OHIO SCIENTIFIC, INC.

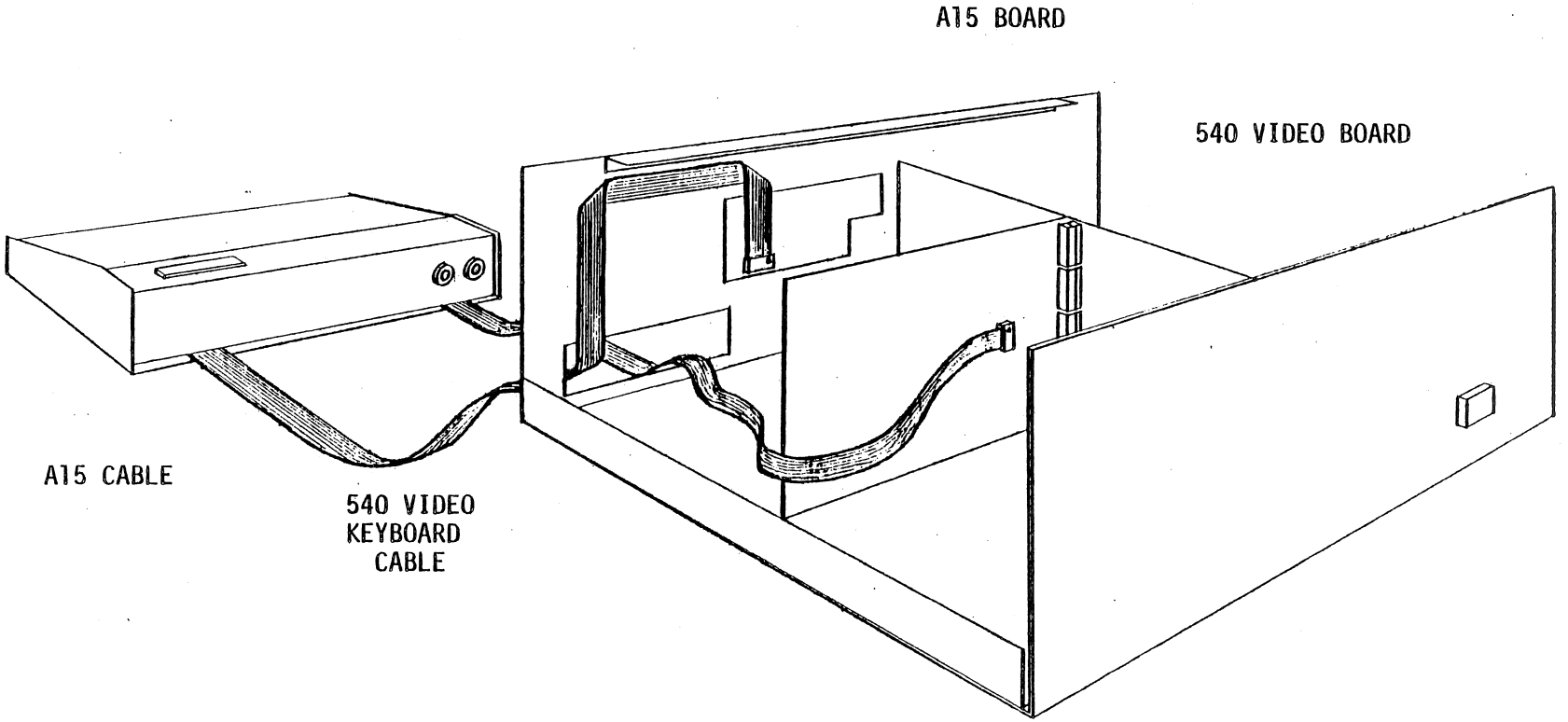
TECHNICAL

NEWSLETTER #24

December 14, 1979

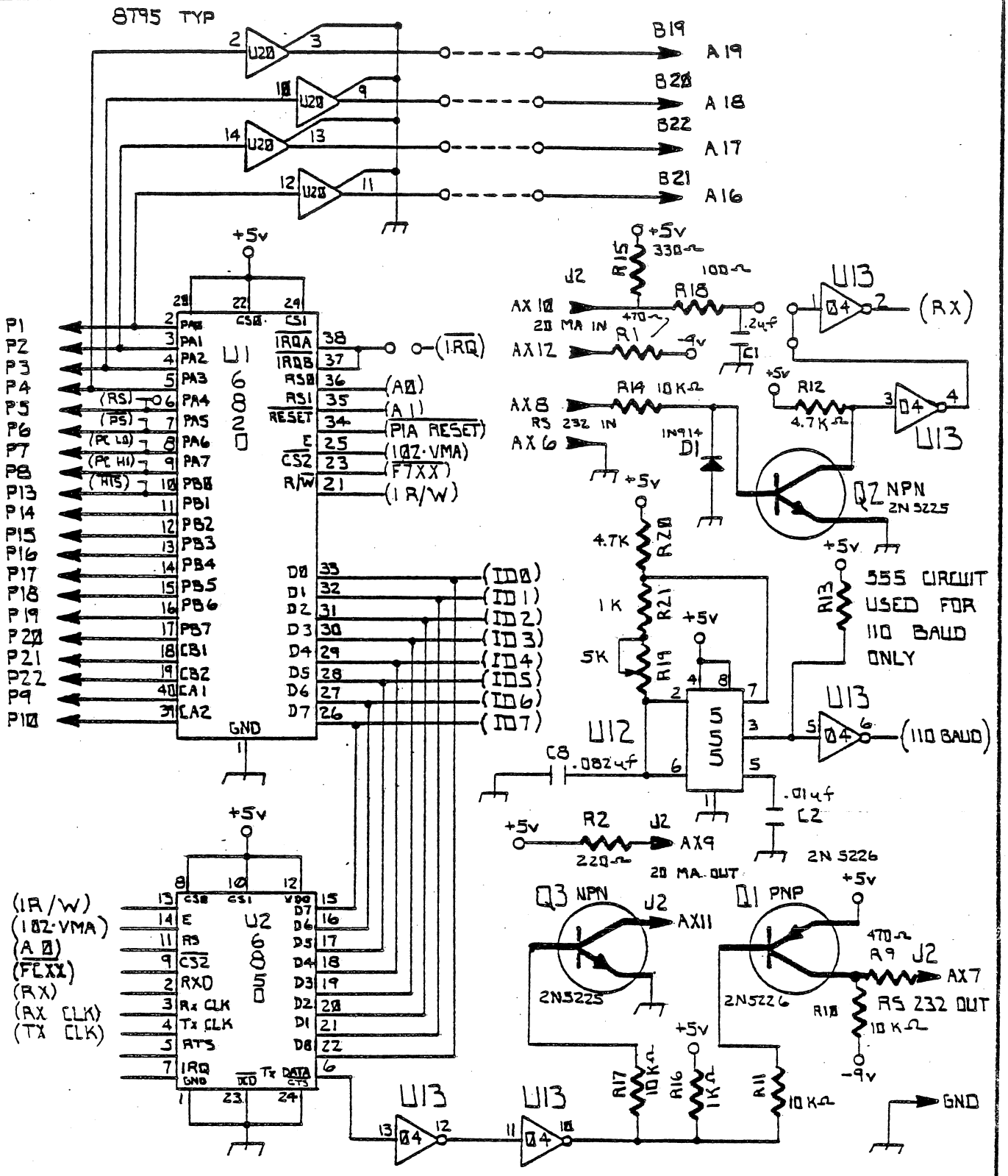
C8P KEYBOARD

CABLE PLACEMENT



MANY PEOPLE HAVE REQUESTED A PICTORIAL OF THE C8P KEYBOARD CABLE PLACEMENT. THE ABOVE DIAGRAM SHOWS THE CABLE PLACEMENT.

510 REVC ADDENDA/SCHEMATIC CORRECTION TO U20 PIN OUT



OHIO SCIENTIFIC	product name/number MODEL 510 REV C PIA IMPLEMENTATION			
date 29 NOV 1979 DRAWN ~ J.L.K.	revision	page	status	sheet 7 of 11

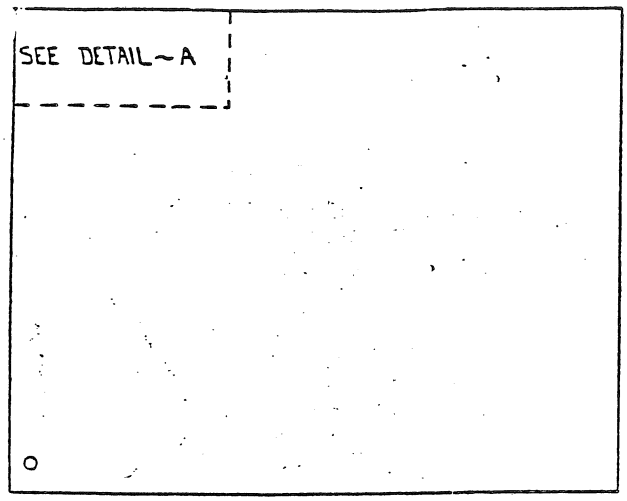
CM-3 520 BOARD @ 2mhz

If one is encountering problems with a 52Ø board @ 2mhz, the change below should improve the boards reliability @ 2mhz. This modification is only required if one is encountering trouble.

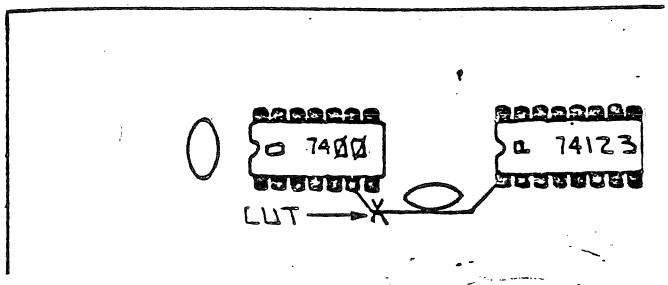
ACTIVITY	LOCATION	VALUE
Cut Trace	C.S. IC-O,PIN 6 TO IC-P,PIN 1	-----
Add Resistor	N.C. IC-O,PIN 6 TO IC-P,PIN 1	1ØØ ohm
Add Capacitor	N.C. IC-P,PIN 1 TO GROUND	22Ø pf

C.S. Implies component side

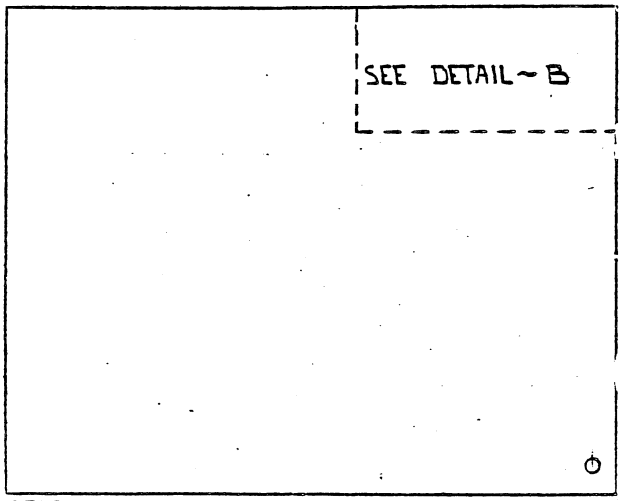
N.C. Implies non-component side



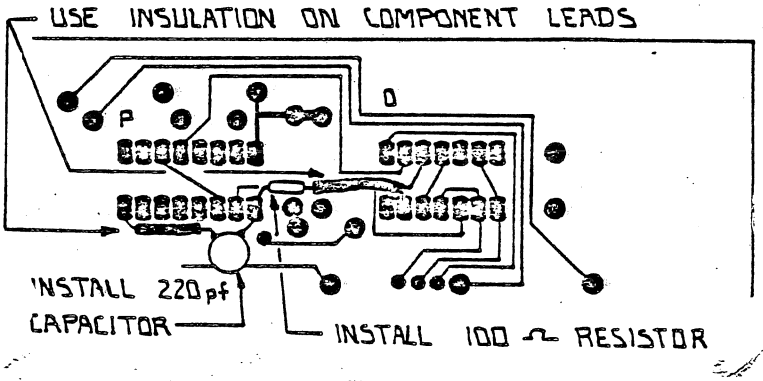
FRONT VIEW OF MODEL 520 REV B BOARD



DETAIL ~ A



REAR VIEW OF MODEL 520 REV B BOARD



DETAIL ~ B

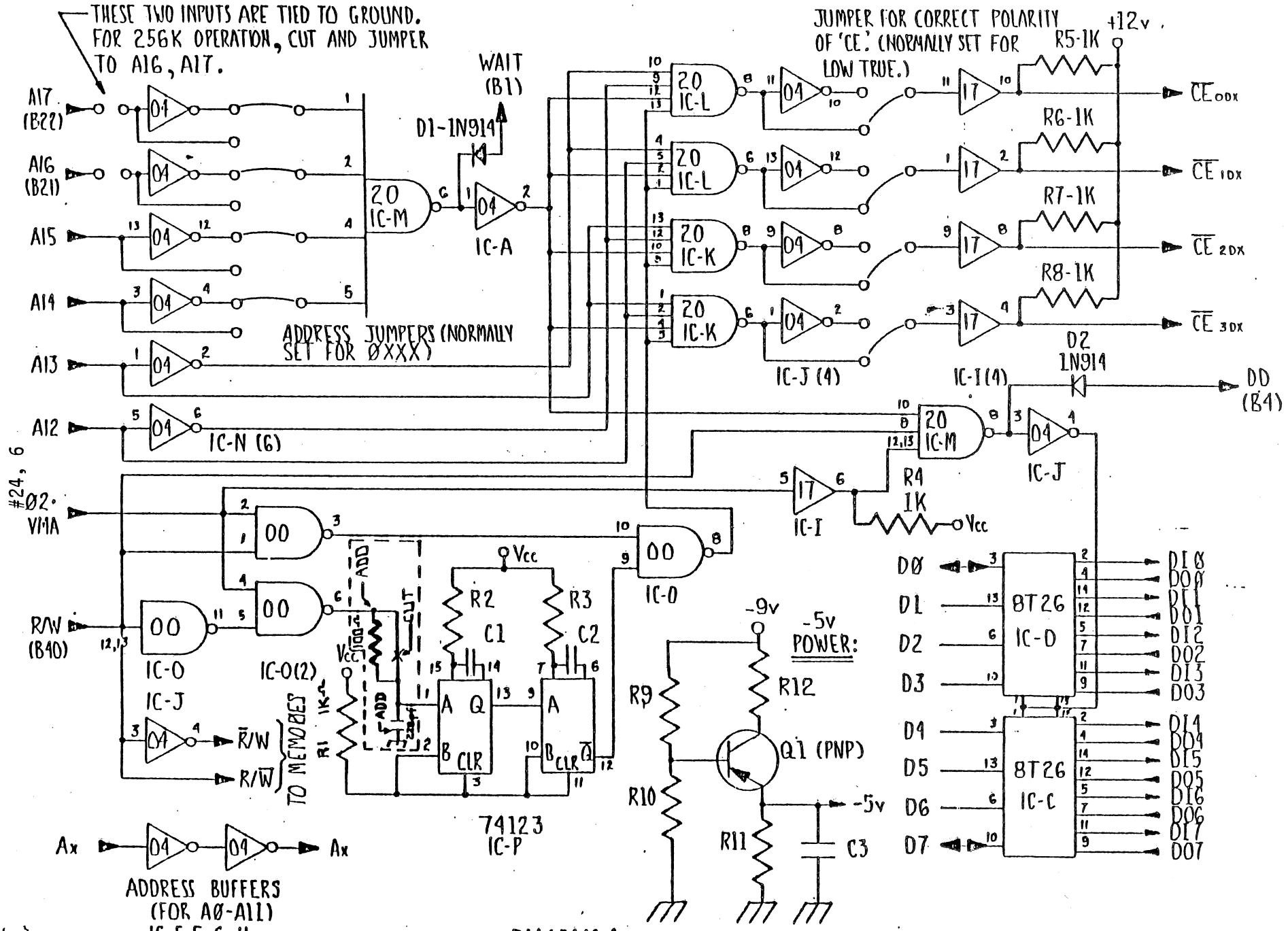

THESE TWO INPUTS ARE TIED TO GROUND. FOR 256K OPERATION, CUT AND JUMPER TO A16, A17.
JUMPER FOR CORRECT POLARITY OF 'CE.' (NORMALLY SET FOR LOW TRUE.)
+12v
R5-1K
R6-1K
R7-1K
R8-1K
A17 (B22)
A16 (B21)
A15
A14
A13
A12
WAIT (B1)
D1-1N914
IC-A
ADDRESS JUMPERS (NORMALLY SET FOR ØXXX)
IC-L
IC-K
IC-J (4)
IC-N (6)
IC-M
IC-I (4)
IC-I
IC-J
D2 1N914
DD (B41)
R4 1K
Vcc
#24, 6
ØZ· VMA
R/W (B40)
IC-O
IC-O(2)
ADD
CUT
R2
R3
C1
C2
74123 IC-P
TO MEMBOES
R/W
R/W
-9v
-5v POWER:
R9
R12
Q1 (PNP)
R10
R11
C3
-5v
D0
D1
D2
D3
D4
D5
D6
D7
8T26 IC-D
8T26 IC-C
DI0
DO0
DI1
DO1
DI2
DO2
DI3
DO3
DI4
DO4
DI5
DO5
DI6
DO6
DI7
DO7
Ax
Ax
ADDRESS BUFFERS (FOR AØ-A11) IC-E,F,G,H

DIAGRAM 1

OS-CP/M ESCORT

A potential problem has been found in the OS-CP/M ESCORT diskette COPIER Program. When writing on an 8" floppy, the write bias is adjusted dependent upon the track being recorded. Tracks 43 and higher have a different write bias level with respect to tracks Ø through 42. The ESCORT copier did not set the bias level correctly for tracks 43 and up. The changes below will correct the problem.

Applicability: All OS-CP/M ESCORT diskettes which contain the "old" contents shown. This change also applies for OS-65D 8" diskettes with the proper "old" contents. This change should be made to any applicable OS-CP/M diskette. OS-65D will soon be available with this change and self adaptive stepping rate timing code.

To check the "old" contents for OS-CP/M:

1) Boot the escort diskette.
2) Type: A*CA ØØØØ=Ø1,2 <CR>
3) Type: A*RE M <CR>
4) Now enter PØ41D and hit the space bar after a few lines have been printed.
5) One should see the following on the screen:

```
PØ41D

A5FF38ED5F2685FF
XXXXXXXXXXXXXXXX

(X = don't care)
```

6) If what you see on the screen matches the above step, proceed to the instructions for inserting the change. NOTE: for OS-65D memory locations 27Ø9 through 27ØB must contain ADØ2CØ. To verify this type:

P27Ø9

One should see:

P27Ø9

ADØ2CØXXXXXXXXXX

If the "old contents matches, insert the changes. If they do not match DO NOT insert this change.

To insert the change:

1) reboot the system
2) ENTER A*CA 42ØØ=Ø1,2 <CR>
3) ENTER: A*RE M <CR>
4) Now Type:

   L441D A9Ø6 EA 85FF 2ØØ927R

   LØ12E 2A51R

   G

   An "A*" should appear on the screen
5) Now ENTER:

   A*SA Ø1,2=42ØØ/5 <CR>
6) The change has now been inserted. One should now recopy the ESCORT, FORTRAN and COBOL diskettes.

OS-65D RANDOM ACCESS FILES

The OS-65D manual provides the address of the byte that controls random access record length. However, there are actually two memory locations that must be changed to modify the record length.

The individual record size of a random access file is one "sector". On a single track of 3072 bytes (8" floppy), the default number of records (sectors) per track is 24, with 128 bytes/record(sector).

The adjustment of record (sector) size involves changing the number of records (sector)/track and a calculation of the number of characters to skip to get to a given record. The calculation is performed by an arithmetic shift, default being $7;2^7 = 128$.

Without altering instructions, the record (sector) sizes available on 8" diskettes are:

Records (Sectors)/Track	Bytes/Record (Sector)	POKE 12042	POKE 12076
192	16 (2^4)	192	4
96	32	96	5
48	64	48	6
24	128	24	7
12	256	12	8
6	512	6	9
3	1024 (2^{10})	3	10

The record sizes available on 5" diskettes are:

Records (Sectors)/Track	Bytes/Record (Sector)	POKE 12042	POKE 12076
128	16 (2^4)	128	4
64	32	64	5
32	64	32	6
16	128	16	7
8	256	8	8
4	512	4	9
2	1024 (2^{10})	2	10

After opening the disk file, execute the appropriate POKEs. For example, to get the maximum record size on an 8" disc:

```
DISK OPEN 6, "TEST
POKE 12042,3
POKE 12076,10
```

System utilities, such as RANLST, will still be reading 24 Records (Sectors)/track unless appropriately modified.

OS-65U DMS BUSINESS SOFTWARE UPDATE

The standard DMS software is configured for a parallel Centronics compatible printer. The operating system handles the printer paging. If a serial printer is to be used the following changes must be made to the operating system.

These changes may be implemented in one of two ways. The first method is to modify the program BEXEC* to include the pokes listed below.

```
POKE 15880,5      POKE 15881,251     POKE 15582,10
POKE 15583,176    POKE 15903,4       POKE 15904,251
```

This modifies BASIC such that a PRINT#5 command is sent to the serial port and the software paging is enabled.

The second method is to use the OS-65U utility CHANGE to make the following changes to the system portion of the floppy disk.

```
RUN"CHANGE","PASS

DISK CHANGE UTILITY

MODE: HEX(H), DEC(D) ? H
UNIT ? A
ADDRESS OFFSET ? C00
ADDRESS ? 3E08
0000:3E08   00 ? 05
0000:3E09   F4 ? FB
0000:3E0A J 4A ? 0A
0000:3E0B   90 ? B0
0000:3E0C   0C ? .
ADDRESS  ?3E1F
0000:3E1F   02 ? 04
0000:3E20   F4 ? FB
0000:3E21 L 4C ? X

OK
CLOSE

OK
```

The user must re-boot the system to implement these changes.

WARNING: This patch will disable the paralell printer device and it will not be usable. If a PRINT#3 is used the output will go to the serial printer but the software paging will not work. A PRINT#5 will route the output to the serial port and the software paging will be enabled.

ATTENTION DEALERS

Notice to all Direct Dealers:

As of 12/14/79, technical support has moved to the new Dealer Support Center. The technical support department may be reached at (216) 831-5600. In addition to Rick Whitesel, John Yellenic will be providing technical support.