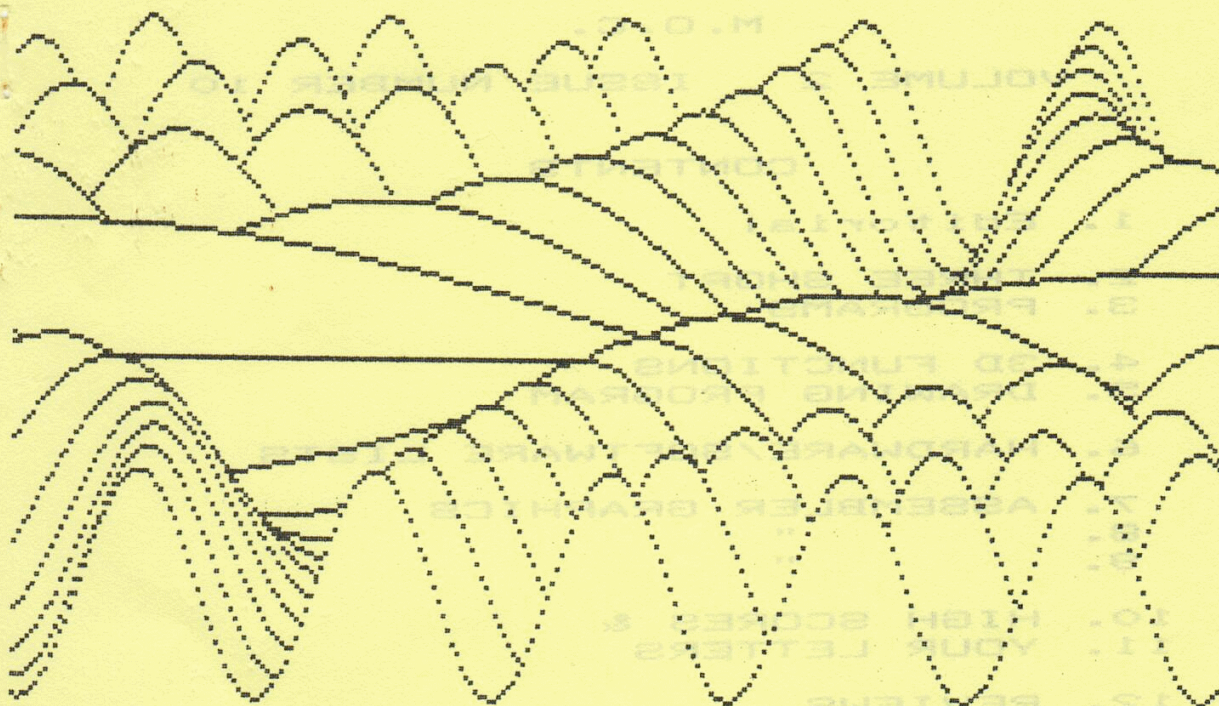THE
MEMOTECH OWNERS CLUB
MAGAZINE

FEATURES:-

4 ASSEMBLER PROGRAMS

2 BASIC PROGRAMS

HARDWARE PRICES

3 PROGRAMS REVIEWED

CIRCA ...250

M.O.C.

VOLUME 2   ISSUE NUMBER 10

CONTENTS

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If anyone has any good graphics designs for a front cover then we
would love to see them!!!

Phil Eyres
23 Denmead Road
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Southampton
S02 5GS

This month we have been in contact with Memotech Computers Limited and in particular Mrs M Boyd, they have been very helpful and we have tried to return the compliment. Hardware supplies are available again so please refer to the hardware page for full details, we also have printer ribbons for sale for only £7.00. Mrs Boyd also asked if we would convey this message to all our members :-

Thank you, to all club members from all of us at the New Company especially from our Managing Director, Mr Geoff Boyd, a name that will no doubt be familiar to most. We appreciate the fact that you have all stuck with us and we assure you that we can all look forward to a really bright and exciting future with "Memotech Computers Limited".

It was also suggested that we change the magazine name to reflect the new company. We thought that perhaps the best idea would be to put it to the members in the form of a competition for the month, so I look forward to receiving all your ideas and suggestions.

I have been contemplating buying some sort of 'mouse' or graphics tablet/Digitiser for the club, obviously the software will have to be hand written but if anyone can offer any advice as to some good hardware to buy I would be most grateful.

Thanks to everyone who has used our Hotline on Monday evenings between 6 & 7pm, the number to phone now is (0703) 466106, ask for Phil. If we keep Mondays as Hotline night then I can be sure of being in. However, feel free to phone any evening after 6pm, if I'm not in the my Mum (good old Mum!!) will take any calls.

If anyone would like back issues they are available for the small remittance of 80p each. At present there are 19 back issues, 10 for volume 1 and 9 for volume 2.

It should be noted that all articles are the copyright of the sender and M.O.C., anyone wishing to have articles published elsewhere should inform us first.

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INTERFACING PROJECTS

Why not make your mid-summers(?) resolution one which will lead you into the exciting world of micro electronics. Infact, what better way to start than with an MOC D.I.Y. kit. Everything you need is supplied, except a soldering iron, wire cutters and of course a few hours of your time!!. So why not order now.

Interface price list
A full set of components and instructions for the LED kit   -->£6.95
A full set of components and instructions for the Speech Synthesiser kit -->£18.00

Connecting cable for the internal port (needed for projects)   -->£4.50

All prices are fully inclusive. Please allow 14 days for delivery and make checks payable to MOC.

THREE SHORT PROGRAMS
By
Nick Hill

Here are three programs which you might like to try, the first, Flower Power Pattern, is fairly obvious, but gives a pleasent result.

The second is a pseudo 3D plot of a function as given in line 10. There are also some other suggestions for other functions but be warned that the program can be rather slow at the higher resolutions!!. It has been adapted from a Spectrum program in Popular Computing about three years ago.

The third, however, is completely original and is, I think, the most interesting of the three. It is a way of encoding text — or any other material — so that the result is completely undecipherable, and yet can be decoded very easily with the correct key. It relies on the unusual properties of the XOR function. If one number is XOR'ed with another, it is radically altered yet when XOR'ed with it a second time, it is restored to its original value. In the program (Listing 3) I have taken a message 16 bytes long, starting at £4040, and XOR'ed it with successive bytes from the ROM, starting at 0000. The result is stored at £4050. The second part of the program, starting at £401E, then decodes the coded text and puts the result at £4060. I have included the hex dumps of the results, and there is no obvious relationship between the coded and uncoded text.

Flower Power Pattern

```
10 VS 4: CLS
20 FOR B=0 TO 1
30 FOR A=B TO B+2*PI STEP PI/6
40 PLOT 127,96
50 ANGLE A
60 DRAW 30
70 FOR N=1 TO 20: DRAW 11: PHI PI/10: NEXT N
80 NEXT A: NEXT B
90 IF INKEY$="" THEN GOTO 90
```

Listing 1.

Function Plotting Program

```
1 PRINT "RESOLUTION?": INPUT S: VS 4: CLS : GOTO 100
10 LET R=A+G+121: LET T=LN(ABS(COS(B*C/800))): LET T=INT(80+A-T*8)
20 IF F=-50 THEN LET P(R,2)=T
30 IF T<=P(R,1) THEN GOTO 75
40 LET P(R,1)=T
50 IF T<0 THEN LET T=0
60 IF T>191 THEN LET T=191
70 PLOT R,T: RETURN
75 IF T>=P(R,2) THEN RETURN
80 LET P(R,2)=T: GOTO 50
100 DIM P(250,2)
110 FOR F=1 TO 140: LET P(F,2)=255: NEXT F
```
                    Continued Overleaf

```
120 FOR F=140 TO 250: LET P(F,2)=F: NEXT F
130 FOR F=-50 TO 50 STEP S
140 LET A=F: LET B=50-ABS(F)
150 FOR G=-70 TO 70: LET C=70-ABS(G): GOSUB 10: NEXT
160 FOR A=F+1 TO F+S-1: LET B=50-ABS(A)
170 FOR G=-70 TO 70 STEP S: LET C=70-ABS(G): GOSUB 10: NEXT
180 NEXT : NEXT
190 IF INKEY$="" THEN  GOTO 190
```

SOME MORE PLOTS TO TRY ...

WITH S=1

`10 LET R=A+G+121: LET T=COS(B*C/100): LET T=INT(80+A-T*15)`

WITH S=2

`LET R=A+G+121:LET T=(B*C/450)^2: LET T=INT(80+A+T)`

WITH S=1

`LET R=A+G+121: LET T=LN(ABS(COS(B*C/800))): LET T=INT(80+A-T*8)`

WITH S=2

`LET R=A+G+121: LET T=SGN(COS(B*C/200)): LET T=INT(80+A-T*8)`

Listing 2.

Data Encoding Using XOR

```
10 CODE
```

                                          HEX DUMPS

```
4007        LD DE,MESS         4040:  41 42 43 44 45 46 48 49
400A        LD HL,0            4048:  4A 4B 4C 4D 4E 4F 50 51
400D        LD IX,M1           4050:  B2 ED 62 44 05 85 DC 48
4011        LD B,16            4058:  14 68 1A 6E 87 BC AF AE
4013 AA:    LD A,(DE)          4060:  41 42 43 44 45 46 48 49
4014        XOR (HL)           4068:  4A 4B 4C 4D 4E 4F 50 51
4015        LD (IX+0),A
4018        INC HL
4019        INC DE             4040:  A  B  C  D  E  F  H  I
401A        INC IX             4048:  J  K  L  M  N  O  P  Q
401C        DJNZ AA            4050:  .  .  b  D  .  .  .  H
401E        LD DE,M1           4058:  .  h  .  n  .  .  .  .
4021        LD HL,0            4060:  A  B  C  D  E  F  H  I
4024        LD IX,M2           4068:  J  K  L  M  N  O  P  Q
4028        LD B,16
402A BB:    LD A,(DE)
402B        XOR (HL)
402C        LD (IX+0),A
402F        INC HL
4030        INC DE
4031        INC IX
4033        DJNZ BB
4035        RET
4036        DS 10
4040 MESS:  DB "ABCDEFHIJKLMNOPQ"
4050 M1:    DS 16
4060 M2:    DS 16
4070        RET
```

Listing 3.

3D FUNCTIONS DRAWING PROGRAM

BY
PETER ERIKSSON

This program draws 3 dimensional graphs of mathematical functions of the form :

$$z = f(x,y)$$

You can tilt the graph up or down and turn it left or right to view it from another angle.

The assembler routine will calculate the formulae held in a string and store the result in a numerical variable.

To use it, first use USER 0 to store the string in memory. For example :-

USER 0,address,"formulae"

USER 0,40960,"10+45/6*sin(16+5*ALPHA)

Then use USER 1 to calculate and store the result:-

USER 1,address,variable

USER 1,40960,RESULT

(The reason for using two seperate commands is that this approach will speed up the program when calculating the same formulae many times).

The front cover was produced using this program with the following function and data :-

Function ....SIN(X*Y)

X-start ..... -4
Y-end 4
Resolution .. 20

Y-start ..... -4
Y-end 4
Y-offset 5

Z-start ..... -4
Z-end 4
Z-offset 5

The axis are Z = vertical
             Y = horizontal
             x = Depth

The Listing ...

15 CODE

```
4007 SETUP:  LD HL,USERTAB
400A         LD DE,£FA87
400D         LD BC,5
4010         LDIR        ; Redirect USER command
4012         RET         ; to USERCOM
4013 USERTAB:DB £C9,7    ; Select no syntax checking
4015         JP USERCOM  ; for USER command
4018 USERCOM:RST 30      ; Read number / variable (CMDNO)
4019         LD A,C
401A         PUSH AF
401B         RST 30      ; Read number / variable (ADDR)
401C         POP AF
401D         OR A
401E         JR Z,USERSTO
4020         LD HL,BUFFER1
4023 USERCLO:LD A,(DE)
4024         CP "A"
4026         JR C,USERCL1
4028         CP "["
402A         JR NC,USERCL1
```

```
402C         LD (HL),A
402D         INC HL
402E         INC DE
402F         JR USERCLO
4031 USERCL1:LD (HL),£D4 ;£D4 = Tokenised form of '='
4033         INC HL
4034         PUSH DE
4035         LD D,B
4036         LD E,C
4037 USERCL2:LD A,(DE)
4038         LD (HL),A
4039         CP 255
403B         JR Z,USERCL3
403D         INC HL
403E         INC DE
403F         JR USERCL2
4041 USERCL3:LD DE,BUFFER1
4044         CALL £29DA ; Call to let routine (BASIC)
4047         POP DE
4048         RET
```

Continued Overleaf

4

```
4049 USERSTO:PUSH BC
404A       RST 28
404B       DB £BB        ; Find first byte after string
404C       PUSH DE
404D       RST 28
404E       DB £B9        ; Move string to
404F       EX DE,HL      ; tempoerary buffer
4050       LD (£FA81),HL
4053       LD DE,BUFFER1
4056       LDIR
4058       EX D
4059       LD (E,HL
405B       LD HL,BUFFER0
405E       CALL £398C    ; Call to BASIC interval
4061       POP DE        ; tokeniser routine
4062       POP HL
4063       EX DE,HL
4064       PUSH HL
4065       LD HL,BUFFER1
4068 USERSLO:LD A,(HL)
4069       LD (DE),A
406A       CP 255
406C       JR Z,USERSL1
406E       INC HL
406F       INC DE
4070       JR USERSLO
4072 USERSL1:POP DE
4073       RET
4074 BUFFER0:DB £90      ; £90 = Tokenised form of print
4075 BUFFER1:DS 254      ; Common buffer
4173       RET


16 LET SCRXMAX=255
20 LET SCRYMAX=191
30 LET CALCADR=40960
40 DIM ZMAX(SCRXMAX+1)
100 VS 5: CLS
110 PRINT "-----------------------------------"
120 PRINT "*** MTX GRAPH-3D, VERSION 2.00  ***"
130 PRINT "-----------------------------------"
140 PRINT
150 PRINT "(C) PETER ERIKSSON 1986"
160 PRINT
170 PRINT
180 INPUT "PLEASE ENTER THE FUNCTION:";FN$
190 USER 0,CALCADR,FN$
200 PRINT
210 INPUT "START OF X-AXIS:";XL
220 INPUT "END          :";XH
230 INPUT "RESOLUTION    :";N
240 PRINT
250 INPUT "START OF Y-AXIS:";YL
260 INPUT "END          :";YH
270 INPUT "OFFSET        :";YT
```

```
280 PRINT
290 INPUT "START OF Z-AXIS:";ZL
300 INPUT "END          :";ZH
310 INPUT "OFFSET        :";ZT
320 LET DY=(YH-YL)/SCRXMAX
330 LET DX=(XH-XL)/N
360 LET X=XH
370 FOR I=0 TO N
380 LET YC=YL
390 FOR J=0 TO SCRXMAX
400 LET Y=YC+YT*X
410 USER 1,CALCADR,Z
420 LET Z=Z-ZT*X
430 LET TX=0.5+SZ*(Z-ZL)
440 LET DJ=J
450 IF ZMAX(DJ+1)<TX AND TX<=SCRYMAX THEN  PLOT DJ,TX
455 IF ZMAX(DJ+1)<TX THEN  LET ZMAX(DJ+1)=TX
460 LET YC=YC+DY
470 NEXT J
480 LET X=X-DX
490 NEXT I
500 CSR 4,23: PRINT "PRESS <RET> TO CONTINUE";CHR$(30);
510 IF INKEY$=CHR$(13) THEN  PRINT CHR$(31);: GOTO 100
    ELSE  GOTO 510


             oooooo THE END oooooo
```

HARDWARE AND SOFTWARE
PRICE LIST

At last we have very good news about the 'new' Memotech, we are able to supply hardware again at very competitive prices as Memotech have kindly continued our dealer discounts scheme. There are two items which have been dropped, the MTX 500 and the DMX80 printer. This streamlining of the products, will hopefully mean new product arrivals in the very near future, in fact, as you can see below there will be available in 8 weeks a 1meg 3 1/2" drive and interface for only £129.00, also 1meg, 2meg and 4meg silicon discs for the SDX range. If you would like to order now to ensure that you are the first to receive one of these new units then please get in touch. Remember our phone number is 0703 466106.

We have found a supplier of DMX80 ribbons thanks to John Friis from Bristol. Having tested a ribbon out over the past month, we have found that it has behaved very well and it appears to be lasting as long as the genuine ribbon, it's only slight fault could be that the printing goes slightly lighter when it is used for really heavy printing, it does however return dark when used intermittantly. For anyone who has ever had a DMX ribbon to bits, this ribbon employs a slightly different inking technique, a tube of ink presses against a wheel around which the ribbon is passed over thus inking it ready for its next pass through the print head.

We can offer them for only £7.00 each, so why not order one today and be prepared for the day your ribbon finally 'bites the dust'!!!

The club has decided to start selling software of it's own, written by members or from people outside of the club, the now famous Andy Key has proposed two new games which are already written, the music to one was composed by Ian Heath who is one of our ardent members, he has also semi-finished a Spectrum Emulator that only requires the software and not the hardware ROM. We will try and get more news on this for next month, but in the mean time, if anyone has good commercial quality software, then please get in touch.

The MTX FIG-FORTH requires an MTX512 or expanded 500, the dictionary associated with Forth is held as part of the Ram-Disc which can be saved separately, fairly quickly. The Ram-Disc allows for 24 'edit' screens to be created and in memory simultaneously. A tutorial will be necessary for the beginner, for this the club has obtained a quantity of the publication Fundamental Forth. The prices are listed opposite:-

Fig-Forth Program £6.00
Tech Data Sheets   £2.00
Tutorial Book   £7.50
(240 pages)

Cheques payable to MOC please, orders from stock normally despatched by return, else please allow 2 working weeks.

All 'SUPER CHEAPIES' will be despatched by return of post.

!!!SUPER CHEAPIES!!!
(ONLY FROM STOCK)

DESC	QTY	PRICE (Each)	DESC	QTY	PRICE (Each)
DUNGEON ADV.	2	£7.00	THE ZOO	3	£4.50
ADV. QUEST	1	£7.00	COBRA	1	£4.50
EMERALD ISLE	1	£7.00	ALICE	2	£3.50
BLOBBO	5	£4.50	FIRST LETTERS 1	1	£4.50
KILOPEDE	2	£4.50	BASIC BUSINESS	1	£5.00
REVERSI	3	£4.50	HELI-MATHS	2	£4.00
MINEFIELD	3	£4.50	SPELLI-COPTER	1	£4.00
BACKGAMMON	2	£4.50	FIRE HOUSE FREDDIE	2	£4.00
TOADO	3	£3.50	ASTROMILLON	1	£4.50
NEMO	1	£4.50	PONTOON &B'JACK	3	£4.50
SNAPPO	3	£4.50	DRAUGHTS	3	£3.50
PAYROLL	1	£10.00	GOLDMINE	1	£4.50
PURCHASE LEDGER	1	£7.00	KNUCKLES	1	£4.50
PHYSICS 1	3	£5.50	JOHNNY REB	1	£4.50
MATHS 1	2	£5.50	TAPEWORM	1	£4.50

Software prices for the best and most popular software:-

Zarkos	£6.00
Qogo2	£6.00
Karate King	£6.00
S.M.G	£6.00
Doodlebugs	£6.00
J.J.Flash	£6.00
Cee-5	£6.00
Star Command	£6.00
Downstream Danger	£6.00
Memosketch	£7.95
Mission Alphatron	£6.00

ASSEMBLER GRAPHICS

By

Leif Mortenson

```
5 VS 4: CLS : GOTO 30              40EA        SUB B
10 CODE                           40EB        LD B,A
                                  40EC        RET
4014       LD IY,TABEL  ;SET SPRITE POSITION   40ED HJDE:  LD A,(IX+4)   ;CALCULATE HEIGHT
4018       LD (IY+£0),0           40F0        INC A         ;FOR CHANGE
401C       LD (IY+£01),0          40F1        LD B,(IX+2)
4020       LD (IY+£02),0          40F4        SUB B
4024       LD (IY+£03),2  ;PATTERN  40F5        LD B,A
4028       LD (IY+£04),1  ;AND COLOUR  40F6        RET
402C       LD HL,POS1             40F7        RET
402F       LD B,6                40F8 UPDATE: LD B,£7E      ;SEND DATA FOR
4031 SLET: LD (HL),0             40FA        CALL VRAM     ;SPRITE ATTRIBUTE
4033       INC HL                40FD        DI;TABLE
4034       DJNZ SLET             40FE        DEC A
4036       CALL UPDATE  ;SET SPRITE ON SCREEN  40FF        OUT (2),A
4039       LD IX,POS1            4101        CALL PAU
403D       CALL STED    ;SET CSR  4104        LD A,B
4040       RST 10       ;PRINT TEXT  4105        OUT (2),A
4041       DB £9C,"FIND TOP LEFT "  4107        LD HL,TABEL
4050       DB "CORNER        "    410A        LD B,6
405E       RST 10                410C U1:    LD A,(HL)
405F       DB £83,3,3,21         410D        INC HL
4063       RST 10                410E        OUT (1),A
4064       DB £98,"USE ARROW "   4110        DJNZ U1
406F       DB "KEYS + )HOME< "   4112        EI
407D       CALL STYR             4113        RET
4080       CALL STED             4114 VRAM:  LD A,(£FF58)
4083       RST 10                4117        AND A
4084       DB £9C,"FIND TOP RIGHT"  4118        JR NZ,VRAM
4093       DB "CORNER        "    411A        RET
40A1       INC (IY+3)   ;NEW SP. PATTERN  411B STYR:  LD IY,TABEL  ;THIS ROUTINE
40A4       CALL UPDATE           411F ST2:   CALL £79      ;TAKES CARE OF
40A7       CALL STYR             4122        JR Z,ST2      ;WHICH KEY IS PRESSED
40AA       CALL STED             4124        CP 11
40AD       RST 10                4126        JP Z,OP
40AE       DB £9C,"FIND BOTTOM RI"  4129        CP 10
40BD       DB "GHT CORNER    "   412B        JP Z,NED
40CB       INC (IY+3)            412E        CP 8
40CE       CALL UPDATE           4130        JP Z,VENS
40D1       CALL STYR             4133        CP 25
40D4       JP FARVEV             4135        JP Z,HJRE
40D7 DEST: LD A,(IX+0)  ;CALCULATE START  4138        CP 26
40DA       ADD A,£20    ;ADDRESS FOR VDP  413A        CALL Z,POS
40DC       LD D,A                413D STYR1: CALL UPDATE
40DD       LD A,(IX+1)           4140        JP STYR
40E0       LD E,A                4143 OP:    NOP
40E1       RET                   4144        LD A,(IY+1)
40E2 BRED: LD A,(IX+3)  ;CALCULATE WIDTH  4147        SUB 8
40E5       ADD A,8      ;FOR CHANGE  4149        LD (IY+1),A
40E7       LD B,(IX+1)           414C        DEC (IX+0)
```

Continued Overleaf

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```
414F        JP STYR1              421A BEGYND: PUSH BC
4152 NED:   NOP                   421B         CALL DEST
4153        LD A,(IY+1)           421E         DEC E
4156        ADD A,8               421F         CALL VRADR      ;SEND ADDRESS TO VDP
4158        LD (IY+1),A           4222         LD HL,DATA
415B        INC (IX+0)            4225         INC HL
415E        JP STYR1              4226         CALL BRED
4161 VENS:  NOP                   4229         CALL VRDIN      ;GET COLOUR FROM VRAM
4162        LD A,(IY+2)           422C         CALL BRED
4165        SUB 8                 422F         LD A,(FARVE)
4167        LD (IY+2),A           4232         CP "F"
416A        LD (IX+1),A           4234         CALL Z,FORG
416D        JP STYR1              4237         CP "f"
4170 HJRE:  NOP                   4239         CALL Z,FORG
4171        LD A,(IY+2)           423C         CP "B"
4174        ADD A,8               423E         CALL Z,BAGG
4176        LD (IY+2),A           4241         CP "b"
4179        LD (IX+1),A           4243         CALL Z,BAGG
417C        JP STYR1              4246         CALL DEST
417F POS:   NOP        ;PLACE THE POS. OF THE    4249  DEC E
4180        LD A,(IX+0)  ;SPRITE IN THE          424A  CALL VRADR
4183        LD (IX+2),A  ;LABEL POS1             424D  CALL BRED
4186        LD A,(IX+1)  ;AND UPGRADE            4250  LD HL,DATA
4189        LD (IX+3),A  ;IX REG.                4253  INC HL
418C        INC IX                 4254         CALL VRDUD      ;SEND NEW COLOUR TO VRAM
418E        INC IX                 4257         INC (IX+0)      ;NEW LINE
4190        CALL UPDATE            425A         POP BC
4193        INC SP                 425B         DJNZ BEGYND
4194        INC SP                 425D         RET
4195        RET                    425E STED:   RST 10
4196 FARVEV: CALL STED             425F         DB £83,3,3,20
4199        RST 10                 4263         RET
419A        DB £9C,"FOR- OR BA"    4264 BAGG:   NOP
41A5        DB "CKGROUND  F/B)   " 4265         LD IY,FARVE
41B7        LD IY,FARVE            4269         LD HL,DATA
41BB FELB:  CALL £79               426C SKBG:   LD A,(HL)       ;PUT COLOUR IN A
41BE        JR Z,FELB              426D         RES 7,A         ;RESET FOREGROUND
41C0        LD (IY+0),A            426F         RES 6,A         ;COLOUR
41C3        INC IY                 4271         RES 5,A
41C5        CALL STPAU             4273         RES 4,A
41C8        CALL STED              4275         CP (IY+1)       ;IS IT SAME COLOUR?
41CB        RST 10                 4278         CALL Z,SKBG2
41CC        DB £9C,"CHANGE COL"    427B         INC HL          ;IF NOT
41D7        DB "OR NO.(USE £ A=10)" 427C        DJNZ SKBG       ;GET NEXT
41E9        CALL INP               427E SKBG2:  NOP             ;SAME COLOUR
41EC        CALL STPAU             427F         LD D,(HL)       ;STORE OLD COLOUR
41EF        CALL STED              4280         RES 0,D         ;ERASE OLD BACKGROUND
41F2        RST 10                 4282         RES 1,D         ;COLOUR
41F3        DB £9C," NEW COL"      4284         RES 2,D
41FC        DB "OR NO. (USE £)   " 4286        RES 3,D
4210        CALL INP               4288         LD A,(IY+2)     ;PUT NEW COL IN A
4213        LD IX,POS1             428B         ADD A,D         ;NEW COLOUR IN A - OLD IN D
4217 START: CALL HJDE              428C         LD (HL),A       ;STORE BOTH COLOUR S AGAIN
```

Continued Overleaf

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```
428D        RET                     42F1        RET
428E FORG:  NOP                     42F2 VRDUD: DI
428F        LD HL,DATA              42F3 IGEN2: LD A,(HL)
4292        LD IY,FARVE             42F4        OUT (1),A
4296 SKFG:  LD A,(HL)               42F6        CALL PAU
4297        SRL A                   42F9        INC HL
4299        SRL A                   42FA        DJNZ IGEN2
429B        SRL A                   42FC        EI
429D        SRL A                   42FD        RET
429F        CP (IY+1)               42FE PAU:   PUSH BC
42A2        CALL Z,SKFG1            42FF        NOP
42A5        INC HL                  4300        LD B,20
42A6        DJNZ SKFG               4302 PAU2:  NOP
42A8 SKFG1: LD D,(HL)               4303        DJNZ PAU2
42A9        RES 7,D                 4305        NOP
42AB        RES 6,D                 4306        POP BC
42AD        RES 5,D                 4307        RET
42AF        RES 4,D                 4308 STPAU: NOP
42B1        LD A,(IY+2)             4309        PUSH BC
42B4        SLA A                   430A        LD B,£3F
42B6        SLA A                   430C STPAU2: HALT
42B8        SLA A                   430D        DJNZ STPAU2
42BA        SLA A                   430F        POP BC
42BC        ADD A,D                 4310        NOP
42BD        LD (HL),A               4311        RET
42BE        RET                     4312 POS1:  DS 8
42BF INP:   CALL £79                431A TABEL: DS 4
42C2        JR Z,INP                431E FARVE: DS 3
42C4        SUB £30                 4321 ADRES: DS 2
42C6        CP 9                    4323 DATA:  DS 254
42C8        CALL NC,INP2            4421        DS 10
42CB        LD (IY+0),A             442B        RET
42CE        INC IY
42D0        RET                     20 GOTO 50
42D1 INP2:  SUB 7                   30 PRINT " THIS ROUTINE CHANGES THE COLOUR  ON  VS  4.":
42D3        RET                        PRINT " YOU HAVE A SPRITE YOU CAN "
42D4 VRADR: DI                      32 PRINT " GUIDE OVER THE SCREEN, AND SO ": PRINT "DEFINE
42D5        CALL VRAM                  A QUADRANT, IN WHICH YOU"
42D8        LD A,E                  34 PRINT " WANT TO CHANGE THE COLOUR.": PRINT "YOU  CAN
42D9        OUT (2),A                  CHANGE THE COLOUR SEPERAT - ELY."
42DB        CALL PAU                36 PRINT " REMEBER TO MAKE THE  INPUT  IN  HEXIDECIMAL":
42DE        LD A,D                     PRINT "E.G. 10=A, 11=B AND SO ON"
42DF        OUT (2),A               38 PRINT " DO NOT CHANGE THE SPRITE NUMBER IN THE  GENPAT
42E1        CALL PAU                   STATEMENT, UNLESS YOU KNOW WHY."
42E4        EI                      42 GENPAT 3,2,255,128,128,128,128,128,128
42E5        RET                     44 GENPAT 3,3,255,1,1,1,1,1,1,1
42E6 VRDIN: DI                      46 GENPAT 3,4,1,1,1,1,1,1,1,255
42E7 IGEN:  IN A,(1)                48 GOSUB 10
42E9        LD (HL),A               50 CSR 3,20: INPUT "ONE MORE TIME Y/N     ";S$
42EA        CALL PAU                52 IF S$="Y" THEN  GOTO 10
42ED        INC HL                  54 STOP
42EE        DJNZ IGEN
42F0        EI                              ooo 000  The End 000 ooo
```

9

** Games High Scores Table **

Game	Score	Player		Game	Score	Player
AGROVATOR	89615	A.DOBSON		L OF TIME	950	R.SIDDALL
ASTROMILON	30830	T.NEAL		MAXIMA	501250	R.SIDDALL
ASTROPAC	69390	A.DOBSON		MINER DICK	22520	R.SIDDALL
BLOBBO	71233	T.PICKSTONE		MISS ALPHA	53320	P.CRIGHTON
B.BILL	219610	A.DOBSON LEVEL 1		M OMEGA	4400	T.NEAL
B.BILL	158334	A.DOBSON LEVEL 9		NEMO	14650	P.CRIGHTON
C-5	9918	*V.STEPNEY		O.ZONE	35620	A.DOBSON
CHAMBEROIDS	19 MINS	P.ERIKSSON		OBLOIDS	80110	P.CRIGHTON
COBRA	5634	A.DOBSON		PHAID	5285	M.FIDLER
CONT RAID	10810	M.GILL		P PETE	41190	A.DOBSON
CRYSTAL	35507	A.LYNCH		QUASI	1200	*G.CAMPBELL
DR FRANKY	14925	N.CRIGHTON		QUAZZIA	41020	V.STEPNEY
D.DANGER	8627	A.DOBSON		Q060	11440	M.FIDLER
D.DESTROYER	3380	T.NEAL		Q060 2	255000	R.SIDDALL
EMERALD ISLE	725	R.SIDDALL		ROLLA BEAR	27741	V.STEPNEY
E. ZARKOS	90 OBJ	R.SIDDALL		SEPULCRI	6175	V.STEPNEY
F. DEEP	1420	A.LYNCH		S.M.G.Rt	26280	V.STEPNEY
FELIX	20600	P.COUGHLAN		S.M.G.Lt	11830	V.STEPNEY
F.FREDDIE	15560	M.FIDLER		SNAPPO	79300	P.ERIKSSON
FLUMMOX	25700	T.NEAL		SNOWBALL	1000	P.COUGHLAN
GOLDMINE	6308	M.FIDLER		S OF PETE	10542	P.ERIKSSON
HAWKWARS	15850	P.CRIGHTON		STAR COMM	131690	P.CRIGHTON
H. ENCOUNTER	14030	*V.STEPNEY		SUPERBIKE	20.7KM	A.FIDLER
HI-LO	£120	*G.CAMPBELL		S M/FIELD	829	M.GELDER
HUNCHY	5681	T.NEAL		S SCANNER	7340	A.DOBSON
ICEBURG	17431	A.DOBSON		T FIGHTER	3260	V.STEPNEY
JUMP' J FLASH	2970	T.NEAL		TAPEWORM	168515	A.DOBSON LEVEL 1
KARATE KING	1300	T.NEAL		TAPEWORM	150500	A.DOBSON LEVEL 9
KILOPEDE	35275	N.CRIGHTON		T ZONE	7610	P.ERIKSSON
KNUCKLES	488650	P.CRIGHTON		TOADO	107549	N.GOODING
				TURBO	23030	M.GELDER
				THE WALL	2310	*P.ERIKSSON

* Denotes new high score

1.Fig-Forth

Dave Thompson, the author of the clubs Fig-Forth has supplied us with an updated set of user notes and some new words to be incorporated into Forths dictionary, these words are :-

DEPTH,   Leaves a count of the 16 bit numbers on the stack

THRU,   Loads a contiguous set of screens given the lowest and highest screen numbers

BPT,   Halt program execution and display the stack.

L,   List without being in Editor

A,   List screen above current screen

Z,   List screen below current screen

WITHIN,   Range check

@EXECUTE,   Vectored Execution

Please send in a S.A.E. if you require the update sheets.

To all you Forth owners - May The 'FORTH' be with You!!!.

2.Questions

Over the past month we have had a flood of members asking about upgrading their MTX 500's to 512's, and not by the normal method of the expansion board, but by removing their system board RAM chips and replacing them with 64K chips.

Has anyone undertaken this change, if so, could you please get in touch !!. So far, this is what Peter Eriksson had to say about expanding his expansion card:-

A week ago I decided that I would try to expand my MTX 512 to 128Kbyte RAM (My MTX 512 isn't really a true one, it's a MTX 500 with a 32K RAM card.) by installing eight 4164 DRAM chips into the eight empty IC-sockets on the expansion card.

It almost worked! The only fault was that I only got half

Continued Overleaf

the RAM I installed. (That is the computer only recognizes 32K, making a total of 96K) By doing this, I made it possible to install another expansion card inside the computer. (Else the RAM expansion would have taken that place.)

3. Software hints By Peter Eriksson
My high score on 'The Wall' is 2310 points. This game was written by a friend of mine and I really can recommend it. It's really worth it's money (4.95 in Memopad). It isn't like some other 4.95:ers by SyntaxSoft, it's a lot better! (I can't understand how SyntaxSoft can sell 'Superbike' for 4.95, I wouldn't sell it for more than 2.95, if I would sell it at all..)

4. Hardware
Some members are having problems finding room for all their expansion cards when they upgrade to a CP/M SDX system, especially if they have a MTX 500, whereby they are required to have the expansion card fitted somewhere. This problem arises because the SDX controller box that fits on the left hand bus connector does not continue the bus connection on it's lefts hand edge, thus, this severely limits expansion once an SDX is installed. There is room in the SDX controller box for a single width expansion board (namely a RAM expansion) to be fitted. This involves securing the board to the underside of the cases to cover using a couple of small nuts and bolts. Then using a piece of ribbon cable make the bus connections from the board to the inverted expansion board, taking care to ensure that the correct lines are soldered together, as we found we had to twist the cable 180 degrees to obtain the correct fitting.

You should note that this is a risky business, as you can easily 'blow' chips with the static transmitted just by touching them. It is however, possible, as it works with my brothers SDX system.

5. Magazine Ideas
Victor Stepney has this to say:-

The reviews page is probably the most important fo me, low wages force me to choose software carefully as £6 for a game which lays around collecting dust is not funny.

Whilst the reviews are generally quite good it does seem that there are too few for a games player. A useful guide when choosing what to buy is the authors name. Writers such as C.Sawyer, A.Key and Butterfield, Wills etc are well featured amongst my collection of Megastar games, and are of high quality. Among the latest purchases are Highway Encounter - Cee 5 and Miner Dick, of which Highway Encounter and Cee-5 are very good.

Ed-> It is true that we do not have enough reviews to fill a page each month, we will try and rectify this by buying new software as and when we can find it. If anyone hears/has or sees some new software let us know so that it can be reviewed and passed on, as the reviews page does make for informative reading.

Gordon Clay has this to suggest:-
What about a gallery for Memosketch pictures, also, would it be possible to start an adventure page, where reviews, hints and help is given. I have completed SNOWBALL but I am now stuck in LORDS of TIME and CAVES of ORB.

Ed-> We can print Memosketch pictures, probably the best place would be the front cover as they tend to be large (and we are always short of front covers!!). Try to make sure there is not too much black as this tends not to duplicate too good. As for an adventure help line, the letters page seems like the ideal place for it.

6. Contacts
Gordon Clay has asked us to print his address as he would like to get in contact with MTX owners in the North Shields, Whitly Bay and Tynemouth area, his address is:-
37 Netherton Ave, North Shields, Tyne and Wear. Tel 2583320

.. and a letter from Lieselotte Foeller
How about a small social corner in the mag??
Members could introduce themselves and in case someone is interested they could get in touch with each other maybe by writing letters. Or, for instance, if I had the address of a member in England or Switzerland I could visit them next time I am there. Or, I would love to read something about people living in Australia or Brunei.

If you need somebody to start with, take me:-
I'm German, single, 54 years old, I love flowers and other plants. I am not rich and live in a one-room apartment. I work in an office, I like travelling and sunshine. I'm very lazy but I like getting letters. For me, the MTX is only a small part of my life. I use it, but I still think people are more interesting than a computer!!!.

Lieselotte's address is:-
Platanenstr. 10
D-6230 Frankfurt/m 83
Germany

ooo 000 ooo

The SOFTWARE Page

Title   : Tornament Snooker
Reviewed By   : Richard Siddall
Software House : Magnificent 7 Software

The producers of this new game, Magnificent 7 Software have
produced games for the Commadore 64 and Spectrum and seem to be
very experienced in producing high quality software for most home
computers, but this snooker simulation for the MTX is probably
the best for any home computer that I have seen in all my seven
years of using computers.

The game is so precise, the cue adjustment is correct to 0.17 of
a degree and the ball spin makes it possible to do a number of
shots that Steve (Exceedingly Boring!!) Davis would be proud of!.
The game also has an 'instant reply' which repeats shots that
have previously been taken, showing how good or bad it was.

Conclusion
The demo shows a game being simulated by the computer, this shows
how good the game is. The only other thing I can say is 'Get out
and buy it!!' you will not regret it.

Marks 10/10   Comments - Excellent

                    ooo OOO ooo

Title   : Karate King
Reviewed By   : Richard Siddall
Software House : Megastar

I must say that this game is really good, so I cannot pick a
great deal of fault.

The main objective of the game is to collect a number of lanterns
from around 'Bluces' town, whilst beating the hell out of Yamoto,
your enemy.

The graphics are good, probably a bit small but good, and the
colour also suits the game to a 'tee'. The only major problem is
the sound which only consists of a few bleeps.

Any former Spectrum owners will probably have seen this game
before under the title BRUCE LEE, I myself have seen the Spectrum
version and think that the MTX version knocks spots off of it!!.

All in all a great game for all ages. Thanks Megastar.

Graphics   8   Sound   YUK!!
Value   8   Colour   9
Addictiveness 9

This month we have an excellent applications program from Richard Page, called CHEMEMENTS, it should help any 'O' level Chemistry students understand the Periodic Table. The program is fully documented within itself, making full use of NODDY pages. If you're interested in Chemistry and in particular the elements, then this is well worth a look at.

We could really do with some more programs for the library as Chemements is the only program we have had in two months!!.

1.Basic & Assembler Programs

All programs available on cassette, 2 programs per cassette, £1.20 per cassette. Or on disc, £2.50 per disc, please enclose a disc, stating capacity.(Some programs are only available on cassette!!).

Reviews of all programs are available, please send a large SAE. All Swiss User Group programs are prefixed with 'Sw'.

1.Hex-Dec-Bin (Binary Bit In Assembler)
2.CGEN   Sprite Generator.
3.3D-Draw   Rotate a skeleton of a cup & saucer in 3D.
4.Whist.   The Card Game
5.Mem-Save.   This Utility will Save a block of memory to tape and retrieve it.
6.MTX-Draw   Two basic drawing boards, MTX DB has more
7.LOGO-Draw   extensive commands.
8.Simplex Tableaux. Applications Program.
9.Breakeven.   Applications Program.
10.Statistics.   Applications Program.
11.An Unsolved Prbm Applications Program.
12.Radio Routines   Applications Program.
13.Light Cycles.   Arcade Game
14.Hex/Dec/Bin   Conversions using USER commands!
15.Renumber II Renumbers Including GOTO's etc
                (14 & 15) are Utilities and as such reside high in memory transparent to the user.
16.RELOC   Relocs Assembler Properly!!
17.Character Editor Yepp!! Another Sprite Gen!!
18.Quasimodo Excellent Arcade Game
19.Planner   YASG (Yet Another Sprite Generator)
20.Hanoi   Classic Puzzle (Brilliant simple use of
21.Noble   Simple Text Game   Graphics)
22.Hi-Lo   Just like Bruce's Play Your Cards Right
23.Composer   Our First Sound Generator!!
24.Anova   Applications Program
25.CASHFLOW   Applications Program
26.RenumIII   Utility   !!!26,27 & 28 cassette only!!!
27.Merge   Utility
28.Money Manager   Applications program
29.Word   Word Processor
30.Reversi   Strategy Board Game
31.Full Time Football Manager Game
32.PANEL3   Panel extensions
              --- The Second Disc Starts Here ---
33.Texted   Word-pro

34.SwMice   Swiss Arcade game Written in Basic
35.TNTTIM   Assembler arcade game.
36.Sw3D-FUNC.1   First of two. Saturn!!!
37.Sw3D-FUNC.2   Second of Above. Sinpr?.
38.SwSpr-Ed   YASG.
39.SwZ-Wandl   Number Base Convertion Prog.
40.OXO   Noughts & Crosses.
41.Solitaire   Strategy Game.
42.Cross-Num   Excellent strategy game!!
43.Avoid Seven   Dice Game
44.Numerology   Analyse your name!!
45.Chemin   Another Dice Game!
46.Dice   Another, Another Dice Game!!
47.SwMathe   Arithmetic Tester.
48.Reversi2   Assembler of no. 30. Great!!
49.ISOT   A really good maze game.
50.DBaseI   Simple Data Base
51.DBaseII   Requires MTX Util Tape
52.Money 2.1   An update of no 28
53.Ram Disc   Better than sliced bread
54.RDisc Source   Source of above.
55.Diary   Diary & Address program
56.Terminal Em.   Comm's via Rs232 & Modem.
57.Skittles   Keeps league tables
58.Card-Ind   Produces Card Index's
59.Chemements ‡‡‡ NEW ‡‡‡ Applications (Chemistry)

3.Articles From Previous Magazines

(Available as listings, please provide sufficient postage to cover club costs. TA!)
1.PANEL2 Utility. An updated version of PANEL1, which includes a second feature.
2.Undocumented Neword dot commands.(Vol1 Iss.7)
3.Hisoft Pascal Review (vol1 Iss.8)
4.Neword Rom Review (Vol1 Iss.5)
5.RST10 Codes Explained (Vol1 Iss.3)
6.VDP Explained Using assembler (vol1 Iss4,5,6)
7.System Variables (Not Previously Published!!)

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