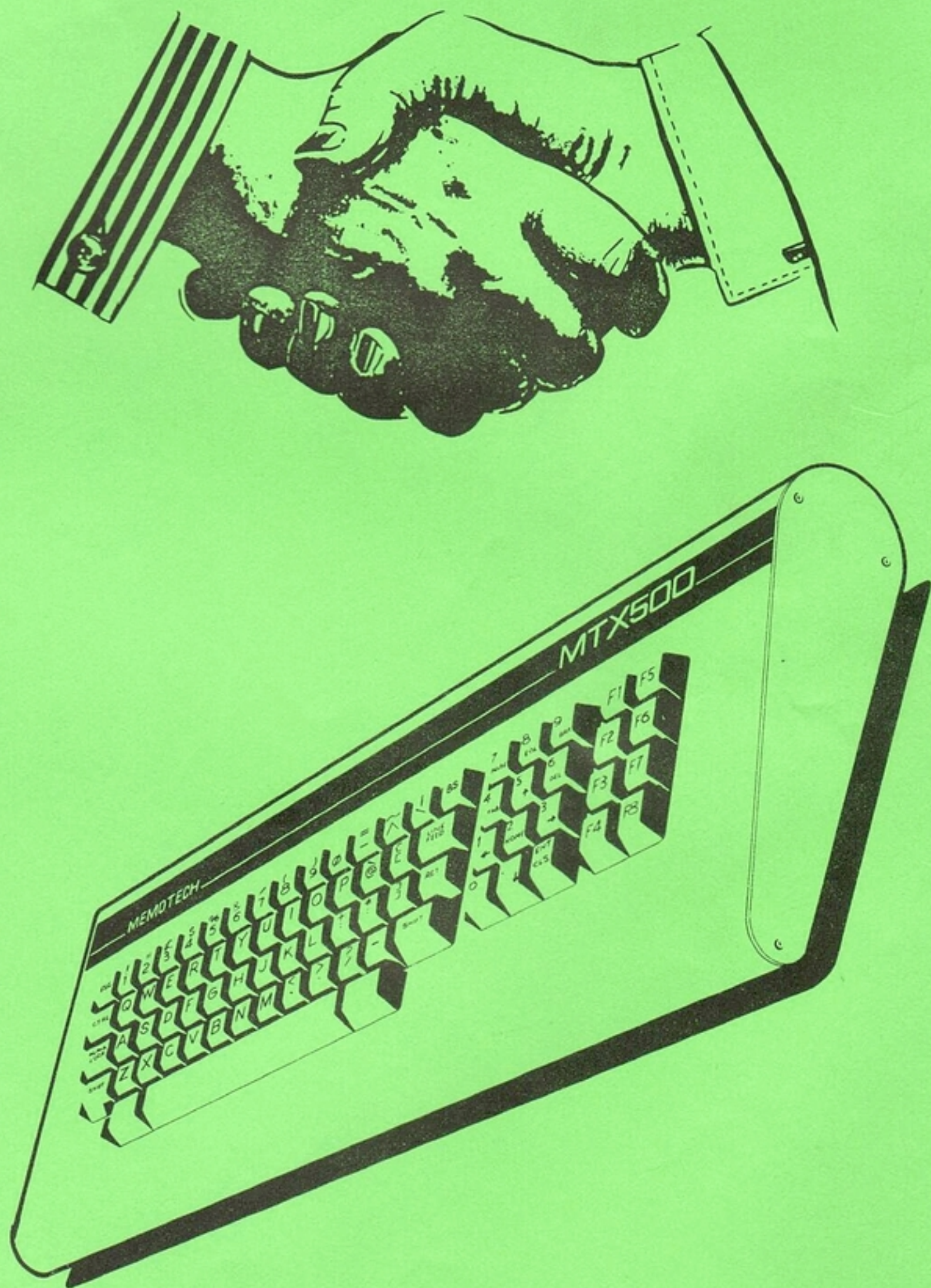


memorad

Memotech Computer User Club Magazine



MEMOTECH
MTX
SERIES



CONTENTS JUNE 1985

EDITORIAL	PAGE 2
HI-SCORES	PAGE 3
GENPAT HIT LISTS	PAGE 4
REVIEW GRAPHICS & DR FRANKIE	PAGE 5
REVIEW ESCAPE FROM ZARCOS & CHAMBEROIDS	PAGE 6
REVIEW SUPER MINEFIELD & SURFACE SCANNER	PAGE 7
KIDDIES COMP WINNERS & THE SOUND OF MISTAKES	PAGE 8
STRUCTURED PROGRAMMING	PAGE 10
DISCMANIA ALL ABOUT IT	PAGE 13
HARDWARE INTERFACE ... TRAK-BALL	PAGE 15
BASIC GRAPHICS PART 2	PAGE 17
TO RUSSIA WITH LOVE ?	PAGE 20
STARTING FORTH	PAGE 21
PROGRAM EXTENDED ERROR MESSAGES	PAGE 24
CONVERTING CONNECT 4 PT3	PAGE 27
PROGRAM AIR SEA RESCUE	PAGE 29
SOFTWARE	PAGE 33
HARDWARE	PAGE 34
CP/M SOFTWARE	PAGE 35
VIEWPOINT	PAGE 37
END STATEMENT	PAGE 40

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Editorial

June has seen me clocking the miles up once more. Cajoling software houses and magazines has become a way of life this past three months, and like the weather there is no sign of an improvement. Kuma, Ocean, Software Projects, P.C.W, Your Computer - the list is almost endless. No matter where I go, I get the same tale; ".....we don't think the sales potential is therewe might look at the matter again, in a few months" The trouble is: THEY ARE RIGHT !

PHOENIX have decided not to re-print "The MTX Programming Book" reason: have lost money on the venture. To give you a glance at the other side of the fence, look at the following facts:

We have almost reached the 4000 mark with membership which means that there is a potential of 4000 sales for everything that is produced for the computer and brought to light through the magazine. Granted, a large majority may not be looking for the items that are offered, but if we take the lowest acceptable average of 20% that's 800 sales for the more popular items. MEMOSKETCH: this is not a games program but a utility and it is the only program that over 50% of purchasers have taken the trouble to write in a say how marvellous it is. TOTAL SALES FOR MONTH 110 !!! Losses to date on initial duplication based on expected sales: 420.00

Syntaxsoft's losses to date on all software for MTX computer 4680.00. Level Nine produced the Lords Of Time many, many months ago they haven't sold 100 yet ! Crib Card losses to date 512.96p

Memotech produced a 250k disc drive and bought stocks of 1000 which they agreed to keep exclusive to Genpat members. The initial sales have been so disappointing that they are now wondering if it was worth the trouble ... it certainly hasn't been what can be termed a financial success.

I don't want you to get the impression that I am "having a go", I am showing you the facts in answer to all those people who ask us why a certain company won't do this, or why won't someone write this or that. In all seriousness, what can I honestly tell a software writer or company when they ask how much they can earn from the venture ? If I gloss over the facts, it is my head and reputation that is on the line.

On the other side of the fence, the rewards for producing material for, say, the Amstrad, or the Einstein and even the Enterprise are completely the reverse.

I realise that you may not be getting the products you require but it is exactly these same products that are making a profit when produced for other machines. This is one area that cannot be laid at the Company's door - advertising only attracts new purchasers to the computer.

I would sincerely like to hear your thoughts on the matter what software you would like to see, hardware and the like. There is no panic, drop me a line when you have time.

On a lighter note: it is almost Genpat's birthday and we are already working on a special birthday edition which we are sure you will enjoy. We do intend to change the method of producing Memopad starting with the volume 2 and it should make it a lot easier for you to use the magazine as a reference source. We have had some very good suggestions from you.

This month we are trying an experiment. We are going to run the 1.00 raffle for a 250K disc drive. If you have one, we will allow you to have the 80 column board & CP/m rom. All you need to do is send in your one pound note with your membership number written in LARGE BLACK INK. We will draw the raffle on the 1st of August and announce the winner in the August edition, which is the Birthday edition.

Because this is the time when computer sales go on the decline let's take the opportunity to organise and plan the fight for the run up to Christmas. Any ideas are welcome and between us we may find the solution. Drop us a line, I'm not saying you will get a reply, but you can rest assured your letters will be studied. Memotech have already started to do their part. M.M.D {Memotech Marketing & Distribution} has already been formed and Malcolm & Brian are working furiously behind the scenes trying to get a major retailer to stock "Black Beauty".

Heard the one about the Hacker who rang Syntax 'cause he couldn't load the tape head cleaner ?



 HIGH SCORES : HIGH SCORES...Can you do better ??

GOLDMINE	8,995	Daljinder Singh
ASTRO-PAC	165,280	Andrew Ewing
BOUNCING BILL	14,184	Alan Dobson
SNAPPO	111,670	Richard Franks
KNUCKLES	999,999+	Sally Street
NEMO	17,610	Richard Nash
COBRA	8,924	Richard Nash
MISSION ALPHATRON	54,550	Michael Hunt
TAPEWORM	126,415	Tammy Brooks(age 12)
TOADO	126,332	Jon Andrewartha
POT HOLE PETE	75,080	Alan Hill
MAXIMA	271,000	Lawrie Wemyss
STAR COMMAND	140,430	Ian Nichols
PHAID	26,000	Sally Street
OBLOIDS	46,850	Sean Haverty
KILOPEDE	61,504	Jon Andrewartha
3D TACHYON FIGHTER	10,700	Lesa Woodger
CONTINENTAL RAIDERS	106,240	Sean Haverty
BLOBBO	148,283	Elizabeth Mahon
QOGO 2	116,580	R.Harmer
MINEFIELD	1,500	David Nash
FLUMMOX	33,232	Jason
TURBO	9,830	Michael Hunt
THESEUS & LABRYNTH	609	Richard Nash
AGROVATOR	179,777	Richard Franks
FIREHOUSE FREDDIE	19,130	T.Eriksson
QOGO	21,360	T.Eriksson
ARCADIANS	15,100	Richard Nash
MISSILE COMMAND	12,110	Richard Nash
LITTLE DEVILS	14,680	Andrew Ewing
FELIX IN THE FACTORY	11,950	Richard Nash
HUNCHY	7,908	R.Harmer
SON OF PETE	2,200	R.Harmer
HAWKWARS	8,800	R.Harmer
CHAMBEROIDS	24mins 4Passes	R.Harmer
ESCAPE FROM ZARCOS	15 Items	R.Harmer
MISSION OMEGA	9,350	R.Harmer

GENPAT Opening Times

MONDAY	9-15am	till	6-00pm	7-00pm	till	10-00pm
TUESDAY	9-15am	till	6-00pm	7-00pm	till	10-00pm
WEDNESDAY	CLOSED	ALL	DAY	CLOSED	ALL	EVENING
THURSDAY	9-15am	till	6-00pm	7-00pm	till	10-00pm
FRIDAY	9-15am	till	6-00pm	7-00pm	till	9-00pm
SATURDAY	9-30am	till	4-30pm	CLOSED	ALL	EVENING

SUNDAY DEFINITELY NO PHONE CALLS ON THIS DAY PLEASE !

GENPAT HIT LIST

This chart is compiled purely on the sales of software within the Club and will be updated every month.

Adventure

- | | | |
|----|---------------------|-------------|
| 1. | ADVENTURE QUEST | LEVEL 9 |
| 2. | EMERALD ISLE | LEVEL 9 |
| 3. | MURDER AT THE MANOR | SENTIENT |
| 4. | SNOWBALL | LEVEL 9 |
| 5. | ALICE | CONTINENTAL |
| 6. | THE KEYS TO TIME | SENTIENT |
| 7. | DUNGEON ADVENTURE | LEVEL 9 |

Arcade etc.

- | | | |
|----|---------------------------|-----------------------|
| 1. | ESCAPE FROM ZARKOS | MEGASTAR |
| 2. | MEMOSKETCH | SYNTAXsoft |
| 3. | AGROVATOR | SYNTAXsoft |
| 4. | QOGO 2 | MEGASTAR |
| 5. | LITTLE DEVILS | SYNTAXsoft |
| 6. | BRIDGE | CONTINENTAL |
| 7. | EDASM | SYNTAXsoft |
| 8. | EXTENDED BASIC | SENTIENT |
| 9. | GRAPHICS | CONTINENTAL |
| 10 | FATHOMS DEEP/STAR COMMAND | MEGASTAR/CONTINENTAL. |

Educational

TOP SELLING EDUCATIONAL PROGRAMS

- | | | |
|----|--------------|-------------|
| 1. | SPELLICOPTER | SENTIENT |
| 2. | FIRST WORDS | CONTINENTAL |
| 3 | HELLIMATHS | SENTIENT |



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REVIEW**GRAPHICS****SYNTAXSOFT**

I know that Graphics has been around for a few months, but it was only after buying Memosketch that I decided to see what extra facilities this package would offer me.

It is obvious that a lot of thought has gone into the design of this utility - not only can you create UDG's (User definable graphics), re-design the standard graphic set and design a large amount of sprite patterns, but you can also interface a routine of your own which can then be called from the main menu. This is a very handy option (I only wish there had been 2 more interfaces !).

The program has been left completely open - a deliberate policy by the author - so that you can also gain a good insight into how the utility has been written, and pick up some programming tips. Basic users - once they have designed their graphics - can save them to tape and then use them from within a program without the need for all those Genpat statements. Machine code programmers are shown how to take the graphic core and call it from within their own assembly routines.

The instructions are fully documented within the jacket which has been extended to cater for them, but I issue a warning to prospective purchasers: Type 5 <RET> as per instructions, and then always enter the assembler by typing ASSEM 6 then exit. This will definitely make sure your graphics have been protected. You can then type happily away starting from line 10 and call all those wonderful creations without Genpats. ☆

Memosketch & Graphics give the Memotech user a set of tools I haven't found on any other machine.


Tim Marstian

REVIEW**DR. FRANKIE****SYNTAXSOFT**

Peter Cushing & Christopher Lee followers will love Dr Frankie. Yes. Frankie is the Frankie(stein). I know we have had a quite a few Manic Miner type games this past few months but this is a new slant on an old theme, and for those of you who like the hard games then this is the one. There are not as many screens as with P.H.Pete but the ones that are included are hard enough and I still haven't got halfway through the game.

You must guide Dr. Frankie from his castle to the graveyard - if you can get there - and collect pieces of bodies which he can make into his latest nut n' bolt creation. If you have survived the many obstacles to this point, and I say if, you must then get Dr. Frankie back to his laboratory where he has to assemble the parts of the body.

The obstacles are many and varied. When you first enter the game he is trapped in a dungeon which is full of spiteful rats. Spiders keep the rats company and just for good measure there are a few skeletons that seem to be looking for a Hammer film set.

There are a few nice touches built into the game, a practice mode for one. Sound effects can be turned on and off & a freeze game facility. Syntaxsoft assure me that there is a spectacular finale when you manage to complete the game, but alas, I have not yet done so.

This is an excellent game with good sound effects and really attractive graphics. I really do recommend it to anyone who has not yet bought a scrolling Manic Miner type game, and for those who have, it is a must. Fun all the way and congratulations to the author. ☆


Shaun Prendeville.

REVIEW *Escape From Zarcos* **MEGASTAR**

This is a very enjoyable game, and I believe must use nearly all of the 64K memory, since there are 70 screens, and 100 items to collect. The object of the game is rather like 'Jet Set Willy' though it is set in the caverns of a planet deep in space.

This game is very colourful, and I would recommend playing it on a colour television. The graphics are cleverly designed, though the main character looks more like a monk than a spaceman. Throughout the game a tune is played, but this can be turned off by a philistine. The controllability can be as easy as you like since the keys are redefinable. In the game it says that if you begin to loose all your lives to press a cursor to save yourself, don't, use the direction key you choose at the beginning of the game.

The object of the game is to escape from a planet named Zarcos. To do this you must risk life and limb to obtain all 100 pieces of your damaged spaceship. But beware the monsters. ☆

Marks out of ten

Graphics: 9
 Colour: 9
 Sound: 9
 Control: 8
 Value: 9

T. Smith

This is a GREAT game and worth buying.

REVIEW *CHAMBEROIDS* **MEGASTAR**

This is a truly wonderful game. I think I ought to warn you, that a colour television is almost essential, as colour plays a vital part of the game. Staying alive is difficult, as touching the floor, walls, ceiling, stalagmites and stalactites will cost you fuel.

The colour and graphics are both very good, though the sound is just average. It is quite difficult to control as a lapse in concentration may mean touching the sides. I advise using a joystick to control as it is very difficult on the cursor keys.

The idea of the game is to fly around these many rooms, finding passes. With these you may pass through the gates and teleports of the corresponding colour, collect a purple key, and escape through the purple gate at the beginning. ☆

Marks out of ten

Graphics: 9
 Colour: 9
 Sound: 8
 Control: 8
 Over all: 9

T. Smith

This is a great game and is good for demonstrating the MTX's colour.

Super Minefield



CONTINENTAL SOFTWARE

Super Minefield has been in the catalogue

since I first purchased my computer, and

probably, like you, I have shied away from the older games. I am sorry I did ! Super Minefield has become a firm favourite with my wife, my children and my computer friends. This is a game which is a mixture of cunning, skill and logic.

You are dumped in a minefield and you must pick your way along the paths and fields guided only by a the on screen mine detector and your memory. Other hazzards creep in when you get past the first two screens and completing the game is not easy. A random generator makes sure that two games are never quite the same, so even though you may manage to triumph on one occasion, it doesn't follow that you will succeed on subsequent tries.

I rate this game in the same ilk as draughts, reversi, and with a few reservations, chess. If you want a game that gets away from the more popular on screen actions, a game that puts your powers of observation to the test then buy this one !

Tim Marstian

ED Because this game has been out for a long while we are now reducing the price for this month to 4.50p. And I feel I must put my two cents in. I agree with Tim, this is one of the first games that I really enjoyed on the MTX. ☆

REVIEW

Surfice Scanner

MEGASTAR

This is a very fast game, and can be difficult if close attention is not paid to it. Even so it is good. It is very difficult to play on cursor keys, almost impossible so I would advise buying a joystick.

The colour and graphics are a little above average, with the sound of the same quality. The controlability is reasonable with difficulty caused by the speed of the game.

The object of the game is the same as the arcade game 'Defender', for those who have never heard of this game, it involves flying over the surface of a planet, shooting down little aliens, who try to pick up little men on the planet surface. To save these men you must shoot the alien, and fly through the man before they reach the ground. ☆

Marks out of ten

Graphics:	7
Colour:	7
Sound:	7
Control:	7
Overall:	7

T. Smith

This is a good game for testing your reflexes on.

MEMOTECH

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Competition

Winners

I thought the entries to this competition
were superb.....I was so pleased
I am awarding a prize to each entry.
They are:-

HEATHER RICHARDS	7
DAWN STREET	4
ELAINE LYNDIA REDWAY	7
SARAH JOHNSON	6
KIRSTY JANE SMITH	8
CARL MITCHELL	7
MATTHEW MOSS	6
HANNAH TAYLOR	7
LUCY TAYLOR	4
COLIN BUCK	6

The Sound Of Mistakes

P. Crighton

The following short program is a very useful utility. It produces a tone whenever a mistake occurs in Basic. Most of you will have realised that when using the Auto mode it is very easy to overlook a mistake.

Enter the code and save it to tape. Whenever you want to use the routine, RUN the program. This will initialise the error check system variable #FD54 to force a jump to this routine which will then produce a tone before jumping back to Rom. If you are using this program with another routine that is used for error trapping the address at #4034 needs changing to your own trap.

MTX 500 owners enter the code exactly as it is, however, your code will start at #8007.

10 CODE

4007	LD HL,£FD54
400A	LD (HL),£C3
400C	LD HL,ERROR
400F	LD (£FD55),HL
4012	RET
4013	ERROR: PUSH AF
4014	LD A,0
4016	LD (£FE14),A
4019	LD A,255
401B	LD (£FE16),A
401E	LD A,15
4020	LD (£FE18),A
4023	CALL £8F6
4026	LD C,200
4028	DELAY: LD B,255
402A	LOOP: DJNZ LOOP
402C	DEC C
402D	JR NZ,DELAY
402F	LD A,0
4031	LD (£FE18),A
4034	CALL £8F6
4037	POP AF
4038	JP £18AF
403B	RET

Symbols:

ERROR	4013	LOOP	402A
DELAY	4028		

MinerDisk

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STRUCTURED PROGRAMMING

by PETER KNAGGS

After the last two articles you should be thoroughly enthralled, or more than likely, wondering if you should bother reading this one because you could not understand the others - I couldn't either, so you are not alone !

Well. We are nearly at the climax of the whole business. In the process of structured programming there are three steps. The original Structure Diagram which is translated into a Schematic Logic. This logic can then be put into the actual program. The best language for this is Pascal because it was designed for structure. We, however, will stick to Basic.

What I am about to discuss may seem a bit of a long way around but when you get into large data file handling programs, believe me, these conventions are worth sticking to.

Going back to the three basic steps, a sequence of events is quite simple to relate as each function goes onto one Basic line. A selection is a set of IF .. THEN .. ELSE statements - it is wise to get into the habit of using the ELSE function it is quite a useful tool. An iteration is not quite so easy as a straight FOR .. TO .. STEP .. NEXT sequence. You will usually have to make, what I call, a plastic command: The only conditions we can use in an iteration is WHILE or UNTIL ... neither function is available in our basic.

The difference between WHILE & UNTIL is that in a WHILE the condition is tested before any of the code is executed. In the case of an UNTIL the condition is tested at the end of the loop. let's say, for example, we need to input numbers until the number 99999 is reached, the logic would look something like this:

A-SEQ	FUNCTIONS
DO 1 ;	1. Initialise total and number.
B-ITER UNTIL C1 ;	2. Accept the number.
DO 2,3 ;	3. Add the number to total
B-END	4. Display the total
DO 4 ;	Conditions
A-END	1. Number = 99999
	2. Number Not = 99999

This would be coded into Basic as:

10 REM A-SEQ	A-SEQ
20 LET T = 0 : LET N = 0	do 1
30 GOSUB 70	do B-iter
40 PRINT T	do 4
50 STOP	A-END
60 REM B-ITER	B-ITER UNTIL C1
70 INPUT "Enter Number";N	do 2
80 LET T = T + N	do 3
90 IF N <> 99999 THEN GOTO 60	B-END
ELSE RETURN	

Now, if we were to alter the problem slightly to:

Input numbers and add them together while the number is not 99999. The logic would look like this :-

10 REM A-SEQ	A-SEQ
20 LET T = 0 : LET N = 0	do 1
30 GOSUB 70	do B-iter WHILE C2


```

40 PRINT T
50 STOP
60 REM B-ITER
70 IF N <> 99999 THEN INPUT "NUMBER";N
80 LET T = T + N
90 RETURN

```

```

do 4
A-END
B-ITER
do 2
do 3
B-END

```

These are the rather different and all due to a WHILE as opposed to an UNTIL

You should have noticed two things:

1. NEVER make a reference to a line which starts with a REM. This is very bad programming practice. When the program is made to run faster the REM lines are removed and if a REM line is referenced it will cause problems.

2. When there is an indent in the schematic logic the code should be placed on a GOSUB statement - in this simple case it is not necessary, but later, with larger programs, it will be required.

That's all there is to it ! I'll go through an example, and then let you get on with SLOWPOKE from the last couple of articles. Don't forget, if you are in any difficulty, get in touch with me.

EXAMPLE:

A program to input the PREVIOUS & PRESENT reading. It will also input a tariff code on 1,2 or 3, and calculate the account for units used between PREVIOUS & PRESENT depending on the tariff code. Both readings must be between 0 & 99999.

The number of units is calculated from PREVIOUS & PRESENT readings adding 100,000 if necessary to make it positive. The charge is then calculated by charging the first limit units at the relevant Dearer Rate and the rest at the Cheaper Rate as specified in Table 1.

TABLE 1.

TARIFF	Limit	Dear Rate	Cheap Rate
1	93	0.012	0.002
2	432	0.020	0.007
3	525	0.025	0.008

The Basic Program:

```

100 REM A-SEQ
110 REM B
120 DIM A(3,3)
130 FOR X = 1 TO 3 : FOR Y = 1 TO 3
140 READ A(X,Y)
150 NEXT : NEXT
155 REM
160 INPUT "ENTER PREVIOUS READING ";PV
170 INPUT "ENTER PRESENT READING ";PS
180 INPUT "ENTER TARIFF CODE ";TR
190 REM B-END
200 REM
210 REM C-SEQ
220 REM D
230 LET D = PS-PV
240 IF D<0 THEN D = D +100000
250 REM D-END
260 REM E-SEL

```

```

START OF PROG
INPUT/INITIALISATION
INITIALISE LOOK-UP TABLE
DO 1
DO 2
DO 3
DO 5

```



```

270 IF D<A(TR,1)
    THEN LET C = D * A(TR,2)
    ELSE LET X=A(TR,1) * A(TR,2):
        LET D = D - A(TR,1):
        LET Y = D * A(TR,3):
        LET C = X+ Y
280 REM E-END
290 REM
300 REM H
310 PRINT "CHARGE: ";C
320 REM H-END
330 DATA 93,0.012,0.002
340 DATA 432,0,020,0.007
350 DATA 525,0.025,0.008
    
```

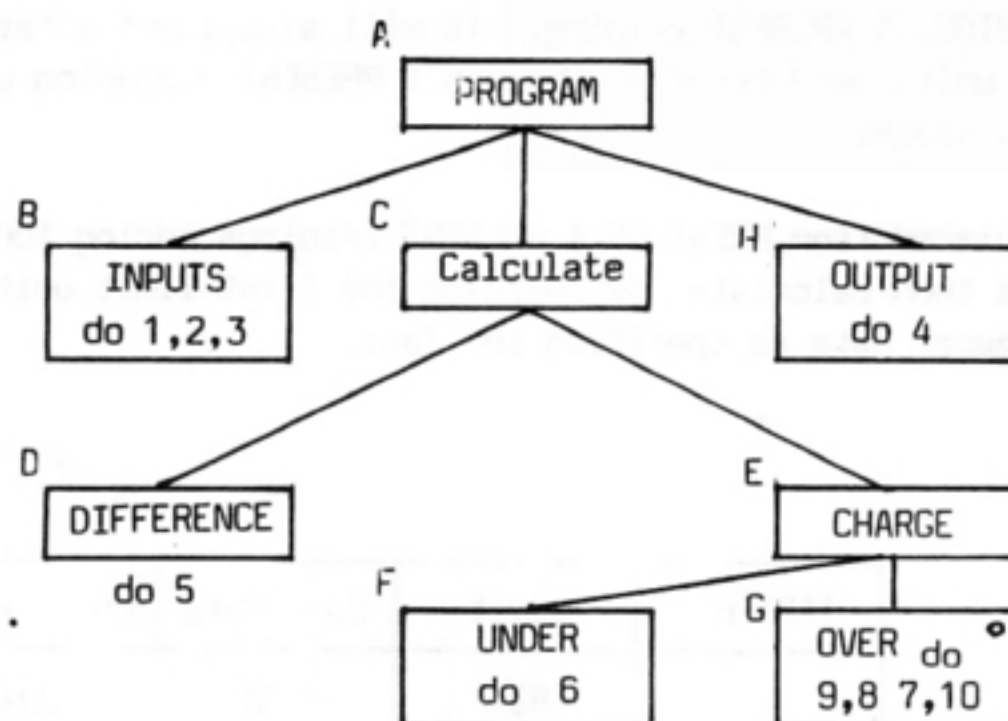
```

IF C1
DO 6
ELSE DO 9
DO 8
DO 7
DO 10
    
```

```
DO 4
```

```
DATA FOR INITILISATION
```

The above is a fully expanded program. All the text to the right of the | is additional comment and should not be typed in. Also note that Line 270 has been expanded for clarity. ☆



Functions list:

1. Input PREVIOUS reading
2. Input PRESENTS reading
3. Input TARIFF code
4. Output CHARGE
5. Calculate difference of PREVIOUS and PRESENT
6. Calculate difference * Dear Rate
7. Calculate difference * Cheap Rate
8. Calculate difference sub limit
9. Calculate Limit * Dear Rate
10. Add Cheap Result to Dear Result.

conditions list:

1. (IF) difference < limit

The Logic:

```

A-SEQ
Do 1,2,3
C-SEQ
Do 5
E-SEL IF C1
Do 6
E-OR
Do 9,8,7,10
E-END
C-END
Do 4
A-END
    
```

```

Start of program BOX A
Intial Inputs BOX B
BOX C
Calculate Dif. BOX D
Select if Dif < Lim BOX E
Yes-Calc charge BOX F
and exit
No-Calc charge BOX G
Exit SElection
Exit SEQUENCE
Output result BOX H
Exit program.
    
```

DISCmania

All about it



Once a disc has been formatted it is ready for use. However, it is a wise policy to get into the habit of copying the system tracks, from the master disc, onto every newly formatted disc - this is done with the "Syscopy" command. the system tracks are never used other than to store the system data, and it is false economy to think that you are saving discs space by omitting them. It should also be noted that with single disc units a disc cannot be "logged on" unless the system tracks are present. Various utilities are contained within the system tracks and it is these that are the subject of this month's article.

Single disc drives are CP/m orientated which is an excellent idea, and overcomes many problems when you decide to upgrade to a full CP/m system.

DIR command and file references

The following explanation applies to SDX, FDX single & FDX CP/m systems.

A file reference identifies a particular file or group of files - programs, utilities, data etc - on a particular disc. Under CP/m conventions these file references can be either "unambiguous" or "ambiguous". An unambiguous file reference uniquely identifies a single file:

TOADO.BAS
UTILITY.ASM

An ambiguous file reference may be satisfied by a number of different files and the "?" is used as what is termed a "wildcard":

ABC.A?X
A?C.COM

Both these unambiguous file references can be satisfied by:

ABC.BAS , ABC.BTS , ABC.BMS ...etc or
AXC.COM , ANC.COM , ABC.COM

The command USER ERA "ABC.A?X" would erase all files ABC.A <any letter>X.

File references consist of two parts: The primary name and the extension, or secondary name. Although the extension is optional it is usually generic i.e extension .BAS is used to denote a Basic file. ASM refers to an assembly file, and so on. The two names must be separated by a "." : TOADO.BAS.

Why ambiguous files ? An ambiguous file reference is used for pattern matching and directory searching. The command USER ERA "???.BAS" would erase all BAS files with a three letter primary name.

NOTE: "*.*" is equivalent to the unambiguous file reference ??????????.???

Single disc users should be aware that Function Key F8 will automatically insert the word USER :

ERA Erase Command

The ERA [erase] command removes files from a disc.

ERA "TOADO.BAS" The file named TOADO.BAS is erased and the space is returned for further use.

ERA "*.BAS" All files with the extension BAS are removed from the current disc.

ERA "TEST.*" All files with the primary name TEST are erased from the current disc.

ERA "*.*" Erase all files on current disc.

ERA "A?C.BAS" All files on the current disc that satisfy the ambiguous reference A?C.BAS are erased.

ERA B: *.BAS (CP/m drives only) All files with the extension BAS are erased from the named drive B

REN Rename a file

The REN command allows the user to change the name of files on the current disc.

```
USER REN "NEWNAME.BAS","OLDNAME.BAS"    Single drives
REN "NEWNAME.BAS" = "OLDNAME.BAS"        CP/m
```

The file name OLDNAME.BAS is changed to NEWNAME.BAS

```
USER REN "TOADO.BAS","TOADO.COM"        Single
REN "TOADO.BAS"="TOADO.COM"              CP/m
```

The file TOADO.COM is changed to TOADO.BAS.

CP/m users can also specify the drive: REN A:"TOADO.BAS"="TOADO.COM"

TYPE

The TYPE command allows the user to display a file on the vdu. Care should be taken to ensure that the named file is of the correct type or unpredictable results can occur.

```
USER TYPE "MEMO.LTR"    Single drives
TYPE C: "MEMO.LTR"      CP/M
```

On single drives the BREAK key terminates the listing and the PAGE key toggles to stop/start the listing.

CP/m systems use ^S [control+S] to toggle the listing and pressing any other key terminates the command.

STAT

The STAT command provides general statistical information about file storage.

STAT <RET> STAT followed by a carriage return calculates the storage space remaining on the current disc. On CP/m systems it calculates the storage remaining on all active drives and will print out the message:-

```
or          R/W SPACE nnn bytes
            R/O SPACE nnn bytes
```

The command line can specify a set of files to be scanned by STAT. The files that specify the ambiguous file name are then listed in alphabetical order along with the storage requirements for each file.

RECS	BYTES	EX	FILENAME.TYPE
Number of 128 byte blocks allocated to a file.	Number of Kilobytes allocated to file. = RECS*128/1024	Number of 16K extensions =BYTES/16	

USER STAT "TOADO.BAS",RO will set the file TOADO.BAS to a read only file.

Under CP/m STAT C: R/O Will set the current disc in drive C to read only. ☆

Interface TRAK-BALL

Dr. B. Houghton

The Atari Trak-Ball is an unusual cursor-control device which operates like an inverted Mouse: instead of pushing a little trolley over your desk you move your hand over a heavy plastic ball with two adjacent buttons for the HOME & FIRE key. There are two modes of operation: one simulates a normal joystick while the other switches between UP/DOWN and LEFT/RIGHT so that the cursor moves continually. The device is capable of very fine control of cursor movement - almost as good as you get with very sophisticated graphics control devices. The Trak-Ball costs about 15.00 to 20.00 and unfortunately doesn't work on the MTX for the following reasons:-

- a] The track-ball requires a 5 volt power supply (from which it draws about 30 mA)
- b] It delivers an output voltage through CMOS TTL gates which switches from 0V to 5V whereas the MTX needs contact-closure, or a good imitation of it, to actuate the input lines from the keyboard.

Having been given (!) an unwanted Trak-Ball, the writer spent a weekend with a junk box of electronic components, and came up with the following interface. Depending upon where you buy your bits & pieces, I would estimate the time and trouble to be about 2.50 - 5.00p and about 4 to 5 hours work.

The Trak-Ball as supplied gives a positive-OFF zero-ON output, which must be inverted for the MTX which also requires a switched output. the Blunderbus Approach would involve sub-miniature relays which would be noisy, bulky and extraordinarily greedy of current (about 70mA per coil), so I decided to use CMOS analogue switches. I used a 4066 instead of the better known 4016 because I'd got one, but it actually would be a better choice as it has a very much lower 'ON' resistance. Neither the 74C04 nor 4066 have the mania for self-destruction which characterised early CMOS devices, but they should still be treated with care, and the usual precautions observed. The (dotted in diagram) 82 kOhm resistors and the two capacitors are not strictly necessary but were put in after the second 74C04 had immolated itself in response to switching transients. PLEASE USE LOW-PROFILE DIL SOCKETS. Use a battery operated soldering iron. DON'T try to solder to the I.C pins! DON'T forget to ground the unused inverter inputs.

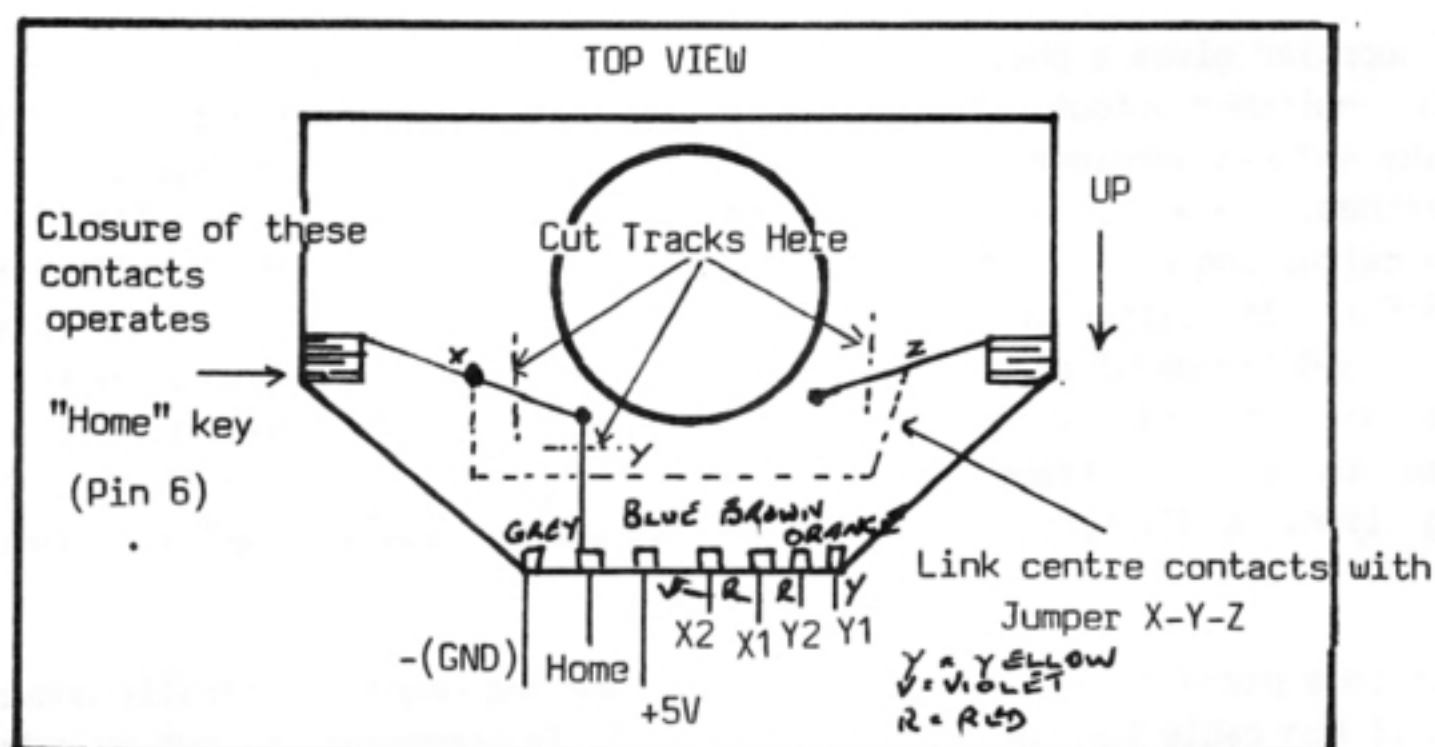
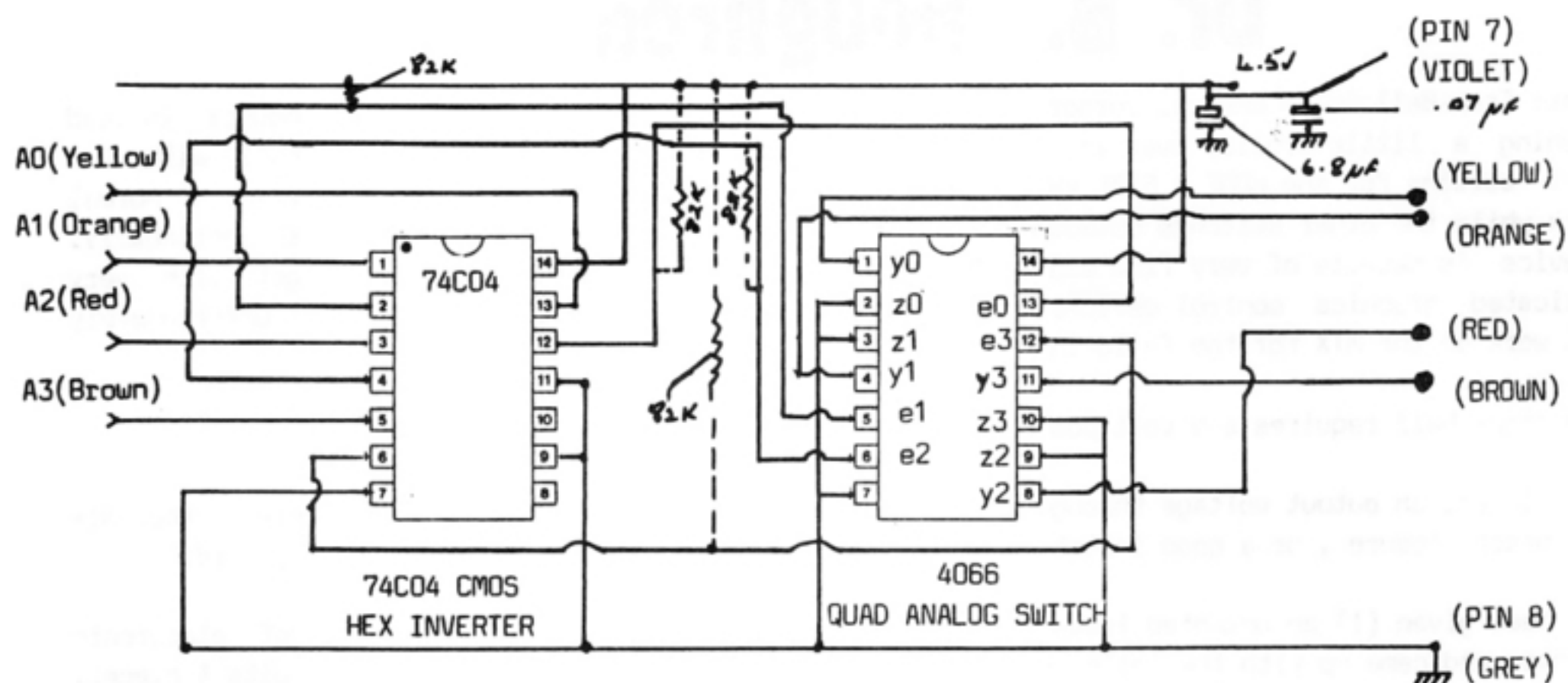
The whole thing fits on a piece of Veroboard about 3cm by 5cm and mounts vertically under the main PCB using multicoloured ribbon cable for the in & out lines. It is uneconomic to put an extra CMOS switch on the FIRE button, so cut the PCB strips and reconnect them as shown. In my Trak-Ball there was a discrepancy between the leadout colours on the PCB labels and the colours of the attached wires, so I would suggest tracing them first - disconnect them one at a time!

The whole thing still only draws about 40mA so you can either borrow 5V from the MTX power supply (To unused pin 7) or use 5V to 6V from one of those miniature plug-mounted stabilisers via an input jack mounted into the Trak-Ball case. If you do that, then the supply MUST be stabilised and it MUST NOT BE LESS than 5 volts as the 74C04 and 4066 must not be connected to voltages higher than their own drain voltage. ★

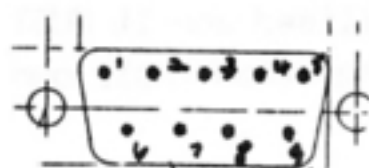
COMPONENTS:

I.C's	74C04, 4066
Ribbon cable (8 way)	20cm
14-pin sockets (low profile DIL)	2
2.5mm miniature jack (panel mounting)	1
Resistors 82k 1/4W	4 [optional]
Capacitors 6.8mF (Tantalum)	1 "
Capacitor 0.01mF (Ceramic)	1 "

HARDWARE ADD-ON TO INTERFACE 'TRAK-BALL' TO MTX



MTX (R) JOYSTICK PIN-OUTS



Looking at socket from outside case



TRAK-BALL PC MODS

- 1 - A0 (Y1)
- 2 - A1 (Y2)
- 3 - A2 (X1)
- 4 - A3 (X2)
- 5 - NC
- 6 - HOME
- 7 - NC
- 8 - GND
- 9 - NC

BASIC GRAPHICS*Part 2***Michael Gaut**

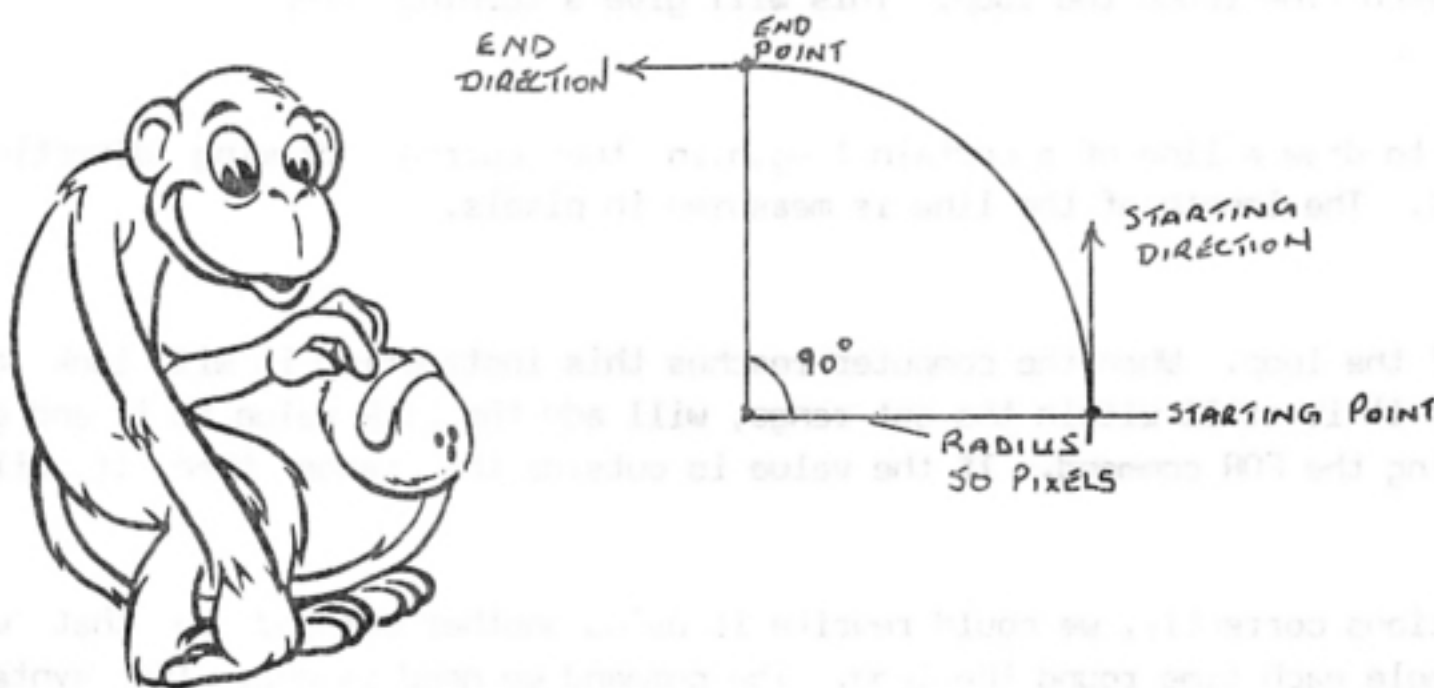
Hello again ! If you've been working hard at your graphics programs then at some stage you may have wanted to draw part of a circle, or draw a line relative to a point. It is possible to write a program which can do these tasks, but conveniently the MTX has these routines inbuilt. Combined, with other commands they make up the turtle graphics system, which we shall be looking at in this article.

The idea of turtle graphics originated from the language LOGO. They are intended to teach children how to program computers, and are therefore very easy to use. One of the main advantages in education is the fact that the graphics are controlled by a very friendly robot, eliminating any fears the child may have. The robot can be instructed to move forwards, turn left or right and to put his pen up or down. If it is down, he leaves a trail behind him as he moves. All directions and distances are calculated relative to the position of the robot. Now that we know more about turtle graphics, let's look at how to use them on the MTX.

The first command we need is ANGLE, which establishes a drawing direction relative to the horizontal. This direction is remembered inside the computer. The syntax of the command is:-

ANGLE x

One problem arises here. That is that all angles are measured in radians, and not degrees. Diagram one shows an angle of one radian. You will notice that it is quite large, about 57 degrees. To see where a radian comes from, look at the diagram again. Imagine that the two straight lines which make the angle were extended outwards so they cut the circle. The arc we have just created by cutting the circle has the same length as the radius of the circle. No matter how large or small the circle is, the angle produced is always the same. This angle is called a radian.



Obviously, if we intend using degrees and radians (values can be input in degrees to make things easier) we must know how to convert between them. This, which can be done quite simply, is shown below.

DEGREES TO RADIANS CONVERSION

$$\text{radians} = \text{degrees} * (\text{PI}/180)$$

We obtain this formula from the fact that 180 degrees equals PI radians. Therefore, one degree equals PI/180 radians. To clarify this here is an example of its use:-

```
10 INPUT "ENTER NUMBER OF DEGREES ";DEGREES
20 LET RADIANS=DEGREES*(PI/180)
30 PRINT:PRINT DEGREES;" DEGREES = ";RADIANS;" RADIANS"
```


If we could incorporate this routine in our programs, we could enter values in decimal and let the computer do the calculations. This can be done as follows:-

```
10 VS 4:CLS
20 FOR DEG=0 TO 360 STEP 8
30 PLOT 128,96
40 LET RAD=DEG*(PI/180)
50 ANGLE RAD
60 DRAW 50
70 NEXT DEG
```

As this program is a little more complicated, I will explain it line by line.

10 VS 4:CLS

This, as explained last month, sets up the graphics screen and clears it.

20 FOR DEG=0 TO 360 STEP 8

This command sets up a loop to count from 0 to 360 in steps of 8. ie 0,8,16,24... The value of the loop at any moment can be found by looking at variable DEG. Try altering the values in the line and see what happens to the pattern produced.

30 PLOT 128,96

The coordinates 128,96 specify the centre of the pattern. Before each 'spoke' is drawn, the starting position must be set.

40 LET RAD=DEG*(PI/180)

This line converts the value of the loop, DEG, into its equivalent radian value, which is stored in the variable RAD. This line is essentially the same as in the previous example.

50 ANGLE RAD

As explained previously, this sets the drawing angle from the horizontal. The value RAD increases by the equivalent of 8 degrees each time round the loop. This will give a turning effect.

60 DRAW 50

The DRAW command is used to draw a line of a certain length in the current drawing direction (specified by the ANGLE command). The length of the line is measured in pixels.

70 NEXT DEG

This command marks the end of the loop. When the computer reaches this instruction it will look at the value in the counter, and if it is still within the set range, will add the STEP value to it and go back to the statement following the FOR command. If the value is outside the range then it will continue with the next line.

Although this program functions correctly, we could rewrite it using another command so that we don't need to recalculate the angle each time round the loop. The command we need is PHI. Its syntax is shown below:-

PHI x

where x is an angle in radians. The function of PHI is quite simple. It adds the value x to the current drawing direction. This is demonstrated in the following example.

```
10 VS 4:CLS
20 PLOT 200,40
30 ANGLE PI
40 LET LTH=140
45 LET ANG=92*(PI/180)
50 DRAW LTH
60 PHI -ANG
70 LET LTH=LTH-1
80 IF LTH>0 THEN GOTO 50
90 GOTO 90
```

This example should produce a spiral pattern on your screen. Although it may look complicated, the routine to draw it is relatively easy. Once again I will run through it step by step.

10 VS 4:CLS

This sets up the graphics screen and clears it.

20 PLOT 200,40

This command sets the starting position of the spiral. Changing the values will move the whole shape around the screen, although if any line goes off the screen an error will occur.

30 ANGLE PI

Before we start drawing we have to set the drawing direction. The value PI radians is equal to 180 degrees which means that the drawing direction is set facing the left of the screen in a horizontal direction.

40 LET LTH=140

This sets up a variable which contains the length of the line to be drawn. To produce a spiral, this value must be decreased each time round the loop. If this value is altered, then larger or smaller spirals will be produced as a result.

45 LET ANG=92*(PI/180)

After each line has been drawn, the program must turn through a set angle. This line calculates the angle through which it will turn. In this case it is 93 degrees, although this value can be altered to produce different types of spiral.

50 DRAW LTH

Now that we have set up the direction to draw in, we can use this instruction to draw a line of the correct length (stored in LTH).

60 PHI -ANG

This command alters the drawing direction by adding the value in ANG. Because the value is negative, the result is a clockwise turn.

70 LET LTH=LTH-1

As mentioned previously, to produce the spiral effect, the length of each line drawn must be reduced. This command subtracts 1 from the length of the line.

80 IF LTH>0 THEN 50

We know that if the length of the line is greater than zero, the spiral is not finished. This line tests for this, and if the length is greater than zero, will go back to the start of the loop and do it all again.

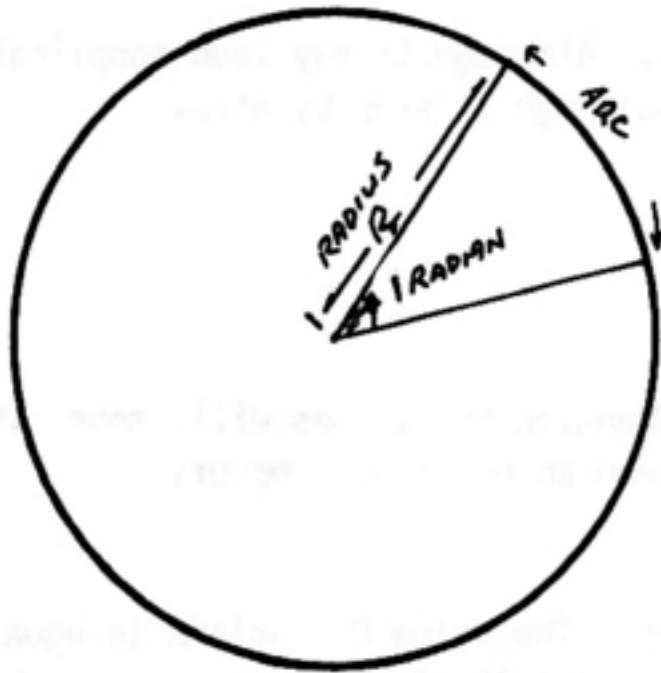
90 GOTO 90

When the shape has been drawn, this line prevents the program from terminating by looping around for ever, or until the break key is pressed. Removing this line will cause the pattern to disappear at the moment it has been completely drawn.

The above two examples show us how to draw patterns with straight lines, but if we need to draw circular patterns we would need lots of calculations. For instance, to draw a curve with turtle graphics we need a routine which draws a small distance forward, turns by a small amount, moves a small distance forward and so on. Although this is feasible, it isn't difficult to imagine how slow it would be if written in BASIC. Yet again, our problem is solved by the nice man who wrote our BASIC. Very thoughtfully he included a routine to draw circles and arcs with little effort. The command is ARC. Its syntax is as follows.

ARC r,x

The values r and x give the radius and angle through which to turn in order to produce the curve. Diagram two shows how a circle of radius 50 pixels and angle of 90 degrees is constructed. Starting point could be any location on the screen.



After an arc has been drawn, the angle through which it turned is added to the current drawing direction. This can also be seen in diagram two.

Well, I seem to have explained all the commands on turtle graphics, and so the only thing left to do is to try using these commands in your own programs. One interesting idea may be to expand the spiral program to enable different shaped spirals to be produced. Try altering values in the examples to see what effect they have. Anyway, whatever you try, have fun! ☆

To Russia With Love?

Britain is easing some of the restrictions on the export of computers and other high-tech equipment to Communist Bloc countries.

The new arrangements have been under discussion by Western countries for 2 years.

The existing embargo on low-powered computers is being lifted and restrictions on others are being eased if they do not affect defence policy.

Restrictions on software exports are being tightened, but these are thought likely to prove difficult to police.

The government believes the new arrangements for export of computers to the Communist Bloc will open a big new market.

Apart from commercial applications the Soviet authorities have indicated that they want to equip schools with computers. However, other countries as well as Britain are keen to get the new business.

The Soviet Union is likely to want to make computers under licence rather than import them ready made. ☆



Z80 Programmers

SYNTAXsoft urgently need experienced machine code programmers for conversion work. The suitable applicants will work in a free-lance capacity from their own homes. Good rates of pay can be assured by way of royalties etc. Only those with a proven background need apply.

Send sample of previous work to SYNTAXsoft.
The Chippy, Wynotham Street, Burnley BB10.

20 Graphic designers and experienced sound effect engineers are also required (Experienced in AY 8912 / 8910 preferred.)

STARTING FORTH K. JONES

I want to start this article with an apology of sorts. It would seem that some of you are confused by the inclusion of quotes around FORTH words. These quotes are to indicate what should be typed, and only the word inside the quotes should be typed. So with "." all you should type is the full stop.

As stated in the last article we're going to look again at numbers in FORTH. There are three number ranges which FORTH uses; the signed single length numbers (from -32768 to 32767) which are taken off the stack by typing ".", the unsigned single length numbers (from 0 to 65535) which are printed from the stack by typing "U.", and signed double length numbers (from -2147483648 to 2147483647) which are printed by typing "D.". The first two are entered on the stack by typing the numbers and then pressing <RET>. Double length numbers are entered differently, we include a full stop anywhere in the number. For example if we wished to put one million on the stack then we could type any of the following, followed by <RET> of course;

1000.000

1.000000

1000000.

All of these would place the same value on the stack. Try it for yourself by entering all three values and then typing

D. D. D.

You will see that the computer will print 1000000 in all cases. If you wondered what happened to the full stop then its position is stored in the variable DPL and can be examined by typing

DPL @ .

In fact examination of DPL is the basis of most floating point packages for FORTH. You may be wondering why there is no unsigned double number print and this is something which we'll provide when we get on to number formatting. But that's in a later article.

I should think that you've had enough of numbers for now and so we'll move on to the EDITOR.

FORTH was meant to be a disc based language but discs were a luxury item to most home users so the RAM-DISC was invented as a tape based compromise. The RAM-DISC is simply an area of RAM which FORTH treats as a disc and has a separate vocabulary to assist in editing the screens. This vocabulary is called EDITOR and is invoked by typing

EDITOR

Which is fairly predictable isn't it. So if you now enter the EDITOR we'll look at how to use it.

First of all we need to select the screen on which we need to work. Screen 0 is used as a comment screen so you should never put any FORTH programs on this screen. We'll work on screen 1. To select this screen we type

1 CLEAR

or we could type

1 LIST

if there's anything on it already. Once the screen is selected then typing

L

will be enough to list the screen. So with the screen CLEARED type L and you will see the screen number at the top and the line numbers 0 to 15, down the left hand side. You will also see, at the bottom of the screen, the current line on which we are working and an underline character which is the screen cursor.

Now let's look at entering text. If you type

```
O P THIS SI LINE 0 OF SCREEEN 1 <RET>
```

Don't worry about the spelling mistakes as these are deliberate. If you now type L you will see that line 0 now contains your text. The bottom lines of the television screen should look like this

```
_THIS SI LINE 0 OF SCREEEN 1
```

ok

The first mistake which needs correcting is that SI should be IS so we need to delete SI. We use the EDITOR command X to do this. X will find a match to whatever text is after it and then delete it. So if you type

```
X SI
```

The computer will print out

```
THIS _ LINE 0 OF SCREEEN 1
```

We now want to put IS into the gap and we use the C command. C will copy whatever text follows it onto the place occupied by the editing cursor. So if you now type

```
C IS
```

And the response will be

```
THIS IS_ LINE 0 OF SCREEEN 1
```

The final mistake is the extra E in SCREEEN. This time all we need to do is delete one character. First of all we need to get the cursor to the position of the E so we need to find the EEE. We use the F command. Typing

```
F EEE
```

Gives us

```
THIS IS LINE 0 OF SCREEE_N 1
```

But F takes the cursor to the end of the character string we are searching for. Another command is provided to take the cursor back. This is the B command. Typing B gives us

```
THIS IS LINE 0 OF SCR_EEEN 1
```

And now we can use the X command again to remove the offending letter. So typing

```
X E
```

Now gives

```
THIS IS LINE 0 OF SCR_EEN 1
```

A useful command to position the cursor at the top of the screen, which is the first character of line 0, is called (surprise surprise) TOP. If you now type

TOP

And then L you will see that all is well with line 0.

This now seems like a good time to answer a few questions, as well as applying what we now know about the EDITOR. There are two main points raised either from the last article or from the manual. The last article talked of a destructive stack print so we'll now put a non-destructive stack print onto an editing screen. Another question is about the use of LOADT and SAVET so we'll also load and save this routine.

If you now type 1 CLEAR and then enter the programs given below onto the screen using the P command so that when you've finished typing L will give the same as below.

```

0 : DEPTH ( FIND DEPTH OF STACK )
1 SO @ SP@ ( TOP & BOTTOM OF STACK )
2 - 2 / 2 - 1 + ;
3 : .S ( NON-DESTRUCTIVE STACK PRINT )
4 DEPTH IF SP@ 2 - SO @ 2 -
5 CR ." B> " DO I @ .
6 -2 +LOOP ." <T "
7 ELSE ." Empty " ENDIF ;
8 ;S
9 ( REPLACE . IN LINE 5 BY U. FOR UNSIGNED )
10 ( VALUES )
11
12
13
14
15

```

When you've got this onto the screen type

FLUSH FORTH

This will write to RAM-DISC and return you to FORTH. Once this is done typing SAVET will then write the contents of RAM-DISC to tape. To reload from tape all you need do is type

LOADT

and when the screens have finished loading type FLUSH. To load the screen into FORTH all you need type is

1 LOAD

and wait for the ok from FORTH. If this doesn't come then typing WHERE will indicate the screen number, the line and roughly the position of the error, with "^" to indicate where.

That's all for this issue, next issue it's back once more to numbers and math's operators and we'll also look at the remaining EDITOR commands. ☆



=====

DUE TO OUR CLANGER IN EDITION 9 REGARDING SALE SOFTWARE WE SHALL CONTINUE THE SALE UNTIL JULY 30TH. SEE EDITION 9 FOR DETAILS OF SOFTWARE BARGAINS PAGE 17.

S.E.D?

Peter Knaggs



EXTENDED ERROR MESSAGES

Soon after the MTX was released reviewers criticised the "awful error messages ...". Many members have also expressed their frustration at the unfriendly way the Memotech informs you of a Invalid Esc sequence [SE.B] etc. Well, fret not, the answer is here. My two mates at MAX Software, messrs Knaggs & Martyn have come up with a neat little routine that re-defines the Basic Error Messages into a more user friendly form.

Once you have typed in the program and you are satisfied that your version is correct, save it to tape. To use the utility simply load it into memory and wait for the READY prompt.

***** Very long programs that use most of memory may overwrite the ERROR handler and cause the system to crash.

MTX ERROR

Params
Mistake
A
SE.A
SE.B
Symbol?
Not Numeric
Not a String
Boolean?
SE.C
SE.D
Mismatch
SE.E
G
BK
No Data
Overflow
Div 0
Out of Range
No Space
Subscript
Gosub
Undefined
Array Exists
No FOR
No CALL
No line

MAX SOFTWARE ERROR

Parameters
Mistake
Dot off Screen
Invalid Screen
Invalid ESC
Symbol?
Not Numeric
Not a String
Boolean?
Invalid for Device
No Screen
Mismatch
Invalid Graphic
Undefined Error
Break
Out of DATA
Overflow
Division by zero
Out of Range
Out of Memory
Subscript
Too Many GOSUBs
Not Found
Redimensioned Array
NEXT without FOR
RETURN without GOSUB
Undefined Line Number



100 CODE

```

4007 LD A, (#FA7A)
400A LD DE, #4000
400D LD HL, START
4010 OR A
4011 JR NZ, SKIP
4013 ADD HL, DE
4014 SKIP: LD DE, #BE36
4017 LD (#FD55), DE
401B LD BC, #1CA
401E LDIR
4020 RET
4021 START: CALL #00F4
4024 BIT 5, A
4026 PUSH AF
4027 PUSH AF
4028 RST 10
4029 AND E
402A DEC DE
402B LD D, (HL)
402C RST 3B
402D LD L, A
402E DEC E
402F XOR A
4030 LD (#FF58), A
4033 LD (#FD75), A
4036 POP AF
4037 JR Z, LAB1
4039 LD A, (#FD69)
403C AND A
403D JR NZ, LAB2
403F LD HL, (#FD6A)
4042 AND A
4043 LD BC, (#FA83)
4047 PUSH HL
4048 SBC HL, BC
404A POP HL
404B JR NC, LAB2
404D RST 10
404E LD H, B
404F LD A, (DE)
4050 DEC HL
4051 DEC HL
4052 CALL #29AF
4055 LAB2: LD HL, #FFFE
4058 LD (#FD6A), HL
405B POP AF
405C XOR #30
405E CALL #BE82
4061 LD C, #00
4063 JP #02CB
4066 LAB1: POP AF
4067 CALL #BE82
406A JP #02C0
406D PUSH AF
406E RST 10
406F LD L, A
4070 DEC C
4071 LD A, (BC)
4072 LD HL, #BE9A
4075 POP AF
4076 CALL #19DD

```



```

4079 LAB3: LD A, (HL)
407A INC HL
407B BIT 7, A
407D RES 7, A
407F CALL #1B6A
4082 JR Z, LAB3
4084 RET
4085 TAB: DB "Parameter", #F3
408F DB "Mistak", #E5
4096 DB "Dot off scree", #EE
40A4 DB "Invalid scree", #EE
40B2 DB "Invalid ES", #C3
40BD DB "Symbol", #BF
40C4 DB "Not Numeri", #E3
40CF DB "Not Strin", #E7
40D9 DB "Boolean", #BF
40E1 DB "Invalid for Devic", #E5
40F3 DB "No Scree", #EE
40FC DB "Mismatc", #E8
4104 DB "Invalid Graphi", #E3
4113 DB "Undefined Erro", #F2
4122 DB "Brea", #EB
4127 DB "Out of DAT", #C1
4132 DB "Overflo", #F7
413A DB "Division by zer", #EF
414A DB "Out of rang", #E5
4156 DB "Out of memor", #F9
4163 DB "Subscrip", #F4
416C DB "Too many GOSUB", #F3
417B DB "Not foun", #E4
4184 DB "Redimensioned Arra", #F9
4197 DB "NEXT without FO", #D2
41A7 DB "RETURN without GOSU", #C2
41BB DB "Undefined Line Numbe"
41CF DB #F2
41D0 DS 25
41E9 POP HL
41EA END: JP (HL)
41EB RET

```

Symbols:

```

START4021TAB4085
END41EALAB14066
LAB24055LAB34079
SKIP4014

```

200 CODE

```

4575 RST 10
4576 DB #6F, #3D
4578 DB #B4
4579 DB "Copyright (C) 1985 "
4580 DB #8C
458E DB "MAX Software"
459A CALL #BFFE
459D PUSH HL
459E POP DE
459F DEC DE
45A0 LD BC, #59A
45A3 LD (HL), 0
45A5 LDDR
45A7 RET

```



```

82D9 LP1:  RST 10;RESTART 10
82DA      DB #85,2,36;THIS DATA DRAWS A LINE WITH COORDINATES OF
82DD COUNT: DB 0,228; 36,COUNT,228,COUNT2 WHERE INITIALLY COUNT AND COUNT2
82DF COUNT2: DB 0;ARE SET TO 36
82E0      LD A,(COUNT);NEXT, THE COORDINATES MUST BE UPDATED BY ADDING
82E3      AND A;SIXTEEN TO THEM
82E4      ADC A,16
82E6      LD (COUNT),A;AND STORING IT BACK AGAIN
82E9      LD A,(COUNT2);COUNT2 MUST ALSO HAVE SIXTEEN ADDED TO IT
82EC      AND A
82ED      ADC A,16
82EF      LD (COUNT2),A
82F2      CP 165;TO SEE IF WE HAVE DRAWN ALL THE LINES WE TEST THE VALUE
82F4      JR C,LP1;OF COUNT2, AND IF IT IS LESS THAN 165, WE DRAW ANOTHER LINE
82F6      NOP;WHEN FINISHED, WE MUST DRAW THE LINES DOWN THE SCREEN
82F7      NOP;STARTING AT 36 PIXELS FROM THE LEFT OF THE SCREEN
82F8      LD A,36; PUT THE VALUE 36 INTO
82FA      LD (COUNT3),A; COUNT3 AND
82FD      LD (COUNT4),A;COUNT4.
8300 LP2:  RST 10;RESTART 10
8301      DB #85,2;THE FOLLOWING LINES DRAW DOWN THE SCREEN STARTING
8303 COUNT3: DB 0,22;AT COORDINATES  COUNT3,22,COUNT4,164
8305 COUNT4: DB 0,164
8307      LD A,(COUNT3);COUNT3 MUST NOW BE INCREASED BY 24 TO GET
830A      AND A;THE POSITION OF THE NEXT LINE
830B      ADC A,24
830D      LD (COUNT3),A
8310      LD A,(COUNT4);AND ALSO, COUNT4 MUST BE INCREASED BY 24
8313      AND A
8314      ADC A,24
8316      LD (COUNT4),A
8319      CP 229;TO TEST IF ALL THE LINES HAVE BEEN DRAWN, WE MUST
831B      JR C,LP2;SEE IF THE COORDINATE IS LESS THAN 229 AND GO BACK IF IT IS
831D      RST 10
831E      DB #85,2,36,22,228,22;DRAW THE LINE 36,22,228,22 TO FINISH THE BOARD
8324      NOP;*****
8325      NOP
8326      NOP; THIS ROUTINE PRINTS THE NUMBERS ACROSS THE BOTTOM
8327      NOP; OF THE BOARD
8328      NOP
8329      NOP;*****
832A      LD A,"1";GET THE FIRST CHARACTER
832C      LD (J),A;AND STORE IT AT LOCATION J
832F      LD A,6;THIS VALUE IS THE POSITION ACROSS THE SCREEN
8331      LD (I),A;TO PRINT THE NUMBER AT
8334 LP3:  RST 10;RESTART 10
8335      DB #A3,3;THESE TWO LINES SET THE CURSOR POSITION AS I,20
8337 I:    DB 00,20
8339      DB #81;THESE TWO LINES PRINT THE NUMBER ON THE SCREEN
833A J:    DB 0
833B      LD HL,J;POINT HL AT THE NUMBER CHARACTER TO BE PRINTED
833E      INC (HL);AND INCREMENT IT SO THAT IT CONTAINS THE NEXT NUMBER
833F      LD A,(I);GET THE CURSOR POSITION ACROSS THE SCREEN OF THE NUMBER
8342      AND A;ADD THREE TO IT, TO MOVE THE CURSOR TO THE NEXT BOX
8343      ADC A,3;ON THE GRID
8345      LD (I),A
8348      CP 28;IF THE VALUE IS LESS THAN 28, PRINT ANOTHER CHARACTER
834A      JR C,LP3
834C      RST 10
834D      DB #A3,16,1,15;SET THE PRINT INK TO WHITE
8351      DB #A3,16,0,6;SET THE PRINT PAPER TO DARK RED

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8355      DB #A3,3,9,1;SET THE CURSOR POSITION TO 9,1
8359      DB #8F,"CONNECT FOUR";PRINT THE MESSAGE
8369      RET;AND RETURN
836A      JR QUEST; STOP WHEN THE BOARD HAS BEEN DRAWN SO IT CAN BE SEEN.
836C      NOP;***** END OF SECTION *****

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£1.99

PHOENIX COMPUTER CRIB CARD

MEMOTECH MTX

KEYWORDS

OPERATING COMMANDS

GRAPHIC AND SOUND COMMANDS

COLOUR COMMANDS

DATA COMMANDS

INPUT/OUTPUT COMMANDS

BASIC STATEMENTS

BASIC FUNCTIONS

LOGICAL OPERATORS

ERROR MESSAGES

SPRITE COMMANDS

ASSEMBLER COMMANDS

**EVERYTHING YOU NEED
AT YOUR FINGERTIPS**

GRAPHICS AND PRINTING COMMANDS

KEYWORD SYNTAX

COMMAND

GENPAT	GENPATn,n1, n2,n3,n4,n5, n6,n7,n8,n9, n10	This command is used to generate all the patterns used for characters and sprites. n=0 - Redefines an ascii character. n1 32-127 n=1 - Define a non ascii character. n1 129-154 n=2 - Define colour for each line. n1 147-154 n=3 - 8*8 sprite pattern n1 pat.no. n=4 - 16*16 NW quarter n1 pat.no. n=5 - 16*16 SW quarter n1 pat.no. n=6 - 16*16 NE quarter n1 pat.no. n=7 - 16*16 SE quarter n1 pat.no. n2 to n10 are values giving the contents of each row of dots of the character or sprite being defined
INK	INKcn	Selects the ink colour
LINE	LINEx,y,x1,y1	Draws a line from x,y to x1,y1
LPRINT	LPRINT	This has the same format as print, but sends the output to the printer
PAPER	PAPERcn	Selects the paper colour
PHI	PHIn	Adjusts the angle of orientation by n radians
PLOT	PLOTx,y	Plots a pixel (point) at the coordinates x,y
PRINT	PRINT[["Item"] [:v][:v\$]]	Prints at the current cursor position

COLOUR TABLE

0	-	Transparent
1	-	Black
2	-	Medium green
3	-	Light green
4	-	Dark blue
5	-	Light blue
6	-	Dark red
7	-	Cyan
8	-	Medium red
9	-	Light red
10	-	Dark yellow
11	-	Light yellow
12	-	Dark green
13	-	Magenta
14	-	Grey
15	-	White

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CRIB CARD WE ARE FAST COMING TO THE END OF OUR STOCKS AND WE SHALL NOT BE RE-PRINTING. PLEASE ORDER NOW TO AVOID MISSING OUT ON THIS NEAT PROGRAMMING AID.

PETER GOODE'S "MTX PROGRAMMING BOOK" WE HAVE ONLY SIX OF THIS TITLE LEFT AND PHOENIX HAVE INFORMED ME THAT THERE WILL NOT BE A RE-PRINT.



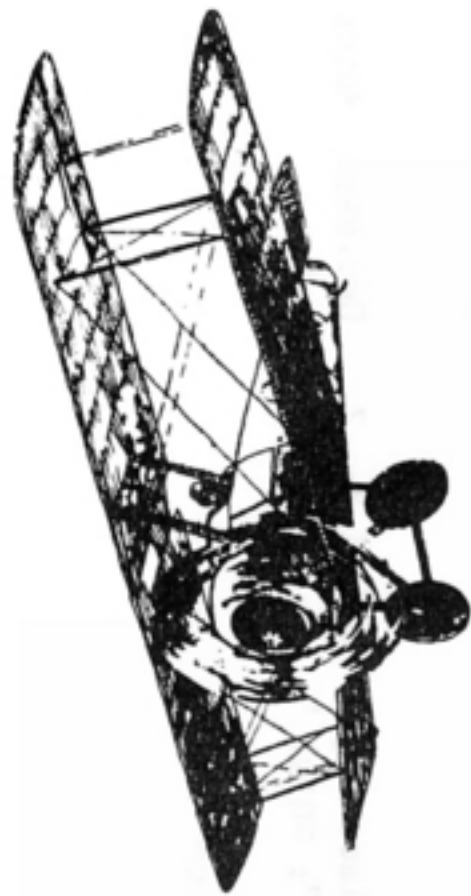
Air Sea Rescue Paul Drake

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80 DIM XA(4),YA(4)
100 CRVS 2,1,0,16,32,8,32
130 GENPAT 1,129,255,127,63,31,15,7,3,1: GENPAT 1,130,128,192,226,240,248,251,254,255: GENPAT 1,131,255,254,251,248,240,226,192,128
132 GENPAT 1,132,1,3,7,15,31,63,127,255: GENPAT 1,134,255,255,255,255,255,255,255,255
133 CTLSPR 2,7: CTLSPR 5,7
134 GENPAT 3,5,60,0,129,129,129,129,0,60
140 GENPAT 3,2,0,127,8,136,126,63,30,0: GENPAT 3,3,8,28,28,28,28,8: GENPAT 3,4,0,0,126,255,126,0,0,0
200 LET A=0: LET X=44: LET Y=163: LET F=2500: LET S=0: LET R=0: LET AN=0: LET SE=0: LET CO=90: LET MA=0: LET MB=0: LET TB=0: LET TD=0: LET N=0
205 LET Q=0: LET P=0: LET H=0: LET V=0: LET D=0: LET XB=-5: LET YB=-5: LET TE=0: LET WA=0: LET SM=0: LET HO=0: LET AP=0
280 VS 5: PAPER 13: INK 11: CLS
282 CSR 12,0: PRINT "AIR SEA RESCUE"
284 CSR 7,7: PRINT "Press Y For Instructions": CSR 7,9: PRINT "Press S To Start": CSR 7,11: PRINT "Press R To Randomize"
288 LET L$=INKEY$: SOUND 1,0,0: IF L$="Y" THEN GOTO 300
290 IF L$="S" THEN GOTO 1140
292 IF L$="R" THEN SOUND 1,600,15: LET RA=RND
294 GOTO 288
300 CLS
306 CSR 12,0: PRINT "AIR SEA RESCUE"
314 CSR 2,2: PRINT "You have been appointed as coastguard for this notorious section of coastline"
320 PRINT "When the message EMERGENCY SHIP SINKING comes through on your control panel it's time to get into the air and rescue all the seamen,"
322 PRINT "and take them to hospital."
326 PRINT "Your helicopter can only carry five survivors, so you may have to make up to four trips."
332 PRINT "Refueling is at one of the three bases marked as a white square on the map, the hospital is marked as a yellow square."
338 PRINT "When the green condition light flashes it means you are either directly over one of the bases, or over the hospital, or over the rescue zone."
344 PRINT "Fuel cannot be taken on, or seamen cannot be rescued, or seamen cannot be transferred into the hospital unless the light is flashing."
350 PRINT "Press Space Bar To Continue";
354 IF INKEY$="" THEN GOTO 354
396 CLS
398 CSR 12,0: PRINT "AIR SEA RESCUE"
400 CSR 15,2: PRINT "CONTROLS"
410 PRINT "> Increases Power": PRINT "< Decreases Power": PRINT "X Increases Rotor Blade Angle": PRINT "Z Decreases Rotor Blade Angle"
416 PRINT "Q Forward Travel": PRINT "A To Slow Down Or Stop": PRINT "P To Turn Right": PRINT "O To Turn Left"
418 PRINT "C For Control Panel": PRINT "M For Map"
420 PRINT "F To Refuel": PRINT "Function 1 To Raise Winch": PRINT "Function 2 To Lower Winch"
424 PRINT "Use Cursor Keys For Fine Control Of Helicopter, Back, Forward, Left And Right"
438 PRINT : PRINT
440 PRINT "Press Space Bar To Start"
442 PAUSE 2000
444 IF INKEY$="" THEN GOTO 444

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1140 GOSUB 3000
1160 LET L$=INKEY$
1170 IF L$="C" THEN LET Z=1: LET MB=0
1180 IF L$="M" THEN LET Z=2: LET MA=0
1190 IF Z=1 THEN GOSUB 2000
1200 IF Z=2 THEN GOSUB 5000
1210 IF SE<>70 THEN LET SE=INT(RND*200)
1218 SOUND 1,0,0
1220 IF SE=70 THEN GOSUB 7000 ELSE LET SE=1
1400 GOTO 1140
1500 REM SHIPWRECK
1506 LET SR=0
1510 FOR L9=1 TO 4
1520 LET XA(L9)=INT(RND*235): LET YA(L9)=INT(RND*171)
1526 IF GR$(XA(L9),YA(L9),1)=CHR$(1) THEN LET YA(L9)=200
1528 IF YA(L9)=200 THEN LET SR=SR+1
1530 NEXT L9
1536 IF SR=4 THEN GOTO 1506
1570 SPRITE 2,3,XA(1),YA(1),0,0,1: SPRITE 3,3,XA(2),YA(2),0,0,1: SPRITE 4,4,XA(3),YA(3),0,0,1: SPRITE 5,4,XA(4),YA(4),0,0,1
1800 RETURN
2000 REM PANEL
2004 ADJSR 3,1,210: ADJSR 3,2,210: ADJSR 3,3,210: ADJSR 3,4,210: ADJSR 3,5,210: CTLSR 6,1
2010 IF MA=1 THEN GOTO 2600
2016 VS 4: COLOUR 2,5: CLS : VS 2: COLOUR 2,1: CLS
2030 COLOUR 0,4: COLOUR 1,14: CSR 2,2: PRINT "KNOTS": CSR 9,2: PRINT "COND": CSR 16,2: PRINT "HEADING": CSR 25,2: PRINT "ALT "
2032 CSR 2,5: PRINT " RPM ": CSR 9,5: PRINT "FUEL": CSR 16,5: PRINT " POWER ": CSR 25,5: PRINT "ANGLE"
2560 SPRITE 6,5,128,127,0,0,1
2600 PAPER 1: INK 9: CSR 10,3: PRINT " ": CSR 2,3: PRINT INT(S);" ": CSR 17,3: PRINT CO;" ": CSR 25,3: PRINT INT(A);" "
2601 IF D=5 THEN CSR 25,4: PRINT INT(WA);" ": ELSE CSR 25,4: PRINT " "
2602 CSR 2,6: PRINT INT(R);" ": CSR 8,6: PRINT INT(F);" ": CSR 17,6: PRINT P;" ": CSR 25,6: PRINT AN;" ";
2605 LET D=0: IF INT(X)=44 AND INT(Y)=163 THEN LET D=1
2606 IF INT(X)=180 AND INT(Y)=123 THEN LET D=2
2607 IF INT(X)=228 AND INT(Y)=19 THEN LET D=3
2608 IF INT(X)=156 AND INT(Y)=171 THEN LET D=4
2609 IF INT(X)=XB AND INT(Y)=YB THEN LET D=5
2610 IF INKEY$="F" AND A=0 AND R=0 THEN IF D>0 AND D<4 THEN GOSUB 8000
2613 IF D>0 THEN PAPER 2: CSR 10,3: PRINT " ": SOUND 1,200,10: PAPER 1
2630 LET MA=1
2640 IF SE=70 THEN GOSUB 7500
2650 IF SE=70 AND ((YB-Y)*10)+132>70 THEN SPRITE 7,3,132+((XB-X)*10),132+((YB-Y)*10),0,0,14 ELSE SPRITE 7,3,132,-100,0,0,14
2990 RETURN

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3000 REM CONTROLS
3020 LET TB=TB+S: IF TB>140 THEN LET N=1: LET TB=TB-140
3022 LET TD=TD+S: IF TD>280 THEN LET Q=1: LET TD=TD-280
3024 IF CO>=348 OR CO<11 THEN LET Y=Y+N
3026 IF CO>=11 AND CO<33 THEN LET Y=Y+N: LET X=X+Q
3028 IF CO>=33 AND CO<56 THEN LET Y=Y+N: LET X=X+N
3030 IF CO>=56 AND CO<78 THEN LET Y=Y+Q: LET X=X+N
3031 IF CO>=78 AND CO<101 THEN LET X=X+N
3032 IF CO>=101 AND CO<123 THEN LET Y=Y-Q: LET X=X+N
3034 IF CO>=123 AND CO<146 THEN LET Y=Y-N: LET X=X+N
3036 IF CO>=146 AND CO<168 THEN LET Y=Y-N: LET X=X+Q
3038 IF CO>=168 AND CO<191 THEN LET Y=Y-N
3040 IF CO>=191 AND CO<213 THEN LET Y=Y-N: LET X=X-Q
3042 IF CO>=213 AND CO<236 THEN LET Y=Y-N: LET X=X-N
3044 IF CO>=236 AND CO<258 THEN LET Y=Y-Q: LET X=X-N
3046 IF CO>=258 AND CO<281 THEN LET X=X-N
3048 IF CO>=281 AND CO<303 THEN LET Y=Y+Q: LET X=X-N
3050 IF CO>=303 AND CO<326 THEN LET Y=Y+N: LET X=X-N
3052 IF CO>=326 AND CO<348 THEN LET Y=Y+N: LET X=X-Q
3054 LET N=0: LET Q=0
3056 IF X<1 THEN LET X=1
3058 IF X>255 THEN LET X=255
3060 IF Y>190 THEN LET Y=190
3062 IF Y<1 THEN LET Y=1
3100 LET L$=INKEY$
3104 IF L$="." AND P<10 THEN LET P=P+1
3106 IF L$="," AND P>0 THEN LET P=P-1
3108 IF A=0 THEN GOTO 3122
3109 IF L$=CHR$(11) THEN LET Y=Y+.10
3110 IF L$=CHR$(10) THEN LET Y=Y-.10
3111 IF L$=CHR$(25) THEN LET X=X+.10
3112 IF L$=CHR$(8) THEN LET X=X-.10
3113 IF L$="p" THEN LET H=H+1
3114 IF L$="o" THEN LET H=H-1
3116 IF L$="a" AND V>0 THEN LET V=V-1
3118 IF L$="q" AND V<10 THEN LET V=V+1
3120 IF L$="p" OR L$="o" AND H=0 THEN PAUSE 500
3121 LET CO=CO+H: IF CO<1 THEN LET CO=360
3122 IF CO>360 THEN LET CO=1
3123 IF L$="x" AND AN<50 THEN LET AN=AN+1
3124 IF L$="z" AND AN>0 THEN LET AN=AN-1
3140 IF F<=0 THEN LET P=0
3150 IF R+(AN/2)<P*40 THEN LET R=R+(P/2) ELSE IF R+AN/2>P*40 THEN LET R=R-AN/2

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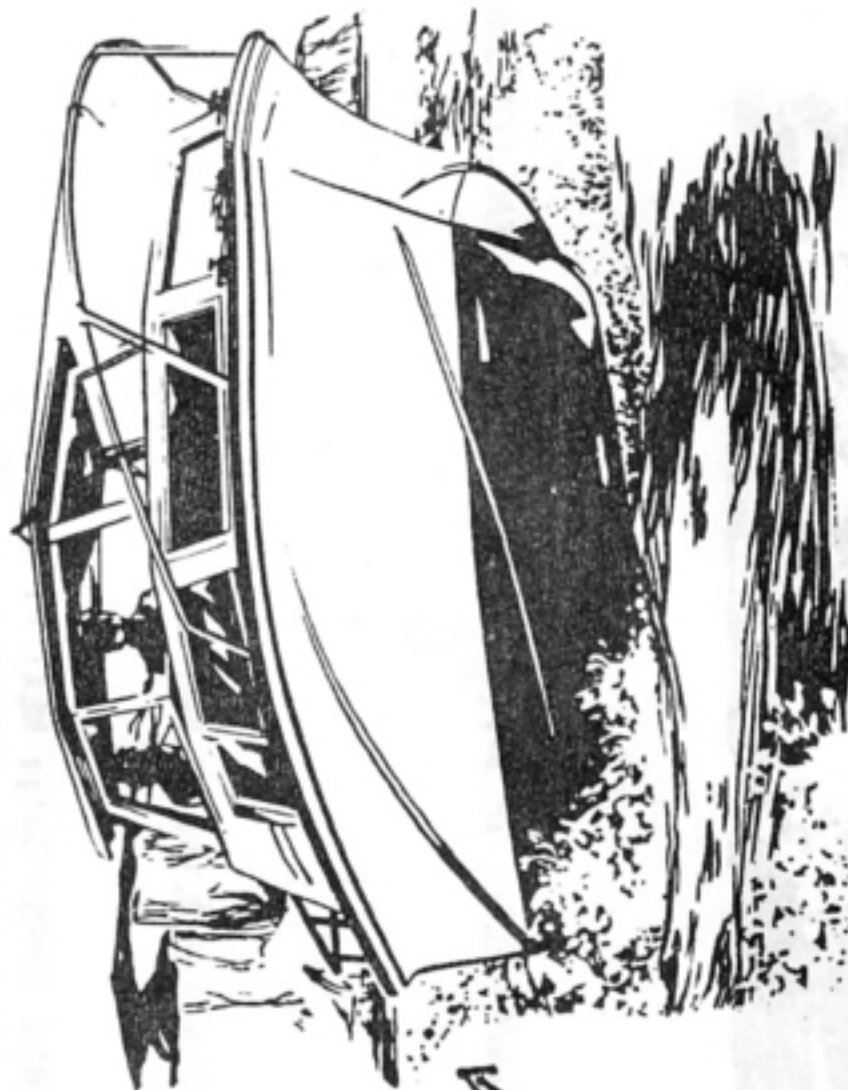
3154 IF R<0 THEN LET R=0
3184 LET A=A+((R*AN)/956)
3200 LET A=A-10-(A/90)-(ABS(V)/8)
3204 IF A<0 THEN LET A=0: LET S=0
3210 IF S-((R*AN)/956)+20<V*6 THEN LET S=S+(V/9) ELSE IF S-((R*AN)/956)+20>V*6+1 THEN LET S=S-.8
3216 IF S<0 THEN LET S=0
3240 SOUND 3,6,P: SOUND 2,500-R,P
3244 LET F=F-(R/700)
3950 RETURN
5000 REM MAP
5004 SPRITE 6,5,200,400,0,0,1: SPRITE 7,5,200,400,0,0,14: CTLSPR 6,0
5010 IF MB=1 THEN GOTO 5600
5020 VS 4: COLOUR 2,5: CLS: PAPER 5: INK 2
5030 FOR J=0 TO 31: FOR K=0 TO 4: CSR J,K: PRINT CHR$(134);: NEXT K: NEXT J
5034 FOR J=29 TO 31: FOR K=5 TO 23: CSR J,K: PRINT CHR$(134);: NEXT K: NEXT J
5036 FOR J=0 TO 11: FOR K=5 TO 7: CSR J,K: PRINT CHR$(134);: NEXT K: NEXT J
5038 FOR J=22 TO 24: FOR K=5 TO 9: CSR J,K: PRINT CHR$(134);: NEXT K: NEXT J
5040 FOR J=6 TO 13: CSR J,8: PRINT CHR$(134);: NEXT J
5042 FOR J=10 TO 12: CSR J,9: PRINT CHR$(134);: NEXT J
5048 FOR T=1 TO 29: READ J,K,JK: CSR J,K: PRINT CHR$(JK);: NEXT T
5050 FOR J=27 TO 28: FOR K=21 TO 23: CSR J,K: PRINT CHR$(134);: NEXT K: NEXT J
5054 FOR T=1 TO 6: READ J,K,JK: CSR J,K: PRINT CHR$(JK);: NEXT T
5058 FOR J=8 TO 18: FOR K=16 TO 18: CSR J,K: PRINT CHR$(134);: NEXT K: NEXT J
5060 FOR J=15 TO 18: CSR J,15: PRINT CHR$(134);: NEXT J
5068 FOR T=1 TO 25: READ J,K,JK: CSR J,K: PRINT CHR$(JK);: NEXT T

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5100 INK 14: CSR 5,3: PRINT CHR$(134): CSR 22,8: PRINT CHR$(134): CSR 28,21: PRINT CHR$(134): INK 11: CSR 19,2: PRINT CHR$(134)
5200 RESORE 8500
5300 SPRITE 1,2,X,Y,0,0,1
5600 ADJSR 2,1,X: ADJSR 3,1,Y
5610 IF SE>0 THEN GOSUB 1570 ELSE IF SE=0 THEN GOSUB 1500
5620 IF YB>0 THEN ADJSR 1,M+1,14
5980 LET MB=1
5990 RETURN
7000 REM SEN
7005 IF XB>0 THEN GOTO 7030
7010 LET M=INT(RND*4)+1
7020 IF YA(M)<>200 THEN LET YB=YA(M): LET XB=XA(M) ELSE GOTO 7010
7024 LET RM=INT(RND*16)+2: LET AP=1: LET RH=RM
7030 LET L$=INKEY$
7032 IF L$=CHR$(128) AND WA>0 THEN LET WA=WA-3
7034 IF L$=CHR$(129) AND WA<300 AND WA<A THEN LET WA=WA+3
7036 IF INT(RND*70)=4 THEN LET AP=2
7060 IF INT(X)<>XB OR INT(Y)<>YB THEN GOTO 7120
7065 IF INT(RND*80)=7 THEN LET AP=3
7070 IF WA>A-6 AND RM>0 AND SM<5 THEN LET TE=1: LET AP=7
7080 IF WA=0 AND TE=1 THEN LET SM=SM+1: LET RM=RM-1: LET TE=0: LET AP=4
7085 LET X=X+(RND-RND)/10: LET Y=Y+(RND-RND)/10
7090 IF A<65 THEN LET XB=XB+INT(RND*2)-1: LET YB=YB+INT(RND*2)-1
7120 IF D=4 AND HO=RH THEN LET AP=6
7125 IF D=4 AND HO<RH AND SM>0 AND R<200 AND AN<20 THEN LET HO=HO+SM: LET SM=0: LET AP=5
7490 RETURN
7500 REM INFO
7505 IF AP>0 THEN SOUND 1,700,15
7510 INK 11: CSR 3,7
7830 IF L$="N" THEN STOP
7840 GOTO 7810
8000 REM FUEL
8010 FOR L9=F TO 2499
8020 LET F=F+1: CSR 8,6: PRINT INT(F);
8030 NEXT L9: RETURN
8500 DATA 6,8,129,9,9,129,13,9,131,12,6,130,12,7,134,13,7,130,16,5,129,17,5,131,21,5,129
8510 DATA 21,7,132,21,8,134,21,9,134,21,10,129,20,8,134,20,9,134,19,8,132,19,9,134,22,10,134,23,10,134
8520 DATA 24,10,131,25,7,130,25,8,134,25,9,134,26,8,130,26,9,134,28,5,129,28,12,132,28,13,134,28,14,129
8530 DATA 28,19,132,27,20,132,28,20,134,26,22,132,26,23,134,25,23,132
8540 DATA 14,15,132,15,14,132,16,14,134,17,14,134,18,14,130,19,17,130,19,18,131,17,19,134,16,19,134,15,19,134,14,19,129
8550 DATA 16,20,131,15,20,129,11,19,131,10,19,134,9,19,134,8,19,129,7,18,129,7,17,132,9,15,132,10,15,130,4,14,134,3,21,134,21,22,134

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SOFTWARE



00106	26X26 SPREAD SHEET	UTIL	SYNT	7.95	E	ANY
00057	3D TACHYON FIGHTER	ARC	CONT	6.95	I	ANY
00062	ADVENTURE QUEST	ADV	LVL9	8.75	I	ANY
00033	AGROVATOR	ARC	SYNT	5.95	I	512
00071	ALICE IN WONDER.	ADV	CONT	6.02	I	ANY
00008	ASTROMILON	ARC	CONT	6.02	I	ANY
00047	ASTROPAC	ARC	CONT	6.02	I	ANY
00058	BACKGAMMON	BRD	CONT	7.95	I	ANY
00041	BASIC BUSINESS	BS	CONT	5.95	I	ANY
00043	BLOBBO	ARC	CONT	6.02	I	ANY
00073	BOUNCING BILL	ARC	SYNT	4.95	I	ANY
00074	BRIDGE	CARD	CONT	6.95	I	512
00077	CANVAS	UTIL	CONT	7.95	I	ANY
00085	CAVES OF ORB	ADV	SYNT	5.95	I	512
00094	CHAMBEROIDS	ARC	MEGA	5.95	I	ANY
00059	CHESS	BRD	CONT	8.75	I	ANY
00053	COBRA	ARC	CONT	6.02	I	ANY
00025	COLOSSAL ADVENTURE	ADV	LVL9	8.75	I	ANY
00098	COMBAT	ARC	PANS	2.95	I	ANY
00028	COMPOSER	UTIL	XAV	13.00	I	ANY
00046	CONT RAIDERS	ARC	CONT	6.02	I	ANY
00099	CRIBBAGE	CARD	SCRIP	2.95	E	ANY
00050	DEN.GOES BANANAS	ARC	SCRIP	2.95	E	ANY
00011	DENNIS & CHICKEN	ARC	SCRIP	2.95	E	ANY
00103	DENNIS AND CIRCUS	ARC	SCRIP	2.95	E	ANY
00068	DOODLEBUG	ARC	SYNT	4.95	I	ANY
00096	DR. FRANKIE	ARC	SYNT	5.95	I	ANY
00056	DRAUGHTS	BRD	CONT	6.95	I	ANY
00063	DUNGEON ADVENTURE	ADV	LVL9	8.75	I	ANY
00067	EDASM	UTIL	SYNT	7.95	I	512
00066	EMERALD ISLE	ADV	LVL9	5.95	I	ANY
00038	ESCAPE FROM ZARKOS	ARC	MEGA	5.95	I	ANY
00081	EXTENDED BASIC	6.95	SENT	6.95	I	ANY
00082	FATHOMS DEEP	ARC	MEGA	5.95	I	ANY
00090	FIG FORTH	LANG	SYNT	15.75	I	512
00055	FIREHOUSE FREDDIE	ARC	CONT	6.02	I	ANY
00021	FIRST LETTERS 1	EDUC	CONT	8.75	I	ANY
00092	FKEY DEFINER	UTIL	MEMB	6.95	I	ANY
00037	FLUMMOX	ARC	SYNT	5.95	I	512
00052	GAUNTLET	ARC	CONT	6.02	U	ANY
00102	GHOSTLY CASTLE	ADV	PANS	2.95	I	ANY
00031	GOLDMINE	ARC	CONT	6.02	I	ANY
00069	GRAPHICS	UTIL	CONT	5.95	I	ANY
00087	H & L DUMP	UTIL	MEM	4.95	I	ANY
00072	HAWKWARS	ARC	SYNT	4.95	I	ANY
00065	HELI-MATHS	EDUC	CONT	5.95	I	ANY
00034	HUNCHY	ARC	SYNT	4.95	I	ANY
00083	ICEBERG	ARC	SYNT	4.95	I	ANY
00105	JET SET WILLY	ARC	SPRJ	6.95	E	ANY
00015	JOHNNY REB	WAR	LOTH	6.02	I	ANY
00097	JUMPING JACK FLASH	ARC	SYNT	5.95	I	512
00016	KEY TO TIME	ADV	LUMP	6.02	I	ANY
00042	KILOPEDE	ARC	CONT	6.02	I	ANY
00019	KNUCKLES	ARC	CONT	7.95	I	ANY
00078	LES FLICS	ARC	PSS	6.95	E	ANY
00032	LITTLE DEVILS	ARC	SYNT	4.95	I	ANY
00024	LORDS OF TIME	ADV	LVL9	8.75	I	ANY
00014	M CODER	UTIL	PSS	6.02	U	ANY
00035	M COMMAND & ARCAD.	ARC	SYNT	4.95	I	ANY
00070	MAN FROM GRANNY	ADV	SYNT	4.95	I	512
00104	MANIC MINER	ARC	SPRJ	6.95	E	ANY
00022	MATHS 1	EDUC	CONT	8.75	I	ANY
00013	MAXIMA	ARC	CONT	6.02	I	ANY
00086	MEMOCHEQUE	UTIL	SYNT	6.95	I	ANY
00075	MEMOSKETCH	UTIL	SYNT	7.95	I	ANY
00089	MINER DICK	ARC	XAV	6.95	E	ANY
00044	MISSION ALPHATRON	ARC	CONT	6.02	I	ANY
00030	MISSION OMEGA	ARC	SYNT	4.95	I	ANY
00054	MURDER AT MANOR	ADV	LUMP	6.02	I	ANY
00010	MUSIC PAD	UTIL	CONT	6.02	I	ANY
00003	NEMO	ARC	CONT	6.00	I	ANY
00045	OBLOIDS	ARC	CONT	6.02	I	ANY
00001	PAYROLL	UTIL	CONT	21.25	I	512
00005	PHAID	ARC	CONT	6.02	I	ANY
00061	PHYSICS 1	EDUC	CONT	8.75	I	ANY
00012	PONT & BLACKJACK	CARD	CONT	6.02	I	ANY
00009	POT HOLE PETE	ARC	CONT	6.02	I	ANY
00040	PURCHASE LEDGER	BN	CONT	12.75	I	512
00048	QOGO	ARC	CONT	6.02	I	ANY
00076	QOGO 2	ARC	MEGA	5.95	I	ANY
00095	QUANTUM	ARC	SYNT	5.95	I	ANY
00064	RETURN TO EDEN	ADV	LVL9	8.75	I	ANY
00020	REVERSI	BRD	CONT	7.95	I	ANY
00100	RUTHLESS BASTARD	ARC	LSFT	2.50	E	512
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I = IN STOCK U = UNAVAILABLE

E = EXPECTED SOON

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MEMOTECH



CPM Software



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PROGRAM DEVELOPMENT AIDS

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Foxgraph	Fox & Geller	200
Signmaster	Decision Resources	283

The above CP/m software is available to members at 20% discount. Please allow 14 days for delivery and state if you require the programs to be installed for you. All programs come complete with licences and manufacturers instruction books.

For more than one item please ring for special discounts.

Prices are correct at time of going to press but please ring to confirm before ordering as a lot of the prices are subject to a fluctuation on the pound/dollar.



VIEWPOINT

Mr. Brooks from Lochwinnoch has bought a Ferguson MC01 after reading the monitor roundup. Here are his comments:-

The Monitor/TV itself I have no complaints about, but the "after-sales-service" leaves a lot to be desired. A postcard included with the TV brought me a lead, one end of which fits the 'monitor' socket of my MTX. Fine! just plug the other end in the composite video socket of the monitor and I'm away!! I should be so lucky, the other end of the lead had a six pin DIN plug which would fit neither the composite video (five pin) nor the RGB (seven pin) sockets on the back of the set.

I removed the centre pin of the plug supplied so that it fitted the five pin socket then I had to resolder the connections which were to the wrong pins. This gave me a display but no sound from the MTX.

I wrote to the Ferguson Video Advisory service asking for advice. Their reply, 10 days later, simply proved that they had never examined an MTX computer, they are "not absolutely certain" what the Hi-Fi connection is and state that the audio connection on the MC01 is pin number 6, this is so on the RGB connection but obviously can't be on the five pin composite video connection.

After a little study, I solved the problem by adding a fairly thin screened lead from the MTX Hi-Fi phono plug to pin number 1 of the modified 5 pin DIN plug. The video lead is connected to pin 4 and the screens of both leads are earthed to one of the other pins.

This arrangement works very well, and though it is not equivalent to a professional monitor, it does give reasonable results with a 40 character display and is certainly much better than my old TV.

Onto the adventure help line with lots of queries

Keys to time

In the second time period, it is necessary to obtain some gold to overcome a cyber-man. I have checked all five time zones without finding gold anywhere and this section (time zone 2) is the only one I cannot solve (all other segments of the key of time having been found) can you please advise any hints as to where the gold may be found.

Return to Eden

Having reached the perimeter of Enoch, found the bug, and a cold leaf which freezes the quick sand, I am still unable to find a way into the city. Again any clues to help please.

Lords of time

How do you get the keys to enter the shed, and how do you kill a dinosaur or caveman.

If anyone would like help with their adventures, then they can contact Sgt A. Jones at:-

Sgt's mess
RAF Leuchars
FIFE
KY16 DJK

Mr. Snowden from London has a comment about What Micro:-

An article in the June issue of What Micro compares the Memotech series with the MSX range, the Enterprise and the Amstrad. This is something I suppose as a couple of months back the Memotech would not have been mentioned at all. Unfortunately, the article, though mainly fair, has missed out some of the Memotech's features. When talking about sales it neglected to mention the Russian deal. It describes the Memotech's BASIC as "forgettable", when I find it a great improvement over the BASIC on the spectrum which I had before I bought a Memotech. It makes no mention of the sprites and high quality of the keyboard which I find far better than the other's. And though the assembler is mentioned, the front panel is not. Lastly, according to the article the Memotech does not possess the joystick ports, the cartridge port, the internal input/output port, expansion port, or (though this is not mentioned on some of the others) a cassette port. I have sent a letter to the editor of What Micro.

If this is the publicity the Memotech receives, who needs it?

Mr. Chambers would like to contact other members in his area. He can be contacted at:-

Flat 10,
11 Hope street,
Inverkeithing,
FIFE
KY11 1LW

Mr. Hills has replied to Mrs. Jeffords enquiry about video recording graphics off the MTX.

A great deal of rubbish has got into print about video recording computer graphics and any shop assistant will tell her it cannot be done. I have done it and sold the resulting cassettes on chess subjects under the label videochess.

Method A is to use the composite video output of the Memotech marked monitor. Memotech do not supply a lead (I don't think) as the connection at the other end could vary. I think the MTX end is called a din plug - at all events it is the same as what goes on the video out and in sockets of the popular ferguson videostar range of VCR's. The other end goes on the video-in of her VCR of which consult the specifications for details. A good Hi-Fi or video shop may have just the right package or some little hobbies shop can make up a cable. Check the VCR handbook for all the controls for direct video input recording.

Method B is through the TV. On trying to latch on to the MTX's tuning signal all one gets is a jazzy effect called patterning. This is due to the VCR booster clashing with the channel 36 modulator which is found on almost all home computers. At the back of the VCR is a small adjusting screw either marked CH.32-40 or unmarked. With a fine screwdriver one has to find a setting where the MTX tuning signal comes through clearly and equally so with the aerial lead in. Some patient fiddling will get good input from the MTX as well as all TV stations. Start with the screw 180 degrees opposite the normal setting. Mark this latter with a dab of paint if you wish.

However, one problem is that a lot of video and TV equipment cannot handle the resolution. Sacrificing some colour may help. In my area, the best MTX setting is a slightly off-colour BBC 1 so I have allocated a station button on my VCR to that. Mrs. Jefford can ask more if she likes - the number is 07982 (pulborough) 3688 Evenings.

Mr Hills also supplied a general tip of his own.

To operate the MTX keyboard silently or nearly so, if circumstances require, disable the auto repeat and with practise the keys can be handled softly. POKE 64862,11 to disable auto repeat and POKE 64862,15 to re-enable it.

Here is a small routine written by Paul Wood to allow directly named files to be saved on single disc Tape to Disc transfer.

```
10 USER READ "STRAN.DAT",33*1024
20 PRINT "Enter file name to be transfered"
30 INPUT A$
40 IF LEN (A$)<8 THEN LET A$=A$+" ":GOTO 40
50 FOR N=1 TO 8
60 POKE (35195+N),ASC(A$(N))
70 NEXT
80 LET L=USR(33*1024)
90 USER SAVE "STRAN2.BAS"
100 RUN
```

Mr. Nankivell has written, giving his ideas about the new computer

The micro craze is now over, the bulk market, now in decline, is mostly games playing, and what can be much better than the Spectrum for that? In all the newsagents I go to, the micro mags take an ever smaller proportion of shelf space, with cars and girlies once again in the ascendant.

Thus the home micro will have to find REAL applications in order to sell. I suggest the following, some of which may be mutually exclusive.

(a) I think electronic mail will slowly come in - I know the MTX-FDX has capability, but what about provision for an inbuilt modem? As well as the software, or some of it, on ROM.

(b) Home learning of computer literacy - I don't mean the mickey mouse BBC micro stuff, but the following: Assembler using something very like the MTX capability of built-in assembler, linker, and panel BUT the processor should be one of the 68000 series. I say that because its instruction set is quite like the PDP11 and even VAX. ie you are learning on something akin the second most important computer company in the world.

(c) Main languages available should definitely include FORTRAN and COBOL as well as PASCAL and I suppose BASIC. The first two are still the most widely used high level languages and probably always will be. They could be cut down versions that at least enable the student to work from home or supplement formal teaching with home keyboard work.

(d) Another home use that I believe is coming in is the office micro "shadow". I use my MTX-FDX this way in that I can work on my Newword files on the IBM-PC AT that we have at work, with the help of its Wordstar and the COMPAT that I bought from Genpat. What a handy piece of software that is!

(e) Whether the new micro could shadow other IBM-PC packages is something I am not qualified to comment on, except to say the more the merrier. I personally use SUPERCALC to do my home accounting, I know it's grossly underused in this application, but it does do it faster than pencil and paper, as well as better.

(f) There will always be a need for games, but something like the Spectrum adapter could take care of that.

Mr. Howlett has a groan for Memotech. He wrote:-

Please find enclosed one "Star Command" tape, given originally when I first bought my computer two years ago, I have not used it, except to see what it was.

Memotech seem to be keen on giving away games as part of their sales drive. This makes me hopping mad as I detest games for computers. If they want to give 50 pounds or so away in software as part of their sales drive, I feel it would be a better idea to give potential customers a choice of utilities, educational, business or games as options, to the amount as free. Or better still just cut the price altogether or give a voucher with machine or item of equipment being sold.

A small problem has been found in the tape loaders used in most games. It only affects computers with more than 64K of ram, and luckily it is easily solved. Before loading the program, type:-

```
POKE 64122,1    <RET>
CLEAR           <RET>
NEW             <RET>
```

and then load the program as normal.



FRANKIE LIVES

HELP DR. FRANKIE FIND THE PARTS OF THE BODY NEEDED TO BUILD HIS LATEST CREATION. BUT TAKE HEED... BURKE N' HARE HAD IT EASY TO THE DANGERS YOU WILL ENCOUNTER !!

THIS IS A 100% MACHINE CODE, REAL TIME, ARCADE ACTION PACKED GAME, AND IS A MUST FOR ANY SERIOUS GAMES PLAYER.

THE ULTIMATE, ADDICTIVE, PLATFORM ADVENTURE GAME.

MAKE SURE YOU SEE THE SPECTACULAR CLIMAX WHEN YOU COMPLETE THE GAME.

Memo Cheque



Memocheque is a very useful utility that will keep your accounts in good shape. Keep a weekly check on all your expenditures, Memocheque will tell you all you need to know. If you can't follow the figures then get Memocheque to plot you a graph or draw you a chart.

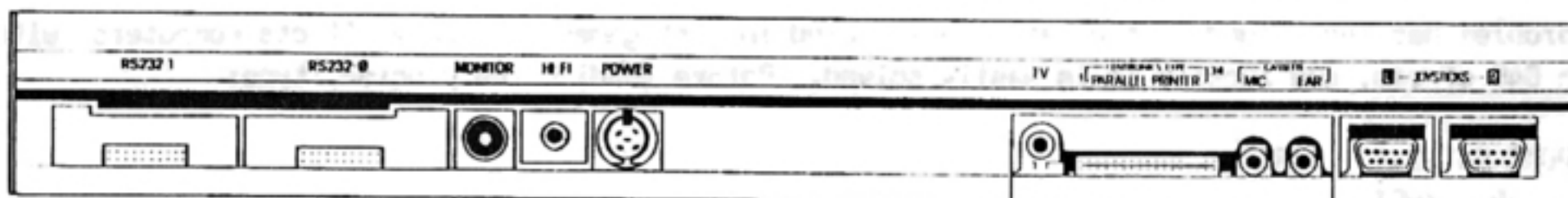
This self prompting program is excellent value and a must for every computer owner with a bit of thought it could be used for many other applications.



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There is still no news on the Russian deal, but there again, I didn't expect there would be at this point - the Russians will be looking into every tender that has been submitted, and they can't do that over night. Robin Tupper, Memotech's financial Director, flew out to the USSR again last week but at the time of going to press I haven't heard what was the outcome.

It is now apparent that we cannot cope with all the phone calls that we receive and we need to look at the matter in a different light. Once we have moved, we shall not be in a position to man the telephones in the evening because there is too much travel involved from home to office so we shall have to organise one night a week for phone-ins. However, that is in the future. Also in the future is the setting up of a information service on a bulletin board format. It is hoped that this will reduce the telephone calls..... members will be able to access the board and leave a message, or request and at various times we will up date all the information. To access this board, of course, you will need a modem and a RS232. Now that the Jaro Speed-splitter is ready we are recommending the DEMON modem from Demon Limited, 20, Orange Street, London WC2H 7ED. The cost is 49.95 plus Vat & p&p. It is only available from them and there is a waiting period of about 14 days from the 1st Of July. This modem is very versatile and supports 300/300, 1200/75, 75/1200, 1200/1200 (Half Duplex). It is an auto-dial and allows use of printer while on-line. The Jaro software is compatible with this modem and considering the price it can't be beat. Please don't flood us with phone calls.... send for information from the address above.

As soon as we can persuade Memotech that it is also in their interest to have a bulletin board, we shall go ahead and start work on the software. We will let you know more as things develop.

The Jaro speed-splitter or information about the board can be obtained from Jaro Computer Services whose address is given elsewhere in the magazine.

Have fun!

The DEMON modem

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JARO SPEED-SPLITTER BOARD

- ‡ Allows 'split-speed' operation of MTX channel A (ie 1200/75 'user', or 75/1200 'reverse Prestel' or 'host')
- ‡ Completely transparent to normal MTX operation, requires no alteration to any existing software ('off' at power-up)
- ‡ Software control via output port 7 (uncommitted PIO)
- ‡ Fits inside lid of MTX casing - does not prevent fitting of any MTX add-on boards, e.g. extra memory, etc.

BOARD ONLY - 1 solder connection to RS232 required: £15.00

BOARD FITTED TO RS232 BOARD - no soldering required: £77.65

15 per cent discount for Members - disc. prices £12.75 and £66

Both options include lead and easy-to-follow instructions.

JARO VIEWDATA SOFTWARE - £7.95

Turn your MTX512 into a monochrome (black on cyan) 1200/75 V23 viewdata terminal:

- ‡ Full viewdata character set including contiguous/separated graphics, cursor on/off and addressing from host, & flash
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 - ‡ 16 programmable keys for frequently used frames or user-id
- If the 'Demon Electronics' modem is used, in addition:
- ‡ Up to 8 autodial telephone numbers and keypad dialling (Requires Jaro Speed-splitter Board, RS232 board and modem)
- Note: The following viewdata features cannot be implemented on the cassette version of JaroViewdata due to limitations of the MTX Video Display Processor: colour attributes, double height, and concealed text.

4 Finnart Close Weybridge Surrey KT13 8QE

Tel: Weybridge (0932) 57398

Prestel Mailbox 019995085