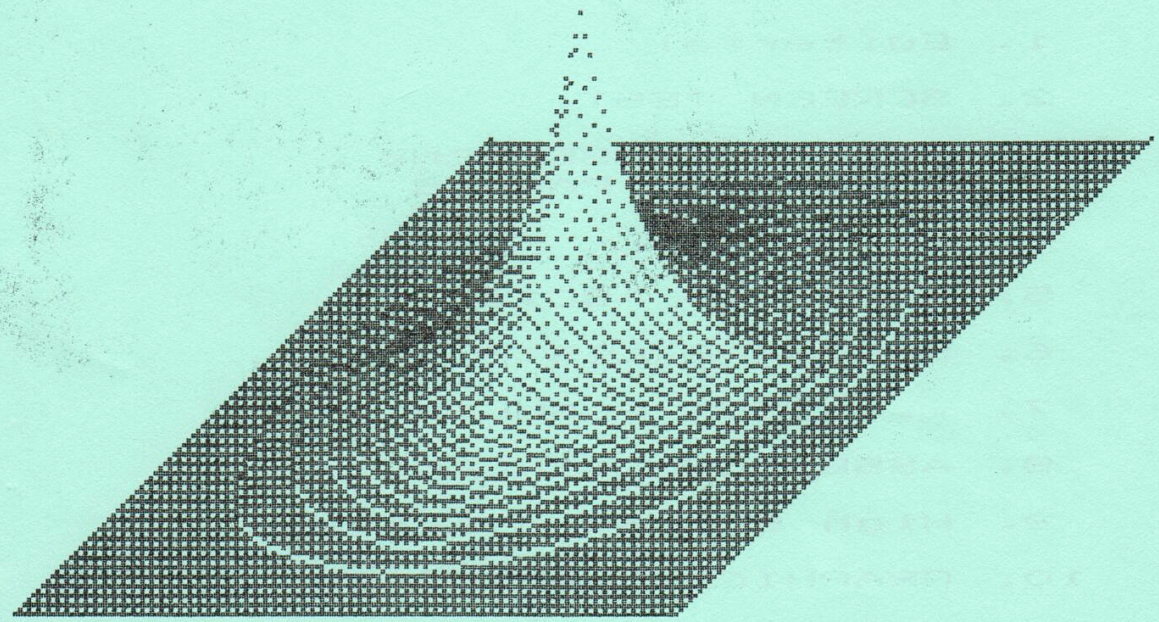
VOL. 2 ISSUE 9 JULY 1986

THE MEMOTECH OWNERS CLUB MAGAZINE



FEATURES:-

SCREEN AND RAM TESTS

BASIC TO ASCII CONVERSION

SPREADSHEET SPECIAL

PUBLISHED BY MEMOTECH OWNERS CLUB
23 DENMEAD ROAD
HAREFIELD SOUTHAMPTON

CIRCA ...248

M.O.C.

VOLUME 2 ISSUE NUMBER 9

CONTENTS

o o o O O O o o o

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

E D I T O R I A L (June 1986)

Phil Eyres
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Harefield
Southampton
SO2 5GS

Several people have asked for things like Printer ribbons and dust covers, these and other things I have not been able to get hold of since Memotech's troubles (has anyone heard anything?). John Friis phoned several times during the month to say that he had been trying to obtain printer ribbons, with no great success. He then found a source that could supply a 'look-alike' ribbon for £3.75 with discounts for buying quantity, he kindly supplied the club with one to try out. So far, I have printed some 300 sheets and it appears to be functioning ok, if this continues to work I will buy some for the club so that everyone else may benefit. I am also looking into dust covers, they may not have Memotech splashed across them but they should do the job requested of them.

Over the past couple of months my brother has been working on a port expansion board and an A/D converter, two weeks ago these two boards functioned correctly,the ZN427 A/D convertor converting an analog audio signal into a digital form. This then needed a lot of software in order to make it do anything, and also the hardware has been enhanced to make it function better for the purpose we have in mind. What is the purpose?, well, Southampton Technical College has been receiving weather satellite data for some time and we have an audio tape of some of this data. We know the layout of the signal on tape and are in the process of trying to digitise it and then display the result graphically on the screen, as yet he has only displayed garbage, but I am assured that it is not any old garbage!!. May be next month we will have a special front cover for the mag.

Paul Wood has some card keyboard templates on offer, they are £1.95 for 10 and are obtainable from him at 12 Bishops Ave, Worcester, WORCS. WR3 8XA. Ideal for use with last month's function key definer or Neword!!.

I have a few listings of Basic programs, these programs were originally written on a college computer some years ago, the Basic is very uncomplicated and should convert without much trouble to MTX Basic. The screen output tends to be the old teletype line by line type but this can easily be changed when you get the program working. I only have 1 listing of each and they do not photocopy, so if you would like a listing to have a go at please give a couple of options and enclose a SAE. The programs I have are:-

1. Power Boat Game
2. The game of NIM
3. Geography test
4. The card game of CAD
5. Hangman
6. Minatour
7. Minefield
8. Quest - An adventure
9. Checkers
10. Moonlander simulation
11. Gunner - Target Game
12. Lunar - Apollo Simulation
13. The game of Gobang
14. Mastermind

Also, Star Trek from an IBM PC written in PC Basic, this is a little more complicated and quite a bit longer, but non-the-less it is an extremely good game.

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 18 back issues, 10 for volume 1 and 8 for volume 2.

It should be noted that all articles are the copyright of the sender and M.U.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.

SCREEN TEST

By

Dave Dulson

This program is the first of two written by Dave, it is designed to test out your monitor/T.V. to ensure it produces exactly what it should. The program produces a 1Khz tone, a colour bar display and a cross hatch display to check CRT convergance and a red rastor to check for purity errors.

```
10 REM COLOUR BARS
15 CRVS 2,1,0,0,32,24,32
20 CLS : LET X=0: LET Y=0: LET X1=0: LET Y1=191: LET C=15
25 FOR J=1 TO 7
30 INK C
35 FOR N=1 TO 32
40 LET X=X+1
45 LET X1=X
50 LINE X,Y,X1,Y1
60 NEXT N
65 READ C
70 NEXT J
75 RESTORE 85
80 GOTO 255
85 DATA  11,7,2,13,8,4,1
100 REM X HATCH
105 CRVS 2,1,0,0,32,24,32
110 CLS : LET X=0: LET Y=0: LET X1=0: LET Y1=191
115 INK 15
120 FOR N=1 TO 12
125 LET X=X+20
130 LET X1=X
135 LINE X,Y,X1,Y1
140 NEXT N
145 LET X=0: LET Y=0: LET X1=254: LET Y1=0
150 FOR N=1 TO 9
155 LET Y=Y+20: LET Y1=Y
160 LINE X,Y,X1,Y1                    ****************************
165 NEXT N                            * PRESS 0 FOR SOUND OFF  *
170 GOTO 255                          * PRESS 1 FOR SOUND ON   *
200 REM RED RASTER                    * PRESS 2 FOR CROSSHATCH *
205 VS 5                              * PRESS 3 FOR RASTER     *
210 PAPER 6                           ****************************
215 GOTO 255
220 REM  SOUND TONE
225 SOUND 0,120,15
230 GOTO 255
235 REM   SOUND OFF
240 SOUND 0,0,0
250 REM KEY SCAN
255 LET K$=INKEY$: IF K$="" THEN  GOTO 255
260 IF K$="0" THEN  GOTO 240
265 IF K$="1" THEN  GOTO 225
270 IF K$="2" THEN  GOTO 105
275 IF K$="3" THEN  GOTO 205 ELSE  GOTO 15
280 STOP
```

ASSEMBLER SCREENS

The following routine will create a visual screen (or a window, whatever you want to call it), which is independent from the main screen.

Eight visual screens can be used at the same time. This routine does not activate the screen but only creates it.

To call the routine the A register must contain a valid visual screen reference number, this must be between 0 and 7. Visual screens 0,1,5 and 7 are used by the operating system so it is best not to use these, (though it does not do any harm to do so).

Following the CALL instuction there should be a block of memory 15 bytes long, the byte format follows:-

BYTE NUMBER	CONTENTS
1	Screen type, Auto scroll, Cursor flash, Page mode. BIT 0 = PAGE/SCROLL BIT 1 = CURSOR ON/OFF BIT 5 = GRAPHICS/TEXT
2	Current print position in visual screen (X axis)
3	2nd byte of above (Y axis)
4	Absolute top left hand corner (X axis)
5	2nd byte of above (Y axis)
6	Size of screen in characters (X axis)
7	2nd byte of above
8	Line width of physical screen
9	Holds cursor character
10	Border colour
11	Print colours :Ink,Paper
12	2nd byte of above
13	Non-print colours
14	2nd byte of above
15	Scroll count

I can not over emphasise how important it is to have exactly 15 bytes following the CALL instruction otherwise the return address placed on the stack will be wrong and the computer will crash.

SCREEN VERSION 2.1

ON ENTRY: A reg = Visual screen selected (0-7)

REGISTER CHANGED : HL',DE',BC'

```
SCREEN: EXX                 ;Use alternate registers
        EX (SP),HL          ;Address of next byte of calling
        PUSH HL             ;routine into HL and then save it
        LD HL,£FF4E         ;Load HL with base address of main
```

Continued on Page 8

ASSEMBLER RAM-TEST

By
Dave Dulson

This program will detect any errors that you suspect you may have in your RAM. COUNT and ADDRS should be set before the program is run. It should be noted that this test is destructive as it writes to memory locations, this may mean that if you test the wrong locations your machine will 'hang up', if it does just switch off and on again. It is not possible to do any damage to your memory with this program. To prove it works try loading a ROM address such as £02DD into ADDRS and run the program.

```
10 CODE

8007           LD BC,(COUNT);Number of addresses to check
800B           LD HL,(ADDRS);Start of addresses to check
800E START:    LD A,£AA      ;First test byte
8010           LD (HL),A     ;Test byte to RAM
8011           CP (HL)       ;Check for error
8012           JR NZ,OUT     ;If error jump to screen routine
8014           LD A,£EE      ;Second test byte
8016           LD (HL),A     ;Test byte to RAM
8017           CP (HL)       ;Check for error
8018           JR NZ,OUT     ;If no error continue
801A           INC HL        ;Next address to be tested
801B           DEC BC        ;Reduce byte counter
801C           LD A,C        ;Check to see if at
801D           OR B          ;Last address to be tested
801E           JR NZ,START   ;If not jump to start
8020           JP PRINT      ;If so then goto screen routine
8023 OUT:      LD (ERROR),HL;Save error address
8026           LD HL,ERROR   ;Point to saved error address
8029           INC HL        ;Point to high byte of error address
802A           LD E,2        ;Load loop counter
802C LOOP:     LD A,(HL)     ;Load Acc with error address
802D           CALL £1B55    ;Print to screen
8030           DEC HL        ;Point to low byte of error address
8031           DEC E         ;Reduce loop counter
8032           JR NZ,LOOP    ;Test loop counter
8034           RST 10        ; Call screen print routine
8035           DB £89,"  ERROR ",£FF
803F           RET
8040 PRINT:    RST 10        ;Call screen print routine
8041           DB £89,"CHECK OK",£FF
804B           RET
804C COUNT:    DW £0400      ;Sets number of addresses to be checked
804E ADDRS:    DW £8060      ;Sets start addresses to be checked
8050 ERROR:    DS 2          ;Error address stored here
8052           RET
Symbols:
COUNT   804C    ADDRS   404E
START   400E    OUT     4023
PRINT   4040    LOOP    402C
ERROR   4050
```

BASIC TO ASCII

By
Richard Dennis

This program will create an Ascii file in memory of any Basic program. All you have to do is run the routine along with your program, after running, you will have an ascii file in memory at £9000. You can then save it to disc or tape, to save the file to an FDX disc system type: DISC WRITE "TEST.DAT",36864,length of file. To save to tape use the little assembler routine provided.

```
START:   LD HL,£9000          ;Start address for Ascii file
         LD (MEMLOC),HL       ;Store it in MEMLOC
         LD HL,OVRLAY         ;Load Start address of Convertion
         LD (£FFEE),HL        ;Routine into System Variable
         LD A,(JUMP)          ;Jump Address
         LD (£FFED),A
         XOR A
         LD (CTLCNT),A
         LD HL,COMMAND        ;Load List command into
         LD DE,£FB4B          ;System Variable KEYBUF
         LD BC,5
         LDIR
         CALL £287            ;Execute LIST
COMMAND: DB "LIST",255
         LD A,0
         LD (CTLCNT),A
OVRLAY:  LD HL,(MEMLOC)       ;This is the main routine which
         CP 2                 ;stores the ascii being sent to
         JR Z,OVRLAY1         ;the screen in memory
         LD (HL),A
         CP 255
         JR Z,EXIT            * ROUTINE TO SAVE ASCII TO TAPE
OVRLAY2: INC HL               *  LD LH,£9000   ;Start Address
         LD (MEMLOC),HL       *  LD DE,<number of bytes>
         RET                  *  LD A,0        ;0 to Save
OVRLAY1: LD A,(CTLCNT)        *  LD (£FD68),A
         INC A                *  CALL £0AAE    ;Save Routine
         LD (CTLCNT),A        *   Loading 1 into £FD68 will
         CP 1                 *   load the data into memory
         JR NZ,OVRLAY3
         LD A,13              Ed-> I joined this program with
         LD (HL),A            RELOC from the program library and
         JR OVRLAY2           relocated it high in memory, this
OVRLAY3: LD A,10              then allowed me to load another
         LD (HL),A            program into the normal program
         LD A,0               area and create an Ascii file of it
         LD (CTLCNT),A        using the RAND USR(xxxx) command.
         JR OVRLAY2
EXIT:    LD A,£C9             Be careful where you store the
         LD (£FFED),A         Ascii file in memory as Basic uses
         RET                  some of high memory to store
KBUF:    DW £FB4B             information about program variables.
JUMP:    DB £C3
MEMLOC:  DS 2
CTLCNT:  DS 1
END:     RET
```

HARDWARE AND SOFTWARE PRICE LIST

We still have no firm information about Memotech, so we have omitted the hardware section this month, it has been replaced with the details about the clubs new FIG-FORTH program.
Ed-> If anyone has any info about Memotech could they let us know, the phone numbers that we have are no longer any good and Memotech have not been in touch since the beginning of their troubles.

All 'Super Cheapies' will be despatched by return of post.

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 lists below:-

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

Cheques payable to MOC please, orders normally despatched in 5 days max.

Software prices for the best and most popular software:-

Zarkos	£6.00
Qogo2	£6.00
Surface Scanner	£6.00
Chamberoids	£6.00
Fathoms Deep	£6.00
Quazzia	£6.00
Crystal	£6.00
Cee-5	£6.00
Roller Bearing	£6.00
Downstream Danger	£6.00
Memosketch	£7.95

! ! ! S U P E R C H E A P I E S ! ! !
(ONLY FROM STOCK)

DESC	QTY	PRICE (Each)	DESC	QTY	PRICE (Each)
DUNGEON ADV.	2	£7.00	THE ZOO	1	£4.50
ADV. QUEST	1	£7.00	COBRA	1	£4.50
EMERALD ISLE	1	£7.00	BRIDGE	1	£4.50
BLOBBO	3	£4.50	WORD & PIC MATCH	1	£4.50
KILOPEDE	1	£4.50	BASIC BUSINESS	2	£5.00
REVERSI	2	£4.50	HELI-MATHS	2	£4.00
MINEFIELD	3	£4.50	SPELLI-COPTER	2	£4.00
BACKGAMMON	1	£4.50	FIRE HOUSE FREDDIE	2	£4.00
OBLOIDS	1	£4.50	ASTROMILLON	1	£4.50
NEMO	2	£4.50	FIRST LETTERS	1	£4.50
SNAPPO	2	£4.50	FROM ELSTREE COMPUTING		
PAYROLL	1	£10.00	CUSTOMER INF FILE	1	£5.00
PURCHASE LEDGER	1	£7.00	INVOICE & CR NOTE	1	£5.00
PHYSICS 1	2	£5.50			
MATHS 1	1	£5.50			

- - - TEST RESULTS

PART II

Thanks to everyone who sent in entries for the competition, I've run all the programs and kept a record of the results and times throughout the month. The programs have varied a lot in layout and 'read-ability', the more readable ones being noticably quicker. The winner of the prize - QUAZZIA - by far, was Peter Crighton from Gravesend, Kent, both his programs are listed below. I suggest that if you entered the competition you try out his first program as it works like lightening, taking only 0.82 seconds to run. The nearest competitor to that time was Mike Pike with just over 5 seconds. I have included my Turbo Pascal version of the first exercise, this runs so fast I never had time to start the stop watch!!!

Exercise 1

```
10 DIM D(126): INPUT "STTRING : ";T$
20 FOR N=1 TO LEN (T$): LET D(ASC(T$(N)))=1:NEXT N
30 LET T=0: FOR N=32 TO 126: LET T=T+D(N): NEXT N
40 PRINT: PRINT "NUMBER OF SYMBOLS =";T
```

EXERCISE 2

```
10 DIM W$(20,19),W(20),N$(1,19):INPUT "STRING : ";T$
20 LET W=0: LET S=1: FOR N=1 TO LEN (T$): IF T$(N)<>" " THEN
NEXT N
30 FOR P=1 TO W: IF W$(P)=T$(S,N-S)+N$(1,1,19-N+S) THEN GOTO 100
ELSE NEXT P
40 LET W=W+1: LET W$(W)=T$(S,N-S): LET W(W)=1: LET S=N+1
50 IF N<LEN (T$) THEN NEXT N
60 PRINT : PRINT "WORD",,"    QUANTITY":PRINT: FOR P=1 TO W:
PRINT W$(P),CHR$(13),,,W(P):NEXT P: STOP
100 LET W(P)=W(P)+1: LET S=N+1: GOTO 50
```

PASCAL Version of Exercise 1

```
PROGRAM CHAR1(INPUT,OUTPUT);
VAR
  I,J,K,LEN,NUM : INTEGER;
  STRNG         : STRING [50];
BEGIN
  WRITE ('ENTER STRING :');
  READLN (STRNG);
  NUM := 0;
  LEN := LENGTH(STRNG);
  FOR I := 1 TO LEN DO
  BEGIN
    K := 0;
    FOR J := 1 TO I-1 DO
      IF STRNG[I]=STRNG[J] THEN K := 1;
    IF K = 0 THEN NUM := NUM + 1;
  END;
  WRITELN ('NUMBER OF SYMBOLS = ',NUM:5);
END.
```

Continued From Page 3

```
        LD DE,£000F         ;visual screen memory map
        LD B,A              ;Calculate memory of selected
        INC B               ;visual screen map be repeatedly
SCRLOOP:ADD HL,DE           ;adding 15 bytes to base map
        DJNZ SCRLOOP        ;address. Address now in HL
        EX DE,HL            ;Exchange DE and HL so that
        POP HL              ;the DE register points to selected
        LD BC,15            ;visual screen map, set HL back
        LDIR                ;HL = data map DE = visual screen map
        EX (SP),HL          ;Transfer memory block and place return
        EXX                 ;address onto the stack set main
        RET                 ;register set and return.
```

EXAMPLE OF USE

```
START:  LD A,4              ;Use the visual screen number 4
        CALL SCREEN         ;call the routine
        DB £24,0,0,0,1,£20,£16,£20,0,£F5,£F1,0,£F1,0,1
        RET
```

SELECT VISUAL SCREEN

This routine will select and clear a visual screen who's number is held in the A register.

ON ENTRY : A register = Visual screen number

REGISTERS CHANGED : A

```
VS:     OR £40
        LD (VSNUM),A
        RST 10
VSNUM:  DB 0
        RET
```

..or to select and Clear a visual screen

```
VSCLS:  OR £48
        LD (VSNUM),A
        RST 10
VSNUM:  DB 0
        RET
```

EXAMPLE OF USE

```
START:  LD A,0
        CALL VS             ;or CALL VSCLS!!
        RET
```

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YOUR LETTERS

** Games High Scores Table **

AGROVATOR	89615	*A.DOBSON
ASTROMILON	30830	T.NEAL
ASTROPAC	69390	A.DOBSON
BLOBBO	71233	T.PICKSTONE
B.BILL	219610	A.DOBSON LEVEL 1
B.BILL	158334	A.DOBSON LEVEL 9
C-5	8175	*A.DOBSON
CHAMBEROIDS	19 MINS	P.ERIKSSON
COBRA	5634	A.DOBSON
CONT RAID	10810	M.GILL
CRYSTAL	35507	A.LYNCH
DR FRANKY	14925	N.CRIGHTON
D.DANGER	8627	*A.DOBSON
D.DESTROYER	3380	T.NEAL
EMERALD ISLE	725	R.SIDDALL
E. ZARKOS	90 OBJ	R.SIDDALL
F. DEEP	1420	A.LYNCH
FELIX	20600	P.COUGHLAN
F.FREDDIE	15560	M.FIDLER
FLUMMOX	25700	T.NEAL
GOLDMINE	6308	M.FIDLER
HAWKWARS	15850	P.CRIGHTON
HUNCHY	5681	T.NEAL
ICEBURG	17431	A.DOBSON
JUMP' J FLASH	2970	T.NEAL
KARATE KING	1300	T.NEAL
KILOPEDE	35275	N.CRIGHTON
KNUCKLES	488650	P.CRIGHTON
L OF TIME	950	R.SIDDALL
MAXIMA	501250	R.SIDDALL
MINER DICK	22520	R.SIDDALL
MISS ALPHA	53320	P.CRIGHTON
M OMEGA	4400	T.NEAL
NEMO	14650	P.CRIGHTON
O.ZONE	35620	*A.DOBSON
OBLOIDS	80110	P.CRIGHTON
PHAID	5285	M.FIDLER
P PETE	41190	*A.DOBSON
QUAZZIA	41020	V.STEPNEY
QOGO	11440	M.FIDLER
QOGO 2	255000	R.SIDDALL
ROLLA BEAR	27741	V.STEPNEY
SEPULCRI	6175	V.STEPNEY
S.M.G.Rt	26280	V.STEPNEY
S.M.G.Lt	11830	V.STEPNEY
SNAPPO	79300	P.ERIKSSON
SNOWBALL	1000	P.COUGHLAN
S OF PETE	10542	P.ERIKSSON
STAR COMM	131690	P.CRIGHTON
SUPERBIKE	20.7KM	A.FIDLER
S M/FIELD	829	M.GELDER
S SCANNER	7340	A.DOBSON
T FIGHTER	3260	V.STEPNEY
TAPEWORM	168515	A.DOBSON LEVEL 1
TAPEWORM	150500	A.DOBSON LEVEL 9
T ZONE	7610	P.ERIKSSON
TOADO	107549	N.GODDING
TURBO	23030	M.GELDER

* Denotes new high score

1.Help Lines

I would like to remind you that the number you printed in LAST month's magazine is for ACCESS the BBS with a Memotech section, my home number is 0905 24260, and I will willingly help anyone who rings with problems (or just a chat). You may also be interested in the fact that hardware and software can now be purchased through me on the BBS (ACCESS Worcesters FIDO bulletin board on 0905 52536).

Paul Wood 12 Bishops Ave, Worcester, WR3 8XA.

Queries

1. I have acquired an MTX 512 to add to my MTX 500. I see that the only difference is that the 512 has 3 4764-30NL chips (24 pin) and the 500 has 3 25P64 35JN chips (28 pin). Link is, of course different.

I can not find these listed. Probably they are customised. If they are obtainable it might be cheaper to get them rather than the RAM-pack.

Cont'd At Top Of Page

Ed-> Has anyone got any further ideas on this subject, as I was under ther impression that the memory chips were different as well.

Answers

1. Last month we had a request for printing characters on a graphics screen, listed below is one solution, and overleaf is a second. Many thanks for the response!!

```
1   REM By Paul Wood 22/5/86
100 VS 4: REM Call Graphics Screen
110 COLOUR 0,5: COLOUR 1,1: COLOUR 2,5: COLOUR 3,1
115 COLOUR 4,4
120 CLS: REM Set Screen Colours and CLear
150 CODE
419F        RST 10
41A0        DB £A3,£03,£02,£04 ; Equivelent to CSR 2,4
41A4        DB £99,"THIS IS A GRAPHICS SCREEN"
41BE        RET

1000 GOTO 1000: REM Holding Loop
```

GRAPHICS CHARACTERS

By

Leif Mortensen

```
50 VS 4: CLS
100 CODE
8010            LD HL,TABLE          ;Character end here
8013            LD IY,STED           ;Set cursor and print A reg.
8017            LD IX,ANTAL          ;Number of characters
801B            LD (IY+3),2          ;Place for first
801F            LD (IY+£04),2        ;character X/Y
8023            LD (IX+£00),0        ;Reset counter
8027            RST 10               ;Set colour
8028            DB £86,16,0,15       ;Background
802C            DB 16,1,1            ;Foreground
802F INP:       LD A,£7F             ;Print solid block
8031            CALL STED            ;As cursor
8034             CALL STPAU          ;Get character and  flash
8037            JR NZ,INP1           ;The cursor if key pressed
8039            LD A,32              ;Else erase cursor
803B            CALL STED            ;Print
803E            CALL STPAU           ;New input
8041            JR Z,INP             ;Start again
8043 INP1:      CP 13                ;If Return key pressed
8045            JR Z,INPEND          ;Finish
8047            CP 8                 ;Is BS key pressed?
8049            JP Z,BS              ;
804C            LD (HL),A            ;Store character
804D            INC HL               ;
804E            INC (IX+0)           ;Add 1 to number
8051            CALL STED            ;Print input character
8054            INC (IY+3)           ;Move cursor
8057            JP INP               ;Get new character
805A INPEND:    LD A,32              ;Erase cursor
805C            CALL STED            ;
805F            RET                  ;End input routine
8060 BS:        LD A,32              ;Set space
8062            CALL STED            ;Print it
8065            DEC (IY+3)           ;Reset everything
8068            DEC HL               ;With 1
8069            DEC (IX+0)           ;
806C            JP INP               ;Get new character
806F STED:      RST 10               ;Set cursor
8070            DB £83,3,0,0         ;X/Y
8074            CALL £CAB            ;Print A register
8077            RET                  ;
8078 STPAU:     PUSH BC              ;
8079            EI                   ;Just in case DI is set
807A            LD B,£30             ;Speed of cursor flash
807C PA2:       HALT                 ;
807D            CALL £79             ;Input routine in ROM
8080            JR NZ,PA3            ;If a key is presseds
8082            DJNZ PA2             ;If not
8084 PA3:       POP BC
8085            EI
8086            RET
8087 TABLE:     DS 254
8185 ANTAL:     DS 1
8186            RET
```

Program Review: 26*26 Spreadsheet By SyntaxSoft
Reviewed By: L.F.Reynolds
Program Purchased: Through M.O.C.

Computers can be useful as well as being educational and great fun to play with! Syntax Softwares' "Spreadsheet", which is now running on my MTX 512.

At £7.95, this is an excellent applications program, written in compiled Pascal, which has already paid for itself in my own case. The software is supplied on tape with additional documentation together with an explanation of the program organisation.

Essentially, the program sets up a 26 row (A-Z) by 26 column (1-26) matrix which can be tailored to meet the users requirements. These may be purely financial, but mathematical modelling is also possible since maths functions can also be carried out within the spreadsheet, ie +,-,*,/,exponentiation and summation.

"Spreadsheet" is simple to learn and use, control being exercised via the CTRL key. Thus CTRL N waits for a number to be entered into a cell identified by (Row,Column), CTRL F is used to write a formula of up to 15 characters into any cell, whilst CTRL A gives a menu for clearing/reading/changing cell contents and formulae.

There are nine control options in total, including CTRL P (printer dump) and CTRL S (saves named file to tape). The save option worked without fault each time it was used. The speed of calculation and execution (option CTRL E) is satisfactory, the program typically taking less than 5 seconds for a full update and renewal of the screen display.

There are a few points to remember during operation. (These are not in the documentation supplied with the program).

1. No cursor on the screen, hence correction of entries using the cursor keys can be tricky. It is better to overwrite incorrect data using the appropriate control keys.
2. There is no "verify" option to check if your files have been saved successfully. Set against this is the fact that the "Save" option never failed once during several months use of the program.
3. It is possible to crash the program and lose files by giving an unexpected response to a prompt. e.g. entering an alphabetic instead of a numeric character where a number is expected.

These are only minor quibbles, however, for a £7.95 program. A little use, rapidly gives confidence and familiarity in any case.

All in all, a good program which is very versatile, and which can be used for household accounts and general engineering/scientific applications.

Business applications are possible, but access time for files is about 30 seconds using tape, when compared to a few seconds for more expensive disc based software.

As you've probably guessed, I rather like this software - I'm running all my household accounts on it now. In computer software, as in other areas of life, the universe and everything, you generally get what you pay for. This low cost program has it's little quirks, but a little experience soon irons these out. I think that it is first class value for money.

INVESTMENT WITH SUPERCALC

by Geoff Gardiner

This article is intended to introduce you to the world of spreadsheets, it uses the Supercalc 1 provided FDXB and SDX CP/M systems. Firstly, a quick overview of what a spreadsheet is :- This type of program is designed to handle tabulated data, performing large numbers of calculations very quickly. You can include titles and headings for professional looking reports and include this information in other forms of documentation. Below is a step by step guide to setting up a spreadsheet to help make decisions with stocks and shares holdings.

One's first look at the Supercalc spreadsheet is a little disappointing - just a grid of columns and lines; what can one do with it? Can one keep a list of investments just like the stockbroker's? Yes one can. The moves are as follows:-

Set the spreadsheet for money by /F(ormat),G(lobal),$. All figures will then be shown as integers, decimal point, and two places of decimals. The first column must be used to show the stock title because we want to lock it against sideways scrolling and that can be done only with column A or row 1. The instruction is /T(itle),V(ertical). From now on column one can only be entered with =An (n for number), not with the cursor keys.

Row 1. will be headings and A1 will be "Name of Stock, (text entries have to be preceded by ", otherwise Supercalc assumes that values are being entered). The default setting of nine spaces is not enough in this column so change it with /F(ormat),C(olumn,A,15. 15 spaces is long enough for an abbreviated name. Column B will be headed "Nominal, and will contain the number of shares or stock. 6 spaces may be enough so alter it from 9 to 6 with the /F(ormat) command. Enter the number of shares by positioning the cursor over cell B2, typing the figure, and pressing Return. The figure appears in the box.

Column C will be "Cost, and will contain the book value of the holding. The number of spaces for this column will relate to the number of figures in the total which we shall arrange to appear in the bottom line of the column. If the total contains more than 5 integer digits the number of spaces will have to be increased with /F(ormat). Column D will be "Price. Now prices can have three decimal places so our overall format command of $ will have to be changed for this column by /F(ormat,C(olumn,C,G(eneral. In this column we can change the prices, daily if we wish, using the closing prices from the Financial Times. Those prices are usually between the jobbers' offer and bid prices so we shall be slightly overvaluing the realisable value of our holdings.

Column E will be "Value, and again may need an extra space in it if you are rich enough. The value will be the figure in column B multiplied by the price in column D, so we enter the formula B2*D2 in the cell E2. Our value appears instantly. We shall need this formula in the cells below so we replicate it in as many cells as we need. Say we have 10 stocks we shall need the formula to be repeated in cells E3 to E11. We effect that with the /R(eplicate command. The command asks us the cell the formula comes from, so we answer by entering E2; then we are asked for the range and we enter E3:E11. On pressing Return, that formula is put in all those cells, so each cell in column E will show a figure which is the figure in the same row in column B times that in column D of that row.

Column F is to show profit or loss on the holding so we enter in cell F1 "P/L and in F2 the formula E2-C2. We then replicate the formula in the 9 cells below.

Column G will show the percentage profit or loss so in G1 we enter " % P/L. In G2 we enter E2/C2-1, and replicate it as before.

Column H will be headed "Div, and the cells will contain the latest annual dividend taken from the appropriate column of the Financial Times. Dividends can run to umpteen places of decimals so for this column we shall have to change the format

from $ to G, just as we did for prices.The FT's figure is always net of tax. We wont bother to gross up every entry, though it would be easy to do so, but will be content to have the total of dividends grossed. That will be the total of the next column, I, which will be headed "Income, and the cell below will have the formula B2*H2. This will be replicated below.

A true valuation of a portfolio should include dividends declared but not received once the prices of the stocks concerned are quoted "ex-dividend", so I include another column J headed " Ev-divs, and I shall arrange for the total of this column to be added to the total of column D.

I could add further columns but have not yet done so. One might show the yield on each stock. A useful sophistication would be to have the profit and loss figure adjusted for inflation, information which is vital for indicating the likely capital gains tax liability, something that one needs to know before deciding to sell a holding. This would require additional columns to show the Retail Prices Index at purchase and currently, and to show the inflation adjusted profit or loss. One of my holdings was acquired in three tranches so the individual purchases would have to be shown and a separate inflation adjustment done on each tranche.

Line 22 can show the totals where required. The instruction for totalling column C, for instance, is SUM(C2:C21). We shall want to total the Cost, Value, P/L, Income and Ex-divs columns. % P/L is not totalled of course; instead the formula in the column is now replicated for cell 22 of that column for the average % P/L is the % of total profit to total cost.

In cell E23 we put the formula E22+J22 to add in the ex-divs to give us the total value of the portfolio.

I have few holdings so I don't bother with a sector analysis, but this could easily be arranged by inserting subtotals and an addition of sector totals. I subtotal the stocks and shares and then go on to list other assets such as a Building Societies holding and bank accounts. For these the formula for value and cost repeats the nominal column as all are the same.

Our income column I can be grossed in cell I23 with the formula I22*100/71. Below it I add in other income and below that have a formula to work out the income after tax so that I know exactly what my net income is. I also have a cell which shows me the overall yield of the portfolio.

Whenever I want to value the portfolio it is a simple matter to load the file, bring the prices up to date, and save the amended file, overwriting the old one. Occasionally I do a print out. I make a written note of the total value for the day so that I can follow the trend, making sure that I am keeping pace with inflation. If I found I was failing to do that I would switch into Index Linked Gilts and stop playing the market. Profits tend to come in irregular spurts. It seems ridiculous that for most of the time I have held Amstrad I have shown a loss on it, though my original investment of £1200 has now multiplied over 6 times. Investing does require strong nerves and either a flair or lots of experience. Luckily I was able to practice for thirty years with other peoples money before I acquired a worthwhile portfolio of my own.

It is very easy and useful to do "What if?" changes to the file. What would my profit be if Midland Bank went up to £8.33 a share is a simple matter of inserting that price. What would the reduction in the income be if I switched from Midland into A.A.H.Holdings. That is a bit more work but easily done. These questions can be answered by manipulating the figures on screen, and when one has the answers one zaps the spreadsheet without saving it.

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