MANUAL FOR THE MEMOCOM MDCR-D

TO MAKE EFFICIENT USE OF THE MEMOCOM MDCR-D PLEASE READ
CAREFULLY THE NOTES ON THE FOLLOWING PAGES.

PREPARING FOR USE .....

M O U N T I N G   T H E   E P R O M   H O L D E R:

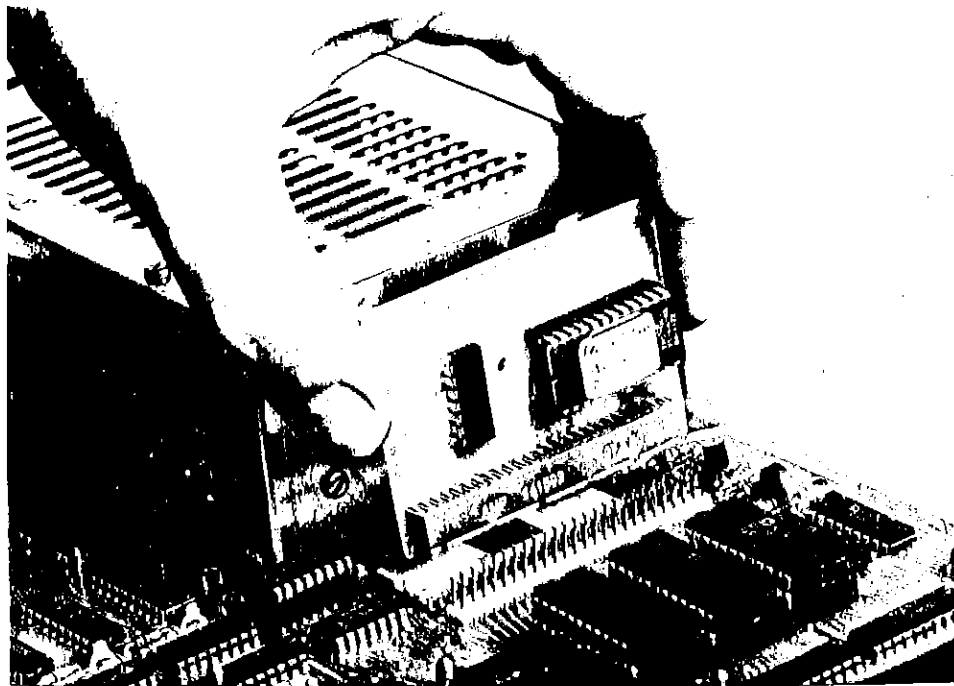DISCONNECT ALL CABLES AT THE BACK OF THE DAI PC.

REMOVE THE FOUR BLACK PLUGS FROM THE HOUSING AND TAKE THE LID OFF.

IN FRONT OF THE POWER-SUPPLY YOU WILL SEE A 50 PINS CONNECTOR.

(TWO ROWS OF 25 PINS)

TAKE CARE THAT THE CONNECTOR ON THE EPROM-HOLDER LINES WITH

THE 50 PINS CONNECTOR OF THE DAI.

PUSH THE CONNECTOR CAREFULLY WITH BOTH THUMBS DOWN ONTO THE PINS.

THE EPROM-HOLDER IS NOW FIRMLY SECURED. BEFORE REINSTALLING THE BACK

BE SURE THAT THE EJECTORS PASS SAFELY THROUGH THE BACK OF THE DAI P.C.

C O N N E C T I N G   T H E   F L A T C A B L E

EVERY CONNECTOR CAN ONLY BE INSERTED IN ONE WAY. IT IS THEREFORE EQUIPPE

WITH A NODGE. THIS NODGE HAS TO BE ON THE UPPER-SIDE WHEN CONNECTED

ON THE DAI DCE-BUS. THE NODGE ON THE RECORDER IS CLEARLY VISIBLE;
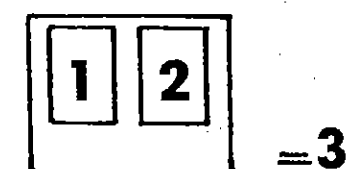
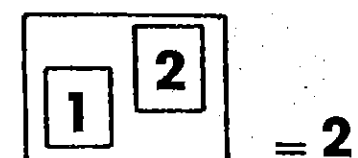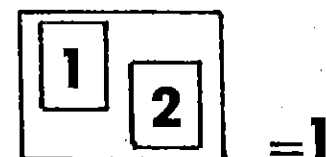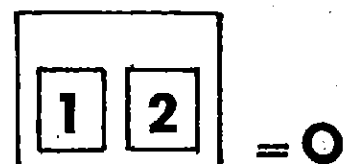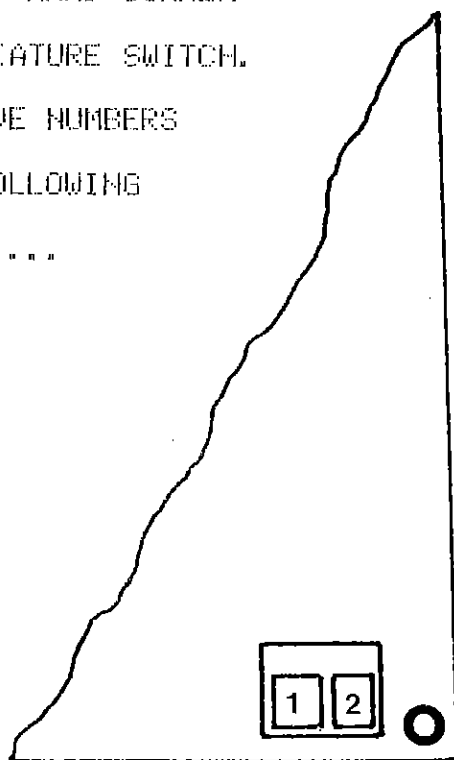TAKE CARE TO INSERT IT IN THE ONLY POSSIBLE WAY.

OPERATING INSTRUCTIONS

CASSETTE LOADING IS ACCOMPLISHED BY DEPRESSING THE BUTTON ADJACENT
TO THE CASSETTE COVER AND INSERTING THE MINI-CASSETTE, OPEN END FIRST,
INTO THE CASSETTE COVER AND CLOSING THE COVER.

IT IS RECOMMENDED THAT CASSETTES BE ENTIRELY (RE-)WOUND BEFORE
THEY ARE REMOVED FROM THE RECORDER.
THIS PREVENTS THE TAPE FROM BEING TOUCHED BY THE FINGERS DURING
LOADING AND UNLOADING. FORMATION OF UNWANTED LOOPS IS ALSO AVOIDED.
EACH MINI CASSETTE CAN BE EQUIPPED WITH A WRITE-ENABLE PLUG.
TO PREVENT WRITING ON A RECORDED TAPE REMOVE THE PLUG FROM
THE MINI CASSETTE. THE POSITION OF THE WRITE-ENABLE PLUG DETERMINES
WETHER WRITING IS ENABLED ON TRACK 1 OR 2.

IN CASE MORE THAN ONE DRIVE IS USED, IT IS NECESSARY TO CHANGE
THE DRIVE NUMBER. IN ORDER TO DO THIS
YOU HAVE TO REMOVE THE BACKPLATE
OF THE DRIVE (4 CORNER SCREWS).
IN THE BOTTOM RIGHT-HAND CORNER
YOU WILL SEE A MINIATURE SWITCH.
YOU SELECT THE DRIVE NUMBERS
ACCORDING TO THE FOLLOWING
SWITCH POSITIONS .....

TECHNICAL SPECIFICATION

NUMBER OF HEADS	: 2 ; A READ-WRITE HEAD AND AN ERASE HEAD.
NUMBER OF TRACKS	: 2 ; A SIDE AND B SIDE.
DATA TRANSFER RATE	: 6000 BITS PER SECOND.
IRRECOVERABLE ERROR RATE	: 1 IN 10 E 9 BITS.
READ/WRITE TIME	: 95 SEC. FOR FULL TAPE LENGTH.
REWIND TIME	: < 95 SEC.
DATA CAPACITY	: 64K BYTES PER TRACK.
OPERATING TEMP. RANGE	: +5 TO + 55 DEGR. C.
THERMAL SCHOCK	: < 11 DEGR. C PER HOUR.
HEAT RADIATION	: DIRECT SUNLIGHT RADIATION ON THE CASSETTE DRIVE IS NOT ALLOWED.
MEDIUM	: PHILIPS 3.81 MM MINI-CASSETTE TYPE NR: 8920 440 10101.

MAINTENANCE

THE ONLY MAINTENANCE REQUIRED FOR THE USER IS CLEANING OF
THE READ/WRITE HEAD EVERY WORKING WEEK OR 100 HOURS.
USE COTTON WOOL BUDS SLIGHTLY WETTED WITH ETHANOL.

W A R R A N T Y

THIS PRODUCT IS MADE OF HIGH QUALITY MATERIAL AND GREAT CARE

HAS BEEN TAKEN IN ITS MANUFACTURE. IT IS DESIGNED TO GIVE GOOD SERVICE

PROVIDED IT IS PROPERLY OPERATED AND MAINTAINED.

MEMOCOM SELLS THIS PRODUCT SUBJECT TO THE UNDERSTANDING THAT IF ANY

DEFECTS IN MANUFACTURE OR MATERIAL SHALL APPEAR IN IT WITHIN 3 MONTHS

OF THE DATE OF CONSUMER SALE, WE WILL ARRANGE FOR SUCH DEFECTS TO BE

RECTIFIED WITHOUT CHARGE. SERVICE AFTER THE INITIAL 3 MONTHS IS AVAILABL

BUT THIS SERVICE WILL BE CHARGEBLE.

WE REMIND YOU THAT TEMPERING WITH THE MDCR-D OR UNAUTHORIZED REPAIRS

WILL RENDER THE WARRANTY NIL AND VOID.

DESCRIPTION EXTRA PROGRAMFUNCTIONS

THE FOLLOWING COMMANDS CAN BE USED AS WELL IN BASIC PROGRAMS
AS IN THE DIRECT MODE.

```
*  REW X / REWIND X    : REWIND X FILES.
*  REW / REWIND        : REWIND TILL START OF TAPE.
*  SKIP X              : SKIP X FILES.
*  SKIP                : SKIP TILL AFTER LAST FILE.
*  CAS X / CASSETTE X  : SELECT CASSETTE X AS I.O.DEVICE.
                            ( 0=NONE, 1=1, 2=2, 3=BOTH )
*  CAS / CASSETTE      : SELECT CASSETTE 1 AS I.O.DEVICE
*  DCR                 : SELECT DCR 0.
*  DCR X               : SELECT DCR X AS I.O.DEVICE.
*  DEL / DELETE        : ERASE TILL END OF TAPE.
*  LAST                : MARK PREVIOUS FILE AS LAST ONE.
                            ( = ERASE APPR. 1 SEC. )
*  LOOK                : PRINT NAME OF NEXT FILE
                          AND RETURN TO START OF FILE.
*  VER / VERIFY        : CHECK PREVIOUS FILE ( OK / BAD )
*  TAB KEY             : CLEAR SCREEN ( PRINT CHR$(12)
```

X= ANY NUMBER BETWEEN 0 AND 9.

ERROR REPORTING

```
LOADING ERROR 0-3       : REFER TO D.A.I. HANDBOOK
SAVING ERROR 1          : END OF TAPE REACHED.
SAVING ERROR 2          : CASSETTE COVER OPENED.
```

S P E C I A L   S Y N T A X   R U L E S

EXTRA MDCR-D COMMANDS HAVE A LOWER PRIORITY THAN D.A.I. COMMANDS.
===

COMMANDS WHEREBY IT IS ALLOWED TO ADD A NUMBER ARE NOT CHECKED ON SYNTAX.
SO 'REWIND 3 FILES' IS PERMITTED AND 'REWIND TILL START OF TAPE' NOT.
EXTRA COMMANDS CAN BE SEPARATED IN THE SAME MANNER AS NORMAL COMMANDS
I.E. 'REWIND 3 files:SKIP 1 file:VERIFY'.
NO MDCR-D COMMANDS CAN FOLLOW A DIRECT COMMAND I.E. 'SKIP:REW1:LOAD'
IS PERMITTED AND 'LOAD:SKIP' IS NOT.
AFTER VERIFY AND LOOK NO COMMAND CAN BE EXECUTED IN THE DIRECT MODE
SO AFTER 'VERIFY:REWIND' REWIND IS NOT EXECUTED.
IN BASIC PROGRAMS THE FOLLOWING FORMAT IS NECESSARY:
'CALLM #F000:REM REWIND:SKIP 1 file:VERIFY:REWIND'
AFTER SUCH A COMMAND NO NORMAL COMMAND CAN BE PUT, SO
'CALLM #F000:REM REWIND:LOAD' IS NOT PERMITTED.
LOAD, SAVE ETC ARE NORMAL BASIS COMMANDS AND HAVE TO BE PUT ON A NEW LINE.
AN EXTRA FACILITY IN BASIC PROGRAMS IS THE SURPRESSION OF I.O. ERROR REPORT
BY MEANS OF THE 'ON ERROR CONSTRUCTION'.
THIS IS INITIALISED BY 'CALLM #F003,ERROR%' (OR ANY OTHER INTEGER).
THE COMMAND 'CALLM #F006' ENABLES NORMAL D.A.I. ERROR REPORTING.
THE ERROR REPORTINGS (I.E. LOADING ERROR 0-3 AND SAVING ERROR 1-2)
ARE NOT PRINTED AFTER THEY HAVE BEEN INITIALISED.
IT IS NECESSARY TO INCORPORATE A CHECK IN THE PROGRAM BY MEANS OF
'ON ERROR GOTO XX,YY,ZZ,

OR ACCORDING TO THE FOLLOWING EXAMPLE.

BASIC EXAMPLE

```
10    DIM A$(100):COUNTER% = 0
20    CALLM #F000:REM  DCR 0 IS SELECTED AS I.O.DEVICE
30    CALLM #F003,ERR%:REM  SUPPRESS ERROR REPORTING
40    CALLM #F000:REM  REWIND
50    LOADA A$ 'STRING':REM  LOAD ARRAY 'STRING'
60    IF ERR% = 0 GOTO 100
70    COUNTER% = COUNTER% + 1:IF COUNTER% >4 THEN CALLM #F000:REM DCR 0
      TRY LAST TIME, PRINT ERROR REPORT
80    CALLM #F000:REM  REWIND 1 ARRAY
90    GOTO 50
100   FOR X%= 0 TO 100:PRINT A$(X%):NEXT
110   END
```

COPYING OF PROGRAMS

IT IS POSSIBLE TO COPY STANDARD-COMPACT-CASSETTE PROGRAMS
IN THE FOLLOWING MANNER:

*CAS:LOAD "name of program"⏎

*DCR:SAVE "name of program"⏎

C O P Y I N G   O F   F.G.T.

FGT AND OTHER MACHINE-CODE PROGRAMS WICH INCLUDE SOME OF THE ADDRESS RANGE
FROM #297 TO #2EA CAN BE COPIED FROM CASSETTE TO DRC IN THE FOLLOWING WAY:

```
*CAS ↵

*UT ↵

PC UTILITY V3.3

>S296 02-0←     ( DISABLE EXTRA COMMANDS)

>R↵   ( FGT IS NOW BEING READ )


>Z3 ↵


>GF2F2 ↵   ( INITIALISE EXTRA COMMANDS AND DCR TABLE )


PC UTILITY V3.3

>WXXXX YYYY NAME ↵
```

WHEN SAVING STANDARD FGT: XXXX=29B, YYYY=9EB, AND NAME =FGT OBJECT 29B 9EB

U T I L I T Y

ENTRY POINTS:

F000 : REMS = EXECUTE REM STATEMENT   JMP F021
F003 : ONERR = INITIALISE ON ERROR   JMP F686
F006 : NONERR = DISABLE ON ERROR   JMP F63F
F009 : OPEN = OPEN SELECTED DCR   JMP F348
F00C : DCR = SELECT DCR   JMP F566
F00F : CAS = SELECT CASSETTE   JMP F57B
F012 : CRWND = COMMAND REWIND 'F' FILES JMP F5D6
F015 : CSKIP = COMMAND SKIP 'F' FILES   JMP F63D
F018 : CVER = COMMAND VERIFY   JMP F6E2
F01B : CLAST = COMMAND LAST   JMP F5B8
F01E : CLOOK = COMMAND LOOK   JMP F75D

   WHEN 'F' IS MENTIONED ANY NUMBER BETWEEN 0 AND 255 STORED IN FILES
BEFORE ENTRY, IS MENT.

N E W   R A M   A D D R E S S E S

#120 : ERRCO ; IF ZERO NORMAL, ERROR REPORTING

IF NOT ZERO, ERROR CODE IS STORED (AFTER VER, LOAD ETC.)

AT ((ERRCO))

#11F : DCRSL ; SELECTED DCR NUMBER, MUST BE 0,1,2 OR 3

#1B0 : FILES ; NUMBER FOLLOWING COMMAND

#297 : TABLE ; START ADDRESS OF TABLE

#299 : RSP   ; RESCUED STACK POINTER

STACK POINTER IS STORED HERE DURING COMMAND EXECUTION

#2E3 : DINC ; REFER TO D. A. I. HANDBOOK

'REWIND' IN ASSEMBLY IS AS FOLLOWS:

```
MVI     A,#FF
STA     FILES
CALL    CRWND
```

THE 'OPEN' ROUTINE INITIALISES THE DCE-BUS FOR MDCR (DCRSL)
N.B. !!! 0<=(DCRSL)<=3 !!!
IN CASE CARRYFLAG IS 1 ON ENTRY, THE WEN PLUG IS CHECKED FOR PRESENCE.
IF NO CASSETTE IS PRESENT OR END OF TAPE IS REACHED THE
MOTOR OF THE MDCR IS STOPPED.

ON RETURN THE ACCU CAN BE INTERPRETED IN THE FOLLOWING WAY:

```
ZFLAG = 1    A=0       : NO PROBLEMS

ZFLAG = 0    BIT 7  : 0

             BIT 6  : 1/0   1= NO WEN PLUG

             BIT 5  : 1/0   1= NO CASSETTE

             BIT 4  : 0

             BIT 3  : 0

             BIT 2  : 0

             BIT 1  : 1/0   1= END/BEGINNING OF TAPE REACHED

             BIT 0  : 0
```

THE COMBINATION D.A.I. PC AND MEMOCOM MDCR-D IS ABLE TO PERFORM
A NUMBER OF ACTIONS (AUTOMATIC UP-START BASIC PROGRAMS) WITH
THE AID OF A MACHINE-LANGUAGE PROGRAM CALLED 'USER'.
THIS PROGRAM SHOULD BE FIRST ONE ON THE TAPE, THE WEN PLUG REMOVED
AND THE CASSETTE-COVER CLOSED.
ON A HARD-RESET THE D.A.I. PC WILL BLINK 6 TIMES, THE T.O.S.
WILL REWIND THE TAPE, LOOK AT THE FIRST PROGRAM, LOAD AND EXECUTE IT.
IF YOU DO NOT WANT TO EXECUTE THE PROGRAM,
BE SURE THE FIRST BYTE IS C9 (RETURN)

IT IS POSSIBLE TO LOAD AND EXECUTE A BASIC PROGRAM.
THE MACHINE-LANGUAGE PROGRAM THAT WILL TAKE CARE OF THIS IS AS FOLLOWS:

UT

PC UTILITY V3.3

>R ↵

>W144 1B4 USER ↵


```
0144 21 EC 02 22 9B 02 21 00 01 22 9D 02
0150 CD B8 DE 3E 10 32 3D 01 21 C5 E8 CD 60 D5 CD 01
0160 D1 3E 00 32 8F 02 11 75 02 21 8F 02 CD 7C DE FB
0170 21 EE C7 EF 06 CD E4 CE D3 C7 21 00 F9 22 27 01
0180 F9 AF 32 26 01 2A 27 01 F9 21 00 00 22 00 01 22
0190 04 01 22 13 01 7C 32 22 01 21 17 01 77 23 77 CD
01A0 88 D9 CD DB D9 21 00 00 01 00 30 CD B1 01 C3 13
01B0 C9 C5 C3 7B D2
```

NOTE !! BE CAREFULL WITH MDCR-D COMMANDS BECAUSE THEY ALTER #1B0 !!

IF YOU WANT TO COPY THIS PROGRAM, BE SURE TO REWIND THE EMPTY TAPE

B E F O R E READING THIS PROGRAM OR TYPING IT IN.