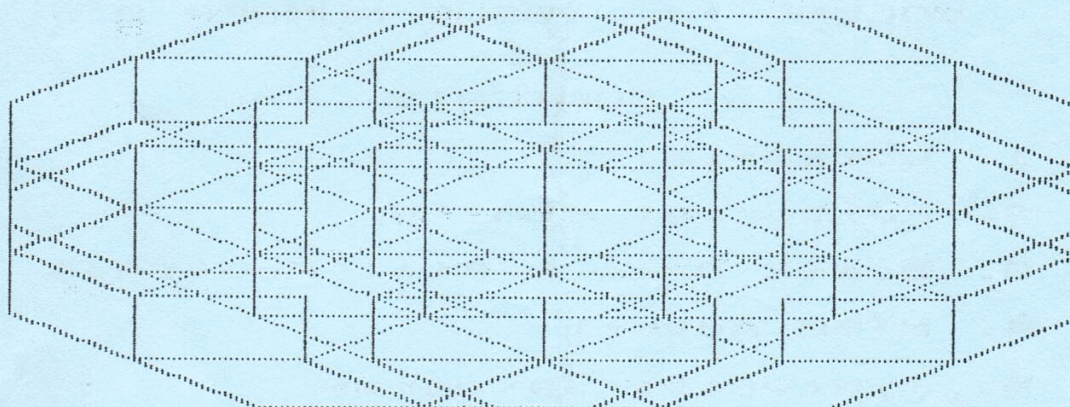


VOL. 1 ISSUE 8

MAY 1985

THE
MEMOTECH OWNERS CLUB
MAGAZINE



FEATURES:-

SOFTWARE REVIEWS

BASIC SHAPE FILLING

PASCAL REVIEWED

HACKERS GUIDE !!

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! PUBLISHED BY MEMOTECH OWNERS CLUB  
! 23 DENMEAD ROAD  
! HAREFIELD SOUTHAMPTON  
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M.O.C.

VOLUME 1 ISSUE NUMBER 8

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o o o o o o o o o

E D I T O R I A L (MAY 1985)

Phil Eyres
23 Denmead Road
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Southampton
SO2 5GS

Richard Adams
18 Nightingale Rd
Pilands Estate
Bursledon
Southampton

A further change to print format this month, we managed to find enough info to allow us to print double sided on proper duplicating paper. Since you all seemed to like the new format last month, I think that this is a further improvement as it allows us to expand a bit at no real extra cost. Notice the new CONTENTS page!. Next month hopefully will see our first Pascal program printed.

I would just like to thank everyone who has sent us programs/articles for the magazine in the past month. Thanks! Keep up the good work.

As membership slowly grows (Did you see the bit about us in Your Computer this month?) it is becoming increasingly difficult to do all the jobs required to produce a good magazine, so, I thought that perhaps it would be a good idea to ask if anyone would like to help, say by reviewing software for us, as this takes up a tremendous amount of time. If anyone is interested in helping please get in contact with me!(Phil). We would supply the software for review.

A little nugget of info that may be of interest to owners of the 32K upgrade board, there are spare sockets for another 32K of RAM on the board, all you have to do is buy the same memory chips as is already on the board and fit them. Much cheaper than buying a larger capacity board.

With the pending release of the new disc drives just around the corner, I feel I should air my views and experience on the subject of disc drives. Firstly, I must say that I own an FDX system with twin 500K drives which I use just about every day, so I must be a little biased towards them. The term 500K drive implies that 500K of space exists on a disc inserted in that drive assuming the disc is a 40T DS/DD disc. This in fact is not so, by the time the disc has been FORMATTED and a copy of the SYSTEM recorded on the first two tracks (all necessary on every disc you have!), the storage capacity is down to 310K. A quite remarkable difference in storage capacity. Next, I put say, NEWORD on the disc, with OVRerlay files this leaves me with only 150K of storage space on that disc. This does not really matter on a two drive system as I can put a blank (310K) disc in the other drive and use that.

Now if I only had a 250K drive, by the time i've formatted it etc. it would seem logical to think that I would only have 150K of storage left (I don't know if this is exactly true, but the figure must be somewhere near that). For a

100K drive, well, 60K really ain't a lot is it.

Next, if you buy a single drive you can update to a double drive, this somewhat alleviates the above problem, except that you will be paying a fortune out for discs (good ones cost about £2.00 - £2.50 each). You still, however, only have a NTX with twin discs. This is very different from a FDX system, which runs CP/M, opening up a whole new line in software for the future, it's versatility is really remarkable.

Of course it is expensive, but you can buy a 500K single drive in an FDX case and expand later. ...still to expensive for you! well think carefully about the other drives, I know several people with computers who are very frustrated at the limited capacity of their single drive.

....When you all get your single drives I would be very interested to hear from you, or if what I have said above seems very controversial to you, why not write and say what you think!!.

Several people have been asking for a new interfacing project, so I put my thinking head on, ...within no time at all I was coming up with ideas, the best of which seemed to be an A/D or D/A converter. All seemed well, the circuits were fairly simple and the interfacing straight forward. I then set about finding something to do with such a device. After hunting through endless volumes on the subject the best I could do was a pressure pad or a temperature sensing device, not overwhelmingly exciting, that sort of project just tends to collect dust. So I abandoned that train of thought. The next couple of days were sheer hell, I couldn't do a thing right, this usually means that I've forgotten to engage my brain! ...but no not this time, there were hyperactive brain waves zooming about in my head. All of a sudden there it was, the perfect project had just been conceived. An Allophone Speech Synthesizer!!!!, sounds difficult I thought. I spent the next couple of days playing about with ideas and

BASIC SHAPE FILLING

```
10 REM CIRCLE DRAW AND FILL
20 REM BY P.Crighton Feb/85
30 LET X=128
40 LET Y=96
50 VS 4: CLS
60 INPUT " RADIUS";RADIUS
70 FOR I=-RADIUS TO RADIUS
80 LET J=SQR(RADIUS*RADIUS-I*I)
90 LET X1=X+I
100 LET Y1=Y+J
110 PLOT X1,Y-J: PLOT X1,Y+J: PLOT X-J,
Y1: PLOT X+J,Y1
120 LINE X1,Y-J,X1,Y+J
130 NEXT
140 GOTO 00140
```

```
10 REM SQUARE DRAW & FILL
20 DIM A(2,2): LET X=128: LET Y=96
30 LET P=1: LET Q=1
40 VS 4: CLS
50 COLOUR 2,5: COLOUR 1,1: COLOUR 4,4
60 GOSUB 00180
70 ATTR 2,1
80 SPRITE 1,0,X,Y,0,0,1
90 LET A=ASC(INKEY$)
100 IF A=-1 THEN GOTO 00090
110 IF A=66 THEN GOSUB 00210: PAUSE 500
: GOTO 00090
120 IF A=25 THEN LET X=X+1: LET A=8: GO
TO 00160
130 IF A=8 THEN LET X=X-1: LET A=4: GO
TO 00160
140 IF A=11 THEN LET Y=Y+1: LET A=6: GO
TO 00160
150 IF A=10 THEN LET Y=Y-1: LET A=2: GO
TO 00160
160 MVSPR 9,1,A
170 LET A=0: GOTO 00080
180 GENPAT 3,0,255,129,129,129,137,129,
129,255
190 CTLSPR 2,1: CTLSPR 1,1
200 RETURN
210 LET A(P,Q)=X: LET A(P,Q+1)=Y
220 LET P=P+1
230 IF P<3 THEN RETURN
240 ATTR 2,0
250 IF A(2,1)<A(1,1) THEN LET F=A(2,1):
LET A(2,1)=A(1,1): LET A(1,1)=F
260 IF A(2,2)<A(1,2) THEN LET F=A(2,2):
LET A(2,2)=A(1,2): LET A(1,2)=F
270 LINE A(2,1),A(2,2),A(1,1),A(2,2)
280 LINE A(1,1),A(2,2),A(1,1),A(1,2)
290 LINE A(1,1),A(1,2),A(2,1),A(1,2)
300 LINE A(2,1),A(1,2),A(2,1),A(2,2)
310 FOR F=A(1,1) TO A(2,1)
320 LINE F,A(1,2),F,A(2,2)
330 NEXT
340 ATTR 2,1
350 LET P=1: RETURN
```

The two following routines are extracts from a program sent by Paul Crighton.

The first program draws circles and fills them in. It is possible to fill in any colour by using a COLOUR command - like this COLOUR 2,(n) where n is 0 - 15. If circles are drawn in different colours and overlapped the colours will become stepped, I'm afraid as yet we have not been able to overcome this.

Notice that the circle is not drawn using the CIRCLE command or SINES & COSINES but just by taking values of I and calculating J, see lines 70 - 130.

The second program is slightly more involved in that you have to move a sprite around the screen to draw a square, which the program will then fill-in. You control the sprite using the four curser keys (arrows on the key-pad), When you are at one corner of the square press "B" then move to the adjacent corner and press "B" again, the computer will draw a square and fill it in. The key board must be printing in CAPITALS for "B" to be recognised.

You will notice that the program has spurious "0"'s on GOTO's this is because the programs have been Renumbered (using the new Renumber in the Program Library). These should be ignored when typing the program in.

By next month I will hopefully have working a program that will draw and fill a triangle.

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| Escape from Zarkos | 6.95 | 6.00 | Chamberoids | 6.95 | 6.00 |
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| Blank Cassettes packs of 5 | | 2.00 | | | |

As a member of the Micro Technology Support Centre an additional discount is available. Games under 5.00 MRP deduct .25p, under 8.00 MRP deduct .35p and over 8.00 deduct .50p per game ordered.

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and Quasi Returns

TYPEWRITER PROGRAM

By
John Hodgson

10 CODE

```

8007      NOP      ; *****
8008      NOP      ; A SIMPLE TYPEWRITER PROGRAM
8009      NOP      ; *****
800A      NOP
800B      RST 10
800C      DB $A7,"START",10,13,$81,30
8016 START: LD HL,$FD75
8019      LD (HL),0 ; SET OUTPUT TO SCREEN
801B CHAR: CALL $79 ; READ KEYBOARD
801E      JR Z,CHAR ; TEST IF NO KEY WAS PRESSED
8020      CP $7F    ; TEST IF THE DELETE KEY WAS PRESSED
8022      JR NZ,TEST
8024      PUSH AF   ; SAVE THE DELETE FOR THE PRINTER
8025      LD A,$08   ; LOAD BACKSPACE INTO THE A REG
8027      JR OK1
8029 TEST: CP $1B   ; TEST IF THE ESCAPE KEY PRESSED
802B      RET Z     ; RETURN TO BASIC
802C      CP $0A    ; TEST IF LINEFEED
802E      JR Z,OK
8030      CP $0D    ; TEST FOR CARRIAGE RETURN
8032      JR Z,OK
8034      CP $20    ; TEST IF LESS THAN SPACE
8036      JR C,CHAR
8038      CP $7B    ; TEST IF GREATER THAN z
803A      JR NC,CHAR
803C OK:   PUSH AF   ; SAVE THE CHARACTER
803D OK1:  CALL $CAB  ; PRINT THE CHARACTER TO THE SCREEN
8040      POP AF    ; RESTORE THE CHARACTER
8041      CP $0A    ; TEST IF LINEFEED
8043      JR NZ,PRINT
8045      PUSH AF   ; NOW SAVE THE LINEFEED
8046      LD A,$0D  ; LOAD CARRIAGE RETURN INTO THE A REGISTER
8048      CALL $CAB ; PRINT THE CARRIAGE RETURN TO THE SCREEN
804B      POP AF   ; NOW RESTORE THE LINEFEED
804C PRINT: LD HL,$FD75
804F      LD (HL),1 ; SET OUTPUT TO THE PRINTER
8051      CALL $CAB ; PRINT THE CHARACTER TO THE PRINTER
8054      JR START
8056      RET

```

Symbols:

| | | | |
|-------|------|-------|------|
| START | 8016 | CHAR | 801B |
| TEST | 8029 | OK1 | 803D |
| OK | 803C | PRINT | 804C |

The Panel Screen Dump program (Issue 4) was very interesting but to use IN and OUT commands to talk to a printer makes hard work of a simple task. I make use of the ROM routine \$OCAB and the system variable PRORPL (\$FD75), see page 182 of the MTX user manual on the use of this variable. The above listing is a simple program that shows the use of the above method, it turns the MTX and printer into a typewriter so that when a key is pressed it will result in that character output to the screen and the printer. The only points to note are :-

- 1) Use the DEL key to backspace on the screen
- 2) The ESC key will return to Basic
- 3) The LINEFEED key will result in a carriage return/linefeed output to the screen and printer.

Servicing Interrupts

5 REM CLOCK PROGRAM
6 REM BY ROB EYRES
7 REM DATE 7.2.85
10 CODE

```

8040      LD HL,SOURCE      ;RELOCATE
8043      LD DE,$E000      ;PROGRAM IN
8046      LD BC,$2B      ;HIGH MEMORY
8049      LDIR
804B      LD HL,$FA98      ;SET UP
804E      LD (HL),$C3      ;USERINT
8050      INC HL      ;JUMP ADDRESS
8051      LD (HL),0
8053      INC HL
8054      LD (HL),$E0
8056      LD HL,$FD5E      ;SET USERINT FLAG
8059      LD (HL),$1F
805B      RET
805C SOURCE: PUSH HL      ;INTERRUPT
805D      PUSH DE      ;SERVICE
805E      PUSH BC      ;ROUTINE
805F      PUSH AF
8060      LD DE,7760 ;SCREEN LOCATION
8063      LD HL,$FE54      ;CHECK FOR
8066      BIT 7,(HL) ;VDP INTERRUPT
8068      JR NZ,END ;RET IF INT OCCURRING
806A      LD A,E      ;SET VDP
806B      OUT (2),A ;TO WRITE
806D      LD A,D      ;MODE
806E      OR 64
8070      AND 127
8072      OUT (2),A
8074      LD HL,$FD57      ;GET CLOCK
8077      LD B,6
8079 TIME: LD C,(HL)
807A      LD A,C
807B      OUT (1),A ;DISPLAY CLOCK
807D      INC HL
807E      DJNZ TIME
8080 END:  POP AF
8081      POP BC
8082      POP DE
8083      POP HL
8084      EI
8085      RETI
8087      RET

```

Symbols:

SOURCE 805C TIME 8079
END 8080

15 STOP

This program generates a clock on the T.V. screen by executing a short utility every time the computer generates an interrupt, every 1/64th of a second. Two system variables are used by the program USERINT and INTFFF, descriptions of these variables can be found on page 182 of the m/c manual.

The program is relocated into high memory and then serviced by setting the two system variables to point to the place in high memory. It is possible to use the method of relocation in the first four lines of program because there are no jumps or calls in the relocated code. It does appear that the routine from label TIME onwards encounters a DJNZ instruction, this is not at all similar to a jump as the DJNZ instruction does not specify a 2 byte memory location to jump to but just a one byte number informing the program how many bytes to retract before continuation. Using the PANEL it is possible to see this, looking at memory location \$807E (\$407E on a MTX512) it contains \$F9 this is negative 7 in two's complement, this number is in fact always two smaller than it should be, i.e. the Program Counter is in fact only subtracted by 5.

If a program that is to be relocated has jumps or calls it will be necessary to have a relocation program to do this. (See the program library!).

Notes on using the program...

When run the program is relocated then automatically serviced internally by the computer, the program should then be NEW'ed to allow you to continue programming. The time of the clock can be reset using the basic CLOCK"000000" command.

P R O G R A M L I B R A R Y

From this month onwards the program library will take on a new look, instead of just containing programs that are too long to be published in the magazine, it will be broken down into the following sections :-

1. Programs & Utilities Basic/Assembler, as before.
2. Programs & Utilities Written in Pascal. I have none at the moment but I will rectify this soon.
3. Articles from previous magazines. This is introduced for the benefit of new members so that they can obtain old articles on anything that interests them, it will also include Hardware reviews for members who are thinking of buying new equipment.
4. CP/M articles/Utilities/Programs
5. Space permitting and programs/articles forthcoming, any spare space will be filled with short reviews of new items included in the Library.

1. Basic & Assembler Programs

1. Hex-Dec-Bin Conversions. (Binary Bit In Assembler)
2. CGEN Sprite Generator.
3. 3D Drawing Board. Rotate a skeleton of a cup & saucer in 3D.
4. Whist.
5. Memory Save. This Utility will Save a block of memory to tape and retrieve it.
6. MTX Drawing Board.
7. LOGO Drawing Board.
8. Simplex Tableaux. Applications Program
9. Breakeven. Applications Program
10. Light Cycles. Arcade Game
11. Hex/Dec Dec/Hex conversions using USER commands! ** New **
12. Renumber ** New ** Renumbers Including GOTO's etc
13. RELOC ** New ** Relocs Assembler Properly!!

3. Articles From Previous Magazines

1. PANEL Utility. Makes use of system variable FEXPAND to add a hard copy option to your Front Panel. (Vol1 ISS.4)
2. PANEL2 Utility. As above but updated to include a second feature.
3. Undocumented Neword dot commands. (Vol1 Iss.7)

To obtain anything from the library just send a SAE and a couple of spare stamps for each item you would like. Programs are available on cassette at £1 per cassette incl. P&P. Two programs per cassette.

Program Review Simplex Tableaux

The Simplex method of solving linear optimisation problems uses an iterative process, first identifying a feasible

solution and then searching for better ones.

Firstly it is necessary to lay down on paper in a linear form, the problem to be solved, once done the program variables are set-up and filled with the appropriate data. When the Simplex Iterative loop is run successive approximations are made until the final optimum answer is found.

The program comes complete with a worked example all laid out and ready to enter in.

Conclusion

A very interesting program, fiddling with the numbers in the example allows you to alter most of the constraints. Doing this enables you to come up with some answers that you would not think could be true. Like for instance :-

Adding another worker to the workforce lets you make more profit even though output is still kept to the same figures. This is done by shifting production around the different production lines.

All in all a very good way to waste an evening mucking about with numbers!

For any FDX owners the address of the CP/M users group UK is 72 Mill Rd, Hawley, Dartford, Kent. DA2 7RZ. They have a large library of discs with all sorts of info on, I don't yet know if it will all run directly on the FDX, when I find a good disc I'll put it in the CP/M section.

An update for those who have the CGEN sprite generator :

Line 810 should read :-

810 SPRITE 4,4,16,84,6,0,CC

BRUNNING SOFTWARE

BRUNWORD £16-50 inclusive.

Brunword loads in 31 seconds, has full text editing with INSERT and OVERWRITE, has temporary files in memory, cut & paste, search, block delete, format preview, enlarged, condensed, underline, and emphasized printing and uses a compressed format for memory files and cassette files. Specially written for the 40 column Memotech screen. Address on the right, Dear Sir on the left, Yours sincerely in the middle. Typein using 40 columns. Prints up to 130 columns without re-formatting.

DATAFILE £12-60 inclusive.

This powerful card filing programme has a very fast FIND and UNRAVEL system which can search for data in any field or combination of fields and then sort them into alphabetical, numerical or date order. Each file can have up to 22 data fields and can have the background colour set. The selection can be sent to the printer in full format with the headings or printed across the page in columns.

NEWORG £5-00 inclusive.

Relocate your assembly programmes. Write the program in the usual way, use NewOrg to relocate it. NewOrg will only change the addresses that are labels and will ignore all other addresses and data.

BRUNSPELL available soon.

Use this programme to find your spelling mistakes in BRUNWORD files. A special technique enables a large number of words to be stored without reducing available memory for BRUNWORD. MTX512 about 12000 words (and 14 pages of A4) MTX500 about 4000 words (and 7 pages of A4).

Programmes are designed to work with any printer that operates from the parallel printer port.

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All the names of contributors to this months magazine were put into a hat and the winner is :

John Green for his Date to Day Program.

How will be receiving the new release - Son Of Pete.

Next Months Mag.... Is due to be posted on 17th June all things being well. Anyone wishing to contribute should send their articles as soon as possible.

Next months Features....

A new series of articles called "L" Basic.

Turbo Pascal Review

Assembler Sort Routine

.... and lots more

A HACKERS GUIDE TO POT HOLE PETE

By Micheal Gelder

Ed-> I thought it about time I published this article due to the publicity this trait has acquired recently in the national press.

Pot Hole Pete Pokes :

Start the game loading as normal, then, when the screen blanks and prints: POTHOLE PETE NOW LOADING stop the cassette player and hold the break key down until the computer returns to text mode with an error - this has to be done before Pete and the Ghost appear.

Next type <F3(function key)> <1> <RET>
<£4024>(or £8024 on the MTX500) <RET>

Now you can add extra commands for the following :-

A) Infinite Lives

```
LD A,167
LD (£8CDA),A
LD A,£81
LD (£842D),A
XOR A
LD (£8CDB),A
LD (£8CDC),A
LD (£842C),A
```

B) Number of lives at start of game

LD A,number (max 8) otherwise the screen is messed up
LD (£8DB7),A

C) Number of demo screens shown

LD A,number (initially set to 25)
LD (£8FDC),A

D) Maximum start position in demo mode

LD A,number (initially set to 10)
LD (£8FEE),A

After entering the required additions type :
<CLS><RET> <CLS><RET>

Also it is possible to get rid of all the monsters, except for those on screen 2 by deleting lines :

9002,9003,9004,9006,9020-9250,9340,9350

then add :

```
9500 FOR N=6 TO 31:FOR F=4 TO 7
9501 GENPAT F,N,0,0,0,0,0,0,0,0: NEXT: NEXT
```

When you have finished making the above alterations type :

RUN <RET>

and set the tape playing to finish loading.

Finally, can anyone help me - I can't get off screen 27 (The Lonely Cavern), as far as I can tell it's impossible. Apart from this iv'e completed all the other screens.

After pressing the Reset keys on Pot Hole Pete try looking at the data in the following addresses by using PANEL ;

£849F-£8580
£902A-£90BE

On my travels I have come across a number of little hints and tips for some of the screens :-

Screen 5 : Only collect 5 squares, not all 6

Screen 8 : it is possible!!

Screen 10 : You start on a conveyor belt

Screen 11 : Has to be completed very fast and also remember to jump along the marshland as you need to get back along it

Screen 15 : Not as straight forward as it seems - you can't fall down and into the exit as you pass it.

Screen 23 : Watch out for the first ghost - it goes to the top and stops.

Screen 27 : HELP!!

YOUR LETTERS

*** Games High Score Table ***

| | | | | |
|---------------|---------|------------------|------------|-------------|
| TOADO | 67801 | G.HULSHORSTBLOBB | 71233 | T.PICKSTONE |
| NEMO | 6360* | A.DOBSON | DBLOIDS | 60040 |
| P.PETE | 39630* | A.DOBSON | MISS.ALPH | 43840 |
| KILOPEDE | 24514* | A.DOBSON | GOLDMINE | 3042 |
| CONT RAID | 10810 | M.GILL | STAR COMM | 77700 |
| MAXIMA | 252830 | M.GILL | TURBO | 23030 |
| QOBD 2 | 107560* | A.DOBSON | ASTRO PAC | 69390* |
| COBRA | 1718* | A.DOBSON | SNAPPO | 62960* |
| T FIGHTER | 1900* | A.DOBSON | S M/FIELD | 629* |
| ASTROMIL. | 3070* | A.DOBSON | PHAD | 1965* |
| SON OF PETE | 880* | A.DOBSON | F.DEEP | 1290* |
| S.SCANMER | 1590* | A.DOBSON | ICEBERG | 17431* |
| KNUCKLES | 100000 | SALLY STREET | | |
| FELIX | 18450 | T.PICKSTONE | | |
| TAPEWORM | 168515* | A.DOBSON | AT LEVEL 1 | |
| | 150500* | A.DOBSON | AT LEVEL 9 | |
| BOUNCING BILL | 94340* | A.DOBSON | | |

Help Lines

1. If any member is having trouble with ALICE IN WONDERLAND & THE ZOO, if they write to me sending a S.A.E. I will send them some help. Alan Dobson Flat 1, 200 Stockport Road, Timperley, Altrincham, Cheshire. WA15 7UA.

Hints & Tips

1. This is a tip for FDX System owners :- If your system starts to play-up, that is, it refuses to read the system disc or 'hyps-out' in Neword etc. the cause may only be the 64 way connecting cable, or rather the connectors on each end. Just 'waggle' the connectors on and off a few times to ensure good connections.

N.B. After doing this it may be necessary to make new systems discs and Neword discs as they will have been corrupted slightly when the machine hyped out before repair. Mine were, this gave me 'jip' for about a month, but I'm glad to say all is ok now.

If this does not work try connectors inside the case and try getting rid of dust around the circuitry. It is possible to buy a can of compressed air for this purpose.

Phil Eyres

2. If you have trouble extracting a disc from a drive, ie it appears to hold the disc with a slight resistance, do not pull to hard!. In my experience this 'holding' was caused by a warped foil around the floating head. Take your computer back to the dealer for repair. In my case this resulted in a new complete disc drive!! Phil Eyres

Questions (and some answers)

1. I have entered Richard Dennis' " Panel LPRINT Dump program which was published in the December 1984 issue of the M.O.C. magazine. It is bug free (Ed ->As is all our programs!) and is a most useful utility which operates correctly with a STAR Gemini dot matrix printer. However, I would like to suggest one minor change to the program to provide an improved print-out of several Panel "pages".

The MTX's Panel feature disassembles and lists fourteen consecutive lines of machine code each time "L" <RET> is entered. The last line of each page appears as the first line of the following page, causing every fourteenth line to be printed twice.

This can be rectified simply by amending the seventh line of code from LD A,14 to LD A,13.

Perhaps Richard might be interested in expanding the program to cause the HEX contents and the equivalent character(s), associated with each line of code, to be printed as well. This would assist identification of text in the print-outs.

R.E.POTTER Glenbrook, Australia.

Ed -> This has been done for one and all to use, see the Program Library page for Panel2 Dump.

Answers to Questions

1. Enclosed is a 'date to day conversion' program as requested by S Kerley in the April issue. The printout after the program is some well known dates to check the program. (The first is the date of the first issue of "The Times")

Some notes on the program :

1. Although the Gregorian calender came into being in 1582 I have used the year 1600 as a starting point for this program. Britain did not change to the Gregorian system til 1752 so that the calender jumped from Sept 2nd to Sept 14th overnight. Prior to 1752 the program will give the proper Gregorian result.

2. The program is not idiot proof as no precautions were built in against an entry like 45th February 23456.

3. Line 30 contains the months and a code number following each month ie every fourth character is a number.

4. Line 35 breaks up A\$ for calculation purposes.

5. Lines 40 - 55 calculate a code number for the year based on :

(a) The number of years from 1600

(b) How many leap days have occurred

6. Lines 60 - 70 compare A\$ to Y\$ to find the code number for the month

7. Line 75 combines the codes for day, month, and year.

8. Lines 80 - 82 apply a correction if JAN or FEB of a

```

1 REM ***DATE TO DAY PROGRAM ***
10 REM *** ENTER DATE IN FORM 13JAN1945
20 REM *** LEAVE NO SPACES ***
30 REM *** INCLUDE LEADING ZEROS ***
40 REM *** By John Green ***
50 INPUT "DATE? ";A$
60 LET Y$="JAN0FEB3MARSAPR6MAY1JUN4JUL6
AUG2SEPT5OCTONOV3DEC5"
70 LET X=VAL(A$(1,2)): LET M$=A$(3,3):
LET Y=VAL(A$(6,4))
80 LET P=INT((Y-1600)/100)
85 LET P=P-INT(P/4)
90 LET Q=(Y-1600)+INT((Y-1600)/4)
95 LET Q=Q-P
100 FOR N=1 TO 45 STEP 4
105 IF M$=Y$(N,3) THEN LET R=VAL(Y$(N+3
))
110 NEXT N
115 LET S=X+R+Q
120 IF (M$="JAN" OR M$="FEB") AND MOD(Y
,4)=0 THEN LET S=S-1
125 IF A$(8,2)="00" AND MOD(Y,400)<>0 T
HEN LET S=S+1
130 LET D=INT(MOD(S+.1,7))
135 PRINT A$;"IS/WAS/WILL BE A ";
140 ON D GOTO 150,160,170,180,190,200,2
10
150 PRINT "SATURDAY": GOTO 500
160 PRINT "SUNDAY": GOTO 500
170 PRINT "MONDAY": GOTO 500
180 PRINT "TUESDAY": GOTO 500
190 PRINT "WEDNESDAY": GOTO 500
200 PRINT "THURSDAY": GOTO 500
210 PRINT "FRIDAY": GOTO 500
500 INPUT "ANOTHER GO?";A$
510 IF A$="Y" THEN RUN ELSE STOP

```

01JAN1785 is/was/will be a SATURDAY

18JUN1815 is/was/will be a SUNDAY

03SEPT1939 is/was/will be a SUNDAY

31DEC1899 is/was/will be a SUNDAY

01JAN1900 is/was/will be a MONDAY

12APR1985 is/was/will be a FRIDAY

25DEC2001 is/was/will be a TUESDAY

02NOV1922 is/was/will be a THURSDAY

leap year is selected.

9. Line 85 converts an large number into a remainder on dividing by 7.

10. Depending on one's requirements, the rest of the program can be used to print to screen or to printer or both.

11. The program caters for the fact that 1600 was a leap year but 1700, 1800 and 1900 were not (400 year rule). It does not contain lines to deal with the fact that years which are amultiple of 4000 will not be leap years but that should not be difficult for those who hope to be around then!!

NEW LINES

1. Thought I'd enclose a letter to let you know who I am. For starters; I'm 13, (Ed-> Our youngest member?) a relatively new MTX user, a part time programmer and a full time (Out of school and holiday time) "Computer Innocent", I write articles for competitions and the like. I also write fiction involving computers - just supply the storyline, and I'll write a story around it. Maybe ther could be a continuous story going on in the mag. with a different adventure each month?

Other ideas : How about a play by mail like that which is being run by Personal Computer Games magazine? Or a spot each month where readers send in their designs for 'Dream' computers? (I've already designed one, and even the peripherals.)

Here's my dream rig going by what's currently available, that wouldn't have to be specially built.

A 512K expanded MTX with RS232's and a HDX system with twin floppies (Ed->Twin floppies with a winchester drive? the MTX can't support a Winchester Drive!, you'll need an SM1.), four silicon discs, controller board, 80 - column card and 32Mb Hard Winchester.(Ed-> I'm lost!) On top of the HDX would be a high-rs colour monitor, and to the sides would be the various bits and pieces of the HRX graphics processing system including video camera, light pen etc.(Never heard of the HRX? Shame on you!) I'd have a 16 colour inkjet for graphic printouts and a DMX for text.

At the front of my desk on the lower "step" would be the keyboard, joystick, digitizing pad, and PACE nightingale modem. I'd also hook up a 68000 processor for housekeeping functions and Unix.

Behind me on the adjoining desk would be a robot arm, floppy disc library and a list of modem numbers.

And on top of it all, there'd be an identical system at the Owners Club to get online with!!.

Christian Worth

SOFTWARE REVIEWS

This month we have two new items from Megastar - Surfaces Scanner & Fathoms Deep. Can this new MTX software company maintain it's high standards of programming for future games? - I hope so!!!

Surface Scanner

Publisher Megastar
Price £6.95
Outlets Dealers

This is another arcade game from the author of Mission Alphasat - A.Key. The graphics in his Defender type games really are something to be admired.

Surface Scanner sets you up in the year 1990 with the task of defending your people from Galactic Warriors. The screen is very ingeniously set-up to provide you with a long range scan at the top, leaving the main screen free for you to fight the warriors.

Given half a chance the warriors abduct your people (dotted along the bottom of the screen) and proceed to carry them to the top of the screen, where, if you allow this to happen, the warriors transform your people into horrible, very difficult to shoot!, orange balls which are hell-bent on your destruction.

Conclusion

This is a good game, though in my opinion not as good as Mission Alphasat, the higher levels provide progressively more trouble and some of the warriors weapons are very fast moving. to get anywhere you will need a joystick and some experience at this sort of game. You will also need your 4 lives and 3 smart bombs to survive for any length of time.

As I said above a good game, but will you like it as much as Mission Alphasat?

RATING

Playability = 4
Graphics = 4
VFM = 4 (At club Price!! See Editorial)
Lasting Int. = 4

FATHOMS DEEP

Publisher Megastar
Price £6.95 (See club price list)
Outlets Dealers

Fathoms Deep, as the name suggests, is an underwater adventure. You are controlling the diver, who is looking for hidden keys. The object is to collect all the keys so that you are able to unlock the force-field that protects the diamonds.

To score bonus points you must collect pearls and return them to the diving bell. Directly you dive, your air supply starts diminishing. You can get more by picking up the air containers that are scattered around the caves or go back to the surface. Some of the keys are difficult to get, so you must be quick with your reactions.

The game will let you pause for a breather and also tells you the best score obtained so far.

Unfortunately, you do not know how many keys there are but when you think you have them all, try to switch the force-field off. If you cannot, then there must be another key to collect. You must beware of sharks and other enemy, else you'll lose your life. On one or two screens you must also deal with depth charges.

When you start the game, you have five lives and plenty of air. The graphics are good and the sound is fair. The diver swimming is portrayed very well in the graphics.

I would consider this game very much a challenge, as parts of it can be quite difficult. I must admit that, so far, I have not managed to unlock the force-field but with a bit more practice, who knows.

All in all, a reasonably good game but perhaps it should contain a few more features than it does.

RATING

Playability =4
Graphics =3
VFM =3
Lasting interest =3

H A R D W A R E R E V I E W

PASCAL

By Paul Schofield

I have not had much time to experiment with the Pascal Rom, but below is a brief preview which may be of interest for the magazine.

The MTX Highsoft Pascal Rom Board is finished to the same high standards that one has come to expect from Memotech Hardware. Once you have overcome the initial fear of opening the MTX case, you will find fitting remarkably simple. There may be a slight problem if it is the first expansion board fitted, but this is easily solved by bending the leads of the large capacitor at the end of the main circuit board.

Once the board is installed, switch on the MTX, type ROM 2 and you are welcomed to HIGHSOFT PASCAL MTX Version. Basic hackers will now be very disappointed as Pascal is definitely not a type and run language. It is designed around principles of structured programming and it is therefore essential to carefully design your data structures and algorithms before coding. This should not be a deterrent as such a discipline is required for serious programming and it is very much easier to code arcade type games in Pascal than Assembler.

Although the manual includes an introductory section to get you typing straight away, it does not pretend to be a Pascal tutorial. Newcomers to the language will certainly require a Pascal primer, while Wirth's "User Guide and Report" are almost mandatory even for those experienced with Pascal or similar languages. These point aside the manual is a very pleasant change from the rubbish one has become accustomed to for supporting Memotech software products.

Highsoft Pascal is certainly not the type of Tiny Pascal commonly provided for home micros. The implementation seems very complete supporting user types, sets of types, multi-dimensional arrays, dynamic variables and a wide range of built functions. The main omissions concern disk file handling and are not relevant to a cassette based system. Special functions include :

POKE, PEEK, VS, CRVS, PLOT, LINE, INK, PAPER, INP AND OUT.

which should be self explanatory and also :

| | |
|--------|--|
| TIN | Input from tape |
| TOUT | Output to tape |
| ENTIER | Equivalent to basic INT |
| ADDV | Returns the address of specified variable |
| SIZE | Returns the number of bytes of storage for |

variable.

It is a pity there is no SPRITE handling routines, but these may simply be written using the information in the RST 10 article (Issue 3).

The system is a true compiler and allows you to create object code modules which can then be loaded and run under BASIC. Space permitting, you may also compile and directly run a source program, which saves a great deal of time during development. The range of user commands is very extensive and puts the built in assembler to shame. Highsoft have grouped several editor functions together on the keyboard. With practice this will probably prove convenient but initially this involves almost constant reference to the manual as it is difficult to associate keys with functions.

Overall a good implementation of a powerful language, which greatly increases the scope of the MTX. Two words of warning;

- i) Program size will be somewhat limited on a MTX 500
- ii) Adding complex sounds to games will require getting your fingers dirty.

Next Month

Turbo Pascal Reviewed !!!

We try out the power of this Implementation of Pascal for FDX System owners.

(A little hint It'll knock spots off of Highsofts Pascal Rom)

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