Kevin Harper.

Dear readers, I have assmebled some routines for the Model IV which I hope will be of interest to group members owning a Model IV. I have also listed below all the passwords used in the Model IV's. I do not know if they are the same for other Tandy micro's.

PASSWORDS

File type	Extension	Password
System files	(/SYS)	LSIDOS
Filter files	(/FLT)	FILTER
Driver files	(/DVR)	DRIVER
Utility files	(/CMD)	UTILITY
Basic		BASIC
Basic overlays	(/OV$)	BASIC
Config/sys		CCC
Drive code table initialiser	(/DCT)	UTILITY

For those who do not know it, the Model IV does not have a memory mapped screen, instead it uses supervisor calls (SVC's), you cannot POKE or PEEK to the video as you can with the Model I or III. The following listing should be used to replace PEEK and POKE when working with the Model IV video.

```
F800            00100 ORG     63488
F800  E5        00110 START   PUSH    HL
F801  F5        00120         PUSH    AF
F802  C5        00130         PUSH    BC
F803  D5        00140         PUSH    DE
F804  3E0F      00150         LD      A,15      ;SVC=vdct 1
F806  0602      00160         LD      B,2       ;POKE=2,PEEK= 1
F808  0E00      00170         LD      C,00H     ;CHARACTER
F80A  2600      00180         LD      H,00H     ;ROW ADD 0-79
F80C  2E00      00190         RST     28H       ;RESTART VECTOR
F80F  D1        00200         POP     DE
F810  C1        00210         POP     BC
F811  F1        00220         POP     AF
F812  E1        00230         POP     HL
F813  C9        00260         RET
F800            00270         END       START
```

In line 160 the 'B' register is loaded with 1 or 2 fo PEEK or POKE respectivly. In line 170 the 'C' register is loaded with te HEX value of the character you wish to PEEK/POKE, the whole line is left out if 'B' = 1. In line 180 & 190 the 'HL' register pair is loaded with the row and column address of the point to be PEEKed or POKEed.

TITBITS FOR THE MODEL FOUR

SCROLL PROTECT

Up to seven lines can be scroll protected at the top of the Model IV's screen. Use the listing shown on the previous page but make the following changes as below.

Change line 160 to :

```
F806    0607    00160           LD      B,7         ;SCROLL
```

Change line 170 to :

```
F808    0E00    00170           LD      C,00H       ;NUMBER OF LINES
```

Remove lines 180 and 190 completely.

To make these utilities work correctly from Basic use .....

CALL 63488

..... or the address, if different from my original, of the place in memory that the routine starts at .....

..... or, from TRSDOS use DEBUG and the instruction :-
GF800 (Goto F800 and execute coding.

Members who have any problems with these items can contact me at home on 061-231-6840.

-=-=-=- WOTSIT -=-=-=- WOTSIT -=-=-=-

Question :-
Wots the amount of data you can get onto an 80 track double sided double density disk drive.

Answer :-
A double sided, double density, 80 track disk will hold 561 granules, a granule being 1250 characters. That means the disk will hold a total of 701250 characters, thats almost 3/4 of a Megabyte. These numbers refer to a non system disk. If a system is on the disk a little less is available.

MEMBERS LETTERS

We recently recieved a letter from a member that had some comments regarding the Wotsit page we publish. He also sent a tip for tape scripsit users, so we decided to publish the letter, see below.

Dear Melvyn,

The wotsit page is always an intersting one. I too had a lot of trouble getting very old tape letters on Scripsit to load under Newsdos 80 Scripsit although my disk already had the mandatory Zaps added.

The following, from recent practical experience, may therfore be helpful to other members of the group.

1/ Power up with Newsdos 80 and type in BASIC <Enter>

2/ Type in : CMD"T" <Enter> and CMD"S" <Enter>

3/ Load disk Scripsit

4/ Press BREAK

5/ Press your cassette recorder play back key

6/ Type in : L,T <Enter>
(No name for Scripsit tape letter to be loaded)

The tape should then load and you can save it to disk in the normal way.

Best wishes
Harry Shaw.

oooOOOoooOOOooo W A N T E D oooOOOoooOOOooo

Can anyone in the group get hold of a DISK drive ZERO for my Model I

Contact :-
E.Hall, 21 Standfield Drive, Worsley, Manchester.
Telephone 061-790-3787

Has anyone in the group got a OKI printer 82 or 83a manual.
I am in desperate need of one to solve a members problem with Scripsit.

Contact :-
Melvyn on 0942-812843

COMMUNICATION NOTES

By Peter Tootill.

I have recently taken out a subscription to the American CompuServe system. It has a vast number of special interest sections and a pile of software to download. The only problem is the costs - even using PSS (BTs packet data network) to call rather than calling direct, it costs around £18 an hour to use.

I propose to list off some of the menus and make them available to members. I will then download software to order at a cost based on the time taken and the number of people interested in a particular item.

If anyone is interested, give me a ring on (051) 428 2733 (evenings).

MicroLink

If you have ever tried to call a BBS in the evening, you have probably experienced the standard response - an engaged tone. The popularity of BBSs is such that the only time that you are able to get through easily is between about 3 am and 7 am! Well, a new service has been launched by Manchester based Database Publications, the publishers of TeleLink, Micro User and several other micro magazines.

This runs on Telecom Gold so there should be no problem getting through, you just dial your local access point (Manchester and Liverpool have them). The system has a bulletin board (a little rudimentary compared to TBBS - but not too bad), electronic mail, a product search section, and a number of other developments (e.g. software to download) are proposed. The system is only just getting off the ground, but seems as though it is going to be worth looking at. Unlike Compunet, you can access it with any sort of modem (300/300, 1200/75, 1200/1200 and even 2400/2400 shortly) and ordinary terminal software (such as Sterm from the library).

The cost is £5.00 to join, and £3.00 a month subscription (cheaper than Micronet) but there are time charges of 3.5p a minute (7pm to 8am), plus a surcharge of 2p/minute (2.5 at 1200 bits/sec) if you use PSS to call the system as callers in this area will probably do. (The cheaper rate is if you dial Slough direct.) At these sort of rates, you would have to watch your bills, but at least you can keep an eye on them by asking for what you've used so far, unlike your telephone bill!

As well as the MicroLink service you also get access to Telecom Gold at better terms than the usual £40 to join plus £10/month minimum charge. Gold supports telex and is part of the international Dialcom network and you can send notes to subscribers in many countries. More details from MicroLink on (061)429 8451

MODEL I HINTS AND TIPS

By Dave Sellwood.

Have you ever thought that it would be nice to have a bleeper in your keyboard, it really is very easy to fit one. Only two components are needed; a piezo buzzer (as supplied by your local friendly electronic components shop) capable of being driven off 5 volts and a 74LS175 (a quad D-type flip flop). O.K. those are the ingredients, this is what you do.

1) Bend out all of the pins of the I.C. except the corner pins (1,8,9,16).
2) Solder the I.C. piggyback on Z59 so that it is in the same orientation (i.e. pin 1 to pin 1 pin 9 to pin 9 etc.).
3) Connect pin 12 of the new I.C. to pin 9 Z60.
4) Connect the red lead of the piezo buzzer to pin 10 of the new I.C.
5) Connect the black lead to pin 8 of Z59.

To make the buuzer bleep, all you do is execute OUT 255,16 from BASIC, simple isn't it.

Here is a little poke I read somewhere ages ago that can assist if you insist on typing LLIST instead of LIST. POKE 16422,88 : POKE 16423,4 this routes all line printer output to your V.D.U., to restore things to normal type POKE 16422,141 : POKE 16423,5.

And now for a program which sets you a problem to solve.

```
10 CLS : PRINT
20 PRINTTAB(16);"The Twelve matches"
30 PRINTTAB(14);"==================="
40 PRINT : PRINT"Shown below are two shapes made from 12 matches."
50 PRINT" 1) A square of area 9 sq. units."
60 PRINT" 2) A cross of area 5 sq. units."
70 PRINT:GOSUB 120
80 PRINT@ 834,"Now use all 12 matches to produce a shape of 4 sq. units.";
90 PRINT@ 904,"  Hit any key to end problem ";
100 IF INKEY$="" THEN 100
110 CLS : END
120 FOR X=15+G TO 23+G : SET(X,21) : SET(X,36) : NEXT
130 IF G=20 THEN 150
140 G=G+10 : GOTO 120
150 FOR Y=22+H TO 25+H : SET(13,Y) : SET(46,Y) : NEXT
160 IF H=10 THEN 180
170 H=H+5 : GOTO 150
180 FOR X=64 TO 72 : SET(X,26) : SET(X,31) : NEXT
190 FOR X=75 TO 83 : SET(X,21) : SET(X,36) : NEXT
200 FOR X=86 TO 94 : SET(X,26) : SET(X,31) : NEXT
210 FOR Y=27 TO 30 : SET(62,Y) : SET(96,Y) : NEXT
```

MODEL I HINTS AND TIPS

```
220 FOR Y=22 TO 25 : SET(74,Y) : SET(84,Y) : NEXT
230 FOR Y=32 TO 35 : SET(74,Y) : SET(84,Y) : NEXT
240 PRINT@ 585,"3 X 3 = 9"; : PRINT@ 609,"1+1+1+1+1 = 5";
250 RETURN
```

There it is, now type it in and solve it, then add the solution to the program and send your answers to the Editor, a small prize might even be arranged.

Now for more hints and tips. Most of us know about problems associated with using large amounts of string storage in memory and the apparent hang ups this can cause our systems to go into, but did you know the effect can be worse when using large arrays. Carefully enter the following nine line program to see an example, can you discover where the program is pausing ?

```
10 CLS : DEFSTR A : R=0 : Q=R : DIM A(4500) : A(0)=STRING(7,32) :
A(1)="=ENTER="
20 CLS : PRINT"PRESS =ENTER= FOR DEMONSTRATION OF DIM DELAY"
30 Q=1-Q : PRINT@ 6,A(Q) : FOR R=1 TO 20 : IF INKEY$<>CHR$(13) THEN NEXT :
GOTO 30
40 CLS : PRINT"X="; : X=2 : PRINT X : X1=X
50 PRINT"TWO PLUS TWO IS" : Y=X+X : PRINT Y : Y1=Y
60 PRINT"DID ": A="" : PRINT"YOU "; : B=0 : PRINT"KNOW "; : C=0
70 PRINT"YOUR "; : D=0 : PRINT"COMPUTER "; : E=0 : PRINT"WAS ";
80 F=0 : PRINT"SO "; : G=0 : PRINT"S"; : H=0 : PRINT"L"; : I=J : J=K
90 PRINT"O"; : K=C : L=K : M=B : PRINT"W?"
```

Each time a new variable is placed on the left of the equal sign the program pauses. Why? The culprit is the innocent looking DIMension statement in line 10. This pa rticular DIM causes 13,500 bytes to be reserved for string array variables. Now array variables (that is, DIMensioned variables) are stored ABOVE all non-array variables. Once you have used the DIM statement, every new simple variable has to find a home. The computer must make room for the new variable by moving all 13,500 bytes of array. This is what takes all that time and causes those unexpected delays.

Is there a solution ? Yes. Just MENTION each simple variable you will be using at least once BEFORE the DIM occurs. Add the following line to the program above :

```
5 B=0 : C=B : D=B : E=B : F=B : G=B : H=B : I=B : J=B : K=B : L=B : M=B :
X=B : X1=B : Y=B : Y1=B : A$=""
```

This time there is no delay when the program is RUN. If you "listen" to the program on an A.M. radio (insert a ' or REM at the beginning of line 5) you will hear the distinctive sound of "creeping arrays" during each pause. Listen for this sound in your own programs. When you hear it, hit <BREAK> (or you might try listening for it with TRON). Notice which variables appear to the left of the equals sign and MENTION them BEFORE the first DIM statement. You should notice a rewarding increase in speed. This means that the DIM statement should be the last command before program execution proper starts.

SMALL PROGRAM OF THE MONTH

By J. G. Peasmold.

The following line listing is noted as the Small Program of the Month and was written by our Mr. Peasmold. Its not an especially complicated program or especially a very useful program but at least its a program that has been written for your Newsletter.

The basis of the program is that it will display on the screen, at reading speed, an ASCII disk file of any type. Why not tap it in and try it. Even modify or expand it and send your adapted version to the Newsletter for publication.

Why not join the Small Program of the Month club and send in your own short listings for publication.

```
10 '********   READ FILE TO SCREEN   ***********
20 '********   DISPLAY UTILTY        ***********
30 '********   BY J. G. PEASMOLD     ***********

40 CLEAR 10000
50 CLS
60 INPUT "ENTER FILE YOU WISH TO DISPLAY";F$
70 OPEN"I",1, F$
80 LINE INPUT#1, A$
90 IF EOF(1)THEN 120
100 GOSUB 200
110 GOTO 80
120 PRINT STRING$(60, 95)
130 PRINT
140 A$="PRESS <ENTER> TO CONTINUE"
150 GOSUB 200
160 A$=INKEY$
170 IF A$<>CHR$(13)THEN 160
180 CLOSE
190 CMD"S"

200 FOR X=1 TO LEN(A$)
210 PRINT MID$(A$, X, 1);
220 GOSUB 250
230 NEXT
240 PRINT
245 RETURN

250 IF MID$(A$, X, 1)=" " THEN RETURN
260 FOR Q=1 TO 25
270 NEXT
280 RETURN
```

DEMISE OF PERSONAL COMPUTER NEWS

By J.G.Peasmold.

You may or may not have heard that at the beginning of June Personal Computer News came to a bitter end. At the beginning of June the final issue was only one third the size of the first issue and it only had a circulation of one quarter of what the publishers had planned. Personal Computer News was a became a very small weekly indeed.

Pundits at present are predicting the total collapse of the whole home micro industry and this is yet another publication to suffer the deminishing market. PCN only had circulation of 25 - 30 thousand copies a week.

PCN has been around for about two years. It never actually found a place in the micro comic market, even though it was chasing hard. The publishers had the thought of making PCN the microcomputer markets version of Amateur Photographer, without success.

The launch is said to have cost around a quarter of a million pounds or more with total costs reaching over one million pounds for the two years of its publication. These figures may not be all that acurate but they are certainly on the right lines for the estimated costs incurred.

PCN was launched in March 1983 and was directed towards the home micro market, with the intention of gaining, very quickly, a readership of around one hundred thousand, giving them a weekly comic to give them a common identity. As it was the micro market didn't develop as was expected and PCN was bound to suffer right from the start. At the time of the launch other publishers and micro makers were aiming their efforts towards the small business user as they so rightly thought the home micro era was coming to an end. Some successful publications did come out in 1983 but they were aimed at a captured market of a particular machine type.

Another problem of PCN was that they overpriced their advertising, trying to make for a prestigous base of advertisers. After eighteen months PCN decided to redesign and relaunch aiming squarly at the home user and as we all know about six months ago the home computer market went bad. Even Sinclair is in trouble, looking for money, millions in fact.

My thoughts are that this will not be the last comic to disappear this year. The micro market is so unstable at present and there are a large number of Publishers and manufacturers cutting back jobs and products, as well as price cutting each other, which could lead to them cutting their own throats to the extent of joining the big names that have already left the industry with a bang.

Mod IV

T.T.Y. PERHAPS

By Kevin Harper.

I was thinking how good a Daisy Wheel typewriter would be for writing things like this page, so I set about some software to do the job. By the way you will need a printer as well as a Model IV to use it.

It's not very clever but it will be all right on the night. I used Debug to load it in and to run it. When your running press BREAK to exit. The program will not run on any machine, it was written for the Model IV.

```
7D00            00100           ORG     32000
7D00    E5      00110   START   PUSH    HL
7D01    F5      00120           PUSH    AF
7D02    C5      00130           PUSH    BC
7D03    D5      00140           PUSH    DE
7D04    3E01    00150           LD      A,1
7D06    EF      00160           RST     28H
7D07    4F      00170   TRY     LD      C,A
7D08    3E06    00180           LD      A,6
7D0A    EF      00190           RST     28H
7D0B    D1      00200           POP     DE
7D0C    C1      00210           POP     BC
7C0D    F1      00220           POP     AF
7C0E    E1      00230           POP     HL
7D0F    CA7D00  00240           JP      Z,007DH
7D12    C2077D  00250           JP      NZ,TRY
7D15    C9      00260           RET
7D00            00270           END     START
```

oooOOOoooOOOooo F O R S A L E oooOOOoooOOOooo

Dragon 32	£50.00
4116 Ram	£ 0.50 Each
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Contact :-

S. Bashir, 79 Mayola, London E5
Tel....01-986-2658 (evenings)

COLOUR SOFTWARE for DRAGON and COCO

By Adrian Bradshaw.

It is an awful shame that with the Dragon defunct, and Tandy having finally got the CoCo product and price right two years too late, we are now seeing much improved and cheaper software coming on the market - hardly too little, but most definitely too late. This applies just as much to games as to more serious software, as I hope the following short reviews will demonstrate.

Masterstroke II comes from PikaDee Software in Preston, no doubt a small organisation, but it is a highly professional enhancement to Dragon basic. There are further high resolution graphics modes in nine colours which can also be mixed with text, and further graphics commmands such as LINE, BOX, etc. You can scroll in four directions, as well as MERGE and define function keys. In fact, you wonder why the original basic didn't include all these sensible features. There is also a demonstration game on the tape to show off the new additions. For less than £7.00 it can't be bad.

Oasis Chess is a very slick package. Perhaps it doesn't play as mean agame as Cyrus is supposed to - I wouldn't know: it can beat me and most other mortals without much trouble. It boasts a pretty decent display and games can be saved on tape and started part way through - ideal for playing with those problems they print in the posh Sunday papers. Moves can be taken back if you want to pretend you haven't made a !#?*&!*#of one.....and voyeurs can watch it play with itself.

Microdeal were responsible for bringing us The King (or Donkey King) which was for a long time streets ahead of any other Dragon game, but in more recent months they and others have produced many classy games. Danger Ranger like many Microdeal products has Tandy and Dragon versions, and sounds fairly typical in that you leap around platforms collecting keys and treasure while you avoid nasty radioactive bats, floating eyes and brandish your jolly old laser gun. The whole thing seems quite distictive in play, if not in the absolute top bracket. However, Manic Miner most definitely is. It is converted from a game for the Si*cl**r Sp**tr*m (there seems to be a trend in this direction - it's probably easier than thinking up new concepts) and has no less than 22 screens , more even than the original. Incidentally, it has been revealed in Dragon User that if while playing this game you can manange to type "PENGUIN" without pausing the action, you can then access any of the 22 screens and take your pick of menacing toilets, telephones, pacmen or whatever. In common with Jet Set Willy, it features a loading procedure which makes piracy of the program a difficult proposition.

There are of course many more superb programs available, and I've little doubt each of you would come up with other examples. It really is frustrating that neither Dragon nor CoCo hit the big time.

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BROTHER HR5	£157.00
BROTHER HR15 (Daisy Wheel)	£445.00
BROTHER HR25 (Daisy Wheel)	£750.00

(Printer drivers for use with SuperScripsit Written to order)

CABLES

Cables are made to order but as a guide an RS232 one metre standard cable would cost £18.00
Printer cables normally cost around £22.00 depending on the actual configuration.
'T' switches for printers and RS232 from £80.00

All above prices are Exclusive of VAT & P.P

Members may deduct 5% from the above prices
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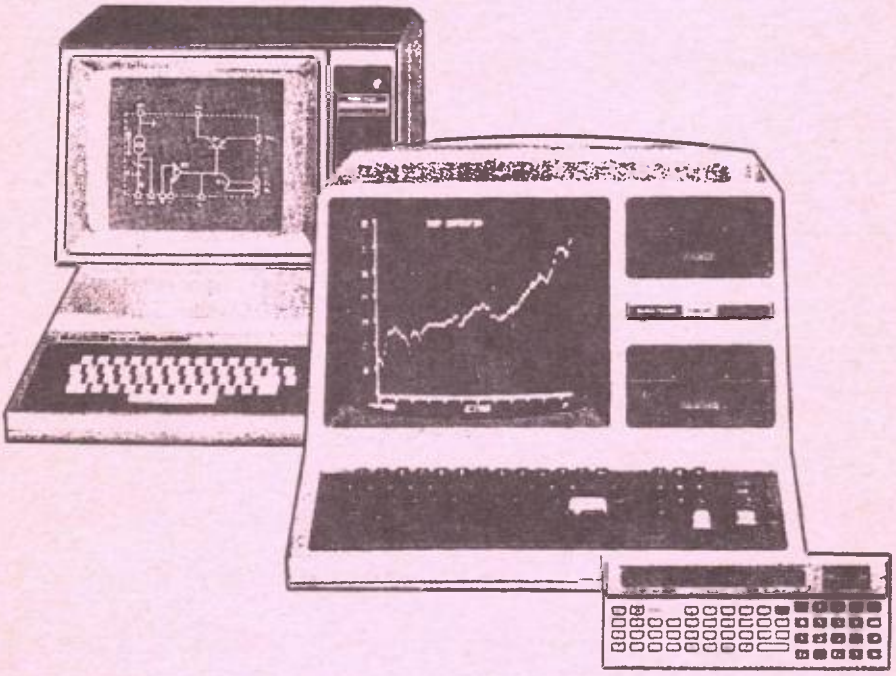
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REPAIRS & Hardware

Please

REM 80



The North West TRS 80 Users Group

Volume 7 Issue 4

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EDITORIAL

Here we are again, amazing isn't it. Volume 7 Issue 4, I don't know how we do it. Check the adds this month, I noticed a few goodies on offer, new and second hand. There is no activities page this month for reasons beyond our control. But note we have arranged an active few months ahead.

In September, Peter Mooney will be informing us of everthing we need to know about graphics. October we will be having a Model I/IV demonstration, with the help of Laurie Bradshaw and Kevin Harper. November promises to be quite good, we are arranging for an expert on the Dragon/CoCo to come along and give us a chat on what goes on inside the beasts.

Well as you can see we are still active and still arranging chats and demos even though only a small core of group members actively take part. Never mind, we have gone on for over seven years and intend to go for another, at least seven. Who said the Tandy Was dead? Fort Worth may have decided so, but us Brits won't allow it to happen, WILL WE?

Don't forget, members writing for the Newsletter, keep those articles and tit-bits coming for the Octobers issue. The latest date for submissions is 11th October.

Carolyn.

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Any articles or programs for inclusion in this Newsletter must be addressed directly to the Editor, preferably on cassette, disk or uploaded, (normal communication protocols are acceptable), at the following address :-

40, COWLEES,
WESTHOUGHTON,
BOLTON.
BL5 3EG
Tel ... 0942-812843

AN INTRODUCTION TO PASCAL

By Melvyn D. F. Franklin.

The intention of this article and associated line listings, is to introduce group members to the PASCAL language. The best possible way I could think of to do this was to write a computer program in two languages and cross reference their operation and Syntax.

Firstly I would like to point out a few thoughts and reasons why PASCAL is a widely used language.

PASCAL is a powerful general purpose programming language which was designed by professor Niklaus Wirth of the Technical University in Zurich, Switzerland. The language was named in honour of Blaise Pascal, a famous seventeen century mathematician. However mathematics is by no means the only field in which the PASCAL language has been found useful.

The standard PASCAL language, consisting of Wirths definition, published in 1971 was originally introduced to aid in teaching a systematic approach to good program design. It is possible that the phrase 'Structured Programming' has been heard by most members. This is a phrase which profesional programmers use when writing large and complex programs in a way that attempts to avoid errors and bugs. Other languages, such as; Basic, Cobol and Fortran are not classed as 'Structured', and as we all know develop loads of errors during development.

Most versions of PASCAL can be used by beginners to learn 'Structured Programming' and this has been proved by thousands of students in the past. It is probably true that beginners can write small programs easier using Basic than PASCAL but as the need for multiple subroutines becomes apparent PASCAL, with it's forced Structuring makes development and debugging much simpler. The fact is that the larger the program the more structure is required. Most programmers that use both Basic and PASCAL will tell you that they much prefer to program in PASCAL and that the extra effort taken to learn such a language is well worth it.

In general, programs written in PASCAL are portable, (i.e. they may be compiled and run on many different micro-computers without alteration). This is not always true nowdays, as there have appeared many versions of PASCAL that are machine dependent.

One such version is called 'Turbo Pascal', produced in the USA.

Turbo PASCAL was originally written for CPM machines, but recently has been adapted to run on MSDOS machines, such as the IBM-PC. This causes some problems with portablity as the version released for the IBM-PC, naturally gives facilities that are only available on MSDOS machines. Although these features are nice, it means once written for the IBM-PC it is not portable to the extent that it will work without modification on CPM machines.

AN INTRODUCTION TO PASCAL

Other versions that run on the majority of machines, such as the Tandy Model I/III/IV are much more portable. UCSD PASCAL is, I believe, the most portable system and the same system, although different versions, can be used on; PDP 11, 8080, 8085, Z80, 6502, 6800, 9900, AM-100 and some other processors. This as you can imagine makes full use of PASCAL's portablity and means that software development on one machine lan be, so called, ported across to the others and will run without any modification whatsoever.

The following two line listings were written to achieve the same result. One in Basic and the other in PASCAL. Most members will be able to understand the simple programming techniques use in the Basic program although only a few will understand the way it has been re-written in PASCAL in a manner that has tried to emulate the Basic version.

I don't intend to ramble on about the Basic syntax other than where I cross reference it with it's PASCAL equivalent where necessary.

Firstly, you will notice that the PASCAL listing is much longer than the Basic one, this is a sign of 'Structured Programming'. The simplest way to describe the PASCAL listing is that is a series of subroutines called from a main program loop. These subroutines are called Procedures and Functions. In Our program we have not used any Functions, mainly to keep this introduction as easy as possible.

Ideally the size of each Procedure should be kept a short as possible, an ideal program, not many of these about, would have Procedures and Functions of just a few lines each. This enables easy debugging and makes the program easier to read by new programmers. I'm afraid even my PASCAL doesn't reach these standards, but I've kept the Procedures as short as possible to help us understand the program flow.

The program is divided into six Procedures, a Declaration section and main program loop. We will take firstly the Declaration section. This section is a requirement of PASCAL. PASCAL must have ALL variables and constants declared at the beginning otherwise, you guessed it, it won't work. To keep our program simple, all the variables, apart from two, are Strings. For the two that are not, one is declared as an Integer, the other as a Character. String variables must be declared with a maximum length that is to be used. Therefore you will note from the listing that all our multiple input variables are Strings of various lengths.

To the left of the declaration column you will notice that the variables themselves are long words, not just a couple of characters as in our Basic program. This is a feature that is dependent on the programmer, some use very long words and others just short sharp Basic type variables. You may be interested to know that long word variables ARE allowed in most versions of Basic. Perhaps we've been doing it wrong all these years and what we were initially shown from those famous Tandy books was not really good tuition.

AN INTRODUCTION TO PASCAL

The Procedures in our listing are broken down into what is thought to be a reasonable size, tryin to keep each operation within one Procedure, therefore making it easier to understand. The Procedures are not in any particular order, although some PASCAL compilers, like Turbo, require any Procedures to be called to be located before the call in the Program or other Procedure.

Each of the Procedures have a title or label and following this there is always a 'BEGIN' statement. 'BEGIN's and 'END's are a requirement of PASCAL to enclose certain parts of the Procedure or program. You will also notice that the PASCAL listing has lots of semi-colons, this part of the syntax is very important. They are used to determine the end of a part of a Procedure or the end of the procedure itself. Most PASCAL compilers will fail if semi-colons are missing where it expects to see one. From experience I can tell you it's my most common mistake, leaving off semi-colons.

Procedure 'Askquestion', does just that, it prompts the user with text and requests an input of various data. You will note that we have two types of write statements, a 'WRITE', which is equivelent to a Basic 'PRINT' statement but assumes the Basic statement has a semi-colon on the end, thus no carriage return or line feed is printed. The other, 'WRITELN', forces a carriage return and line feed after the text has been printed. When 'WRITE' is used, in certain cases it is sometimes necessary to do a 'WRITELN' else text output bumps into each other. So the first Procedure should be easy to understand. You will notice within this Procedure and at the program start the REM's are encased within brackets and asterisks. This is one way that REM's are entered into PASCAL listings, there are others.

The second Procedure is very simply a display routine, 'Showdata' just 'WRITE's out the variables after they have been loaded by the first Procedure. Note that all the 'WRITE's are 'WRITELN', forcing carriage return-line feeds after each output.

Procedure three, 'Packtogether', is the PASCAL way of adding strings together. 'CONCAT' is an abreviation for 'CONCATINATION'. I have written it slightly against the grain to make it easier to read, i.e. taken 'Packstring', added 'Namestring, Agestring, and Companynamestring' first, then used the same function to add further strings to 'Packstring'. Resulting in all the strings being put into 'Packstring'.

'Saybyebye' procedure is just another routine to output text to the screen, bit early in the program you say, but thats where I decided to put it as it's called later from another Procedure.

'Finished' is yet another routine for display of text, in fact it's the second of two exits from the program outputs.

AN INTRODUCTION TO PASCAL

'Questionagain', well I know what I mean anyway, has several features within it, some display text, some calls to other Procedures, a timing loop and an Inkey$ request. The 'READ' function does just that, read the keyboard for a character. Then we have an 'IF' statement together with one of PASCAL's 'IN' functions. This actually gives a BOOLEAN answer as to whether the character input at the keyboard is in the data between the square brackets, looking for, either an uppercase or lowercase 'Y'. If the BOOLEAN statement is TRUE then the first BEGIN - END loop is activated otherwise it falls to the 'ELSE'and the second BEGIN- END loop runs.

Within these loops are calls to other Procedures, they are called by name, better than GOSUB's or GOTO's and easier to read. We also have a 'REPEAT' function followed by an 'UNTIL'. It does exacly that, but rely's on the, in our case the INTEGER variable 'i' to exceed 30000 until the TRUE is returned. Note that the INTEGER variable 'i' is set to '1' outside the 'REPEAT - UNTIL'. This our equivelent to the Basic timing loop in line 370 of the Basic listing. We could have used a FOR - NEXT in the PASCAL, but I tend to use REPEAT - UNTIL's as FOR - NEXT loops, when manipulating data are slower that REPEAT - UNTIL's.

Finally, we come to the main program loop. Nothing fancy about that is there. Just a simple BEGIN - END encasing three Procedure calls. Note the 'END.' in the main program loop has a full-stop after it, this informs the compiler that it's the end of the program. Another one of my common errors is forgetting this.

Well thats all I'm writing at present as I've the rest of the Newsletter to get out. If you have any questionsor queries don't hesitate to ask. You probably will have after my supporting talk on 28th August.

-*-*-*- WHAT IS A PROGRAM -*-*-*-

People involved with computers use the term 'Program' with several slightly different shades of meaning. Members of the group also do the same. Basically, a program is a sequence of commands stored in the computer in such a way that each command in the sequence can be carried out automatically, (i.e. with no help from the operator to go from one command to the next). Generally, the first command in the sequence is carried out, then the next, and so on in the order the commands appear. Methods are available to alter the sequence of commands automatically under certain conditions. In other words a program is a sequence of commands that amy not execute in sequence. I THINK !!!

AN INTRODUCTION TO PASCAL

```
10 REM *** PROGRAM CALLED DEMO ***
11 REM *** NA$ = NAME
12 REM *** PK$ - PACKED STRING
20 REM *** CN$ = COMPANY NAME
30 REM *** ST$ = STREET
40 REM *** TN$ = TOWN
50 REM *** TE$ - TELEPHONE NUMBER
60 REM *** AG$ = AGE

70 CLS:CLEAR10000
80 PRINT"THIS IS A DEMONSTRATION PROGRAM"
90 PRINT
100 PRINT"IT WILL ASK SEVERAL QUESTIONS OF THE OPERATOR"
110 PRINT"AND THEN PRODUCE A SUMMARY OF THE ANSWERS"
120 REM
130 PRINT "ENTER YOUR NAME ";
140 INPUT NA$
150 PRINT"ENTER YOUR AGE ";
160 INPUT AG$
170 PRINT "ENTER COMPANY NAME ";
180 INPUT CN$
190 PRINT "ENTER STREET ";
200 INPUT ST$
210 PRINT "ENTER TOWN ";
220 INPUT TN$
230 PRINT "ENTER YOUR TELEPHONE NUMBER ";
240 INPUT TE$
250 CLS
260 PRINT"THIS IS THE DATA YOU ENTERED "
270 PRINT
280 PRINT"NAME - ";NA$:PRINT"AGE = ";AG$
290 PRINT"COMPANY - ";CN$:PRINT"ADDRESS = ";ST$;",  ";TN$
300 PRINT
310 PRINT"SHALL I PACK THIS INTO ONE STRING <Y/N> ?";
320 A$=INKEY$:IFA$=""THEN320
340 IF A$="Y" OR A$ - "Y" THEN 500
350 PRINT:PRINT"OK, I WONT BOTHER THIS TIME"
360 PRINT"THANK YOU FOR USING ME.... BYE BYE"
370 FOR X = 1 TO 3000: NEXT
380 END
500 PK$ = NA$ + AG$ + CN$ + ST$ + TN$ + TE$
510 PRINT
520 PRINT"THE PACKED STRING LOOKS LIKE THIS"
525 PRINT
530 PRINTPK$
540 PRINT"I COULD NOW SAVE THIS IF I HAD FILE HANDLING"
550 PRINT"BUT IT'S NOT WRITTEN YET"
560 END
```

AN INTRODUCTION TO PASCAL

```
PROGRAM demo;                    (* PASCAL VERSION OF BASIC PROG *)

VAR       namestring : STRING[30]
          packstring : STRING[255]
  companynamestring : STRING[30]
       streetstring : STRING[25]
         townstring : STRING[25]
   telenumberstring : STRING[14]
          agestring : STRING[4]
     characterinput : CHAR;
                  i : INTEGER;


PROCEDURE askquestions;

BEGIN
                     (* CANNOT CLEAR SCREEN IN THIS PASCAL   *)
                     (* IF TURBO PASCAL USE "CLRSCR;" TO CLS *)

      WRITELN('This is a demonstration program');
      WRITELN;
      WRITELN('It will ask several questions of the operator');
      WRITELN('and then produce a summary of the answers');

(* REM *)            (* REM'S PUT INSIDE BRACKETS & ASTERISKS *)

      WRITE('Enter your name ');
      READ(namestring);
      WRITELN;

      WRITE('Enter your age ');
      READ(agestring);
      WRITELN;

      WRITE('Enter company name ');
      READ(companynamestring);
      WRITELN;

      WRITE('Enter street ');
      READ(streetstring);
      WRITELN;

      WRITE('Enter town ');
      READ(townstring);
      WRITELN;

      WRITE('Enter your telephone number ');
      READ(telenumberstring);
      WRITELN;

END;
```

AN INTRODUCTION TO PASCAL

```
PROCEDURE showdata;

BEGIN
      WRITELN('This is the data you entered ');
      WRITELN;
      WRITELN('Name - ',namestring);
      WRITELN('Age  = ',agestring);
      WRITELN('Company = ',companynamestring);
      WRITELN('Address = ',streetstring,',  ',townstring);
      WRITELN;
END;


PROCEDURE packtogether;

BEGIN
  packstring := CONCAT(namestring,agestring,companynamestring);
  packstring := CONCAT(packstring,streetstring,townstring);
  packstring := CONCAT(packstring,telenumberstring);
END;


PROCEDURE saybyebye;

BEGIN
      WRITELN;
      WRITELN('OK, I wont bother this time');
      WRITELN('Thank you for using me .... Bye Bye ');
END;


PROCEDURE finished;

BEGIN
      WRITELN('Could have saved this if I had file handling');
      WRITELN('but it',CHR(39),'s not written yet ');
END;
```

AN INTRODUCTION TO PASCAL

```
PROCEDURE questionagain;

BEGIN
      WRITE('Shall I pack this into one string <Y/N> ? ');
      READ(KBD,characterinput);
      IF characterinput IN ['Y','y'] THEN
            BEGIN
                packtogether;
                WRITELN;
                WRITELN('The packed string looks like this ');
                WRITELN;
                WRITELN(packstring);
                WRITELN;
                finished;
            END
         ELSE
            BEGIN
                i := 1;
                saybyebye;
                REPEAT
                      i := i + 1;
                UNTIL i > 30000;
           END;
END;

                          (* START OF MAIN PROGRAM LOOP *)
BEGIN
      askquestions;
      showdata;
      questionagain;
END.
```

GRAND CLEARANCE SALE

Having reached a small financial crisis, I am having a clear out of my surplus hardware. Members may be interested in some or all of these items:-

TRS-80 MODEL I

Complete with expansion interface, 1 disk drive, Percom doubler, Tandy RS-232, speed-up kit, monitor, wooden case with fan to hold keyboard, EI and two disk drives.

ALSO AVAILABLE

CP/M board (Omikron Mapper with WordStar, MBASIC, CBASIC, spelling checker)
Newclock-80 hardware clock.

I'm looking for around #300-#350 for the lot, might split last two items off, but not the basic Model 1.

CENTRONICS P1 PRINTER

80 cols electrostatic (silver paper). Fast (100 cps) and very quiet. Quite good print, photocopies well. Around #45

COMMODORE 64 SYSTEM

Including 1541 disk drive, MPS-801 printer, real RS-232 interface, and some software. Around #350

If you think the prices are too low (or too high) give me a ring, I will haggle. Peter Tootill (051) 428 2733

COCO BREAK KEY DISABLE

By Dave Powis.

Listed below is a short program, devised, found, developed or something by Dave.

It will disable the BREAK key on the Tandy COlour COmputer. It also takes into account the input statement used with the reset disable and auto-run program.

It makes a good protection routine too.

```
10   CLEAR 200,32550
20   FOR I = 0 TO 55 : READ A$ : POKE 32551 + I,
     VAL("&H" + A$) : NEXT
30   DATA 8E, 7F, 3C, BF, 01, 6B, 8E, 7F, 54, BF,
     01, 9B, 86, 7E, B7, 01, 6A, B7, 01, 9A, 39,
     0D, 6F, 27, 01, 39, 32, 62, 34, 14, BD, A1,
     99, BD, A1, C1, 27, F8, 81, 03, 27, F4, 7E,
     B5, 42, 9F, DF, 35, 10, 30, 04, 34, 10, 9E,
     DF, 39
40   EXEC 32551
```

For group members that have Dragons the following changes must be made to enable the program to run correctly.

```
FROM :- BD, A1, 99    TO    BD, 80, 09
        BD, A1, C1    TO    BD, 80, 06
        7E, A1, B7    TO    7E, B5, 42
```

To disable the RESET on both machines the following POKE will do it.

```
POKE 113, 0
```

Editors Note :-

It seems a long time since group members delved deep into their machines, but I'm glad to see some still are. There must be loads of information out there in your notebooks that other members could utilise, so dig into those note pads, paper scraps etc.. and find us some nice tit-bits for the Newsletter.

WORD SCRAMBLE

By P. E. Watson

The program listing that follows is one I use for producing lists of scrambled words and phrases for those 'end-of-term' lessons.

It also produces an answer sheet!

The program, as written, requires a printer, but should easily be adapted to produce the output on the screen.

For those who like puzzles but not typing in listings, I've produced ten questions - all are concerned in some way with computers.

If the answer is more than one word, a space is included (at random) in the characters forming the words.

1. STFEORWA	You can't kick this ...
2. DREAAWHR	... but you can this.
3. DTEIGCRIAEIRNT CTU	A posh description for what goes with fish.
4. ITRTOSASRN	Used before question 3 was invented.
5. HND IECCMEOA	Not Morse - but the computer understands it.
6. OBOTR	A machine with self-contol.
7. EDAYS IWLEH	A revolving flower?
8. P NHILTEG	This doesn't use ink to write.
9. FTCNROIIAIVE	It helps to stop GIGO
10.ALTAIODIVN	... and so does this.

As I use this at school, I've altered the program to run on the 480Z Network. Anyone wanting such a copy is welcome to have one.

WORD SCRAMBLER

By P. E. Watson.

```
10 REM ********        This program scrambles words
20 REM ********        P.E.Watson - 1984
30 REM ********        The program requires a printer.
40 CLEAR 10000: DEFINT A-Z: GOTO 140
70 REM ********        Subroutine for single-key entries.
80 I$=INKEY$:IF I$="" THEN 80
100 A=ASC(I$)
110 IF A>90 THEN A=A-32
120 RETURN
130 REM ********        Title and instructions
140 CLS: PRINT @ 77,"This program scrambles words."
160 PRINT @ 206,"You may type up to 25 words"
170 PRINT @ 338,"with a clue for each"
180 PRINT @ 586,"** Press <ENTER> when you're ready **"
190 GOSUB 80
200 IF A<>13 THEN 190
210 REM ********        Initialise variables
220 A=0: C=0: H=0:I=0:J=0: L=0: R=0: X=0: I$="": M$=""
320 W$="": AN$=""
340 DIM A$(25), Q$(25), R(20)
350 ON ERROR GOTO 1360
360 REM ********        Input word / explanation
370 W$="": L=0: C=C+1
400 IF C>25 THEN  CLS: PRINT: PRINT TAB(15)"*** The  list  is  filled  ***":
PRINT: PRINT TAB(15)"Press <ENTER> to Print it": GOSUB 80: GOTO 1010
410 CLS: PRINT @ 0,"Word Number ";C
430 PRINT @ 128,"To end the list of words, type  @@";
440 PRINT @ 256,"Type the word please";
450 PRINT @ 384,"Maximum  = 20 characters";
460 PRINT @ 414, CHR$(123);
470 PRINT @ 438, CHR$(125);
480 PRINT @ 481, STRING$(20,"-");
490 PRINT @ 415,"";
500 INPUT W$
510 IF W$="@@" THEN 1010
520 L=LEN(W$)
530 IF L<2 OR L>20 THEN 430
540 CLS
550 PRINT @ 128,"Please type the meaning of...  ";W$;
560 PRINT @ 384,"Maximum = 50 characters";
570 PRINT @ 512, CHR$(123);
580 PRINT @ 566, CHR$(125);
590 PRINT @ 579, STRING$(50,"-");
600 PRINT @ 513,"";
610 INPUT M$
620 IF LEN(M$)>50 THEN 540
630 CLS
640 YN$=""
650 PRINT: PRINT"The word is:    ";W$
670 PRINT: PRINT"The meaning is:  ";M$
```

WORD SCRAMBLER

```
690 PRINT: PRINT
710 PRINT"Is this o.k. < y / n >";
720 GOSUB 80
730 PRINT CHR$(A)
740 IF A=78 THEN C=C-1: GOTO 370
750 IF A=89 THEN 770
760 GOTO 630
770 A$(C)=W$+" ... " +M$
780 REM *********        Randomise order of word
790 AN$=""
800 FOR X=1 TO L: R(X)=0: NEXT X
830 FOR I=1 TO L: R=RND(L)
850 IF R(R)=1 THEN 840
860 R(R)=1
870 C$=MID$(W$, R, 1)
880 A=ASC(C$)
890 IF A<91 THEN 920
900 A=A-32
910 C$=CHR$(A)
920 AN$=AN$+C$
930 NEXT I
940 IF AN$=W$ THEN 790
950 IF LEFT$(AN$, 1)=" " THEN 790
960 IF RIGHT$(AN$, 1)=" " THEN 790
970 AN$=AN$+STRING$(20," ")
980 AN$=LEFT$(AN$, 20)
990 Q$(C)=AN$+"-" +M$
1000 GOTO 370
1010 C=C-1
1020 CLS
1030 REM ********        Print out ANSWERS and QUESTIONS.
1040 PRINT"Answer sheet required  < y / n >";
1050 GOSUB 80
1060 PRINT CHR$(A)
1070 IF A<>78 AND A<>89 THEN 1040
1080 IF A=78 THEN 1180
1090 PRINT: PRINT"Answer sheet being printed"
1110 LPRINT"ANSWER SHEET"
1120 LPRINT STRING$(12,"=")
1130 LPRINT" "
1140 FOR I=1 TO C
1150 LPRINT TAB(3)I; A$(I)
1160 LPRINT" "
1170 NEXT I
1180 PRINT: PRINT
1200 INPUT"How many question papers ";H
1210 FOR I=1 TO H
1220 LPRINT TAB(30)"SCRAMBLED"
1230 LPRINT TAB(30)STRING$(9,"=")
1240 LPRINT" "
```

WORD SCRAMBLER

```
1250 LPRINT TAB(5)"Re-arrange the letters in the words so they have the
     meanings given"
1260 LPRINT" "
1270 FOR J=1 TO C
1280 LPRINT J; TAB(5)Q$(J)
1290 LPRINT" 2
1300 NEXT J
1310 PRINT"Press <ENTER> to print next copy"
1320 GOSUB 80
1330 IF A<>13 THEN 1320
1340 NEXT I
1350 GOTO 1450
1360 CLS: PRINT: PRINT"Trouble with that one..."
1390 PRINT: PRINT"Please enter it again"
1410 C=C-1
1420 FOR I=1 TO 900
1430 NEXT I
1440 GOTO 350
1450 END
```

The answers to the ten words in the associated article are as follows :-

1.	SOFTWARE	2.	HARDWARE
3.	INTEGRATED CIRCUIT	4.	TRANSISTOR
5.	MACHINE CODE	6.	ROBOT
7.	DAISY WHEEL	8.	LIGHT PEN
9.	VERIFICATION	10.	VALIDATION

I hope this gives you an idea of how to use the program and explore it's uses.

-*-*-*- WOTSIT -*-*-*- WOTSIT -*-*-*- WOTSIT -*-*-*-

Question :-

Wotsit take to make a Walters 2000 printer work on the TRS-80 Model I? The Microline 80 I usually works perfectly, but the Walters is ignored by the computer.

Answer :-

Wel at last I have recieved a Wotsit I can't answer. We can only hope that there is someone in the group that HAS heard of a Walters printer. If you have come forward and help the Wotsit reporter.

MODEL IV

By Kevin Harper.

Listed below is an invoice program that I wrote about two years ago for the Model I, with help from Peter Mooney. Having now modified the program to run on the Model IV, I present it to all interested parties.

The program is also available on disk, for those with tired fingers.

To run it is self evident, to exit simple type 'END' in the item column. I hope you find it useful.

```
5 DEFINT Q
10 CLS : PRINT "INVOICE PROGRAM"
20 PU$ = "$###.##"
25 Q$ = "###"
30 DIM IT$(48),QT(48),UC(48),VA(48),RP(48),MN$(5),CN$(5)
40 MN$(0) = "COMPANY NAME" : MN$(1) = "ADDRESS" : MN$(2) = "ADDRESS" :
   MN$(3) = "ADDRESS" : MN$(4) = "ADDRESS" : MN $(5) = "POST CODE" : T1$ =
   "INVOICE NO" : T2$ = "DATE"
60 CLS : LPRINT CHR$(30)
70 P = 46 : FOR L = 0 TO 5 : Z$ = MN$(L) : GOSUB 1000 : P = P+80 : NEXT
100 REM  *****  GET CUSTOMER NAME
110 P = 3 : FOR L = 0 TO 5 : ML = 25 : GOSUB 2000 : P = P+80
120 CN$(L) = S$
130 NEXT
150 REM  *****  GET INVOICE NUMBER
160 P = 7*80 : PRINT @P,T1$; : P = P+LEN(T1$)+1 : ML = 7 : GOSUB 2000 : IN =
    VAL(S$)
170 P = 7*80+46 : PRINT @P,T2$; : P = P+LEN(T2$)+1 : ML = 12 : GOSUB 2000 :
    DT$ = S$
180 PRINT : PRINT STRING$(79,95) : PRINT
190 P = 10
200 REM  *****  PRINT HEADINGS
210 PRINT TAB(20)"ITEM";TAB(47)"QTY";TAB(58)"UNIT COST";TAB(74)"TOTAL."
220 PRINT STRING$(79,95);
300 REM  *****  LPRINT
310 FOR L = 0 TO 5
320 LPRINT TAB(5)CN$(L);TAB(54)MN$(L)
330 NEXT
340 LPRINT
350 LPRINT TAB(4)T1$;" ";IN;TAB(54)T2$;" ";DT$
370 LPRINT STRING$(79, 95)
380 LPRINT  "          ITEM          QTY      UNIT COST    TOTAL."
395 LPRINT STRING$(79, 95)
400 REM  *****  INPUT ROUTINE
410 I = 1 : FOR A = 1 TO 22 : PRINT : NEXT
415 P = 240
```

MODEL IV

```
420 P = P+2 : ML = 40 : GOSUB 2000 : IT$(R) = S$
425 IF IT$(R) = "END" THEN R = 0 : LZ = 24 : GOTO 600
430 P = P+44 : ML = 4 : GOSUB 2000 : QT(R) = VAL(S$)
440 P = P+11 : ML = 6 : GOSUB 2000 : UC(R) = VAL(S$)
450 P = P+14 : VA(R) = INT(UC(R)*QT(R)*100+.5)/100 : PRINT @P,USING
    PU$;VA(R); : TT = TT + VA(R)
460 P = P+9
465 R = R+1
470 GOTO 420
600 IF IT$(R) = "END" THEN GOSUB 2500 : GOSUB 3000 : END
610 LPRINT TAB(4);IT$(R);TAB(43); QT(R) ; TAB(59); USING PU$ ; UC(R) ;
611 LPRINT TAB(72); USING PU$ ; VA(R)
620 R = R+1 : LZ = LZ -1 : GOTO 600
999 GOTO 420
1000 PRINT @P,Z$; : RETURN
2000 S$ = "" : I = 0 : PRINT @P+ML,CHR$(93);
2010 PRINT @P+I,CHR$(91); : A$ = INKEY$ : IF A$ = "" THEN 2010
2020 IF A$ = CHR$(13) THEN PRINT @P+I," "; : PRINT @P+ML," "; : RETURN
2021 IF A$ = CHR$(8) THEN I = I-1 : S$ = LEFT$(S$,I) : GOTO 2040
2030 PRINT @P+I,A$; : S$ = S$+A$ : I = I+1
2040 IF I = ML+1 THEN PRINT @P,STRING$(ML,32); : PRINT @P,"TOO LONG"; : FOR
    N = 1 TO 1500 : NEXT : PRINT @P,STRING$(ML,32); : GOTO 2000
2050 GOTO 2010
2500 FOR A = 1 TO LZ : LPRINT : NEXT A
2510 LPRINT TAB(50) "GROSS TOTAL      " ;USING PU$;TT : LPRINT : LPRINT :
    RETURN
3000 LPRINT STRING$(79,95)
3010 FOR A = 1 TO 10 : LPRINT : NEXT : RETURN
```

******* FOR SALE *******

The Group has for sale, at a very low price, a Tandy CGP 115 Four Colour Graphic Printer.

It is in NEW condition and is complete with power supply and manual.

Interested, then contact Melvyn and make an offer in the region of £68.00.

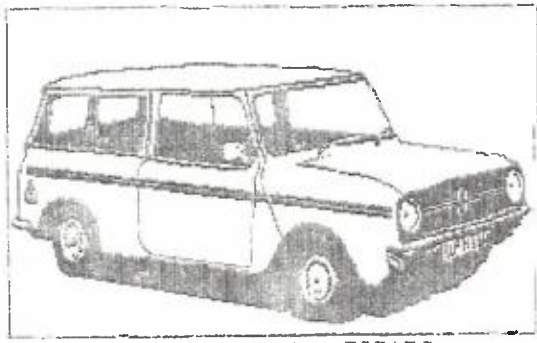
Call 0942-812843 NOW!!

CGP 115 SCREEN DUMP FOR THE DRAGON/COCO

By Adrian Bradshaw.

```
10  PMODE 4,1 : SCREEN 1,1
20  IF INKEY$ = "P" THEN 30 ELSE 20
30  PRINT#-2,CHR$(18)+"A"+CHR$(18)+"I"+"MO,-520"
40  PRINT#-2,"I" : PRINT#-2,"MO,511"
50  X = 255 : Y = 0
60  C1 = PPOINT(X,Y)
70  Y = Y + 1
80  IF Y = 191 THEN Y = 0 : X = X - 1
90  IF PPOINT(X,Y) <> C1 THEN 100 ELSE 70
100 IF C1 = 0 THEN A$ = "D" ELSE A$ = "M"
110 P$ = A$+STR$((Y)*2)+","+STR$((X-1)*2)
120 PRINT#-2,P$
130 IF Y = 191 THEN Y = 0 : X = X - 1 : GOTO 60
140 GOTO 60
```

Below you will see an example of what the program can do. The picture of the Mini was generated on the screen using another piece of software and then screen printed using the above program.



MINI CLUBMAN ESTATE

HARDWARE REPAIRS AND MODIFICATIONS

As you are probably aware, recently we have had a little trouble arranging for repairs and modifications as we have been unable to convince the technical minded members to carry these out. Now, I glad to say, we have had an offer from a member to do just that.

Frank Philbrow, of Granada fame, has kindly offered his services to group members who need assistance with their hardware problems.

His latest offer is to upgrade Dragons and CoCo's from 32K to 64K for just £25.00. I'm told this price includes the cost of the new chips as well.

Frank can be contacted on 061-428-2894, outside working hours.

John Redgate
114,Mosley Common Road
Tyldesley
Manchester M29 8PR

Telephone 061-790-9067

All the following prices are inclusive of VAT and carriage (some are also subject to alteration)

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Star

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Shinwa

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CPA136100cps,80 col,DMP(F/T) 330.00

Epson

RX80 F/T+ 285.00
FX80+ 438.00

Juki

6000 80 col,12cps,F/T,Daisywheel 200.00

Astar 4colour Printer/Plotter 80.00

Others available on request.

DISC DRIVES - Cumana

CSX200D 40T D/S no PSU 115.00
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CS100 40T S/S PSU 115.00
CS200D 40T D/S PSU 143.00
CS400 80T D/S PSU 160.00

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CDX400D 40T D/S no PSU 225.00
CDX800S 80T D/S no PSU 260.00
CD200 40T S/S PSU 220.00
CD400D 40T D/S PSU 270.00
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5400 40T S/S no PSU 90.00
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Dual

5401DB 40T S/S no PSU 205.00
5402DB 40T D/S no PSU 255.00
5802DB 80T D/S no PSU (hardware switched) 280.00
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5402D 40T D/S PSU 275.00
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COMPUTER SOFTWARE COMPANY FOR THE MEDICAL AND PHARMACEUTICAL PROFESSION

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Bolton. BL5 3EG.
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SPECIAL THIS MONTH

MINOR MIRACLES WS2000 (Multi speed Modem)

MODEMS

THORN DATATECH (300/300-1200/75 Auto Dial)	£160.00
DACOM 2123AD	£349.00
DACOM 2123GT	£498.00
DACOM BUZZ BOX (300/300)	£ 69.00
DACOM BUZZ BOX (300/300 Auto Ans)	£119.00
STEEBEK MINIMO (300/300)	£ 99.00
STEEBEK MINIMO (300-1200/75)	£145.00
SENDATA 700 COUPLER (300/300 bat/mains)	£199.00
MINOR MIRACLES WS2000	£130.00
ANSWERCALL MINI (300/300)	£ 65.00

DISKS

5.25 DOUBLE DENSITY/SINGLE SIDED	£ 14.00
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5.25 DOUBLE DENSITY/DOUBLE SIDED (96TPI)	£ 19.50
5.25 PLASTIC LIBRARY CASES	£ 1.95
3.25 DOUBLE DENSITY/SINGLE SIDED	£ 48.00

PRINTERS

EPSON FX80 F/T	£438.00
EPSON RX80 F/T	£285.00
SEIKOSHIA GP100A	£199.00
SEIKOSHIA GP250X	£270.00
BROTHER HR5	£157.00
BROTHER HR15 (Daisy Wheel)	£445.00
BROTHER HR25 (Daisy Wheel)	£750.00

(Printer drivers for use with SuperScripsit Written to order)

CABLES

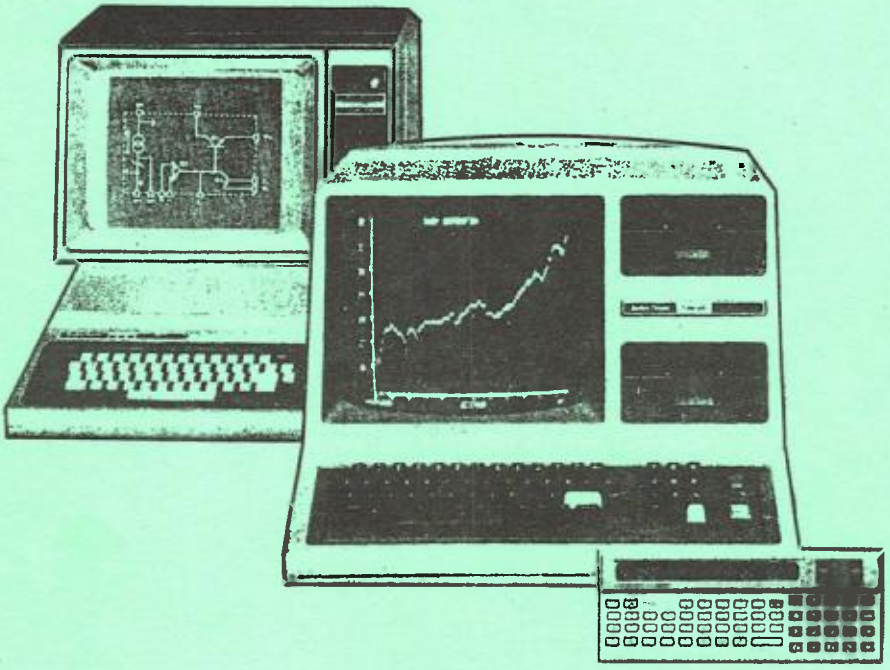
Cables are made to order but as a guide an RS232 one metre standard cable would cost £18.00
Printer cables normally cost around £22.00 depending on the actual configuration.
'T' switches for printers and RS232 from £80.00

All above prices are Exclusive of VAT & P.P

Members may deduct 5% from the above prices.
Bulk purchase prices are available.

Excelsior Press Ltd., 1 Market Street, Westhoughton.

REM 80



The North West TRS 80 Users Group

Volume 7 Issue 5

Oct/Nov

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EDITORIAL

Yet again we have produced another newsletter, even though a bit thin. We are still fighting to maintain it's standard but the lack of articles and programs make it difficult. In this issue are notes about the Christmas meeting and subscription increases, so read it for your own benefit.

The groups activities are still going strong even if members are not writing for the newsletter. Note that a subscription renewal form is included with this newsletter. When you fill it in, make sure you fill it in completely, including all information requested. I am now trying frantically to get a bumper Christmas newsletter together for December so PLEASE send me something, whether it be just a few Wotsits.

Members are reminded that the committee are still trying hard to ensure that the newsletter and group maintain past standards, Brian Disley is tearing his hair out to arrange better meetings, Steve Costello is still supporting the Costello Shield etc... If you want to make a last ditch entry for the Trophies now is the time, the December newsletter is the last this year, so get at it!

The latest date for submissions to the Christmas Newsletter is
1st December.

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Any articles or programs for inclusion in this Newsletter must be addressed directly to the Editor, preferably on cassette, disk or uploaded, (normal communication protocols are acceptable), at the following address :-

40, COWLEES,
WESTHOUGHTON,
BOLTON,
BL5 3EG
Tel ... 0942-812843

****
** ACTIVITIES PAGE **
** By Brian Disley **
****

I must appologise for the lack of an activities page in the last issue, but as we are all hobbyists, occasionally pressures at home and work affect the amount of time we all can dedicate to our fruitfull computers and the Users Group, never the less we are still very active and the future meetings promise to be of great benefit and interest to us all.

NOVEMBER 27th

I am in the process of arranging to have a Dragon/Coco expert at this meeting who is willing to come along and give us a chat and let us pick his brains, (or is it to pick ours!), well anyway we are bound to exchange information and it will be so good to have a new face to chat to us. Not that we are complaining about the past speakers who I'm sure you all will agree have really done us all proud but I for one don't like to keep having to rely on the same few members who thankfully are always willing to pull out all the stops to prepare an evenings entertainment and and get a load of heckle and groans from the audience, but I'm sure it is all taken in good fun as it is meant and it all adds to the evenings entertainment so keep it up and don't let those deliberate mistakes come out unnoticed!!.

And now

(pause for fanfare!)

THE CHRISTMAS MEETING

(another fanfare!)

SUNDAY DECEMBER 15th at The B.B.C. Social Club,Charles St., Manchester.

Full details of how to get there are in REM 80 Vol 6 issue 5 page 2. As in the past we will be holding a Sunday meeting in December but this year we intend to compress just as much into less time as we feel that in the past it has probably dragged out a bit and some members seemed to arrive late and leave early therefore missing some of the days events.

This year the meeting will start at 2:00pm and finish at 7:00pm. the entrance fee including buffet will be £1.50 for members and £2.00 for visitors. The committee would have liked the entrance fee to be lower than this but club funds will not stretch to this due to large investment in the libraries over the last year. If you have not benefitted from this then I suggest you contact one of our four libraries and make use of the excelent facilities they have acquired.

As always there will be plenty to keep you occupied for instance :- Peter Mooney has agreed to bring along his amazing dancing TANK for us to play with. There will also be a Bulletin Board simulation for those of you interested in all mod comms. We will also run a competition and a raffle.

****
** ACTIVITIES **
** Continued **
****

A selection of useful videos will be shown during the course of the day. Steve Costello has been volunteered to give us an entertaining chat on Computer Crime, I don't think he means how to commit the crimes mearly to explain what they are etc. And of course the Librarians will be on hand with the goodies and if you ask them nicely they will probably be able to arrange demonstrations for you.

This then brings us into our eighth, yes eighth!, successful year and 1986 can only be better than ever 'cos we've no intentions of letting the computer slump hit us have we? No I hear you say, well the slump only seems to be affecting the games machines and we all do all sorts of wierd things with our systems besides playing games dont we? Yes? Well let us here about them.

JANUARY 29th

Speaking of wierd things we do with our systems, Peter Mooney does plenty of that he's going to get one of his systems to talk to us for a change.

Don't worry we aren't going to have a lecture from a talking computer (not a bad idea though) but Peter will explain how to get your system to talk and I believe it is all done by software so it won't cost you much, if anything, and we all like to hear that don't we?

FEBRUARY 26th

This year The A.G.M. will be later than usual to enable the committee to prepare the accounts etc. I would like to remind members as usual you are expected to attend as it is YOUR club and your comments and suggestions are essential to enable the committee to carry out your wishes in the running of the group and its meetings. As in the past the amendments to the amendments are shure to be entertaining and a useful way of getting your views accross but please spare a thought for the Chairman of the A.G.M. who has usually got to make some sense out of it all at the voting stage

Further details of 1986 meetings will appear in the next newsletter which I expect to be available on the door at our Christmas meeting, at the B.B.C. The meetings will be on the last Wednesday of each month except December for obvious reasons.

****
GROUP NEWS
****

SUBSCRIPTIONS

It is with regret that the group committee has decided that membership fees are to be increased for 1986. The committee, after long discussions, have decided that to enable the group to continue with the newsletter and meetings in the same manner as in the past nearly eight years, an increase is inevitable.

As most long serving members will remember, group subscriptions have not been increased for over five years but unfortunately to enable the group to continue, we are having to increase the subscription in 1986 to £10.00 per year. Although we are offering, yet again, a special renewal price to existing members of only £8.00. The discount scheme we have run for several years to pass on benefits to long serving members is to continue. This means that if existing members renew their subscriptions BEFORE the CLOSE of the December all day meeting, the cost of renewal will only be £8.00. After that date, which is 15th December, the price for renewal will be £10.00.

It is unfortunate that we are having to increase subscription rates and we have tried to find an alternative means of raising cash, without success, nevertheless we are intending to keep members costs down by ensuring that the other areas where costs are incurred do not suffer any increases but hopefully will attract price cuts if all goes well.

With this newsletter we have included a renewal form for members to complete with there latest address and equipment details etc..., please complete these and forward to the Secretary with your 1986 subscription before the end of the December meeting, if you wish to claim your subscription reduction.

ANNUAL GENERAL MEETING

Another change members may not be aware of is that the ANNUAL GENERAL MEETING has been MOVED to the last Wednesday in FEBRUARY. This has been done so that the group accounts can be circulated to all members prior to the A.G.M. and also give the group officers time, after the end of the groups financial year, to evaluate the overall group position.

We should also be point out that, as the A.G.M. is one month later, the membership will be up to strength and a better overall picture of the groups future activities will be available for appraisal.

We hope that we can count on your future support to enable us to continue being one of the remaining active micro-computer users group left in the UK.

****
* Dragon Software Reviews *
* by *
* Dave Sellwood *
****

I seem to have spent a fair bit of money on software recently, some of it I consider well spent, other money I now consider to be ill spent, even when the software has been purchased from normally good software suppliers such as Microdeal. I will start with a program which is currently my favourite.

Rommels Revenge - Design Design.

For some strange (no doubt warped) reason this program loads as ROMMEL when you CLOADM it into your machine, Design Design must be wierd comedians or something. This is the best program of this type I have seen, based as it is on the Atari arcade game "Battle Zone".

You control a tank by means of the keyboard (selecting your own keys for forward, backward, left, right and pause) or joystick as you go searching for enemy tanks and flying saucers, being careful to steer clear of terrain following anti-tank missiles.

Graphic display is in Pmode 4 and three dimensional, movement is very smooth although some sort of proportional control relating to joystick position would have been nice.

Obstacles in the form of pyramids or small and large blocks stop your movement but can be used to hide behind as shells can not penetrate them. Four levels of play ranging from easy to impossible mean that this game can be easily learned but not really mastered, or so I have found because I am still trying to break the 100,000 point barrier, although I have come pretty close on several occasions.

The program cost £6.50 and I think this is very good value. One nice feature allows you to save the high score table, control configuration and play level to tape so that you can reload it and carry on from where you left off as it were.

Overall I gave this game a rating of 85% and it is highly recommended.

****
* Dragon Software Reviews *
****

Chuckie Egg - A 'n' F Software.

This is the most addictive video game I have played for along time (Attack Force for the Model 1 was my last), running up and down ladders, along levels to collect the eggs your hens have laid, without getting caught by the hens or being attacked by the the mad duck if it gets out of its cage.

A very nice game that relies on fast reactions and skill rather than blasting your way around the place, I like these non-violent arcade style games. My copy of the game says you can use keyboard (selecting your own keys) or joystick, but so far I have only been able to get it working using the keyboard, however, I find this is the best method of control.

Up to four players can compete at once the appropriate players score being high-lighted while they are playing and one thing I do like, no silly tune going on and on in the background while play is in progress, I find those tunes infuriating. To get on the high score table initially a score in excess of 1,000 is needed, one that is very easy to obtain, my present highest score is 193,110 any one done better (I would think it easy to beat this as I am usually only fairly average).

When you have progressed a fair way into the game and you are being pursued by the hens and the duck it really does get very hairy and lives tend to be lost pretty quickly. As with many of this type of game, the varios screens repeat as you progress but on the third time around and beyond the speed of the game is very fast. Graphics are very neat and the game uses Pmode 3, the little man's face is clearly visible and the duck looks quite effective. Again a highly recommended game, well worth adding to your collection if you like good arcade style games, I give it 85% overall, mainly because the documentation lets it down a bit.

Athletyx - Microdeal.

This program sounds very good from the advertising blurb :- " A track and field game for 1 or 2 athletes with great graphics and 6 arm wrenching incredibly tiring events. - 1 joystick required. ", they are not wrong about the arm wrenching and maybe they ought to add "joystick breaking" to the description of the events, I have broken a Quickshot II trying to play this game and I still fail to qualify most of the time, will someone kindly tell me the secret of playing this game, because I'm getting tired of getting nowhere fast. True to Microdeals advert, the graphics are very nice and one thing I like is the way the crowd cheers when you do well, although in my case this doesn't happen very often. For my money I prefer Blaby Computers' "Olympia", while only having 1 competitor at a time racing against the clock and not the computer I find the simplicity of this game gives it the edge over Microdeals, plus the fact that the joystick and computer keyboard don't take anywhere near as big a hammering. My overall rating of "Athletyx" is 60%, but no doubt if you are good at moving your joystick side to side very fast WITHOUT breaking it you could do better, I think I would have expected better from Microdeal.

EDUCATIONAL SOFTWARE

By A. N. Other.

The line listing that follows is a very good program for young children, and some of us older children, to learn maths. It has sound and graphics which always helps where children are concerned.

We are not sure how old the program is or in fact who wrote it, but we feel it has enough merit to warrant publication. We believe that it is available from the library, but check with Roy Williams to confirm this.

```
10 CLEAR 1000 : GOSUB 475 : DIMA(37),F$(5),A$(27),H(21),I(38),J(20) : CLS :
   PRINT "<Initializing>"
20 RANDOM : FOR T = 1 TO 4 : READ A$ : NEXT : FOR X = AD! TO AD!+26 : READ A
   : POKE X,A : NEXT
30 DATA DIVISION,MULTIPLICATION,ADDITION,SUBTRACTION
40 DATA 33,0,60,1,0,4,62,32,190,40,7,62,63,94,147,119,24,2,54,191,35,11,120
   ,177,32,236,201
50 GOSUB 450 : CLS : S$ = "NUMBER AID" : PU = 465 : GOSUB 610 : GOSUB 460 :
   PRINT @ 640,CHR$(31); : FOR X = 1 TO 6 : PRINT @ 960, : FOR T = 1 TO 100
   : NEXTT,X : PRINT @ 320,"(This program has sound effects. Connect your
   auxilary plug to a stereo or an amplifier.)
60 PRINT @ 512,CHR$(31); : RESTORE : FOR X = 1 TO 4 : READ L$ : PP =
   (X-1)*64+512
70 PRINT @ PP,STR$(X)". Would you like "L$" problems? (Y/N) ";
80 I$ = INKEY$ : IF I$<>"Y" AND I$<>"N" THEN 80 ELSE PRINT I$ : B$(X) = I$ :
   NEXT
90 FOR X = 1 TO 4 : IF B$(X) = "N" THEN NXT : PRINT @ 512,CHR$(31); : S$ =
   "CHICKENED OUT HA!" : PU = 512 : GOSUB 610 : PRINT : PRINT : FOR T = 1
TO 500 : NEXT : PRINT "Would you like another shot at it? (Y/N)" : CA = 1
   :GOTO 430
100 : N$ = "" : PRINT @ 0,"What's your name"CHR$(31); : INPUTN$ : IF N$ =
    "" THEN 100 ELSE IF LEN(N$)>16 THEN PRINT "Too many characters." : FOR
    T = 1 TO 1000 : NEXT : GOTO 100
110 FOR T = 1 TO LEN(N$) : B = ASC(MID$(N$,T,1)) : IF (B>64 AND B<91) OR B =
    32 THEN NEXT ELSE PRINT "Only letters or spaces please." : FOR T = 1 TO
    1000 : NEXT : GOTO 100
130 PR = 0 : PRINT @ 64,"How many problems"CHR$(31); : INPUTPR : IF PR<1
    THEN 130 ELSE FI = PR
140 S$ = "HI "+N$+"!" : PU = 448+((64-(LEN(S$)*3))/2) : GOSUB 610 : FOR T =
    1 TO 2000 : NEXT
150 CLS : G = 0 : PRINT @ 128,CHR$(31); : PRINT @ 128,"Here's problem
    #"FI+1-PR;N$" : " : PRINT @ 364,F$(1);
160 A = RND(9)*10+RND(9) : B = RND(9)*100+RND(99) : IF A = B THEN 160 ELSE Y
    = -1
170 R = RND(4) : IF B$(R) = "Y" THEN ONRGOTO 190,270,310,330 ELSE 170
```

EDUCATIONAL SOFTWARE

```
180 ' * DIVISION *
190 PRINT @ 413,"TAB("STRING$(8,140); : PRINT @ 472,A" IF  "B;
200 Q = INT(B/10) : IF A< = Q THEN P = 353 ELSE P = 354 : Q = B
210 V$ = STR$(INT(Q/A)) : GOSUB 360 : P = P+193 : V$ = STR$(V*A) : GOSUB 360
    : PRINT @ 607,"-----"; : P = 670+LEN(STR$(Q)) : V$ = STR$(Q-(VAL(V$)))
    : GOSUB 360
220 IF Q = B THEN 250 ELSE PRINT @ 674,RIGHT$(STR$(B),1)
230 P = 354 : V$ = RIGHT$(STR$(INT(B/A)),1) : GOSUB 360 : P = 738 : V$ =
    STR$(V*A) : GOSUB 360
240 PRINT @ 799,"-----"; : P = 866 : V$ = STR$(B-(INT(B/A)*A)) : GOSUB 360
250 PRINT @ 356,"R "; : Y = 1 : P = 358 : GOSUB 360 : G = 1 : GOTO 400
260 ' * MULT. *
270 PRINT @ 286,B; : PRINT @ 349,"X "A; : PRINT @ 412,"-------";
280 P = 481 : V$ = STR$((A-(INT(A/10)*10))*B) : GOSUB 360 : P = 544 : V$ =
    STR$(INT(A/10)*B) : GOSUB 360
290 PRINT @ P-1,"+"; : PRINT @ P+64,"-------"; : P = 673 : V$ = STR$(A*B) :
    GOSUB 360 : GOTO 400
300 ' * ADDITION *
310 A = RND(9)*100+RND(99) : PRINT @ 350,A; : PRINT @ 413,"+"B; : PRINT @
    477,"------"; : P = 545 : V$ = STR$(A+B) : GOSUB 360 : GOTO 400
320 ' * SUBTRACTION *
330 A = RND(9)*100+RND(99) : IF A< = B THEN 330 ELSE PRINT @ 350,A; : PRINT
    @ 413,"-"B; : PRINT @ 477 ,"------"; : P = 545 : V$ = STR$(A-B) : GOSUB
    360 : GOTO 400
340 A$ = INKEY$ : IF A$<>"" THEN V = ASC(A$) : IF V>47 AND V<58 THEN POKE
    (P+15360),V : V = V-48 : FOR T = 255 TO 2 STEP -40 : POKE LL,T : POKE
    LL+2,T-10 : T1 = USR(5) : NEXT : RETURN
350 PRINT @ 49,"Time  : ";TI : TI = TI+1 : PRINT @ P,"IF "; : FOR T = 1 TO
    20 : NEXT : PRINT @ P," "; : FOR T = 1 TO 20 : NEXT : GOTO 340
360 J = LEN(V$) : IF Y<>1 THEN FOR X = J TO 2 STEP -1 ELSE FOR X = 2 TO J
370 GOSUB 340
380 E = 384 : F = 364 : IF V = VAL(MID$(V$,X,1)) THEN S$ = "YES!" : PU = 384
    : GOSUB 610 : GOSUB 650 : GOSUB 630 : P = P+Y : NEXTX : RETURN ELSE S$ =
    "NOPE" : PU = 384 : GOSUB 610 : GOSUB 640 : GOSUB 630 : X = X-Y : FOR T
    = 1 TO 100 : NEXTT,X
390 GOTO 360
400 IF G<>1 THEN FOR S = 1 TO 3 : PRINT @ P,"    "; : FOR T = 1 TO 10 : POKE
    LL,T : POKE LL+2,T : T1 = USR(10) : NEXT : PRINT @ P,V$; : FOR T = 10 TO
    1 STEP -1 : POKE LL,T : POKE LL+2,T : T1 = USR(10) : NEXTT,S
410 TI = 0 : PR = PR-1 : IF PR<>0 THEN PU = 768 : S$ = "VERY GOOD!" : GOSUB
    610 : PRINT @ 960,"Press <ENTER> to continue or <N> for menu"; ELSE PU =
    768 : S$ = "GOOD JOB!" : GOSUB 610 : ONRND(3)GOSUB 660,700,720 : PRINT @
    960,"More problems? (Y/N)"; : GOTO 430
420 A$ = INKEY$ : IF A$ = CHR$(13) THEN GOTO 150 ELSE IF A$  "N" THEN CLS :
    GOTO 60 ELSE GOTO 420
430 A$ = INKEY$ : IF A$ = "Y" THEN IF CA = 1 THEN CA = 0 : GOTO 60 ELSE CLS
    : GOTO 60 ELSE IF A$ = "N" THEN N = 0 : CLS : S$ = "BYE "+N$+"!" : PU =
    0 : GOSUB 610 : PRINT @ 192,; : ELSE GOTO 430
```

EDUCATIONAL SOFTWARE

```
440 IF N = 5 THEN PRINT  : END ELSE FOR X = 1 TO 8 : POKE LL,N(X) : POKE
    LL+2,N((8-X)+1) : U = USR(5) : NEXT : N = N+1 : GOTO 440
450 FOR X = 1 TO 27 : FOR T = 1 TO 3 : READ A : A$(X) = A$(X)+CHR$(A) : NEXT
    : A$(X) = A$(X)+CHR$(26)+STR ING$(3,24) : FOR T = 1 TO 3 : READ A :
    A$(X) = A$(X)+CHR$(A) : NEXTT,X : RETURN
460 FOR X = 1 TO 8 : READ M(X),N(X) : M(X) = M(X) : NEXT : X = 1 : FOR X = 1
    TO 21 : READ H(X) : NEXT : FOR X = 1 TO 38 : READ I(X) : NEXT : FOR X =
    1 TO 20 : READ J(X) : NEXT : X = 1 : U = USR(0)
470 READ A : IF A>0 THEN IF A>20 THEN F$(X) = F$(X)+CHR$(A) ELSE READ G :
    F$(X) = F$(X)+STRING$(A, G) ELSE IF A = -1 THEN X = X+1 : U = USR(0)
    ELSE FOR X = AD! TO AD!+36 : READ A : POKE X,A : NEXT : RETURN
472 GOTO 470
475 AD! = (PEEK(16561)+PEEK(16562)*256)-1993 : BB! = AD! : AD! =
    AD!+(AD!>32767)*65536 : LL = AD!+4 : IF PEEK(16396) = 201 THEN POKE
    16526,AD! AND 255 : POKE 16527,BB!/256 ELSE DEFUSR0 = AD!
476 RETURN
490 DATA 182,179,148,149,32,149,183,179,132,181,176,133,150,131,132,165,176,
    132,151,131,148,181,176,133,183,147,129,181,176,144,183,147,129,149,
    32,32,150,131,132,165,179,133,181,176,149,149,32,149,131,151,129,
    176,181,144
500 DATA 32,171,129,165,154,32,181,152,129,149,130,148,149,32,32,181,176,
    144,157,152,149,149,32,149,157,144,149,149,130,149,150,131,148,165,
    176,133,183,179,132,149,32,32,150,131,148,165,180,133,183,179,
    132,149,137,14 4,166,17 9,129,164,176,133,131,151,129,32
510 DATA 149,32,149,32,149,165,176,133,149,32,149,138,154,32,149,32,149,
    157,137,1 49,137,152,129,152,137,144,165,160,133,32,149,32,131,163,133,
    184,177,144,32, 191,32,32,179,32
520 '   C  D  E  F G A B C
530 DATA 255,24,203,28,155,31,135,35,85,39,45,43,20,46,5,50,1,1,5,5,6,6,5,4,
    4,3,3 ,2,2,1,5,5,4,4,3,3,2
540 DATA 1,7,1,2,7,2,3,5,3,1,0,1,7,1,2,7,2,3,1,0,1,7,1,2,7,2,3,5,3,1,0,6,0,
    2,7,4,3,1
550 DATA 5,6,5,4,3,4,5,0,2,3,4,0,3,4,5,0,2,5,3,1
560 DATA 32,176,1[illegible],6,143,188,176,26,11,24,190,131,32,152,156,144,160,172,
    164,32,131,189,26,12,24,191,194,130,131,152,32,131,129,194,191,26,12,
    24,170,194,136,175,2,179,176,132,194,149,26,11,24,131,140,
    6,176,140,131,-1
570 DATA 194,176,140,6,143,188,176,26,12,24,32,170,160,156,164,198,191,26,
    12,24,160,134,32,131,129,198,191,26,12,24,130,171,2,
    176,132,198,149,26,11,24,130,140,6,176,140,131,-1,176,188,6,143,140,
    176,194,26,12,24,191,198,152,172,144,14 9,32,26,12,24,191
580 DATA 198,130,131,32,137,144,26,12,24,170,198,136,2,176,151,129,26,11,
    24,131,140,6,176,140,129,-1,32,176,188,6,143,188,176,26,11,24,190,
    131,32,166,183,132,136,187,153,32,131,189,26,12,24,191,196,182,176,196,
    191,26,12,24,170,194,13 6,4,140,129,194,140,26
590 DATA 11,24,131,140,6,176,140,131,-1,32,176,188,6,143,188,176,26,11,
    24,190,131,32,160,176,194,176,144,32,131,189,26,12,24,191,194,137,
    141,161,130,142,134,194,191,26,12,24,170,194,160,32,141,140,32,144,
    194,149,26,11,24,131,140,176, 4,179,176,140,131,-2
```

EDUCATIONAL SOFTWARE

```
600 DATA 205,127,10,22,55,30,55,62,1,211,255,66,16,254,175,211,255,16,254,
    62,1,21 1,255,57,16,254,175,211,255,16,254,43,124,181,32,227,201
610 FOR U = 1 TO LEN(S$) : B$ = MID$(S$,U,1) : IF B$ = "!" THEN PRINT @
    PU,A$(27); ELSE IF B$<>" " THEN PRINT @ PU,A$(ASC(B$)-64);
620 PU = PU+3 : NEXT : RETURN
630 D = LEN(S$)*3 : PRINT @ E,STRING$(D,32); : PRINT @ E+64,STRING$(D,32); :
    RETURN
640 A1 = 150 : FOR S = 1 TO 2 : PRINT @ F,F$(2); : FOR T = 1 TO A1 : NEXT :
    PRINT @ F,F$(1); : PRINT @ F,F$(3) ; : FOR T = 1 TO A1 : NEXT : PRINT @
    F,F$(1); : NEXTS : RETURN
650 A1 = 40 : FOR S = 1 TO 3 : PRINT @ F,F$(4); : FOR T = 1 TO A1 : NEXT :
    PRINT @ F,F$(1); : FOR T = 1 TO A1 : NEXT : PRINT @ F,F$(5); : FOR T = 1
    TO A1 : NEXT : PRINT @ F,F$(1); : FOR T = 1 TO A1 : NEXTT,S : RETURN
660 C = 150 : FOR X = 1 TO 21 : B = N(X) : POKE LL,N(B) : POKE LL+2,N(B) : U
    = USR(N(B)) : GOSUB 690 : IF X = 7 OR X = 14 THEN FOR T = 1 TO C :
    NEXTT,X ELSE NEXT
670 FOR T = 1 TO C : NEXT : FOR X = 15 TO 21 : B = N(X) : POKE LL,N(B) :
    POKE LL+2,N(B) : U = USR(N(B)) : GOSUB 690 : NEXT : FOR T = 1 TO C :
    NEXT : N(13) = 5 : FOR X = 1 TO 14 : B = N(X) : POKE LL,N(B) : POKE
    LL+2,N(B) : U = USR(N(B)) : GOSUB 690 : IF X = 7 THEN FOR T = 1 TO C :
    NEXTT,X ELSE NEXT
680 N(13) = 2 : RETURN
690 POKE LL,N(B) : POKE LL+2,N(B) : U = USR(5) : RETURN
700 N(3) = 24 : N(5) = 32 : LL = AD!+4 : FOR X = 1 TO 30 : B = I(X) :IF B =
    7 THEN FOR T = 1 TO 20 : NEXT ELSE IF B = 0 THEN FOR T = 1 TO 150 :
    NEXT ELSE POKE LL,N(B) : POKE LL+2,N(B)-25 : IF X = 18 OR X = 37 THEN U
    = USR(N (B)+20) ELSE U = USR(N(B)-5)
710 NEXT : N(3) = 31 : N(5) = 39 : RETURN
720 FOR X = 1 TO 16 : B = J(X) : GOSUB 740 : NEXT : FOR X = 1 TO 8 : B =
    J(X) : GOSUB 740 : NEXT : FOR X = 17 TO 20 : B = J(X) : GOSUB 740 :
    NEXT
730 RETURN
740 IF B = 0 THEN FOR T = 1 TO 70 STEP 5 : POKE LL,T : POKE LL+2,T : U =
    USR(1) : NEXT : RETURN ELSE POKE LL, B : POKE LL+2,B : U = USR(10) :
    POKE LL,N(B) : POKE LL+2,N(B) : U = USR(N(B)) : POKE LL,B : POKE LL +2,B
    : U = USR(10) : RETURN
```

WOTSIT WOTSIT WOTSIT WOTSIT

Question :

Wots the difference between V21 and V23 when people are talking about communications?

Answer :

V21 and V23 are both codes that are used to indicate the communications speeds using modems. V21 indicates a speed of 300 baud transmit and 300 baud recieve. V23 indicates a split speed transmission of 1200 transmit and 75 recieve OR 75 transmit 1200 recieve. Commonly called 1200/75 and 75/1200. 1200/75 is V23T and 75/1200 is V23C.

HELP A MEMBER

We have a had a letter from a member who is looking for some information on how to screen dump graphics from a Video Genie to an Epson LX-80 printer. For those of you who think thats a missprint, there is an LX-80, its one of the latest offerings from the Epson range.

The LX-80, to my knowledge, uses the same codes as the rest of the Epson family. So those of you who have already managed to screen dump graphics to other Epson printers, come forward and help.

Contact :- Zahoor Ahmed, ~~117 Entwistle Road, Rochdale, OL16 2JJ.~~ 104 OSWALD ST., Rochdale, Lancs.
.. or the newsletter Editor who will publish any routines that may help.

oooOOOoooOOOooo **F O R S A L E** oooOOOoooOOOooo

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Contact Dave Sellwood on Leigh 670604

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BASCAL PROGRAMMING

After the article that appeared in the last newsletter on Pascal, there were a few members that pointed out that you can, if you so wish, mix Basic and Pascal slightly. The following line listing has been modified slightly from the original version published in Volume 7, Issue 4 and should give an idea of how you can make your Basic programs easier to read. The general idea is to use indents, as in Pascal, between statements. This makes for a type of structure to aid in identifying small routines and IF .. THEN .. ELSE type instructions.

```
10 CLS
       : CLEAR10000
100 PRINT "THIS IS A DEMONSTRATION PROGRAM"
       : PRINT
110 PRINT "IT WILL ASK SEVERAL QUESTIONS OF THE OPERATOR"
120 PRINT "AND THEN PRODUCE A SUMMARY OF THE ANSWERS"
130 PRINT "ENTER YOUR NAME ";
       : INPUT NA$
140 PRINT "ENTER YOUR AGE ";
       : INPUT AG$
150 PRINT "ENTER COMPANY NAME ";
       : INPUT CN$
160 PRINT "ENTER STREET ";
       : INPUT ST$
170 PRINT "ENTER TOWN ";
       : INPUT TN$
180 PRINT "ENTER YOUR TELEPHONE NUMBER ";
       : INPUT TE$
190 CLS
       : PRINT "THIS IS THE DATA YOU ENTERED "
       : PRINT
200 PRINT "NAME = ";NA$
       : PRINT "AGE = ";AG$
210 PRINT "COMPANY = ";CN$
       : PRINT "ADDRESS = ";ST$;",  ";TN$
       : PRINT
220 PRINT "SHALL I PACK THIS INTO ONE STRING <Y/N> ?";
230 A$ = INKEY$
      :IFA$ = ""
                  THEN 230
240 IF A$ = "Y" OR A$ = "Y"
                  THEN 290
250 PRINT "OK, I WON'T BOTHER THIS TIME"
260 PRINT "THANK YOU FOR USING ME.... BYE BYE"
270 FOR X = 1 TO 3000
       : NEXT
280 END
290 PK$ = NA$ + AG$ + CN$ + ST$ + TN$ + TE$
       : PRINT
300 PRINT "THE PACKED STRING LOOKS LIKE THIS"
       : PRINT
       : PRINT PK$
310 PRINT "I COULD NOW SAVE THIS IF I HAD FILE HANDLING"
320 PRINT "BUT IT'S NOT WRITTEN YET"
```

UNDOCUMENTED 6809 DISPLAY MODES

By Adrian Bradshaw.

I am sure that most of you are fully aware of the normal display modes available from Dragon and CoCo basic. There are two text modes obtained by the SCREEN 0,0 and SCREEN 0,1 commands. The hi-res modes are PMODEs 0 to 4 using SCREEN 1,1 and SCREEN 1,0 to select the required colour set.

However the display chip will handle a number of other modes which are in general fairly useless, with a few exceptions. The most well known of these modes is semigraphics 24 which allows 64 X 192 graphics in all 9 colours with text (see Dragon User August'85). This mode can be accessed using the method shown in Dragon User or as I have found by using the following:-

```
SCREEN 1,1:POKE &HFF22,0
```

This gives the mode described above which uses the same area of memory as PMODE 4,1 with the text in black and green. Alternatively, if you poke 8 into the same address, you get the same mode except the text is in black and orange. Here are a few more modes available by poking this location.

16 - A mode which seems to provide part of the SG24 graphics and partly. PMODE 4 graphics in black and green.
24 - The same as 16 only with black and orange graphics.
128 - Red, blue, green and yellow graphics with a resolution of 64 x 192 and using 2 pages of graphics memory
136 - As 128 but with buff, cyan, magenta and orange.
144 - Similar to PMODE2, mapped as the left hand side of a PMODE4 screen in black and green.
152 - As 144 with black and white.

All these modes use the graphics memory because of the SCREEN1,1 command. If we omit this command, another set of modes is produced by using the same POKES as above. Here are a few of them.....

16 - Text characters come out looking rather like bar codes (following the standard binary sequence). The block graphic characters come out in a 2 X 3 matrix in black & blue or black & red.
24 - As with 16 but red and blue are replaced by orange and magenta.
128 to 255 produces modes with various variations on the ones produced with 16 and 24 but without the 2 x 3 graphics.

There are also a number of other display modes similar to SG24 which can be got by poking 0 into locations around &HFFC0.

e.g. `POKE &HFFC0,0:POKE &HFFC3,0:POKE &HFFC4,0`

This gives 64 X 48, 9 colour graphics with text starting at location 1024 or starting at 1635 if the last poke is replaced with POKE&HFFC7,0.

```
POKE &HFFC0,0:POKE &HFFC4,0:POKE &HFFC5,0
```

This gives another similar mode with 9 colour 64 X 96 with text.
There are many others, so why not try experimenting?

John Redgate
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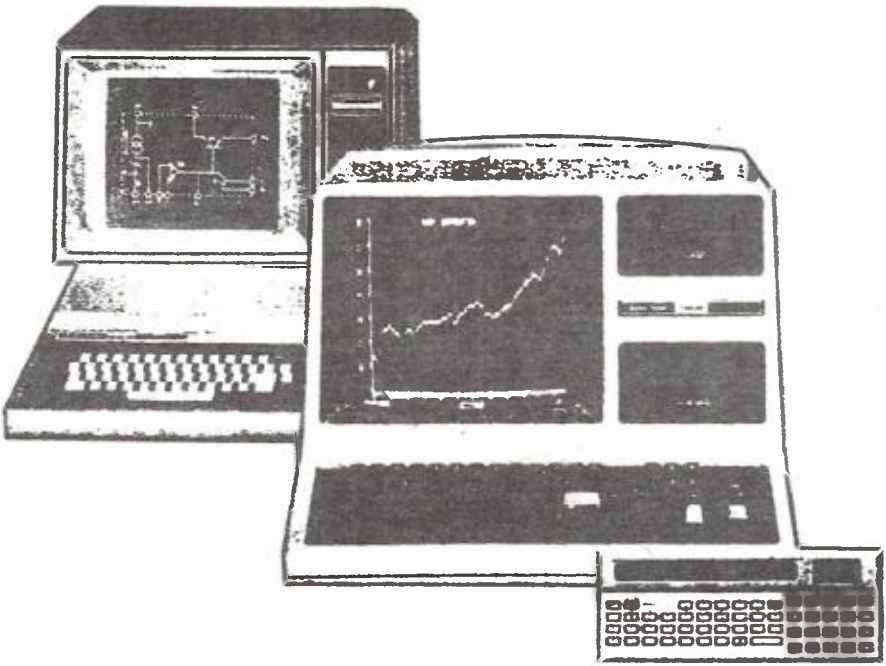
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REM 80



The North West TRS 80 Users Group

Volume 7 Issue 6

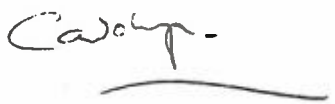
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EDITORIAL

Well, I don't know how we've managed it but the newsletter is 24 pages and full of goodies, it's possibly Melvyns driving charm that's pulling it through. This is the last Newsletter of 1985 and as such we must wish all our members a Merry Christmas and a Happy New Year.

A sore point within the group at present, is the fact that several members have borrowed items from the group libraries and failed to return them, not only on time but not at all. Particularly our Zbasic complier has gone missing. Would the member who borrowed it please return it now. If members continue to flout the libraries we will be demanding fines for loss, damage or non-return of items borrowed. At the moment, we would like all items to be returned. So as a gesture we are calling an amnysty until Christmas, on everyone who has any of the groups property, so return it now and we won't shout at you.



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Any articles or programs for inclusion in this Newsletter must be addressed directly to the Editor, preferably on cassette, disk, or uploaded, (All normal communication protocols acceptable), at the following address :-

40, COWLEES,
WESTHOUGHTON,
BOLTON,
BL5 3EG
Tel ... 0942-812843

****
** ACTIVITIES PAGE **
** By Brian Disley **
****

As promised in the last newsletter here are the dates for our meetings at Barton during 1986, they are as usual the last Wednesday of the month.

January 29th, February 26th, March 26th, April 30th, May 28th, June 25th,

August 27th, September 24th, October 29th, November 26th.

And of course December will be arranged later.

JANUARY 29th

If you are interested in making your computer talk then this meeting is just for you!, Peter Mooney will explain how to make the beast chat like a budgie (or a woman!) but at least you will be able to stop it when you want.

FEBRUARY 26th

The whole of this meeting is likely to be taken up by the Anual General Meeting, which is being held later than previously to allow the accounts to be prepared in plenty of time for your scrutiny.

It is in your interests to attend as the future of YOUR club can only be of interest to you if you have a say on how you want it to operate, and the committee will be looking to your suggestions and comments regarding past and future activities etc.

oooOOOoooOOOooo F O R S A L E oooOOOoooOOOooo

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```
**********************************************
*** SIMPLE DATA BASE USING SEQUENTIAL FILES ***
***              FOR TRS 80 MODEL I        ***
***               By Brian Disley          ***
**********************************************
```

This program is by no means perfect nor does it incorporporate any error trapping routines, however it does serve the porpose for which it was intended. As it stands it is for the purpose of keeping track of a music collection some of which is on cassette tape, however this is not the original purpose, it was originaly writen for a sponsored charity event run by a local club in Radcliffe, the initial requirements were to enable the club to keep track of sponsor sheets, names of sponsors, ammounts sponsored, amounts received and of course how to contact sponsor, also to print sponsor sheets, ammounts not recieved and search for names in the file.

When the need arose for a way of keeping track of a record collection I decided that the sponsor program would be just the job, and so I set about hacking out the bits I did not need and changing bits as required, this proved to be quite a simple modification and gave me the idea that one of you might be able to use this prog. or even steal bits of it for your own use, I hope someone finds it useful as I have and I've no doubt I will find yet another use for it yet.

I decided to use sequential access as it is less complicated, it uses less disk space and although it is slow to load all the data into memory the search time is very fast and this was an initial requirement. I dont think the program needs much explanation but briefly it has a one character reference or catagory, two numeric fields for year and tape counter, and two alphanumeric fields for artist and title.

If you can't be bothered tapping it in then I will gladly let you have a copy of either program if you contact me, I could even pump it down the phone line if you have a modem,

```
10 CLEAR15000:DIMN$(1000),C$(1000),R$(1000),S(1000),R(1000)
20 B$="###":A$="#####":DEFINTI,X,A
30 CLS:Q$="":TS=0:TR=0:A=0:Z=0:PRINT" R E C O R D  C O L L E C T I O N  D A
   T A    F I L E"
40 IFI<OTHENI=0
50 PRINT"-----------------------------------------------"
60 PRINT,"TO ENTER DATA INTO FILE .........1"
70 PRINT,"TO LOAD DATA FILE FROM DISK ......2"
80 PRINT,"TO SAVE DATA FILE ONTO DISK ......3"
90 PRINT,"TO ALTER DATA FILE ..............4"
100 PRINT,"TO SEARCH FOR DATA WITHIN FILE ...5"
110 PRINT,"TO PRINT DATA ...................6"
129 INPUT"    ENTER YOUR OPTION :-";A
130 IFA<1ORA>6THEN30
140 ONAGOTO150,330,440,510,630,740
```

*** SIMPLE DATA BASE USING SEQUENTIAL FILES ***

```
150 '***** ENTER DATA *****
160 IFI>0THENI=I+1
170 CLS
180 PRINT"DATA ENTERING SYSTEM :-":PRINTSTRING$(60,"="):PRINT"TYPE Q FOR
    REFERENCE TO QUIT""
190 PRINT"RECORD NUMBER";I:INPUT "ENTER REFERENCE.....";R$(I):IFZ<>1THEN
    IFR$(I)="Q" THENI=I-1:GOTO30
200 IFLEN(R$(I))>1THENPRINT">>>>> ONE CHARACTER ONLY PLEASE
    <<<<<":FORX=0TO500:NEXT:GOTO170
205 IFR$(I)=""THENR$(I)=" "
210 INPUT"ENTER ARTIST.....";N$(I)
220 INPUT"ENTER TITLE.....";C$(I)
230 INPUT"ENTER YEAR.....";S(I)
240 INPUT"ENTER TAPE COUNTER.....";R(I)
250 PRINT"DATA NOW READS :-":PRINT:PRINT:PRINT"No.:REF: COUNT : YEAR :
    ARTIST      :   TITLE"
260 GOSUB930
270 Q$="":PRINT:INPUT"IS THIS DATA CORRECT Y/N";Q$
280 IFQ$<>"N"ORQ$="NO"THEN300
290 CLS:PRINT"RE INPUT DATA FOR THIS RECORD":GOTO190
300 IFZ=1THENRETURN
310 I=I+1:GOTO170
320 GOTO30
330 '***** LOAD DATA *****
340 IFI=0THEN370ELSE INPUT"DATA IN FILE DO YOU WISH TO OVERWRITE Y/N";Q$
350 IFQ$="N"GOTO30
360 I=0
370 INPUT"ENTER FILE NAME";F$
380 OPEN"I",1,F$
390 INPUT#1,R$(I),N$(I),C$(I),S(I),R(I)
400 GOSUB920
410 IF EOF (1) THEN430
420 I=I+1:GOTO390
430 CLOSE:GOTO900
440 '***** SAVE DATA *****
450 IFI=0PRINT"NO DATA IN FILE":GOTO900
460 INPUT"ENTER FILE NAME";F$
470 PRINT"====== SAVING DATA PLEASE WAIT ======"
480 OPEN"O",1,F$
490 FORX=0TOI:PRINT@900,X;:PRINT#1,R$(X);",";N$(X);",";C$(X);",";S(X);R(X)
    :NEXT
500 CLOSE1:X=0:GOTO30
510 '***** ALTER DATA *****
520 IFI<1THENPRINT">>>> NO DATA IN FILE <<<<":GOTO30
530 I1=I
540 PRINT:INPUT"   ENTER RECORD NUMBER TO ALTER DATA";I
550 IFI>I1THEN620
560 CLS:PRINT"RECORD NOW READS :-":GOSUB920
```

*** SIMPLE DATA BASE USING SEQUENTIAL FILES ***

```
570 Z=1:GOSUB190
580 INPUT" ENTER NEXT RECORD NUMBER (-1 TO QUIT)";I
590 IFI>I1THEN620
600 IFI>=0THEN560
610 I=I1:GOTO30
620 PRINT"NO RECORD OF THAT NUMBER":GOTO580
630 '***** SEARCH DATA *****
640 CLS:PRINT"SEARCH DATA SYSTEM"
650 PRINTSTRING$(60,"="):INPUT"ENTER 1 FOR HARD COPY OR 2 TO DISPLAY TO
    SCREEN";Z:INPUT"SEARCH FROM REFERENCE OR TITLE  OR ARTIST R/T/A";Q$
660 IFQ$="R"THENINPUT"ENTER REFERENCE";SR$:GOTO680
670 IFQ$="T"THENINPUT"ENTER TITLE ";SC$:GOTO710
671 IFQ$="A"THENINPUT"ENTER ARTIST";SC$:GOTO712
680 FORX=0TOI:IFSR$<>R$(X)THENNEXT:GOTO900
690 IFZ=1GOSUB960:NEXT:GOTO30
700 I1=I:I=X:GOSUB920:I=I1:NEXT:GOTO900
710 FORX=0TOI:IFINSTR(C$(X),SC$)=0THENNEXT:GOTO900
711 GOTO720
712 FORX=0TOI:IFINSTR(N$(X),SC$)=0THENNEXT:GOTO900
720 IFZ=1GOSUB960:NEXT:GOTO30
730 I1=I:I=X:GOSUB920:I=I1:NEXT:GOTO900
740 '***** PRINT DATA *****
750 INPUT"PRINT TO DISPLAY OR PRINTER D/P";Q$
760 IFQ$<>"P"THEN840
770 LPRINT"No.:REF:COUNT:YEAR:    ARTIST          :   TITLE"
780 LPRINTSTRING$(80,"-")
785 INPUT"ENTER RECORD NUMBER TO START PRINTING FROM";Z
790 FORX=ZTOI:GOSUB960:NEXT
800 LPRINTSTRING$(80,"=")
830 GOTO30
840 CLS:I1=I:FORI=0TOI1:GOSUB920:NEXT
850 I=I1
900 INPUT"PRESS ENTER TO RETURN TO MENU";X
910 GOTO30
920 '***** V.D.U. OUTPUT *****
930 PRINTUSING(B$);I;:PRINT":";R$(I);":";USING(A$);R(I);: PRINTUSING(A$)
    ;S(I);: PRINT" "; LEFT$(N$(I),20); TAB(40);LEFT$(C$(I),20)
950 RETURN
960 '***** PRINTER OUTPUT *****
970 LPRINTUSING(B$);X;: LPRINT": ";R$(X);":"; USING(A$);R(X);:
    LPRINTUSING(A$);S(X);: LPRINT" ";LEFT$(N$(X),28);TAB(48);
    LEFT$(C$(X),32)
991 RETURN
```

oooOOOoooOOOooo F O R S A L E oooOOOoooOOOooo

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BBS SYSTEM OFF-LINE

Members of the group with modems and an interest in the BBS system we were assisting with will be interested to know it is now off line.

I believe Ken Farnen, who ran the Manchester Open Bulletin Board, had so much trouble with hackers and obsene messages, that he decided to close it down. The information I have to hand, is that, Ken intends to re-open the board when he's sorted out some sort of registration system enabling him to control callers.

This may, or may not be, a sign of the times. But I think it's a pity that, for the sake of a few stupid hackers leaving obsene messages on BBS systems, that the true enthusiasts should suffer. There are of course many other BBS systems in use, including Peter Tootills Mailbox 80 in Liverpool, one of the first on line.

If you would any assistance with current BBS systems on line, either look at Peter's articles in PCW or call Peter's board on 051-428-8924.

DISK DRIVES AND THINGS

By Peter Tootill.

MODEL III/IV & EXTERNAL DISK DRIVES

Having been presented with a very good deal, I have just changed my Model I for a single drive Model IV. First impressions are very favourable, and I can now pronounce on the matter of external drives (discussed a couple of issues ago). The facts (or so I believe) are as follows: although the Model IV and IV external drives are accessed (when you type 'DIR' for example) as numbers 2 and 3, they are configured (inside the drives) as numbers 0 and 1. This is due to the way that Tandy have set up the disk bus, probably so that they could sell Model I drives to Model III owners when the Model III first came out. Having set mine up in this way I have no problems, it is just a bit strange having drives 0, 2 and 3, with no number 1. (Drive 1 has to be an internal drive). To avoid unneccessary delays, I have disabled drive 1 (using the LDOS command 'SYSTEM (DRIVE=1, DISABLE'). This tells the system that there is no drive 1, and stops it looking for files on it.

MODEL I & DOUBLE SIDED DRIVES

I had a very old expansion interface (twisted pair mod and buffered cable type), and I had a lot of problems trying to run double sided drives on it. The problem was eventually tracked down to the fact that two of the connectors on the disk bus were joined. I think it was 32 and 34. If you are having this sort of problem, it is worth checking this point.

40/80 TRACK SWITCHING ON TEAC FD-55F

I obtained a pair of Teac FD-55Fs, which are 80 track double sided. They were not switchable to 40 track when I got them. However, I was told of a simple mod to make them so. All you need to do is locate the place where R14 should be on the PCB. It's near a large square IC. Solder a 100 ohm resistor in series with a switch to the connections on the PCB. Hey presto, you can now switch the resistor in to get 40 track mode, out to return to 80! The normal warnings about it not being a good idea to write to a 40 track disk apply. I have done it successfully, but if you must, it is safest to start with a new, or bulk erased disk and format it on the switched drive.

This mod needs a fine tipped soldering iron and a steady hand, there's not much room and the contacts are small too.

Other makes of drive can also be made switchable, but I don't know how (any suggestions, anyone?). By the way, if you have a 40 track Teac 55, don't think that you can convert it to an 80 track just by cutting out R14. I'm afraid it doesn't work. I think it is because the head is fatter than on a 40 track drive (it should be) and it can't write the narrower tracks.

Geoff Smith (Scripsit) 01.950.6345

MODEL IV PRINTER PROBLEMS

By Peter Tootill.

I wanted to be clever and use the printer cable from my NEC portable (same cable as Model 100 and BBC micro) on my Model IV, so I just added a 34 way edge connector to it. It didn't work. The reason being that the cable only has 26 ways and the Model IV uses pin 28 (fault) as well. The strange thing is that my printer doesn't! However, I added a few more strands to the cable and it now works.

MODEL IV SOFTWARE

If anyone is interested in a very smart terminal program for the Model IV, I have one called XT4 (I also have a Model I/III version). I also have a public domain 80 by 20 screen driver for the Model IV in Model IV mode, together with source code.

All are public domain, so if anyone wants a copies, send me a disk (formatted - in any LDOS format, or if it's Newdos-80 make it single density).

MODEL I/III COMMERCIAL SOFWARE

As for commercial software, I like IFC very much - it is a 'cursor oriented directory' program. A disk directory is displayed on the screen and you can scroll through it (both ways). Files can be tagged for multiple copy or kill. This can be done in a number of ways, including (and I really like this) those that do (or don't) exist on another drive. So I can now check for multiple copies of a file and kill off spares. Other programs I have (or have used and can recommend are the Powersoft Toolbox, Fed II, LED, and the LDOS modified version of Scripsit. The last gives most of the features I need in a word processor, including printer codes, print to screen (or disk). I will try to write more about these in a future issue, but if anyone wants to ask me anything, give me a ring on 051-428 2733.

DATABASE PROBLEM

I want some advice on database management programs. I want to keep a list of bulletin board phone numbers, together with the details such as name, system times, sysops name and address, etc, etc. I need to be able to sort on number, name (and sysop name if poss.). I want to print out some or all fields in different orders, depending on where the list is to go. I only need around 200 records.

Which program should I use, can anyone help? It should preferrably be very cheap(!) and able to read my existing (ASCII) data files. If you can help phone me (Peter Tootill on 051-428 2733)

(Apologies to anyone who reads any of the above in the Natgug newsletter too. I have sent the same stuff to both, as I don't think too many NW Group members are in Natgug - or vice versa!)

10 Jan 86

Peter Tootill said Geoff Smith does Scripsit patches (& believes Blandford Computers sells them)

was £20 + disk.

EDUCATIONAL SOFTWARE

By P.E.Watson.

The program that follows was originally written for a RML 380Z by Mr. Watson to help to show children logical operators.

For those of you who don't know what a logical operator is I refer to way back to our early newsletters that contained a series on Boolean, remember the series everyone couldn't stop reading and talking about!!

Those of you that don't remember, logical operators are those famous :- AND's, NOT's and OR'S use to manipulate binary numbers around.

Try the program, although simple, it's a good aid to learning.

```
10 ' Logical Operator Program
20 '
30 ' P.E.Watson
40 '
50 CLS:PRINT:PRINT TAB(5);"This program shows the effect of the
   logical operators"
60 PRINT:PRINT TAB(23);"AND  OR and NOT"
70 PRINT:PRINT TAB(7);"To do this, You should INPUT a number (or
   numbers)"
80 PRINT:PRINT TAB(5);"and one of the operators. Each number is
   converted to a"
90 PRINT:PRINT TAB(3);"Binary number, and the effect of the operator
   is then shown."
100 PRINT:PRINT"  The range is between 0 and 255, the maximum for
    8-bit word."
110 PRINT@ 908,"* * * PRESS  ANY KEY TO CONTINUE * * *"
120 IF INKEY$ = "" THEN 120
130 LET Z$ = "###":DEFINT I,T,A,B:DIMR(8)
140 '
    Z$ is for PRINT USING

150 CLS
160 PRINT@ 80,"INPUT 1st. number (MAX=255)";:INPUT A
170 IF A >= 0 AND A < 256 THEN 200 ELSE PRINT@64,CHR$(225):GOTO 160
180 PRINT@ 592,"INPUT 2nd. number (MAX=255)";:INPUT B
190 IF B> = 0 AND B < 256 THEN 310 ELSE PRINT@192,CHR$(225):GOTO 180
200 PRINT@ 336,"INPUT ";CHR$(34);"AND";CHR$(34);",";CHR$(34);" OR
    ";CHR$(34);" OR ";CHR$(34);"NOT";CHR$(34);:INPUT A$
210 TS = "":IF LEN(A$) = 0 THEN 200
```

EDUCATIONAL SOFTWARE

```
220 '
    Converts lower-case to upper-case
230 FOR I = 1 TO LEN(A$)
240     T = ASC(MID$(A$,I,1))
250       IF T > 90 THEN T = T - 32
260     T$ = T$ + CHR$(T)
270 NEXT I
280 A$ = T$
290 IF A$<>"AND" AND A$<>"OR" AND A$<>"NOT" THEN 200
300 IF A$<>"NOT" THEN 180
310 CLS:PRINT@ 85,"IN  AN EIGHT-BIT WORD"
320 PRINT@ 320,;:PRINT USING Z$;A;:PRINT" has the BINARY
    value:";:PRINT@ 359,;
330 C = A
340 GOSUB 540
350 PRINT
360 IF A$="NOT" THEN 400
370 PRINT@ 448,;:PRINT USING Z$;B;:PRINT" has the BINARY
    value:";:PRINT@ 487,;
380 C = B
390 GOSUB 540
400 PRINT@ 552,STRING$(22,"-")
410 '
    "AND", "OR", "NOT" routine
420 IF A$="AND" THEN C = A AND B
430 IF A$="OR" THEN C = A OR B
440 IF A$="NOT" THEN C = NOT A:GOTO 460
450 PRINTUSING Z$;A;:PRINT"    ";A$;" ";:PRINTUSING Z$;B;:PRINT"
    is:-":PRINT@615,;:GOTO 470
460 PRINT"The result for ";A$;A;" in BINARY is:":PRINT@ 615,;
470 GOSUB 540
480 PRINT@ 908,"** Press  R for Re-Run or Q to Quit **"
490 I$=INKEY$:IF I$="" THEN 490
500 IF I$="R" OR I$="r" THEN 150
510 IF I$="Q" OR I$="q" THEN END
520 GOTO 480
530 '
    Conversion from decimal to Binary
540 FOR I = 1 TO 8:
          R(I) = C - INT(C/2)*2:
          C = INT(C/2):
    NEXT I
550 FOR I = 8 TO 1 STEP -1:
          PRINT R(I);:
    NEXT I
560 RETURN
```

IMPRESSIONS OF THE 2000

By M. D. F. Franklin

For those members that are interested, there follows a short write-up on the Tandy Model 2000.

After being able to have hands on experience for the first time on a Model 2000 my first response was to check it's IBM compatabilty. Some of the reviews I have read stated, carefully, that the 2000 was able to run IBM-PC software, so I put it to the test.

The first program I tried, of course was the Flight Simulator. This program, as most people know is on a protected disk and has an invisable operating system. The 2000 would not even load the disk and consistantly came up with a disk boot error, but then Tandy didn't say the 2000 was 100% compatable, did they? Following this I then tried to load another games disk, again a self booting proprietry disk, this also failed to load.

However, not to be beaten, I thought I would try to read a standard IBM-PC MSDOS disk containing various programs. I found that if the 2000 was booted using the Tandy version of MSDOS I Could read the directory of a standard 360K IBM disk, even though the 2000 had 720K disk drives. There followed a series of trying to load and run some of the programs, some bought and some of my own. The majority ran successfully as long as they didn't address the screen from low level machine code, but used the operating systems calls to do the work. Quite a few of the programs in Basic would not work at all. This was caused by a series of consistant errors, pointing out that there were syntax errors or instruction not known. I can only assume that there was a few differences in the version of Basic that the 2000 comes with, as most Basic programs, including my own ran without problem. Mine you see, are simple and don't try to get the IBM to do wonderful graphics or sofisticated Peeks and Pokes.

One thing that amazed me, was that my Pascal compiler was 100% usable and all the compiled programs, test ones and previously written ones work great.

The screen output on the 2000 was very good, either the monitor I borrowed was of very high quality or the character generater chip is of a high standard. The monitor I used, by the way, was the one Tandy are suppling as standard, a nice gentle green screen, although I found the on/off switch anoying. Every time I, either turned it on or off, the monitor itself shot backwards accross the top of the 2000 casing. Apart from that and the fact that it isn't 100% IBM-PC compatable, the machine was super.

The Tandy Model 2000 was in fact, as stated by Tandy, very fast, compared to a standard IBM-PC. I would say, about four times as fast, and as the one I borrowed had a 10Meg hard disk with very high speed disk access, the Model 2000 was in fact a a wonderful beast and for my money is amongst the the best business machines available.

You may also be interested to hear that the basic price for a 2000 is below £1000.00 + VAT, which is quite a feat, especially for Tandy.

Color computer peeks and pokes.

Paul Maggs.

I had been searching for six months for a way to print out a disk directory on the Color computer when I happened to find a member who knew of a simple poke to accomplish this. When I asked him why he hadn't put it in the newsletter he replied that he thought everybody knew it! So, for the sake of getting my name in the newsletter, and for those of us who aren't "everybody" here is a list of peeks and pokes that "everybody" knows. I make no apologies for those which have already graced these pages in the past, since not all new members have got back-issues, and not everybody remembers to search through them regularly to refresh their memories.

```
PEEK(25)*256+PEEK(26)
```
Returns the starting address of a basic program in memory.

```
POKE 25,6:POKE 26,1:POKE 1536,0:NEW
```
Makes maximum memory available for basic programs. Does not allow use of graphics. (Not Disk Systems)

```
POKE 25,14:POKE 26,1:POKE 3584,0:NEW
```
Makes maximum memory available for basic programs. Does not allow use of graphics. (Disk Systems)

```
POKE 25,12:POKE 26,1:POKE 3072,0:NEW
```
Makes memory available for basic equivalent to using pclear1. Allows limited use of graphics. (Not Disk Systems)

```
POKE 25,20:POKE 26,1:POKE 5120,0:NEW
```
Makes memory available for basic equivalent to using pclear1. Allows limited use of graphics. (Disk Systems)

```
PEEK (27)*256+PEEK(28)
```
Returns the ending address of basic, and start of variable memory.

```
CLOADM"PROG1":POKE 118,PEEK(25):
POKE 119,PEEK(26)
X=(PEEK(27)*256+PEEK(28))-2
A=INT(X/256)
POKE 25,A:POKE 26,(X-(A*256))
NEW:CLOAD"PROG2"
POKE 25,PEEK(118):POKE 26,PEEK(119)
```
This will merge prog1 with prog2, but first make sure prog2 has been renumbered so that it's line numbers are higher than those of prog1 with no overlap.

PEEK(29)*256+PEEK(30)
Returns the starting address of array storage.

PEEK(31)*256+PEEK(32)
Returns the ending address of array storage.

PEEK(33)*256+PEEK(34)
Returns the starting address of string storage.

PEEK(35)*256+PEEK(36)
Returns the starting address of protected memory set by CLEAR XX,NNNN.

PEEK(43)*256+PEEK(44)
Returns the most recent basic line number executed. Useful if an error occurs which does not show a line number.

PEEK(49)*256+PEEK(50)
Returns the current data line number.

CHR$(PEEK(55)*256)+CHR$(PEEK(30))
Returns the last string variable used in basic.

POKE 104,255:POKE 105,255:CLOAD
Enables the flashing F or S when cloading from within a basic program.

PEEK(116)*256+PEEK(117)
Returns the maximum memory of the system.

PEEK(124)
Returns 0 if a HEADER block was read from cassette.
Returns 1 if a DATA block was read from cassette.
Returns 255 if an EOF block was read from cassette.

PEEK(126)*256+PEEK(127)-1
Returns the ending address of an ML program loaded from cassette.

PEEK(485)*256+PEEK(486)
Returns the exec address of an ML program loaded from cassette.

PEEK(487)*256+PEEK(488)
Returns the start address of an ML program loaded from cassette.

PEEK(188)
Returns 14 with a disk system or 6 with a cassette system. Useful if you want to write a basic program which will run with either.??

POKE 282,0
Turns on lower-case flag.

POKE 282,255
Turns it off again.

PEEK(320)*256+PEEK(319)
Returns the vector address of USR0 function.

320,321 322,323 324,325 326,327 ....
336,337
In the above return the vector addresses of USR1 - USR9. NOT DISK.

2399,2400 2417,2418
AS ABOVE FOR DISK USERS.

POKE 359,60
Slows down character printing rate and allows orange screen if used with screen 0,1 command. NOT DISK.

POKE 359,0
Restore to normal after above.

POKE 359,57 or 13
Allows the use of graphics screens or SCREEN 0,1 without returning to text screen.

POKE 359,255
Disables keyboard to screen echo.

POKE 359,126
Restore to normal after above.

POKE 359,128
Maps keyboard echo to graphics characters. NOT DISK. Useful when typing in passwords???

EXEC 42753
Reads a block from cassette.

EXEC 42961
Causes a 6/10ths sec delay.

EXEC 44321
= RUN

EXEC 44539
Waits for a key to be pressed, can be used instead of
10 A$ = INKEY$:IF A$="" THEN 10

CHR$(PEEK(135))
In conjunction with above gives key pressed.

(PEEK(65314) AND 1)
Returns 1 if the printer is not ready.

POKE 65315,54 /55
Disables / ENABLES auto execute of ROM-PAKS.

POKE 65495,0
The now famous speed-up poke. Rarely works on disks, can cook your chips if used too often.

POKE 65494,0
Returns from above.

POKE 65497,0
Very high speed poke, loses screen, see above.

POKE 65496,0
Return from above. Command will not appear on the screen.

POKE 111,254:DIR
Thats the one that started all this, it puts the directory to the printer. Also works with output of some other commands, such as PRINT.

PEEK(235)
Returns the current disk drive in operation.

PEEK(240)
Drive status, 0 = no error, 128 = drive not ready, 64 = write protected

POKE 308,0:POKE 313,0
Disables all disk commands and functions.

```
POKE 308,19:POKE 313,6
Returns to normal after above.
DISK BASIC 1.0

POKE 308,20:POKE 313,6
Returns to normal after above.
DISK BASIC 1.1

FOR I = 2048 TO 2048+73:PRINT
CHR$(PEEK(I)):NEXT I
Returns the File Allocation Table for
disk drive 0, must be used after DIR
command.

AS Above ,but 2122 to 2122+73
Drive 1
AS Above ,but 2196 to 2196+73
Drive 2

FOR I = 2380 TO 2387:PRINT
CHR$(PEEK(I)):NEXT I
Returns the filename of most recently
loaded file from disk.

As above 2388 to 2391
The extension of above.

PEEK(2391)
FILE TYPE  of above:
0 basic
1 data
2 ML
3 Text editor source file

PEEK(2395)
Returns the number of active disk
buffers.

POKE 2439,255  / 0
Turns verify flag on/off

POKE 65344,0
Shuts off recalcitrant drive motors.
```

Those are probably the most useful ones. If anyone would like to see the silly ones as well, let me know and I will see about doing an article on those. In the meantime, if Color Computer users find out any more useful ones, let me know, and I will keep the list up to date.

DOUBLE DENSITY DISKS ON THE MODEL I - Part 3

By Bob Pick.

In the first of these articles I posed some questions which had to be answered by anyone supplying a double density conversion kit for the Model I, and an operating system to run on it. In the first article I looked at the hardware of the kit, and how to control it; and in the second I looked at the arguments for chosing one sector size rather than another, and I described the logical structure of a track, and of a sector. In this article I shall discuss the labelling of tracks and sectors.

LABELLING TRACKS

It would be possible in principle to label the tracks on a disk in any arbitrary sequence, but to do this would deny yourself the benefit of facilities built into the disk drive controller chip, the 1771, or in double density, the 1791 as well.

If you tell the controller that you are at, say, Track 20, that you want to go to Track 27, and that you want it to "seek", the controller will issue 7 "step in" pulses to the disk drive, and then, if you have asked for it, read the first ID field it comes accross to "verify" that it has reached Track 27 properly. Also, if you tell the controller to "restore", it will issue "step out" pulses until it receives a "Track 0" signal from the drive, and then set its own track register to zero.

From just these two facilities of the controller it will be seen that you will need very badly to do something odd if you do anything other than to label the outer Track 0, and then label the others 1,2,3 etc. upwards (in hex of course!).

SECTOR NUMBERS AND SEQUENCE

The first thing to decide here is what to number the first sector on each track. By this I mean the lowest number, not necessarily the first to be read when reading a file. I may have missed a point, but I can see no advantage in calling this sector Number 1 in comparison with calling it Number 0, and when the original TRS-DOS was written for the Model I, the sector numbers started with Sector 0. So why does Model III TRS-DOS start with Sector 1?

You might think it obvious that a file should be written onto successive numbered sectors, and in fact in all the TRS-80 DOS's this is done, but this is not done in, for instance, CP/M.

It might also seem obvious that the sectors should be formatted onto the track with successive sector numbers, but in the TRS-80 DOS's they are not, and in CP/M they are!

DOUBLE DENSITY DISKS ON THE MODEL I - Part 3

When a file is being read from a disk, after each sector has been read, the DOS has to check whether that sector has been read correctly, and it has to decide whether the next sector is to be read. In fact the situation is more complicated than this, because when each sector is read, it is not placed directly into its final location in memory; it is read into a "sector buffer", and it is transferred from there to its proper memory address as a second operation.

These deliberations take so much time, that if the next sector was physically the next one on the track, you would have missed it, and would have to wait a whole revolution of the disk! (We have one old CP/M system where I work that only manages to read one sector per revolution when it is booting the operating system, and takes 14 seconds to do so).

The solution chosen when TRS-DOS was first written was to say: "We will read and write sectors of a file in numeric sequence, and we will format the track with the sectors out of numeric sequence". In fact in TRS-DOS 2.3 the ten sectors are formatted in the sequence:

0,5,1,6,2,7,3,8,4,9.

Now a further subtlety arises. Many files extend from one track onto the next. The DOS has to tell the controller to "step in", and the drive has to be given time to perform the step. Suppose, for example, that the file continues from Track 5, Sector 9 to Track 6, Sector 0, as it might well do, and that all the tracks are numbered according to the sequence above, as they are in TRS-DOS 2.3.

Purely in terms of angular position, Sector 0 follows immediately after Sector 9, and there will not be time for the data of Sector 9 to be transferred, let alone for the drive to step the head, before Sector 0 has come and gone. So Sector 0 cannot be read till next time it comes round.

In the later, more "advanced" DOS's like NEWDOS-80, LDOS and DOS PLUS 3.5 succeeding tracks have the sector sequences skewed from one track to the next. In NEWDOS-80 and LDOS each track "slips back" three sectors after the previous one, and in DOS PLUS 3.5 it slips four sectors. In NEWDOS-80 Track 0 does not even start at Sector 0, it starts at Sector 4; I can not imagine why!

This attempt to optimise reading speed has to be rather arbitrary, because the delay necessary will depend partly on the stepping rate that the disk drive can support; newer designs of drive can often be stepped faster than earlier ones.

DOUBLE DENSITY DISKS ON THE MODEL I - Part 3

With double density, the reading speed is twice that of single density, so the sectors come along nearly twice as quickly; the data of each sector is read in only half the time , but the gaps have more bytes in them. For this reason the formatted sector sequence used with double density allows two sectors to pass between successive sectors to be read, and most DOS's use the following basic sequence:

0,6,12,1,7,13,2,8,14,3,9,15,4,10,16,5,11,17.

This is used, with "slipping" from one track to the next, by NEWDOS-80, LDOS, and DOS PLUS 3.5. TRS-DOS 2.7 is similar, except that, like Model III TRS-DOS 1.3, it starts with Sector 1, at least from Track 1 upwards, as follows:

1,7,13,2,8,14,3,9,15,4,10,16,5,11,16,6,12,18.

The "slip" between tracks is 6 sectors in NEWDOS-80 and DOS PLUS 3.5, but only 5 sectors in LDOS. There is no "slip" in TRS-DOS 2.7; every track starts with Sector 1.

The sector sequence given above for single density means that to read all the sectors of a track needs two revolutions of the disk. In the above double density formats three revolutions are needed. My investigation of Model III TRS-DOS 1.3 is limited to one disk, and the sector sequence on every track of that was:

1,4,7,10,13,16,2,5,8,11,14,17,3,6,9,12,15,18.

It would seem from this to need six revolutions to read a track, and to waste most of a revolution for every track step. Can any one comment on this apparent slowness, is it really as bad as this?

CP/M AND MS-DOS

The CP/M version I referred to above was the original 8in. single density "standard" version. I suspect that the format of this was worked out when disk controllers were constructed from "small scale" integrated circuits, and included simple formatting hardware. If this were the case it would be difficult to format a disk with any sector sequence other than simple increasing numbers, and the skipping of sectors would have to be obtained by writing data according to a table. The clever disk controller chips like the 1771 allow a track to be formatted with any chosen sector sequence, with simplification of the software. Later CP/M systems using 5 1/4in. floppy disks use a quite bewildering variety of format sector sequences and read sequences, and there are literally dozens of mutually incompatible disk formats.

On the other hand, MS-DOS systems, particularly the IBM version, PC-DOS, use tracks formatted with a simple sector sequence, from 1 upwards, and read in the same sequence. They solve the read problem by a combination of Direct Memory Access (DMA) and extra long gaps between sectors, at the expense of reducing storage capacity of the disk. For instance, the IBM PC has only 9 sectors of 512 bytes per track, while the DEC Rainbow has 10 sectors, but skews the read.

MEMORY TEST YOUR MODEL FOUR

By Kevin Harper.

For those of you lucky people who have a Tandy Model IV or Model IVp micro, which has 128K of RAM fitted, or for those of you who are going to upgrade your Model IV from 64K to 128K. I have written the following short machine code program to test the additional memory, that is the top 64K of the 128K fitted.

A point to note if your going to upgrade your own Model IV to 128K, DON'T use Texas chips as they have a slight difference in the pin configuration that causes the RAM refresh to fail. The symptoms are that all seems well but after a few minutes, due to the lack of refresh, the memory locations develope a mind of their own, changing their contents at random.

If any members that have any other useful small routines or utilities for the Model IV, don't keep them to yourselves, send them in to, either the Newsletter Editor or to me and we will make sure that they are available for all the groups Model IV owners.

```
                ORG     7000H           ;LOAD INTO SYSTEM BANK
00110     START PUSH    HL
00120           PUSH    AF              ;SAVE REGISTERS
00130           PUSH    BC
00140           PUSH    DE
00150           LD      A,102           ;LOAD BANK 1 INPLACE OF BANK 0
00160           LD      B,0
00170           LD      C,1
00180           LD      HL,8000H        ;SET START OF BANK
00190           RST     28H
00200           CALL    RETRY           ;CALL TEST ROUTINE SAVING CONTENTS
                                         OF BYTES TESTED
00210           JP      NWBANK          ;LOAD 2ND BANK INPLACE OF BANK 0
00220     RETRY LD      A,000H          ;TEST BYTE WITH ZERO'S
00230           LD      D,(HL)
00240           LD      (HL),A
00250           LD      A,(HL)
00260           CP      0000H
00270           JP      NZ,FAULT
00280           LD      A,0FFH          ;TEST BYTE WITH ONE'S
00290           LD      (HL),A          ;PUT IT IN
00300           LD      A,(HL)          ;PULL IT OUT
```

MEMORY TEST YOUR MODEL FOUR

```
00310           CP      OFFH            ;AND TEST IT
00320           JP      NZ,FAULT        ;IS IT FAULTY
00330           LD      (HL),D
00340           LD      A,OFFH          ;CHECK FOR LAST BYTE
00350           CP      H
00360           JP      NZ,NEXT
00370           CP      L
00380           JP      NZ,NEXT
00390           RET
00400     NEXT  INC     HL              ;TEST NEXT BYTE
00410           JP      RETRY
00420   NWBANK  NOP
00430    MESS3  DEFM    'BANK 1 OK. '
00440           DEFB    3
00450           LD      A,10            ;PRINT MESS3 TO SCREEN
00460           LD      HL,MESS3
00470           RST     28H
00480           LD      A,102           ;CALL NEWBANK
00490           LD      B,0
00500           LD      C,2
00510           LD      HL,8000H
00520           RST     28H
00530           CALL    RETRY           ;TEST BANK 2 IN THE SAME WAY
00540           LD      A,10            ;PRINT MESS4 ON SCREEN (OK)
00550           LD      HL,MESS4
00560           RST     28H
00570    MESS4  DEFM    'BANK 2 OK '
00580           DEFB    13
00590           JP      EXIT
00600    MESS1  DEFM    'THERE IS A RAM FAULT AT ADDRESS '
00610   NUMBER  DEFL    0000H           ;SAVE FAULTY RAM ADDRESS HERE
00620           DEFB    3
00630    FAULT  LD      (NUMBER),HL
00640           LD      A,10
00650           LD      HL,MESS1
00660           RST     28H
00670     EXIT  POP     DE              ;RETURN REGISTERS TO NORMAL AND
                                         RETURN TO SYSTEM
00680           POP     BC
00690           POP     AF
00700           POP     HL
00710           RET
00720           END     START
```

P.S. Upgrades are available through the group, contact Melvyn for further information. Approximately £40.00 all in.

```
**************************
* DRAGON SOFTWARE REVIEWS *
*           by            *
*      Dave Sellwood      *
**************************
```

In an attempt to fill an otherwise nearly empty newsletter here are some more software reviews of some of the programs in my (somewhat small) Dragon library.

Speed Racer - Microdeal

This is the Dragon version of Pole Position and is by far the best implementation of this type of game on the Dragon. You view the race track from the drivers seat of your formula 1 racing car (capable of 180 m.p.h.).

The program is joystick controlled with proportional steering when used with a potentiometer joystick, the use of a Quickshot or other switch-type self-centering joystick is not recommended as you will find yourself oversteering most of the time, also it will be impossible to select all of the 4 tracks available to you.

One nice feature about this program is that the four circuits (ranging form easy to pretty hard) have completely different backgrounds which scroll left and right as you drive round the circuit.

During the game you have to try to drive round the two mile laps 5 times in the fastest possible time, but in order to get to the next lap you have to overtake a set number of cars and if you fail to do this the game ends.

When you are driving round the track if you drive on the "hard shoulder" for too long you will ruin your tyres and what is described in the documentation as "your road crew" will fit a new set, it's quite nice to watch too!

Playing the game is great fun and pretty addictive but I do think the sound effects let down an otherwise superb program.

Crashing into another car while you are driving round the track means you have to start again from rest, but here too the sound effects are rather disappointing.

Having said all this, the game is one that will be a popular addition to anyones library, I give it an overall 90% let down only by some of the sound effects and well worth buying.

DRAGON SOFTWARE REVIEWS

Tea Time - Pocket Money Software

A simple game well implemented and better than many games well above its price of £1.99. The idea of the game is to collect tea drops in your tea pot as they rain down from the skies avoiding the hammer and dreaded sponge, having filled the pot avoid a shower of sugar cubes and then navigate your way up and down lifts and shelves in the "pantry" collecting piles of tea from the shelves and then on to "dock" with the tea cosy for mega bonus points.

Sounds simple doesn't it, well its a lot harder to play and after you've made your way through the first three screens it starts all over again and this time its even harder. At first the sugar cubes come straight down the screen, but from the scond time around anwards they zig-zag towards you and then it gets really hairy. If you are hit by a hammer at any time during the game that is fatal, but you do get a bonus pot every 10,000 points. When I compare this game to early TRS-80 software at £16 and £20 I feel that it is quite amazing that a program of this standard has been produced for such a low price and I think it is arguably the best value for money program I have seen certainly in the games area and for £1.99 you can't go wrong with this program, graphics are smooth and sound effects well thought out and it even plays the Tetley Tea bags tune during the title screen, you are then given a choice of which screen you want to start at (from 1 to 8).

This another piece of software that should be included in your library and would be a nice stocking filler for any Dragon owner this Christmas, I give it an overall 90% because it is just brilliant value for money.

Fearless Freddy - Pocket Money Software

I'm afraid I just don't like this program, its seems to be searching for something to do. The graphics really don't look like anything and there seems to be little point to whats going on in it. The documentation says you are trying to rescue occupants possesions from a burning building by using lifts to the various levels. Control of Freddy (who looks like a big pair of glasses with little stubby feet pointing out below) is very sudden when you move the joystick and I found it hard to decide just when he would move, resulting in many lost lives. Considering this program is from the same stable as Tea Time there is just no comparison, Tea Time is a far superior program.

However, if you like platform games like Manic Miner and all then you might like it, but it is certainly not for me, I'd rather I'd kept my money even though it was only £1.99.

This program gets only 40% from me because of its shoddy graphics and generally poor presentation, keep your money in your pocket on this one, I certainly expected better from a program distributed by Microdeal.

oooOOOoooOOOooo WOTSITS WOTSITS WOTSITS oooOOOoooOOOooo

Question :-

A few weeks ago I became the proud owner of a disk drive for my Model I (Yes - the Model I!). The drive is second-hand, works perfectly, and of course it came with the assorted software packages computer users collect, acquire, and even buy. I've owned a Model I for some time, using it mostly as a word processor with tape Scripsit. I therefore have many cassettes containing text files and this is my first Wotsit...

Wotsit take to enable disk Scripsit to read text files from cassette? I can't work out how to do it, and it's frustrating not to be able to load and save the files to disk so I can use them with my newly acquired disk version.

Answer :-

Well the answer to this one is relativly easy. First you should check that the version of Disk Scripsit you are using has not been patched in any way and was originally called 'Scripsit/LC' or 'Scripsit/UC'. I have found that later versions, such as 'Script/LC', and some patched versions, do not in fact stop the internal clock correctly when issuing the cassette instruction to load or save. I assume you know the cassette load instruction is 'L,T,FILESPEC' and the save instruction is 'S,T,FILESPEC'. If you still have trouble why not detail the exact version and DOS you are using and let us discuss it further.

Question :-

Wotsit take to read the disk directory when I'm using Scripsit? The program is on a Newdos 80 disk.

Answer :-

You need to assertain what version of NEWDOS 80 you are using. Once the version is known the correct patches must be added to allow the NEWDOS 80 facility of MINIDOS to be active. MiniDos is usually invoked by pressing the 'D', 'F' and 'G' keys simultaniously, this will only work if your version is correctly patched, see your DOS manual for the patches or ask around, as to print them here would be quite improper. Also you must ensure that the 'SYSTEM' parameters are correctly set on the DOS disk to allow the feature to be active, the 'SYSTEM' parameter that concerns this is not necessary the same on both versions, so you must refer to the correct manual. I hear that Melvyn is considering doing a chat on NEWDOS 80 Version 2.0 in the near future or maybe some of the other members would like to do an article on the System parameters of NEWDOS 80 versions 1.0 and 2.0.

NEWS OF THINGS TO COME

Well we have had Model I Level I, Model I Level II, Model II, Model III, Model IV, Model IVp, Model 100, Model 200, Model 16, Model 1000, Model 2000. NOW, yes now there is yet another to arrive on the Tandy Scene, " THE MODEL 3000 ". This model is destined to arrive in this country during December 1985, yes thats this month, then why haven't we heard anything about it before. That I can't answer, but what I can do is give you a rough specification I have got my hands on.

The Model 3000 is Tandy's attack machine for the IBM-AT market, a 16 bit MSDOS machine. It runs Microsofts MSDOS 3.1 and has been designed to use the forthcoming Xenix 5.0 multi-user operating system.

There are to be ten expansion slots, eight of which are usable, I have yet to figure that one out, how can you have ten slots but only be able to use eight. Of the eight usable slots, six of them are IBM-AT compatable and two are IBM-PC compatable. The processor is a 80286 running at 8MHz but they say a 80287 math co-processor is available to be slotted in. An internal clock-calendar function is included as standard.

Standard memory configuration is 512K of system RAM, expandable to 640K, as are the rest of the IBM-PC family. There are available upgrade boards that will lift the RAM to 2 megabytes, in increments of 256K. Disk drives with a basic system are 5.25 inch double sided high density, that is around 1.2 megabyte on a floppy, quite a bit huh.

The monitor supplied with the standard system is a twelve inch green anti-glare and is said to be of a very high standard. The keyboard layout is as far as I can see, identical, except for the backslash key, to the IBM.

I have it on good authority that the price of the basic system is just under £2000.00, that should worry big blue a bit, but then there are a lot of AT look-alikes around at that price, so Tandy won't only be fighting big blue but also all the other compatable producers.

There are rumours that Tandy are about to push onto the market, cassette version Model IV's at £199.00 + VAT, now that will be a good price. Add a couple of disk drives, at around £90.00 plus a cable and you could make up a Model IV disk system for just under £400.00.

Members of the group interested in purchasing any Tandy equipment are suggested to contact On-Line Consultancies (061-848-0150) for up to date prices and deals, before they venture into their local Tandy store to part with their hard earned money. The staff their are very helpful and have been Tandy agents for a very long time, so they know what their talking about, even if Tandy don't.

Is there any members out there has had any experience of the Model 200, if so why not do us a review or give us your impressions, as there seems to be very little information on the grapevine on this machine.

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