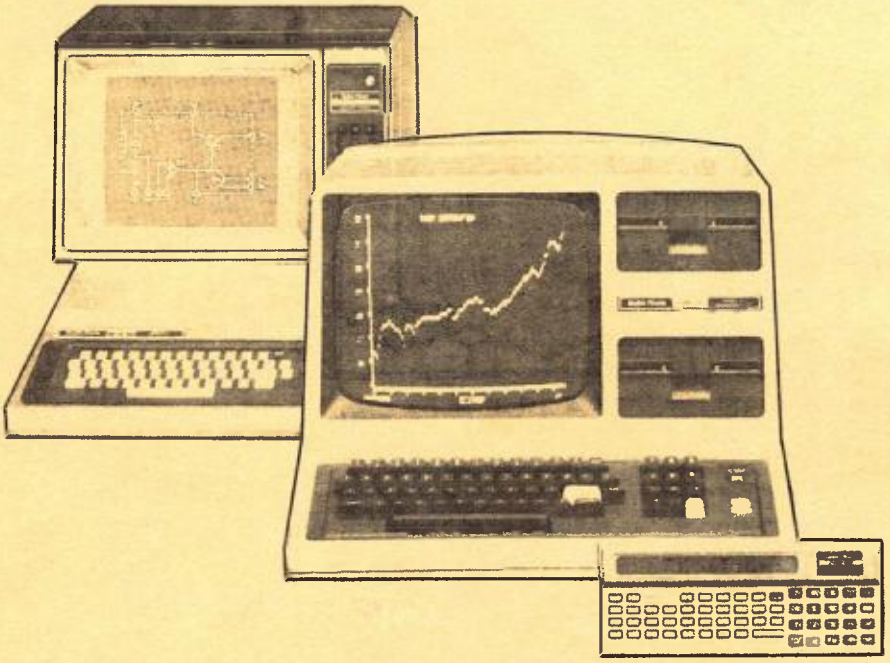
REM 80



The North West TRS 80 Users Group

Volume 5 Issue 1

meetings Redd Castle Wed in month

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EDITORIAL

Here we are into our fifth volume and year and may I take this opportunity in wishing you all a happy new year. Unfortunately this, our first issue of 1983, is only sixteen pages long, as you are all obviously suffering from post festive season lethargy. Never mind I'm sure you'll all have perked up in time for our next issue in March.

Due to circumstances beyond our control The Karadawn Shield has been renamed The Costello Shield, so for those of you who contributed last year, keep on sending your entries in and those of you who didn't we will expect to see an immediate response. As I'm sure you would like the top of your computer addorned in perpetuity with a trophy.

Thats all for now folks, but I expect to here from you very soon.

Carolyn

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Any articles or programs for inclusion in this Newsletter must be addresse directly to the Editor, preferably on cassette or disk, at the following address :-

40, COWLEES,
WESTHOUGHTON,
BOLTON,
BL5 3EG

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

I would like to thank all members who helped to make the December meeting a great success, special thanks go to Bob Moffat and British Telecom for the telephone line to enable Peter Tootill to demonstrate his buletin board and the Prestel service, and thanks also to Steve Costello for the kind donation of the disks for our raffle. And last but not least I would like to thank all members who came to the meeting as it was you who made it as successfull as I hope you will agree it was, but if you have any comments on how good or bad you think it was then please do not hesitate to contact me so that I can bear in mind any suggestions you may have.

Congratulations go to Mike Salisbury for winning the HUSTLE contest with a score of 382 (despite the bug in the program) and comiserations to Stephen Lee who after a fierce battle and on many ocasions being in the lead was only beaten by six points with a score of 376.

The **FEBRUARY MEETING** will take the form of a brains trust and for the benefit of those members who have not yet been to one of these meetings the idea is that a panel of (so called) experts attempt to answer your questions and problems as seriously as they can but inevetably some smart alecs among us seem to be able to add a touch of humour to make the whole thing more interesting, so why not try to beat our experts and think up some really stinking questions, make a note of them and bring them along to the meeting (you may remain anonimous if you wish to avoid embarasment or having something wet and sticky thrown at you.

The **MARCH MEETING** will take the form of help for the beginners with some explanations of the fundamentals of basic and how to get the best use from your computer, this will most likley consist of a small group in one corner with a system to demonstrate its use, It will not necessarily be the same system as yours but the basic is mainly compatible with all systems we suport in the group and any diferences we know of will be explained. I also intend to have another attraction for the non beginers although you may well be surprised how much you can learn by starting at the begining again.

**** MEETING DATES FOR 1983 ****
**** AT BARTON AERO CLUB ****

January 26th February 23rd March 30th
April 27th May 25th June 29th
July 27th August 31st September 28th
October 26th November 30th December to be arranged later

As there seem to be quite a few members in the group or about to join with DATA DRAGONS I would like to point out that there are quite a few features that the Dragon is capable of but there is no reference to them in the manual supplied with the computer, most of the basic comands are explained but the edit command for instance is not very well explained in the manual and there are a few edit comands not mentioned which the Dragon will perform, If you know of any diferences or lack of information in the manual or even something you find that is not very well explained PLEASE let us know so that we can publish your findings and help other members with the same problem. you will find some very usefull peeks and pokes (if you don't know what these are then ask it's what we're here for!) in this issue for the Tandy Colour and Dragon 32 on page 3.

LETTER TO THE EDITOR.

Dear Carolyn,

I have query in the statement in issue 6 of REM on the hardware page, I expect it was meant to be a diode across the motor which is supposed to prevent the switch off spikes, not across the tape head, personally speaking the diode across the motor doesn't work, because it is the erase circuitry that causes the spike not the motor!

On a different note, unless the circuit inside the cassette tape-recorder is modified it isn't possible to use it as a striaght-through amplifier as implied in many sound programs. The telephone amplifier from Tandy will work much better.

I see Tandy are selling the Model I for 199 pounds, anyone selling one for 150 pounds or less may well have a buyer.

Yours... P. Rosbottom.

DAVE SELLWOOD REPLIES

Mr. Rosbottom,

Your letter set me thinking,'Have I given the members duff gen ?', so I went back to my library of books and got a CTR-80 and did some measurements with my 'scope. I can confirm that the diode does go across the replay head and NOT the motor as the glitch comes from the collapse of the field in the record/playback head and I quote this piece from 'The Custom TRS-80 and other mysteries' :-

If the stop button was pressed during loading, a head field collapse in early CTR-80 tape recorders would put glitches on program tapes. Radio Shack provides a free modification to this problem. If you wish to do it yourself, a small SILICON diode (e.g. 1N4148) can be connected across the tape head contacts."

The voltage across the head in record rarely reaches 400 mV peak to peak and in playback is almost unmeasurable (around .008 volts peak to peak). The spike produced by the motor is quite adequately suppressed by the .047 microfarad capacitor connected across it.

The idea of using Tandy's telephone amplifier is a good one and I would recommend that any members wanting sound who have not tried it to get one, it is good for the job.

This page Colour (& Dragon) ONLY

LIBRARY NOTES.

May I open these, the first, library notes of 1983 by wishing all members the very best of luck (and computing) for the New Year.

This month the library begins it's support of the TRS-80 Colour Computer and, as a lot of the software can be used with the Dragon, we shall be supporting the Dragon also.

I have had a lot of requests for the POKE statment that will speed up the Colour Computer so I am listing a number of POKE's and PEEK's that work on both the Colour Computer and the Dragon. All the location numbers are in decimal.

POKE 65495,0 - speeds up the CoCo.

POKE 65494.0 - slows it back down again. You MUST be in the slow mode before you do any input/output i.e. CLOAD or CSAVE or use a line printer.

POKE 359,57 - disable automatic return to the text screen after a PRINT or INPUT statement.

POKE 359,126 - re-enable the auto return to text page.

POKE 65315,54 - disable auto-execute of ROM packs.

POKE 65315,55 - re-enable and execute disabled ROM packs.

PEEK 25 & 26 - start of BASIC program.

PEEK 27 & 28 - end of BASIC progvam - start of variable storage.

PEEK 474 to 481 (eight bytes) - the filename of the last program loaded from tape.

PEEK 487 & 4880- beginning address from CLOADM.

PEEK 126 & 127 - ending address from CLOADM.

PEEK 157 & 158 or 485 & 486 - execute address from CLOADM.

If you are used to using the TRS-80 Model I/III please remember then the 6809E stores values in memory in MSB,LSB format and not in the reversed format used by the Z-80. So to get an address from the two byte PEEKS above the command would be - PEEK(first location * 256) + PEEK(second location).

In closing I want to assure you Model I users out there that I have not forgotten you and I shall try to keep a balance between the two machines.

Happy tapping, Barry.

W O T S I T P A G E

Question :-=

I have a couple of pieces of word processing software that mentions **WIDOW**, could you please explain what this is, means, does.....

Answer :—

The relation between word processing and **WIDOW** is in fact called **WIDOW LINES.** They are in real terms stranded lines, either at the top or bottom of a printed page. The idea being that a good word processor, can, if requested, avoid stranding the first line of a paragraph at the bottom of the page, or the last line of a paragraph at the the top of the following page. Thus, the lines that are stranded are called **WIDOWS.**

Question :—

Recently in **REM 80** and several other magazines I have come accross a character that my TRS-80 doesn't seem to support. It is the square left hand bracket. Could anyone possibly enlighten me on this, and how do I get my Tandy to recognise it ?

Answer :—

I think the character you mention is in fact the equivelent of the TRS-80's up arrow or 'to the power of symbol'. The reason you seem to see it quite regularly in print is because the majority of the printers used on micro-computers today replace the TRS-80's up arrow with the left square bracket. So in future if you see the bracket you should assume that it is the up arrow.

Question :—

Why is the word **DISK**, in my opinion, incorrectly spelt, surely it should be spelt **DISC** ?

Answer :—

We can only **blame** the spelling on the Yanks who can't spell properly, as that is where it originated. Another one is COLOR, perhaps thats why there T.V. reception is not so great.

Question :—

What is a **NIBBLE** ?

Answer :—

Half a BYTE, as we all should know a byte contains eight BITS, therefor half a BYTE is four BITS, making a NIBBLE four BITS. That was easy, any more questions like that please, I can answer these.

Any members who would like to ask a question but does not wish his or her name to be published, can forward then to the Editor unsigned.

MERGE BASIC PROGRAMS FOR THE TRS-80 COLOUR COMPUTER AND DRAGON 32.

by Barry Steward.

One of the most useful utilities for any computer system is the ability to merge together two BASIC programs and use them as one. You can then write subroutines, store them on tape, and merge them into your programs at will saving a great deal of typing time. Or, you may wish to join a number of short programs together and save them on one tape so that you may have them all in memory at the same time and access them from a main menu. Whatever your reason this article will show you the way to do it and, better still, it has been tested on both the TRS-80 Colour and the Dragon 32 and it works on both.

In order to merge you programs you will first need to ensure that the line numbers in the second program start at a higher number than the highest line number in your first program. If neccesary load the programs into your machine and renumber them. With both programs ready CLOAD the first program (the one with the lower line numbers).

Now you need to know the addresses of the start and end of that program in memory. To find the start of program address type in the following from the command mode :-

PRINT PEEK(25) , PRINT PEEK(26)

You will see two numbers printed on the screen. Write them down as you will need them later. The numbers represent the start address of your program in memory and will be different depending on the number of graphic pages you have reserved with the PCLEAR command. If you really want to know the start address then multiply the first number by 256 and add the second number. You do not need to do that though for what we are doing here.

The next thing we need to know is the end address of you program and this you will discover by typing the following line :-

PRINT PEEK(27) , PRINT PEEK(28)

Again you will see two numbers on the screen. If the second of the two numbers is greater than 2 then you can carry straight on to merge the second program but, if it is 1 or 0 I recommend that you EDIT the program in memory to shorten or lengthen it as this will make life a little easier. You may do this by just putting a REM line somewhere in your program, you can remove it if you like after the two programs have been merged. After you have done this you must again peek locations 27 and 28 to find the end of you program as it will have altered.

You should now have written down four numbers which are the contents of memory locations 25,26,27, and 28. POKE 25 with the value you got from 27. Deduct 2 from the value you got from 28 and POKE the number into 26. BASIC now thinks that the start of memory form the storage of progams is the end of the program you already have in memory so you can CLOAD your second program.

When the second program has loaded you must restore the values in locations 25 and 26 to the first numbers you wrote down, so POKE 25 with the first value and POKE 26 with the second. Now LIST your program and you will find that the two programs have been merged together and you can RUN, or EDIT it as you wish. I would recommend though that the first thing you do is CSAVE your merged program or you may have to go through the above routine again.

A LITTLE BIT OF ASSEMBLY

By J.G.Peasmold

I have recently been looking through some old books and found some interesting pieces of software and ideas that may have been overlooked or forgotten. So with this in mind I intend to modernise them for our Newsletter and perhaps they will be of interest to a large proportion of the groups membership.

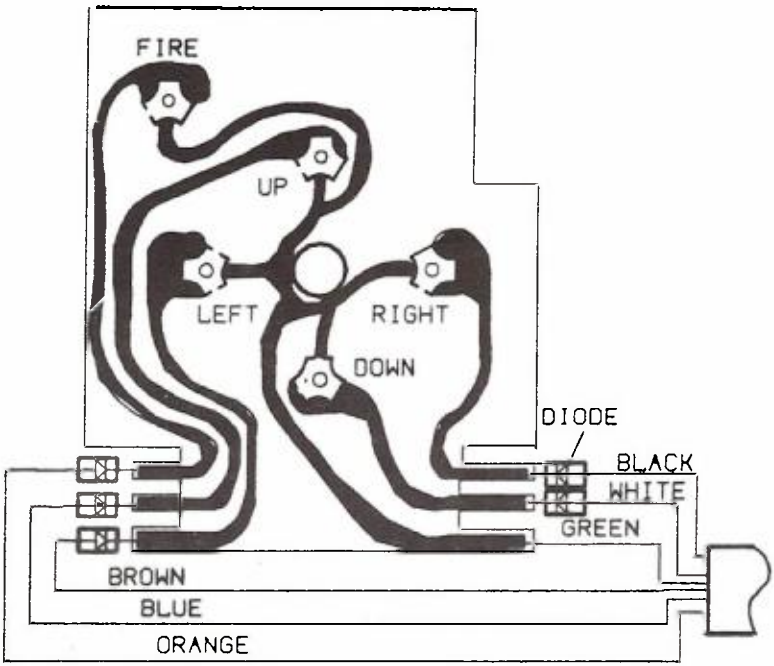
The first of these is a simple machine code to pack string conversion, so that you can put your own little utilities into Basic listings.

The first listing is a variation on the old white out the screen routine in Z80 machine code mnemonics for use with an Editor Assembler. The second listing is the same program packed into a string variable 'A$' using the CHR$ function from Basic. Please note when using the Basic listing that certain lines are for disk and others only for Level II. When cross referencing the basic and machine code don't forget the left hand column of the machine code listing is in HEX and has to be converted to decimal for use in the Basic CHR$ function.

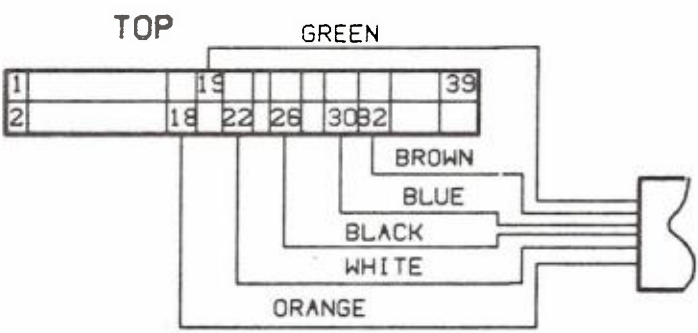
Well there's a little something to be going on with, next time I'll find something a little more mind boggling.

```
                00100          ;MACHINE CODE TO WHITE OUT SCREEN
                00110          ORG      7F00H        ;PROGRAM START LOCATION
21 00 3C        00120 WHITE    LD       HL,3C00H     ;START OF SCREEN
3E BF           00130 LOOP     LD       A,0BFH       ;FULL GRAPHICS BLOCK (191)
77              00140          LD       (HL),A       ;PUT ONE GRAPHIC BLOCK
23              00150          INC      HL           ;INCREMENT SCREEN POINTER
7C              00160          LD       A,H          ;GET MSB OF POINTER
FE 40           00170          CP       40H          ;TEST FOR SCREEN END
20 F7           00180          JR       NZ,LOOP      ;IF NOT END, GOTO LOOP
C9              00190          RET                   ;SCREEN FULL, THEN RETURN
                00200          END       WHITE       ;PROGRAM END STATEMENT
```

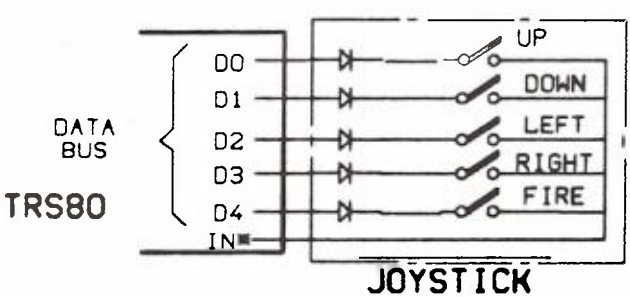
```
10 REM ** BASIC/MACHINE CODE WHITE OUT SCREEN USING CHR$
20 REM ** KNOWN AS PACKED STRINGS.
30 A$=CHR$(33)+CHR$(0)+CHR$(60)+CHR$(62)+CHR$(191)
   +CHR$(119)+CHR$(35)+CHR$(124)+CHR$(254)+CHR$(64)
   +CHR$(32)+CHR$( 247)+CHR$(201)
40 B=VARPTR(A$)
50 POKE16526,PEEK(B+1):POKE16527,PEEK(B+2)  'REM LEVEL II ONLY
55 R=PEEK(B+2)*256+PEEK(B+1)                'REM ***  DISK ONLY
58 IFR>32767THENR=-1*(65536-R)              'REM ***  DISK ONLY
60 DEFUSR0=R                                'REM ***  DISK ONLY
70 C=USR(0)
80 FORX=1TO200:NEXT:CLS:FORX=1TO200:NEXT:GOTO70 'DISPLAY LOOP
```



PRINTED CIRCUIT BOARD



EDGE CONNECTOR



BUILD YOUR OWN JOYSTICK

by Michael Salisbury

Below are the details showing how to convert an ATARI type joystick into one you can use on a TRS-80. Joysticks are available from, DIXONS (for use with a VIC) for about eight pounds, or from various mail-order firms at about seven pounds. To convert the joystick, you will need five germanium diodes and a 40-way edge connector. The diodes are fairly easy to find and are quite cheap. The edge connector can be bought from Tandy, but is very expensive (at around five pounds) and not very good quality. WHAT TO DO:

1> Remove the four screws on the bottom of the joystick and take out the P.C.B. (It should look like the diagram below).

2> Pull the five wires which are connected directly to the switches. off the P.C.B. (not the common line) and cut the tags off the wires.

3> Now solder each of the five diodes to the P.C.B. , as shown in the diagram on the previous page (cathode end towards the P.C.B.) .

4> Now solder the five wires to the other end of the diodes.

5> Note which wire is connected to which switch.

6> Cut off the edge-connector which came with the joystick and strip the six wires which were connected to it.

7> Examine the diagram on the previous page and solder the wires to the pins shown in the diagram.

N.B. (FIRE to D4-pin 18, RIGHT to D3-pin 26, LEFT to D2-pin 32, DOWN to D1-pin 22, UP to D0-pin 30, COMMON to IN*-pin 19)

8> CHECK your wiring

9> Turn your computer off

10> To connect the joystick to the EXPANSION INTERFACE use the Bus Card-Edge Signals (described in the expansion interface manual)

11> To connect the joystick to the C.P.U. just connect it to the back of the C.P.U.

12> Check the joystick is connected correctly with the following basic program :-

```
10 PRINT INP (0) : GOTO 10
```

If the joystick is connected correctly you will get the following results :-

Nothing pressed	255 is printed.
Fire pressed	239 is printed.
Right pressed	247 is printed.
Left pressed	251 is printed.
Down pressed	253 is printed.
Up pressed	254 is printed.

HOW IT WORKS

When an IN instruction is executed the IN* line goes low. As the common line on the joystick is connected to IN*, if any button is pressed on the joystick then its corresponding data line is pulled low (the data lines are normally high). Hence each one of the bits 0-4 represents one of the buttons on the joystick. The diodes are neccessary to stop the data lines shorting each other out and to stop the data lines being kept high by IN*.

HOW TO USE THE JOYSTICK

1> IN BASIC

To use the joystick in basic let a variable = INP(0) . If anything is pressed on the joystick, then the variable will equal one of the values shown above.

2> IN MACHINE CODE

When you want to check if the joystick is being pressed in machine code, use the following code :-

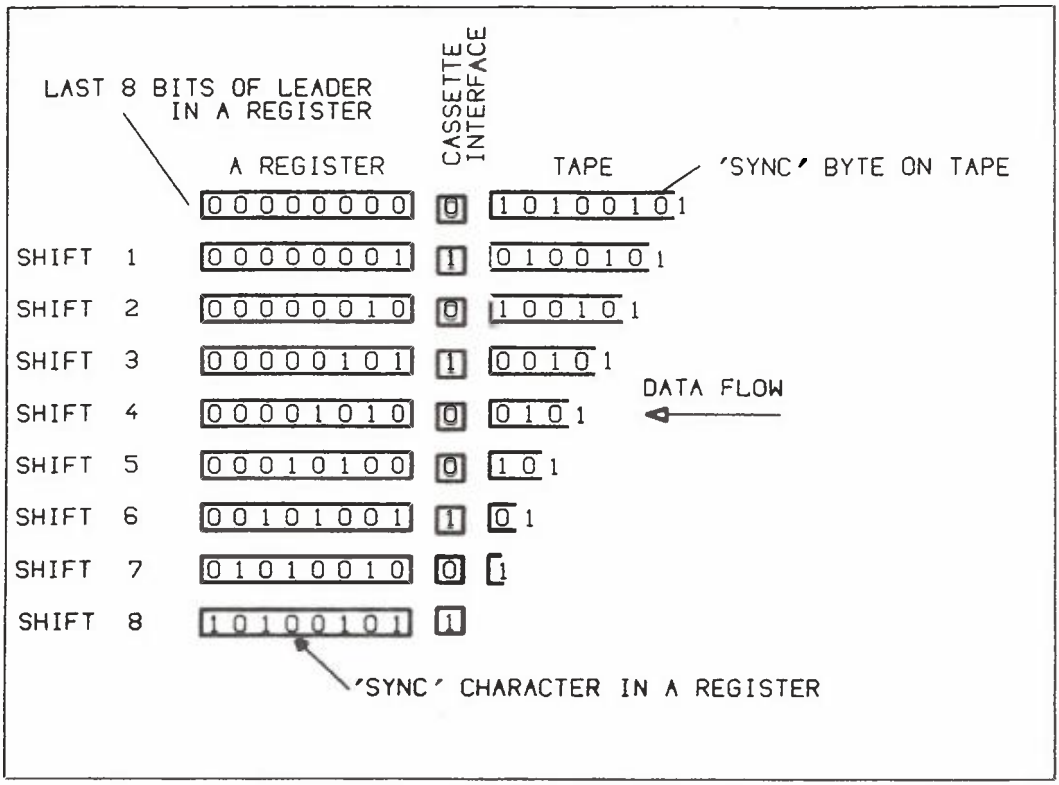
```
IN   A,(0)
BIT  4,A
JP   Z,FIRE
```

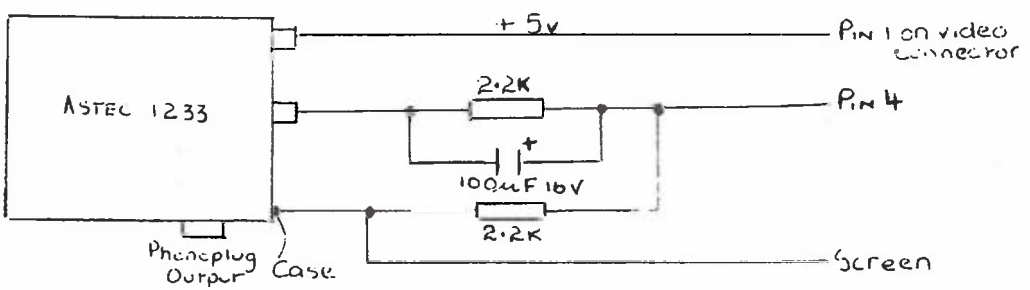
To check for fire being pressed use	BIT	4,A
To check for right being pressed use	BIT	3,A
To check for left being pressed use	BIT	2,A
To check for down being pressed use	BIT	1,A
To check for up being pressed use	BIT	0,A

****
** T.V. Modulator to use your **
** TRS-80 with your own T.V. **
** by Dave Sellwood **
****

From a suggestion in a letter from Mr. P. Rosbottom, here is a circuit that will allow you to use your TRS-80 with a normal domestic T.V.. The circuit supplied by Mr. Rosbottom did not work on some T.V.s, but here is the circuit (see the following page) that Melvyn and I (and others) have used with complete success for some time, it may look a bit unorthadox, but that's the way it is.

It uses an Astec UM1233 modulator, 2 x 2.2k resistors and a 100 microfarad 25 volt (or 16 volt) electrolytic capacitor, you will also need a 5 pin DIN plug, a phono plug and a standard Belling Lee T.V. coax cable plug, also a length of twin screened cable and a length of coax to suit your needs.


LAST 8 BITS OF LEADER IN A REGISTER
CASSETTE INTERFACE
A REGISTER
TAPE
'SYNC' BYTE ON TAPE
SHIFT 1
SHIFT 2
SHIFT 3
SHIFT 4
SHIFT 5
SHIFT 6
SHIFT 7
SHIFT 8
DATA FLOW
'SYNC' CHARACTER IN A REGISTER


ASTEC 1233
+5v
PIN 1 on video connector
2·2K
PIN 4
100uF 16V
2·2K
Phonoplug Output
Case
Screen

S Y N C B Y T E

by R.Salisbury

At the last two "Brains Trusts" a question was asked about the need for a sync byte on programme tapes. To overcome any doubt regarding its purpose there follows a detailed account of its purpose.

Tapes created by the operating system have a 255 byte leader of zeros, followed by a sync byte. This is in turn followed by bytes giving information about tape name, load address etc. as mentioned in a previous newsletter. With data storage of this type there is an obvious problem. I.E. How is the first valid byte to be located when the tape is read in by the computer? Since the only information being supplied by the cassette interface is whether the last bit was a "0" or a "1", some key must be provided to enable the computer to determine where the data actually starts. This is where the sync byte comes in.

As each bit is read off tape it is stored into bit 0 of the 'A' register. The contents of this register are then compaered with the sync character. If the test fails then, the contents of the 'A' register are shifted left one position, the next bit is read off the tape into bit 0 of the 'A' register and again compared with the sync character. This process is repeated until a successful match is achieved.

The previous sketch shows what is happening as the sync character is actually read into the 'A' register.

Once the system detects the sync character in the 'A' register, it then knows that each successive group of eight bits represent valid data, i.e. it has been synchronised onto the incoming data stream.

One further point, the sync byte is not used by the system to compensate for different rates of data transfer as was mentioned at the Brains Trust. Although this is theoretically possible it is not so in the case of the TRS-80 since the cassette load routine is held in R.O.M. and is therefore, not capable of modification temporary or otherwise.

ONE LINE HEX/DECIMAL CONVERTER

By M. Salisbury

Here is a one line program which converts hexadecimal to decimal. See if you can understand it.

```
1 INPUTA$ : B=LEN(A$) : FORA=0TOB-1 : N=N+16[A*
  (ASC(MID  $(A$,A*-1+B,1)) - 48+(7*(ASC(MID$(A$,A*-1+B,1)))>64)))
  :NEXTA : PRINTN : RUN
```

** HARDWARE PAGE **

by Dave Sellwood

Here is the latest list of all mods and upgrades available to members at the present time. The latest addition to the list is a memory upgrade for Colour Computer owners at half Tandy's price using FULL spec. chips.

All prices quoted include fitting and are guaranteed by the group for one year.

16K of 200 nS memory 11.00
(i.e. 8 x 4116-2 memory chips)

NEW !! 64K R.A.M. upgrade for Colour Computer 60.00
(full 64K capability with full spec R.A.M.s)

Standard lower case 8.00
(uses the TRS-80s' character generator)

Super lower case for TRS-80 ..... 17.00
(new character generator needs Std. as well)

Lower case for Genie 25.00
(includes new Character Generator)

Video snow shovel 6.00
(gets rid of those annoying streaks)

NEW !! Software controlled inverse video 10.00
(obtain startling effects and ease reading)

Speed up mod (includes speed indicator) .. 15.00
(switch between normal and high speed clocks)

Speed up mod assembled for you to install..10.00
(without the bi-colour L.E.D speed indicator)

The speed up mod will switch between 150% (2.66 MHz) or 200% (3.54 MHz) and the normal clock speed of 1.77 MHz. The speed change can occur under software (OUT 254) or hardware control. The hardware control can sense either the disk drives or cassette system being used and slow down accordingly. The choice of 150% or 200% is up to the individual having the mod fitted, but I have found that some NEWER systems will not work at 200% because of the way Tandy cheated on the memory strobe line circuits in the expansion interface, there is no problem at all with any keyboards providing you have 250nS memory, older keyboards with 400nS memory will not work at 200% but are O.K. at 150%. Unfortunately this mod is not suitable for the Video Genie as yet, but this is being worked on.

The latest upgrade to become available is a 32/64K upgrade for Colour computer owners for just £60, HALF Tandy's price AND using full spec 64K R.A.M. chips this means that you can turn your Colour computer into a full 64K machine for use with programs like Flex which release all the computers memory for your use, it is still a 32K machine when used with Extended Colour BASIC, but you have the assurance of full spec 64K R.A.M. chips for use with other programs.

The latest mod to become available is software controlled inverse-video which can be used to add effect to games programs without the need for machine language routines or to bring attention to operator errors (or software ones for that matter) in more serious programs. I think it improves screen readability as well, but you'll have to decide that for yourselves.

Don't forget, anything about hardware you would like to know OR if you have any ideas for mods or upgrades, please contact me, I am available most evenings (after 7.00 p.m. please) on Leigh 670604.

O N E - S I X - F O U R - F O U R - F I V E

As many of you will know memory location **16445** normally contains either the number 0 or 8. If it is 0 then the screen is in 64 characters per line whereas an 8 would mean that it was in 32 double size characters per line. To change from normal size to double the command PRINT CHR$(23) is used. Try it and confirm this. Now clear the screen, this will return you to normal size characters, and try the command **POKE 16445,8**. Now type anything. You should be in the double size mode. Now try **POKE 16445,0**. This should return the screen to normal size but with all characters, except the READY, with a space between them. Now try this short program.

```
10 CLS
20 PRINT CHR$(23)
30 FOR I = 0 TO 1022 STEP 2
40 PRINT @ I,"A";
50 NEXT
60 PRINT CHR$(28)
```

As you will see the letter 'A' is printed double size until line 60 where the display reverts to normal size with the 'A's spaced apart. In the double size mode the system uses only every second byte of the screen memory and only displays these. This can be shown by changing the 0 in line 30 to a 1. This results in the 'A's being written to the non-displayed bytes and the screen will remain blank until line 60 when the screen will be displayed as before with the 'A's spaced apart. Line 60 can be replaced with **POKE 16445,0** which will display READY at the bottom of the screen instead of at the top, or replace it with GOTO 60 which will prevent the display being marred until you press the BREAK key.

As shown in the first paragraph PRINT CHR$(23) can be replaced with **POKE 16445,8**. Now replace line 20 with **POKE 16445,8** and run again. Try it with both 1 and 0 in line 30. There doesn't appear to be any difference, both times the 'A's were printed double spaced whereas previously they were either displayed as double sized or not at all until the end. Now change line 30 to FOR I = 1 TO 200 and line 40 to PRINT "TRS-80 ". Run it again using **POKE 16445,8** in line 20. It appears that CHR$(23) and **POKE 16445,8** are only the same when used in the command mode. When used in a program CHR$(23) produces double sized characters next to each other, and **POKE 16445,8** produces normal size characters spaced one character apart. The program listed below shows this action.

```
10 CLS
20 POKE 16445,8
30 INPUT "NAME ";A$
40 PRINT A$
50 GOTO 30
```

The above article by Jim Bailey, reprinted from the North East Users Group Newsletter with their kind permission.

IMPROVE YOUR INKEY$

By Melvyn D. F. Franklin

Below you will find a small Basic listing that should work on, not only the Model I but most other micros that have the INKEY$ function available.

The idea of this program is to show you how to use INKEY$ so that you may get multiple digit entries without the use of the ENTER key. The program is short and almost self explanitory but I will add some notes below for the real beginners among you.

Lines 10 through 30 do most of the work, getting the keyboard input. Within these lines are several GOSUB's to 100 for checking of the input character, ensuring they are numeric and not alphabetic.

The variable 'F' is used as a flag which is set or reset after the check for letters, being set to '1' if a letter is pressed, but cleared every time the program enters the subroutine at 100. If the flag is set by the subroutine then the program is forced to start again from line 5. If not set then the input is printed as it's keyed in.

The rest of the program is simple and I hope you find it of use as I have in the past, used this idea on many of my pieces of software.

I would be interested to hear from any member who has further variations on this theme as no doubt all group members could benefit from this sort of information.

```
 1 REM **  INKEY$ MULTIPLE KEY INPUT ROUTINE
 2 REM **  BY MELVYN FRANKLIN
 5 CLS : PRINT"INPUT YOUR NUMBER ( 3 DIGITS PLEASE)"
10 A$=INKEY$ : IFA$=""THEN10 ELSE T$=A$:GOSUB100:IFF=1THEN10
20 B$=INKEY$ : IFB$=""THEN20ELSET$=B$:GOSUB100:IFF=1THEN20
30 C$=INKEY$ :IFC$=""THEN30ELSET$=C$:GOSUB100:IFF=1THEN30
40 D$= A$ + B$ + C$ : A = VAL(D$)
50 PRINT@460,"THE VALUE ENTERED WAS - ";A
98 END

99 REM **  SUBROUTINE TO CHECK ALPHABETIC INPUT ERRORS
100 F=0:IF T$>"9" OR T$<"0" PRINT@460,"ENTER NUMBERS ONLY":
    F=1:FORX=1TO400:NEXT
110 IFF=1GOTO5ELSEPRINTT$;
120 RETURN
```

M I N I M E T E O R

The small Basic program listed below was suggested for publication by P. Rosbottom, one of our members. It was originally published in August 1982 80 Micro but I has been modified slightly by Melvyn to include graphics.

The program contains several REM statements to assist you to understand how it works and modify it further as you wish.

One point you should not forget, is that when using the function AND in line a program, as in lines 120 & 130 you must ensure that spaces are typed before and after the instruction. Also before running the program you MUST protect the top end of memory that the program uses, see line 5.

A good idea is also to save the program before it's run, just in case it crashes out your system due any bugs you might insert. I hope this gives you an idea of what 80 Micro is like and tempts you you indulge in a subscription.

```
  1 REM *** ORIGINALLY PUBLISHED IN AUGUST 1982 80 MICROCOMPUTING
  5 REM ***  PROTECT MEMORY SET MEM TO 32754
 10 CLS:GOSUB160
 20 CLEAR200:DEFINTA-Z:P=0:KB=14400
 21 REM ***  P = POSITION OF ALIEN.  KB = KEYBOARD ADDRESS FOR PEEKING
 25 LT=32:RT=64:HM=0:TR=46:N=63
 26 REM ***  LT & RT = LEFT & RIGHT VALUE FROM KEYBOARD
 27 REM ***  HM = HOME POSITION. TR = DEBRIS. N=ALIENS NUMBERS.
 30 X=0:M=0:H=0:RP=15968
 31 REM ***  X = USR STATEMENT. M= NO. MISSES. H= NO. COLLISIONS. RP=YOU.
 35 LE=15938:RE=15996:CL$=CHR$(30)
 40 ES$=CHR$(139)+CHR$(188)+CHR$(135):LF$=CHR$(26)+STRING$(8,8)
 50 CD$=" **-** "+LF$+"£+ ?? +£"+LF$+" **--** "                    '*** DEBRIS ***
 60 POKE16526,243:POKE16527,127                                    '*** LEVEL II *
 63 RANDOM
 65 FR=127*256+243:DEFUSR0=FR                                      '*** DISK   ***
 70 PRINT@965,"ENEMY SHIPS HIT";H;"                    SHIPS MISSED";
 80 PRINT@HM,CL$;:PRINT@1014,M;:FL=RND(3)-1
 90 IFFL=1THENP=RND(N)-1:IFP>60THEN100ELSEPRINT@P,ES$;:M=M+1
100 POKERP-1,32:POKERP,32:POKERP+1,32
110 X=USR(X)
120 IF PEEK(KB)=RT AND RP<RE THENRP=RP+2:POKERP+63,TR      '** MOVE RIGHT
130 IF PEEK(KB)=LT AND RP>LE THENRP=RP-2 :POKERP+65,TR     '** MOVE LEFT
140 IF PEEK(RP)=32 THEN POKERP-1,179:POKERP,140:POKERP+1,179
    :GOTO80POKERP,R:GOTO80
150 H=H+1:M=M-1:N=N+1:PRINT@RP-15362,CD$;:PRINT@981,H;:GOTO80
160 FORX=32755TO32766                  '***  MACHINE CODE FOR REVERSE SCROLL ***
170 READ Y: POKEX,Y:NEXTX:RETURN
180 DATA 17,191,63,33,127,63,1,128,3,237,184,201
```

A REVIEW UPDATE ON THE LINE PRINTER VII

By Peter Mooney

I must just comment on Dave Sellwoods review of the Tandy Line Printer VII, (Newsletter Volume 4 Issue 5). I too have one of these printers, and on the whole am well pleased with it.

I have to agree about the din it makes, but the Seikosha G.P. 80/100 is just as bad. The dot addressable graphics are useful and allow you to produce text with descenders if you are willing to sacrifice some speed and delve into the machine code. It can also produce some pretty patterns in the graphics mode, by storing the points in memory and sending them to the printer in an eight bit form. I have written a program for those who want to try it out, (machine code of course, for the Video Genie).

Dave raised the question of the cost of the new ribbons. I too thought that £4.80 was to steep so I took the thing to pieces to see if I could re-ink it. It is really very simple.....

The cartridge consists of two spools, one with a tensioning spring, and one without. Take a screwdriver or penknife to the latter and carefully prise apart - it isn't glued in any way so you should have no difficulty. When you have picked up all the bits that fell out !! (there are only two in fact), you will see that it contains a sponge roller and a small gear wheel which keeps the ribbon in contact with it. The sponge contains an ink which can easily be revived by soaking it with a few drops of penetrating oil ! Yes, thats right, penetrating oil. There's plenty of pigment in there and the thin oil brings it out nicely. It's surprising how much oil it will soak up, but don't overdo it.

When you are happy with your efforts simply put the ribbon back in place between the sponge and gear wheel, then carefully snap the top into place. Done it ? - **Welcome to the black hand gang !!!** The ink will soon wash off!!

Does it really work ? Well I have used the same ribbon for a year now and revived it several times. I haven't noticed any stickiness on the printer, but I think it's because the oil is very thin. You might like to try other solvents, but that is up to you.

Knot Komputing

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Software News

INNOVATIVE TRS 80·GENIE SOFTWARE

from the professionals

TRIAL PACKAGE



The Snapp utilities Extended Basic, Built In Functions Mapping Support, Autofile and the Garbage Collector are all described in our catalogue. Literature is also available from us on request. These programs are available for the machines listed below.

All of this software is installed into the Disk Basic interpreter of the host machine and thereafter is fully integrated into TRSDOS Basic. Once installed it is entirely transparent to the user.

Extended Basic has six separate utilities within it, including cross reference; variable dump (including values), compression string and keyword find.

Built In Functions contains a large number of new commands and utilities to aid the programmer, the exact number depending on the machine. For instance, one can POKE up to 255 bytes at one time sort a number of arrays, erase any or all arrays from the Array Table, PEEK multiple bytes at one time, calculate passwords, exchange the contents of variables and so on.

The Garbage Collector gets over that big failing of Microsoft Basic whereby the machine appears to hang from time to time whilst it sorts out its string area.

Automap is a product designed to automate for the Basic programmer the tasks of presenting information on the VDU and accepting information from the keyboard operator.

Autofile carries out very similar tasks to Automap, but instead of interfacing between the keyboard and the VDU, it interfaces between the keyboard and a file.

These utilities are hard to describe but once you use them, then like us, you will never let them go. They are almost miraculous in their use and are the greatest programming time savers that we have ever seen. They are, however, expensive. This Trial Package has, therefore, been produced to provide a "sample" of these utilities for a very low price. The catch is that this sample can only be installed on one of your disks containing Disk Basic and can only be accessed on that disk 99 times. This is more than sufficient to give the user an idea of the very real and very important advantages of using these utilities.

Model I & III (LDOS)	£ 7.00	Model II (TRSDOS 2.0)	£25.00
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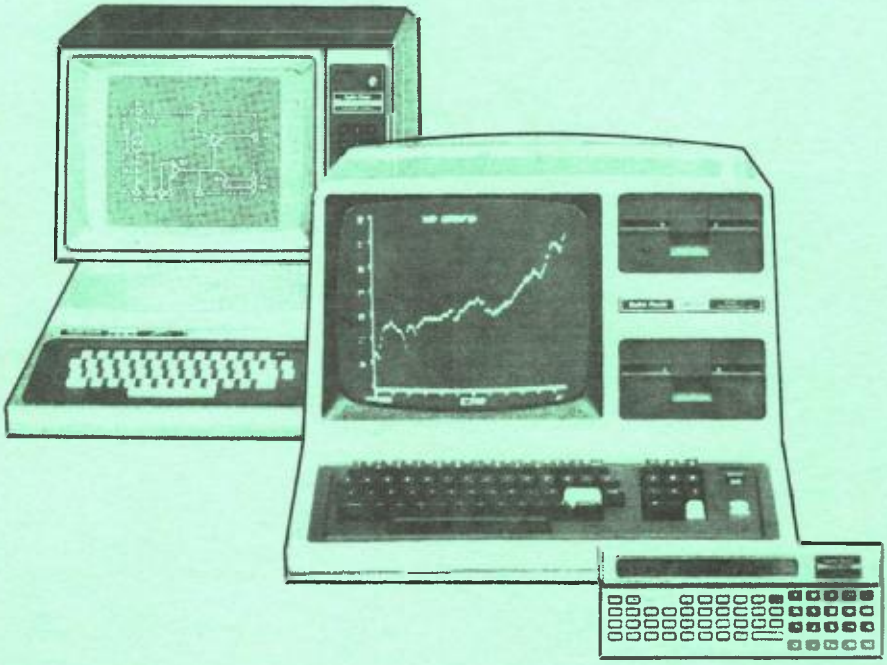
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REM 80



The North West TRS 80 Users Group

Volume 5 Issue 2

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EDITORIAL

Dear Members,

Firstly let me make no appologies for the non appearance of the newsletter last month, it was due totally to apathy on your part and I can only reitterate what Melvyn said at the March meeting, that we have not spent the past four years producing one of the best user groups and newsletters in the country only to see it disintegrate like most of its counterparts.

For those of you who like to see your picture in the newsletter may I draw your attention to page two, so lets have lots of articles and programs for your newsletter and for entry to the Costello Shield competition.

MRS Carolyn FRANKLIN (Melvyn D-Sec)

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Any articles or programs for inclusion in this Newsletter must be addresse directly to the Editor, preferably on cassette or disk, at the following address :-

40, COWLEES,
WESTHOUGHTON,
BOLTON,
BL5 3EG

ACTIVITIES PAGE
By Brian Disley

I would like to take this oportunity to appologise to all members of the group as I have not been able to devote as much time to the running of the meetings during the past couple of months as I would like to, due to pressures at work and home I have had very little time to even switch on my system let allone make some use of all it's wonderfull capabilities and so I hope you will bear with me for the moment as I can now see the light at the end of the tunnel and hopefully I will be 100% functional as your Activities sec. in the near future.

However I have not been completely idle and so I can guarantee that there will be something going on at the meetings to enlighten you and improve your computing skills but I can't be specific at the moment as to future attractions, I hope the meetings will still aproach the very high standards that you have come to expect and justifiably demand from the group but if you have any complaints or sugestions please do not hesitate to contact me. I am always on the lookout for new ideas and I'm only to willing to listen to your sugestions and comments as I can not hope to provide the instruction you require at the meetings unless I have some feedback from the members so please don't hesitate to phone or write to me at :-

53 Wilton Gardens
Radcliffe
Manchester
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Phone 061-723-5033

MEETING DATES FOR 1983
AT BARTON AERO CLUB

May 25th June 29th July 27th
August 31st September 28th October 26th
November 30th December to be arranged later

THE COSTELLO SHIELD

The winners of the COSTELLO SHIELD TROPHIES were Ray Pilling and Peter Mooney. Ray who incidentally has won the best program trophy now for three years wrote an original program specifically for insertion into the groups newsletter and to enter the Costello Shield competition.

The program was called TARGET and in most peoples opinion was far more fun playing than even Ray thought it would be. For those of you who haven't played it yet, it appeared in Vol 4 Issue 6.

On the right you will see a photograph of Ray being presented with his Trophy By Steve Costello.





Peter won his trophy for a very detailed article on MATRICIES which was well written and also he had taken the trouble to write example programs to fully illustrate it. This article again appeared in Vol 4 Issue 6.

On the left is a photograph of Peter being presented with his trophy again by Steve Costello.

So you've seen the article and the program that won the trophies now lets see if you can do better for 1983 - and topple Ray from his throne. All programs and articles must be supplied directly to the Editor as entries must be published in the groups newsletter to be elegible for consideration for the trophies.

L I B R A R Y N O T E S

Hello again. The Annual General Meeting in January was the venue, once again, for the presentation of the trophies for the best original article and program published in the newsletter in the year. Of course we all know that but the reason that I return to the matter bear is that for the third time in a row the award for the best program went to the same member, Ray Pilling. I am not trying to say that Ray did not deserve his award, his was a worthy victory, but there must be someone out there who can take the crown away from Ray in 1983.

I get to put the winning program into the Library and so I have I vested interest in seeing as many good programs published in the newsletter as possible -- so come on lets see those programs rolling in and a new champ at the new A.G.M.

Another of those 'shoot-em-up' programs for you this month. All the instructions are contained in the listing so at least you will know what you are supposed to be doing.

till next time, Happy tapping, Barry.

```
  4 CLS : GOSUB 500
  5 CLEAR
 10 CLS
 20 TX=RND(100)+9 : TY=RND(30)+3
 25 CLS : Q1=RND(120) : N1=0
 30 PRINT @ 0,NR;" ENEMY SPACE CRAFT DESTROYED ";NW;"GOT AWAY"
 40 IF NW+NR => 20 GOTO1500
100 PRINT @ 530,"<<<<<";: PRINT @ 539,"+" : PRINT @
    544, >>> >>>";
105 N=992
106 IF A$<>" "GOTO 260
107 A$=""
110 PRINT @ 980,"=";: PRINT @ 994,"=";
120 PRINT @ 917,"=";: PRINT @ 929,"=";
130 PRINT @ 854,"=";: PRINT @ 864,"=";
140 PRINT @ 791,"=";: PRINT @ 799,"=";
150 PRINT @ 728,"=";: PRINT @ 734,"=";
160 PRINT @ 665,"=";: PRINT @ 669,"=";
170 PRINT @ 602,"=";: PRINT @ 604,"=";
180 PRINT @ 539,"=";
190 PRINT @ 980," ";: PRINT @ 994," ";
200 PRINT @ 917," ";: PRINT @ 929," ";
210 PRINT @ 854," ";: PRINT @ 864," ";
220 PRINT @ 791," ";: PRINT @ 799," ";
225 PRINT @ 728," ";: PRINT @ 734," ";
230 PRINT @ 667," ";: PRINT @ 665," ";:PRINT@669," ";
240 PRINT @ 603," ";: PRINT @ 602," ";:PRINT@604," ";
250 PRINT @ 539," ";
251 N2=0
255 IF T1=2 THEN GOTO 400
260 S=RND(2) : IFS=1 THEN X=RND(3) ELSE X=-1*RND(3)
```

```
270 IFS=1 THEN Y=RND(2) ELSE Y=-1*RND(2)
275 PRINT @ 530,"     ";: PRINT @ 544,"    "
300 N1=N1+1 : IF N1=> 01 THEN NW=NW+1 : GOTO 10
303 N2=N2+1 : IF N2=>15 GOTO 110
305 RESET(TX,TY) : RESET(TX-1,TY+1) :
    RESET(TX+1,TY+1)
306 TX=TX+X : TY=TY+Y : X=0 : Y=0
307 A$=INKEY$
310 IF A$="J" THEN X=-1*RND(15)
320 IF A$="K" THEN X=RND(15)
330 IF A$="U" THEN Y=-1*RND(5)
340 IF A$="M" THEN Y=RND(5)
345 IF A$="Z" THEN GOSUB 500
346 IF TX+X-1<1 OR TX+X+1>126 THEN GOTO 10
347 IF TY+Y<1 OR TY+Y+1>46 GOTO 10
350 SET(TX+X,TY+Y) : SET(TX-1+X,TY+1+Y) :
    SET(TX+1+X,TY+1+Y)
355 IF A$<>"" THEN RESET(TX,TY) : RESET(TX-1,TY+1) :
    RESET (TX+1,TY+1) : TX=TX+X : TY=TY+Y : Y=0 : X=0
360 IF TX<52 OR TX>58 THEN 380
370 IF A$=" "THEN IF TY=23 OR TY=24 OR TY=25 OR TY=26
    THEN T1=2 : GOTO 110
380 GOTO 100
400 FOR XX=1 TO 10 : PRINT @ 537,"****" : GOSUB 1005
    : PRINT @ 537,     " : GOSUB 1005 : NEXT XX :
    NR=NR+1 : T1=0
405 FOR X=1 TO 75 :PRINT"                    ";: PRINT
    "SPOCK TO KIRK:  NICE SHOT, CAPTAIN."; :NEXTX
410 GOTO 10
500 PRINT"            STARBLAZE"
510 PRINT"YOU ARE THE COMMANDER OF THE SOL CRUISER
    -STARBLAZE- A "
520 PRINT"SHIP EQUIPPED WITH LONG RANGE SENSORS AND A
    MESON BEAM"
530 PRINT"THE MESON BEAM HAS A RANGE OF 22500 KM.  YOU
    MUST PLACE THE":PRINT"TARGET IN THE SIGHT AND
    FIRE THE MESON BEAM IN ORDER TO
    DESTROY":PRINT"THE TARGET.  YOUR ENEMY IS THE
    JAMAND SOCIALIST FEDERATION":PRINT"GALAXY."
560 PRINT"YOU ARE ON A SURPRISE RAID WARPING THROUGH
    THEIR GALAXY."
570 PRINT"YOUR MISSION IS TO DESTROY AS MANY JAMAND
    CRAFT AS POSSIBLE."
580 PRINT"IF A JAMAND CRAFT IS ABLE TO START ITS
    SATAR DRIVE IT WILL"
590 PRINT"WARP INTO HYPERSPACE AND ESCAPE."
600 PRINT:PRINT"TO CONTROL YOUR VESSEL PRESS:":PRINT"
    J - FOR LEFT   K - FOR RIGHT    Z - FOR
    INSTRUCTIONS":PRINT" U - FOR UP    M - FOR DOWN
    SPACE BAR  - TO FIRE WEAPON"
604 PRINT"PRESS ANY KEY TO CONTINUE";
```

```
 606 ED$=INKEY$ : IF ED$="" GOTO 606
 607 CLS
 610 RETURN
1000 PRINT @ 0,""
1005 FOR X=1 TO 25 : NEXT X : RETURN
1020 NW=NW+1 : GOTO 10
1500 IF NR>10 THEN PRINT : PRINT"NOT BAD BUT ";NW;"
     GOT AWAY"
1510 IF NR>15 THEN PRINT : PRINT"YOU ARE A GOOD SHOT
     YOU GOT ";NR
1520 FOR X=1 TO 1000 : NEXT X : CLS : GOTO 4
```





IMPORTANT ANOUNCMENT.

Will all Members please note that as from 1st, April, 1983., Mr. Keith Murray is not longer distribution librarian for the Group. As from that date, until further notice all postal requests for software and returns and submitions MUST be made to the following address:-

Barry Steward,
7, Asten Buildings,
Cowpe, Waterfoot,
Rossendale,
Lancs.

Any member holding software for return to the Library should also return it to the above address.

```
10 '  **HARDCOPY IN PMODE 4**
20 '           **BY**
30 '       ** J.TAYLOR **
40 '
50 '    DIRECTIONS FOR USE:-
60 '
70 'FIRST RUN THE PROGRAM WHICH
80 'CONTAINS THE SCREEN YOU WISH
90 'TO COPY (MUST BE PMODE 4).
100 'WHEN THE DESIRED OUTPUT IS
110 'REACHED, BREAK THE PROGRAM
120 'AND LOAD HARDCOPY, LINE UP
130 'PRINTER, AND RUN.
140 'HARDCOPY RUNS TO A LINE
150 'PRINTER VII.
160 'THE PROGRAM IS RATHER SLOW
170 '(ABOUT 15 MINUTES) DUE TO
180 'THE LOOPS.
190 '
200 POKE65495,0:PMODE4,1:PRINT#-2,
    CHR$(18)
210 FOR Y=0TO189STEP7
220 FOR X=0TO255
230 P1=0:P2=0:P3=0:P4=0:P5=0:P6=0:P7=0
240 IF Y<>189 THEN FOR O=0TO6
250 IF Y=189 THEN FOR O=0TO2
260 IF PPOINT(X,(Y+O))>0THEN D=1 ELSE
    D=0
270 IF D=1 AND O=0THEN P1=1
280 IF D=1 AND O=1THEN P2=2
290 IF D=1 AND O=2THEN P3=4
300 IF D=1 AND O=3THEN P4=8
310 IF D=1 AND O=4THEN P5=16
320 IF D=1 AND O=5THEN P6=32
330 IF D=1 AND O=6THEN P7=64
340 NEXT O
350 M=128+P1+P2+P3+P4+P5+P6+P7
360 PRINT#-2,CHR$(M);
370 NEXT X
380 PRINT#-2,CHR$(26)
390 NEXT Y
400 POKE65494,0:END
```

******* TWO USEFUL ROUTINES *******

Here are two useful routines, the first is for those who need to know how many words there are in a SCRIPSIT file. It came from the National Group N/L and was written by Laurie Shields. It works very quickly, and if using with the LDOS version of SCRIPSIT you are taken neatly back with the text buffer intact by line 80 (which is my modification, I think you need 'CMD"S=SCRIPSIT"' in NEWDOS-80)

```
 1 ' **  word count for scripsit Nat Group N/L 4(5) Nov 82
10 DEFINT A-Z : DIM J(15)
20 FOR K = 0 TO 15 : READ L : READ M : M = M + (M>127)*256
30 J(K) = L + 256*M
40 NEXT
50 DEFUSR=VARPTR(J(0))' DISK BASIC
60 POKE16526,VARPTR(J(0))AND255 :POKE16527,VARPTR(J(0))/256  'Level II
   BASIC
70 PRINT"Words = ";USR(0)
80 CMD"I","LSCRIPT *":END
90 DATA 17,98,127,175,71,237,98,26,230,127,19,254,
   33,48,4,203,128,24,7,203,64,32,3,203,192,35,183,32,
   234,195,154,10  ' Checksum = 3466
```

Line 60 contains a rather neat way of getting the remainder of dividing a number by 256.

To use the program simply exit scripsit in the normal way, go into BASIC and load and run the program.

The second is an interesting little technique that came from the Beebug newsletter, and I have slightly modified it for TRS 80 BASIC.

```
10 A$ = INKEY$: IF A$="" THEN 10
   : ELSE ON INSTR("YNyn",A$) GOTO 100,200,100,200
   : GOTO 10
```

This avoids more complex tests to cater for upper and lower case input, and sends the program to the desired destination quite neatly. You can also use ON GOSUB, of course. Another alternative is:

```
10 ON INSTR("*YNyn",INKEY$) GOTO 10,100,200,100,200
   : GOTO 10
```

For some reason the "*", or some other spurious character is required or the routine falls straight through to the next line without waiting for a key to be pressed. (anyone know what's happening?). This technique can be extended to menus, and neatly enables a letter to be selected by the user to be used in an ON GOSUB statement. Otherwise numbers have to be used, and these are more difficult to remember than appropriate letters.

Peter Tootill

********** A RUMOUR **********

Now that Tandy have decided to support CP/M for the Model II, I hear that the Model I is to be discontinued in favour of an 80 column version called Model IV (sic). Could the two events be connected?

Peter Tootill

* * * * * * Merseyside TRS-80 AND Genie Users Group * * * * * *

The AGM was held on Thursday Feb. 10th at the Monro PH, Duke St. Liverpool. This is to be our new venue for the forseeable future, and as the Licensee is letting us use the room for nothing, it's a very good deal! The room is fairly small, but comfortable and handy for the bar, so perhaps we will see a few more people turning up to meetings, and we will be able to put on some interesting events on the basis of this. Outside speakers are not to keen on coming unless we can promise a reasonable sized audience for their pains. The main decisions taken at the AGM were:-

Committee:

Chairman	Al Nielson.
Secretary & Treasurer	Peter Tootill.
Publicity Officer	Chris Cannon.
Activities Sec.	Ian Thompson.
Asst Activities Sec.	Ken Farnen.

Subscriptions:

These are to be pegged at the same rates as last year, i.e. £8.00 (£6.00 for students etc.).

It was decided that the sub will not include posting the newsletter, anyone who cannot get to meetings to pick theirs up is welcome to have them posted for an aditional fee of one pound.

* Subs are now due, and should be directed to Peter Tootill *
* as soon as possible. *

Various other matters were discussed, and it was agreed to encourage Dragon users and the like to join. Chris will be producing some posters for local shops. We wondered whether a different, less obvious name would encourage shops to allow posters to be displayed more prominently. Tandy won't have Genies mentioned, Dragon dealers probably don't like Tandy's name displayed on their premises, etc., etc.! Any comments anyone? No significant changes have been made to the previous operation of the group, except for the dividing of the secretary's job into the functions that you can see above. Members were encouraged to provide items for the newsletter, as it was felt that this would be of benefit to the group as a whole. It's very easy to write a few lines on something that interests you, and give it to me or to post it to Caroline. You don't need a word processor!

THE FUTURE OF THE NORTH-WEST TRS-80 USERS GROUP

My intention in writing this is to stimulate members' thoughts on what the group will be doing in the years to come. Our beloved Model I machines are rapidly being made out of date by the advent of many superior micros, and some members will certainly buy these machines and dispose of their TRS-80s. Even members of our committee are going to follow this course!

I should mention at this point that I am most definitely not criticising the way in which the Group is being run - I am always amazed by the energy and commitment of the committee, and very grateful for it. This is why we must be careful to consider the future and take the right decisions to ensure the continued success of what is currently an extremely lively organisation.

The Model I's great success is not in doubt - it has been the "folk machine" of the last few years. Clearly this role has now been taken over by the Sinclair machines and even the VIC-20, mainly because of price considerations, colour capability and better marketing.

Unfortunately, Tandy have priced themselves out the race, and don't seem interested in the battle for the more humble end of the market. Tandy's support for the Model I is fast diminishing and I suspect it will not be long before other suppliers do the same. A.J.Harding for instance are now selling products for the BBC computer.

The Group has already welcomed Dragon owners - clearly a sensible move. Should we also allow other machines which look likely to be the "folk computers" of the near future,and which don't so far have users groups? Perhaps the Oric is such a machine.

What of the various hardware mods our intrepid boffins are now offering us? Will members want to improve their Tandy Model 1 machines, or will they simply decide to go out and buy a more modern micro?

Perhaps it would be sensible to form sub-groups to handle the needs of Dragon owners, Oric owners etc? Perhaps the Model I sub-group would gradually fizzle out and the Dragon or Oric sub-groups take over. This may be one way to ensure the Club lives on.

Where does the Model III come in? It is clearly too expensive and insufficiently different to replace Model I.

You may think this all sounds like heresy, but there is little doubt that the Model 1 is soon going to be an antique. Would somebody like to demolish this argument, or perhaps we should devote a meeting to a debate on these matters?

A D V E N T U R E T I P S

By Wherner Barnes

Playing adventures can be one of the most enjoyable ways of using ones computer - until you are stuck !

I have finished (or have friends who have) most of the adventures available for the TRS-80, so I'am able to pass on hints which may be useful to those of you who have reached an obstacle.

Of course many of you who wish to soldier on alone will not want to see these hints so they will be put in coded form - the decode program is below.

Anyone who has any adventure problems can contact me on Blackpool 56245 and I will try to help. Any problems I can help with I will also pass on in REM 80.

Here are a couple of tips to be going on with -

Savage Island (part 1) - How to avoid the bear.

37)-;).;4(%;<!+%;4/;7'3(;/&&;4(%;3!<4

Golden Voyage - How to get rid of the statue.

053(;4(%;34!45%;$/7.;4(%;34%03

Good luck with your adventuring.

```
100 'Adventure Tips Decode Program
110 CLEAR 2000 : DIMA$(20),B$(20)
120 CLS : PRINT"Type 'E' when data entry complete"
130 FOR I = 0 TO 10
140 PRINT"Enter line number. ";I+1
150 INPUT A$(I)
160 IF A$(I)="E"THEN180
170 NEXT I
180 FOR I = 0 TO 10
190 IF A$(I)="E"THEN280
200 FOR J = 1 TO LEN(A$(I))
210 Z = ASC(MID$(A$(I),J,1))
220 IF Z = 59 THEN Z = 0
230 IF Z = 63 THEN Z = 58
240 IF Z = 60 THEN Z = 44
250 Z= Z + 32
260 B$(I) = B$(I)+CHR$(Z)
270 NEXT J : NEXT I
280 CLS : FOR I = 0 TO 10
290 IF A$(I) = "E" THEN END
300 PRINT B$(I) : NEXT I
```

35 Hartley St
Rochdale

Dear Carolyn

At the last meeting of the users group I rashly offered to provide an article for the newsletter on PRINT @ - I say rashly because, as a relative newcomer to the group, I have no idea what has appeared in the newsletter previously. However after a couple of years using other micros - such as PET and so forth, I am convinced that the TRS 80 PRINT@ is one of its best features, and far more flexible even than some of the newer jobs arriving

As we all know, a PRINT or PRINT@ followed by a semi-colon will suppress a carriage return and leave the cursor immediately after whatever has just been printed. It will therefore avoid destroying anything else on the screen, whether other text or graphics. The following little program will demonstrate this :-

```
100 CLS: FOR X=0 TO 15: PRINT@X+64,X+1;: NEXT
110 PRINT@542,"HERE";
120 FOR Y = 1 TO 500: NEXT: REM- PAUSE -
130 PRINT" NOW HERE";
140 GOTO140
```

Line 100 prints the line numbers down the left hand side of the screen and the PRINT@ in line 110 prints "HERE" more or less in the middle of the screen. after a short pause, line 130 prints " NOW HERE" just after the first print - just to show where the cursor was. Now lets start adding a bit. firt of all change line 110 to :-

```
110 PRINT@542,"HERE";CHR$(27);
```

Run the program and you will see that the cursor ends up at the last position MINUS 64. There are a number of other character strings which can be used in this way all of them having a different effect - well nearly all. Some of them delete some of the screen and others don't. Here is a listing of which does what - I'd be interested to know if there are any more interesting effects with other character stings. The list assumes you have used them in the above program.

CHR$	DELETES	LEAVES THE CURSOR AT
(10)	All of line 10	Start of line 10
(10)	All of line 10 and and all of line 11	Start of line 11
(24);	Nothing	Back one position (545)
(24)	All of line 10	Start of line 10
(27);	Nothing	Last position minus 64 (previous line)
(27)	All of line 9	Start of line 10
(28);	Nothing	Home (position zero)
(28)	All of line 2!	Start of line 2
(30);	To end of line 9	Next print position (546)
(30)	To end of line 9 & and all line 10	Start of line 10
(31);	To end of screen	Next print position
(31)	To end of screen	Start of line 10

Mildly interesting all that - still you may be able to do some interesting things with the various character strings. The real power of the PRINT@ is is being able to get the micro to find out where the cursor is at any point in a program. Why would you want to do that? I can hear you ask, the computer always knows where the cursor is! Yes, but you don't - particularly if you are writing a program which calls for some operator input either by INPUT or INKEY$ routine. for example, just recently I have been writing a program to help someone write there own questions with multiple choice answers. In circumstances like those you, the program designer, don't know in advance if the operator will design a question which is just a couple of words long, or wheather they will want one using up several lines. Your next prompt on the screen - if you're trying to save screen space - might be just underneath their input. But you dont know where that will finish like I said. thats where the PRINT@ comes in handy. The following routine, which you can put in as a GOSUB anywhere in the program, will very quickly calculate the present cursor position, the start of the next line, the next line number (1 to 16), the line after that ..... and any other other you care to have.

```
5000 P=256*(PEEK(16417)-60)+PEEK(16416): L=(INT(P/64)+1)*64: LI=L/64:
     L2=L+64
```

P is the present cursor position. L is the print position at the start of the next line. L2 is the following line.

So you can follow your operator's input with your next prompt by PRINT@P, or PRINT@L, and so forth. I find that a very powerful routine and far, far easier than having to use one of those Video Display Worksheets.

EDITING

A further bit of info on the "disapearing line trick" discussed at the last meeting. The following routine will cause a line to disapear when the program is listed. The steps are:-

1. Call up a line to edit
2. Use X to move the cursor to the end of the line.
3. Add your apostrophie and a few blank spaces (space bar)
4. Now change one of the spaces to a (shift up arrow)
5. Hit ENTER and list the program. The line has disappeared.

The point of this note is to remind you that the shift up arrow should not be immediately beneath any printing on the line imediately before your line - otherwise part of that will disappear too!

Finally, did you know you could make the whole program fail to list? This one's a bit drastic. Assuming your program is in memory just typed in or loaded, type this (in command mode) :- POKE 17131,254 : POKE17132,255. Now CSAVE your program. Switch off and on again and CLOAD the program. Now list it. It won't list. But it will run. Unfortunately if there are any GOTO's or GOSUB's it may go wrong. However you can put things back to normal by POKING the first line number of the program into 17131 and 17132 (LSB/MSB).

Bob Jones

IX AND IY REGISTERS

By Mike Salisbury

Most people who write in assembly language or machine code will have used the IX and IY registers. These 16 bit index registers have the same instruction set as the HL register pair. If you look closely at the code for these instructions, the reason for the similarity can be seen.

The code for the IX and IY instructions is achieved by prefixing the code for the HL instruction with ODDH or OFDH respectivly.

For example :

The code for the assembly language instruction INC HL is 23H
The code for INC IX is ODD23H (i.e. it is prefixed with DDH)
The code for INC IY is OFD23H (i.e. it is prefixed with FDH)

This is true for all the IX and IY instructions.

The HL register pair can, however, be split up into two eight bit registers, there are no equivalent instructions listed for IX and IY. If these instructions did exist their code would be produced by prefixing the code for the H register or L register with OFDH or ODDH respectively.

If you try this you will probably find that it works. For example the code for LD A,H is 7CH and the code for LD A,"M.S.B of IX" is ODD7CH. There are many instructions that can be produced in this way, but, as these instructions are not published some of them probably don't work.

No Editor/Assembler or Disassembler will recognise these instructions because they are not standard. To test whether these instructions work on your machine, use a monitor program which allows breakpointing and displays the contents of the Z80 registers. Anyone with a disk system can use the DEBUG facility given with most D.O.S.'s, people with tape systems can use TBUG. If you want to use these instructions with an Editor/Assembler use the following method.

First put "DEFB ODDH" or "DEFB OFDH", depending on whether you want to use IX or IY. Then on the next line write the equivalent instruction for the H or L registers.

For example to write the instruction LD A, "L.S.B. of IY type the code written below :-

```
100     DEFB    OFDH        ;Because it's IY
200     LD      A,L         ;Because it's the LSB
```

DRAGON 32 JUMPER.

By KAREN TAYLOR

TO FIT CHEST 38-40.

MATERIALS REQUIRED :-

Double crepe or double knitting.
One Pair of no.3 (11) and no. 3 3/4 (9) knitting needles.

KEY TO COLOURS:-

B=Background colour
R=Red

BACK

No.3 (11) needles cast on 115 STS.
Row A:K.1,*K.1,P.1 repeat from * to end
Row B:*K.1,P.1. repeat from * to end
Repeat row A&B 9 times(=20 rows)
Change to no.3 3/4 (9) needles
Row C:K. to end of row
Row D:K.1,P. to last ST.K.1.
Repeat last 2 rows until 128 rows have been worked

SHAPE ARM HOLES

Cast off 6 STS. at BEG. of next 2 rows
Work rows C&D once
Row E:K.1,K.2 TOG.,T.B.L.,K. to last 3 STS.,K.2 TOG.,K.1.
Row F:K.1,P. to last ST.,K.1.
Repeat last 4 rows 7 times(=87 STS).
Next work rows E&F until there are 37 STS.remaining,ending after a wrong side row
Break wool and leave stiches on a stich holder

SLEEVES

With no.3 (11) needles cast on 53 STS.
Work rows A&B 10 times(=20 rows)
Change to no.3 3/4 (9) needles
Work rows C&D 4 times
Continue in ST.ST.
increasing 1 ST.at each end of next row and every following 8TH row until there are 79 STS.
Continue without shaping until work measures 18 INS.ending with a P.row

SHAPE TOP

Cast off 6 STS.at BEG.of next 2 rows.Repeat rows C.D,E&F 5 times (=51 STS).
Next work rows E&F until there are 8 STS.remaining ending with a wrong side row.Break wool and leave work on a stitch holder

FRONT

With no.3 (11) needles cast on 115 STS.
Work rows A&B 10 times(=20 rows)
Change to no.3 3/4 (9) needles
work rows C&D until 118 rows have been worked
Row 119:K.B27 R3 B1 R2 B1 R3 B26 R3 B1 R2 B1 R3 B42
Row 120:P.B43 R3 1 R2 B1 R3 B26 R3 B1 R2 B1 R3 B26
Row 121:K.B26 R3 B1 R2 B1 R3 B26 R3 B1 R2 B1 R3 B43
Row 122:P.B44 R3 B1 R2 B1 R3 B26 R3 B1 R2 B1 R3 B25
Row 123:K.B24 R3 B1 R2 B1 R3 B26 R3 B1 R2 B1 R3 B45
Row 124:P.B81 R3 B1 R2 B1 R3 B24
Row 125:K.B23 R3 B1 R2 B1 R50 B35
Row 126:P.B33 R52 B1 R3 B1 R3 B22
Row 127:K.B21 R4 B1 R3 B1 R52 B33
Row 128:P.B32 R2 B52 R4 B1 R3 B21
Cast off 6 STS.at beginning of

next 2 rows
Row 129:K.B15 R3 B1 R55 B1 R3
B31
Row 130:P.B25 R2 B1 R56 B1 R3
B15
Row 131:K.B15 R4 B54 R2 B1 R2
B25
Row 132:P.B25 R2 B1 R2 B1 R56
B16
DEC.1 ST.each end of next and
evey followin9 4TH.row until 87
STS.
DEC.row
Row 133:K.B15 R55 B1 R2 B1 R3
B24
Row 134:P.B24 R3 B1 R2 B1 R53
B17
Row 135:K.B66 R3 B1 R2 B1 R3 B25
Row 136:P.B25 R3 B1 R2 B1 R3 B10
R3 B1 R2 B1 R3 46
DEC.row
Row 137 K.B45 R3 B1 R2 B1 R3 B10
R3 B1 R2 B1 R3 B25
Row 138:P.B26 R3 B1 R2 B1 R3 B10
R3 B1 R2 B1 R3 B43
Row 139:K.B43 R3 B1 R2 B1 R3 B10
R3 B1 R2 B1 R3 B26
Row 140:P.B27 R3 B1 R2 B1 R3 B10
R3 B1 R2 B1 R3 B42
DEC.row
Row 141:K.B40 R3 B1 R2 B1 R3 B10
R3 B1 R2 B1 R3 B27
Row 142:P.B20 R10 B1 R2 B1 R3
B10 R3 B1 R2 B1 R24 B19
Row 143:K.B18 R24 B1 R2 B1 R3
B10 R3 B1 R2 B1 R11 B20
Row 144:P.B16 R1 B2 R12 B1 R2 B1
R3 B11 R3 B1 R2 B1 R23 B18
DEC.row
Row 145:K.B16 R24 B1 R2 B1 R3
B10 R3 B1 R4 B14 R2 B14
Row 146:P.B13 R20 B1 R3 B11 R3
B1 R2 B1 R24 B15
Row 147:K.B15 R23 B2 R2 B1 R3
B12 R3 B1 R22 B11
Row 148:P.B12 R3 B18 R4 B13 R3
B1 R3 B38
DEC.row
Row 149:K.B13 R26 B1 R3 B15 R20
B2 R1 B12
Row 150:P.B14 R10 B1 R9 B16 R4
B1 R26 B12
Row 151:K.B38 R4 B19 R6 B3 R9
B14
Row 152:P.B21 R2 B3 R2 B24 R30
B11
DEC.row
Row 153:K.B9 R30 B26 R2 B1 R2
B21
Row 154:P.B22 R3 B29 R28 B9
Row 155:K.B67 R1 B23
Row 156:P.B91
DEC.row
Row 157:K.B89
Row 158:P.B89
Row 159:K.B8 R7 B3 R5 B6 R2 B3
R2 B4 R3 B4 R5 B4 R2 B3 R2 B2 R2
B3 R2 B4 R5 B8
Row 160:P.B8 R6 B3 R2 B3 R2 B2
R2 B3 R2 B3 R6 B3 R5 B3 R2 B2 R3
B5 R7 B2 R7 B8
DEC.row
Row 161:K.B11 R3 B2 R3 B2 R2 B5
R4 B1 R2 B2 R3 B1 R3 B2 R2 B2 R3
B2 R7 B3 R2 B2 R2 B2 R3 B2 R2 B7
Row 162:P.B7 R2 B3 R2 B2 R6 B4
R5 B3 R2 B2 R3 B2 R2 B3 R2 B2 R2
B1 R4 B9 R3 R3 R3 B10
DEC. at each end of next and
every followin9 alternate row
DEC.row
Row 163:K.B8 R3 B6 R3 B7 R2 B2
R3 B2 R2 B3 R2 B2 R3 B2 R2 B3 R2
B1 R2 B4 R6 B2 R2 B3 R2 B6
Row 164:P.B6 R2 B2 R3 B2 R2 B2
R1 B5 R2 B1 R2 B3 R3 B6 R3 B1 R3
B2 R4 B1 R2 B7 R5 B5 R2 B8
DEC.row
Row 165:K.B6 R4 B4 R3 B9 R2 B2
R3 B3 R5 B4 R5 B5 R3 B5 R6 B3 R6
B5
Row 166:P.B5 R5 B4 R5 B6 R3 B6
R4 B5 R3 B4 R2 B3 R2 B5 R6 B3 R5
B7
DEC.row
Row 167:K.B6 R5 B3 R6 B61
Continue DEC.1 ST.at each end of
every alternate row as before
until 65 STS.remain at end of
ri9ht side row

NECK SHAPING

Next row(wron9 side of work
facin9) P.45 STS.and leave last
25 of these STS.on a stitch
holder for front of neck
Usin9 a spare 3 3/4 (9) needle
work to end.Continuin9 on last
set of stitches only,DEC.1 ST.at

neck edge on next and every following row,while continuing armhole shaping on right sides only as before until 14 STS. remain at end of a wrong side row.Shape now as follows -
Next row DEC.1 ST.at armhole only.
Following row DEC.1 ST.at neck edge
Repeat these 2 rows until 2 STS. remain at end of a wrong side row.K.2TOG.and fasten off
Join in wool at neck edge at opposite side and work to match continuing armhole shaping as before by K.2TOG.K.1.

-=========-

NECK BAND

With no.3 (11)needles and right side of work facing starting at back knit across the 37 STS.on stitch holder at back of neck knit across 8 STS. for sleeve. Pick up and knit 18 STS. evenly along left front neck edge,knit across the 25 STS. from stitch holder from front of neck,Pick up and knit 18 STS. evenly along right front neck edge. Knit 8 stitches from sleeve stitch holder(114 STS).Work 7 rows in K.1 P.1 rib.Purl next row to mark folding line of double neck band.Work 7 more rows of K.1 P.1 rib.Cast off loosely in rib.

-=========-

-**-

oooOOOooOOOooo F O R S A L E oooOOOooOOOooo

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INNOVATIVE
TRS 80·GENIE SOFTWARE
from the professionals

DATA-WRITER

Data-Writer is, for most microcomputers, a new concept in Database Management. It adapts techniques which have been known and used on mainframe computers for quite a long time. A "normal" microcomputer Database Management program constructs its file in a single plane and is probably more accurately described as a file handling system. All of the data written into each record is filed away on disk in the same place, and it is all recalled and acted upon by the computer as one chunk of data.

Data-Writer approaches Database Management in an entirely different manner in that, subject to one or two requirements, it is not concerned as to how the database came about or the form of it. Indeed, one of the most attractive features of the program is that the data itself can even be written on a word processor — not by Data-Writer at all. So far as we have been able to ascertain, any word processor may be used that writes a plain ASCII file. Certainly AJEDIT and Scripsit are supported. If you do not have a word processor, or do not wish to use it for the manufacture of your database, then there are sections in Data-Writer which in themselves constitute mini word processors and enable the user to manufacture a database very easily.

In the foregoing paragraph we use the words "word processors" in the plural, and this gives a clue to a rather important feature of Data-Writer. The whole concept of the software is that it is a **Management** program. A number of earlier databases have suffered very seriously from what the author no doubt thought was economic writing, in that if a section of a program (for instance the word processing section) is used by a number of sections, only one is included and is accessed by various sections. At first sight this might indeed appear to be economic writing and we suppose in fact it is, but the result is that the disks are continually thrashing around as access is made to them. Disk access is probably the slowest task that the CPU carries out and if it is done frequently it slows the program down very considerably. Many past Database Management programs have suffered from this deficiency. Data-Writer on the other hand has a mini word processor in each section of the program where it is needed. This has the great advantage of obviating the necessity for the drives to be thrashing around, but almost as importantly means that the format of the mini word processor can be changed for the various sections of the program, so that the best advantage can be made of it in each. Thus every section is entirely separate and gives a very high degree of efficiency and user friendliness.

There are very few restrictions with Data-Writer. The number of records which one can handle in any given database is, essentially, unrestricted although any that span disks would have to have different names. In any event as the Sort section of the program does have a restriction of sorting 4,500 records at a time, this effectively imposes a restriction on the length of the file if one intends to be able to sort it all at one time. The maximum number of fields permitted to a record is 20 and the maximum number of characters per field depends on whether you use the Entry section of Data-Writer to enter your data or whether you use a word processor. In the latter case the maximum number of characters per field is 240. In the former it is 35. The maximum number of characters per field label or title is 20.

Data-Writer has a very powerful mathematical section whereby many complex mathematical functions can be carried out on your data. Up to 20 equations may be defined per run. The section will have available 10 scratch pad memories for use and as the calculations are carried out in double precision they will be carried to 16 decimal places.

Data-Writer also contains a very powerful "Mail Merge" section. Almost any personalisation can be added to a letter or report, and once again the letter or report may be constructed either on the mini word processor provided in Data-Writer or by way of an external one. Indeed we should make it clear that this remark applies to all data manipulation in Data-Writer. In other words, a word processor may be used at any time when its functions would be helpful in Data-Writer. To return to the Mail Merge feature, Data-Writer supports up to 20 different insertions per letter or report and the form letter may be of any length up to 6,000 characters, which we believe is about two and a half A4 sheets.

The Sort is a two level one and supports the extraction of stipulated data from a field. It is what might be called of fair speed. The two key levels make it powerful but as the Select section is so good, the Sort does not get used as often as would be the case in other Databases.

Data-Writer is made up of 10 sections or sub programs as follows:

Entry	Manage	Maths	Sort	Letters
Edit	Statistics	Select	Labels	Reports

We have already mentioned many of them, others such as Edit are self explanatory. The Labels section enables you to create pretty well any form of label required, including the ability to have them printed up in a from one to four across format. The Letters section enables you to create a form letter in Data-Writer if you do not wish to use an external word processor. Statistics is a method for searching the database for errors, and as the title suggests, extracting essential statistics from it.

The important sections not yet touched upon are Manage and Select. Taking the latter first, this section enables you to create a sub set of the database by selecting from the file contents. It is immensely powerful and supports nine equivalency relationships, such as "less than" or "greater than" etc. Furthermore, the two logical relationships AND and OR may be used freely. In this way one can Select from the database to pretty well any specification required. The Management section of the program enables the user to completely re-structure his database without having to Edit it manually. New fields may be added or old ones deleted. They may be re-arranged or even appended one field to another. Indeed, this can be taken even further in that the whole database may be merged or split as required.

The Reports section enables the user to write reports such as inventories, accounts, bibliographies, insurance coverage reports, in fact an endless list of applications. Because the Report section contains its own Text Editor, the report contents and format can be controlled at will and literally an infinite number of formats may be adopted.

Data-Writer is one of the most powerful Database Management systems that we have seen available for a microcomputer and certainly is the most powerful that we have seen for the TRS 80 and Video Genie machines. Once the database has been manufactured, either by Data-Writer or a word processor, one has complete and utter control over it and the ability to manipulate any part of it, not only the ones mentioned above, but many others which we have not had the space to list. Data-Writer is compatible with the Model I and Model III Tandy machine, the original Video Genie, together with the Genie I and II. A version for the Model III Genie will be available shortly.

Data-Writer is Compiled Basic, hence its DOS compatibility is dependent upon the compatibility of the Microsoft Compiler. Due to Microsoft's disinterest in supporting any other DOS apart from TRSDOS and the non availability of a Tandy Model III Compiler, we recommend customers to use Data-Writer with TRSDOS or LDOS on the Model I and the proprietary DOS supplied on Data-Writer for the Model III. Other DOS's may well be compatible after patching and as we have said the criteria is whether they are compatible with the Microsoft Compiler.

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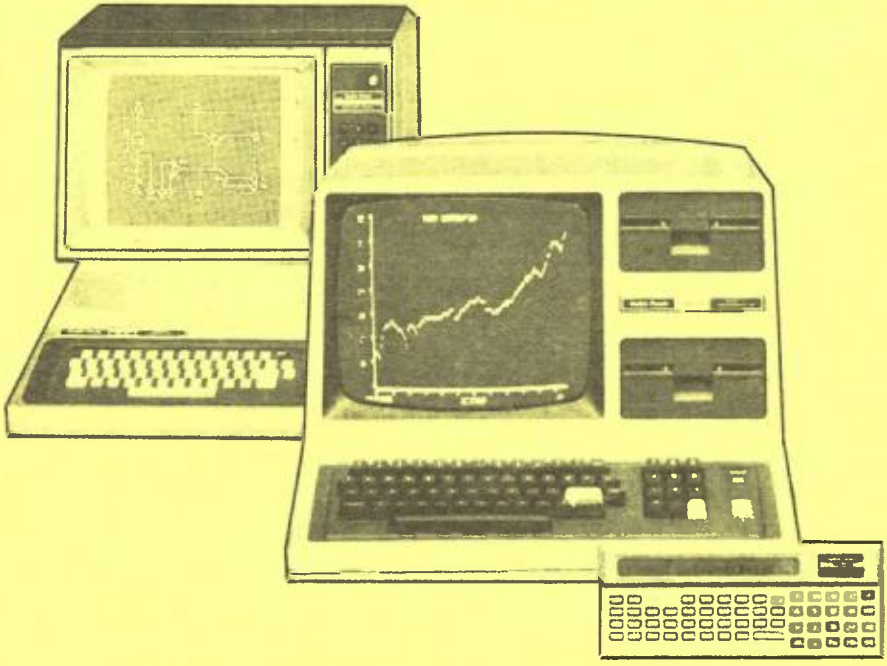
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REM 80



The North West TRS 80 Users Group

Volume 5 Issue 3

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E D I T O R I A L

Once again I am BEGGING for articles, and or letters. Some of you must have some questions to ask or have some great discovery you would love to tell us all about and share with your fellow members, so come on put pen to paper or fingers to the keyboard or even blood on tablets of stone.

Don't forget you can always download direct if you are really desperate, or want to test your new modem, to get an article to us, and of course not forgetting that everything thats published is automatically eligible for the Costello Shield Trophies.

Thats all for now folks, but I expect to hear from you very soon

Caitlyn

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Any articles or programs for inclusion in this Newsletter must be addressed directly to the Editor, preferably on cassette or disk, at the following address :-

40, COWLEES,
WESTHOUGHTON,
BOLTON,
BL5 3EG

****
IMPORANT NOTICE - LIBRARY.
****

In order to devote more time and effort to the TRS-80 Colour Computer, Barry Steward has asked the committee to appoint a member to take charge of the Model I/III section of the library.

The committee have agreed to this request and, in future the following arrangements will apply :-

All requests for software, returns and submittions for the Model I/III will be handled by Mr. Roy Williams and should be addressed to him at -

93, Windermere Avenue,
Manchester,
M34 2FP.

The Colour Computer library will continue to be handled by Barry Steward and should be addressed to -

7, Asten Buildings,
Cowpe, Waterfoot,
Rossendale, Lancs,
BB4 7DR.

The committee wishes to thank Barry for his efforts in the past and wish him and Roy every success with the new arrangements.

Melvyn D.F.Franklin (Secretary)

oooo0000oooo0000oooo F O R S A L E oooo0000oooo0000oooo

TRS-80 Model I Level II 48K, complete with upper and lower case, monitor, tape recorder (CTR 80), sound box, DP 1000 printer and disk controller interface, joy stick, over forty programs on tape (games utilities etc.), and quite a few books.

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Urmston,
Manchester.
M31 3BW
Telephone :- 061-748-8062

=-=-=-=-=-=-=-=-=-=-= CAN YOU HELP =-=-=-=-=-=-=-=-=-=-=

We have heard from Ken Grainger, of Eccleston near St. Helens, that he is having trouble with a Tape version of Scripsit on his Model I. If there is any member that could assist Ken with his problems would you please contact him at the address below, or give him a ring.

Ken Grainger,
35, Sand Field Road,
Eccleston,
St. Helens,
Merseyside.
WA10 5LR
Telephone :- St. Helens 24959

If there are any members who have any problems with software why not write to the Newsletter Editor and perhaps we may find other members who may help you.

WHAT THE DOCTOR ORDERED ?

by John Taylor

After reading ISSUE 2. of the Newsletter, namely the article "THE FUTURE OF THE NORTH WEST TRS-80 USERS GROUP", it left me with an uneasy feeling.

As we all know by now, the Model 1 and Model III are being withdrawn, not because of the machines themselves, but because they can no longer compete in the price conscious market that now exists. Namely the VIC 20, SPECTRUM, ZX81, ORIC, DRAGON etc.

Quote "Perhaps it would be sensible to form sub-groups to handle the needs of Dragon owners, Oric etc?". Could to many cooks spoil the broth? Or could to many micros make us masters of none? After saying this, I think that the committee needs to pay close attention to this issue NOW, tomorrow may be to late. I personaly own a Dragon, and would be lost without the group, as quite a few of the other Dragon owners would be. Although Dragon Data are slow in backing up their system, other companies are now starting to produce peripherals namely a Disk Operating System, from Premier Publications.

This is a start, but without the help of a good user group, any system no matter how good, may never reach its full potential. Maybe the interest now being shown in the TRS-80 CoCo and Dragon 32 by members and committee men, might just be what the doctor ordered to help the group through what might turn out to be a sticky patch.

LIBRARY NOTES. GOODBY MODEL I.

by Barry Steward.

It sits on the desk in the corner of my study. It is quite large now, 48K and two disk drives, it shares the Epson MX 80 with the Colour Computer at the other end of the room. It is like an old friend really, it has been part of the household - and a large part of my life - for almost five years. It is, of course, my Model I.

Since it was joined, a year and a half ago, by the Colour Computer it has seen less and less work. It is still a workhorse doing the household budget, keeping track of my car costs and writing my letters, but like us all it has had to move aside for newer things. The things I want to do with the Colour Computer leave little time for the old faithful and so I have had to asked to be relieved of the Model I side of the library. I shall still be running the colour library and hope to see you all at the meetings and, from time to time, write to you in this column.

In thanking you for your support in the past I leave you with the listing of the Colossal Character Generator which can be found elsewhere in this issue.

SPEED UP YOUR COLOUR COMPUTING.

by Barry Steward.

The 6809E (the microprocessor used in the TRS-80 Colour Computer and the Dragon 32) can be made to execute instructions at a higher speed by POKEing a zero into certain locations on high memory. Many of you will be aware that POKE 65495,0 will give a speed up of over 30% in program execution and still give the user full control of the machine except for Input/Output to tape or disk. This POKE does work with disks, in spite of what you may have read elsewere.

To regain control of Input/Output to tape or disk you must issue a POKE 65494,0 instruction. This can be done direct from the keyboard or within a program. This makes this statement very powerful and it is being used more and more in commercial software. Some of the early TRS-80's will not work with this POKE although the later ones will and the all Dragons seem to be O.K. but you should try in before using it in a program.

The second high speed POKE is a little more difficult to use because you lose control of the machine all the time it is running at high speed, but with the program running at TWICE its normal speed it can sometimes be worth the trouble. To run at the higher speed POKE 65497,0 the screen will fill with garbage and the keyboard will lock up, any attempt by the program to use Input/Output will not work, but the program will contine to execute the difference being it is now running at almost twice the normal speed. If you are doing a sort or a search it will be complete in half the time.

When you need to get things back to normal POKE 65496,0. This will resore the normal operating speed and return keyboard, screen, and Input/Output to you control. This command must only be used within a program as after the first POKE there is no other way to issue the second except from within the program so use with care. You will also need to to restore the contents of the screen after slowing down as this POKE destroys the screen contents.

One final point, in the listing below the fist statement is PMODE 2. The reason for this is that the high speed POKE causes the screen to go haywire and the display looks like multi-coloured snow. Line 10 puts you into a two colour mode and the display in not quite so hard on the eyes.

And so the listing, and the bad news, the listing below will run without problems on the Dragom 32 but although the high speed poke will work on my TRS-80 Colour I can not get this program to run. I present it for the benefit of the Dragon 32 users and the Colour Computer users may find that it will run alright for them or maybe not. In either case the statements do work with both machines (I use programs on the TRS-80 with the high speed POKE's) so try them but use them with care.

```
10 PMODE 2 : PCLS : SCREEN 1,1
20 POKE 65497,0 : GOSUB 1000
30 POKE 65496,0 : GOSUB 2000
40 POKE 65495,0 : GOSUB 1000
50 POKE 65494,0 : GOSUB 2000
60 GOSUB 1000 : GOSUB 2000
70 END
1000 TIMER=0
1010 FOR X=1 TO 10000 : NEXT
1020 TI=TIMER : RETURN
2000 PRINT"EXECUTION TIME"; TI : RETURN
```

*** TEMPERAMENTAL KEYS ***

By John Storey

Are there any keys on your keyboard which don't always respond to your instructions? There are many "soft" reasons for this, but there can be "hard" reasons too.

It is usually apparent, when a key persistently fails to respond, whether the fault is with the operator ("touch-typing" too lightly), with the software, or with the keyboard.

In the latter case, if the key doesn't respond at all, you probably have a broken or mutilated contact spring. If you suspect a "hard" key fault, proceed as follows :

i) Disconnect power, and disconnect keyboard from everything else.
ii) Overturn keyboard onto a soft surface.
iii) Earth yourself to discharge any static you may carry.
iv) Remove the six fixing screws, keeping them in sequence for correct replacment (they are of different lengths)
v) Carefully extract the circuit board from the plastic case halves, and turn right way up
vi) Remove the keycap from the offending key: this should reveal the brass spring contacts, which should close when the key is depressed.
vii) If they don't close, carefully adjust (bend) them until they will close when the keycap is depressed. If they are too mangled for a good repair, order some more from Tandy and solder in the replacements, or take the re-assembled keyboard into Tandy for repair.

* IF THERE IS NO OBVIOUS FAULT WITH THE SPRINGS -
Look at the underside of the circuit board, where the appropriate key springs are soldered in. Look VERY CLOSELY at the two solder blobs, there may be a very fine bright ring in the soldered blob, around the discernible end of the spring: this is a fracture in the joint. It is a rsult of the repeated impacts on the key assembly, and will cause intermittent and unreliable keying, or total key malfunction.

* FORTUNATELY, IT IS EASY TO REPAIR;
simply apply a hot soldering iron to the afflicted joint for just long enough for the joint to melt fully, then remove the iron - cross fingers and hope!

DON'T FORGET THAT OPENING YOUR COMPUTER VOIDS ITS WARRANTY!

JOYSTICK QUESTIONS

Dear Carolyn,

Believe it or not I have just got around to reading REM 80 Vol.5, No.1, in detail. The article on joysticks by Michael Salisbury particularly interested me and has prompted the following questions.

1/ Will the joystick arrangement shown operate the Big Five adventure games or some of the Cornsoft Group games that can be used with the Alpha Products joystick.

2/ Not having sufficient time to learn how tp program in Basic (or perhaps being slightly lazy), I would appreciate a more detailed example of how to put the joystick commands into a game.

3/ Is is possible for somebody to write the 'HUSTLE' (REM 80 Vol.4. No.6.) program for joystick, using for example the 'FIRE' button to start a new game.

Yours sincerely, Martin Speakman.

AN ANSWER FROM MICHAEL SALISBURY

The answer to Mr. Speakman's first question is that the arrangement shown is the same as that used for 'Big Five' games. So, any 'Big five' software which will run on joystick will run with this arrangement. If, however, your copy of a program is old then it may not be modified for joystick. If this is the case then I am sure that 'Big Five' will update your original copy. If you have lost your original copy then ask someone in the group to convert it for you.

Most of the 'Cornsoft Group' programs will work with this joystick, except for a few of them which will not recognise the fire button. This is because the programs look at a different data line on the port, but it is a fairly simple mod to convert these programs. For example to convert the game 'Apple Panic' (which has a similar problem to 'Cornsoft' games) make the following fixes. Look at relative sector 40 of the game and change the following bytes with either 'Super Utility' or 'Superzap'. Relative byte 60H should read 002F E610 FE10 and relative byte F4H should read 002F E610 FE10. For further details on how to make these mods look in the Newdos 80 manual.

Here is a more detailed explanation on how the joystick can be used in a game. The joystick has four switches in it and so it can only show eight directions i.e. up, down, left, right and the four diagonals. The following basic program shows how to find out which way the joystick is being pushed.

```
10 IF INP (0) = 255 THEN PRINT "NOTHING PRESSED";
20 IF ( INP (0) AND 1 ) = 0 THEN PRINT "UP ";
30 IF ( INP (0) AND 2 ) = 0 THEN PRINT "DOWN ";
40 IF ( INP (0) AND 4 ) = 0 THEN PRINT "LEFT ";
50 IF ( INP (0) AND 8 ) = 0 THEN PRINT "RIGHT ";
60 IF ( INP (0) AND 16 ) = 0 THEN PRINT "FIRE ";
70 PRINT
80 GOTO 10
```

To convert 'Hustle' to joystick change the following lines:-

```
1000 A = INP(0) : IF A=255 THEN RETURN
1010 X1 = (( A AND 4 ) =IZ ) + ( IN * (( A AND 8 ) =IZ ))
1020 IF X1 <> IZ THEN Y1=IZ : RETURN
1030 Y1 = (( A AND IP ) =IZ ) + ( IN * (( A AND 2 ) =IZ ))
1040 RETURN
```

M E M B E R S L E T T E R S

Barker Fold,
Tockholes,
Darwen,
BB3 0LU

Dear Carolyn,

I would be grateful if you could print the following query in the next issue of REM 80.

Before buying my Video Genie I had a Nascom 1, from which I could drive an old British Telecom printer (7E). Having disposed of the Nascom 1 I would now like to connect the teleprinter to my Video Genie. The driver is a RS232 compatable unit and was hooked up to the RS232 output of the Nascom. I would also like to connect a PIO to my Genie but do not know what sort of hardware will be required to connect this correctly.

My system is a standard Video Genie 1 and so any connections for ports etc. will have to be made to the expansion edge connector.

I would appreciate any help from members who could supply me with information on the above problem.

I can be contacted most evenings on Darwen (0254) 72483.

Yours,
John Cookson.

BOOTING YOUR GENIE

Unlike the TRS-80, a halt instruction on the Genie does not cause the CPU to reset. Hence when the command 'BOOT' is typed in using NEWDOS 80 V 2.0, the system 'hangs up'. A very simple mod to overcome this is (on the CPU board) as follows :-

1/ Remove R10

2/ Connect a wire from pin 13 of Z17 to pin 12 of Z14

To see if it works try :-

```
POKE 32100,118 (118 = HALT instruction)
SYSTEM
/32100
```

This should return you to Level II or Re-Boot the system.

S. Ridall.

L E T T E R S

Some little bits of information I have found while trying to change the cursor character using Basic.

POKE 16414 any number from 0 to 255 except 88, this freezes up the VDU making it easy to type passwords without people seeing it.

Also if you POKE 16414 with 79 or 90 you will find that when you type in a character its Ascii code plus one is displayed on the screen.

Below is a short program using the above information.

```
10 CLS : PRINT "INPUT THE PASSWORD"
20 POKE 16414,10 : A$ = "PASSWORD"
21 REM Freeze the screen and define the password
30 FOR I = 1 TO 3
31 REM Three tries only
40 INPUT B$ : IF B$ = A$ THEN 60
50 NEXT I : NEW
60 POKE 16414,88
61 REM Turn the VDU back on
70 CLS
71 REM The rest of your program goes here
80 ..........
90 ..................
100 ...................
```

From :-

Darren Ferdinando,
28 Stringybark Drive,
Forrestfield,
6058
WESTERN AUSTRALIA

Members please note the address and think on the fact that he wrote something for your Newsletter from the other side of the world.

Perhaps you would like to write to Darren as I'm sure a computer pen-pal would be interesting to both parties.

Where's the local articles everyone keeps promising us ?

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FOR FURTHER DETAILS CONTACT 061-440-0739 OR 061-236-1172.

DETAILS ON THE DRAGON

By Eric Craven

Having owned a Dragon 32 for seven months there are one or two points which I have found useful that may be of interest to other Dragon users.

1/ I was disappointed that there was no VERIFY command, and it was only after about three months that I realised that the SKIPF command could be used to check that the program had been saved correctly to tape, i.e. After CSAVE"program" has been carried out, rewind the tape and type SKIPF"program". The program name will be shown and the tape will stop at the end of the program with an OK prompt if all is correct.

If however the program is not found, or there is an I/O error message, then all is not lost as a further attempt to save the program can be made.

Although not as good as a true verify this check is good for most errors caused whilst saving to tape.

2/ There are some characters which cannot be displayed using the CHR$ function, e.g. inverse numbers. Run the following short program to display the full character set.

```
10 CLS
20 FOR N = 0 TO 255
30 POKE 1024 + N,N
40 NEXT N
50 GOTO50
```

N.B. 1024 is the first position on the text screen, 1535 is the last.

3/ SHIFT @, which stops LIST also suspends programs in mid execution, e.g. Graphic displays. Pressing any key restarts the program.

4/ The EDIT commands are very similar to the Tandy Level II Basic, however the abbreviated commands EDIT. and LIST. do not work.

Three EDIT sub-commands which are not mentioned in either the Dragon manual or the Tandy Colour computer manual are :-

E - Exits EDIT mode leaving line in edited form. (Same as ENTER)
Q - Quits EDIT mode leaving line as originally listed.
A - Restores line back to original listing but remains in EDIT mode. This can be useful if you become confused whilst editing a long line.

5/ Finally, at $3.95. each, the Tandy books for the colour computer Getting Started With Color Basic and Going Ahead With Color Basic are very good indeed and make up for most of the deficiencies of the Dragon manual.

Here is a program first published in CLOAD magazine in the middle of 1981. It allows you to define a graphic character and to store it in a string for display on the screen.

CLOAD magazine may be obtained by subscrition from CLOAD Magazine, P.O. Box 1448, Santa Barbara, CA 93102, U.S.A.

Instructions for the Colossal Character Creator.

The Colassal Character Creator will allow you to draw a picture. The program will then automatically pack a string variable with all the information (including all the control characters for line feeds and backspaces) needed to reproduce that image on the screen."

To use the main program, set Memory Size to 32760 before loading it. When you run the program you will be given a choice between defining the frame size (the frame is the imaginary rectangle in which you will draw your picture; the entire frame will be stored) or creating a drawing. First you must define the frame. In this mode you use the the left and right arrow keys to reduce or expand the size of the frame.

First the horizontal dimension is set, then the vertical. Since a string variable can hold only a limited amount of information, these two dimensions are interdependent. Once the frame size is set, the program will tell you that it will require a string variable of a certain size, and then end.

You must now add the variable to the program. The strings"; G() and F() have been reserved for this purpose. The program is now set up to use the subscripted variable G(N), so add the line:

```
10 G(1)=".........."
```

Where the number of periods will equal the number of spaces needed to store your frame. If you are going to create a series of frames for an animated sequence, then add an additional variable (20 G(2)="..." 30 G(3)="..." etc.) for each frame.

If you use a different variable name (G1(N), G2(N), F(N), ect.), you must remove the G(R) from line 1280 and replace it with the new varible. Note that it is found twice in that line, so replace both of them. Why change the variable name? Well, each time the size of the frame is changed it must be stored in a new variable. A series of subscripted variables can be used only for a series of frames that are all the same size."

Now type RUN again. This time choose option £2, and you will be in the drawing mode. You will have a small flashing cursor that you control with the arrow keys. Rest your thumb on the '?' key and press to erase. You'll find that you have full wrap around within the limits of your frame. When your drawing is complete, press enter and G(1) will be packed. Now if you wish to add additional frames in this sequence, press 'A' and you will be put in the drawing mode for the next frame. Pressing 'B' will let you define a new frame size and add new variables. Press break to end the program."

Once you have finished creating all the images you want, delete the rest of the program except for lines 10, 20 and your packed string variables, and build your own program around them. With this system, advanced animation becomes as easy as a single FOR-NEXT loop. Ie: 'FOR N=1 TO 6: PRINT@X,G(N);: NEXT N' (where N is the frame number and X is the screen location where you wish the animation to take place)."

Happy Animating!"

COLOSSAL CHARACTER CREATOR

```
10 CLEAR 1000
20 DEFSTR F, G
30 '
40 '
50 V$="    "
60 VP =PEEK(VARPTR(V$)+1) +PEEK(VARPTR(V$)+2) *256:REM STORAGE FOR FRAME
SIZE CONSTANTS
70 DEFINT  A, B, C, D, E, H, N, X, Y
80 DIM E(255)
90 '-----USE LINES 10-490 TO ADD STRING VARIABLES-----
100 WL$=CHR$(149) +CHR$(26) +CHR$(24) +CHR$(149)
110 WR$=CHR$(170) +CHR$(26) +CHR$(24) +CHR$(170)
120 HU$=STRING$(2, 131)
130 HL$=STRING$(2, 176)
140 BL$=CHR$(128) +CHR$(26) +CHR$(24) +CHR$(128)
150 CLS
160 PRINT @ 334,"THE COLOSSAL CHARACTER CREATOR";
170 FOR N=1 TO 500
180 NEXT N
190 CLS
200 IF V$<>"    " THEN INPUT"ENTER 1 TO DEFINE FRAME SIZE OR 2 TO CREATE A
CHARACTER";A:IF A<>1 AND A<>2 THEN 200 ELSE IF A=2 THEN 700
210 CLS
220 PRINT @ 0,"TO DEFINE FRAME WIDTH: ";
230 PRINT @ 64,"<E> TO EXPAND FRAME";
240 PRINT @ 128,"<R> TO REDUCE FRAME";
250 PRINT @ 256,"<S> TO SET DIMENSION";
260 WL=479
270 WR=480
280 HU=479
290 HL=543
300 KEY=PEEK(14383)
310 IF W>30 AND KEY<>4 THEN 350
320 IF W=1 AND KEY<>32 THEN 350
330 IF KEY=32 THEN WL=WL-1: WR=WR+1 ELSE IF KEY=4 THEN WL=WL+1: WR=WR-1
340 W=WR-WL
350 PRINT @ WL, WL$;
360 PRINT @ WR, WR$;
370 IF KEY=8 THEN 410
380 PRINT @ WL, BL$;
390 PRINT @ WR, BL$;
400 GOTO 300
410 HT=INT(((255/W)/2)+1)
420 W=W+2
430 H=3
440 KEY=0
450 PRINT @ 16,"LENGTH:";
460 PRINT @ 192,"<W> TO RESET WIDTH";
470 KEY=PEEK(14383)
```

```
480 IF KEY=128 THEN 210
490 IF H>HT AND KEY<>4 THEN 530
500 IF H>30 AND KEY<>4 THEN 530
510 IF H=3 AND KEY<>32 THEN 530
520 IF KEY=32 THEN HU=HU-64: HL=HL+64: H=H+4 ELSE IF KEY=4 THEN
HU=HU+64: HL=HL-64: H=H-4
530 PRINT @ HU, HU$;
540 PRINT @ HL, HL$;
550 IF KEY<>8 THEN PRINT @ HU, STRING$(2, 128);: PRINT @ HL, STRING$(2,
128);: GOTO 470
560 PRINT @ 808,"ADD STRING VAR AND RUN";
570 PRINT @ 872,"PROGRAM AGAIN TO DRAW.";
580 LNS=((HL-HU)/64)+1
590 CHAR=LNS*W
600 BACKSPC=(LNS-1)*(W-1)
610 T=CHAR+BACKSPC-1
620 PRINT @ 640,"THIS FRAME WILL REQUIRE";
630 PRINT @ 704,"A STRING VARIABLE";
640 PRINT @ 768,"WITH";T;"SPACES.";
650 POKE VP, LNS
660 POKE VP+1, W
670 POKE VP+2, T
680 PRINT @ 896,"";
690 END
700 LNS=PEEK(VP)
710 W=PEEK(VP+1)
720 T=PEEK(VP+2)
730 YU=21-(((LNS-2)/2)*3)
740 YL=26+(((LNS-2)/2)*3)
750 XL=(58-(W-1))+2
760 XR=(61+(W-1))-2
770 CLS
780 R=0
790 R=R+1
800 PRINT @ 14,"DRAWING MODE";
810 PRINT @ 36,"FRAME £";R;
820 X=62
830 Y=23
840 PRINT @ 960,"USE ARROWS TO DRAW (HOLD '/'";
850 PRINT @ 995,"TO ERASE).  <ENTER> TO QUIT.";
860 A=PEEK(14400)
870 A1=PEEK(14368)
880 IF A=8 THEN Y=Y-1 ELSE IF A=40 THEN Y=Y-1: X=X-1
890 IF A=16 THEN Y=Y+1 ELSE IF A=72 THEN Y=Y-1: X=X+1
900 IF A=32 THEN X=X-1 ELSE IF A=48 THEN Y=Y+1: X=X-1
910 IF A=64 THEN X=X+1 ELSE IF A=80 THEN Y=Y+1: X=X+1
920 IF A=2 THEN 790
930 IF A=1 THEN 1070
940 IF X<XL THEN X=XR
950 IF X>XR THEN X=XL
960 IF Y<YU THEN Y=YL
970 IF Y>YL THEN Y=YU
980 RESET(X, Y)
990 FOR N=1 TO 6
```

```
1000 NEXT N
1010 SET(X, Y)
1020 FOR N=1 TO 6
1030 NEXT N
1040 IF A1<>128 THEN 860
1050 RESET(X, Y)
1060 GOTO 860
1070 AU=(478-(((LNS-2)/2)*64))-((W-2)/2)+15360
1080 AL=(572+(((LNS-2)/2)*64))-((W-2)/2)+15360
1090 D=0
1100 FOR Z=AU TO AL STEP 64
1110 FOR S=Z TO Z+(W-2)
1120 D=D+1
1130 H=PEEK(S)
1140 IF H=32 THEN H=128
1150 E(D)=H
1160 NEXT S
1170 D=D+1
1180 E(D)=26
1190 IF Z>(AL-64)THEN 1250
1200 B1=D
1210 FOR N=B1 TO B1+(W-2)
1220 D=D+1
1230 E(D)=24
1240 NEXT N
1250 NEXT Z
1260 B1=D-1
1270 B2=0
1280 T1 = PEEK(VARPTR(G(R))+2) *256 +PEEK(VARPTR(G(R))+1)
1290 FOR D=1 TO B1
1300 B2=B2+1
1310 PRINT @ 704,"PACKING VARIABLE:";R;
1320 PRINT @ 768,"NOW ON BYTE:";B2;
1330 POKE T1+B2-1, E(D)
1340 NEXT D
1350 PRINT @ 960,"PACKING COMPLETE...       ";
1360 PRINT @ 746,"PRESS <A> TO ADD";
1370 PRINT @ 810,"ANIMATION FRAME" R+1".";
1380 PRINT @ 874," ";
1390 PRINT @ 938,"PRESS <D> TO";
1400 PRINT @ 995,"     DEFINE A NEW FRAME. ";
1410 Q$=INKEY$
1420 IF Q$="" THEN 1410
1430 IF Q$<>"A" AND Q$<>"D" THEN 1410
1440 IF Q$="D" THEN 90
1450 BB$=STRING$(21, 128)
1460 FOR N=704 TO 960 STEP 64
1470 PRINT @ N, BB$;
1480 PRINT @ N+42, BB$;
1490 NEXT N
1500 GOTO 790
```

L A B E L E R

This small routine will allow you to make up cassette box labels, quickly and easily.

The program runs without modification on the Dragon 32, or TRS-80 Colour, with a Line Printer VII. The assumption is that your printer is set for 10 cpi. If you have 10 cpi adjust the program for your printer in lines 80-100, 190-200, 310, 350-360.

In lines 170 & 180 the printer is set to 5 cpi, again adjust if necessary.

As the program is, it produces labels for boxes stored vertically, if you store yuors horizontally then rearrange lines 80-100 with lines 180-360. This will reverse the order the two boxes are printed around the title.

```
5 'A HANDY ROUTINE BASED ON A PROGRAM IN ISSUE #17 (FEB 83) COLOR COMPUTER NEW
  S.BY J.TAYLOR..
10 CLS
20 PRINT@196,"CASSETTE BOX LABEL MAKER"
   FOR Z=1TO900
   NEXT Z
30 CLS
   PRINT@193,"THIS PROGRAM MAKES INSERTS FOR"
40 PRINT"       YOUR CASSETTE BOXES"
50 PRINT
   PRINT"  PRINTER MUST BE ON AND READY"
60 PRINT
   PRINT"  (PRESS ANY KEY TO CONTINUE)"
70 X$=INKEY$
   IF X$=""THEN70
80 PRINT#-2,STRING$(40,".");" CUT"
90 FOR X=1TO5
   PRINT#-2,"!";TAB(39);"!"
   NEXT X
100 PRINT#-2,STRING$(40,".");" FOLD"
110 CLS
    PRINT
    PRINT
120 PRINT
    PRINT
130 PRINT"         ENTER LABEL NAME"
140 LINE INPUT"       (MAXIMUM 20 SPACES)
        ";L$
150 N=LEN(L$)
160 IF N>20THEN PRINT
    PRINT"            TOO LONG !"
    GOTO120
170 T=INT((20-N)/2)
    PRINT#-2,CHR$(31)
180 PRINT#-2,TAB(T);L$;
    PRINT#-2,CHR$(30)
190 PRINT#-2,STRING$(40,".");" FOLD"
200 PRINT#-2,"!";TAB(15);"CONTENTS";TAB(39);"!"
210 PRINT#-2,"!";TAB(14);"-========-";TAB(39);"!"
220 PRINT#-2,"!";TAB(39);"!"
```

```
230 Z=1
240 CLS
    PRINT
    PRINT
250 PRINT
    PRINT
260 PRINT"        ENTER PROGRAM NAME"
    PRINT"    (MAXIMUM OF 12 PROGRAMS)"
    PRINT"     ENTER **** IF FINISHED"
270 LINE INPUT"       (MAXIMUM 38 SPACES)
        ";C$
280 N=LEN(C$)
290 IF N>38THEN PRINT
    PRINT"            TOO LONG !"
    GOTO250
300 T=INT((40-N)/2)
310 PRINT#-2,"!";TAB(T);C$;TAB(39);"!"
320 IF C$="****"THEN350
330 Z=Z+1
    IF Z>12THEN PRINT#-2,"!";TAB(39);"!"ELSE240
340 GOTO360
350 FOR Y=0TO(12-Z)
    PRINT#-2,"!";TAB(39);"!"
    NEXT Y
360 PRINT#-2,STRING$(40,".");" CUT"
370 CLS
    PRINT@166,"DO AGAIN?  (Y OR N)"
380 X$=INKEY$
    IF X$=""THEN380
390 IF X$="Y"THEN10ELSE END
```

```
.......................................... CUT
!                                        !
!                                        !
!                                        !
!                                        !
!                                        !
.......................................... FOLD
```

SAMPLE LABEL

```
.......................................... FOLD
!                CONTENTS                !
!               ---------                !
!                                        !
!                PROGRAM 1.              !
!                PROGRAM 2.              !
!           PROGRAM 3. (CLOADM)          !
! PROGRAM 4. (CLEAR200,&H7F00/CLOADM)    !
!                 ETC..                  !
!                 ETC..                  !
!                  ****                  !
!                                        !
!                                        !
!                                        !
!                                        !
!                                        !
.......................................... CUT
```

Knot Komputing

Lambert House,
Brook Street, Glossop,
Derbyshire SK13 8BG
Phone Glossop 4748
VAT. 373 4223 63

PRICE LIST AS OF 1st June 1983.

SPECIFICATION	Basic + VAT + Delivery	BASIC PRICE £.
Dragon 32K, Colour, Hi-Res	199.00	173.00.
Genie 1	332.00	279.00.
Genie 2	356.00	299.00.
Sharp MZ-80A	560.00	477.00.
Sharp PC-1500	206.00	169.00.
Jupiter Ace runs FORTH	90.00	78.00.
Seikosha GP 100A 30 cps	277.00	231.00.
Epson FX 80 160 cps	509.00	438.00.
Epson MX 100 FT/3 100 cps	585.00	499.00.
Shinwa CTI CP80 80 cps	344 00	289.00.
Star 510 100 cps	477.00	399 00.
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Juki 6100 daisy-wheel 18 cps	477.00	399.00.
Sharp CE-150	183.00	149.00.
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Single, Single Side	212.00	175.00.
Double Side	269.00	225.00.
Twin, Single Side	406.00	344 00.
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For Tandy III .....(model I soon).....	1374 00	1195.00.
48k Expansion for tandy model I on keyboard	56.00	44.00.
48k Expansion for V G on keyboard	56 00	44 00.
fitting for above 48K onto your keyboard	+ post	11.50.
Disk & Printer Interface DP1000T (tandy)	96 00	76.00.
Disk & Printer Interface DP1000V (genie)	96 00	76.00.
Disk Drive & Cassette leads	various.	
Doubler for above Interface	84.00	72.00.
RS-232 for above Interface	early'83	
Hi Res. Board for Tandy or Genie	1983	
Colour Board for Tandy or Genie	1983	
Splitter Cable for joystick, ROMs etc(T or G)	19.00	16.00.
Plug in feature ROMs	23.00	19.00.
* ROM A: keyboard invert, key repeat, single key commands, flashing cursor, M/c code Mon & Edit, System load & save.		
* ROM B: keyboard invert, line renumber, single key commands, cursor flash, basic program merge, basic program compress		
Box of 10 Disks SS SD	19 00	16.00.
Box of 10 Disks SS DD	23.00	19.00.
Box of 9 5" Paper	17.00	12.00.
Rainbow Color Magazine	*	1.95.
DRAGON Software	various.	

INNOVATIVE
TRS 80-GENIE SOFTWARE
from the professionals

QUICKPROPLUS

Quickpro Plus is a Basic program generator. That is to say you tell it the type of program you want and it writes it for you. The most widely publicised of such program generators is The Last One and it is, therefore, inevitable that Quickpro Plus will be compared with it.

There are two approaches that one can take in writing software like this. Either one can set out with a very broad brush and try and make the generator capable of producing a wide variety of data handling software or one can restrict it to some extent, to simply producing file handling programs. The Last One seeks to go the first route. Quickpro Plus goes the second. There is a great paradox in this software if one thinks about it. Obviously, if a person is at least a semi-skilled programmer then he does not need a program generator. They are really for people who are not skilled in programming and want that chore taken off their hands. The paradox is that programs like The Last One, by being all things to all men are also complex in use and one therefore gets the position of a program aimed at a beginner, but actually requiring some skill to use it.

It was because of this apparent paradox that Quickpro Plus came into being. It is written for somebody with little or no knowledge. You will find no mention of flow-charts and little mention of fields, records and other technicalities. It was written so that a person could sit down in front of his computer, answer a few questions and have a program produced for him, and this is exactly what Quickpro Plus does. The other side of the coin is that it concentrates entirely on producing file handling programs. Within that context the program which you have generated will run on the computer like any other Basic program. You will be able to add file records, in other words items of information in your file. You will be able to search for and locate records, and retrieve these records, as and when you wish; you will be able to up-date and change the records, indeed you can delete them altogether. In the program generation process you will be able to design your own screen layout. Co-ordinates appear on the screen and you simply say where you want questions and statements to be inserted. You will, of course, be able to define whatever part of the record you will wish to use as a search key. These fields may be restricted if you wish to just numeric data and, of course, you may name the data file and indeed the program as you desire.

An added feature is that you may carry out various calculations on any of the numeric fields and if you want to you can change this numeric data. Up to fifty separate computations can be carried out on these fields. The program will report the calculations to you in various arrangements using any of the normal mathematical functions.

Quickpro Plus supports a full print report facility. Indeed within minutes you can design a new report with any column names that you choose, with any calculations that you might want and for many selections of records in your total file. A report will be produced within seconds. This can have been built into the program or you can re-arrange matters so that you get a one time reporting. The same file is thereby manipulated in many different ways. Computations are done and results printed all from the same file which your program has produced.

Quickpro Plus is available for the Model I, Model II and Model III Tandy machines, together with the original Video Genie, the Genie I and Genie II. A version for the Genie III will be available towards the end of 1982. Quickpro Plus is, of course, disk orientated and has no application for cassette users. It is supplied on a protected disk, but Molimerx have masters from which they can repair any damaged disks and hence retain their reputation for support.

The Last One is a Registered Trademark of D J A SYSTEM LTD

Quickpro Plus Tandy Model I, III & Genies £98
Tandy Model II £108
Both prices plus V.A.T. Receipted Parcel shipping £1.50

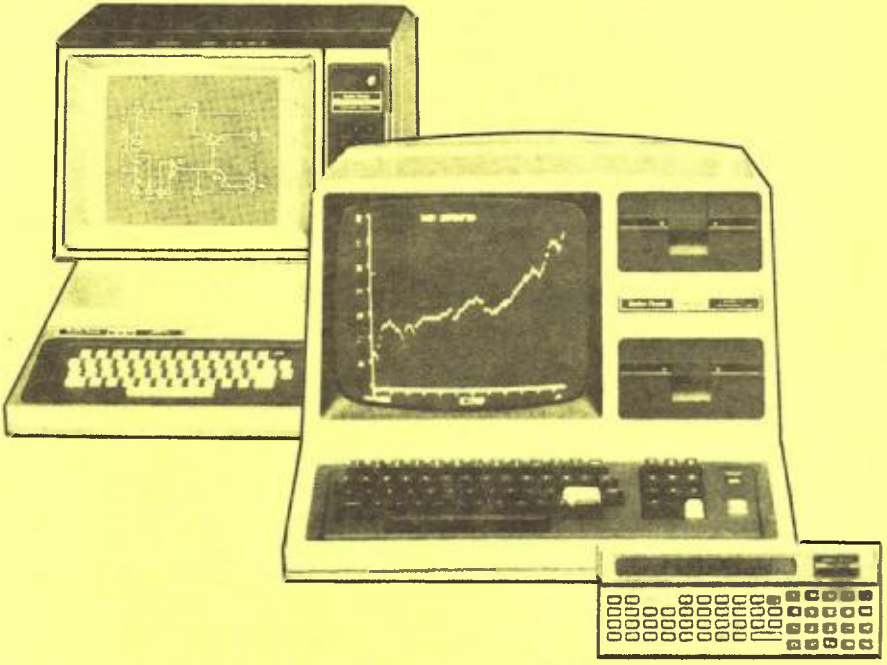
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REM 80



The North West TRS 80 Users Group

Volume 5 Issue 4

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E D I T O R I A L

Hello again and may I take this opportunity to thank all the new Committee members who have already started work on your behalf.

We have had some good articles this time and lets now keep the standard up.

Where are all the programs everyone was going to write for the Costello Shield? There are only two more newsletters left this year so now the holidays are over get tapping and lets see what you can do.

I hope to see you all at the next meeting as I have been unable to attend the past couple - no baby sitter !

Thats all for now folks, but I expect to hear from you very soon.

Carolyn

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Any articles or programs for inclusion in this Newsletter must be addressed directly to the Editor, preferably on cassette or disk, at the following address :-

40, COWLEES,
WESTHOUGHTON,
BOLTON,
BL5 3EG

CONTRIBUTIONS TO THE NEWSLETTER.

Once again we are seeking contributions to "REM-80". We need all sorts of articles, programs for all machines, queries, letters to the editor, jokes, pokes, wangles and wheezes. You name it!

I'm cheating - this is my contribution for this issue.....

Here is a suggestion for a regular feature we could run in issue after issue: it would be interesting to hear just what it was that drove you to buy your computer, how your interest has developed, and what uses you have put your machine to. Certainly, off-beat uses will be welcome, but applications which seem mundane to you may seem highly novel and attractive to others. Variety is the spice of life - we would like to hear from all sorts of users. So load your word processors, sharpen your pencils, and get cracking.

Don't be shy. We want to hear from experts, novices and all shades inbetween. After all, REM-80 is read by all members (we hope).

ATTENTION ALL MEMBERS !

When you joined the Group you probably filled in a questionaire asking for details such as address, telephone number, what sort of system you have, whether you are ahobbyist, a business user or whatever, and what special talents you have or help you could offer the Group.

This information has been tapped into a database so we can put members in touch with others who need help, and for normal administrative needs. Anyway, it's better than a card-index. As an example of the use the information is regularly put to, a few weeks ago I was having a problem with my Dragon (computer that is, not my Mother in Law), and Melvyn was able to give me the phone numbers of other members owning that machine so I could compare notes.

Now, here is the problem. I was given about half a dozen phone numbers, but we now know that there are upwards of thirty members with Dragon-32 machines. In other words, the information in the database is out of date. At the next meeting therefore, we will be asking you to update your details.

If you are not going to be at that meeting, please write or phone with any changes of address, etc, and details of any additions to your system. To give Melvyn a bit of respite, please write to :-

Laurie Bradshaw,
342 Manchester Road,
Blackrod,
Bolton. Tel 0204-67023.

Planned Sun 13 Nov '83
Will advise members name etc - Epson DMP 200 (or Lucas Infinity XIII)
Has MX-80 interface.
Some mod. re line feed has to be made to Epson for use with Tandy.

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

I would like to apologise for the lack of activities page in the last news letter due to unforseen circumstances, but I would like to assure you that this means that there will not be a lack of activities at the meetings.

At present I am in the process of arranging future activities, but as yet have no dates confirmed to me by the people concerned.

I am at the present moment in time in the process of arranging our usual all day December meeting. The provisional date for this meeting is Sunday 18th, but this will be confirmed by the next Newsletter. This meeting will take the form, as before, of chats, demonstrations, systems and competitions, refreshments will also be arranged, and the cost will hopefully be similar to last year, with the group funds subsidising the meeting and refreshments.

I would welcome any comments regarding the December meeting as to what you the members would like to see and do at this meeting, otherwise you will have to put up with what I give you to do!

I have pleasure in announcing that Alan Taylor has been appointed by the committee as my assistant to help me arrange the activities and the like, and as yet he has not had any duties to perform, so if you have any suggestions or comments to put forward then you can contact me on 061-723-5033 or Alan Taylor on Westhoughton 817117.

oooOOOoooOOOoooOOOooo F O R S A L E oooOOOoooOOOoooOOOooo

TANDY 16K LEVEL II MODEL I
Includes green screen monitor, manuals and software.
£250.00 ono

Contact :-
Mike Dunn, Telephone 061-436-1381

A THOUGHT :-
A Basic program that cannot be speeded up by careful streamlining of the code is a rare animal indeed.

J.G.P.

Monday MEETINGS in MANCHESTER

MANCHESTER SUB GROUP

The Darts team meet in one room supping copious amounts of "nerve steadier" whilst in the back room, deep in conversation the devotees of number neurosis discuss the latest technological wizardry dreamt up by micro magicians.

It is of course the Monday night meetings at the Crown Hotel, Blackfriars Street, Manchester, of those members of the North West TRS-80 Users Group who (a) can't get to Barton Aero Club, (b) always have problems and can't get enough answers !

There has been a slight re-adjustment in the manner in which the club meets. Its still TRS-80 & Video Genie, its still a sub group (& not an independent gathering), but the "Star Wars" element have departed to galaxies unexplored. A few gentle hints had the desired effect and the machine is now being explored instead of motor reflexes.

We are still a mixed bunch of a wide range of age and interests but we are a friendly lot and make the most of the advantage of sub groups. We all know each other ! It really does make a difference and reinforces the support we get from the main group.

It means we tent to sit in little nested groups discussing whatever happens to come up. New members are (we hope) made welcome and given some material to preview. Old hands are asked to explain why the tapes don't load and what do all those figures really mean.

Elegent structures are not cathedrals and a fix is not addictive but "which way do you insert the disk ?" is still an acceptable question, in short .. we enjoy it.

Why not join us, after all you are a member, or better still form your own (it takes two members and helps if you have a table).

LPVIII GRAPHICS

Many of you would probably like to have your LPVIII print graphics as they appear on the screen. This subroutine will do just that.

The LPRINT statement in line 6000 initialises the printer. You can change the CHR$ number in line 6030 to any of the graphic code numbers, from 225 - 255. The CHR$ (128) in line 6030 prints the blanks required.

```
6000 LPRINT CHR$(18);CHR$(10);CHR$(27);CHR$(14);
6010 FOR H = 0 TO 47
6020 FOR W = 0 TO 127
6030 IF POINT(W,H) THEN LPRINT CHR$(255);
     ELSE LPRINT CHR$(128);
6040 NEXT W : LPRINT : NEXT H
```

6809 FORUM.
from Barry Steward.

With the end of summer around the corner and the colder darker nights in view thoughts will be turning to dusting off the keyboards and lighting up the V.D.U.'s. Time then to launch this new column to replace my library notes. I hope that you, the readers, are going to help me to write this coloumn by telling me you tips, hints, and opinions as well as your queries for what is, proving to be the No. 1 in home computers. I mean, of course, both the TRS-80 Color and the Dragon 32 for they are VERY similar although there are differences. I will be looking at these differences and hope to find some answers so let me have your tips and queries and together we will make the best computer even better.

The big news this month is that the TRS-80 Color Computer that we know is to be replaced by the Color Computer 2. The new Coco with a chioce of 16, 32 or 64K. of RAM will be only two thirds the size of the present computer will be the same colour as the Model 4, have a 'proper' keyboard and a new version of Colour Basic (Version 1.2). Tandy also announce a new 64K. Color Computer and a Color Computer version of OS-9, a true disk operating system (DOS). OS-9 can be compaired to the CPM operating system used by the older Z-80 microprocessor. Both the new computers and OS-9 are at the moment not available in the U.K. but we await there arrival and hope to keep you informed.

Not to be outdone, the Dragon is now on sale in the U.S.A. Manufactured and marketed there by Tano of New Orleans the American version will have 64K. of RAM as standard and retal there at under 400 dollars. We await the 64K. U.K. Dragon.

With that out of the way, down to business. I do not like having to switch the computer off and on whilst I am using it. The surge of power to the chips more oftain than necessary is, to me, a bad thing to do plus you should never switch off the CPU with a disk in the drives and now I have drives for my 80-C it has become even more important.

The reason I have to switch off and then on is that sometimes after running a program and then CLOADing another when I try to run the second program I get a FC ERROR. The reason is that whilst the CLOAD command erases the program in memory it does not reset the pointers for the number of graphics pages reserved and also several other pointers. The only answer would seem to be to switch off and then on again - but wait - relief is near (there would not have been much point in writing this if there had not been). The entry point into the BASIC ROM is C000 hex. BASIC from there does its housekeeping sets its pointers and returns control to the keyboard with an OK prompt, so next time your computer will not run the BASIC program you have just CLOADed, even though you know it should, type EXEC &HC000 reload the program and away you (should) go.

6809 FORUM

Before I close a word about magazines for the Color computer and the Dragon. There seems to be a new one every month. In the U.K. we now have the monthly Dragon User which is in most good bookshops and has a lot of very good information useful for both machines. But, as with the Model I/III to get the best support in magazines you have to look to the U.S.A. You know, of course, about Chomasette and Coco-cassette the magazines in tape format but in the more usual form of printed magazine there are four that I see regularly. They are The Rainbow which is a real mine of programs and information, Color Computer News which is geared more towards the user with disks, Color Computer Magazine which has on it's writting staff William Barden Jr., Jake Commader, and Dennis Kitsz three very well known experts on the colour computer and last but not least Hot Coco which is the seperation of the colour computer from 80-Micro.

All these magazines help to provide the information to help users to get more from there machines and some carry more about one area than do the others. I say above that Color Computer News is more for the user with disks and it would seem that Color Computer Magazine may look more towards hardware.

May I leave you now with a little tapping to do? The listing on page 17 simulates an electronic poker machine and contains some very good graphics. It is a good example of the kind of game program to be found in The Rainbow magazine in which it first appeared. Till next time, have fun Barry.

NOTEWORTHY DATE

A Micro-computer and Electronics exibition will be held on Saturday 1st October 1983 at St. Edmonds Arrowsmith High School, Ashton-in-Makerfield, from 10am until 5pm at which hopefully we shall have a stand.

The show has been organised by the Parents Association of the school of which one of our members, John Porter is involved.

If you wish to know how to get there ask Carolyn or John who will be pleased to give you any further information.

MEMBERS :-

Have you arranged or thinking of arranging any get togethers ? If you are or have let us know and we'll publish the facts for you.

* * * * W O I S I T P A G E * * * *

QUESTION :-
Wots a Flippy Drive ?

ANSWER :-
Not many people have or have seen a Flippy Disk Drive, but in answer to the question a Flippy Drive is a disk drive that has two write protect micro switches and two index photo transistors. This means that as the hardware is there if you insert a standard disk upside down into the drive the extra micro switch and transistor thinks it's the right way up, thus allowing use of both sides of the disk without cutting those ugly extra holes in the sleave. Be careful though the disks might not be 100% on the back and remember that when inserted upside down the actual disk revolves the opposite way to normal.

QUESTION :-
Wots the difference between a dot matrix printer and a daisy wheel printer and which is the best.

ANSWER :-
The main difference is the way they actually print characters onto the paper, all printers need a head of some kind or other to do this. A dot matrix printer head is actually a line of, usually nine, pins, located vertically in the print head. This means that to actually print a character the head must move a fraction of the width of the character each time the pins go out to print, usually seven times. This would give a 7 by 9 matrix character, get it, the larger the matrix the better the quality of print.
On the other hand a daisy wheel printer has no pins but the head supports a wheel which contains, around it'S edge the whole character, as on a typwriter. The electronics actually send a hammer type device, that is located behind the wheel, forward and bang the required character towards the paper. The benifit of a daisy wheel is the actual quality of print, it's almost like typesetting, on a good daisy wheel that is.

QUESTION :
Wot do I need to convert my 48k Level II disk system to double density.

ANSWER :-
This ones quite easy, assuming you have a Tandy or Gnomic expansion interface it's just a matter of purchasing a doubler, this is a cicuit board around 4 inches square containing certain I.C's. The installation is very simple. You remove, very carefully of course the FD 1771 disk controller chip from its socket in the interface, insert it into the empty socket on the doubler and then insert the whole doubler PCB into the socket left vacant by the 1771. Of course it won't work unless you have double density software. The doubler unit should cost around 70.00 and the software ranges from 49.00 upwards, but remember good doublers dont come cheap so buy reputable one.

* * * * Y O U R L E T T E R S * * * *

2, Cambridge Terrace,
Douglas,
Isle-of-Man.

Dear Carolyn,

I think I must be your newest member, having just received my third "REM 80" (Vol. 5 Issue 3), as well as being the one farthest away.

In the previous issues there was an article in each about which I should like to ask questions.

The first, Vol. 5 Issue 3, by Bob Jones, a Poke routine to prevent a program being listed was given. Is it possible to do this in any way, even as drastically as erasing the program, if there are any Goto's in the program.

Second, Vol. 5 Issue 3, Barry Steward gives details of how to merge basic programs. Although I now have "Toolkit" which does it for me, I'd like to learn the complete method, as shown, except that this is for the colour computer. Is it possible to have similar details or an article for the Model I in the near future. (Well how about Model I experts ?).

From the above you will guess I'm not an 'old hand' with the Model I as most of your members. However, in spite of Model I & III being discontinued I still hope to get high-res graphics soon (not character generated) monochrome version, although colour is still available, and eventually disk drives from anyone leaving the TRS-80 field might be of interest.

Congratulations on you excellent magazine.

Yours Sincerely,

Harry Shaw.

109, Brownlow Road,
Horwich,
Bolton.

Dear Carolyn,

Would you please put the following plea for help in the next Newsletter ?

Being a bit of a games fanatic I decided that a joystick would be useful (it would also stop the kids from knocking hte hell out of my keyboard).

After modding an Atarti joystick and inputting the ultra short program as shown in Vol. 5 Issue 1 of REM 80, I operated each switch on the joystick and Hey Presto ', nothing happens.

Well thats not strictly true, my Tandy Model I does appear to have got into the habit of printing 255 to the exclusion of all other numbers. Even placing a diode directly accross pins 18 & 19 does not break the habit.

Would somebody help - PLEASE

Colin Gilbert
Tel... Bolton (0204) 693790

LIBRARY NOTES :: HELLO MODEL I

By Roy Williams

Old friends should be cherished, especially when despite the passing years, you are continually discovering new virtues, so why say ...

Goodbye (REM 80 Vol. 5 Issue 3). Especially when you haven't got to know your friend all that well ... yet.

Maybe Barry, with 48K ; Two disk drives !, an Epson printer and four years running the Library, you feel like a change but .. For most of us Disk Zero sits alone, (for some ot shares a shop window waiting for a bank loan). PRINTERS !! Well yes I'd like one and I'm thrilled that Tandy have a special offer on Monitors.

After 2-3 years struggling with CSAVE and CLOAD there is the bliss of disks yet to be experienced.

The memory map is a meaningless mystery, machine language a maze of mnemonics, Hex is hysterical and the Bit about Binary addition (one plus one is nowt) is barmy. Its NOT that I'm NOT logical OR that I think a NAND is whats on the end of my arm. Its just that IF I had time THEN I would know wots what with "overflow in buckets" "linked lists" and perhaps I'd understand why the root of a tree is at the top.

My Model I is still an unread book .. In fact I've got several books ; just one of which "How to program the Z80" has 624 pages of how to plait fog.

So Hello there !, and welcome to the wonderful land of lunar lunatics. Remember many newcommers will have bought an old Model I as an upgrade from their pocket calculators ! There's lots to learn. Enough problems to keep everyone happy.

Now then :-

```
10 LET A = A + 1
20 PRINT "HUH ?"
30 END
```

P.S.

This is called Library Notes so I thought I'd like everyone interested in obtaining material from the Library to have my phone number...

061 - 336 - 8983

If I'm not in, my Dad, (who is even older than me), will take a clearly stated message.

NEWDOS 80 PDrive

NEWDOS-80 PDRIVE

By Steve Ridall

I am rapidly coming to the conclusion that NEWDOS 80 is the most versatile DOS on the market, its only limitation being its incompatibility with certain programs.One other weak point is its documentation which was certainly not written for the beginner, perhaps the most confusing point is the PDRIVE set up which I will now try and explain. My system consists of a MODEL I and I will therefore have to limit the discussion to that system as I cannot verify the MODEL III set up.

The PDRIVE of NEWDOS 80 performs the same function as 'CONFIG','DEVICE' or 'SYSTEM (SYSGEN)' of other systems. This sets the type of interface, single/double density and type/size of disk drives, lets have a look at the current PDRIVE spec's. Boot up your NEWDOS 80 and Type PDRIVE,0 you should now see 10 lines of information including T1=, TD=, TC= etc,these are the specs of your 10 drives ???, well actually you can only access 0,1,2 or 3 depending on the SYSTEM AJ= setup (see manual). The reason for including 10 spec's is to make altering the PDRIVE easier, see below.

To alter the spec's you must give the system 2 drive numbers the first being the disk that contains the PDRIVE spec you wish to alter, while the second is the line of info you are going to change, eg PDRIVE,0,1,.... means you are going to change the spec's of the disk in drive 0, and the particular spec you are changing is the second one in the table (ie drive 1), the reason for including 10 entries is that if when you are looking at the list, you see that the drive 7 list fits your requirements, then simply type PDRIVE,0,1=7,A .Doing this will cause the PDRIVE spec's on drive 0 to be altered, so that list 1 will be a duplicate of list 7, Why the ,A ?, well when you change the PDRIVE, it is written back to disk but but the memory retains the previous PDRIVE configuration. To get the new 'config' you would therefore have to re-boot to get the new config' into memory, the ,A (as the last parameter) loads the new config without having to re-boot.

Now onto the meaty business, the parameters in the list do conform to some sort of sense, ie T1 stands for Type of Interface, TD - Type of Drives, TC - Track Count etc. Below is a Table of a few typical settings, the T1 parameter should have one and only one of the letters A-E plus optional extra parameters.

COMPUTER	INTERFACE	DENSITY	T1=
MOD I	TANDY	SIN	A
MOD III	TANDY	DBL	A
VIDEO GENIE	EG.....	SIN	A
VIDEO GENIE I/II	EG.....	SIN	A
MOD I	OMNIKRON	SIN	B
MOD I/ V.GENIE	AS ABOVE WITH PERCOM DOUBLER	DBL	CK
MOD III	APPARENT	DBL	D
MOD I	LNW	?	

PDRIVE Ø Ø = 5 A

Drive No? — Line No? (ø Drive) — spec req'd — Save, rebooting.

NEWDOS 80 PDRIVE

The CK parameter on the previous page means that track 0 is in single density while the rest of the disk is in double density. Although I have indicated a particular type of interface, any similar type would work equally as well eg GNOMIC's DP1000 (which I use).

Drives (the TD= parameter)

DRIVES TYPE	DENSITY	SIZE	TD=	SIZE	TD=
SINGLE SIDED	SIN	5.1/4	A	8	B
DOUBLE SIDED	SIN	5.1/4	C	8	D
SINGLE SIDED	DBL	5.1/4	E	8	F
DOUBLE SIDED	DBL	5.1/4	G	8	H

To read 5.1/4 35/40 track drives add the letter L to the TI= parameter ie if TI=A then replace with TI=AL. One confusing point about drives is the way in which NEWDOS80 treats double sided drives, double sided drives are treated as if the disk had only one side with twice as many sectors per track. If you wish to access side 2 as a separate drive then provided the drive is correctly wired, setting TD= to the S/SIDED parameter (see table) should suffice. Incidentally, if you are using a D/SIDED drive as a single vol then you must set SPC= to twice the sectors that normally reside on the track The rest of the parameters are fairly straight forward, TSR = Track Stepping Rate

SPT 0 = 5 ms 1 = 10 ms 2 = 20 ms 3 = 40 ms

DDSL= Disk Directory Starting Lump. I don't intend to get wrapped up in a discussion on why NEWDOS80 uses lumps instead of Granules, suffice is to say that S/DEN DDSL=17 places the directory on track 17, which is where TRSDOS puts it. If you are using D/DEN then I strongly recommend that you also use DDSL=17, as that is where SuperUtility & Multidos expect to find the directory. DDGA= Disk Directory Granule Allocation, or how big is the directory track to be. If you are using 160 track or hard disk drives then you may wish to increase the size of the directory, this may be achieved by specifying a higher number for the DDGA= parameter. For all normal drives however, DDGA=2 should be the norm (DDGA=6 is the max size)GPL= Granules per lump. If you are using S/DEN then GPL=2 makes the disk look like a normal 10 sectors per track disk, again GPL=2 is the norm expected for SuperUtility in D/DEN Right, now that you know what to change the configuration to, how do you go about it ?.If for instance you wish to upgrade to 40 track drives, setting TC=40 on drive 0 will not make the disk in drive 0 a 40 track disk as it has only been formatted to 35 tracks !The method (assuming you have 2 drives) is to boot up N/DOS 80, place a blank disk in drive 1, type PDRIVE,0,1,TC=40,A then COPY,0,1 answer Y to FORMAT DISK ? & ARE SYSTEM AND SOURCE THE SAME ?,then provided no hangups, the disk in drive 1 will be a 40 track version of the disk in drive 0.

To make a D/DEN copy of the NEWDOS80, type :

PDRIVE,0,1,TI=CK,TD=E.

A repeat the COPY 0 1 (above), and you should have a self booting D/DEN copy of NEWDOS80.

One final word, as far as I am aware NEWDOS 80 does not support the new Doubler from TANDY (unless anyone knows otherwise ?).

useless

See p16

****
** HARDWARE PAGE **
** by Dave Sellwood **
****

Here is the latest list of all mods and upgrades available to members at the present time.

All prices quoted include fitting and are guaranteed by the group for one year.

16K of 200 nS memory 11.00
(i.e. 8 x 4116-2 memory chips)
64K R.A.M. upgrade for Colour Computer ... 60.00
(full 64K capability with full spec R.A.M.s)
Standard lower case 8.00
(uses the TRS-80s' character generator)
Super lower case for TRS-80 ..... 17.00
(new character generator needs Std. as well)
Lower case for Genie 25.00
(includes new Character Generator)
Video snow shovel 6.00
(gets rid of those annoying streaks)
Software controlled inverse video 10.00
(obtain startling effects and ease reading)
Speed up mod (includes speed indicator) .. 15.00
(switch between normal and high speed clocks)
Speed up mod assembled for you to install 10.00
(without the bi-colour L.E.D speed indicator)

First of all I must apologise for my abscence over the past few months, by the time you read this I will have finished my training course down at Evesham and be back in the system, but, having seen my new rotas for between now and Christmas my life is going to be very hectic, so I am afraid that I will no longer be able to do repairs on any systems, purely because I cannot guarantee the time will be available, however, I will still be available to do some mods. In future if you have a repair that needs doing the man to contact is Bob Pick on 061-881-8668, have a chat to him and sort out what will need to be done, in addition Dave Houghton has kindly agreed to assist with mods, he can be contacted on Wigan 217926.

I would like to see some ideas for mods to the Dragon since quite a few seem to be floating round the group at the moment, I am now a proud Dragon owner myself and to a certain extent the old Model 1 has been lying dormant over the past few weeks, in fact the first time I have used it in some time was to write this article for the Newsletter, I wonder how many other two (or more!) computer families are finding the old faithful Model 1 taking a back seat in preference to the new colour machine ?

I will be at the August meeting and available for anything you may wish to talk about (not just computers) and hopefully I will be able to catch up on all the things I have missed at the past few meetings. Hope you are all O.K. and happy computing !!!

LAZERTEX 5000

By Clive Churchward.

21st July 1988

Engrossed in my hundredth game of "Pilgrims in Space", I reluctantly answered the videophone. It was L.A.Z.E.R. Corp. (Lazer and Zenith Empire Research Corporation) informing me that they had produced a "Masterpiece of Technical Skill" and that they intended to launch the ultimate computer at midnight tonight. My interest and excitement somewhat increased as the representative rapped out the plan of action. "We are inviting one News Reporter from each of twelve countries and as 'REM 80' is regarded as the leading Computer Magazine in the UK, we have booked you on a specially chartered Concorde flight due to leave Heathrow in two hours. A car will arrive to pick you up in five minutes, the flight will collect a further six reporters at Zurich." He went on to state that reasons of security dictated this procedure and that I now had only four minutes before the car arrived. I abandoned my 'pilgrims' and without further thought, ran out the door and, not waiting for the lift, ran down the three flights of stairs and out into the street. Sure enough, there was a 'Lincon Rolls' complete with chauffeur, waiting for me. We arrived at the airport in record time and I boarded the luxury 'plane.

The flight, including the stop in Zurich, lasted four hours during which a two hour promotional film was shown explaining how L.A.Z.E.R. had been researching into atomic power and lazer driven computers but at the same time, not giving much away about the computer we were going to see.

On our arrival at Kennedy Airport, I panicked, realising that in my excitement, I had not picked up my passport. I need not have worried, we were apparently cleared through customs and were whisked immediately into a helicopter. Feeling like a member of the Presidential Panel, I settled into what was a short but pleasant journey. We landed at COMPUTER COMPLEX (the area developed since Silicon Valley closed in 1986).

It was 23.45 hours when we landed at the heliport of L.A.Z.E.R. and we were taken straight into the Research Building. When we were all seated, the lights were dimmed and on each desk lay what looked to be two sheets of plastic, each 30 cms square and 3 cms thick. We were told to lift the top sheet. Immediately a flash of rays shot through it and when it was fully opened, I was looking at a VDU and keyboard which resembled nothing I had ever seen before. From the end of this flat keyboard, I could see tiny lazer rays shooting onto the screen. As they hit the screen, the words "WELCOME TO THE LAZERTEX 5000" appeared. We were asked to type in our names but as I aimed my fingers at the keyboard, the letters appeared on the screen before I reached the keys. The Senior Research Director explained, "Ladies & Gentlemen, you are looking at the results of six years research, the first atomic driven lazer operated computer.

LAZERTEX 5000

Each computer is powered by a 3 cms long 1 cm diameter atomic rod. The rods are produced by taking used larger rods from atomic reactors, these are machined by high powered lazer guns to produce 300 smaller rods which have enough power still in them to run the LAZERTEX 5000 for a five year period. The keyboard although flat, acts as any normal keyboard, by generating an invisible ray from each key. This ray is diffused at a distance of 6 cms but once in contact with a human finger, the ray is returned to the key and acts as though you had actually pressed it.

The surrounding keys also pick up weaker returns and are automatically turned off to eliminate any errors. The whole computer is operated by lazer pulses replacing electrical pulses and instead of the normal VDU we have developed an intelligent projecton screen of phospherous which is illuminated when hit by one of the lazer guns mounted on the end of the keyboard. The screen automatically moves characters up when required.

When asked about the software, we were shown that the computer loaded programmes from optical fibre cables. All programmes are stored on a Master Computer called the LAZERTEX 10000 and when anyone buys a computer, they will have free access to over 10000 programmes already developed. A LAZERTEX 10000 is being constructed in each of the countries we represent and as all of these countries now use optical fibres for their telephone systems. A programme is only a 'phone call away.

The LAZERTEX 5000 has the ability to store up to 20 Mb of programmes and data. The explanation as to how this is done is beyond my comprehension, but perhaps you may understand the words of the Senior Technical Director. "By using the radiation emitted from the atomic rod, information is stored on a free radiation plate, the plate has been manufactured in the NASA shuttle and although the initial cost is high, the total vacuum environment produces a perfect plate and guarantees no loss of information. All data is bombarded into small sections of the plate in radiation form on lazer rays. The information is then read again by a highly sensitive geiger counter which reproduces the information audibly. The equipment then regenerates this into lazer pulses.

At $640.000 dollars or £200.00 sterling (current exchange rate 3.4 dollar/pounds) it would appear to be an expensive piece of hardware, but when you consider that this includes the software of which L.A.Z.E.R. claim there is over 5 billion dollars worth already, it makes it relatively cheap. A MUST for the business user but not for the amateur.

LAZERTEX 5000

We left Kennedy at 06.00 hours Zone time, all twelve of us excited, tired and bemused. The market we had conquered has just left us behind. The technology has overtaken our meagre skill and it now looks like we will all be redundant reporters, unless we have a degree in Atomic Research or Lazer Technology. Me? I'm going back to my "Pilgrims in Space" - this time I'll win - maybe!

SPECIFICATIONS
PRICE.....$640.000
WARRANTY.....UNLIMITED
REPLACEMENT POWER PACK
(After 5 years).....$ 65.000
USER MEMORY.....128 k
SOFTWARE AVAILABILITY.....UNLIMITED
NETWORK.....UNLIMITED
MODEM.....STANDARD OPTICAL FIBRE

oooOOOooooOOOoooOOOooo F O R S A L E oooOOOooooOOOoooOOOooo

48K MODEL I, including Tandy Expansion Intrerface, cassette recorder, Twin Percom Disk Drives (Flippy type), VDU and all leads.

Open to offers, may split system.

Contact :-

Dave Sellwood,
209, St. Helens Road,
LEIGH
Telephone ... Leigh (0942) 670604

Have you anything you would like to realise the cash on, the odd disk drive, printer, cassette recorder, original software .....

Write to your Newsletter NOW !!

NEWDOS 80 COPY COMMAND

By S.Ridall

Two questions I am often asked about Newdos 80 concern the PDRIVE and COPY commands. In this article I will try and explain some of the copy commands I use most frequently.

Apparently describe the copy command as having six formats, and then give rather muddy descriptions of them.

It seems to me that there are basically 2 types of copy, mirror type backup and Copy-By-File. The date need not be given, but must be placed as the first parameter if it isspecified, if it is omitted and more parameters are to be specified, then it must be replaced with a comma.

COPY,0,1,11/11/83,NDN=Newname

or

COPY,0,1,,NDN=Newname

Most other DOS'S call this command BACKUP, as it will duplicate the disk in drive 0 to the disk in drive 1 (single drive users use COPY,0,0 for this and all the following examples), the only difference on the new disk will be the name (specified by NDN New Disk Name) = Newname) and date.

On entering the above command you will be asked if you want to (re) format the disk in drive 1, and then presented with the question 'ARE SYSTEM AND SOURCE THE SAME', if this is your first encounter with Newdos 80 then you will be scratching your head at this. The system is asking you if the disk in drive 0 is a Newdos 80 disk, ie if you place it in drive 0 and press the reset button, will you see the normal NEWDOS80 logo on the screen ?.

If you answer N to this question then you will be prompted for the disk you wish to backup. Most of the parameters for the COPY command (and incidentally for the format command) bear some resemblance to their function but are not obvious at first sight.

eg

FMT = FORMAT the destination disk

COPY 0,1,,CBF

Although this may look similar to the previous example, it isn't. It will copy all the files from drive 0 to the disk in drive 1, overwriting any that already existed. This is the easiest method of making a 40 track Newdos 80 from a 35 track (the PDRIVE must have been set first.

NEWDOS 80 COPY COMMAND

PDRIVE,0,1,TC=40,A

COPY 0,1,date,CBF,CFWO,USR

CBF = Check File With Operator

USR = User files (ie non sys files)

Typing the above will copy all the non sys files from drive 0 to drive 1 but will prompt you before each is copied

COPY 1 FILENAME/EXT NEWNAME/EXT

This is a single drive copy using drive 1, you will be prompted for the source and destination disks as they are required

COPY $NAME/EXT:0 /EXT:1

This is useful if both the disk you are copying from and the disk you are copying to do not have a NEWDOS system's on them.

The final copy command I am going to look at is the ILF (inclusion file). Using Scripsit or CHAINBLD/BAS you may create an ASCII file of any files you regularly copy, eg I have a file on my working Newdos that contains an ASCII file of SYS0-SYS8, this I have called MINSYS/ILF and can is used in the following manner :-

COPY 0,1,,CBF,FMT,ILF=MINSYS/ILF,NDMW

This creates a minimum booting system disk which only takes about 12 granules.

(NDMW = NO DISK MOUNTS WAITS)

If you want to see what an inclusion file looks like then LIST NWD80V2/ILF on your Newdos 80.

These are just a few of the many copy commands on NEWDOS 80 and are the commands I use most frequently.

In most of the examples, I have specified copying from drive 0 to drive 1, any drive 0 to 3 may be specified for either of the drive spec's.

P O K E R

```
 10 GOTO30000
 70 CLS
 DIM A$(89)
 X=RND(-TIME)
 80 '
 90 A$(33)="U4E2F2D2NL4D2BR3" 'A
100 A$(35)="BR3E1BU4H1L2G1D4F1R2BR4"'C
110 A$(36)="U6R3F1D4G1L3BR7"'D
120 A$(37)="R4BU6L4D3NR2D3BR7"'E
130 A$(38)="U6NR4D3NR2D3BR7"'F
140 A$(39)="BR4BU5H1L2G1D4F1R3U2NL1D2BR3"'G
150 A$(40)="U6D3R4U3D6BR3"'H
160 A$(41)="BU6BR1R2L1D6L1R2BR4"'I
170 A$(42)="BU1F1R2E1U5BD6BR3"'J
180 A$(43)="U6D3R1NE3F3BR3"'K
190 A$(44)="NU6R4BR3"'L
200 A$(45)="U6F2ND1E2D6BR3"'M
210 A$(46)="U6F4U4D6BR3"'N
220 A$(47)="BU1U4E1R2F1D4G1L2NH1BR6"'O
230 A$(48)="U6R3F1D1G1L3BF3BR4"'P
240 A$(49)="BU1U4E1R2F1D3G1NH1NF1G1L1NH1BR6"'Q
250 A$(50)="U6R3F1D1G1L3R1F3BR3"'R
260 A$(51)="R3E1U1H1L2H1U1E1R3BD6BR3"'S
270 A$(52)="BU6R4L2D6BR5"'T
280 A$(53)="BU1U5BR4D5G1L2NH1BR6"'U
290 A$(54)="BU4NU2F1D1F1ND1E1U1E1U2BD6BR3"'V
300 A$(55)="NU6E2F2NU6BR3"'W
310 A$(57)="BU6D1F2E2U1D1G2D3BR5"'Y
320 A$(65)="BU4R2F1D1L2G1F1R2NU2R1BR3"
330 A$(66)="U6D2R3F1D2G1L3BR7"
340 A$(67)="BU4BR2NF1L2G1D2F1R2NE1BR4"
350 A$(68)="BU4BR4L3G1D2F1R3NU6BR3"
360 A$(69)="BR3L2H1U2E1R2F1D1NL4BD2BR3"
370 A$(72)="U6D3E1R2F1D3BR3"
380 A$(73)="BU6BR1R1BD2NL1D4L1R2BR4"
390 A$(79)="BU1U2E1R2F1D2G1L2NH1BR7"
400 A$(82)="U4D1E1R2F1BD3BR3"
410 A$(83)="R3E1H1L2H1E1R3BD4BR3"
420 A$(84)="BU5R4L2U1D5F1E1BD1BR3"
430 A$(85)="BU4D3F1R2NU4R1BR3"
440 A$(86)="BU4F1D1F1ND1E1U1E1BD4BR3"
450 A$(87)="BU4D3F1E1NU2F1E1U3BD4BR3"
460 A$(89)="BU4D3F1R3U4D5G1L3BU2BR7"
470 A$(0)="BR3"
480 A$(1)="BR1R1BU2U4BD6BR5"
490 A$(4)="BR2R5U1D1L4U5E1R2D1BD2BL4R3BR6BD3"
500 A$(12)="U1R1D1NL1D1G1BU2BR7"
510 A$(13)="BU3R4BD3BR3"
520 A$(16)="BU1U4E1R1F1D4G1L1NH1BR6"
530 A$(17)="BU6BR2NG1D6L1R2BR4"
540 A$(18)="BU5E1R2F1D1G1L2G1D2R4BR3"
```

```
550 A$(19)="BU5E1R2F1D1G1NL1F1D1G1L2NH1BR6"
560 A$(20)="BU2U1E3D4NR1NL3D2BR4"
570 A$(21)="BU1F1R2E1U2H1L3U2R4BD6BR3"
580 A$(22)="BU6BR3L1G2D3F1R2E1U1H1L3BD3BR7"
590 A$(23)="BU6R4D1G4D1BR7"
600 A$(24)="BU1U1E1R2E1U1H1L2G1D1F1R2F1D1G1L2NH1BR6"
610 A$(25)="BR1R1E2U3H1L2G1D1F1R3BD3BR3"
620 A$(26)="BU6NG1D6L1R2BR2BU1U4E1F1D4G1NH1"
630 A$(27)="U1R1D1L1BU3U3R1D1L1BD5E1U1BR6"
640 A$(29)="BU2NR4BU2R4BD4BR3"
650 A$(31)="BR1R1BU2E2U1H1L2G1BD5BR7"
660 GOTO680
670 FOR X1=1 TO LEN(X$)
Y1=ASC(MID$(X$,X1,1))-32
DRAW"XA$(Y1);"
NEXT
RETURN
680 PMODE1,1
PCLS2
DRAW"BM36,52;S16C1"
X$="COLOUR"
GOSUB 670
DRAW"BM40,52;C3"
GOSUB670
DRAW"BM72,112;C1"
X$="POKER"
GOSUB 670
DRAW"BM76,112;C3"
GOSUB 670
690 '
700 Z=0
DIM CS(52),CV(52),DD(52),C(12),H(12),S(12),D(12)
710 FOR X=1 TO 4 '1=CLUB,2=SPADE,3=HEART,4=DIAMOND
720 FOR Y=1 TO 13
Z=Z+1
CS(Z)=X
CV(Z)=Y
NEXT Y,X
730 '
740 DRAW"BM68,156;S8C3R1U1R1D1R1U2L1U1R1U1R3D1R1D1L1D2R2U1R1D1R1D1L1U1L3
D2L1U2L3D1L1U1L1U3"
750 PAINT(80,152),3,3
GET(68,148)-(91,167),C,G
760 DRAW"BM100,156;C4BR1R1U1R1U1R1U1R1U1D1R1D1R1D1R1D1R1D1L1D1L1D1L1D1L1D1U1
L1U1L1U1L1U1L1U1"
770 PAINT(114,156),4,4
GET(100,148)-(123,167),D,G
780 DRAW"BM132,156;C3BR1R1U1R1U1R1U1R1U1R1D1R1D1R1D1R1D1R1D1R1D2L1D1L1U1L2D3L1U3
L2D1L1U1L1U2"
790 PAINT(146,156),3,3
GET(132,148)-(155,167),S,G
800 DRAW"BM164,156;C4BR1U2R1U1R1U1D1R1D1R3U1R1U1D1R1D1R1D2L1D2L1D1L1D1L1D1L1
U1L1U1L1U1L1U2L1"
810 PAINT(170,152),4,4
GET(164,148)-(187,167),H,G
820 SCREEN 1,0
FOR X=1 TO 3000
NEXT
```

```
840 PRINTSTRING$(8,"*")"COCO CASINO ODDS"STRING$(8,"*")
850 DATA 1   ONE-PAIR,2   TWO-PAIR,3   THREE-OF-A-KIND,4   STRAIGHT,6   FLUS
H,9   FULL-HOUSE,25  FOUR-OF-A-KIND,50  STRAIGHT-FLUSH,250 ROYAL-FLUSH
860 FOR X=5 TO 10:READ A$(X):PRINTMID$(A$(X),4);TAB(24)VAL(A$(X))"TO 1":NEXT
:FOR X=27 TO 28:READ A$(X):PRINTMID$(A$(X),4);TAB(23)VAL(A$(X))"TO 1":NEXT:R
EAD A$(29):PRINTMID$(A$(29),4)TAB(22)VAL(A$(29))"TO 1"
870 PRINT@416,"YOUR INITIAL BANK ROLL IS $1000!":TT=1000:PRINT@480,"READY?";

880 IF INKEY$=""THEN 880 ELSE CLS
890 '
900 COLOR2,1:PCLS:BT=INT(100*10^(-(TT>20000))*RND(10)):BT$=MID$(STR$(BT),2):
DRAW"BM20,20;C4":X$="Your bet is $"+BT$+"!":GOSUB 670
910 DRAW"BM20,40":X$="GOOD LUCK,PAL!!!":GOSUB 670:SCREEN 1,0
920 '
930 FOR X=1 TO 52:DD(X)=0:NEXT
940 FOR X=1 TO 5
950 GOSUB 1010
960 Y=12+48*(X-1):Y$=STR$(Y)
970 DRAW"BM"+Y$+",62;C2":X$=CHR$(X+48):GOSUB 670
980 GOSUB 1140:GOSUB 1020
990 NEXT:GOTO 1150
1000 '
1010 Z=RND(52):IF DD(Z)=1 THEN 1010 ELSE CD(X)=Z:DD(Z)=1:RETURN
1020 '
1030 IF CS(Z)=1 OR CS(Z)=2 THEN CC$="3"ELSE CC$="4"
1040 IF CV(Z)>1 AND CV(Z)<11 THEN X$=CHR$(CV(Z)+48)
1050 IF CV(Z)=1 THEN X$="A"
1060 IF CV(Z)=11 THEN X$="J"ELSE IF CV(Z)=12 THEN X$="Q"ELSE IF CV(Z)=13 TH
EN X$="K"
1070 DRAW"BM"+STR$(Y+4)+",84;S8C"+CC$:GOSUB670
1080 DRAW"BM"+STR$(Y+24)+",130":GOSUB 670
1090 ON CS(Z)GOTO 1100,1110,1120,1130
1100 PUT(Y+8,92)-(Y+31,111),C,PSET:RETURN
1110 PUT(Y+8,92)-(Y+31,111),S,PSET:RETURN
1120 PUT(Y+8,92)-(Y+31,111),H,PSET:RETURN
1130 PUT(Y+8,92)-(Y+31,111),D,PSET:RETURN
1140 COLOR2,1:LINE(Y,68)-(Y+39,135),PSET,BF:RETURN
1150 '
1160 DRAW"BM12,160":X$="DISCARDS?":SOUND100,1:GOSUB 670
1170 FOR X=1 TO 4:DC(X)=0:NEXT:A=1
1180 K$=INKEY$:IF K$=CHR$(13) THEN 1240 ELSE IF K$="" THEN 1180 ELSE K=VAL(
K$):IF K<1 OR K>5 THEN 1180
1190 IF K$=CHR$(13)THEN 1240
1200 IF A=5 THEN 1180
1210 FOR X=1 TO 5:IF DC(X)<>K THEN NEXT ELSE 1180
1220 DC(A)=K:A=A+1
1230 LINE(10+48*(K-1),48)-(52+48*(K-1),136),PSET,B:GOTO 1180
1240 DRAW"BM12,184":X$="OK?":SOUND 100,1:GOSUB 670
1250 K$=INKEY$:IF K$="" THEN 1250 ELSE IF K$="Y" THEN 1290 ELSE IF K$<>"N"
THEN 1250
1260 GOSUB 1320
1270 FOR K=1 TO 4:IF DC(K)THEN GOSUB 1310
1280 NEXT:GOTO 1160
1290 GOSUB 1320:FOR K=1 TO 4:IF DC(K) THEN GOSUB 1310:X=DC(K):GOSUB 1010:Y=
12+48*(X-1):GOSUB 1140:GOSUB 1020
```

P O K E R

```
1300 NEXT:GOTO 1330
1310 LINE(10+48*(DC(K)-1),48)-(52+48*(DC(K)-1),136),PRESET,B:RETURN
1320 LINE(0,140)-(255,191),PRESET,BF:RETURN
1330 '
1340 LINE(0,0)-(255,67),PRESET,BF
1350 DRAW"BM12,20":X$="How did you do?":GOSUB 670
1360 '
1370 FOR X=1 TO 4:Z3=X:Z1=CV(CD(X)):FOR Y=X TO 5:Z2=CV(CD(Y))
1380 IF Z2<Z1 THEN Z1=Z2:Z3=Y
1390 NEXT Y:Z4=CD(X):CD(X)=CD(Z3):CD(Z3)=Z4:NEXT X
1400 '
1410 S=1:SA=0:FOR X=2 TO 4:IF CV(CD(X))+1<>CV(CD(X+1))THEN S=0:GOTO 1440 EL
SE NEXT
1420 IF CV(CD(1))=1 AND CV(CD(5))=13 THEN SA=1:GOTO1440
1430 IF CV(CD(1))+1<>CV(CD(2)) THEN S=0
1440 '
1450 FL=1:FOR X=1 TO 4:IF CS(CD(X))<>CS(CD(X+1)) THEN FL=0:GOTO 1460 ELSE N
EXT
1460 IF FL AND SA THEN X$=A$(29):GOTO 1630
1470 IF FL AND S THEN X$=A$(28):GOTO 1630
1480 '
1490 T(1)=0:T(2)=0:T(3)=0
1500 FOR X=1 TO 3:IF CV(CD(X))=CV(CD(X+1)) AND CV(CD(X+2))=CV(CD(X+1)) THEN
 T(X)=1
1510 NEXT
1520 IF(T(1)AND T(2)AND FL=0)OR(T(2)AND T(3) AND FL=0) THEN X$=A$(27):GOTO
1630
1530 IF(T(1) AND CV(CD(4))=CV(CD(5)))OR(T(3) AND CV(CD(1))=CV(CD(2))) THEN
X$=A$(10):GOTO 1630
1540 IF FL THEN X$=A$(9):GOTO 1630
1550 IF S THEN X$=A$(8):GOTO 1630
1560 IF T(1)OR T(2) OR T(3) THEN X$=A$(7):GOTO 1630
1570 '
1580 PP=0:FOR X=1 TO 4:IF CV(CD(X))=CV(CD(X+1))THEN PP=PP+1
1590 NEXT:IF PP=0 THEN 1620
1600 IF PP=2 THEN X$=A$(6):GOTO 1630
1610 X$=A$(5):GOTO 1630
1620 IF RND(2)=1 THEN X$="-1  YOU HAVE NOTHING"ELSE X$="-1  WORTHLESS CARDS
"
1630 '
1640 OD=VAL(X$):X$=MID$(X$,4)+"!"
1650 DRAW"BM12,50":GOSUB 670
1660 DRAW"BM12,160":IF OD>0 THEN X$="YOU WON "+SC=BT*(OD-1):TT=TT+SC:FOR X=
1 TO 5:SOUND 50,1:SOUND 150,1:NEXT ELSE X$="YOU LOST ":SC=BT:TT=TT-BT:SOUND
 50,5
1670 SC$="$"+MID$(STR$(SC),2):X$=X$+SC$+"!":IF OD =1 THEN X$="EVEN MONEY!"
1680 GOSUB 670:TT$=MID$(STR$(TT),2)
1690 DRAW"BM16,184":IF TT<0 THEN X$="You owe $"ELSE X$="You have $"
1700 X$=X$+TT$+"!":GOSUB 670
1710 IF INKEY$=""THEN 1710 ELSE 890
 30000 PCLEAR2:GOTO 20
```

DP2000 see below — C+P: isoc and £308 one drive

Also:- Modem £100 RS232 49

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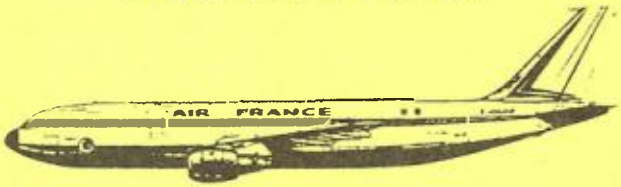
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Box of 10 Disks SS.SD	19.00 :::	16 00.
Box of 10 Disks SS.DD	23.00 :::	19 00.
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DRAGON Software	various.	

Software News

INNOVATIVE TRS 80·GENIE SOFTWARE

from the professionals

AIRBUS



Airbus continues the line of highly accurate flying simulators stocked by Molimerx. It follows in the footsteps of Shuttle and Jumbo.

The Airbus A300 is a twin engine, wide bodied jet manufactured in Europe. There are many models. The specimen chosen by the author is that powered by two General Electric CF6-50C2 turbo fans with a maximum seating of 330 and maximum all up take-off weight of 140,000 kg.

We only stock simulations which are precise models of the original, and Airbus is no exception. Indeed, Airbus could be said in some respects to be a more accurate simulation of flying the aircraft than was Jumbo, and the latter certainly set new standards in this area. The big difference between the two is that Airbus incorporates radio navigation. Five VOR's or Omnis (radio direction beacons) are included in the simulation, all of them in the Holland/Belgium/Germany area. Furthermore, they all include Distance Measuring Equipment facilities. Four runways at three airports are available for landing and take-off. Airbus also includes randomised engine failure simulation.

Like Jumbo, Airbus is flown on instruments and only on instruments. Some of these are graphic representations of instruments. One of them is the Instrument Landing System instrument. This, without a doubt, is the best graphic representation of such an instrument produced for any computer outside of those used in actual aircraft themselves. There are 31 instruments in all:

1. Indicated air speed gauge
2. Artificial horizon
3. Power setting for No. 1 engine
4. Power setting for No. 2 engine
5. Slat setting
6. Flap setting
7. Compass
8. VOR tracking instrument
9. Instrument Landing System
10. Clock
11. All up weight
12. Fuel
13. Fuel flow
14. Vertical speed indicator
15. MACH speed
16. Precise pitch
17. Precise roll
18. Altimeter
19. Landing gear status
20. Nose wheel status
21. Wheel brakes status
22. Air brakes status
23. True air speed
24. Wind direction and velocity
25. Ground speed
26. Destination runway, place & number
27. Distance to go
28. Precise heading
29. Precise track
30. Data from No. 1 DME/VOR
31. Data from No. 2 DME/VOR

An extensive illustrated manual is supplied comprising some 27 pages. It takes the reader through the control panel in general and then in detail. Discusses the controls at length, general discussions are held on flying technique of Airbus and then simple flight manoeuvres are described, such as normal take-off, noise abatement take-off, take-off with engine failure, climb, cruise, turning, descent, approach, final approach and landing. Procedures in overshoots and engine out emergencies in various situations are described. Two pages of simple flight briefings, in other words, instructions for suggested flights, are included. There are seven Appendices, including detailed discussions of the VOR/DME navigation system and the ILS approach system. Purchasers of Airbus may also buy the educational section of the Jumbo manual for £1 if they wish.

The program is compiled Basic and is disk orientated only. The compilation enabled the author to include very precise slow down loops in the source code. Thus as we have said, the simulation is as exact as it is possible to get. The compatibility of the program with various disk operating systems and machines will depend upon the compatibility of those DOS s and machines with the Microsoft Compiler. As far as we know, on TRSDOS it is compatible on all Genie machines (with the exception of the Model III) and of course the Tandy Model I. It is also compatible with LDOS on these machines. On the Tandy Model III the choice of DOS is somewhat more crucial as many disk operating systems running on that machine are not compatible. TRSDOS 1.3, for instance, is not. A patched version of the run time file, to enable use on the Model III under LDOS or small-LDOS is included in the package.

Airbus (disk) £19.55

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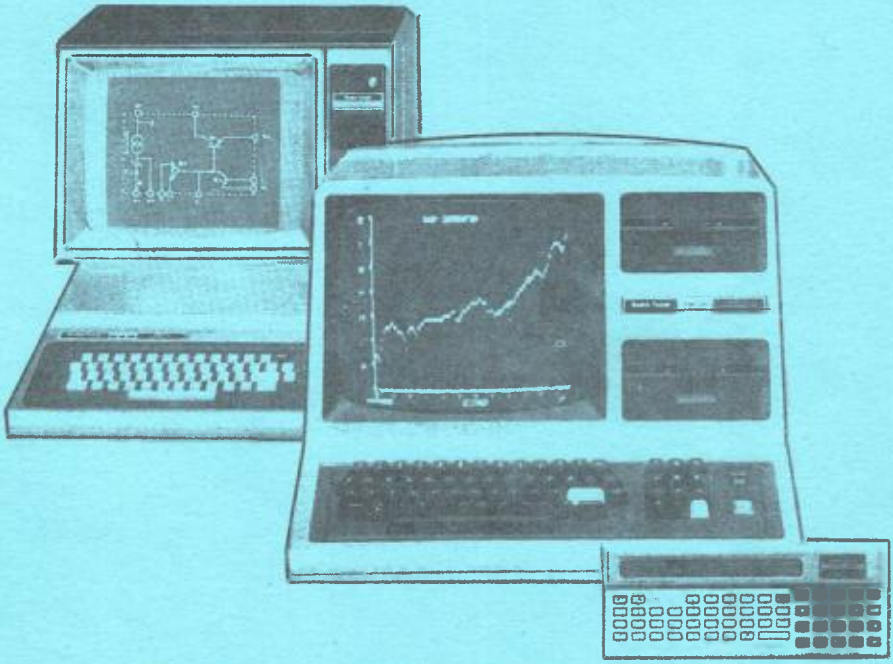
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The North West TRS 80 Users Group

Volume 5 Issue 5

NOV 1983

Nov '83

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EDITORIAL

Many thanks for all the articles and programs we have received fo this months newsletter. Now to the December Issue, The All Day Decembe Extravaganza is on SUNDAY 11TH DECEMBER and we want the newsletter ready fo the meeting. So you've only got four weeks to get tapping, as we want th last issue of the year to be the biggest and best of this year.

A few people have been asking about repairs and modifications, if yo have anything you want doing, contact Melvyn and he'll inform you of the bes person to do the job.

Quite a lot of our members are radio hams, according to their dat forms and although we are not running a Radio Ham group, we would like to le all members of that ilk to be informed of the others within the Group. T this end would all members who are radio hams let me have their call signs an I will publish a list in the newsletter.

T.T.F.N.....

Carolyn

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Any articles or programs for inclusion in this Newsletter must b addressed directly to the Editor, preferably on cassette or disk, at th following address :-

40, COWLEES,
WESTHOUGHTON,
BOLTON,
BL5 3EG

THE NORTH WEST TRS-80 USERS GROUP NEWSLETTER

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

THE CHRISTMAS MEETING AT BARTON AERO CLUB this year is booked for SUNDAY THE 11th OF DECEMBER commencing at midday and will continue until 10:30pm this meeting will consist of similar activities as last year ie. a competition, free raffle, talks demonstrations, items for sale etc. It is expected that the Library will be present for perusal of the software available.

As the club has limited power points I must insist that members do not bring systems unless previously arranged with me. I will arrange for as many different systems to be at the meeting as possible (ie. Model I/III/IV. CoCo, Dragon, Model 100 etc) with an expert on hand for each system to answer your queries. We will also have the telephone line laid on by British Telecom (kindly arranged by Bob Moffat) which will be used to demonstrate communications (a very topical subject at the moment!) with the cost of modems being very reasonable now there is great interest in Micronet 800, Prestel and Bulletin boards, I hope to arrange for someone from Micronet 800 to come along and talk to us about communications and how you can gain access to various computers on line throughout the country.

There will be a buffet laid on for your refreshments and of course the bar will be open normal hours. Admission will be £1.00 for members and £1.50 for non-members this will include the buffet. Free entry to the raffle is for members only and there will be in excess of 15 prizes with the first winner having first choice etc.

We have now acquired some of the raffle prizes but I would like to appeal for donations.

The Tandy stores at Deansgate and Sale are in the process of selling off their Model I, ex-demo and shop soiled computers and peripherals at discount prices! I hope this information does not reach you too late but I have no other way of letting you know. If you want to know more then I suggest you phone the Tandy Computer Store Deansgate Manchester 061-832-2242 or Adrian at Sale on 061-969-4166.

Whilst we are on the Tandy subject I would like to inform you that Bolton Computer Club will be having the Tandy business computer experts visit them to demonstrate Tandy business systems and software. I am informed that our group members will be most welcome and if you would like to see a particular (Tandy) piece of software or hardware demonstrated then contact me or Bill Hatton (Bolton Computer Club) on Bolton (0204)-792803.

This demonstration will take place from 7:00pm to 9:15pm on Thursday November the 24th at Bolton Tech (B.I.H.E) Deane Road, Bolton. Block E, fifth Floor, Room 13.

You can phone me on 061-723-5033 if you require any further information on the above or you have any suggestions or requests for activities at our future meetings

MEMBERS' TELEPHONE Nos

THE NORTH WEST TRS-80 USERS GROUP NEWSLETTER

WHO HAS GOT WHAT ?

Below are three lists of members, listed under the type of machine they are using, as far as we know.

If you have a CoCo, Dragon or Model 100 and are NOT LISTED below let Melvyn or Laurie know so he can update the groups database.

Further information can be obtained from either Melvyn or Laurie as to who lives where etc.

MODEL 100

Geoff Kitt	Tel .. 0204-694265
Hugh A. Wyn-Griffith	Tel .. 0625-530801
Anthony D. Ryder	Tel .. 0204-439910

DRAGON COLOUR COMPUTER

Dave Sellwood	Tel .. 0942-670604
Paul Edgar	Tel .. 061-428-7191
Clive Churchward	Tel .. 061-225-0019
W. A. Buckingham	Tel .. 051-424-3407
Francis J. Philbrow	Tel .. 061-428-2894
Gordon E. Barnes	Tel .. 0706-381852
Adrian Bradshaw	Tel .. 0204-67023
John Balshaw	Tel .. 0204-43082
Robin V. Hayes	Tel .. 061-766-3954
Evan P. Mooney	Tel .. 061-789-4454
Eric Craven	Tel .. 061-748-7736
John Taylor	Tel .. 0706-876532
E. C. Moore	Tel .. 061-702-8191
Eric Bush	Tel .. 0942-818066
Roger Wood	Tel .. 061-724-8808
Kieth Rowe	Tel .. 061-723-5936
Eric F. Murray	

TANDY COLOUR COMPUTER

Barry Steward	
Robert Robinson	Tel .. 0942-725275
Ronald Clarey	Tel .. 061-434-4183
Ian Wareing	Tel .. 0244-821104
E. R. Ashworth	Tel .. 0706-217-673

A TIP FOR DRAGON USERS

From Adrian Bradshaw.

It is a good idea to leave a gap between programs on a tape. On the Dragon (and I presume on the CoCo) you can use MOTORON & MOTOROFF.

This method often leaves rather a long gap due to the slow typing of the command MOTOROFF (and mistakes). To prevent this, it's possible to get the same effect by causing a syntax error by typing 'M <ENTER>'. This also triggers the cassette relay and stops the tape.

\- - = = * * B I N G O * * = = - -

By A.D.Swift.

```
0 CLS
1 PRINTCHR$(23)
2 PRINT" NEWSPAPER B I N G O "
3 FOR A=1TO 1500 : NEXTA
5 REM !!!!! CHECK THEM NUMBERS BY A.D.SWIFT WITH NOT
  MUCH HELP FROM ***LAST RESORT SOFTWARE ***
10 CLS
11 DIMT(15)
12 DIMM(50)
15 INPUT "NEW NUMBERS OR FROM TAPE(N/T)";Q$:IF Q$="T"
   GOTO100
20 INPUT "HOW MANY CARDS HAVE YOU";Z
30 DIM N(Z,15)
60 FOR A = 1 TO Z
70 FOR B= 1 TO 15
80 PRINT"CARD";A;"INPUT NUMBER";B:INPUT N(A,B)
85 NEXT B
86 INPUT "IS YOUR TAPE READY FOR RECORDING";Q$
90 N$="CARD"+STR$(A)
91 PRINT£-1,Z;",";N$;",";N(A,1);",";N(A,2);",";
   N(A,3);","; N(A,4);",";N(A,5);",";N( A,6);",";
   N(A,7);",";N(A,8);","; N(A,9);",";N(A,10);",";
   N(A,11);",";N(A,12);",";N (A,13);",";N(A,14);
   ",";N(A,15)
95 NEXT A:GOTO500
100 PRINT"TAPE READY ?"
101 Q$=INKEY$:IFQ$=""GOTO101
105 DIMN(100,15)
125 A=1
130 INPUT£-1,Z,N$,N(A,1),N(A,2),N(A,3),N(A,4),N(A,5),N(A,6),
    N(A,7),N(A,8),N(A,9),N( A,10),N(A,11),N(A,12),N(A,13),
    N(A,14),N(A,15)
135 PRINT "LOADED :- ";N$
140 FOR A = 2 TO Z
150 INPUT £-1,Z,N$,N(A,1),N(A,2),N(A,3),N(A,4),N(A,5),N(A,6),
    N(A,7),N(A,8),N(A,9),N(A,10),N(A,11),N(A,12),N(A,13),
    N(A,14),N(A,15)
160 PRINT "LOADED :- ";N$
170 NEXTA
500 REM INPUT TODAYS NUMBERS
501 FOR A= 1 TO 1500:NEXTA
502 CLS:INPUT"DO YOU WISH TO REVIEW THE NUMBERS ON THE CARDS
    BEFORE ENTERING NUMBERS (R/N)";Q$
503 IF Q$="R"GOSUB 1000
505 CLS
510 INPUT "HOW MANY NUMBERS TODAY";T
520 FOR A = 1 TO T
530 INPUT "NUMBER" ;M(A)
540 NEXT A
```

- - - - * * B I N G O * * = = - -

```
550 CLS
560 PRINT"PLEASE WAIT WHILST I CHECK YOUR CARDS - THANKYOU"
600 FOR A = 1 TO T
610 FOR B = 1 TO Z
620 FOR C= 1 TO 15
625 IF N(B,C)<1 GOTO 640
630 IF M(A) = N(B,C) THEN N(B,C) = (N(B,C))*-1
640 NEXT C:NEXT B:NEXT A
700 FOR A = 1TO Z
710 FOR B = 1 TO 15
720 IF N(A,B)>1 GOTO 750
730 NEXT B
740 PRINT"CARD";A;"IS A WINNER":X=1
750 NEXT A
755 IF X=1GOTO770
760 PRINT"NO CARD IS A WINNER TODAY"
770 INPUT"DO YOU WISH TO SEE HOW MANY NUMBER ARE LEFT ON
    EACH CARD";Q$:IF Q$="Y" GOSUB 1000
800 REM SAVE TODAYS CARDS WITH NUMBERS DELETED
810 PRINT"REWIND DATA TAPE TO BEGINING & PREPARE TO SAVE
    TODAYS CARDS"
820 INPUT"IS RECORDER READY";Q$
825 IF Q$="N"GOTO 999
830 FOR A = 1 TO Z
835 N$="CARD "+STR$(A)
840 PRINT£-1,Z;",";N$;",";N(A,1);",";N(A,2);",";N(A,3);",";
    N(A,4);",";N(A,5);",";N( A,6);",";N(A,7);",";N(A,8);",";
    N(A,9);",";N(A,10);",";N(A,11);",";N(A,12);",";N (A,13);
    ",";N(A,14);",";N(A,15)
850 NEXT A
851 CLS
852 PRINTCHR$(23):PRINTSTRING$(32,"*")
860 PRINT"TODAYS UPDATED CARDS HAVE NOW   BEEN SAVED - LOAD
    THE NUMBERS FROM TAPE TOMORROW"
865 PRINTSTRING$(32,"*")
999 END
1000 REM CARD REVIEW
1010 FOR A = 1 TO Z
1015 C=1
1020 FOR B= 1 TO 15
1030 IF N(A,B)>0THENT(C)=N(A,B):C=C+1
1040 NEXT B
1050 CLS:PRINTCHR$(23):PRINT"CARD     ";A
1060 PRINT"NUMBERS LEFT  - ";(C-1)
1070 PRINT"NUMBERS REQUIRED TO COMPLETE    CARD ARE :-"
1075 IF C-1=0GOTO1090
1080 FOR V= 1 TO C-1:PRINT T(V),:NEXTV
1090 PRINT:PRINT:PRINT"HIT ANY KEY TO CONTINUE"
1091 Q$=INKEY$:IFQ$=""GOTO1091
1100 NEXT A
1101 CLS:PRINTCHR$(28):RETURN
```

****
**** Superscript and my Centronics 730 ****
****

Here is a little oddity I discovered while playing about with my copy of Superscript, I discovered (quite by accident) that if you press '@Y' together you get a graphic character diplayed on the screen (yes I know its supposed to do that!) but did you also know that if you press '@Y' twice (yes you've guessed) you get 2 graphic characters, "isn't that clever" I hear you say, but now when you print the text with these 2 characters somewhere in the middle, the printer will wait for keyboard entry when it reaches the characters and you can then type a name for instance, press ENTER and the printer will then resume printing with your entry in the place of the graphic characters, what use is that? Well if you have a standard letter you wish to print a few copies of but wish to enter some different names in each one then try the above tip, it will save a lot of time.

I have also discovered by accident (I must be accident prone') that the Centronics 730 printer will print expanded characters at 40 per line (yes I know it's supposed to do that too if you PRINTCHR$(27);CHR$(14)) but it will also print large characters if you PRINT CHR$(160) to CHR$(255), perhaps you think this is a hard way to do that but it could be of use in machine code where you can send the enlarged characters without first sending the control codes, one disadvantage of the 730 printer is the print buffer, it holds 80 characters, thats OK but when using expanded print for more than 40 characters on one line the printer ignores the remaining characters when it line feeds to the next line and also resumes to print in normal size characters at 80 characters per line

If you know of any more little quirks like these let us print them in the newsletter, they must be useful to someone.

---===*** W O T S I T ***===---

HELP !! Is there anyone out there who can help, we have had a request from a member relating to the Model III expansion port connections. The problem seems to be that he is trying to connect an Atari joystick which was fitted to a Model I to his Model III.

We have not been able to find any information to these end, either in the technical reference manual or by phoning Tandy customer services, not an unusual thing to happen, as most of us already know.

If you can help with this problem by supplying the pin-out connections or other interfacing techniques let Melvyn know as soon as possible.

originate/answer = half duplex

MODEMS

DISCONNECTED NOTES

By Peter Tootill

Here are a few disconnected notes to keep Melvyn off my back (sorry, Mel - seriously, I've been promising him something for ages!).

I went to the PCW show (I managed to scrounge a ticket for the trade and press day. It was quite busy, but not uncomfortably so). There were quite a lot of interesting items there, including colour printers, Electrons, and all the other things that you'll read about in the magazine reviews. The things that most interested me were the NEC portable computer, and the Buzzbox. The NEC comes from the same stable as the Tandy Model 100, and looks very nice too. Unfortunately it's £475 for the 16k version, and £195 for an extra 32k ram pack. It will take a total of 64k ram and 64k rom according to the data sheet, at least that's what I think it means, you never can be too sure with these publicity hand outs! The press items refer to a total of 128k and that would seem to fit. It doesn't have an integral modem, and unlike the Tandy there's no suggestion that it ever will have, but I'd still like one or other of them (Santa, are you listening??).

The 'Buzzbox' is a pocket sized modem. It's only 5"x 5" and about 1.5" thick, and runs on 2 PP3 batteries (or optional mains adaptor). It is Telecom approved (strictly BABT approved, which apparently adds several pounds to the price) and so you can tell Bob Moffat you've got one. The price is £79.95, and it's 300 baud originate/answer, direct connect complete with new style modular jack. There's nowhere to plug your phone into on it, so you will need a double adaptor, (about £6 from Tandy) or order a modem with spade connectors and connect it directly to the phone line (which I don't think Telecom would like too much). I've been trying one out and so far it seems to work pretty well. More details when I've had time to check it out thoroughly.

On the subject of communications, my bulletin board continues to get busier. Last year, when I was running part time, I was getting 4 or 5 calls a week. In May after I went full time it was around 5 or so a day. Now it's pushing 30 a day. and of course the messages etc, are getting more interesting with the increase in traffic.

I have started to try to recoup some of the running costs by including mail order items, such as printers and disk drives at very nice prices, so give Mailbox a call before you buy (if you don't have a modem call me 051-428-2733 for details). Advertising space is also available, if any of you business men are interested. Rates are very reasonable, but space is limited - I don't want to crowd out the system and not leave room for the general interest sections.

If anyone wants more info on bulletin boards, there's a very interesting and informative article (but then I'm biased, I wrote it!) in November PCW on the subject, and the 'Network Notes' column in the magazine is now regularly updated and usually contains notes on what's happening on the BBS scene, jargon and so on. (is this too much plugging Ed?).

The Groups December meeting should have demonstrations of BBS's, Prestel and the like, and in the meantime, when you get your modem, call Liverpool Mailbox on (051) 428 8924, any time of day or night. (perhaps the Group could buy a Buzzbox and hire it out by the month to members - if enough people like the idea, I'm sure it could be viable).

CRX light = Carrier detect ie light up when contact made.

6809 FORUM

DRAGON

By Barry Steward

Hello again, old business first, the location that I gave in my last column ($C000) to EXEC to do a cold start does not seem to work for the newer Dragons. It is fine on my Tandy and on the older Dragons so please check it with your machine if you have a recent Dragon. If anyone knows the location for a cold start with these newer machines please let me know any I will print it here.

Whilst on the subject of places in the R.O.M., on power up the 80C tells you that you have Colour Basic 1.0. Do not believe it. Type EXEC 41175 and you will be told that you have Colour Basic 1.1.

As of writing this Tandy have not announced a date for the U.K. introduction of there new 64K. machine. This and the Coco 2 (with the 1.2 Basic R.O.M.) are on sale in the States but when I spoke to my local store manager he had no knowledge of it (why are Tandy managers always the last people to find things out). With more and more 64K. software being offered it cannot be long now before we see these two machines on sale here.

Now, here is one for everone, both Tandy and Dragon users. You can not PCLEAR 0 from Basic, the most you memory you can release is PCLEAR 1. Try POKE 25,6 : NEW and you will get that extra 1.5K. of memory. Do not try it if you are using disks as it will not work (were have I heard that before)

Two products in the new Tandy catalogue caught my eye and I think we will be hearing a lot more about each of them. First the Colour Ink Jet Printer. The printer is slow in the text mode as it makes three passes across the paper to print one line of text and only prints 40 characters per second because of this. In the graphics mode though its 640 dots per line in eight colours make a very different story. Being ink jet it is also almost silent. The price of £499 is high enough to deter a lot of buyers but I remember paying £599 for my Line Priner II three years ago so
the price can be expected to fall.

The other new product is OS9. I have not seen or used OS9 yet but it is very high on my shopping list. A true operating system for the 80C with disk (instead of the present Disk Basic) OS9 will be compared with CP/M for the Z-80 and its use is indeed very similar. It is not for everone perhaps as it needs two disk drives to get the best from it, and Basic09 has to be purchased separately (£69.95 each from Tandy) also like any powerful system it needs time and care to learn to get the best from it but with features like multi-user and multi-tasking built in plus the fact that Dragon intend to release it for their disk based machines I feel that we shall see a lot more of OS9 in the coming months.

Game

MAZESWEEP INSTRUCTIONS.

The computer first creates a maze and then places 25 targets within the maze. The targets appear as 'O's and you appear as an asterisk (*). Useing the four arrow keys, you try to hit as many targets as possible before time runs out. Each target is worth 40 points, for a possible total of 1000. In addition, if you are able to destroy all the 25 targets before the time runs out, you will earn a bonus. Whatever time remains on the clock will be multiplied be 10 and added to your score.

To hear the sound effects, connect the cable that usually goes into the 'auxiliary' of the cassette recorder into an amplifier.

```
10 CLEAR 500:DEFINT A-Z:V=15360:N=191:M$=CHR$(N)
20 DIM B,B1,B2,I,J,K,M,P,Q,SC,SC$,T,Z,M(13),P(200)
30 SC(10)=6640:SC$(10)="James Garon"
40 DATA 32717,19722,15940,26881,-45,
   8237,15613,-11415,11775,
   -736,4160,-20498,-45,201
50 FOR I=0 TO 13:READM(I):NEXT:I=VARPTR(M(0)):J=I/256
   :K=I-J*256
60 IF PEEK(16396)=201 POKE 16526,K:POKE 16527,J ELSE
   CMD"T":DEFUSR=I:POKE 14308,0
70 CLS:PRINT" Time: 1000"TAB(24)"Maze Search","Score: 0"
80 PRINT" "STRING$(63,N);:FOR I=1 TO 13
90 PRINT" "CHR$(N)CHR$(253)CHR$(N);:NEXT
100 PRINT" "STRING$(62,N);:POKE 16383,N
200 P=64*7+31:PRINT@P,M$;:P(0)=P:K=1
210 IF PEEK(V+P+2)-N THEN 260
220 IF PEEK(V+P-2)-N THEN 260
230 IF PEEK(V+P+128)-N THEN 260
240 IF PEEK(V+P-128)-N THEN 260
250 GOTO 350
260 ON RND(4) GOTO 270,280,290,300
270 Q=-1:GOTO 310
280 Q=64:GOTO 310
290 Q=1:GOTO 310
300 Q=-64
310 IF PEEK(V+P+Q*2)=N THEN 260
320 PRINT@P+Q,M$;:PRINT@P+Q*2,M$;:I=USR(1281+K)
330 P=P+Q*2:P(K)=P:K=K+1
340 GOTO 210
350 K=K-1:P=P(K):PRINT@P," ";:I=USR(1281+K):PRINT@P,CHR$(N);
360 IF K=0 THEN 400
370 GOTO 210
400 GOSUB 9000:FOR I=1 TO 26
```

MAZESWEEP

```
410 P=130+RND(11)*64+RND(59):IF PEEK(V+P)-32 THEN 410
    ELSE PRINT@P,"o";:NEXT
600 T=1000:SC=0:FOR I=1 TO 99:PRINT@P,"*";:PRINT@USR(P),
    CHR$(143);:NEXT
610 PRINT@P,"*";:I=USR(513+T/4)
620 T=T-1:PRINT@6,T;:IF T=0 THEN 800
630 POKE 16444,0:I$=INKEY$:IF I$="" THEN 620 ELSE Z=
    ASC(I$):Q=P
640 IF Z=8 THEN Q=P-1
650 IF Z=9 THEN Q=P+1
660 IF Z=10 THEN Q=P+64
670 IF Z=91 THEN Q=P-64
680 M=PEEK(Q+V):IF M=N THEN 610
690 IF M=32 OR M=42 ELSE SC=SC+40:PRINT@55,SC;:PRINT@P," ";:
    PRINT@Q,"*";:GOSUB 2500
700 PRINT@P," ";:IF SC<1000 THEN P=Q:GOTO 610
800 PRINT@Q,"*";:T=T*10:SC=SC+1:PRINT@1,"Bonus";:GOSUB 2520
810 FOR I=1 TO 35:PRINT@I," Bonus:"T;:FOR J=1 TO 30:
    NEXT:NEXT
820 PRINT@I,CHR$(203);:PRINT@55,SC;:GOSUB 2510
2000 M=0:FOR I=1 TO 10
2010 IF SC>SC(I) THEN M=I
2020 NEXT:IF M=0 THEN 2100
2030 PRINT@153,"Congratulations;";
2040 PRINT@208,"Your Score is one of the Top Ten.";
2050 PRINT@278,"Please ENTER your Name";
2060 SC$="":PRINT@479,;:INPUT SC$:IF SC$=""THEN 2060
2070 CLS:SC$=LEFT$(SC$,15)
2080 FOR I=1 TO M:SC(I-1)=SC(I):SC$(I-1)=SC$(I):NEXT
2090 SC(M)=SC:SC$(M)=SC$
2100 CLS:PRINT CHR$(23)"Top Ten Scores":PRINT
2110 FOR I=10 TO 1 STEP -1
2120 IF SC$(I)>"" THEN PRINT SC$(I),SC(I) ELSE PRINT
     "...","----"
2130 NEXT
2140 GOSUB 9010:PRINT:PRINT"Press =ENTER= to play again
2150 IF INKEY$<>CHR$(13) THEN 2150 ELSE 70
2500 FOR K=0 TO 2:J=USR(4778) OR USR(4742):NEXT:RETURN
2510 FOR K=0 TO 4:J=USR(7764) OR USR(7746):NEXT:RETURN
2520 J=USR(8814):FOR K=0 TO 1:J=USR(8792) OR USR(8778) OR
     USR(8765) OR USR(8778) OR USR(10328) OR USR(10350):
     NEXT:RETURN
9000 B=16396:B1=PEEK(B):B2=PEEK(B+1):POKE B,60:POKE B+1,201
     :RETURN
9010 POKE B,B1:POKE B+1,B2:RETURN
```

M/C Copy Prog for DRAGON

BENEATH THE DRAGON'S SCALES

By Peter Mooney

Those of you who have read the notes from Barry and John in the news letter will have discovered some of the useful addresses to be found in the first page of RAM and I hope that like me you have made use of them. You haven't ? Well lets see if we can help...

TO COPY.....

First you may have been faced with the need to make a copy of a machine code tape, but to do so you need three important numbers which are the addresses at which the program starts, ends and the entry point to execute the program.

As Barry explained, these are to be found as follows.

Start = PEEK(487)*256 + PEEK(488)
End = PEEK(126)*256 + PEEK(127)
Entry = PEEK(157)*256 + PEEK(158)

You can also find the name of a program by Peeking at addresses 474 to 481. Why not tie all of these into one short program to copy a program automatically? Here it is then.....

```
0 PCLEAR1:CLEAR 50,4608:CLS:PRINT"THIS PROGRAM WILL COPY
  MACHINE CODE TAPES":PRINT"LOAD SOURCE TAPE AND PRESS
  ENTER";:INPUTR$:CLOADM
1 A=PEEK(487)*256+PEEK(488):B=PEEK(126)*256+PEEK(127):
  C=PEEK(157)*256+PEEK(158): A$="":B$="": FORX=474 TO 481
  :B$=CHR$(PEEK(X)):IFB$=" "THEN 2 ELSEA$=A$+B$: NEXT
2 PRINTA$" LOADS FROM "A: PRINT"TO "B:PRINT"WITH ENTRY AT "
  C:PRINT"LOAD BLANK TAPE AND PRESS ENTER";:INPUTR$
3 CSAVEMA$,A,B,C:MOTORON:FORX=1TO4000:NEXT:MOTOROFF:PRINT
  "COPY FINISHED-ANOTHER COPY";:INPUTR$: IFLEFT$(R$,1)="Y"
  THEN 2
```

You will notice that line 0 contains the command CLEAR 50,4608. This will confine our short Basic program to the lower graphics pages where it should be safe from the machine code program which is to be copied. It will not of course copy those programs which Auto-run, but then you can't have everything!

OR NOT TO COPY.....

For my second topic I want to make more use of the addresses 474 to 481 which contain the name of the last program which has been loaded from tape. This is called the File-name and remains stored in those addresses until you load another program. You can make use of this to make it more difficult for people to copy one of your programs!!

The file name is 8 characters long -but it can be less- and is usually composed of letters. You can include numbers in the file name, and this is quite common, but you can also include other characters such as Graphics codes or control codes (ASCII codes less than 32). Consider the following string.....

A$="MYPROG"+CHR$(3)+CHR$(12).....what will appear if you try to print it? Well you will see MYPROG because the other two codes are not printable (that doesn't mean that they are rude! - they are in fact the codes for the break and clear keys).

BENEATH THE DRAGONS SCALES

Now if you saved a program using the command.." CSAVE A$ "...then these unprintable codes will be 'hidden' in the filename. If the program is loaded later, then the two codes will be safely tucked into memory locations 480 and 481. You can then add a check for them in your program.....

.. IF PEEK(480) <>3 THEN NEW.....

The trouble is that it is rather easy to spot the offending line and delete it, so how about this one then.....

.. IF PEEK(480) <>3 THEN POKE 65497,0.....

That will switch the CPU to double speed and the program will be lost. You can ring the changes by checking PEEK(481) <>12 at some later stage of the program or add further codes of your own. If you are really devious then you can probably do even better than this , but the rest, as they say, is up to you.

...OR MAYBE PCOPY.....

For the next part of my ramblings I will turn to graphics. Have you used the PCOPY command to produce animation effects? If you haven't or if you have a Model I/III then let me explain. The Dragon and the Co-Co can use up to 8 'pages' to draw on. If the highest graphics resolution is chosen then a screenful of graphics will use 4 pages so our 8 pages will be two screens which could be displayed alternately. This is not enough to produce smooth animation so it is often better to choose a lower resolution which uses less pages for each screen, and consequently gives us more screens to flick through. In low resolution this will be 8 different drawings, and although this is satisfactory for some jobs the graphics are rather chunky. What I really wanted was high resolution and more than 8 pages to play with, and this is where the PCOPY command comes in. It allows us to copy what is on one page onto another.....

i.e. PCOPY 1 TO 5.....will copy page 1 to page 5.

This is very rapid and uses a machine code routine similar to the LDIR in Z80 code. In theory it should only make sense to PCOPY using pages 1 to 8 since there are only 8 pages used by Basic, but in fact you can copy from pages1-8 up to page 16 and beyond. Ah but there is no page 16!' Well you may know this, but the Basic interpreter doesn't! There can be any number of pages which you can set up by restricting Basic to the lower part of memory. For instance...CLEAR200,23000 ..would leave the top of memory free for extra graphics pages. You may not be able to draw on them directly of course but you can draw on pages 1-8 and copy onto these higher pages. They will be untouched by Basic or commands such as PCLEAR, which can be useful at times.

The memory mapping is as follows...

Each page is 1536 bytes long and Page 1 begins at memory location 1536

So...

Page 2 starts at 1536 * 2

Page 3 starts at 1536 * 3

Page10 starts at 1536 * 10....etc

With this information you can decide to reserve as much memory as you need to obtain up to 20 graphics pages and still have a short basic program in a 32K machine.

Try it out and you will soon become adept at moving pages around in memory.

DRAGON

MORSE CODE FOR THE 6809

By Adrian Bradshaw.

```
10 CLS:PRINT"----------=MORSE=----------"
20 PRINT:PRINT:PRINT"  THIS PROGRAM CONVERTS KEYBOARDINPUTS INTO MORSE CODE.
      ONLY LETTER KEYS WORK (NO     NUMBERS). THE DOWN ARROW REPLAYSTHE ENTERED
 MORSE (AFTER 255 CH-ARACTERS THE MEMORY IS RESET ANDSTARTS TO ACCUMULATE AGAIN)
."
30 PRINT"THE UP ARROW PLAYS TEN RAPID    DOTS TO SHOW A MISTAKE.THIS ALSOCLEARS
THE PLAYBACK MEMORY."
40 PRINT@480,"       --==  HIT ANY KEY  ==--";:IF INKEY$<>"" THEN 50 ELSE:FOR RR=1
TO 200:NEXTRR:PRINT@480,"       --==  hit any key  ==--";:IF INKEY$<>"" THEN 50 ELS
E:FOR QQ=1 TO 200:NEXTQQ:GOTO 40
50 SOUND 100,1
59 REM *** CLEAR STRING SPACE ***
60 CLEAR 1000
70 Q$=""
80 CLS 6
89 REM *** CHECK KEYBOARD ***
90 SCREEN 0,0:A$=INKEY$:IF A$="" THEN 90
100 A=ASC(A$)-64
110 IF A$=" " THEN 190
120 IF A$="^" THEN 780
130 IF A$=CHR$(10) THEN 800
140 IF A<1 THEN 90
150 IF A>26 THEN 90
160 PRINTA$;
170 SCREEN 0,1
179 REM *** GOTO CORRECT LINE ***
180 ON A GOTO 200,220,240,260,280,300,320,340,360,380,400,420,440,460,480,500,52
0,540,560,580,600,620,640,660,680,700,720
190 PRINT" ";:Q$=Q$+" ":SCREEN 0,1:FOR T=1 TO 500:NEXTT:GOTO 90
199 REM *** MORSE LETTERS ***
200 X$=".- ":GOTO 720
220 X$="-... ":GOTO 720
240 X$="-.-. ":GOTO 720
260 X$="-.. ":GOTO 720
280 X$=". ":GOTO 720
300 X$="..-. ":GOTO 720
320 X$="--. ":GOTO 720
340 X$=".... ":GOTO 720
360 X$=".. ":GOTO 720
380 X$=".--- ":GOTO 720
400 X$="-.- ":GOTO 720
420 X$=".-.. ":GOTO 720
440 X$="-- ":GOTO 720
460 X$="-. ":GOTO 720
480 X$="--- ":GOTO 720
500 X$=".--. ":GOTO 720
520 X$="--.- ":GOTO 720
540 X$=".-. ":GOTO 720
560 X$="... ":GOTO 720
580 X$="- ":GOTO 720
600 X$="..- ":GOTO 720
620 X$="...- ":GOTO 720
640 X$=".-- ":GOTO 720
```

MORSE CODE FOR THE 6809

```
660 X$="-.- ":GOTO 720
680 X$="-.-- ":GOTO 720
700 X$="--.. ":GOTO 720
710 GOTO 720
719 REM *** ADD LETTER TO STORE ***
720 IF LEN(Q$)>250 THEN Q$="" ELSE:Q$=Q$+X$:FOR X=1 TO LEN(X$)
730 Z$=MID$(X$,X,1)
739 REM *** DOTS AND DASHES ***
740 IF Z$="." THEN SOUND200,1:NEXTX
750 IF Z$="-" THEN SOUND200,4:NEXTX
760 IF Z$=" " THEN GOTO 90
770 GOTO 90
780 CLS6:Q$="":FOR J=1 TO 10:SOUND 200,1:FOR H=1 TO 20:NEXTH:NEXTJ
790 GOTO 90
799 REM *** PLAYBACK ROUTINE ***
800 FOR P=1 TO LEN(Q$)
810 P$=MID$(Q$,P,1)
820 IF P$="." THEN SOUND 200,1:NEXTP
830 IF P$="-" THEN SOUND 200,4:NEXTP
840 IF P$=" " THEN 850 ELSE NEXTP
850 FOR J=1 TO 200:NEXTJ
860 NEXTP
870 GOTO 90
```

Can cassette port be used instead of separate RS232 for model 4?

--==** ARE YOU LOOKING FOR A RS232 BOARD FOR YOUR MODEL I **==--

For those of you who recently asked Melvyn if he could get hold of full spec Tandy RS232 for the Model I. The answer is YES HE CAN and they are Tandy originals that fit directly into the expansion interface and are complete with a full Tandy warranty.

Anyone who is interested should contact Melvyn immediately.

The price is ** £49.00. Cash with order only.

Portable Model 4 soon

--== T I T B I T ==--

If your interested the latest bit of info is that Tandy are going to launch a Portable Model IV in February/March 1984. I'm told it's a full spec Model IV but smaller and with a 9" screen and carrying handle. No price is available a present.

MORE ON GENERAL NORTHEN MICROCOMPUTERS UPGRADES

By L. Smith (Reprinted from the NATGUG Newsletter)

Since buying my Genie system two and half years ago I have added several pieces of hardware as supplied by GNOMIC, 8 Whitworth Road, S.W. Industrial Estate, Peterlee, County Durham.

The first addition was their lower case kit. Once installed this gives l/c (of course) with true decenders plus up-arrows, down-arrows, left and right arrows, some interesting graphic symbols and a POUND sign.

The hardware as it stands requires a software driver which is supplied. (See later for hardware driver). The fitting kit requires the removal of the keyboard. The instructions clearly take you through the stages of removing the character generator chip; inserting the new one; replacing the video memory IC; making three wire links and cutting one track. The next instruction tells you to have a cup of tea or coffee before checking everthing and trying it out.

The second important addition was the ROM. This was in fact fitted at the same time as the l/c kit. The ROM replaces the first of the three Genie ROMs and is easily fitted once the keyboard has been removed. Taking the precautions given in the instructions to avoid static, the original ROM is unplugged and the new ROM inserted into the same socket.

The ROM adds several useful features which are transparent to the user. Particularly useful is the to have your own message to appear on power up instead of just 'READY?'. There is a l/c driver, an option to have normal typing in UPPER or lower case; a keyboard debounce routine and there is a printer re-route (for Genies using TRS-80 Expansions). If you have a TRS-80 then I am told that the improved loading offered by the ROM is very good. A further feature is a routine to initialise Feature ROMs, (see later).

Another of the additions was Feature ROM 'A'. This is an EPROM which can be plugged onto the BUS at the rear of the Genie System. The more daring can fit it internally as a more permanent fixture. There are actually two Feature ROMs available, 'A' & 'B', but I can only speak for 'A'. It is necessary to buy a made up PCB which plugs into the BUS at the rear of the Genie, the Feature ROMs are then plugged into this PCB (one at a time). The Feature ROMs can be initialised in either of two ways. One way is to use a short software routine, the other is to fit the ROM. The latter meathod is by far the best since initialisation is automatic and transparent. Once fitted and initialised the Feature ROM is called by pressing shift and @ together, this puts a menu on the screen.

ROM (not feature ROM A or B) provide Lower Case Driver and option for U/C or L/C as normal use — but, IS IT SWITCHABLE it often is to have after assembly

MORE ON GENERAL NORTHEN MICROCOMPUTERS UPGRADES

The options for the Feature ROM 'A' are :-

0 To abort the function.
1 Shift lock. This toggles between UPPER and lower case and back.
2 Auto repeat. This gives a repeat on all keys after a short delay.
3 Single key commands. Press shift plus a letter.
4 Cursor flash. This can be toggled on or off.
5 Machine code Monitor and Editor. This allows the examination and alterations of any location. Like T-BUG. There is 'J' for jump command and 'B' to return to Basic.
6 System Load and Save. This option has a further menu.
  L = Load 500 Baud Machine Code program. No names needed and after loading the NAME, START, ENTRY and END addresses are given.
  S = Save a Machine Code program. Just copy NAME, START, ENTRY and END addresses from the screen and the work is done for you.
  R = Run the resident Machine Code program.
  B = To exit function.

Option '6' is useful for making Machine Code backups and for checking to see if you have any resident Machine Code utilities.

I have used a 'Genie I' which has similar built in functions but find ROM 'A' easier to use. A further bonus that the plug in PCB can be used for other EPROMs, e.g. Lowes HIRES Driver.

One of the really beneficial changes was to upgrade the onboard RAM to 48K. This was probably the most difficult but only because the Genie finished up in more pieces during the process. The keyboard and the CPU board have to be removed before cutting two links. The CPU board is then replaced before removing the existing 8 RAM chips. The replacement 48K is then inserted into the original RAM sockets followed by the making of several soldered conections. Now for another cup of coffee!! PRINT MEM and up comes 48340.

It is fair to say that not everthing I fitted worked first time but a call to GNOMIC on (0783) 860314 at almost any time brought uncomplaining assistance. Colin and Tom at GNOMIC demonstate what the words BACKUP and PUBLIC RELATIONS really mean.

All the hardware described has beed designed to fit all Genies and in most case TRS-80's. A phone call or s.a.e. to GNOMIC will soon asnwer your questions about compatibility with your particular version of the machines.

Prices :- (VAT to be added after cost and P & P)

The ROM = £14.95	ROM 'A' or 'B' alone = £18.95
ROM 'A' or 'B' with plug in PCB =	£29.95 for Genie
	£34.50 for TRS-80
Lower Case kit = £19.00	48K Exp = £43.50

If you would rather not fit your own upgrades there is a charge for fitting & testing by GNOMIC.

All the additions are running on my Genie system with smallDOS and I find that all is satisfactory. Apparently the Feature ROMs are not compatible with Aculabs Stringy.

Prog for FX-80 PRINTER control

MODEL 100 NOTES

Below you will find a line listing of a progam written by one of our newer members, Hugh Wyn-Griffith, a proud Model 100 owner.

It is in fact a Basic listing, for controlling an Epson FX80 printer, although, I should imagine, it could be adjusted to suit virtually any good printer of the Epson type.

Not actually having played with a Model 100 for more than five minutes I'm not sure, but I think by looking at the listing that it should run on almost any of our systems.

My thanks to Hugh for his recent enthusiasm, pity we don't all share it, we used to, where has all the info gone, is it that we are not Technofreaks any more. Come on lads lets show the newcommers we still have what it takes!

```
5 'TRS - 80 MODEL 100
10 'patch for printer controls for EPSON FX80 -- 14 09 83 HWG
11 '  -- FILE: SETCH
12 '
13 '
15 ' 4 type faces chosen -- could add an open item 5 to directly input mode nr
17 '
20  CLS: PRINT"SELECT TYPE FACE BY NUMBER -- THEN ENTER"
30       PRINT" 1 - NORMAL"
40       PRINT" 2 - ENLARGED"
50       PRINT" 3 - PROPORTIONAL"
60       PRINT" 4 - CONDENSED"
70 INPUT "which number?"; X
80       ON X GOSUB 200,300,400,500
85       GOSUB 600
90 CLS:PRINT:PRINT:PRINT "Typeface changed--press F8 -- then choose TEXT"
100            END
105 '
200 LPRINT CHR$(27);"!";CHR$( 0);:RETURN 'normal
300 LPRINT CHR$(27);"!";CHR$(32);:RETURN 'enlarged
400 LPRINT CHR$(27);"!";CHR$( 0);:LPRINTCHR$(27);"p";CHR$(01);:RETURN 'proportional
500 LPRINT CHR$(27);"!";CHR$( 4);:RETURN 'condensed
505 '
600 CLS: PRINT:PRINT "YOU CAN NOW SET THE LEFT MARGIN --"
605       PRINT"  'ENTER' ALONE = 0"
607       PRINT" '5' GIVES ROOM FOR BINDING MARGIN"
608       PRINT:PRINT "To preserve line format subtract MARGIN from LINE LENGTH"
700       M=0
800 INPUT "Enter the number";M
900 LPRINT CHR$(27);"l";CHR$(M); ' sets LH margin to column M
905 LPRINT CHR$(27);"N";CHR$(10);:RETURN ' sets skip over perforation  --    (10) ca
n be changed to suit requirement
1000 END
```

NEED A NEW DOS ?

Nov 1983

By Steve Ridall.

One of the great advantages of owning a TANDY is the availability of software. Without doubt the TRS80 has more DOS's than any other machine, these range from Tandy's own TRSDOS to the more sophisticated NEWDOS/LDOS, offering many bell's and whistles normally available only as extra utility programs for the machine.

The reason for the development of these DOS's came about due to the poor MOD I TRSDOS 2.1, full of many bug's and a sure headache to many an early programmer. Up to about a year ago the two best DOS's available were without doubt NEWDOS80 and LDOS, LDOS has the advantage of being fairly easy to use but is somewhat slow in operation, it gives a feel of being directed to the professional rather than amateur programmer.

NEWDOS 80 on the other hand is very fast but is very complex, it is almost always necessary to consult the manual whenever a feature need's to be changed, it also seem's to be incompatible with a fair amount of software programs.

The advent of double density caused the re-thinking for both APPARAT and LOGICAL SYSTEMS, since the MOD I ROM can only read sectors in single density. In single density a granual has 5 sectors (IBM) while in double density a granual has 6 sectors (IBM), why this convention was decided upon I don't know but that's what we have to live with. Both decided to enter the venture in different ways, both producing a DOS compatible with both the MOD I and the MOD III.

LDOS produced a double density DOS with tracks consisting of 18 sectors per track and six sectors per granual, in fairly standard IBM format, unfortunately as I mentioned the MOD I cannot read Double density on boot up, hence, a single density LDOS has to be booted up and a double density version transferred to drive zero later.

APPARAT's NEWDOS80 v2.0 on the other hand completely re-formated the way in which the disk is divided up. NEWDOS introduced the lump, 2 lumps = 5 sectors, (depending on the GPL= parameter), both in single and double density, track zero can therefore be formatted in single density, producing a self booting MOD I double density disk.

A new DOS with the speed of Newdos, ease of use of LDOS and standard density format is needed. One contender for this market is MULTIDOS v1.6 (my version is v1.4 so some features will have been much improved, v2.0 should be released soon). Another contender is DOS + 3.5, both of which are available for MOD I, single or double density and the MOD III. Some of the features of these DOS's are very similar which include.

1) A help file. A brief description of any of the LIB commands can easily be called up, similar to the MOD III TRSDOS 1.3 help file. Stops you having to dig out the manual every time you want to change the parameters.

2) A directory screen editor. A directory of any of the disks on line can be called up and a number of actions can be taken, files may be copied, purged, or executed with a single key stroke (Basic automatically loaded if executing a Basic file). DOS + includes about 20 more functions, which carry out the more useful Super-Utility file commands.

NEED A NEW DOS ?

3) Two disk BASIC'S. Dos + has a super disk Basic, similar to Newdos 80 (including labels), the second is a Tiny Basic which is really Level II with a few disk I/O functions, useful if memory is at a premium. Multidos on the other hand has its normal extended disk Basic plus BossBasic, which includes a number of single step and variable review commands. You can also call Level II Basic by typing CMD"X" (see below).

4) Standard single/double density MOD I/III format. Both DOS's keep to fairly standard IBM format, DOS + stores its info in standard IBM double density format, while MULTIDOS keeps to 6 sectors/track and a fairy standard double density format.

5) Easy single key commands. Multidos dos commands can be repeated by simply pressing the enter key, while DOS + needs the </> key. In Multidos a directory of any of the drives on line can be obtained by simply pressing the drive number. A directory of killed files may be displayed (and restored) with both DOS's.

6) Easily adapted to suite your own hardware / software requirements. Both can be easily re-configured to suit your own requirements 5/8 single / double sided drives are supported, keyboard drivers / spoolers can be enabled. The printer driver for DOS + can be adapted to suite your own printer, (control codes can be interrupted and changed).

The Basic of Multidos is very small in actual memory, in normal disk Basic nearly 40k (decimal) is left for your programs, and if that is not enough, typing CMD"X" as your first line sends it into Level II Basic with your program intact, useful for 80 MICRO type programs. In fact you may type CMD"X" and then load in a Level II Basic program from tape, re-boot and type <Basic !> keeping you program intact. Another nice feature is typing CMD"Basic" sends you into another level of Basic leaving all variables in a stack and making them available again for use, CMD"S" gets you back to the calling Basic program, when I find a use for this I'll write another article !

Multidos will read any of the popular DOS's in either single or double density with the exception that MOD III TRSDOS cannot be read on the MOD I. Wildcards are allowed in DOS +, ie PURGE *//*:1 (E) will kill all the files on drive 1, (the (E) echoes to screen as they are deleted). Multiple commands can be issued without having to build a JCL file by separating commands with a ';'. DOS + will read most major DOS's with the exception of NEWDOS 80 v2.0 in double density. Both these DOS's have a nice feel to them Multidos apparently being aimed at the Basic programmer and about half the price of DOS +. DOS + however does have a number of utility programmes including a disk zapper plus a hard disk driver.

Finally for those of you who are COBOL users, or maybe users. Patches for making COBOL 1.3B run under LDOS.

```
PATCH RSCOBOL/CMD   (X'A196'=4F), (X'A1D8'=50), (X'9A4F'=D2)
                    (X'9A5A'=3E C9 32 0C A0 00)
PATCH RUNCOBOL/CMD  (X'AE6B'=4F), (X'AE7E'=50), (X'9B38'=38)
                    (X'9B4A'=3E C9 32 B0 A9 00)
PATCH CED1T/CMD     (X'5832'=3E C0 32 13 5C 00 00 00 00 00 00 00)
                    (X'5C05'=C3)
```

These and the program files must first be copied to an LDOS formatted disk using the LDOS COP23B/BAS program provided with LDOS. The files can be moved without this program but the last sector will be lost.

PATCHING THE COCO EDITOR ASSEMBLER FOR THE DRAGON

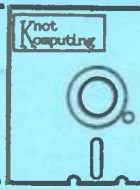
```
01080 ******************************
01090 ******  E D T A S M +   ******
01100 ******************************
01110
01120 * HERE ARE THE FIXES TO ENABLE EDTASM TO RUN ON THE DRAGON 32 *
01130 * FIRST THE NEW ENTRY AREA FOR EDTASM *
01140
01150          ORG $E80          ENTRY POINT
01160 START    LDX #$1E00        FIRST RESTORE THE
01170          LDA #$AF          THREE BYTES THAT
01180          STA 0,X+          BASIC CLOBBERS
01190          LDA #$5A          WILE LOADING
01200          STA 0,X+          EDTASM INTO
01210          LDA #$26          MEMORY.
01220          STA 0,X
01230          LDA #$3A          NEXT SET THE LOWER
01240          STA $FF           MEMORY POINTER.
01250          LBRA $1005        ENTER EDTASM.
01260          END
01270
01280 * NEXT ALTER THE JMP & JSR ADDRESSES INTO ROM *
01290
01300          ORG $14FD
01310          JSR $BDDC
01320
01330          ORG $1509
01340          LDU #$B3A4
01350
01360          ORG $150E
01370          JMP $BA40
01380
01390          ORG $154C
01400          JSR $B50A
01410
01420          ORG $155D
01430          JSR $BA77
01440
01450          ORG $158A
01460          LDU #$B891
01470
01480          ORG $158F
01490          LDU #$B851
01500
01510          ORG $15C4
01520          LDU #$B88E
01530
01540          ORG $1630
01550          LDU #$B663
01560
01570          ORG $163A
01580          LDU #$B820
01590
```

PATCHING THE COCO EDITOR ASSEMBLER FOR THE DRAGON

```
01600          ORG $1641
01610          LDU #$887A
01620
01630          ORG $1652
01640          LDU #$8748
01650
01660          ORG $1666
01670          JSR $8867
01680
01690          ORG $167F
01700          JMP $8663
01710
01720          ORG $169C
01730          JSR $850A
01740
01750          ORG $16A4
01760          JMP $884B
01770
01780          ORG $16C9
01790          JSR $8891
01800
01810          ORG $16D2
01820          JSR $8E68
01830
01840          ORG $16E8
01850          JMP $86CD
01860
01870          ORG $16F5
01880          JSR $8999
01890
01900          END
01910
01920 ******************************
01930 ******  THAT'S IT !     ******
01940 ******************************
01950
01960 IF YOU HAVE A COPY OF EDTASM ON TAPE, THEN USE THE EDITOR TO ASSEMBLE THE
FIXES.
01970
01980 IF YOU KNOW SOMEONE WITH THE CARTRIDGE, AND A COCO, THEN MOVE THE PROGRAM
INTO RAM WITH, 'U C000 1000 27FF ' USING ZBUB.
01990
02000 SAVE A COPY USING, 'P EDTASM 1000 37FF 1000 '. CLOADM INTO YOUR DRAGON,
EXEC, DO THE FIXES AND AWAY YOU GO.
02010
02020 SAVE YOUR COPY WITH, 'P EDTASM E80 37FF E80 '.
02030
02040 ************************
02050 * FIXES BY JOHN TAYLOR *
02060 ************************
02070
```

Knot Komputing

Lambert House,
Brook Street, Glossop,
Derbyshire SK13 8BG
Phone Glossop 4748
VAT. 373 4223 63



PRICE LIST AS OF 1st October 1983.

SPECIFICATION	Basic + VAT + Delivery	BASIC PRICE
Dragon 32K, Colour, Hi-Res	185.00	153.00.
Genie 1	347.00	287.00.
Genie 2	315.00	260.00.
KESTREL - 48K: Computer with two built-in 40 track double-sided ultra slim disk drives, with centronics printer port. Runs Tandy I programs, and housed in steel case designed to take either a printer or monitor on top.	983.00	825.00.
Epson FX 80 160 cps	521.00	438.00.
Epson MX 100 FT/3 100 cps	594.00	499.00.
Shinwa CTI CP80 80 cps	344.00	289.00.
Star 510 100 cps	344.00	289.00.
Juki 6100 daisy-wheel 18 cps	475.00	399.00.
CANON 5.25" 40 track 2/3 height Disk Drive.		
Single, Single Side	217.00	179.00.
Double Side	265.00	219.00.
Twin, Single Side	412.00	340.00.
Double Side	490.00	405.00.
Disk & Printer Interface + Drive in one Unit.		
Single, Single Side	278.00	230.00.
Double Side	327.00	270.00.
Wizard Interface for Colour Genie	120.00	99.00.
DOS for above	43.00	35.00.
48k Expansion for tandy model I on keyboard	56.00	44.00.
48k Expansion for V G on keyboard	56.00	44.00.
fitting for above 48K onto your keyboard	+ post	11.50.
Disk & Printer Interface DP1000T (tandy)	104.00	86.00.
Disk & Printer Interface DP1000V (genie)	104.00	86.00.
Disk Drive & Cassette leads	various.	
Doubler for above Interface	84.00	72.00.
RS-232 for above Interface	1983	
Hi Res. Board for Tandy or Genie	1983	
Colour Board for Tandy or Genie	1983	
Splitter Cable for joystick, ROMs etc(T or G)	19.00	16.00.
Plug in feature ROMs	23.00	19.00.
* ROM A: keyboard invert, key repeat, single key commands, flashing cursor, M/c code Mon & Edit, System load & save.		
* ROM B: keyboard invert,line renumber,single key commands, cursor flash, basic program merge, basic program compress.		
Box of 10 Disks SS.SD	19.00	16.00.
Box of 10 Disks SS.DD	23.00	19.00.
Box of 9.5" Paper	17.00	12.00.
DRAGON Software	various.	

Software News

INNOVATIVE TRS 80-GENIE SOFTWARE

from the professionals

£250 REWARD

Below you will find described a new program entitled Enigma. It is a true simulation of the German wartime cypher machine of that name. It will encipher messages which may be communicated to third parties by any means who, assuming they have the key, will be able to use their Enigma program to decipher.

We will pay the sum of £250 to anyone [who has purchased the program] who can demonstrate an infallible method of deciphering the coded message supplied in the program's instructions. We consider Enigma to be the best program of its kind on the U.K. or U.S. market; contestants may therefore use any orthodox means to crack the code, including microcomputer programs other than Enigma.

The original message and keys will be lodged with our Solicitors for safe keeping in a sealed envelope. In the [hopefully] unlikely event that the code is cracked by more than one person, the reward will be paid to the first customer who demonstrates to us that he has succeeded.

MOLIMERX LTD.

During the 1939/45 war the German Army and Intelligence used a deciphering machine called Enigma. It was a fascinating machine and the stories that have surrounded it are equally interesting. There have been some four or five books written about the machine, and with regard to the way in which the British counter intelligence managed to crack the code.

That they did so was the culmination of some fortuitous circumstances, a lot of luck, but mainly it was due to the fact that the people who did it were extremely clever mathematicians. The fact that it took so much brain power, plus a rudimentary type of computer and a specimen of the machine in order to crack the code is an indication of how complex that code is.

The Enigma microcomputer program that we are selling is a simulation of the original machine, together with one or two improvements which were suggested by Gordon Welchman, who wrote the book "The Hut Six Story" last year and was also the leader of the team that cracked the code.

Although the machine and, therefore, the program is so complicated, its use is amazingly simple. One simply inputs a key and a message and the code is supplied. To decipher, the message is input again with the key and if the key is correct then the decoded message is displayed. With the cassette version it is necessary to input from the keyboard but with disks both inputs and outputs may be to disk files if required. A printer is of course supported.

The code may be transmitted in any way which the written word can be transmitted. Companies who wish to fully protect their communications will no doubt have the program generate the code and then tap it into a telex. Tape users will have to send either the output from their printer or write down the code direct from the screen.

Enigma is a fascinating program designed, not only for those people who are interested in encryption professionally or as a hobby, but also for companies or private persons who wish to communicate with others in an entirely secure manner. As is shown by the above Reward Notice, we have great faith in the powers of this piece of software.

ENIGMA (Tape) ... £17.25
ENIGMA (Disk) ... £23.00
Inclusive of V.A.T. P&P 75p

TEL: [0424] 220391/223636

MOLIMERX-LTD
A J HARDING (MOLIMERX)

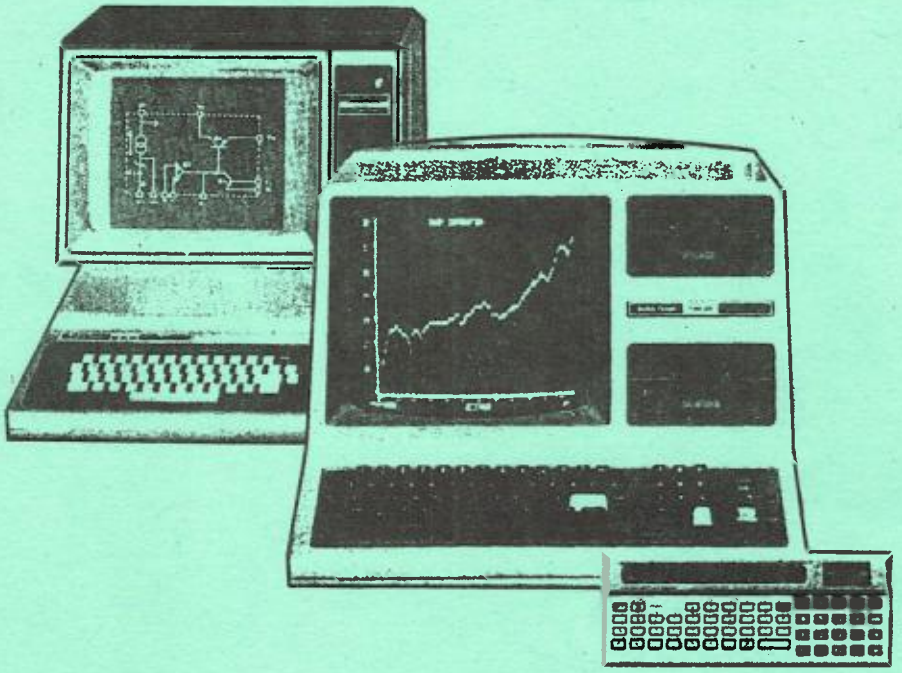
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TRS-80 & VIDEO GENIE SOFTWARE CATALOGUE £1.00 plus £1 postage.

Rec'd Wed 21 Dec '83

REM 80



The North West TRS 80 Users Group

Volume 5 Issue 6

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EDITORIAL

Having now reached the final newsletter issue of the year I should like to thank all of you who have helped to make our it so successful. Don't forget you are the group and the success of the newsletter AND the meetings is your responsibilty.

If you offer to either write for the newsletter or speak at any of the monthly meetings and then find you are unable to do so, for whatever reason it may be. Please let us know, especially Brian, as people can't help the unforseen happening, but it makes our life easier if you let us know.

Don't forget to renew your subscriptions before the end of the December and save yourself £1.00.

All the best for Christmas and the New Year.

Carolyn

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Any articles or programs for inclusion in this Newsletter must be addressed directly to the Editor, preferably on cassette or disk, at the following address :-

40, COWLEES,
WESTHOUGHTON,
BOLTON,
BL5 3EG

THE NORTH WEST TRS-80 USERS GROUP NEWSLETTER

ACTIVITIES

By Brian Disley

JANUARY 25th is the Annual General Meeting, which will be held at Barton Aero Club.

I would like to remind members that all members are expected to attend, as the future running of the group and its activities is for the members benefit, and we need your comments and suggestions in order that we may improve the group as a useful medium of information and education.

There follows the meeting dates for the year 1984.

****
** MEETING DATES FOR 1984 **
** AT BARTON AERO CLUB **
****

January 25th February 29th March 28th
April 25th May 30th June 27th
July 25th August 29th September 26th
October 31st November 28th December - to be arranged later.

FROM YOUR SECRETARY

Yet again I would like to inform you that we are able to continue to keep group subscription cost down and also that we are offering the same discounts as last year for members that renew before December 31st 1983.

That is, if you cannot remember, full subscriptions will stay at £8.00 for next year and for existing full members that renew before the year end, their subscription will cost them ONLY £7.00.

One other thing I would like to nudge you about, is that, our members data file seems to be slightly out of date still. Those of you who have changed systems or upgraded their existing one, please let either Laurie or me know so our records are correct.

I would like to thank all members for their assistance throughout 1983 and hope more of you will help next year.

A Merry Christmas and a Happy New Year to all.

Melvyn

MELVYN FRANKUN
0942. 812843

6809 FORUM

by Barry Steward

I am devoting the column this month to just one idea, more colour in the graphics mode. Try this short list:-

```
10 PMODE 3,1 : PCLS : SCREEN 1,1
20 CIRCLE (128,96),50
30 PAINT (128,96),2,4
40 GOTO 40
```

You should now have a green circle on a buff background. Now EDIT line 30 to read:-

```
30 PAINT (128,96),,4
```

You have deleted the 2 which is the foreground colour but left in the two commas with nothing between. The program does not now have an instruction for which colour to use to paint the circle so it will look for the default foreground colour which is held at decimal location 178. We may POKE a new number into that location to change the foreground before the PAINT instruction is executed, try it, add a line 25:-

```
25 POKE 178,100
```

The result is a bit different I am sure you will agree, and you can POKE any number up to 255 into location 178 and get a different pattern each time. It also works with the other colour set and with all the commands that use a foreground colour - LINE, DRAW, PAINT - just POKE the value into 178 before you execute the command.

The two listing below use this technique, the first one diplays all the results for all the numbers in small boxes. Move the square over the box that you wish to examine using the arrow keys and then get either a single large box displayed by pressing the 'B' key or a small box, a circle, and a line by pressing the space bar. Pressing any key will return you to the first display. If you now press the '?' key the number that you should POKE into 178 to get that pattern will be displayed on the text screen. Press ENTER to return to the first display.

The second listing is a graphic display of a room showing the use of POKE 178. Written by John Taylor it also features a clock, if your clock does not keep the correct time then you should adjust the loop in line 1100.

Have fun with the new patterns, they work with both the Tandy and the Dragon, and from John and myself have a very happy Christmas.

PROGRAM LISTING ONE

```
10 PCLEAR8
20 CLS
30 M=3:S=0
40 PMODE M,1:SCREEN 1,S:PCLS
50 FOR X=12 TO 255 STEP 17
60 FOR Y=2 TO 190 STEP 10
70 POKE 178,N:N=N+1:IF N=256 THEN X=999:Y=999:GOTO 90
80 LINE(X,Y)-(X+10,Y+6),PSET,BF
90 NEXT Y,X
100 SOUND 100,1
110 H=0:V=0
120 X=12+H*17:Y=1+V*10
130 LINE(X,Y)-(X+12,Y+8),PSET,B
140 A$=INKEY$
150 LINE(X,Y)-(X+12,Y+8),PRESET,B
160 IF A$="" THEN 130
170 N=H*19+V
180 IF A$=CHR$(8) THEN H=H-1:IF H<0 THEN H=0
190 IF A$= CHR$(9) THEN H=H+1: IF H>13 THEN H=13
200 IF A$=CHR$(94) THEN V=V-1:IF V<0 THEN V=0
210 IF A$=CHR$(10) THEN V=V+1:IF V>18 THEN V=18
220 IF N>255 THEN SOUND 200,1:GOTO 120
230 IF A$="/" OR A$="?" THEN 290
240 IF A$=CHR$(32) THEN 310
250 IF A$="B" THEN PMODE M,5:SCREEN 1,S:PCLS:POKE178,N:LINE(76,46)-(176,146),PSE
T,BF:FOR Q=1 TO 300:NEXT:GOTO 370
260 IF A$="M" THEN M=M+1:IF M=5 THEN M=3:PMODE M,1:SCREEN 1,S:ELSE PMODE M,1: SC
REEN 1,S
270 IF A$="S" THEN S=S+1:IF S=2 THEN S=0:SCREEN 1,S:ELSE SCREEN 1,S
280 GOTO 120
290 PRINTN
300 IF INKEY$=""THEN 300 ELSE SCREEN 1,S: GOTO 120
310 PMODE M,5:SCREEN 1,S:PCLS:COLOR M+1,1:CIRCLE(126,96),65
320 POKE 178,N
330 PAINT(126,96),,M+1
340 LINE(10,10)-(70,40),PSET,BF
350 FOR J=0 TO 180 STEP 35:LINE(40+J,180)-(255,180),PSET:NEXT
360 IF INKEY$="" THEN 360 ELSE GOTO 370
370 FOR Z=5 TO 1 STEP -1
380 PMODE M,Z:SCREEN 1,S:FOR Q=1 TO 300:NEXT Q,Z
390 GOTO 120
```





PROGRAM LISTING TWO

```
10 CLS
20 GOSUB950
30 PMODE3,1:SCREEN1,0:PCLS
40 LINE(0,0)-(102,24),PSET
50 LINE-(256,24),PSET
60 LINE(0,192)-(102,144),PSET
70 LINE-(200,144),PSET
80 LINE(102,144)-(102,24),PSET
90 LINE(5,180)-(61,154),PSET
100 LINE(80,145)-(102,135),PSET
110 LINE-(204,136),PSET
120 LINE(256,96)-(200,92),PSET,BF
130 LINE(204,96)-(204,140),PSET
140 LINE(256,140)-(204,140),PSET
150 LINE-(192,152),PSET
160 LINE(256,152)-(192,156),PSET,B
170 LINE(230,140)-(256,108),PSET,B
180 PAINT(232,154),2,4
190 LINE(5,7)-(80,25),PSET
200 LINE-(80,107),PSET
210 LINE(61,112)-(5,125),PSET
220 LINE(5,12)-(61,24),PSET
230 LINE(61,108)-(5,120),PSET
240 LINE(61,28)-(51,28),PSET
250 LINE(61,104)-(51,104),PSET
260 LINE(5,20)-(51,28),PSET
270 LINE-(51,104),PSET
280 LINE-(5,112),PSET
290 LINE(5,24)-(47,31),PSET
300 LINE-(47,48),PSET
310 LINE-(5,46),PSET
320 LINE(5,50)-(47,52),PSET
330 LINE-(47,100),PSET
340 LINE-(5,107),PSET
350 LINE(80,24)-(80,150),PSET
360 LINE-(61,159),PSET
370 LINE-(61,19),PSET
380 LINE-(80,24),PSET
390 LINE(0,4)-(5,7),PSET
400 LINE-(5,184),PSET
410 LINE-(0,186),PSET
420 PAINT(7,10),2,4
430 PAINT(7,14),2,4
440 PAINT(53,30),2,4
450 PAINT(7,118),2,4
460 PAINT(7,22),2,4
470 PAINT(7,122),2,4
480 CIRCLE(5,188),125,,1,.75,.8
490 CIRCLE(56,190),125,,1,.7,.74
500 PAINT(7,26),3,4
510 PAINT(7,54),3,4
520 PAINT(7,182),2,4
530 PAINT(104,138),2,4
540 LINE(256,40)-(220,72),PSET,B
550 LINE(256,36)-(216,76),PSET,B
560 PAINT(218,38),2,4
570 CIRCLE(248,50),8
580 PAINT(248,50),2,4
590 LINE(220,60)-(256,65),PSET
600 PAINT(222,42),3,4
610 CIRCLE(155,53),13
620 CIRCLE(155,53),14
630 POKE178,56
640 PAINT(2,2),,4
650 PAINT(7,126),,4
660 PAINT(2,126),,4
670 POKE178,55
680 PAINT(104,26),,4
690 PAINT(12,190),4
700 PAINT(12,2),2,4
710 PAINT(63,23),4
720 PAINT(2,8),4
730 PAINT(206,98),2,4
740 PAINT(206,142),2,4
750 POKE178,3
760 LINE(204,98)-(216,104),PSET,BF
770 LINE(220,98)-(232,104),PSET,BF
780 LINE(236,98)-(248,104),PSET,BF
790 LINE(252,98)-(256,104),PSET,BF
800 LINE(230,106)-(256,108),PSET,BF
810 LINE(204,106)-(210,112),PSET,BF
820 LINE(214,106)-(226,112),PSET,BF
830 LINE(204,114)-(216,120),PSET,BF
840 LINE(220,114)-(230,120),PSET,BF
850 LINE(204,122)-(210,128),PSET,BF
860 LINE(214,122)-(226,128),PSET,BF
870 LINE(204,130)-(216,136),PSET,BF
880 LINE(220,130)-(230,136),PSET,BF
890 LINE(204,138)-(230,140),PSET,BF
900 PAINT(232,110),3,4
910 CIRCLE(246,174),50,2,.3
920 PAINT(246,174),2,2
930 PAINT(155,53),2,4
```

Colour

PROGRAM LISTING TWO

```
940 GOTO970
950 INPUT"MINUTES:-";TM:INPUT"HOURS:-";TH
960 RETURN
970 POKE65495,0
980 X=155:Y=53
990 FH=2*3.142-(3.142/6)*TH:FM=2*3.142-(3.142/30)*TM
1000 FOR F2=FH TOOSTEP-3.142/6
1010 FOR F1=FM TOOSTEP-3.142/30
1020 FOR F=2*3.142TOOSTEP-3.142/30
1030 SOUND150,1
1040 COLOR4
1050 LINE(X,Y)-(X-9*SIN(F),Y-9*COS(F)),PSET
1060 LINE(X,Y)-(X-7*SIN(F1),Y-7*COS(F1)),PSET
1070 LINE(X,Y)-(X-5*SIN(F2),Y-5*COS(F2)),PSET
1080 SOUND100,1
1090 COLOR2
1100 FOR T=0TO620:NEXT T
1110 LINE(X,Y)-(X-9*SIN(F),Y-9*COS(F)),PSET:NEXT F
1120 LINE(X,Y)-(X-7*SIN(F1),Y-7*COS(F1)),PSET:NEXT F1:
    FH=2*3.142:FM=FH:LINE(X,Y)-(X-5*SIN(F2),Y-5*COS(F2)),PSET
1130 LINE(X,Y)-(X-5*SIN(F2),Y-5*COS(F2)),PSET:NEXT F2
1140 LINE(0,0)-(256,192),PSET,B
1150 GOTO1150
```

KEYBOARD ROLL OVER

by W. A . Buckingham

see p8

```
10 CLS : PRINT "TO SHOW THE PEEK LOCATION AND" :
         PRINT "THE VALUE IT WILL CONTAIN WHEN" :
         PRINT "THAT KEY IS PRESSED"
20 PRINT : PRINT
30 PRINT "HOLD DOWN THE KEY REQUIRED" :
   PRINT "AND PRESS <ENTER>"
40 PRINT : PRINT "      "; : INPUT R$
50 PRINT : PRINT
60 FOR N = 200 TO 255
70 FOR P = 338 TO 345
80 IF PEEK(P) = N THEN PRINT "PEEK ";P,"CONTENTS ";N:END
90 NEXT P : NEXT N
```

THE INTERPRETER

by Steve Ridall

I have on occasion been asked the question, "What are the advantages of using a language other than BASIC ?", the most obvious answer is speed, so why is BASIC so slow ???

BASIC was developed as a teaching aid for FORTRAN, hence the reason why BASIC requires line numbers, it has changed somewhat over the years and has developed into a very powerful high level language. If you are using BASIC on a mainframe (such as a PRIME or a DEC), then its execution speed is comparable to any of the other high level languages, the reason for this is that you will be running BASIC in a compiled form. Micro's on the other hand operate BASIC in an interpreted form; so what's the difference between an interpreter and a compiler ?

A good analogy is an MP wanting to hear a speech in a foreign language at an EEC conference. If he/she is able to attend, then an interpreter is employed to translate the speech. The translator (interpreter), listens to the first sentence of the speech and translates it to English, he/she then listens to the next sentence and translates that, and so on until the speech has been delivered, (obviously the speech has to be slowed down with the aid of a tape recorder giving the translator time to translate it). The same thing happens when your MICRO executes a BASIC program, the interpreter picks up the first statement translates it into a form the Z80 can understand, executes it, then gets the next instruction, clever eh!...

If the MP is unable to attend the conference then the translator can record the the speech and translate it from start to finish in its entirety. The MP therefore receives the speech in a much shorter time, this is analagous to a compiler which translates the source code (program) into Z80 executable form, and only then can the program be executed.

So, if compiled BASIC is faster than interpreted, why use an interpreter on a micro ?, although execution is faster, development of a program is usually much slower. The source code (program) must first be compiled, so if any errors occur, you will have to go back and alter the source code and re-compile it before it can be run again. Another problem is that both the source code and the object code have to be stored, either in memory or on a magnetic storage medium.

It is often said that BASIC leads you into bad programming habits, this is partly due to its lack of DO-WHILE or REPEAT-UNTIL statements (Microsoft BASIC) which forces many uses of the GOTO statement this in turn leads to an unstructured program, the DO-UNTIL command can however be simulated on the TANDY by including the routine that follows.

THE INTERPRETER

```
5000 FOR L%=0 TO 0:                 'Set up loop that is exhausted
5010 X%=X%+1:                       'Set up subscript for array element
5020 INPUT A$(X):                   'Condition being tested
5030 L%=NOT(A$(X)="JUMP-OUT")):     'Test for true condition
5040 NEXT L%:                       'Jump back if L% = -1
```

If A$(X) does not equal 'Jump-out' then L% is set to -1 and the NEXT L statement is tricked into thinking that there is another loop-condition to execute. When you do jump out of the loop the variable 'L' is set to zero making it again available for use. Another omision in BASIC is its lack of labels, GOTO SORT-NAMES is much clearer than GOTO 1000, there are however one or utility programs that let you use labels, these include NEWBASIC and the BASIC of DOS + 3.5. One final point, BASIC can be speeded up by clever programming techniques, Basic Faster and Better is an excellent book on the subject.

If however you do wish to learn another language, then you must first give some thought to the language you want to learn, (since it will take almost as long to learn as BASIC).

The three main languages used in industry are :->>>

1) FORTRAN, many BASIC programmers move to this language because of its similarity to BASIC, FORTRAN is used mainly in areas of hardware development, and in the chemical industry because of its good mathematical capability. It is however limited by its string and data handling capacity, FORTRAN 77 is the latest version of the language and is a much improved on version 4 (TANDY's version).

2) PASCAL, If you are considering studying programming to a higher degree then you will almost certainly be introduced to PASCAL. Being a relative newcomer it has been designed to include many of the best features of other languages, for instance it can be expanded to add user defined functions in its library and reserved words can be given new functions, records can be nested in other records etc.

3) COBOL, Cobol was designed to read in a similar way to the English language, being split into paragraphs and sentences, so that someone with no computing experience could look at a COBOL program and make some sort of sense from it. About 80% of the worlds computer time is spent processing COBOL programs and browsing through Computer Weekly shows that about 3/4 of the job offers stipulate a knowledge of COBOL, so if a job in business computing is what you are after then COBOL is a good language to learn.

It is impossible to show the advantages of these and other languages in this article, I do however intend to write further articles on specific languages starting next issue with PASCAL.

LETTERS FROM MEMBERS

94 Westwood Crescent,
Eccles,
Manchester.

Dear Carolyn,

Would you please publish this request for HELP in the Newsletter.

Can any member give me the cassette Basic equivalent of the Disk Basic commands CVI,CVS,CVD,MKI$,MKS$,MKD$ or a subroutine to simulate these commands.

Yours Sincerely
Dennis Cooper

360 Hale Road,
Widnes,
Cheshire, WA8 8TU

Dear Carolyn,

The other day I came upon a game which used a keyboard PEEK and value to initiate a GOSUB and not having met with it before, decided to find out the values contained in the "Keyboard Roll over Tables" when a key is pressed.

The following program enabled me to do this. It may be of interest to beginners like myself.

Kind regards and thanks for an interesting magazine.

W.A.Buckingham

Program listing can be found on page 5.

38 Rochester Way,
Twyford,
Near Banbury,
Oxon, OX17 3JX.

Dear Sir,

I would like to introduce myself, I am Larry Bona, a U.S. service member stationed at RAF Upper Heyford in Oxfordshire. I am also an owner of a TRS-80 Model III 48K cassette based microcomputer.

I saw a listing of your computer club/users group in the September 22-28 issue of Personal Computer News. I don't usually subscribe to any British microcomputing magazine but I do subscribe to two of America's biggest publications for the TRS-80 user, 80-Micro and Basic Computing The TRS-80 User's Journal.

I would like to share information from either of the publications that I subscribe to and any information that I have come across since I purchased my micro with any member of your club/user's group who may be interested.

I think that I have explained my system fairly well exept for my plans for expansion. I have an Epson MX-80F/T Type III, an Alpha Joystick and a plan to put two disk drive units on my computer in the next few months.

I would be very happy to hear from any member who is interested in exchanging ideas on almost any area of TRS-80 use.

Lawrence M. Bona.

JOYSTICK FOR THE MODEL I/III

Making a "Joystick" for the TRS-80 is easier than it might seem on first approach. All you will need is seven IN4148 diodes (or any equivalent), a small piece of veroboard type card (I hope the manufacturer is going to send me a whole box of his product for the free advert), a solder type 40 pin connector if you have got a Model I (50 pin for the Model III) and a microswitch. It is only going to cost you about £3.00 plus an Atari compatible joystick (around £7.00 or so).

Solder the diodes on the Veroboard as shown on the following diagram. Solder the switch at one corner of the board, leave some room at the other end, then connect all wires and make sure you haven't made any shorts. Afterwards, you can solder the connector on the board putting the solder side downwards on the lower row of it.

If you have got a Model III you will find the conversion table to use. I am not sure of the pin numbers because I picked them up from the Model III technical manual and I haven't checked them out on a computer, perhaps a member with a Model III could check it out. If you have a Video Genie, look in your technical manual, if you have one, for the BUS signal names.

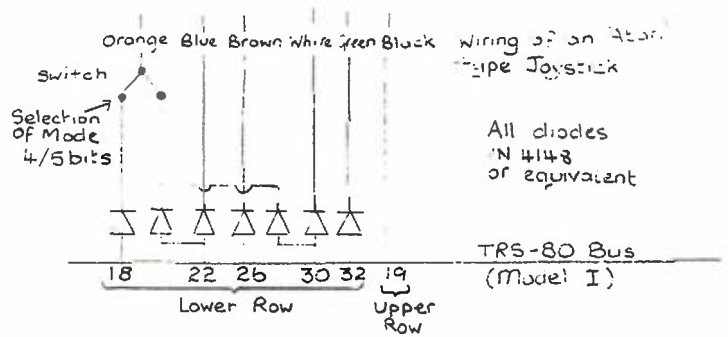
Next time I will explain how to improve your "Jotstick" adding a "freezing switch" and how to add a reset button to the good old TRS Model I.

Any comments on this article should be sent either to Melvyn or direct to :-

Francois Vigneron,
1 Rue Paul Machy,
59240 Dunkerque,
FRANCE.
Tel... (010-33-28-631847)

CONVERSION TABLE

Pin on Model I	Pin on Model III	Signal Name
18	9	D4
22	3	D1
26	7	D3
30	1	D0
32	5	D2
19	33	IN



SECRET MESSAGES

by David Ryder

INSTRUCTIONS

```
 5 PRINT"","SECRET MESSAGES   BY  DAVID RYDER":PRINT
10 PRINT"   CAN YOU CONNECT THE NUMBERS 4011 3004 47806 14593517 WITH
   THE MURDER OF A BEAUTIFUL TV STAR...ANSWER ON PAGE ?"
20 PRINT"  THERE MUST BE AN INFINITE NUMBER OF WAYS TO ENCODE MESSAGES.
   THE PROGRAMME BELOW USES AN ARBITRARY ALPHABET OF 26 LETTERS,   PLUS
   SPACE (FIRST) AND FULL STOP, 28 CHARACTERS IN ALL."
30 PRINT"   THE MESSAGE IS SPLIT INTO UNITS OF 3 CHARACTERS, AND EACH
   UNIT CONVERTED TO A 6-FIGURE NUMBER.  USING RND, THE CONVERSION OF A
   GIVEN UNIT IS USUALLY DIFFERENT EACH TIME."
40 PRINT"   THE CHARACTERS ARE TRANSLATED INTO NUMBERS TO BASE 31,
   CHOSEN BECAUSE 31[4 DOES NOT EXCEED 6 DIGITS, BUT STILL ALLOWS THE
   28  CHARACTERS. THE LARGEST COMPONENT OF THE CODING OF EACH 3
   CHARACTERS IS 31[3 TIMES A RANDOM DIGIT TO MAKE UP SIX."
43 PRINT
45 INPUT"Y TO CONTINUE";E$:IF E$="Y"THEN 50:ELSE 100
50 PRINT
60 PRINT"   THE ALPHABET , A$, LINE 20, MAY BE VARIED . IT IS DESIGNED
   TO PUT THE MOST COMMON LETTERS FIRST.  LINE 60 DETECTS CODED
   MESSAGES(NUMBERS), FOR DECODING ON LINES  300-390."
70 PRINT"   LINE 80 SETS BASE 31. LINE 90 SETS 31[3. LINE 100 DIVIDES
   THE MESSAGE.  LINE 110 SETS RANDOM 6 FIGURES AND SUBDIVIDES.  LINES
   150-180 ARE THE LOOP TO FIND THE POSITION OF THE CHARACTERALONG A$."
80 PRINT"  TRANSLATION OF LETTERS TO NUMBERS IS SLOW; IS THERE A BETTER
   WAY IN BASIC?   MANIPULATION OF THE ASCII CODES WOULD NOT ALLOW AN
   ARBITRARY ALPHABET.":PRINT
90 PRINT"THE ANSWER TO THE INITIAL QUESTION IS TO TRANSLATE TO HEX AND
   READ  'FAB BBC BABE DEADED'"
93 PRINT
95 INPUT"AGAIN";G$:IF G$="Y" THEN 5
100 PRINT"END":STOP
```

PROGRAM

```
5 REM THIS PROGRAMME TRANSLATES TEXT TO 6-FIGURE NUMBERS OR    VICE
  VERSA; EITHER MAY BE INPUT.  ENTERING @ RE-TRANSLATESFOR CHECKING
  PURPOSES. MAX LENGTH TEXT 108 CHARS.
10 CLEAR1000
11 T$="128071"
12 U$=" 596977 774605 813086 834210 129840 119636 479074 179123 775003
   545929 775347 837235 896923 387906 609711 716131 578530 426793
   664088 718301 567959 181164 125406 643895 596141 865104 157611
   685230 157684 568540 202810 274195 597030 628019 125900"
20 A$=" EAOIDHNRSTUYCFGLMWBKPJVQ.XZ"
30 INPUT"TO TRANSLATE (` TO CHECK, T$ OR U$ FOR BUILT-IN)";M$
40 IF M$="@"THEN M$=W$
44 IF M$="T$"THEN499
45 IF M$="U$"THEN500
50 W$=""
60 IF VAL(LEFT$(M$,2)) >0 THEN 300
```

SECRET MESSAGES

```
70 RANDOM
80 B%=31
90 C%=29791
100 FOR N%=1 TO LEN(M$) STEP 3
110 X=(3+RND(29))*C%:B$=MID$(M$,N%,3)
130 FOR T%=1 TO LEN(B$)
140 P%=1:C$=MID$(B$,T%,1)
150 IF C$=MID$(A$,P%,1)THEN 200
160 P%=P%+1
170 IF P%>28 THEN 400
180 GOTO 150
200 X =X+(P%-1)*B%[(T%-1)
210 NEXT T%
220 W$=W$+STR$(X)
240 NEXT N%
250 PRINTW$:GOTO 30
300 FOR N=1TOLEN(M$)STEP7
310 J=VAL(MID$(M$,N,7))
320 FOR T =1TO3
330 K=INT(J/31)
340 L=J-31*K+1
350 W$=W$+MID$(A$,L,1)
360 J=K
370 NEXT T
380 NEXT N
390 GOTO250
400 PRINTC$;" NOT FOUND":GOTO30
499 PRINT"T$ IS ";T$;"   TRANSLATION FOLLOWS - TRY @ A FEW TIMES TO SEE
    THE RANDOM NUMBER CODING":M$=T$:GOTO50
500 PRINT"U$ IS ";U$;"   TRANSLATION FOLLOWS (SLOWLY)":M$=U$:GOTO50
```

oooOOOoooOOOooo FOR SALE oooOOOoooOOOooo

Video Genie printer interface unit, plugs directly onto the expansion port.
£20.00
Contact :- Melvyn in the first instance.

Model I Level II 16K with cassette and a few games.
£110.00 ono
Contact :- Mrs. Pickering, 62 Bank Lane, Blackburn. Tel.. 0254-61814

Model I 16k Keyboard only, 18 months old.
£100.00 ono
Contact :- Mr. Rhoden, 2 Carriswood Road, Haydock, St. Helens. Tel...32771

MODEL 100 NOTES

The following listing was recently downloaded from Peter Tootill's Mailbox Bulletin Board in Liverpool. It actually originated from the States and was sent to the UK through Fred Brown's Furum 80 at Hull.

This just goes to prove that communications are really getting it together nowadays. Why not join in ?

```
1 '
2 '
3 'STARWARS' program for the TRS-100
10 FORA=1TO266STEP2
20 READ B,C
30 C=C/2:SOUND B,C
40 D=D+1:PRINT@D,"":PRINT@D-1," "
50 NEXT A:MENU
59 DATA 8368,16,1,2,8368,16,1,2,8368,16
60 DATA 1,2
61 DATA 6269,100,4148,100,4697,16,4968,16
62 DATA 5586,16,3134,100,4184,50,4697,16
63 DATA 4968,16,5586,16,3134,100,4184,50
70 DATA 4697,17,4968,17,4697,17,5586,100
71 DATA 8368,50,6269,100,4184,100,4697,16
72 DATA 4968,16,5586,16,3134,100,4184,50
73 DATA 4697,16,4968,16,5586,16,3134,100
74 DATA 4184,50,4697,17,4968,17,4697,17
75 DATA 5586,100,8368,50
80 DATA 7456,75,1,2,7456,25,4697,25
81 DATA 4968,25,5586,25,6269,25,1,2
82 DATA 6269,17,5586,17,4968,17,5586,34
83 DATA 7456,17,6642,50,8368,50,7456,75
84 DATA 1,2,7456,25,4697,25,4968,25
85 DATA 5586,25,6269,25
90 DATA 4184,37.5,5586,12.5,1,2,5586,100
91 DATA 8368,50,7456,75,1,2,7456,25
92 DATA 4697,25,4968,25,5586,25,6269,25
93 DATA 1,2,6269,17,5586,17,4968,17
94 DATA 5586,34,7456,17,6642,50,4184,50
100 DATA 3134,34,3516,17,3950,34,4184,17
101 DATA 4697,34,5272,17,5586,34,6269,17
102 DATA 4184,150,1,4,8368,17,1,2,8368,17
103 DATA 1,2,8368,17,1,2,6269,100
104 DATA 4184,100,4697,17,4968,17,5586,17
110 DATA 3134,100,4184,50,4697,17,4968,17
111 DATA 5586,17,3134,100,4184,50,4697,17
112 DATA 4968,17,4697,17,5586,100,8368,50
113 DATA 6269,100,4184,100,4697,17
114 DATA 4968,17,5586,17,3134,100,4184,50
115 DATA 4697,17,4968,17,5586,17,3134,100
116 DATA 4184,50
120 DATA 4697,17,4968,17,4697,17,5586,100
121 DATA 4184,50,3134,200
```

Dragon

VERIFY FOR THE DRAGON & COCO

```
                        00100 ****************************
                        00110 *  DUE TO THE LACK OF A    *
                        00120 *  VERIFY ON THE DRAGON    *
                        00130 *  AND THE TRS 80 COLOR    *
                        00140 *  I WROTE THIS VERIFY     *
                        00150 *  ROUTINE.  ONLY SMALL    *
                        00160 *  ALTERATONS ARE NEEDED   *
                        00170 *  TO ALLOW THE ROUTINE    *
                        00180 *  TO RUN ON THE TRS 80.   *
                        00190 ****************************
                        00200
                        00210
                        00220 ****************************
                        00230 *         'VERIFY'         *
                        00240 *          FOR THE         *
                        00250 *        DRAGON 32.        *
                        00260 *           BY             *
                        00270 *       JOHN TAYLOR        *
                        00280 ****************************
                        00290
                        00300 ****************************
7E73                    00310          ORG $7E73
            BA5F        00320 CLS      EQU $BA5F
            007E        00330 BASEAD   EQU $007E
            A004        00340 SYNC     EQU $A004
            A006        00350 BLKIN    EQU $A006
            007C        00360 BLKTYP   EQU $007C
            8018        00370 MOTOR    EQU $8018
            0400        00380 VIDEO    EQU $0400
            0088        00390 POINT    EQU $0088
            800C        00400 TEXT     EQU $800C
                        00410 ****************************
                        00420
7E73 4F                 00430 START    CLRA
7E74 B7   7EE7          00440          STA FLAG          CLEAR ERROR FLAG
7E77 BD   BA5F          00450          JSR CLS           CLEAR SCREEN
7E7A 8E   7EFF          00460          LDX #BUFFER
7E7D 9F   7E            00470          STX BASEAD        STORE BUFFER LOCATION IN BASE
ADDRESS OF BYTES TO BE PUT BY CASSETTE
7E7F AD   9F A004       00480          JSR [SYNC]        GET INTO BYTE SYNC
7E83 AD   9F A006       00490 READ     JSR [BLKIN]       READS A BLOCK INTO MEM. SET BY
[$7E] AND DOES A CHECK SUM
7E87 26   0D            00500          BNE ERLOOP        IF ERROR IN BLOCK THEN BRANCH
TO ERROR ROUTINE
7E89 96   7C            00510          LDA BLKTYP
7E8B 81   00            00520          CMPA #00
7E8D 27   11            00530          BEQ HEADER        IF BLOCK IS FILENAME THEN
BRANCH TO HEADER ROUTINE
7E8F 81   FF            00540          CMPA #$FF
7E91 27   24            00550          BEQ EOF           IF BLOCK IS EOF THEN BRANCH TO
EOF ROUTINE
7E93 7E   7E83          00560          JMP READ          GO BACK AND GET ANOTHER BLOCK
7E96 B6   7EE7          00570 ERLOOP   LDA FLAG
7E99 4C                 00580          INCA              PUT AN ERROR IN 'A'
7E9A B7   7EE7          00590          STA FLAG
7E9D 7E   7E83          00600          JMP READ          GO BACK AND GET ANOTHER BLOCK
```

Dragon

VERIFY FOR THE DRAGON & COCO

```
7EA0 108E 0400     00610 HEADER  LDY #VIDEO       LOAD 'Y' WITH START OF
SCREEN
7EA4 109F 88       00620         STY POINT
7EA7 8E   7EFF     00630         LDX #BUFFER      GET BUFFER LOCATION
7EAA A6   80       00640 LOOP    LDA ,X+          LOAD 'A' WITH FILENAME
7EAC BD   800C     00650         JSR TEXT
7EAF 8C   7F07     00660         CMPX #BUFFER+8
7EB2 26   F6       00670         BNE LOOP         BRANCH IF NOT LAST CHAR
FILENAME
7EB4 7E   7E83     00680         JMP READ         GO BACK AND GET ANOTHER
7EB7 108E 0420     00690 EOF     LDY #VIDEO+$20   LOAD 'Y' WITH SCREEN
7EBB 109F 88       00700         STY POINT
7EBE B6   7EF7     00710         LDA FLAG         CHECK IF ERROR
7EC1 81   00       00720         CMPA #00
7EC3 27   11       00730         BEQ OK
7EC5 8E   7EF2     00740         LDX #BAD         LOAD 'X' WITH LOCATON
MESSAGE
7EC8 A6   80       00750 LOOP1   LDA ,X+          LOAD 'A' WITH MESSAGE
7ECA BD   800C     00760         JSR TEXT
7ECD 8C   7EFF     00770         CMPX #BAD+13
7ED0 26   F6       00780         BNE LOOP1        GET ANOTHER CHARACTER
MESSAGE NOT COMPLETE
7ED2 BD   8018     00790         JSR MOTOR        TURN OFF MOTOR
7ED5 39            00800         RTS              RETURN TO BASIC
7ED6 8E   7EE8     00810 OK      LDX #GOOD        LOAD 'X' WITH LOCATION
VERIFIED MESSAGE
7ED9 A6   80       00820 LOOP2   LDA ,X+          GET MESSAGE
7EDB BD   800C     00830         JSR TEXT
7EDE 8C   7EF2     00840         CMPX #GOOD+10
7EE1 26   F6       00850         BNE LOOP2        GO BACK AND GET ANOTHER
CHARACTER IF MESSAGE NOT COMPLETE
7EE3 BD   8018     00860         JSR MOTOR        TURN MOTOR OFF
7EE6 39            00870         RTS              RETURN TO BASIC
7EE7       00      00880 FLAG    FCB 0
7EE8       56      00890 GOOD    FCC /VERIFY OK/
7EF1       0D      00900         FCB 13
7EF2       56      00910 BAD     FCC /VERIFY ERROR/
7EFE       0D      00920         FCB 13
7EFF               00930 BUFFER  RMB $FF
           0000    00940         END
00000 TOTAL ERRORS

BAD      7EF2                    HEADER   7EA0
BASEAD   007E                    LOOP     7EAA
BLKIN    A006                    LOOP1    7EC8
BLKTYP   007C                    LOOP2    7ED9
BUFFER   7EFF                    MOTOR    8018
CLS      BA5F                    OK       7ED6
EOF      7EB7                    POINT    0088
ERLOOP   7E96                    READ     7E83
FLAG     7EE7                    START    7E73
GOOD     7EE8                    SYNC     A004
                                 TEXT     800C
                                 VIDEO    0400
```

DRAGSTER

by Dave Sellwood

Here is a program I wrote ages ago, in fact when I was at school some 4 years ago, it still provides me with a modicum of enjoyment and shows how not to write a program, why not try rewriting it and submitting it for the Costello Shield, a worthwhile task if ever there was one.

```
1 FORYY=0TOZZ:NEXT:CLS:CLEAR:B=2000
2 PRINTTAB(6)"* ! * ! * D R A G S T E R  G A M E * ! * ! *":
  PRINT"
  (FROM AN IDEA BY M.LAWSON.WRITTEN IN 'BASIC' BY D.I.SELLWOOD)
3 PRINT:PRINTTAB(12);:INPUT"DO YOU WANT INSTRUCTIONS ";I$:IFI$
  ="YES"GOTO3000
5 CLS:J=0:D=0:XX=1:U=0:N=1:PRINT"GOOD LUCK! & GOOD DRIVING!"
14 INPUT"PLEASE TYPE IN ACCELERATOR SETTING BETWEEN 0 AND 10";A
15 INPUT"PLEASE TYPE IN STEERING BETWEEN 0 AND 10";T
16 INPUT"PLEASE TYPE IN GEAR BETWEEN 1 AND 3";G
17 IFA>10ORT>10ORG>3THENCLS:PRINT"DO AS YOU ARE TOLD":GOTO14
20 CLS:A=A-1:Z=A:A=A*500:R=A+R
40 IFG=XXGOTO95ELSEG=G-1:IFG<>XXTHEN70
65 G=G+1:GOTO90
70 PRINT"YOU TWIT,YOU CHANGED MORE THAN ONE GEAR!!UGH!":PRINT
   :PRINT"TRY AGAIN!":ZZ=B:GOTO1
90 R=R/3
95 'NO OP.
100 IFR<1000GOTO900
110 IFR<2000THENR=R-750:GOTO170
120 IFR<5000THENR=R-500:GOTO170
130 IFR<7000GOTO170
140 IFR<9000THENR=R+1000:GOTO170
150 IFR>10000GOTO980
170 XX=G:V=R/100*G
200 IFA=0THENS=V/1.6:GOTO215
210 S=(V*V-U*U)/(2*(V-U)):U=V:AA=(AA+V)/2
215 IF10*Z/G-35>0THENN=N*4:GOTO240
220 TT=T*2-10.5:N=N*2+TT
240 IFABS(N)>10THEN840
270 D=D+S:J=J+1:IFD<880THEN690ELSEK=1800/AA
320 PRINT"YOUR TIME FOR THE COURSE WAS";K;"SECONDS":PRINT
330 PRINT"YOUR FINAL VELOCITY WAS";V;"MILES/HOUR":ZZ=2*B:GOTO1
690 IFN<0THENPRINT"LEFT";ABS(N)ELSEPRINT"RIGHT";N
710 PRINT"YOUR VELOCITY IS";V:PRINT"YOU ARE IN";G;"GEAR"
730 PRINT"ENGINE SPEED IS";R;"REVS."
740 PRINT"SO FAR YOU'VE GONE";D/2;"YARDS(";D/3520;"MILE)":
    GOTO1001
840 PRINT"QUEL(LE) NURKOID, Y O U  S P U N  O F F ! !
    !":PRINT:PRINT"YOU'LL NEVER BEAT D.L.T AT THAT RATE":
    ZZ=B:GOTO1
900 PRINT"LOONY, YOU JUST STALLED":PRINT:PRINT"HEARD OF A THING
    CALLED THE ACCELERATOR?":ZZ=B:GOTO1
980 PRINT"WHAT A PYGMY!! YOU JUST BLEW YOUR ENGINE!!!":PRINT:
    PRINT"YOUR MECHANICS AREN'T GOING TO BE VERY PLEASED!":ZZ=B:
    GOTO1
```

DRAGSTER

```
1001 PRINT:PRINT:INPUT"HIT ENTER WHEN YOU'VE READ THIS
     INFORMATION";KK'GRAPHICS
1010 CLS:F=D/32:L=N*10:IF10*Z/G<35THENW=0:GOTO1050
1040 W=10*Z/G-35
1050 M%=64+L-2*F:O%=64+L+2*F:P%=20+F+W:H%=20-F+W
1090 IFH%>48THEN14
1100 IFM%<0THENM=0
1110 IFO%>127THENO=127
1115 FORX%=M%TOO%:SET(ABS(X%),ABS(H%)):NEXT:IFP%>47THENP%=47
1125 FORY%=H%TOP%STEP2: SET(ABS(M%),ABS(Y%)):SET(ABS(O%),
     ABS(Y%)):NEXT:GOTO14
3000 CLS:PRINT"THE AIM OF THE GAME IS TO COMPLETE THE 1/4
     MILE COURSE IN THE"
3001 PRINT"SHORTEST POSSIBLE TIME WITHOUT BLOWING THE ENGINE,
     SPINNING OFF"
3002 PRINT"OR STALLING.THE FIRST REQUEST IS FOR THE ACCELERATOR
     SETTING."
3003 PRINT"0 IS DECELERATION, 1 IS SAME SPEED AND 10 IS MAX.
     ACCELERATION"
3004 PRINT"NEXT STEERING IS REQUESTED, 0 IS HARD LEFT AND 10
     IS HARD RIGHT,WITH 5 IN THE CENTRE."
3005 PRINT"FINALLY GEAR NUMBER, HOWEVER IF THE ACCELERATOR
     IS MORE THAN"
3006 PRINT"3 TIMES THE GEAR YOU WILL 'WHEELIE' AND LOSE STEERING."
3007 PRINT"THE ENGINE BLOWS IF THE REVS. EXCEED 10,000."
3008 INPUT"HIT THE ENTER KEY WHEN YOU'VE READ THIS";H:GOTO5
```

DRAGON ATTACK

by Adrian Bradshaw

```
10 REM ** MACHINE CODE SOUND ROUTINES **
20 HI$=CHR$(PEEK(13663))+CHR$(PEEK(13664))+CHR$(PEEK(13665)):HI=PEEK(13666)
30 FOR Z=31488 TO 31539:READ A$:POKEZ,VAL("&H"+A$):NEXTZ
40 DATA 34,12,B6,FF,23,8A,08,B7,FF,23,7F,01,47,8E,B7,98,A6,80,8D,14,A6,80,8D,1
0,7A,01,47,26,F3,B6,FF,23,84,F7,B7,FF,23,35,12,39,B4,01,47,B7,FF,20,86,FF,4A,2
6,FD,39
50 FORZ=31436 TO 31487:READK$:POKEZ,VAL("&H"+K$):NEXTZ
60 DATA 34,12,B6,FF,23,8A,08,B7,FF,23,7F,01,47,8E,B7,98,A6,80,8D,14,A6,80,8D,1
0,7A,01,47,26,F3,B6,FF,23,84,F7,B7,FF,23,35,12,39,B4,01,47,B7,FF,20,86,44,4A,2
6,FD,39
70 FOR Z=31384 TO 31435:READK$:POKE Z,VAL("&H"+K$):NEXTZ
80 DATA 34,12,B6,FF,23,8A,08,B7,FF,23,7F,01,47,8E,B7,98,A6,80,8D,14,A6,80,8D,1
0,7A,01,47,26,F3,B6,FF,23,84,F7,B7,FF,23,35,12,39,B4,01,47,B7,FF,20,86,11,4A,2
6,FD,39
90 GOSUB 1010
100 REM ** SCREEN SET UP **
110 B=3
120 CLS
130 Y=0
140 PRINT@5,"^^^^";
150 PRINT@0,"O";
160 QQ=0
170 GOSUB 500
```

DARGON ATTACK

```
180 SP=64
190 PRINT@15,"HI-SCORE ";HI;" ";HI$;
200 X=495
210 A$=CHR$(143)+CHR$(136)+CHR$(141)+CHR$(143)
220 IF X>508 THEN X=508
230 IF X<480 THEN X=480
240 PRINT@X,A$;
250 REM ** KEYBOARD ROUTINE **
260 X$=INKEY$
270 GOSUB 520
280 IF X$="" THEN 260
290 IF X$=CHR$(8)THEN X=X-1
300 IF X$=CHR$(9) THEN X=X+1
310 IF X$=" " THEN 340
320 GOTO 220
330 REM ** FIRE ROUTINE **
340 Y=X-32
350 EXEC 31436
360 FOR T=1 TO 13:Y=Y-32
370 REM ** CHECK FOR HIT **
380 IF Y+1=SP THEN 630
390 IF Y+1=SP+1 THEN 630
400 IF Y+1=SP+2 THEN 630
410 IF Y+1=SP+3 THEN 630
420 IF Y+1=SP+4 THEN 630
430 PRINT@Y+1,CHR$(138);:PRINT@Y+33," ";
440 FOR O=1 TO 10:NEXTO
450 GOSUB 520
460 NEXTT
470 PRINT@Y+1," ";
480 GOTO 220
490 REM ** DARGON MOVEMENT **
500 SP$=CHR$(143)+CHR$(137)+CHR$(111)+CHR$(111)+CHR$(134)+CHR$(143)
510 RETURN
520 V=0
530 EXEC 31384
540 IF SP+3>X+1 THEN 790
550 V=RND(7)-2:SP=SP+V
560 IF SP>416 THEN 590
570 IF V=5 THEN SP=SP+32
580 IF V=5 THEN V=V+32
590 PRINT@SP-V,"     ";:PRINT@SP,SP$;
600 RETURN
610 GOTO 520
620 REM ****** HIT! ******
630 G$=CHR$(134+48)+CHR$(137+48)
640 H$=CHR$(137+48)+CHR$(134+48)
650 IF SC>9 AND QQ=0 THEN B=B+1:QQ=255
660 EXEC 31488
670 PRINT@SP-30,G$;
680 PRINT@SP+2,H$;
690 FOR G=1 TO 400:NEXTG
700 IF Y<224 THEN R=2 ELSE R=1
710 SC=SC+R
720 CLS
```

Dragon

DARGON ATTACK

```
730 PRINT@0,SC;
740 IF B=3 THEN PRINT@5,"^^^";
750 IF B=2 THEN PRINT@5,"^^ ";
760 IF B=1 THEN PRINT@5,"^  ";
770 GOTO 170
780 REM **** INVADED ****
790 GOSUB 990:PRINT@SP+1,CHR$(143+48)+CHR$(143+48)+CHR$(143+48)+CHR$(143);
800 FOR G=1 TO 400:NEXTG
810 B=B-1:IF B=0 THEN 880
820 CLS
830 PRINT@0,SC;
840 IF B=2 THEN PRINT@5,"^^ ";
850 IF B=1 THEN PRINT@5,"^  ";
860 GOTO 170
870 REM ** END HI-SCORES ETC**
880 PRINT@200,"GAME OVER PLAYER 1"
890 PLAY "O1;V31;A;A;F;F;E;D;C£;E;D;D;D;D"
900 IF SC>HI THEN 950 ELSE
910 PRINT"  DO YOU WANT ANOTHER GO?"
920 D$=INKEY$:IF D$="" THEN 920
930 IF D$="Y" THEN 940 ELSE END
940 SC=0:GOTO 90
950 PRINT"WELL DONE YOU GOT THE HI-SCORE. ENTER YOUR INITIALS (3 LETTERS)";:IN
PUT HI$
960 HI=SC
970 POKE13666,HI:POKE13663,(ASC(LEFT$(HI$,1))):POKE13664,(ASC(MID$(HI$,2,1))):
POKE13665,(ASC(MID$(HI$,3,1)))
980 GOTO 910
990 EXEC 31488
1000 RETURN
1010 PRINT@0,"     --=- DARGON ATTACK =-=--"
1020 PRINT:PRINT"           INSTRUCTIONS"
1030 PRINT"USE ARROW KEYS TO MOVE."
1040 PRINT"USE <SPACE BAR> TO FIRE."
1050 PRINT"THE DARGONS DESCEND GRADUALLY   UPON YOUR MISSILE BASE.
1060 PRINT "IT IS YOUR JOB TO DEFEND THE    BASE AGAINST THE ATTACKERS WHO  WI
LL ATTEMPT TO DODGE YOUR      MISSILES."
1070 PRINT "WHEN A SCORE OF 10 POINTS IS    ACHIEVED AN EXTRA BASE IS       AW
ARDED (YOU HAVE 3 TO START    WITH)."
1080 PRINT"  PRESS ANY KEY TO CONTINUE";
1090 IF INKEY$="" THEN 1090 ELSE
1100 PRINT"YOU CAN'T SHOOT THE DARGON WHEN IT'S ON THE BOTTOM LINE (YOU    WOU
LD GO UP WITH IT).          IF YOU SHOOT A DARGON ABOVE THE HALFWAY LINE THEN
 YOU GET 2     POINTS RATHER THAN ONE"
1110 PRINT@0,"be careful -- ONLY ONE MISSILE  IS ALLOWED AT ONCE SO IF YOU
FIRE ANOTHER WHILE THE LAST ONE IS STILL GOING UP THEN IT WILL  FIRE AS SOON A
S IT HAS GONE."
1120 PRINT@488,"GOOD LUCK";:FOR WW=1 TO 100:NEXTWW:PRINT@488,"good luck";:FOR
TT=1 TO 100:NEXTTT:IF INKEY$="" THEN 1120 ELSE
1130 CLS4:PRINT@200,"READY";:FOR AA=1 TO 1000:NEXTAA:CLS2:PRINT@200,"SET";:FOR
 AA=1 TO 1000:NEXTAA:CLS1:PRINT@200,"GO";:FOR AA=1 TO 500:NEXTAA:CLS:RETURN
```



TIT BIT FOR THE 6809

by Frank Philbrow

Having cut my (programming) teeth on the 77-68 and while unsuccessfully attempting to upgrade to 79-09 CPU card, which still will not run with the 32K RAM card, I heard rumours (early 82) of the Dragon 32. I looked at the Tandy Colour computer but it was too expensive!

I rang Dragon (then Mettoy) and received their handout which prompted me to place an immediate order with a colleague, who also runs a computer business.

I received my Dragon in early August and looked for the software. Not much for the Dragon but plenty of very good programs, especially in the U.S.A., for the Tandy.

Now the two machines are built using the Motorola spec as shown in the data sheets for the SAM and VDG chips for use with the 6809E processor, and also have Microsoft Extended Colour Basic. Surely the programs would work! But no. Though the programs LOAD, LISTing produced an incomprehensible jumble of Basic words.

I sent to The Micro Works in California for a copy of their CBUG machine code monitor. With the help of John Morrison (of Morrison Micros, who had supplied me with programs and a lot of help before) I patched in the amendments and had DBUG running.

Then I correlated all the tokens and wrote the CONVERTER, my first attempt at a machine code program on the Dragon.

The pointer to the start of the Basic program is at 0019H & 001AH, and the end at 001BH & 001CH. Normally the start address will be 1E00H unless more or less graphic pages have been PCLEARed. The Basic line starts with the line number in two bytes 00 0A (line 10) then the address of the next line, also two bytes 1E 20 (say). Then follows the tokenised line, ending in a null (00) delimiter.

All token values are greater than 80H, and are thus distinguishable from the ASCII text of the program. The converter saves the pointer to the next Basic line then reads the current line, ignoring the line number, calculates the new Basic token value and substitutes the calculated value in place of the original.

The converter also recognises the tokens for REM and '. When these occur the converter proceeds to the next Basic line, since the Basic interpreter ignors them.

Similarly when parentheses are found the converter skips to the end of the string, or the next line if this occurs first, (It is not necessary to insert the closing parentheses if a string runs to the end of the Basic line).



TIT BIT FOR THE 6809

Thus in programs that use REM's or strings to store machine code routines, such code will not be corrupted by the conversion. However the routines may not always run on both machines, particularly if jumps to subroutines in the Basic ROM are used.

The cross reference of similar subroutines is slowly becoming available, and a very detailed disassembly of the Tandy Extended Colour Basic ROM by Jake Commander is currently being published in the Colour Computer Magazine.

By comparison with the Dragon ROM a similar listing for this may soon be available.

Other areas which differ are the subroutines starting from 015EH which are RTS by default but may be modified to provide extensions to the Basic or different print routines say. These have been noted in this magazine but is is interesting to note that certain of these routines are reset during the normal running of Dragon Basic! Certain slow scroll programs for the Tandy when run on the Dragon, using a joystick as a speed control, failed after a few seconds and on looking into the problem the RTS instructions have been reset.

The keyboard rollover table at 0152H-0159H also returns different values in different locations. The values for the Dragon are given in the NANOS reference card, at this time I do not have all the figures for the Tandy. However by PEEKing the appropriate address any specific value may be found.

The differences in the syntax for the USR function has been explained previoulsy and the only insurmountable difference is in the use of multi-colour modes in PMODE4. I am still unsure exactly what the mechanism is but it is possible to obtain the high resolution and colour on the American Tandy Colour computer, but not on the British version nor the Dragon. Any ideas out there?

The converter program started as two seperate routines to convert from Tandy to Dragon, and from Dragon to Tandy. They have now been combined into one menu driven program which is position independant but normally resides in the space reserved for high resolution graphics by Extended Colour Basic,

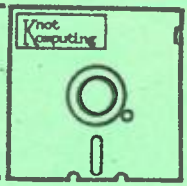
I.E. from 0600H onwards.

Execution time is less than two seconds leaving only the syntax differences to be altered. The converted program may be CSAVED and another CLOADed without overwriting the Cruncher, and by EXEcuting again this too may be converted.

The Dragon Cruncher program has received the Rainbow seal of approval and is available through the group at £4.95.(Presumably via Frank or Rainbow..ED).

Knot Komputing

Lambert House,
Brook Street, Glossop,
Derbyshire SK13 8BG
Phone Glossop 4748
VAT. 373 4223 63



PRICE LIST AS OF 1st October 1983.

SPECIFICATION	Basic + VAT + Delivery	BASIC PRICE
Dragon 32K, Colour, Hi-Res	185.00	153.00.
Genie 1	347.00	287.00.
Genie 2	315.00	260.00.
KESTREL - 48K: Computer with two built-in 40 track double-sided ultra slim disk drives, with centronics printer port. Runs Tandy I programs, and housed in steel case designed to take either a printer or monitor on top.	983.00	825.00.
Epson FX 80 160 cps	521.00	438.00.
Epson MX 100 FT/3 100 cps	594.00	499.00.
Shinwa CTI CP80 80 cps	344.00	289.00.
Star 510 100 cps	344.00	289.00.
Juki 6100 daisy-wheel 18 cps	475.00	399.00.
CANON 5.25" 40 track 2/3 height Disk Drive.		
Single, Single Side	217.00	179.00.
Double Side	265.00	219.00.
Twin, Single Side	412.00	340.00.
Double Side	490.00	405.00.
Disk & Printer Interface + Drive in one Unit		Last Autumn £308.
DP2000 Single, Single Side £275+dly/vat/p&p	278.00	230.00.
Double Side	327.00	270.00.
	was 365	
Wizard Interface for Colour Genie	120.00	99.00.
DOS for above	43.00	35.00.
48k Expansion for tandy model I on keyboard	56.00	44.00.
48k Expansion for V G on keyboard	56.00	44.00.
fitting for above 48K onto your keyboard	+ post	11.50.
Disk & Printer Interface DP1000T (tandy)	104.00	86.00.
Disk & Printer Interface DP1000V (genie)	104.00	86.00.
Disk Drive & Cassette leads		various.
Doubler for above Interface	84.00	72.00.
RS-232 for above Interface		1983
Hi Res. Board for Tandy or Genie		~~1983~~ June 1984
Colour Board for Tandy or Genie		1983
Splitter Cable for joystick, ROMs etc(T or G)	19.00	16.00.
Plug in feature ROMs	23.00	19.00.
Box of 10 Disks SS.SD	19.00	16.00.
Box of 10 Disks SS.DD	23.00	19.00.
Box of 9.5" Paper	17.00	12.00.
DRAGON Software		various.

* ROM A: keyboard invert, key repeat, single key commands, flashing cursor, M/c code Mon & Edit, System load & save.
* ROM B: keyboard invert, line renumber, single key commands, cursor flash, basic program merge, basic program compress.

Software News

INNOVATIVE TRS 80-GENIE SOFTWARE

from the professionals



Concorde is the newest addition to our ever increasing stable of precise simulations. As its name implies, it is a simulation of flying the Concorde supersonic aircraft, and it comes from the pens of John Taylor and Frank Avery who wrote Jumbo, which we published some year ago or so. Preceding Jumbo we published Shuttle, a simulation of the Columbia space flights, and after Jumbo we introduced Airbus. When we did the write-up on Airbus we indicated that, whereas Jumbo went the route of displaying maps in order to assist the user to progress from A to B, Airbus used radio navigation instruments and so, therefore, was somewhat more difficult to fly. Concorde follows the route that Messrs. Taylor and Avery took in Jumbo in providing a map — in this case essentially of the Atlantic in that airports are supplied at London, New York, Paris, Washington, Gander and Shannon. Indeed, it is fair to say that Concorde follows Jumbo in appearance quite closely. As may be expected from a supersonic aircraft, however, the feel and flying of the aircraft is entirely different.

Concorde follows the original aircraft just about as closely as it is possible to get. The famous droop snout is simulated as also is re-heat in the engines, which is necessary not only to get the aircraft off the ground, but also to progress from subsonic to supersonic flight. The authors have sent us screen printouts which show that it is possible, in the simulation, to fly from London to New York in about two hours fifty minutes. In order to achieve such an excellent result, however, Concorde has to be flown pretty well by the numbers and with a great deal of care. It is of the greatest importance in flying the aircraft that one progresses from subsonic to supersonic at the right time and that the re-heat facility is used correctly. Re-heat inserts raw fuel into the jet subsequent to the original combustion. It literally gulps fuel down. If you do not use it carefully, you could well arrive many miles short of New York and be out of fuel.

There is no doubt that flying Concorde requires a far lighter touch than did flying Jumbo and this, of course, as with all of our simulations, is a reflection of the real life situation. Consequently, Concorde includes not only the normal controls for the elevators, ailerons and throttle, but also provision for fine control. A list of the controls are as follows. Remember that those just mentioned have the additional facility of a fine adjustment:

Elevators	Elevators up	Elevators down	Elevators zero
Ailerons up	Ailerons down	Ailerons zero	Throttles increase
Throttles decrease	Auto throttle	Re-heat on	Re-heat off
Ground brakes & air brakes	Reverse thrust	Droop nose up	Droop nose down
Undercarriage up	Undercarriage down	Stop watch	Cruise climb selection
Map	Practice approach	Autocouple*	Abort flight
Time skip minutes	Time skip hours		

*Not yet incorporated. Expected release to registered owners late 1983.

The instruments provided on Concorde are as follows:

Distance to go	Bearing to destination	Time
Fuel remaining	Altimeter	Vertical speed indicator
Outside air temperature	Aircraft skin temperature	True airspeed
Nose position*	Undercarriage status*	Minimum permitted airspeed
Acceleration / Deceleration	Indicated airspeed	Maximum permitted indicated airspeed
Mach number	Elevator position†	Aircraft attitude†
Angle of attack of the wings	Turn indicator	Compass†
Aileron position indicator†	Power setting	Throttle indicator†
Auto throttle on/off indicator	Artificial horizon†	

†Graphical instrument representation.

*Replaced by other information after take off.

As is obvious from the above, Concorde is a mammoth program and for those customers who have already purchased Jumbo, provides a very interesting comparison.

Concorde is available for disk or tape for the Tandy Model I, III and 4 (in Model III mode), the Video Genie, Genie I and Genie II.

Concorde (Tape) ..... £15.00 plus VAT £17.25

Concorde (Disk) ..... £17.00 plus VAT £19.55

P & P 75p

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