THE
MEMOTECH OWNERS CLUB
MAGAZINE

HAPPY NEW YEAR
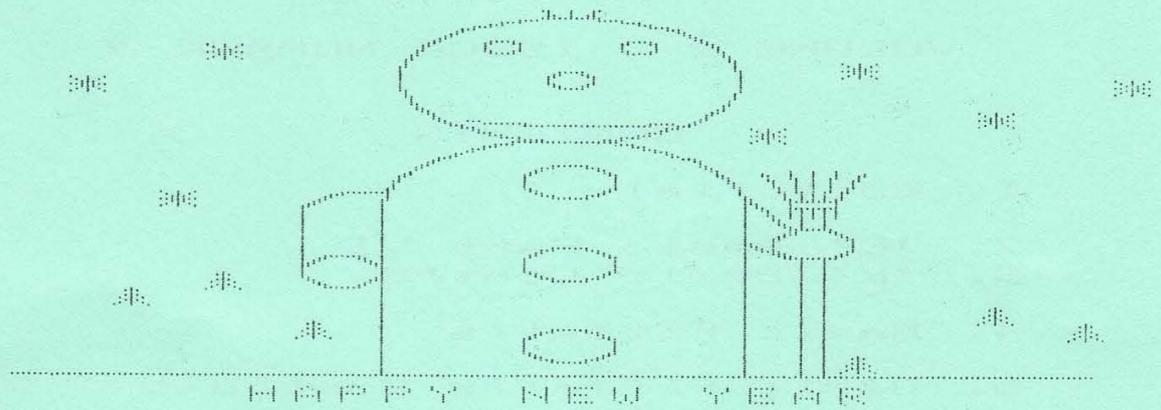
FEATURES :-

DBASE PART VI

BASIC PITFALLS

ROM CALLS

PROGRAM LIBRARY

CIRCA ...247

M.O.C.

VOLUME 2   ISSUE NUMBER 3

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o o o o o o o o

Phil Eyres   Richard Adams
23 Denmead Road   18 Nightingale Rd
Harefield   Pilands Estate
Southampton   Bursledon
SO2 5GS   Southampton

On the 10th of December, the draw for the Speculator closed. All the names (over 60) were put into a hat and my 3 year old niece, having graced the occasion, drew the winning name from the hat. It is new member Paul Taylor, Paul your Speculator should have arrived by now, Congratulations and best wishes from the club.

In the past couple of weeks, the club has purchased a large quantity of software from an ex Memotech dealer, see page 6 for further details.

The winner of this months prize draw is :-
Mike Pike, who will receive a copy of Dr Franky for his Basic Pitfalls article.

   ...remember all you have to do to be included in this free draw is have something published in the magazine.

You may have noticed this month that there is a definite lack of assembler in the magazine, please could we have some more articles, information, programs etc. and what about something useful about CP/M since we have a growing membership in this field.

Oh!, For all those with only a single drive, an advert in the December Electronics and Wireless World, page 14. It looks suspiciously like Memotech! and they are offering 250K drives for £35.00, 500K drives for £75.00 and 1Mg drives for £90.00, these will I believe work as 'dummy' second drives. Quite handy at the price!!!

Thanks to everyone who has used our Hotline on Monday evenings between 6 & 7pm, remember we always look forward to hearing from you, the number to phone is Bursledon (042121) 5489. Ask for Rich!

If anyone would like back issues they are available for all past magazines for the small remittance of 80p.

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.
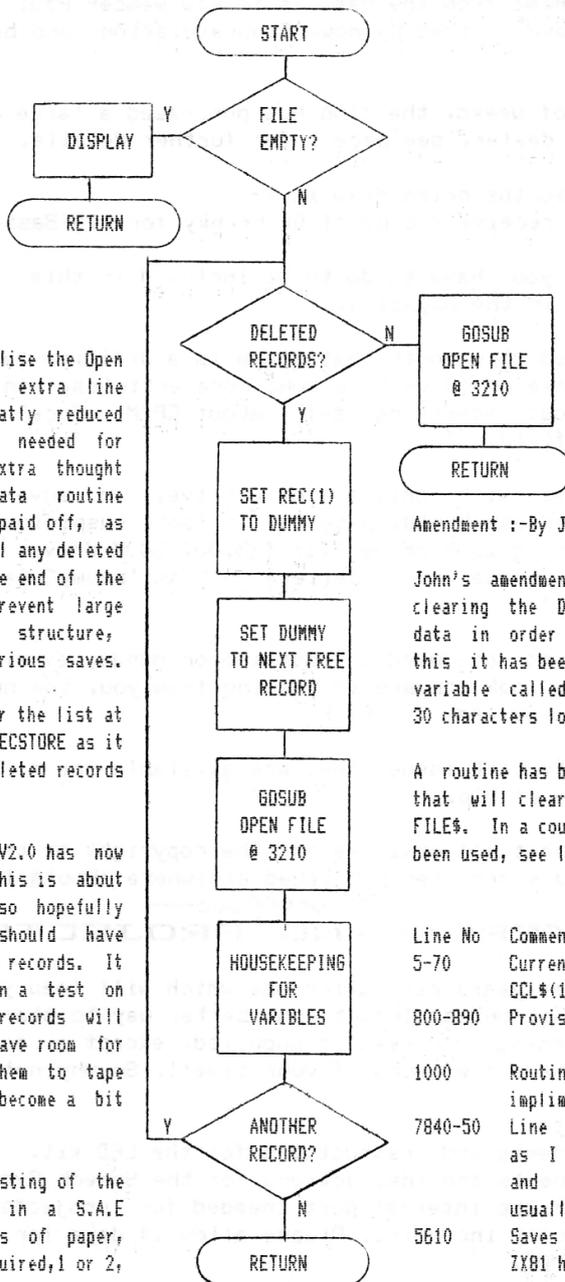   ----oooOOOooo----
INTERFACING PROJECTS

Why not make your new years 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 Synthasiser 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 cheques payable to MOC.

DBASE
ADDITIONAL DATA

This month's routine covers the "ADD MORE DATA" option, which is option 6 from the main menu. This routine proved to be very short and compact utilising code already written in the Open File routine. In addition John Bennett has sent in some amendments to DBASE V2.0, these also appear to apply to DBASE V1.0. Ironically, John's amendments echo Mike Pike's Basic Pitfalls article published elsewhere in this month's issue, even though both articles were sent in independantly.

Flowchart:

```
                    ( START )
                        |
       Y           FILE EMPTY?
   [DISPLAY]  <-------   \N
       |                  |
   ( RETURN )             |
                          |
                   DELETED    N    [ GOSUB
                   RECORDS? ------>  OPEN FILE
                      \Y             @ 3210 ]
                       |                |
                 [ SET REC(1)      ( RETURN )
                   TO DUMMY ]
                       |
                 [ SET DUMMY
                   TO NEXT FREE
                   RECORD ]
                       |
                 [ GOSUB
                   OPEN FILE
                   @ 3210 ]
                       |
                 [ HOUSEKEEPING
                   FOR
                   VARIBLES ]
                       |
         Y         ANOTHER
        <--------  RECORD?
                      \N
                       |
                   ( RETURN )
```

Details :- Add data

It has been possible to utilise the Open File routine with only 1 extra line being added, this has greatly reduced the size of the flow-chart needed for the Add Data routine. The extra thought put into the Delete Data routine published last month has paid off, as this routine will first fill any deleted records before adding to the end of the file. Thus should help prevent large gaps forming in FILE$ structure, necessitating frequent laborious saves.

There is 1 more variable for the list at the beginning, I named it RECSTORE as it will store REC(1) whilst deleted records are being filled.

The program code for DBASE V2.0 has now grown to about 6.3K long, this is about that originally estimated so hopefully all you MTX500 owners should have enough room for the set 100 records. It might be a good idea to run a test on the program to ensure 100 records will fit. MTX512 owners should have room for more records but saving them to tape with the MTX utility could become a bit laborious.

If anyone would like a listing of the program then please send in a S.A.E large enough for 6 sheets of paper, stating which version is required, 1 or 2,

Amendment :-By John Bennett

John's amendments are mainly concerned with clearing the Dimensioned strings of their data in order to prevent corruption. To do this it has been necessary to make a dummy variable called CCL$ and to Dimension it to 30 characters long. ie CCL$(1,30).

A routine has been added at lines 800 - 890 that will clear the main strings FNAME$ and FILE$. In a couple of other places CCL$ has been used, see listing for relevent lines.

Line No	Comment
5-70	Current state of affairs, note CCL$(1,30)
800-890	Provisional string clearing routine
1000	Routine to which string clear is implimented.
7840-50	Line 7843 added to 'clear' WORD$ as I found that otherwise second and subsequent search strings usually became corrupted.
5610	Saves PRINTing all those spaces, ZX81 habits die hard!!!

```
5 REM-----------------------------------------
10 REM DBASE BY PHIL EYRES V2.0
20 REM-----------------------------------------
30 DIM FILE$(100,6,30)
40 DIM FNAME$(6,20),REC(1)
50 LET REC(1)=0: LET STORE=0: LET DUMMY=0: LET RECSTORE=0
60 DIM FIELD(1),CCL$(1,30)
70 DIM Z$(30),WORD$(1,30)

3320 IF RECSTORE<>0 THEN  GOTO 3430
3322 LET REC(1)=REC(1)+1

5997 REM-----------------------------------------
5998 REM ADD MORE DATA
5999 REM-----------------------------------------
6000 CLS
6010 IF REC(1)>1 THEN  GOTO 6050
6020 CSR 12,3: PRINT "!!! FILE EMPTY !!!"
6030 CSR 7,5: PRINT "PLEASE USE NEW FILE ROUTINE"
6035 PAUSE 5000
6040 GOTO 6150
6050 IF DUMMY=0 THEN  GOTO 6140
6060 LET RECSTORE=REC(1)
6070 LET REC(1)=DUMMY
6080 LET DUMMY=VAL(FILE$(DUMMY,2))
6090 GOSUB 3210
6100 LET REC(1)=RECSTORE
6110 LET RECSTORE=0
6115 LET STORE=STORE-1
6117 IF W$="*" AND COUNT=1 THEN  GOTO 6150
6120 GOTO 6050
6130 REM ON DELETED RECORDS
6140 GOSUB 3210
6150 RETURN

             - - - AMENDMENTS - - -

800 CSR 5,10: PRINT "....PLEASE WAIT"
805 FOR I=1 TO 6
810 LET FNAME$(I)=LEFT$(CCL$(1),20)
820 NEXT I
830 FOR I=1 TO 100
840 FOR P=1 TO 6
850 LET FILE$(I,P)=CCL$(1)
860 NEXT P
870 NEXT I
890 RETURN

1000 RETURN   V2.0->1000 CLS :GOSUB 800: CLS

3000 CLS : GOSUB 800: CLS

5610 LET FILE$(COUNT-(CNT-DEL),I)=CCL$(1)

7843 LET WORD$(1)=CCL$(1)
```

AVOIDING BASIC PITFALLS
By
Mike Pike

While programming in Basic a number of problems have arisen which have caused me a great deal of gnashing of teeth. Perhaps by setting out what I have discovered I can save others a lot of wasted time.

Strings
The first pitfall concerns re-assigning multi-dimensional string arrays. Type the following commands and you'll see what I mean:-

```
    DIM A$(2,40)
    LET A$(1)="ABC"
    LET A$(1)=""
    PRINT A$(1)
```

Did you get a surprise? Let's use the PANEL to explore the array storage. Type <PANEL> and then <D> (for display) followed by <C000><RET>. Assuming that you RESET the computer before you began you should now see the information on A$ displayed.

The first byte contains the ASCII code for the name with a special code added to show that it is a string array. FF is the name table terminator and this is followed by a block of 5 bytes:-

1. Address relative to bottom of Basic
2. High byte of above
3. Page no. of above
4. Length/No. of dimensions
5. High byte of above

At the moment these 5 bytes contain 00 00 00 02 00 indicating that the array is stored at the bottom of Basic - 4000h (8000h on an MTX500). Bytes 4 & 5 show that A$ has 2 dimensions.

Now type <]><RET> followed by <D> and then 4000 (or 8000) <RET> to see the contents of the array. First there are 2 bytes for each dimension which indicate the size of the array followed by the ASCII codes for "ABC".

Type <]><RET> and then <I> to reveal the characters. The point about all this is that the actual length of the string (3 characters) is not stored anywhere!.

Type <B> then <Y> to return to Basic and type PRINT LEN (A$(1)). This gives 40 even though it only occupies 3 print positions when printed because it is padded out with null characters.

Now type:- LET A$(1)="12"
          PRINT A$(1)

and you will see that previous characters are NOT overwritten. As we have already seen, you cannot get rid of them with LET

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A$(1)="" so we have to use the following sequence:-

```
10 FOR I=1 TO 40
20 LET A$(1,I)=CHR$(O)
30 NEXT I
```

For simple string variables there is no problem because the current length of the string is stored. Delete lines 10,20 & 30 then type:-

```
CLEAR
LET A$="ABC"
PANEL
```

and you will see the contents of the new variable A$. Press <I> again and the first 2 bytes indicate that 64 bytes have been reserved. Now press <D> and then <C000><RET> and you will see that the 5 byte block is slightly different. Bytes 4 & 5 now contain the current length of the string (3 bytes). Return to Basic again and type:-

```
PRINT LEN (A$)
```

The actual current length is displayed. Now type:- LET A$="" and this time it works because the length is reset to 0. But the contents haven't changed!!. Check with PANEL if you do not believe me.

...Next month the second and final part: Numbers

** Games High Scores Table **

Game	Score	Player		Game	Score	Player
AGROVATOR	61828	A.DOBSON		MAXIMA	501250	*R.SIDDALL
ASTROMILON	30830	*T.NEAL		MINER DICK	22520	*R.SIDDALL
ASTROPAC	69390	A.DOBSON		MISS ALPHA	43840	*R.SIDDALL
BLOBBO	71233	T.PICKSTONE		M OMEGA	4400	*T.NEAL
B.BILL	219610	A.DOBSON LEVEL 1		NEMO	11080	P.CRIGHTON
B.BILL	158334	A.DOBSON LEVEL 9		OBLOIDS	60040	M.GELDER
CHAMBEROIDS	19 MINS	P.ERIKSSON		PHAID	1965	A.DOBSON
COBRA	5634	A.DOBSON		P PETE	39630	A.DOBSON
CONT RAID	10810	M.GILL		QOGO 2	255000	*R.SIDDALL
D.DESTROYER	3380	*T.NEAL		SNAPPO	79300	P.ERIKSSON
EMERALD ISLE	725	*R.SIDDALL		SNOWBALL	1000	P.COUGHLAN
E. ZARKOS	90 OBJ	*R.SIDDALL		S OF PETE	10542	P.ERIKSSON
F. DEEP	1420	*A.LYNCH		STAR COMM	90410	P.CRIGHTON
FELIX	20600	P.COUGHLAN		SUPERBIKE	10KM	*T.NEAL
FLUMMOX	5681	*T.NEAL		S M/FIELD	829	M.GELDER
GOLDMINE	6025	P.CRIGHTON		S SCANNER	7340	A.DOBSON
HAWKWARS	15850	P.CRIGHTON		T FIGHTER	2980	*T.NEAL
HUNCHY	5681	*T.NEAL		TAPEWORM	168515	A.DOBSON LEVEL 1
ICEBURG	17431	A.DOBSON		TAPEWORM	150500	A.DOBSON LEVEL 9
KILOPEDE	33440	P.CRIGHTON		T ZONE	7610	P.ERIKSSON
KNUCKLES	488650	P.CRIGHTON		TOADO	107549	N.GOODING
L OF TIME	950	*R.SIDDALL		TURBO	23030	M.GELDER

* Denotes New High Score

HARDWARE AND SOFTWARE PRICE LIST

This month we have a veritable host of quality software on offer at really ridiculous January sale prices. We are able to do this because we managed to buy up as a 'job lot' the remaining stock of an 'Ex' Memotech dealer at below trade prices. I hope you all take advantage of this offer as it has taken quite some effort and negotiation to bring it about. Probably the best bargain is the 32K Ram expansion for £25.00. But remember we only have the quantity stated, so it's first come first served!!.

MEMORY EXPANSION BOARDS

32K	£40.00
64K	£50.00
128K	£80.00
SPECULATOR	£40.00
NEWWORD ON ROM	£40.00
PASCAL ON ROM	£40.00
DMX80 PRINTER	£200.00
(INCL. CONN. CABLE AND P & P)	
SDX500K +I/F	£250.00
SDX1MB +I/F	£300.00
SDX500K +I/F +80 COL,+CP/M NW & SC	£400.00

Software prices for the best and most popular software:-

Zarkos	£6.00
Oogo2	£6.00
Surface Scanner	£6.00
Chamberoids	£6.00
Fathoms Deep	£6.00
26*26 Spread Sheet	£7.95
Canvas	£7.95
Chess	£8.75
Ed/Asm	£7.95
Memosketch	£7.95

Dust cover's Only £3.50

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

DESC	QTY	PRICE (EACH)	DESC	QTY	PRICE
32K RAM EXP.	1	£25.00			
DUNGEON ADV.	2	£7.00	THE ZOO	2	£4.50
ADV. QUEST	1	£7.00	COBRA	1	£4.50
EMERALD ISLE	1	£7.00	BRIDGE	1	£4.50
MAXIMA	3	£3.50	FIRST LETTERS	1	£4.50
BLOBBO	3	£4.50	WORD & PIC MATCH	1	£4.50
KILOPEDE	2	£4.50	BASIC BUSINESS	1	£5.00
REVERSI	2	£4.50	HELI-MATHS	2	£4.00
MINEFIELD	2	£4.50			
BACKGAMMON	2	£4.50	FROM ELSTREE COMPUTING		
OBLOIDS	2	£4.50	DATA BASE	1	£5.00
NEMO	2	£4.50	INVOICE & CR NOTE	1	£5.00
SNAPPO	2	£4.50	HOME EXPENSES	2	£5.00
PAYROLL	2	£10.00	CUSTOMER INF FILE	1	£5.00
PURCHASE LEDGER	1	£7.00			
PHYSICS 1	2	£5.50			
MATHS 1	1	£5.50			

FOOD STORES DATABASE
By
Tony Street

This is a fairly short and compact database program, it has a limited entry at present but this could be expanded easily according to the memory size of your machine. Although it has been designed to hold data about food stores, it could be made to store information on just about anything you wish. It's main 'forte' is it's method of data input, it very neatly shows how long each data string can be and refuses attempts to exceed this. This routine if extracted could be of use to many data entry type programs.

The program was renumbered using RenumIII from the program library, this leaves leading '0's in front of GOTO's and GOSUB's, these may be omitted when typing it in.

```
10 REM ***** FOOD STORES PROGRAM *****
20 REM ***** BY A.J. STREET DEC '84 **
30 DIM DATE$(12),PUDD$(16,9,10),TITLE$(9,13),X(16),Y(16)
40 LET X=0: LET Y=0: LET Z=0: LET T=0: LET CHOICE=0
50 LET CHAR$="": LET X$=""
60 VS 5: CLS
70 PAPER 9: INK 15
80 CSR 4,0: PRINT "FREEZER AND PRESERVE STOCK"
100 CSR 4,1: PRINT "---------------------------"
120 CSR 4,3: PRINT "C H O I C E S";: CSR 24,3
130 PRINT "LAST UPDATED"
140 CSR 24,4: PRINT "------------"
150 CSR 24,6: PRINT DATE$
170 CSR 4,6: PRINT "PUDDINGS - TYPE 1": CSR 4,7
180 PRINT "FISH     - TYPE 2": CSR 4,8
190 PRINT "MEAT     - TYPE 3": CSR 4,9
200 PRINT "JAMS ETC - TYPE 4": CSR 4,10
210 PRINT "FLANS    - TYPE 5": CSR 4,11
220 PRINT "FRUIT    - TYPE 6": CSR 4,12
230 PRINT "VEG.     - TYPE 7": CSR 4,13
240 PRINT "PIES     - TYPE 8": CSR 4,14
250 PRINT "MISC.    - TYPE 9"
260 CSR 4,16: PRINT "---------------------------"
280 CSR 4,20: PRINT "TYPE 0 TO SAVE PROGRAM"
290 GOSUB 00400
300 LET CHOICE=Z-48
310 IF CHOICE=0 THEN GOTO 00960
320 IF CHOICE>9 OR CHOICE<1 THEN GOTO 00060
330 FOR I=1 TO 9: READ TITLE$(I): NEXT I
360 GOSUB 00540
370 RESTORE 390
380 GOTO 00060
390 DATA  PUDDINGS,FISH,MEAT,JAM AND HONEY,FLANS,FRUIT,VEGETABLES,PIES
,MISCELLANEOUS
400 LET A$=INKEY$: IF A$="" THEN GOTO 00400
410 PAUSE 200
420 LET Z=ASC(A$)
430 RETURN
440 GOSUB 00400
```

```
450 IF Z=13 THEN RETURN
460 IF Z=27 THEN LET I=16: RETURN
470 IF Z=8 OR Z=127 THEN GOTO 00890
480 IF Z>127 OR Z=11 OR Z=10 OR Z=9 THEN GOTO 00530
490 IF Z=25 THEN LET A$="*"
500 IF LEN(CHAR$)>=COUNT THEN GOTO 00530 ELSE PRINT A$;
510 LET CHAR$=CHAR$+A$
520 GOTO 00440
530 PRINT CHR$(7);: GOTO 00440
540 CLS : PAPER 6: INK 15
550 CSR 4,20: PRINT "PRESS <ESC> FOR CHOICES"
560 CSR 12,0: PRINT TITLE$(CHOICE)
570 CSR 4,2: PRINT "[        ]"
580 CSR 25,2: PRINT "[      ]"
590 CSR 4,4: PRINT "[        ]"
600 CSR 25,4: PRINT "[       ]"
610 CSR 4,6: PRINT "[        ]"
620 CSR 25,6: PRINT "[       ]"
630 CSR 4,8: PRINT "[        ]"
640 CSR 25,8: PRINT "[       ]"
650 CSR 4,10: PRINT "[         ]"
660 CSR 25,10: PRINT "[       ]"
670 CSR 4,12: PRINT "[          ]"
680 CSR 25,12: PRINT "[      ]"
690 CSR 4,14: PRINT "[          ]"
700 CSR 25,14: PRINT "[        ]"
710 CSR 4,16: PRINT "[          ]"
720 CSR 25,16: PRINT "[       ]"
730 FOR I=1 TO 16
740 READ X,Y,COUNT
750 CSR X,Y
760 PRINT PUDD$(I,CHOICE)
770 NEXT
780 RESTORE 880
790 FOR I=1 TO 16
800 READ X,Y,COUNT
810 CSR X-2,Y: PRINT "*": CSR X,Y
820 GOSUB 00440
830 REM
840 LET PUDD$(I,CHOICE)=CHAR$
850 LET CHAR$=""
860 NEXT I
870 RESTORE 880
880 DATA    5,2,10,26,2,6,5,4,10,26,4,6,5,6,10,26,6,6,5,8,10,26,8,6,5,1
0,10,26,10,6,5,12,10,26,12,6,5,14,10,26,14,6,5,16,10,26,16,6
890 IF LEN(CHAR$)<1 THEN GOTO 00530 ELSE GOTO 00900
900 CSR X+(LEN(CHAR$)-1),Y
910 PRINT " ": LET CHAR$=LEFT$(CHAR$,LEN(CHAR$)-1)
920 CSR X+(LEN(CHAR$)),Y
930 GOTO 00440
940 IF LEN(CHAR$)<1 THEN GOTO 00530 ELSE GOTO 00890
950 STOP
960 CLS : CSR 4,5: PRINT "ENTER TODAYS DATE, ";: INPUT DATE$
970 PAUSE 1500: CSR 2,7: PRINT "PREPARE CASSETTE PLAYER"
980 PRINT "PRESS PLAY AND RECORD THEN HIT <RET>"
990 LET A$=INKEY$: IF A$="" THEN GOTO 00990
1000 CLS : CSR 5,15: PRINT "....SAVING 'STORE'"
1010 SAVE "STORE"
1020 GOTO 00060
```

ED-> During the past month I have had two members phone me with the same query about their newly purchased SDX + CP/M operating system. Their query?

...I've put all the 'bits' together as per the manual and powered up, it seems to be working but I cannot get anything on the display, what am I doing wrong?.

Well, the answer is very simple, but none the less very important and should be noted by any perspective CP/M members. CP/M uses 80 columns of text across the screen, a T.V. can not support this, so you must have a monitor in order to see anything. Also if you wish to use 40 column Basic, ie to play games, then you will also need a T.V. connected.

So, if you intend buying the CP/M operating system make sure you can get your hands on a monitor!!!!.

Answers to Questions
1. Re. Paul Schofields moans concerning agro with his Disc Drive etc..

I assume the 250K drive he refers to is the SDX and in which case I suggest he looks at the possiblity of him suffering from the "ZX81 Syndrome" ie Wobbling Edge Connectors.I have in the past suffered from this problem with very similar snags. I have three extension boards fitted at the RH end, and recently the SDX interface board at the LH end of the MTX.

The only cure is to make, by the best means at one's disposal, the connections as rigid as possible.Even though the RH extension boards are in slides, there is of necessity some tolerance, and so, by the same rule a small amount of wobble, but enough to cause problems.

As to the SDX interface, I am in the habit of resting my hand on this box again causing movement, with sometimes disasterous results during <Saving> to disc.For a time I cured this with the help of double sided sticky pads between the two faces, which were quite effective but not really to my liking because they were messy in the event of needing to open the case, or remove the interface for any reason.

I have made more effective cures for both end connectors, but the means would take too long to explain here, but I will do so if it is needed by anyone.
Wilf Ireland, Urmston, Manchester.

Updates
1.This little snippet was poached from a non-member (Ed-> Remember not to send him a magazine this month!!).

A little update to the Song program 'Recuerdos De La Alhambra' published in Vol 2 issue 2.
Edit lines as follows:-
60 SOUND 0,CH0,600,0,0,5,1
230 SOUND 0,CH0,600,0,-.5,5,1
250 SOUND 2,CH1*2-4,700,-.6,0,5,1

A 'ramble' by Roger Utley ...and how true it is!!
It is now rather more than a year since my ZX80 (remember them?) finally exasperated me so much that I threw the whole thing in the dustbin and went out to look for a real computer. What I found was the Memotech MTX512. Actually I ordered the RS 128 but our pals at Witney decided to send me the 512 instead, so I never did get round to buying the FDX upgrade the the 128 on which I had originally planned.

To tell the truth, I took a bit of a chance: not only did I order the Memotech purely on the strength of a magazine review, but; having decided I needed a word processor, I ordered the Newword ROM and a JUKI 6100 printer at the same time. I then sat back with my fingers crossed! What did I get? Well, I got a computer which is so good that I still can't understand why the computer magazines largely ignored it. I got a word processor that is to my mind excellent at the price, and I got a computer/printer combination that worked together from the very first moment I plugged them in as though they had been designed for each other.

So then I looked around for some magazines to subscribe to. I took the major magazine which had reviewed the RS128 in such glowing tones, and what did I find? Whenever disgruntled Memotech owners complained that they ignored the machine they protested loudly that it was excellent, and then went back to ignoring it. I subscribed to a magazine which promised " We think you'll like our approach to computing". Their approach was certainly interesting: that spent every issue singing the praises of the Amstrad CPC464 and telling me how for only another £50 (or however much it was that month) I could buy yet another add-on that would give that wonderful CPC464 some fantastic extra capability which had been built into my 512 at birth. I paid money to Genpat, who regularly announced the release of tremendous new programs/manuals/disc drives etc, all of which never seemed to see the light of day. Lastly, I subscribed to the MOC, and what did I get? I got an unpretentious magazine which told me about hidden commands in my Newword ROM, and how to fix the fault which was causing my machine to lock up without warning.

I enclose my subsription for another year, Phil. Keep up the good work.

Phil-> Now that's what I call an unbiased letter!!

SCART (EUROCONNECTOR)

The better new televisions are equipped with a socket for a SCART, providing composite audio, and RGB inputs. The results on a Beovision 5502 are superb. Even 80 column RGB is readable. FDX graphics are primative though the screen is the right shape, but for graphics work, one would normally use FDXB 40.COM, and the composite output. This, as usual with the TMS 9918 VDP chip, gives an elongated screen, but a beautifully clear and steady picture. The only way to right the picture is to use the internal height control of the television. It would not be difficult to wire this up to an externally operated variable resistor so that when one wants to play chess on a square board one could easily adjust the height to give a properly shaped picture. This overscan problem makes one realise why the Amstrad is sold with a dedicated monitor.

Euroconnectors can be bought from Maplin, as can the BNC plug needed to connect to the composite output on the Memotech. At the back of the Maplin catalogue are the wiring details for the SCART. I used four core cable connected to the Euroconnector at one end, and a separate phono and BNC plugs on the other. For RGB I used a second cable with nine cores, the Euroconnector on one end, and the 'D' connector for the FDX on the other. It would not be impossible to connect both cables to the same Euroconnector plug so that composite and RGB would always be available without changing plugs. The BNC plug has a locking ring which it is virtually impossible to turn because the casing of the MTX gets in the way, but a push fit, without turning the ring, seems adequate.

Many Thanks to Geoff Gardiner for this article and the RS232 one published last month.

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NEW YEAR BARGAIN

BROTHER HR-5 centronics parallel printer (including AC mains adaptor, computer connecting cable, spare cassette ribbon, A4 thermal paper, operating instructions & BRUNWORD word processor software).

In perfect working condition — just plug the cable in the Centronics port at the back of your MTX500/512 and you are printing in no time !!.

All for just £109 plus £5 P&P.

Contact Mr David Lam 105 Geary Road, London, NW10 1HS.

- -

ROM CALLS
By
Peter Eriksson

ADDRESS	REG'S AT ENTRY	REG'S AT EXIT	COMMENTS
£1B	None	None	Prints chr$(13) & chr$(10)
£30	DE points to table	BC=result	This is the Basic calculation routine. It calc's a formula stored at DE. The result is put in the BC and the table must end with £FF. (See below for codes!!)
eg.	LD DE,TAB		
	RST 30		
	CALL £1B50		
	RET		
TAB:	DB "123",£CF,"75",£D1,"A",£FF		
£BC	A=Char	None	This will print a char to the screen
£AD	None	Z flag=true	This will set the Z flag if either of the shift keys are pressed
£CD	None	None	This will select ROM page 1
£250	None	None	Basic continue
£2E7	HL points to table	None	Print a string (end with £FF)
£64A	A = page	None	Selects ROM page X
£9F2	None	Z flag=not true	This will reset the Z flag if the BRK key is pressed
£1424	A=char	None	Print a char, then behave like DSI
£1B23	None	A=char	This routine will wait for a key to be pressed.
£1B50	BC=Number	None	Prints BC in Hex
£1B55	A=Number	None	Prints A in Hex
£1B5C	A=Number	None	Prints low nibble in Hex
£1B87	E=Max length	DE=start HL=end+1 C=Length	This routine will read a line of text from the keyboard and then store it in memory.

Codes For Use With RST30

FUNCTION	CODE(HEX)	FUNCTION	CODE(HEX)
+	CF	INT	E2
-	D0	LN	E4
*	D1	PEEK	E5
/	D2	SGN	E6
^	D3	SIN	E7
=	D4	SQR	E8
>	D5	TAN	E9
<	D6	INP	EA
>=	D7	USR	EB
<=	D8	ASC	ED
<>	D9	LEN	EE
AND	DA	VAL	EF
OR	DB	MOD	F1
NOT	DC	PI	F2
ABS	DD	RND	F3
ATN	DE	EXP	E0
COS	DF		

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SPECTRUM EMULATOR

I believe this is the first add-on ROM to be produced for the Memotech. The unit is a very neat, small module designed to fit on the left-hand external edge connector, infact when fitted it only protrudes about 1" (25mm). It does not allow extra boards to be connected to it which is a pity, but it is very easy to fit and remove so this is not too much of a problem.

Two very 'big' points are that it requires 64K of memory and if an RS232 board is fitted, a chip modification must be made, only trouble is they don't say what chip!! Rather than go through this rigmarol I found it easier to remove the board.

Once the hardware was in place the software tape also supplied was loaded at first try. Then, with fingers crossed, I loaded Gridrunner (1 of 20 programs the 'Emy' supports), this loaded in about 2 - 3 minutes, which I thought quite quick, it was however slow by Memotech standards as Gridrunner is only a 16K program.

After picking myself up off of the floor, ...the program loaded first time!!, I found myself confronted with Gridrunner, this appeared to work faultlessly and the graphics suprisingly were up to that expected of Memotech games as was the smoothness of movement and speed. The only 'eerie' thing was the complete silence emitted by the game, this felt really strange and took some getting used to.

Everything seemed to be just right, quality, speed, colour, sprites!(Well they look incredibly like sprites!!), you even get the charactistic spectrum load screen, with the flickery border.

All in all, as a final conclusion, this product is very well made and deserves to do well. It is infact I think a first in that it is the pioneer in home computer emulation, the very first working emulator on the market.

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SOFTWARE REVIEW

Title   3D TURBO
Publisher   Continental
Price   £6.95

This is another game written by the one and only A.Key, this 3D motor racing game has really smooth graphics, quite an attribute considering the calculations needed to compute in 3D. The graphics shapes are fairly block-like but this does not distract one's attention in this 'rivetting' game.

I have not managed to get past screen two yet, but I assure you that I'm addicted and will continue to persevere for as long as it takes to complete the race.

In my opinion this game deserves an overall 4 out of 5 rating, mainly because it is the first on the Memotech. One thing I did not like however, returning to the first race after every lose of life seems a bit trivial, but on the whole, well worth buying.

Only one new program this month; a simple wordprocessor sent in by Liam Redmond. It is designed to work on an MTX500 or MTX512. This program is written in assembler and is quite remarkably short, anyone looking for a project should find the expansion of this program quite a challenge. Thanks Liam for a very interesting program.   Phil

1.Basic & Assembler Programs
All programs available on cassette, 2 programs per cassette, £1 per cassette. Or on disc, £2.50 per disc, please enclose a disc, stating capacity.(Some programs are only available on cassette!!).

1.Hex-Dec-Bin Convertions. (Binary Bit In Assembler)
2.CGEN   Sprite Generator.
3.3D Drawing Board. Rotate a skeleton of a cup & saucer in 3D.
4.Whist.   The Card Game
5.Memory Save.   This Utility will Save a block of memory to tape and retrieve it.
6.MTX Drawing B'rd. ;Two basic drawing boards, MTX DB has
7.LOGO Drawing B'rd.;more extensive commands
8.Simplex Tablaeux. 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
33.Texted   ;*** NEW *** Word-pro
Please send in any programs that you have for inclusion in the library, where-ever documentation is necessary try to include it in the program. Ta!

2.Programs/Procedures in Pascal
(Available as listings or on disc. Please provide sufficient postage to cover club costs!!)
1. DBASE for Disc Turbo Pascal
1(a). Comprehensive Create File Procedure
1(b). Simple Display File Procedure

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!!)

4.CP/M Progams/Utilities
(!!! Available only on disc !!!, please send in a formatted disc stating capacity and enough postage to cover).
1.A simple mail label system for up to 3 across labels, written in EBasic. Disc includes Ebasic compiler and run-time program. Consists of a suite of half a dozen programs. (Ensure that you send in at least 250K of blank disc!!)
2.PLOT33 A new graphics plotting package for Turbo Pascal owners. Create and print your own graphics. Set up for DMX type printers but will support most others. Must be seen to be believed. Please ensure you have at least two weeks free when ordering this one, you'll need it!!. (Ensure that you send in at least 300K of blank disc for this one).