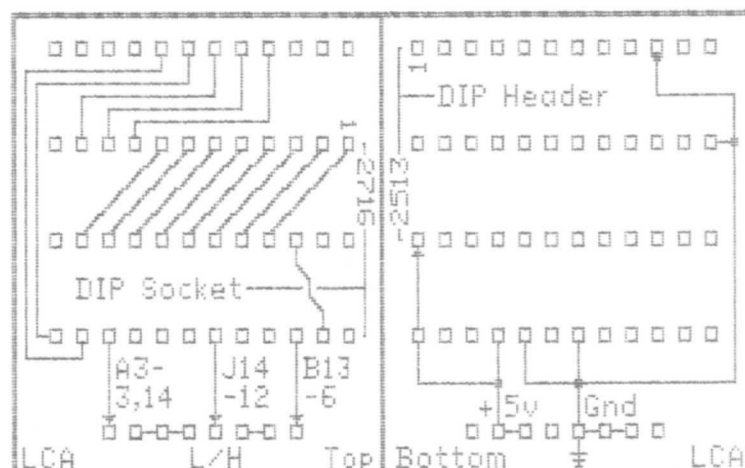
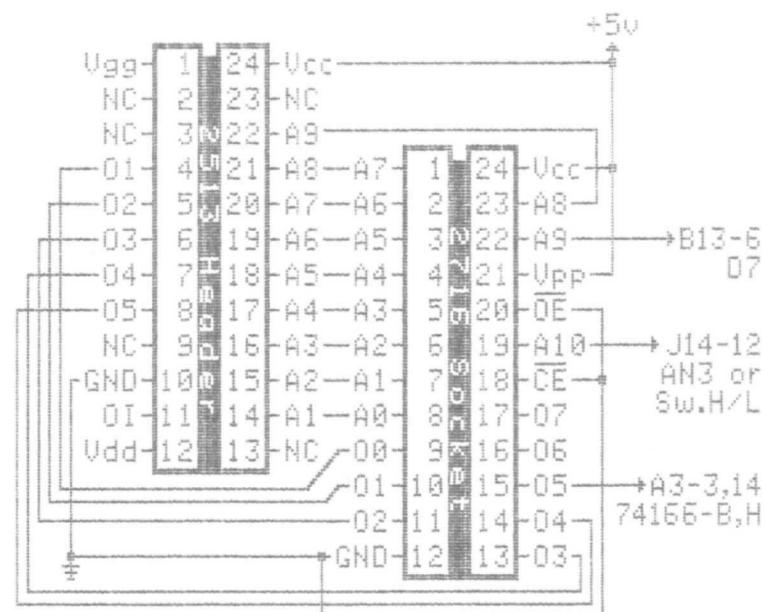
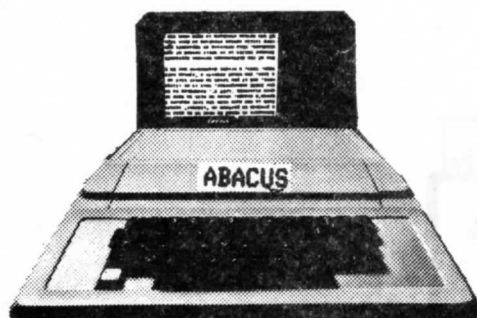


L.C.A.



A.B.A.C.U.S.-Macdougall Lower-Case Adapter
Printed Circuit Board by James P. Davis from
article in The ABACUS II, April 1980, Vol. 2, #4.
(The 2716 DIP Socket attaches to the top &
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APPLE BAY AREA COMPUTER USERS SOCIETY

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A final refinement to the system is to make the selection of mode software selectable. So rather than put a switch on the circuit board, the mode select address pin is connected to the game socket at annunciator pin 3. The latch which provides this output always comes up with a low output on power-on. The addressing is arranged so that this gives the normal character set in Apple. The result is that to the unsuspecting user, the system configuration looks exactly as he has always seen it and he will never know that there is lower case present. The case can be set and reset as follows:

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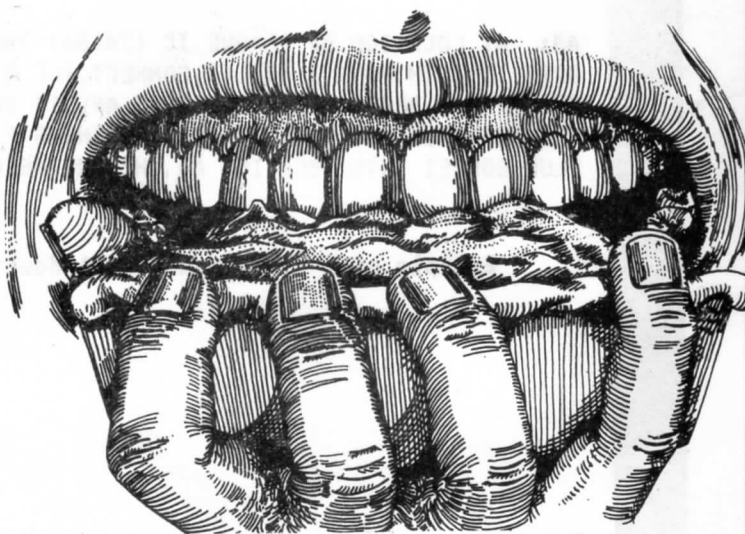
```
5 D$="": REM CONTROL-D
10 PRINT D$; "NOMON I,O,C": CALL -936
20 POKE 1010,191: POKE 1011,157: POKE 1012,56
30 POKE -16289,0
40 PRINT D$; "BRUNTEditor"
50 END
```

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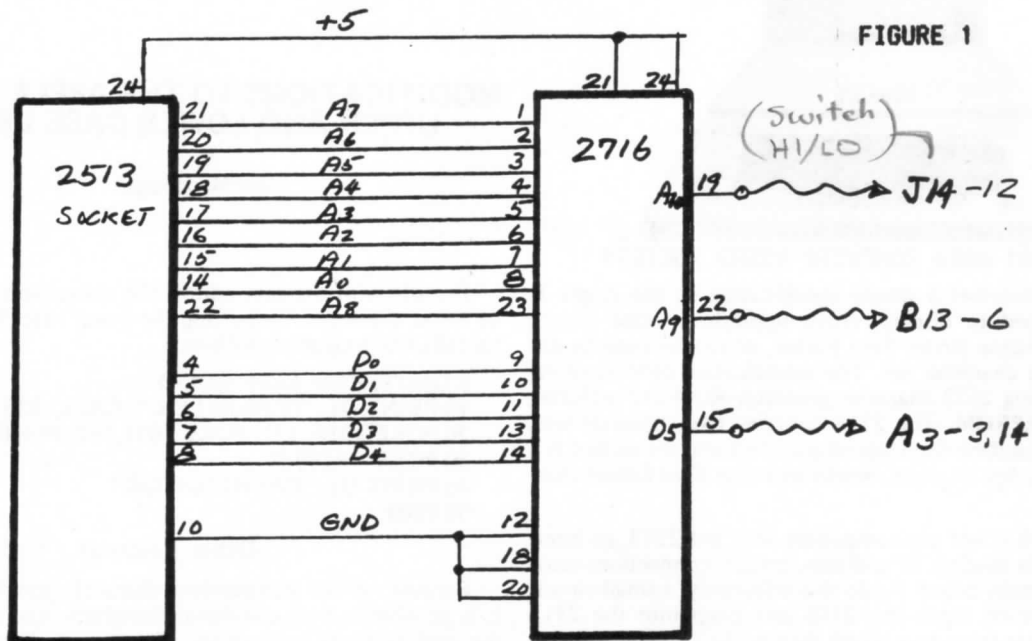
```
[ - esc-control-n
] - esc-shift-m
{ - control-n
} - shift-m
~ - shift-n
^ - esc-shift-n
```

Easy as Pie?



APPLE-PIE !

CIRCUIT FOR DISPLAYING UPPER/LOWER CASE
LETTERS USING THE APPLE TEXT EDITOR.



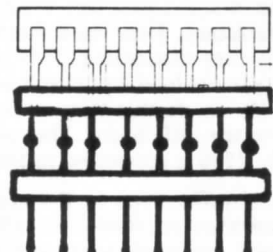
J14: USE A 16 PIN SOCKET, ATTACH PIN 12 TO THE 2716 at PIN 19. PLUG THIS SOCKET INTO GAME PADDLE SOCKET, GAME PADDLES MAY THEN BE PLUGGED INTO TOP OF THIS SOCKET

B13: AT LOCATION B13, REMOVE THE IC (74LS02) THEN TAKE A 14 PIN SOCKET AND ATTACH A WIRE TO PIN 6, CONNECT THE OTHER END OF THIS WIRE TO PIN #22 OF THE 2716. NOW INSERT THIS SOCKET INTO LOCATION B13, THEN REINSTALL IC (74LS02) INTO THIS SOCKET.

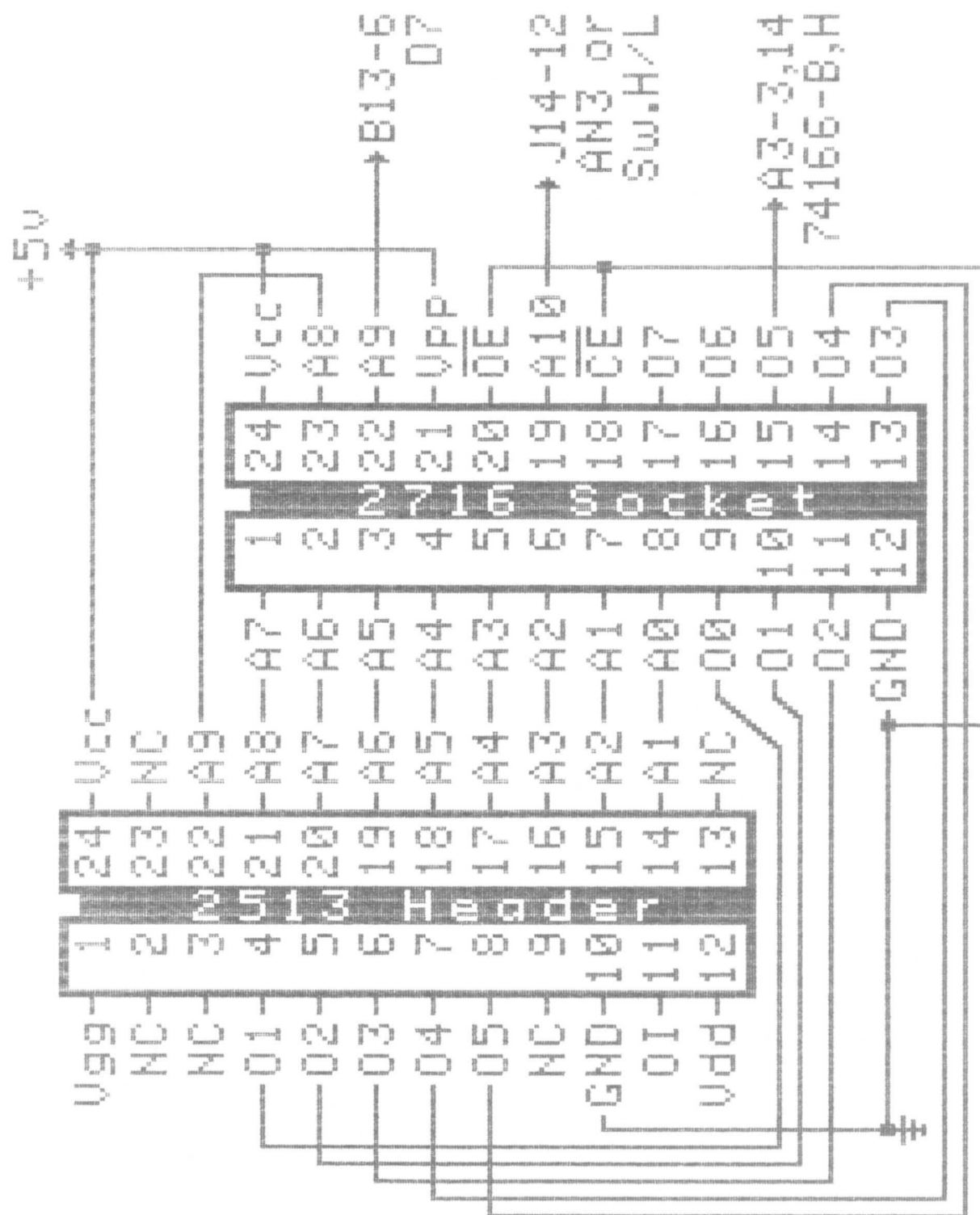
A3: AT LOCATION A3 REMOVE IC (74166) THEN TAKE A 16 PIN SOCKET AND CONNECT A WIRE TO BOTH PINS 3 AND 14, CONNECT THE OTHER END OF THIS WIRE TO PIN #15 OF THE 2716. BE SURE TO CUT PINS 3 AND 14 SHORT SO THEY DO NOT GO THRU AND INTO THE BOARD SOCKET, HOWEVER ALL REMAINING PINS MUST CONNECT TO BOARD SOCKET. NOW PLUG SOCKET INTO LOCATION A3 THEN REINSERT IC (74166) INTO THIS SOCKET.

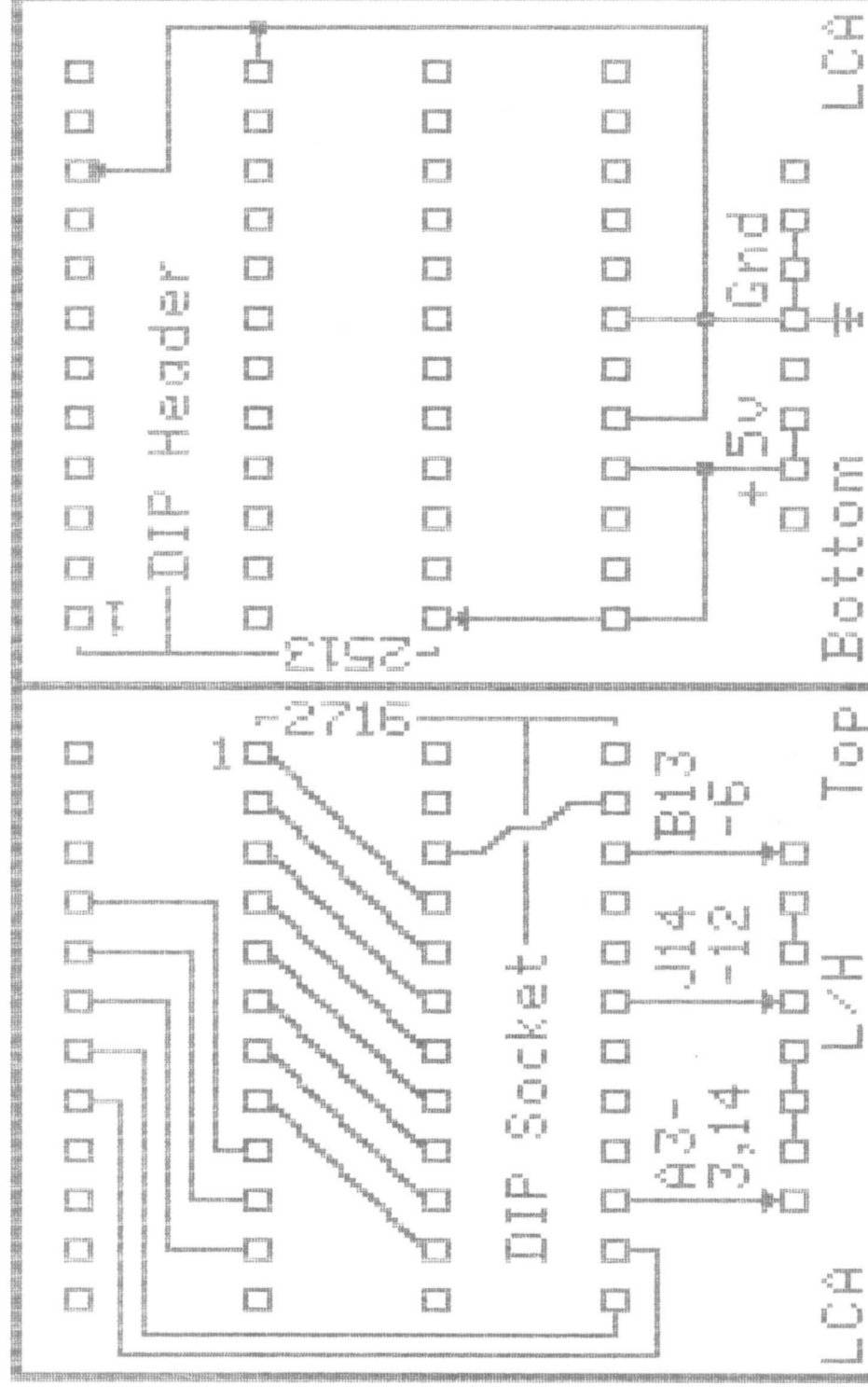
Example of a Piggyback Socket Mounting.

DEVICE----->
SOCKET----->
SOLDER----->
HEADER----->

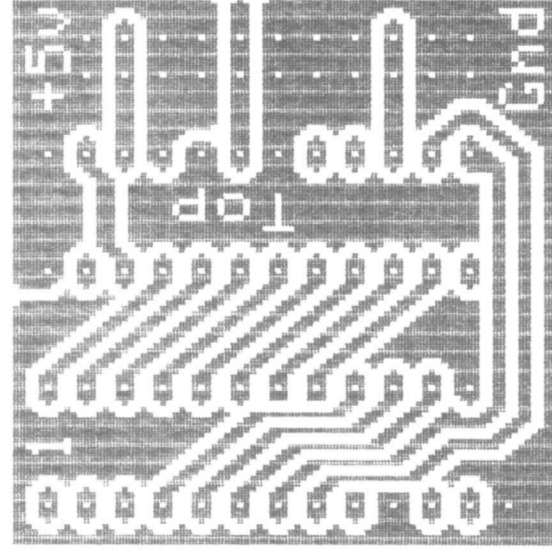


A listing of the hex code for the character ROM is presented on the following pages.





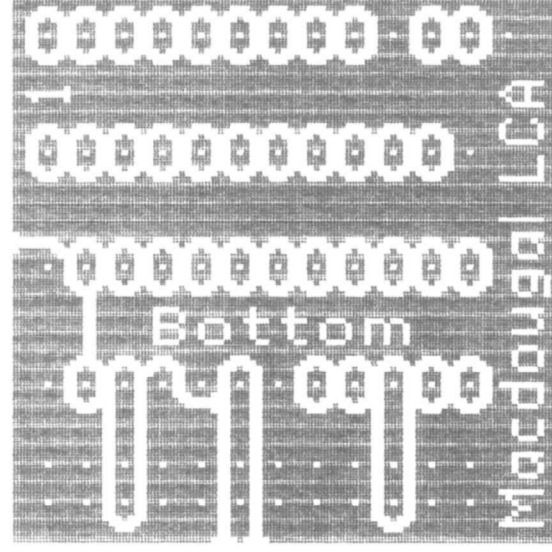
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B13-6

J14-12

A3-3,14



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A 2716 DIP IC (socket) attaches to the top of the PCB in the center.

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0E 11 15 17 16 10 0F 00
1F 10 10 1E 10 10 10 00
1F 10 10 1E 10 10 10 00
0F 11 10 10 10 10 10 00
0F 10 10 10 13 11 0F 00

11 11 1F 11 11 11 00
0E 04 04 04 04 04 0E 00
11 11 11 11 11 11 00
11 11 19 15 13 11 00
11 1B 15 15 11 11 00
10 10 10 10 10 10 00
11 12 14 18 14 12 00
01 01 01 01 11 0E 00
0E 04 04 04 04 04 0E 00
0E 11 11 11 15 12 0D 00
0E 11 11 11 11 11 0E 00

1E 11 11 1E 10 10 10 00
0E 11 11 11 15 12 0D 00
1E 11 11 11 11 11 11 00
11 11 11 11 15 15 1B 00
1F 04 04 04 04 04 04 00
0E 11 10 0E 01 11 0E 00
1E 11 11 1E 14 12 11 00
0E 11 11 11 10 0E 11 00
11 11 11 11 15 15 1B 00
11 11 11 11 11 11 00

11 11 0A 04 0A 11 00
11 11 0A 04 04 04 00
1F 01 02 04 08 10 1F 00
1F 18 18 18 18 1F 00
00 10 08 04 02 01 00 00
1F 03 03 03 03 1F 00
00 00 04 0A 11 00 00
00 00 00 00 00 00 3F
00 00 04 0A 11 00 00
00 00 00 00 00 00 00
00 00 00 00 00 00 00
00 00 00 00 00 00 00
00 00 00 00 00 00 00

我 们 是 中 国 人

EE EE E6 EA EC EE EF

11 12 13 14 15 16 17 18
 19 20 21 22 23 24 25 26
 27 28 29 30 31 32 33 34
 35 36 37 38 39 40 41 42
 43 44 45 46 47 48 49 50

[illegible]

EE ED EB E7 EB ED EE FF

Figure 1. The structure of the 12-item test. The test was divided into three sections: Section 1 (Items 1-4), Section 2 (Items 5-8), and Section 3 (Items 9-12). Each section contained four items, and the total score was calculated as the sum of the scores for all items.

Figure 1. Schematic representation of the experimental design. The subjects were divided into two groups: the control group (CG) and the experimental group (EG). The CG was divided into two subgroups: the control group (CG) and the control group (CG). The EG was divided into two subgroups: the experimental group (EG) and the experimental group (EG). The subjects were divided into two groups: the control group (CG) and the experimental group (EG). The CG was divided into two subgroups: the control group (CG) and the control group (CG). The EG was divided into two subgroups: the experimental group (EG) and the experimental group (EG).

Figure 1. The structure of the proposed model.

坤	復	臨	泰	大壯	夬	乾	姤
遯	否	觀	剝	坤	復	臨	泰
大壯	夬	乾	姤	遯	否	觀	剝
坤	復	臨	泰	大壯	夬	乾	姤
F1	E	E	E	EA	ED	F2	F

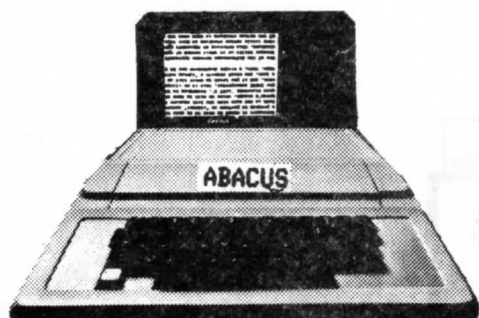
The figure consists of two parts. The top part shows a 2D hexagonal lattice of circles. Arrows indicate nearest-neighbor interactions: horizontal bonds are labeled t , vertical bonds are labeled t_v , and diagonal bonds are labeled t_d . The bottom part shows a 3D lattice of circles. Arrows indicate nearest-neighbor interactions: horizontal bonds in the xy -plane are labeled t , vertical bonds are labeled t_v , and diagonal bonds are labeled t_d . The 3D lattice is shown as a stack of 2D lattices.

[illegible]

03 E7 E7 E7 E7 E7 E7 E0 F0

Figure 1. The structure of the proposed fuzzy expert system for the diagnosis of the type of the fault in the power transformer.

[illegible][illegible][illegible][illegible]



APPLE BAY AREA COMPUTER USERS SOCIETY

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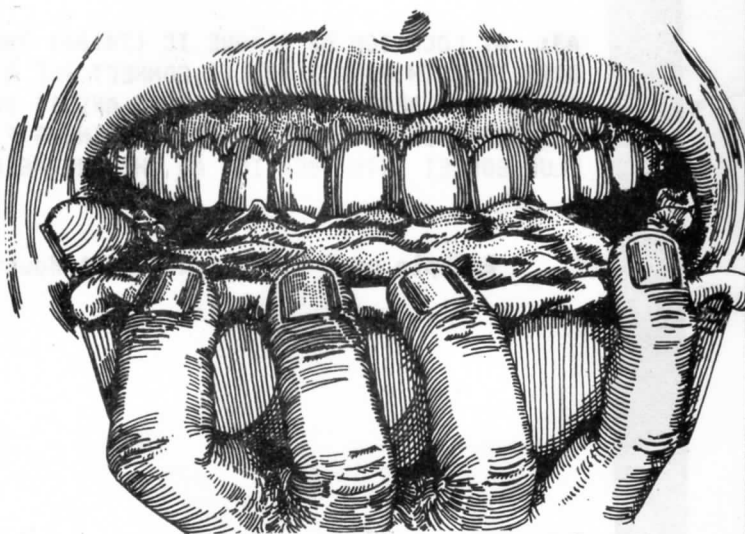
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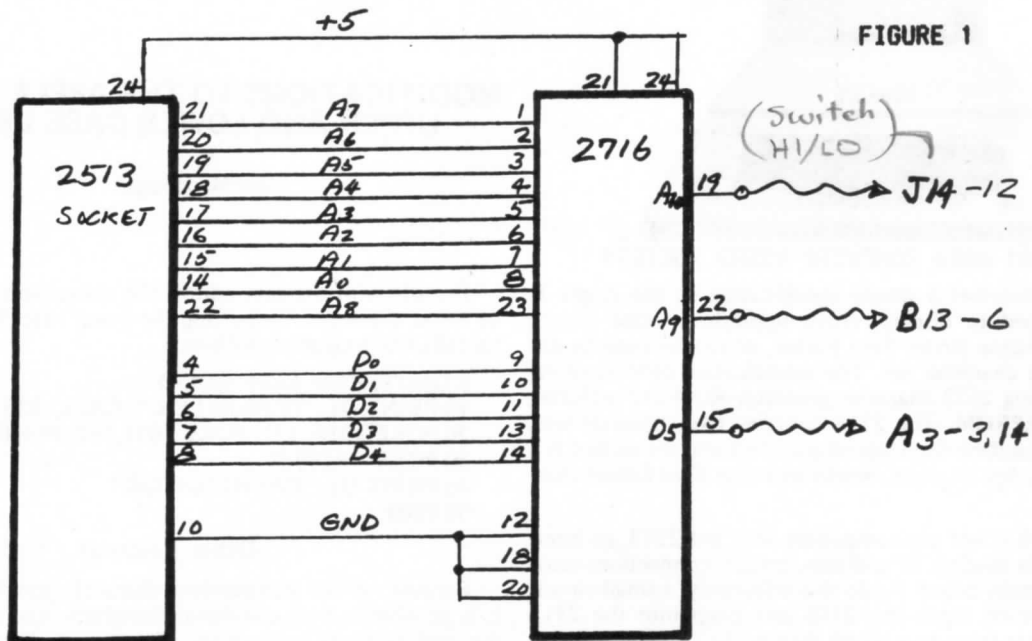
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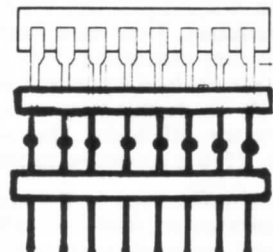
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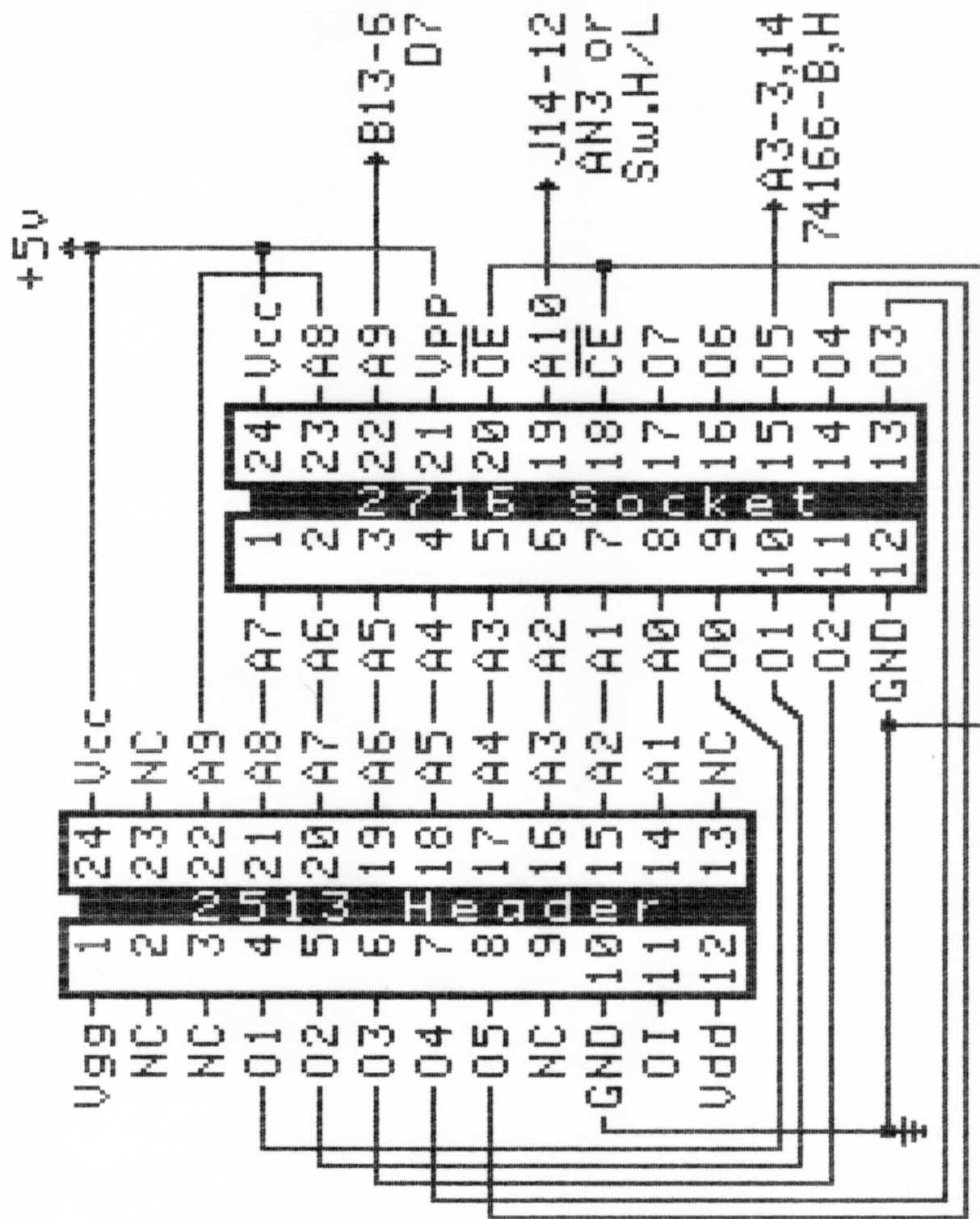
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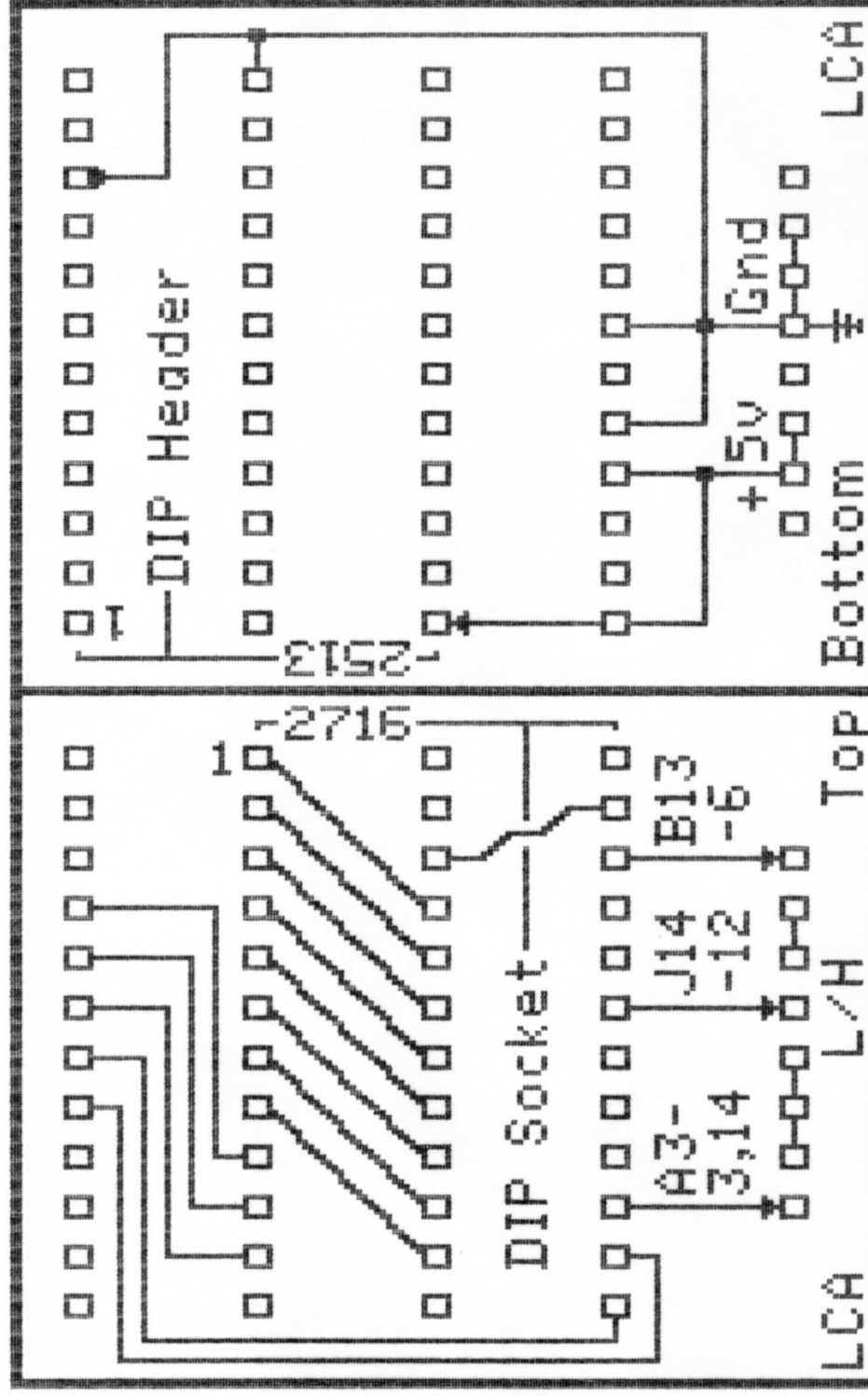
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SOCKET----->
SOLDER----->
HEADER----->

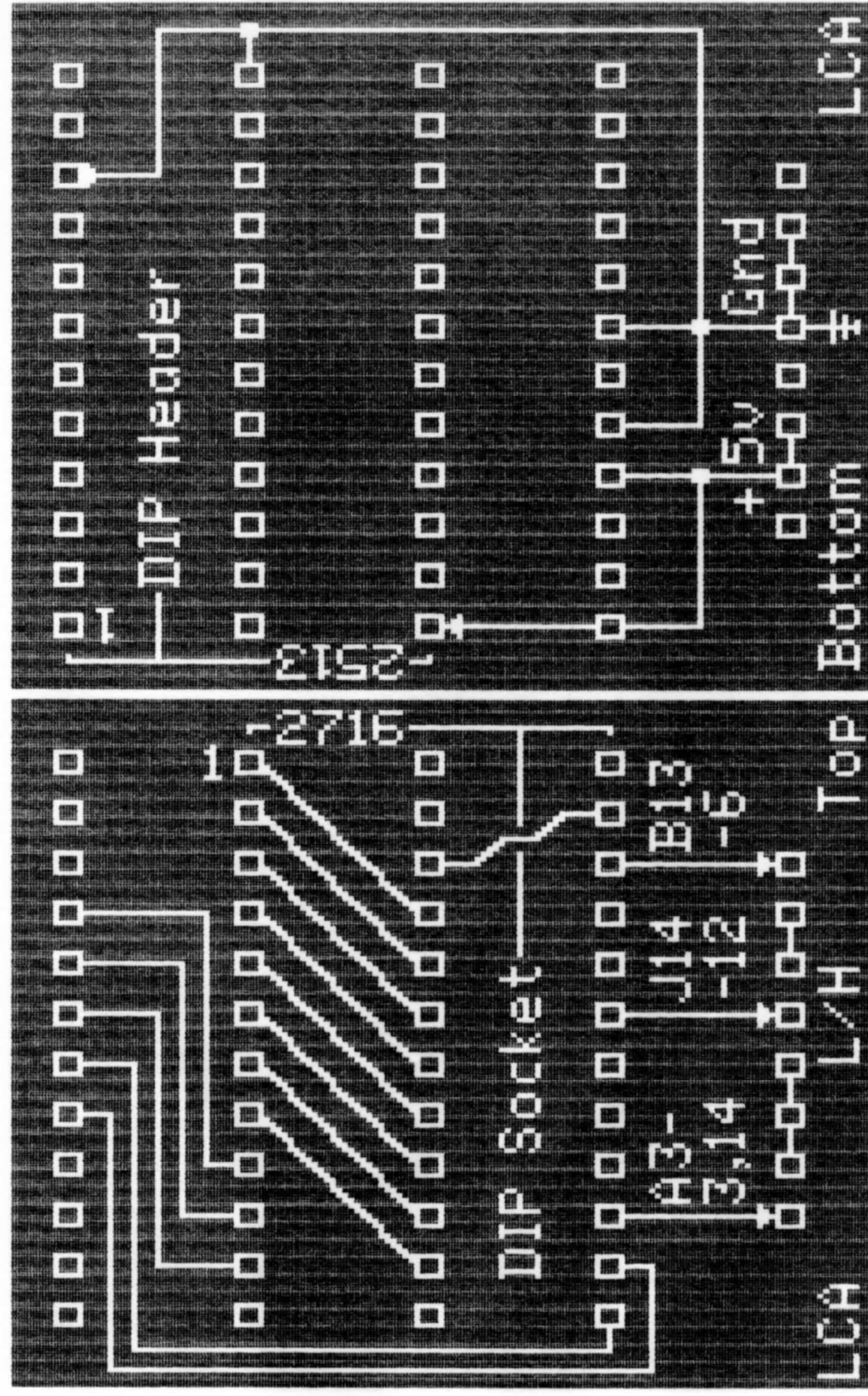


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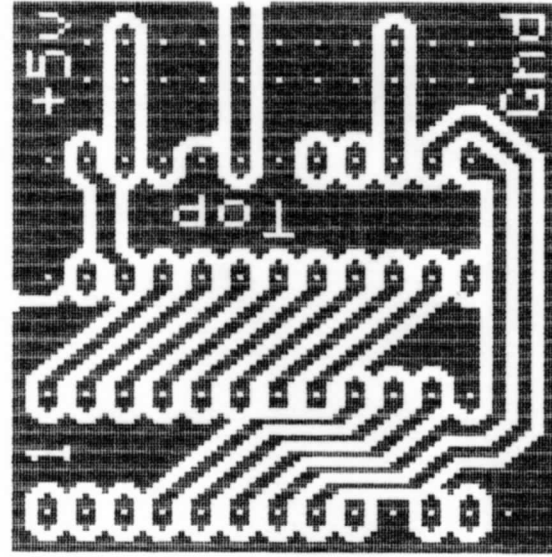




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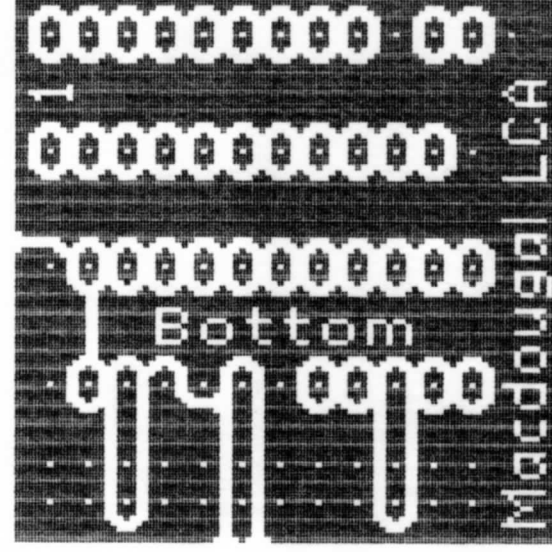
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B13-6

J14-12

A3-3,14



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For the lower case adapter in this article to work both like a "Dan Paymar" and "The Apple Writer" lower case adapter, the code from \$300 to \$3FF should duplicate the code from \$600 to \$6FF in the following listings, with the exception that the "\$7F" codes from \$6F0 to \$6FF (and its duplicate at \$3F8 - \$3FF) be changed to represent the "delete" character as a block instead of a blank space.

```

000- 0E 11 15 17 16 10 0F 00
008- 04 0A 11 11 1F 11 11 00
010- 1E 11 11 1E 11 11 1E 00
018- 0E 11 10 10 10 11 0E 00
020- 1E 11 11 11 11 11 1E 00
028- 1F 10 10 1E 10 10 1F 00
030- 1F 10 10 1E 10 10 10 00
038- 0F 10 10 10 13 11 0F 00
040- 11 11 11 1F 11 11 11 00
048- 0E 04 04 04 04 04 0E 00
050- 01 01 01 01 01 11 0E 00
058- 11 12 14 18 14 12 11 00
060- 10 10 10 10 10 10 1F 00
068- 11 1B 15 15 11 11 11 00
070- 11 11 19 15 13 11 11 00
078- 0E 11 11 11 11 11 0E 00
080- 1E 11 11 1E 10 10 10 00
088- 0E 11 11 11 15 12 0D 00
090- 1E 11 11 1E 14 12 11 00
098- 0E 11 10 0E 01 11 0E 00
0A0- 1F 04 04 04 04 04 04 00
0A8- 11 11 11 11 11 11 0E 00
0B0- 11 11 11 11 11 0A 04 00
0B8- 11 11 11 15 15 1B 11 00
0C0- 11 11 0A 04 0A 11 11 00
0C8- 11 11 0A 04 04 04 04 00
0D0- 1F 01 02 04 08 10 1F 00
0D8- 1F 18 18 18 18 18 1F 00
0E0- 00 10 08 04 02 01 00 00
0E8- 1F 03 03 03 03 03 1F 00
0F0- 00 00 04 0A 11 00 00 00
0F8- 00 00 00 00 00 00 00 3F
100- 00 00 00 00 00 00 00 00
108- 04 04 04 04 04 00 04 00
110- 0A 0A 0A 00 00 00 00 00
118- 0A 0A 1F 0A 1F 0A 0A 00
120- 04 0F 14 0E 05 1E 04 00
128- 18 19 02 04 08 13 03 00
130- 08 14 14 08 15 12 0D 00
138- 04 04 04 00 00 00 00 00
140- 04 08 10 10 10 08 04 00
148- 04 02 01 01 01 02 04 00
150- 04 15 0E 04 0E 15 04 00
158- 00 04 04 1F 04 04 00 00
160- 00 00 00 00 04 04 08 00
168- 00 00 00 1F 00 00 00 00
170- 00 00 00 00 00 00 04 00
178- 00 01 02 04 08 10 00 00
180- 0E 11 13 15 19 11 0E 00
188- 04 0C 04 04 04 04 0E 00
190- 0E 11 01 06 08 10 1F 00
198- 1F 01 02 06 01 11 0E 00
1A0- 02 06 0A 12 1F 02 02 00
1A8- 1F 10 1E 01 01 11 0E 00
1B0- 07 08 10 1E 11 11 0E 00
1B8- 1F 01 02 04 08 08 08 00
1C0- 0E 11 11 0E 11 11 0E 00
1C8- 0E 11 11 0F 01 02 1C 00
1D0- 00 00 04 00 04 00 00 00
1D8- 00 00 04 00 04 04 08 00
1E0- 02 04 08 10 08 04 02 00

```

```

1E8- 00 00 1F 00 1F 00 00 00
1F0- 08 04 02 01 02 04 08 00
1F8- 0E 11 02 04 04 00 04 00
200- 0E 11 15 17 16 10 0F 00
208- 04 0A 11 11 1F 11 11 00
210- 1E 11 11 1E 11 11 1E 00
218- 0E 11 10 10 10 11 0E 00
220- 1E 11 11 11 11 11 1E 00
228- 1F 10 10 1E 10 10 1F 00
230- 1F 10 10 1E 10 10 10 00
238- 0F 10 10 10 13 11 0F 00
240- 11 11 11 1F 11 11 11 00
248- 0E 04 04 04 04 04 0E 00
250- 01 01 01 01 01 11 0E 00
258- 11 12 14 18 14 12 11 00
260- 10 10 10 10 10 10 1F 00
268- 11 1B 15 15 11 11 11 00
270- 11 11 19 15 13 11 11 00
278- 0E 11 11 11 11 11 0E 00
280- 1E 11 11 1E 10 10 10 00
288- 0E 11 11 11 15 12 0D 00
290- 1E 11 11 1E 14 12 11 00
298- 0E 11 10 0E 01 11 0E 00
2A0- 1F 04 04 04 04 04 04 00
2A8- 11 11 11 11 11 11 0E 00
2B0- 11 11 11 11 11 0A 04 00
2B8- 11 11 11 15 15 1B 11 00
2C0- 11 11 0A 04 0A 11 11 00
2C8- 11 11 0A 04 04 04 04 00
2D0- 1F 01 02 04 08 10 1F 00
2D8- 1F 18 18 18 18 18 1F 00
2E0- 00 10 08 04 02 01 00 00
2E8- 1F 03 03 03 03 03 1F 00
2F0- 00 00 04 0A 11 00 00 00
2F8- 00 00 00 00 00 00 00 3F
300- 00 00 00 00 00 00 00 00
308- 04 04 04 04 04 00 04 00
310- 0A 0A 0A 00 00 00 00 00
318- 0A 0A 1F 0A 1F 0A 0A 00
320- 04 0F 14 0E 05 1E 04 00
328- 18 19 02 04 08 13 03 00
330- 08 14 14 08 15 12 0D 00
338- 04 04 04 00 00 00 00 00
340- 04 08 10 10 10 08 04 00
348- 04 02 01 01 01 02 04 00
350- 04 15 0E 04 0E 15 04 00
358- 00 04 04 1F 04 04 00 00
360- 00 00 00 00 04 04 08 00
368- 00 00 00 1F 00 00 00 00
370- 00 00 00 00 00 00 04 00
378- 00 01 02 04 08 10 00 00
380- 0E 11 13 15 19 11 0E 00
388- 04 0C 04 04 04 04 0E 00
390- 0E 11 01 06 08 10 1F 00
398- 1F 01 02 06 01 11 0E 00
3A0- 02 06 0A 12 1F 02 02 00
3A8- 1F 10 1E 01 01 11 0E 00
3B0- 07 08 10 1E 11 11 0E 00
3B8- 1F 01 02 04 08 08 08 00
3C0- 0E 11 11 0E 11 11 0E 00
3C8- 0E 11 11 0F 01 02 1C 00

```

```

3D0- 00 00 04 00 04 00 00 00
3D8- 00 00 04 00 04 04 08 00
3E0- 02 04 08 10 08 04 02 00
3E8- 00 00 1F 00 1F 00 00 00
3F0- 08 04 02 01 02 04 08 00
3F8- 0E 11 02 04 04 00 04 00
400- F1 EE EA E8 E9 EF F0 FF
408- FB F5 EE EE E0 EE EE FF
410- E1 EE EE E1 EE EE E1 FF
418- F1 EE EF EF EF EE F1 FF
420- E1 EE EE EE EE EE E1 FF
428- E0 EF EF E1 EF EF E0 FF
430- E0 EF EF E1 EF EF EF FF
438- F0 EF EF EF EC EE F0 FF
440- EE EE EE E0 EE EE EE FF
448- F1 FB FB FB FB FB F1 FF
450- FE FE FE FE FE EE F1 FF
458- EE ED EB E7 EB ED EE FF
460- EF EF EF EF EF EF E0 FF
468- EE E4 EA EA EE EE EE FF
470- EE EE E6 EA EC EE EE FF
478- F1 EE EE EE EE EE F1 FF
480- E1 EE EE E1 EF EF EF FF
488- F1 EE EE EE EA ED F2 FF
490- E1 EE EE E1 EB ED EE FF
498- F1 EE EF F1 FE EE F1 FF
4A0- E0 FB FB FB FB FB FB FF
4A8- EE EE EE EE EE EE F1 FF
4B0- EE EE EE EE EE F5 FB FF
4B8- EE EE EE EA EA E4 EE FF
4C0- EE EE F5 FB F5 EE EE FF
4C8- EE EE F5 FB FB FB FB FF
4D0- E0 FE FD FB F7 EF E0 FF
4D8- E0 E7 E7 E7 E7 E7 E0 FF
4E0- FF EF F7 FB FD FE FF FF
4E8- E0 FC FC FC FC FC E0 FF
4F0- FF FF FB F5 EE FF FF FF
4F8- FF FF FF FF FF FF FF C0
500- FF FF FF FF FF FF FF FF
508- FB FB FB FB FB FF FB FF
510- F5 F5 F5 FF FF FF FF FF
518- F5 F5 E0 F5 E0 F5 F5 FF
520- FB F0 EB F1 FA E1 FB FF
528- E7 E6 FD FB F7 EC FC FF
530- F7 EB EB F7 EA ED F2 FF
538- FB FB FB FF FF FF FF FF
540- FB F7 EF EF EF F7 FB FF
548- FB FD FE FE FE FD FB FF
550- FB EA F1 FB F1 EA FB FF
558- FF FB FB E0 FB FB FF FF
560- FF FF FF FF FB FB F7 FF
568- FF FF FF E0 FF FF FF FF
570- FF FF FF FF FF FF FB FF
578- FF FE FD FB F7 EF FF FF
580- F1 EE EC EA E6 EE F1 FF
588- FB F3 FB FB FB FB F1 FF
590- F1 EE FE F9 F7 EF E0 FF
598- E0 FE FD F9 FE EE F1 FF
5A0- FD F9 F5 ED E0 FD FD FF
5A8- E0 EF E1 FE FE EE F1 FF
5B0- FB F7 EF E1 EE EE F1 FF

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5B8- E0 FE FD FB F7 F7 F7 FF
5C0- F1 EE EE F1 EE EE F1 FF
5C8- F1 EE EE F0 FE FD E3 FF
5D0- FF FF FB FF FB FF FF FF
5D8- FF FF FB FF FB FB F7 FF
5E0- FD FB F7 EF F7 FB FD FF
5E8- FF FF E0 FF E0 FF FF FF
5F0- F7 FB FD FE FD FB F7 FF
5F8- F1 EE FD FB FB FF FB FF
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610- 10 10 1E 11 11 11 1E 00
618- 00 00 0F 10 10 10 0F 00
620- 01 01 0F 11 11 11 0F 00
628- 00 00 0E 11 1F 10 0F 00
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638- 00 00 0E 11 11 0F 01 0E
640- 10 10 1E 11 11 11 11 00
648- 04 00 0C 04 04 04 0E 00
650- 02 00 06 02 02 02 12 0C
658- 10 10 11 12 1C 12 11 00
660- 0C 04 04 04 04 04 0E 00
668- 00 00 1B 15 15 15 11 00
670- 00 00 1E 11 11 11 11 00
678- 00 00 0E 11 11 11 0E 00
680- 00 00 1E 11 11 1E 10 10
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690- 00 00 17 18 10 10 10 00
698- 00 00 0F 10 0E 01 1E 00

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6A0- 08 08 1E 08 08 09 06 00
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6C8- 00 00 11 11 11 0F 01 0E
6D0- 00 00 1F 02 04 08 1F 00
6D8- 07 0C 0C 18 0C 0C 07 00
6E0- 04 04 04 04 04 04 04 04
6E8- 1C 06 06 03 06 06 1C 00
6F0- 0D 16 00 00 00 00 00 00
6F8- 7F 7F 7F 7F 7F 7F 7F 7F
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710- 0A 0A 0A 00 00 00 00 00
718- 0A 0A 1F 0A 1F 0A 0A 00
720- 04 0F 14 0E 05 1E 04 00
728- 18 19 02 04 08 13 03 00
730- 08 14 14 08 15 12 0D 00
738- 04 04 04 00 00 00 00 00
740- 04 08 10 10 10 08 04 00
748- 04 02 01 01 01 02 04 00
750- 04 15 0E 04 0E 15 04 00
758- 00 04 04 1F 04 04 00 00
760- 00 00 00 00 04 04 08 00
768- 00 00 00 1F 00 00 00 00
770- 00 00 00 00 00 00 04 00
778- 00 01 02 04 08 10 00 00
780- 0E 11 13 15 19 11 0E 00

```

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788- 04 0C 04 04 04 04 0E 00
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7A8- 1F 10 1E 01 01 11 0E 00
7B0- 07 08 10 1E 11 11 0E 00
7B8- 1F 01 02 04 08 08 08 00
7C0- 0E 11 11 0E 11 11 0E 00
7C8- 0E 11 11 0F 01 02 1C 00
7D0- 00 00 04 00 04 00 00 00
7D8- 00 00 04 00 04 04 08 0C
7E0- 02 04 08 10 08 04 02 00
7E8- 00 00 1F 00 1F 00 00 00
7F0- 08 04 02 01 02 04 08 00
7F8- 0E 11 02 04 04 00 04 00

```

After construction is complete, carefully check all connections. Then install the board, making doubly sure the proper locations are selected.

Be sure to add the previously mentioned POKES to the Apple-writer program. Then resave for future use.

You now have a very sophisticated text editor for your Apple. You will now enjoy typing letters, since what you see on your screen is what you get on the printer.

good luck ...

Stanton has two Apple computers

for use in its Title III program. Some fourth, fifth and sixth-grade students at Stanton recently started a computer programming class on Friday afternoons.

"Computers make learning more fun and more stimulating — more

like a game," said Conner. "The children really respond to the instant feedback. Spelling becomes much more exciting when you're learning how to spell by playing 'Hangman' with the computer."

The Lawrence Hall of Science in Berkeley and the Marin Computer Center in San Rafael provide access to large and sophisticated computer facilities. About 85 percent of those who use the computers are teenagers.

Members of Clifton's staff will be trained to operate the computer. It is hoped that parents will volunteer their time to be trained and to help run the computer center.

CRAE

A new Co-Resident Applesoft Editor for applesoft programmers. Now perform global changes/finds to anything in your applesoft programs. Quote ranges of lines from one part of your program to another. A fully optimized stop-list command that lists your program to the screen with no spaces added and forty columns wide. Append other applesoft programs from disk. Get a formatted memory dump to help debugging. Renumber applesoft programs 5 times faster than most available renumber routines. Automatic line numbering. All utilities invoked with one key commands.

C.R.A.E. changes your applesoft program right in memory and only needs to be loaded once.

Hardware requirements for all utilities are 48K Apple II or Apple II Plus, applesoft ROM and Disk.

C.R.A.E. 1.....Includes global find/change, quote, dump and List renumber, autoline, and append. Disk - \$14.95

HIGHLANDS COMPUTER SERVICES

14422 S.E. 132nd
Renton, Wash 98055

WA. residents add 5.3% sales tax
Applesoft and Apple are trademarks
of Apple Computers Inc.

[illegible][illegible][illegible][illegible]

[illegible]

[illegible][illegible][illegible][illegible]

[illegible]

\$400-\$4FF

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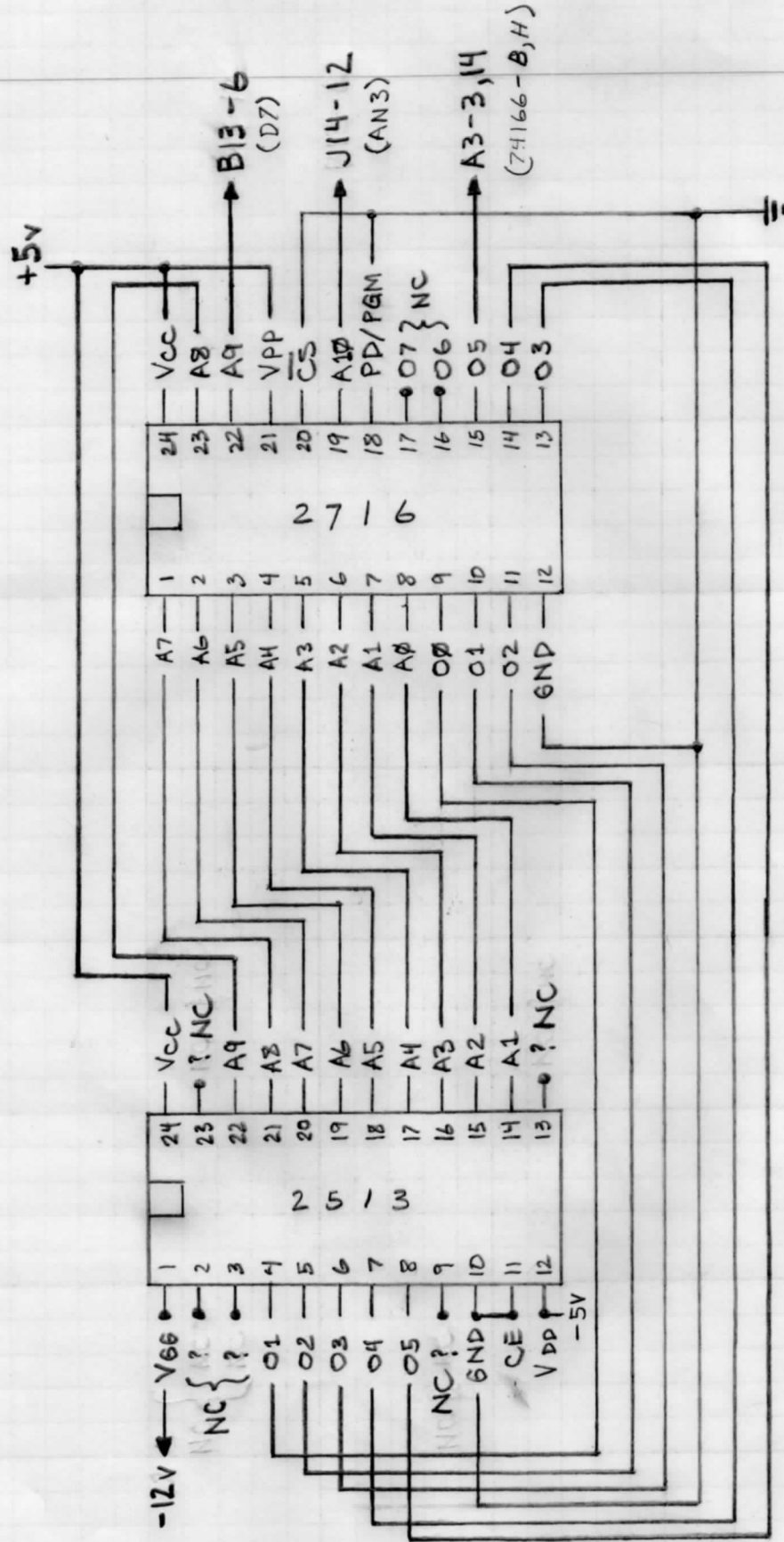
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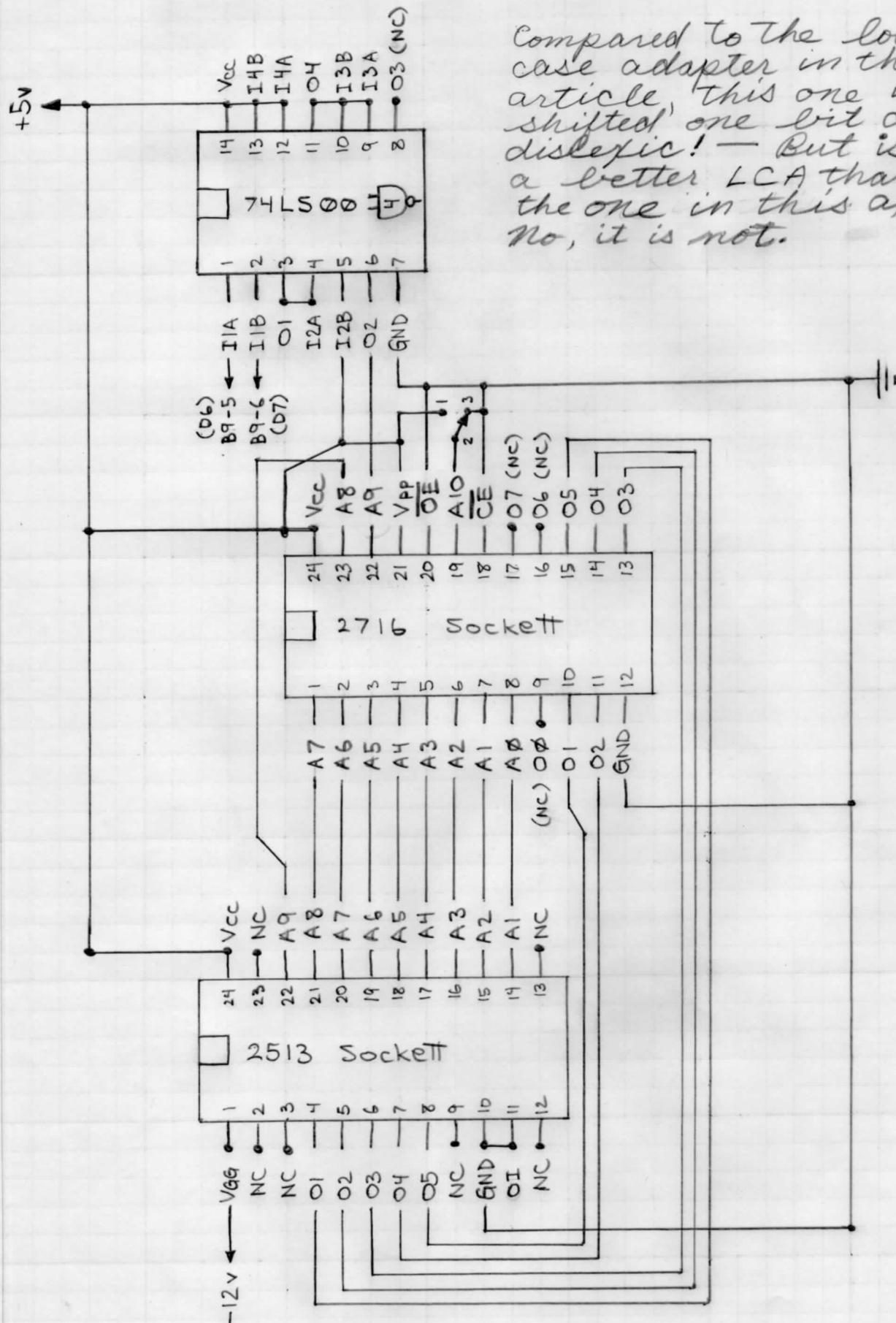
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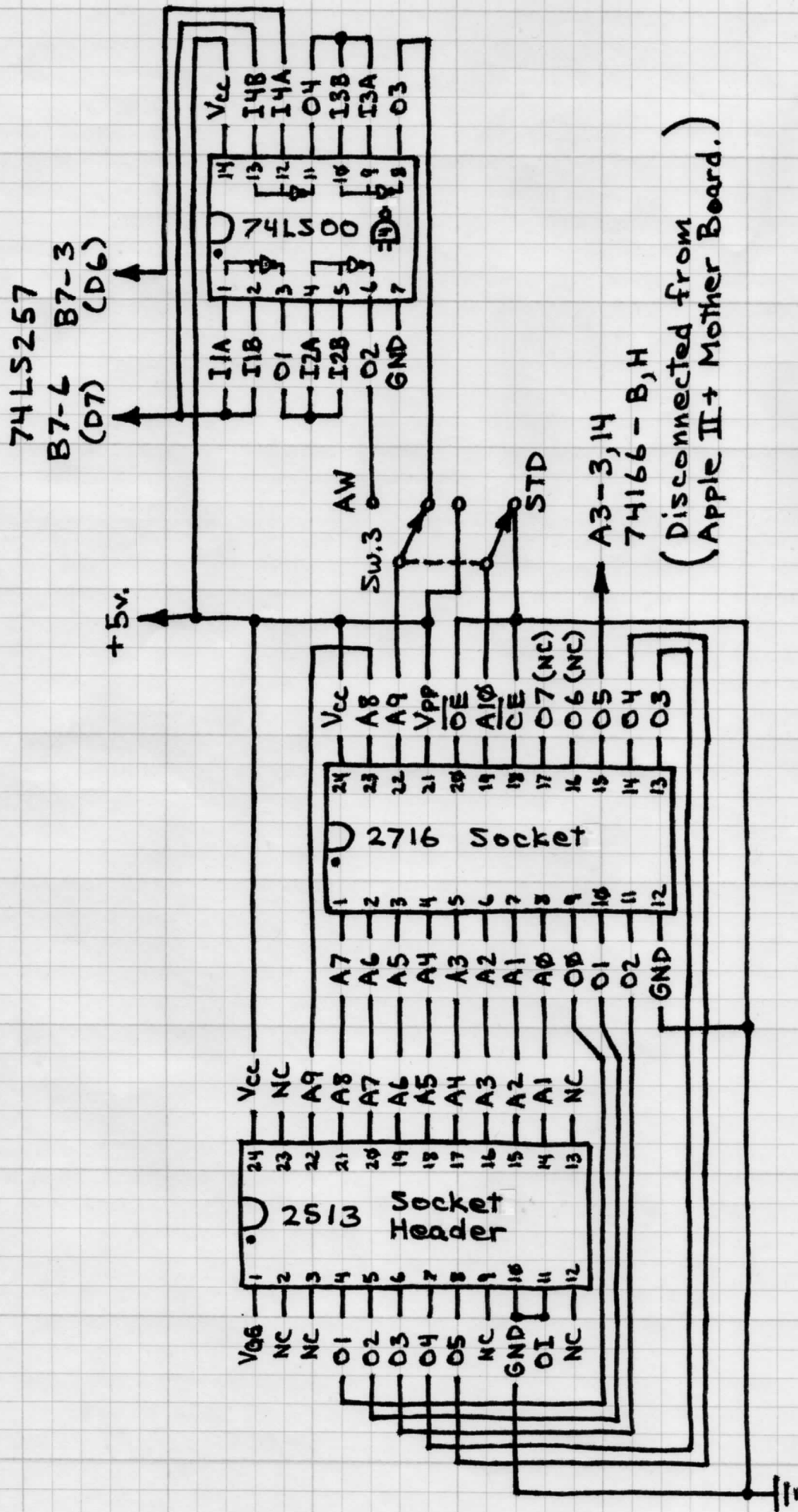


DAN PAYMAR LCA-1b



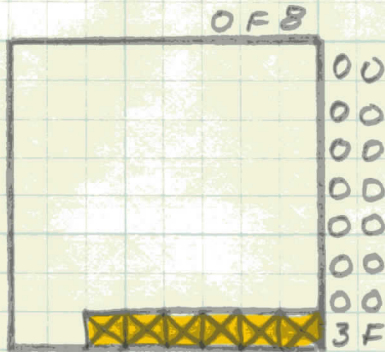
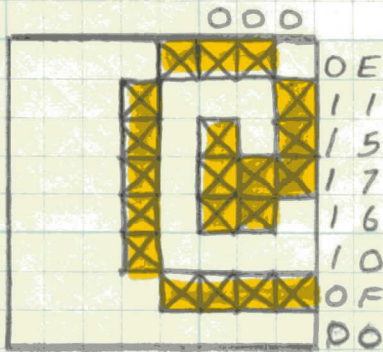
Compared to the lower-case adapter in this article, this one is shifted one bit and dislexic! — But is it a better LCA than the one in this article? No, it is not.

JIM DAVIS UPPER AND LOWER CASE ADAPTER



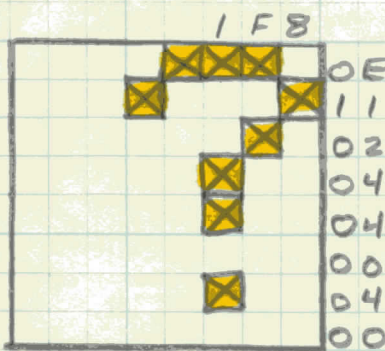
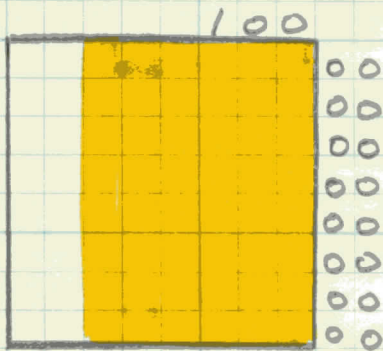
Normal Mode

Video Values ↓



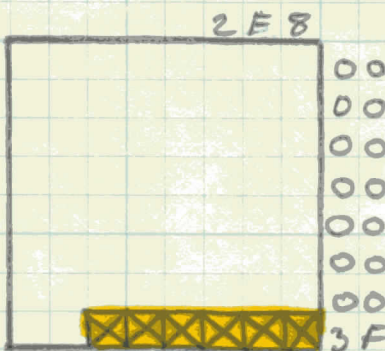
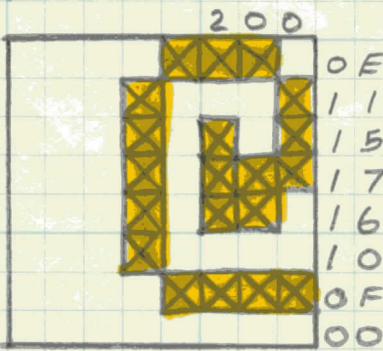
Inverse or
Flashing
Upper Case
Letters

< 0-1F>
< 40-5F>



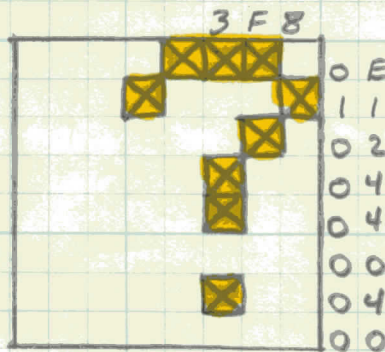
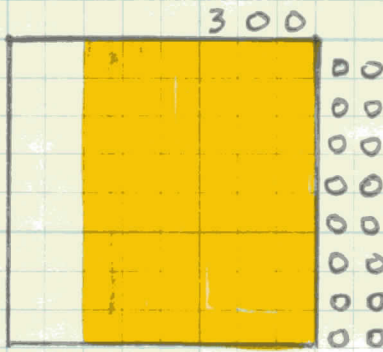
Inverse or
Flashing
Special
Symbols

< 20-3F>
< 60-7F>



Normal
Upper Case
Letters

< 80-9F>
< C0-DF>

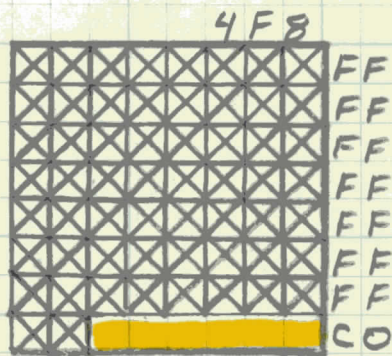
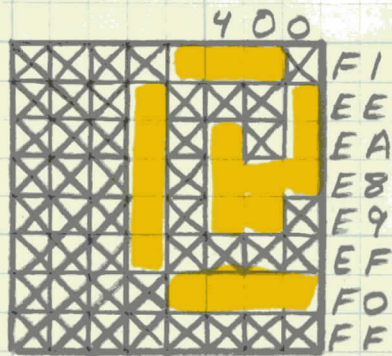


Normal
Special
Symbols

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< ED-FF>

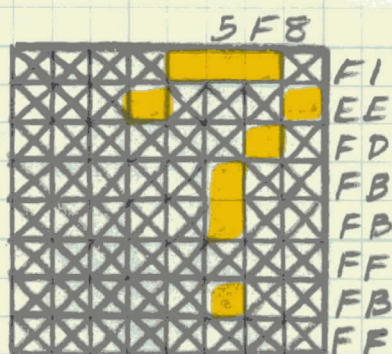
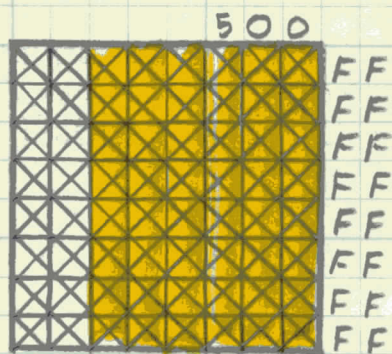
Lower Case Mode

Video Values ↓



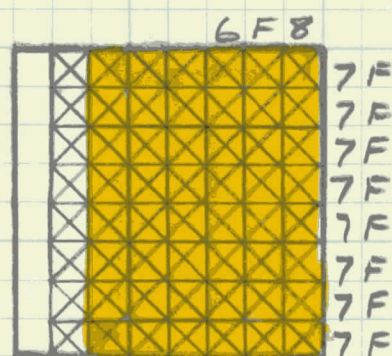
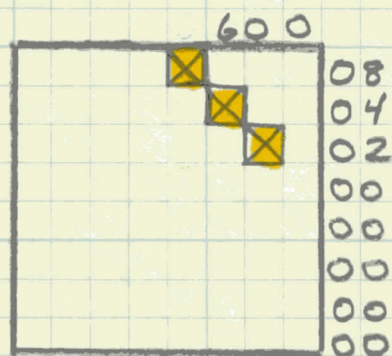
Normal or
Flashing
Upper Case
Letters

<0-1F>
<40-5F>



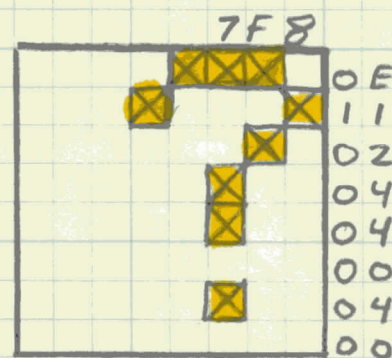
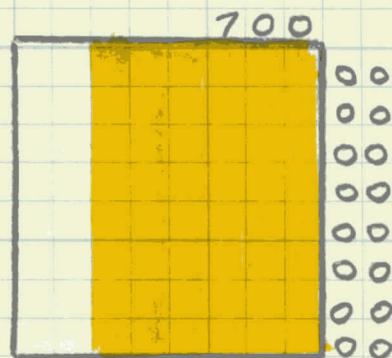
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Special
Symbols

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<60-7F>



Normal
Lower Case
Letters

<80-9F>
<CO-DF>

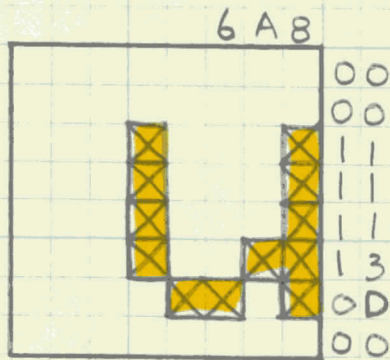
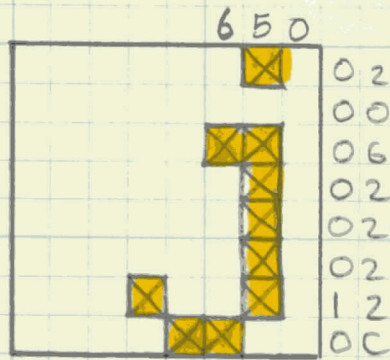


Normal
Special
Symbols

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Lower Case Mode

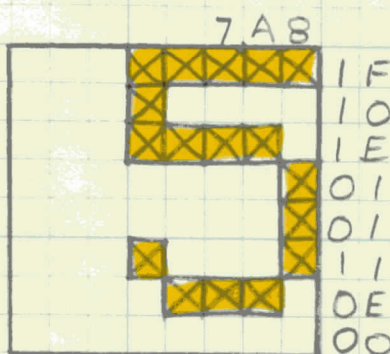
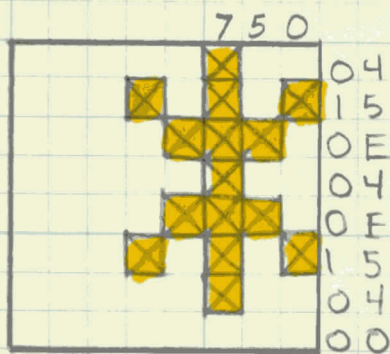
Video Values ↓



Normal
Lower Case
Letters

<80-9F>

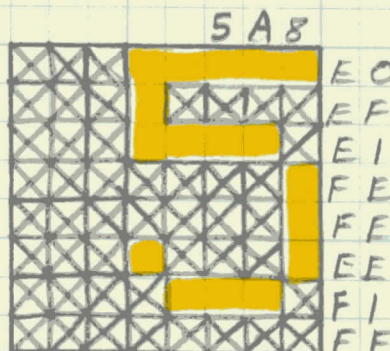
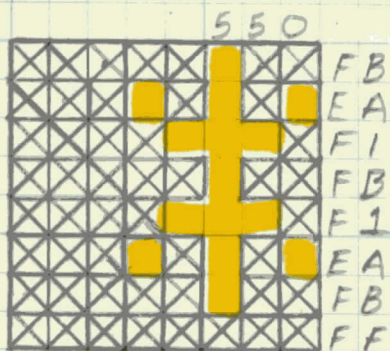
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Normal
Special
Symbols

<A0-BF>

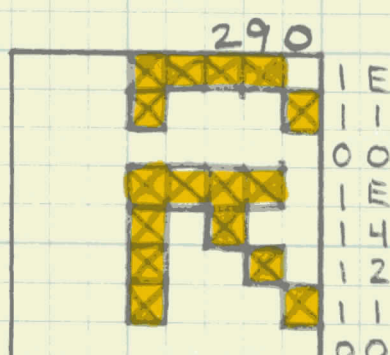
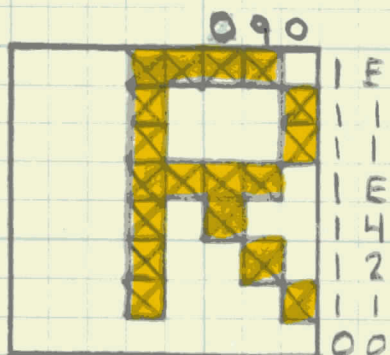
<E0-FF>



Normal or
Flashing
Special
Symbols

<20-3F>

<60-7F>



Good "R"
vs Bad "R"
on ABACUS
DOM #23?

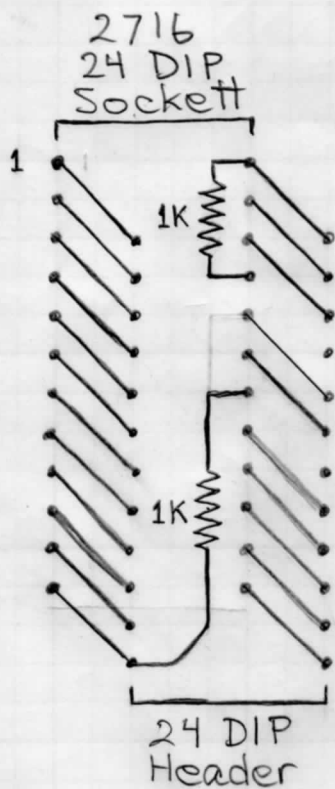
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**James Paul Davis's
Apple II plus
Hardware Modifications**

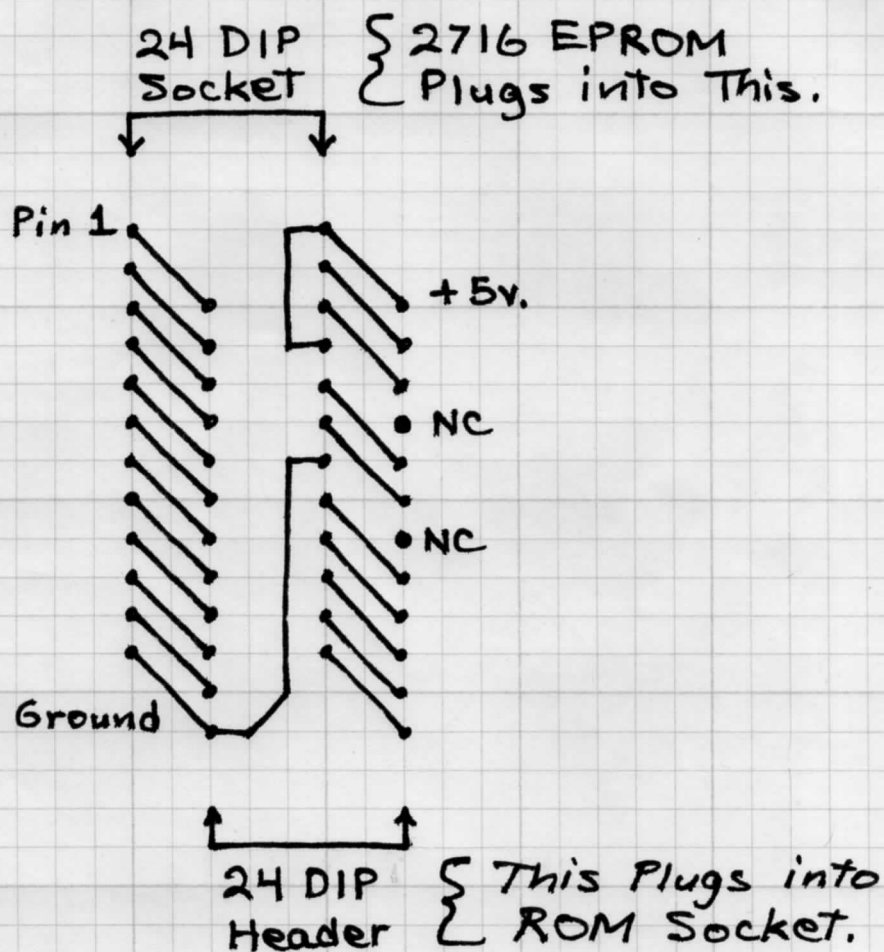
**ROM socket converter
Flash Controller
U/L Case Adapter**

Apple II ROM (DØ-F8)

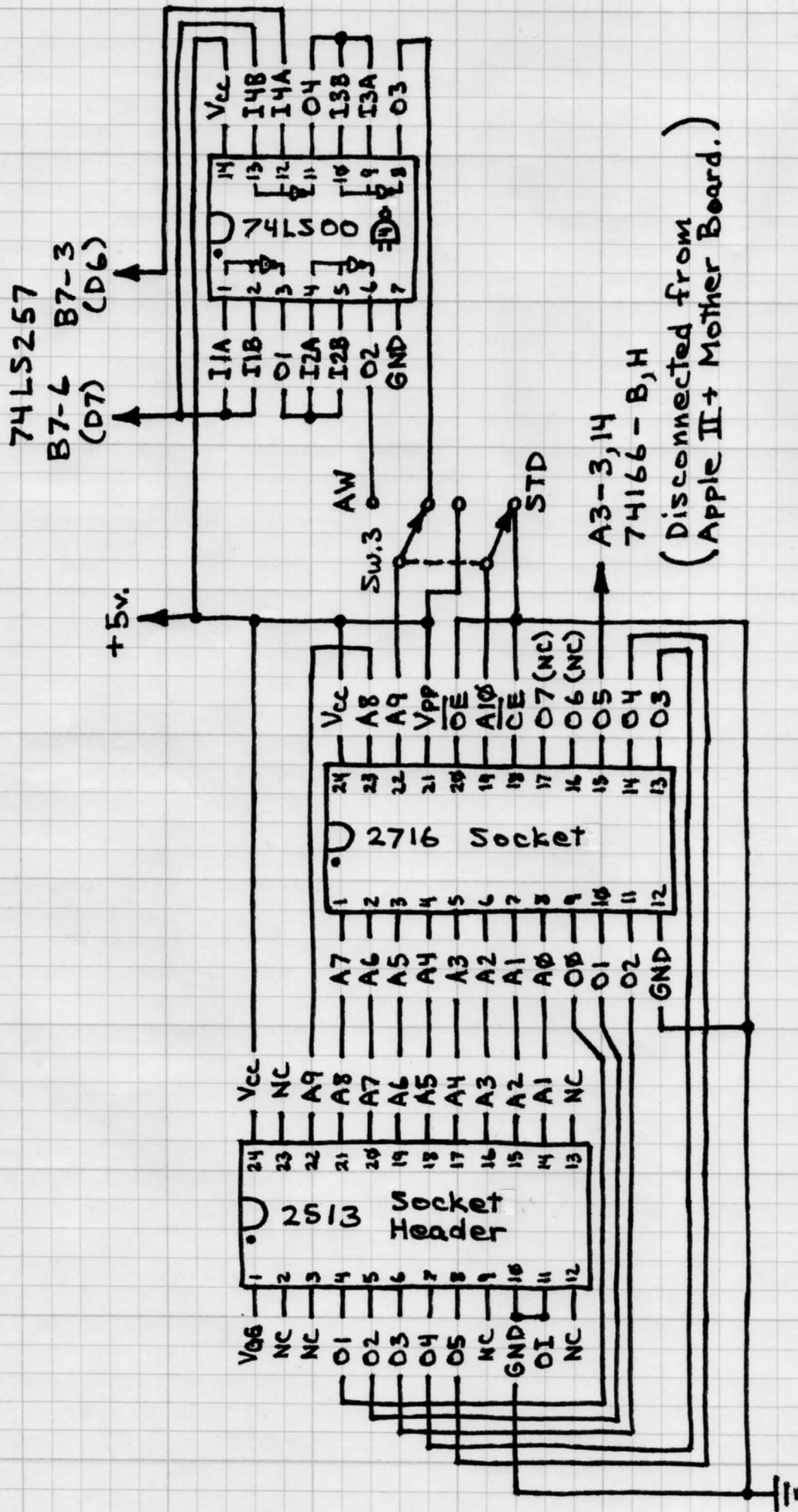
to 2716 EPROM Sockett Converter



APPLE II/II+ ROM Socket (D ϕ -D8)
to 2716 EPROM Socket Converter
Connections Diagram:



JIM DAVIS UPPER AND LOWER CASE ADAPTER



[illegible][illegible]

Case	Age	Sex	Occupation	Marital Status	Religion	Ethnicity	Education	Income	Health Status	Family Size	Living Arrangements	Neighborhood	Community Involvement	Access to Services	Healthcare Utilization	Outcomes
1	11	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
2	11	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
3	11	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
4	06	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
5	04	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
6	04	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
7	11	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
8	06	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
9	11	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
10	11	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
11	00	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
12	00	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
13	00	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
14	00	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
15	00	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
16	00	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
17	00	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
18	00	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
19	00	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
20	00	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
21	00	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
22	00	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
23	00	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
24	00	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
25	00	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
26	00	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
27	00	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
28	00	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
29	00	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
30	00	M	Student	Single	Christian	White	High School	Low	Good	2	Family	Suburban	Active	Good	Low	Good
31	00	M	Student	Single	Christian	White	High School	Low	Good</							

04 04 04 00 00 00 00 00

08 14 08 15 12 00

18 19 02 04 08 13 03 00

04 0F 14 0E 05 1E 04 00

0A 0A 1F 0A 1F 0A 0A 00

0A 0A 0A 00 00 00 00 00

04 04 04 04 00 04 00 00

00 00 00 00 00 00 00 00

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00 00 00 00 00 04 00

00 00 00 1F 00 00 00 00

00 00 00 00 04 08 00 00

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04 15 0E 04 0E 15 04 00

04 02 01 01 01 02 04 00

04 08 10 10 10 08 04 00

1F 01 02 04 08 08 00 00

07 08 10 1E 11 0E 00 00

1F 10 1E 01 01 11 0E 00

02 06 0A 12 1F 02 02 00

1F 01 02 06 01 11 0E 00

0E 11 01 06 08 10 1F 00

04 0C 04 04 04 04 0E 00

0E 11 13 15 19 11 0E 00

0E 11 02 04 04 00 04 00

08 04 02 01 02 04 08 00

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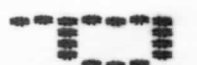
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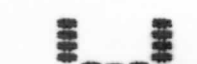
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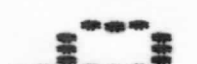
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01 01 0F 11 11 11 0F 00



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10 10 1E 11 11 11 1E 00



00 00 0E 01 0F 11 0F 00



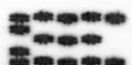
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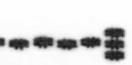
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00 00 1E 11 11 11 11 00



00 00 1B 15 15 15 11 00



0C 04 04 04 04 04 0E 00



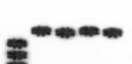
10 10 11 12 1C 12 11 00



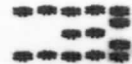
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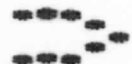
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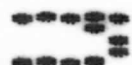
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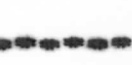
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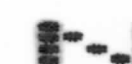
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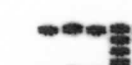
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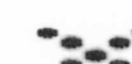
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00 00 11 0A 0A 0A 11 00

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0000 0000 0000 0000

000 000 000 000
E0 EF E1 EF EF FF
000 000 000 000

000 000 000 000
E0 EF E1 EF EF E0 FF
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000 000 000 000
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000 000 000 000

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0000 00 0000 00
FB F5 EE EE E0 EE FF
0000 00 0000 00

0000 00 0000 00
F1 EE EA E8 E9 EF F0 FF
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0000 0000 0000 0000
F1 EE EE EE EE F1 FF
0000 0000 0000 0000

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FE FE FE FE FE F1 FF
000000 000000 000000 000000

0000 00 0000 00
F1 FB FB FB FB F1 FF
0000 00 0000 00

000 000 000 0000000
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000 000 000 0000000

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000 000 000 000 0000000
EE EE EE EE F5 FB FF
000 000 000 000 0000000

000 000 000 000 0000000
EE EE EE EE F1 FF
000 000 000 000 0000000

000 0000 00 0000000
E0 FB FB FB FB FB FF
000 0000 00 0000000

000 000 000 000 0000000
F1 EE EF F1 FE E1 FF
000 000 000 000 0000000

000 000 000 000 0000000
E1 EE EE E1 EB ED EE FF
000 000 000 000 0000000

0000 0000 0000 0000 0000000
F1 EE EE EA ED F2 FF
0000 0000 0000 0000 0000000

000 000 000 0000000
E1 EE EE E1 EF EF FF
000 000 000 0000000

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FF FF FF FF FF FF C0
00000000 00000000 00000000 00000000

00000000 00000000 00000000 00000000
FF FF FB F5 EE FF FF
00000000 00000000 00000000 00000000

000 000000 00000000 00000000 00000000
E0 FC FC FC FC E0 FF
000 000000 00000000 00000000 00000000

00000000 00000000 00000000 00000000
FF EF F7 FB FD FE FF
00000000 00000000 00000000 00000000

000 000 000 000 0000000
E0 E7 E7 E7 E7 E0 FF
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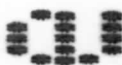
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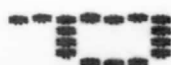
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06 09 08 1E 08 08 00



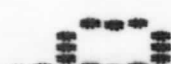
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01 01 0F 11 11 11 0F 00



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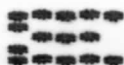
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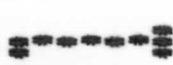
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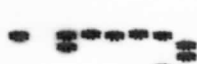
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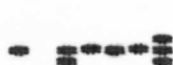
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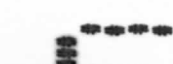
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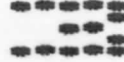
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04 00 0C 04 04 04 0E 00



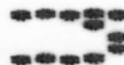
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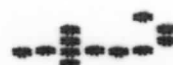
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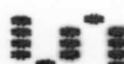
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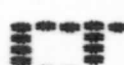
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00 00 0F 10 0E 01 1E 00



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00 00 00 00 00 00 00 3F



0B 16 00 00 00 00 00 00



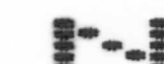
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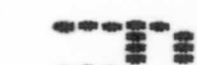
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07 0C 0C 18 0C 0C 07 00



00 00 1F 02 04 08 1F 00



00 00 11 11 11 0F 01 0E



00 00 11 0A 0A 0A 11 00

04 04 04 00 00 00 00

08 14 14 08 15 12 00

18 19 02 04 08 13 03 00

04 0F 14 0E 05 1E 04 00

0A 0A 1F 0A 1F 0A 0A 00

0A 0A 0A 00 00 00 00 00

04 04 04 04 04 00 04 00

00 00 00 00 00 00 00 00

00 01 02 04 08 10 00 00

00 00 00 00 00 00 04 00

00 00 00 1F 00 00 00 00

00 00 00 00 04 04 08 00

00 04 04 1F 04 04 00 00

04 15 0E 04 0E 15 04 00

04 02 01 01 01 02 04 00

04 08 10 10 10 08 04 00

1F 01 02 04 08 08 08 00

07 08 10 1E 11 11 0E 00

1F 10 1E 01 01 11 0E 00

02 06 0A 12 1F 02 02 00

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0E 11 01 06 08 10 1F 00

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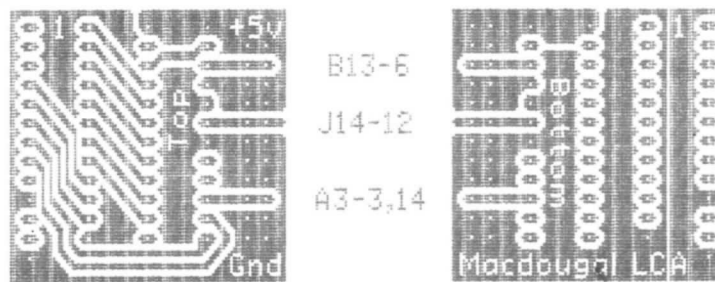
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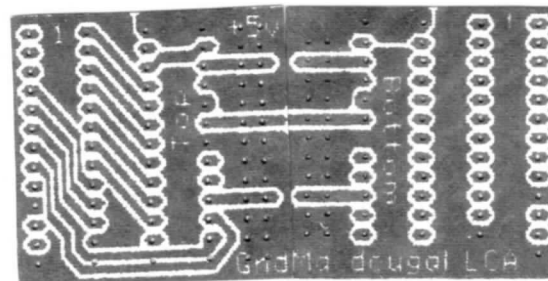


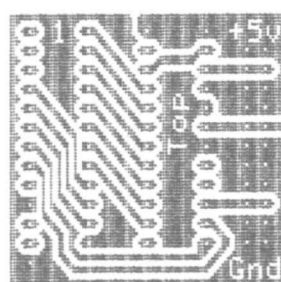
A.B.A.C.U.S.-Macdougall Lower-Case Adapter
Printed Circuit Board by James P. Davis from
an article in The ABACUS II, April 1980, volume
number 2, issue number 4.

A 2716 DIP IC (socket) attaches to the top of
the PCB in the center.

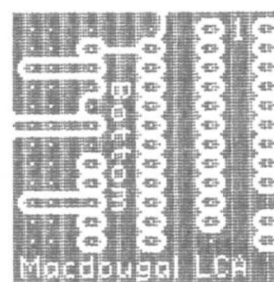
A 24 DIP header attaches to the bottom of
the PCB at the right-hand edge (as shown
above). This plugs in to the Apple character
generator socket at A5 on the mother board.

Davis/Paymar/Mac-
Dougall LCA





B13-6
J14-12
A3-3,14



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