3.1.6   Coupler Card Installation

If the coupler card is to be used with non-standard priority, address or format, wiring changes will be required before installation. These changes are outlined in Section 3.1.7. For standard operation in a PDP-8E computer, proceed as follows:

3.1.6.1   I/O Slot Selection. The XFD-108 coupler card may be installed in any available I/O slot in the PDP-8/E main frame. It can also be installed in the I/O extender chassis. The I/O slot should be selected for convenience in cable routing.

3.1.6.2   Coupler Card Plug-in. Install the coupler card into the selected I/O slot. Be sure the edge connectors are properly positioned before seating the board. This will prevent damage to the connectors. Dress down the cable. Keep the cables to the various I/O boards neatly packed.

3.1.7   Coupler Card Modifications

To modify the data format, device address, device priority, or the paper tape loader speed (IPL/ROM option only), certain wiring trace changes must be made on the coupler board.   The coupler PCB is etched with coordinates as shown in Figure 3-3. The IC address is given in the form AX-Y, where A is the vertical position with the board plugged in, X is the horizontal coordinate, and Y is the IC pin number. Pin numbers increase from 1 to 7 or 8 going down the left side of the IC (looking from the top), and from 8 to 9 to 14 or 16 going up the right side. The edge connector pins have the address form AB-X, where A is the pin group (A to D), and B is the pin within the group (A to V). All pins on the front of the board have X = 1; on the back, X = 2 for all pins. The wiring modifications are all made on larger than normal pads for ease in location and soldering.

3.1.7.1   Device Priority Modifications. There are three levels of priority allowed in the PDP-8/E. The XFD-108 is normally provided with device priority 1. The priority can be changed to 2 or 3 by the method illustrated in Figure 3-4. To effect a priority 2, first disground C5-5 and reconnect C5-5 to A9-13. Now, disconnect C8-11 from AR-1 and reconnect C8-11 to AS-1. To effect a priority 3, first disground C5-5 and reconnect it to A9-13 as with priority 2. In addition, disground C5-3 and reconnect it to A9-10. Now, disconnect C8-11 from AS-1 and reconnect it to AU-1.

3.1.7.2   Device Address Modification. The device address for the XFD-108 is two octal digits, and is normally set at 30_8. The PCB traces for changing the device address are shown in Figure 3-5. To change the address to any octal number up to 77_8, cut the appropriate traces and reconnect the correct zeros and ones to the output pads.

3.1.7.3   Paper Tape Reader Speed Change. The XFD-108 optional ROM/IPL (Implemented Program Loader) is capable of controlling the PDP-8/E paper tape loader. It is normally set for a slow reader, but can be modified for a fast reader. This is done by cutting the PCB trace between E9-1 and ground as shown in Figure 3-6.

3.1.7.4   Sector Format Changes. The XFD-108 normally comes with a 12-bit word, and 10 sectors of 256 words each on 64 tracks. To change to allow 20 sectors, it is necessary to disconnect B6-1 from C7-11 and reconnect B6-1 to Vcc as shown in Figure 3-7.

STANDARD, ETCHED FOR 30

	LOGIC 1	LOGIC 0	OUTPUT	BIT		DEVICE
IC D6	○	○——○	to D7-1	0	1st octal digit	3
	○	○	to D7-15	1		
	○	○	to D7-3	2		
	○	○——○	to D7-13	3	2nd octal digit	
	○	○——○	to D7-5	4		
	○	○——○	to D7-10	5		○

MODIFIED FOR 31

	LOGIC 1	LOGIC 0	OUTPUT	BIT		DEVICE
IC D6	○	○——○	to D7-1	0	1st octal digit	3
	○	○	to D7-15	1		
	○	○	to D7-3	2		
	○	○——○	to D7-13	3	2nd octal digit	
	○	○——○	to D7-5	4		
	○	○	to D7-10	5		1

ADD

CUT
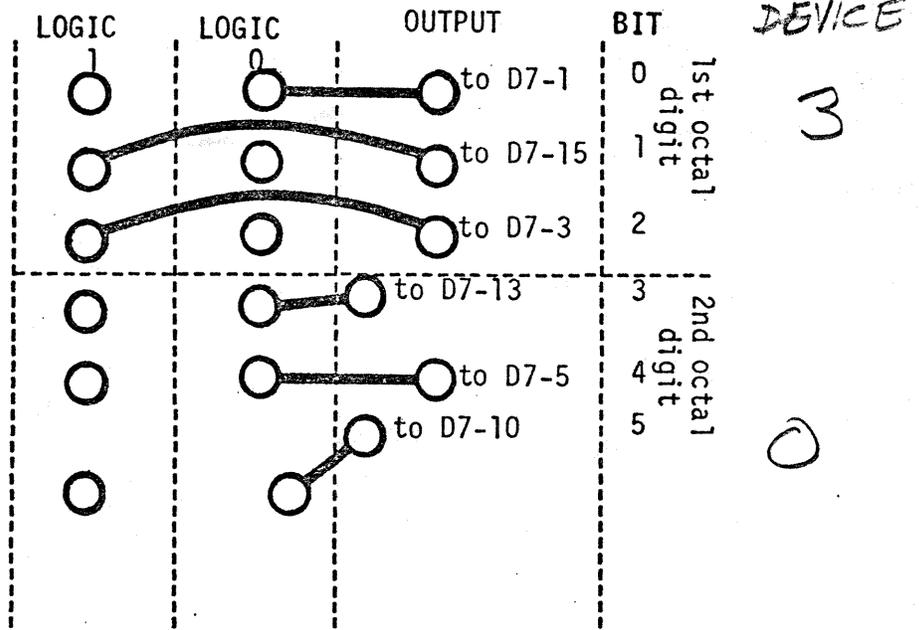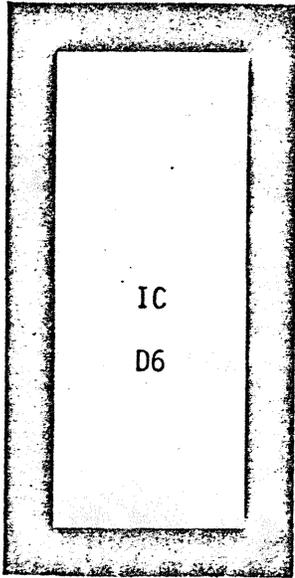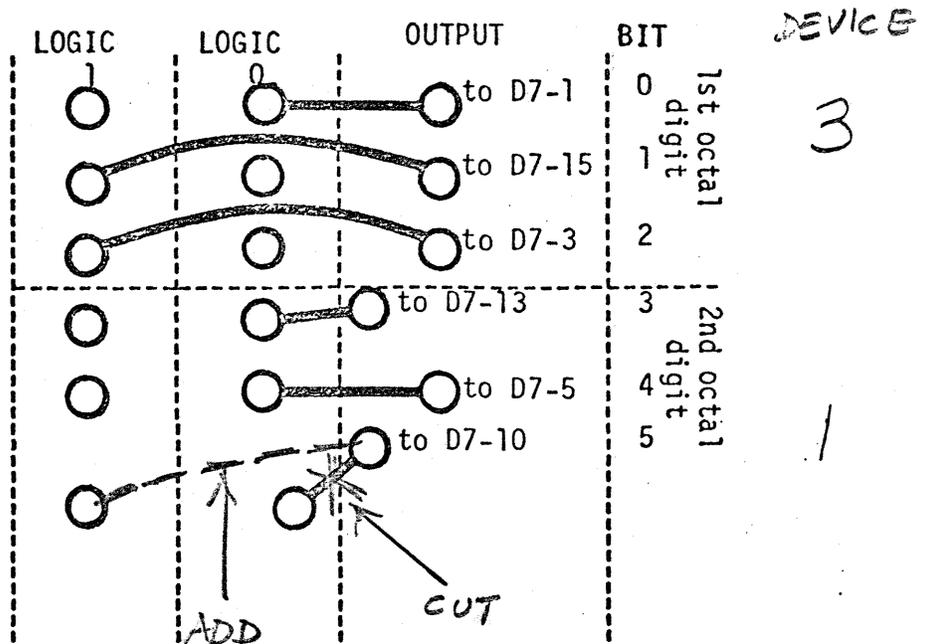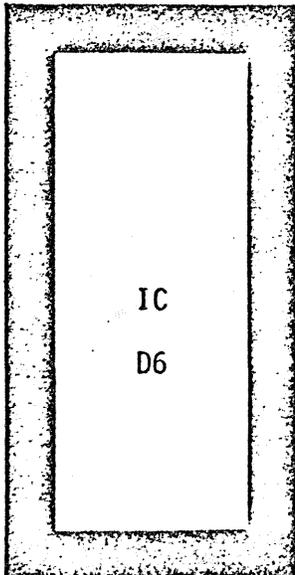
Figure 3-5. Wiring Changes for Device Address
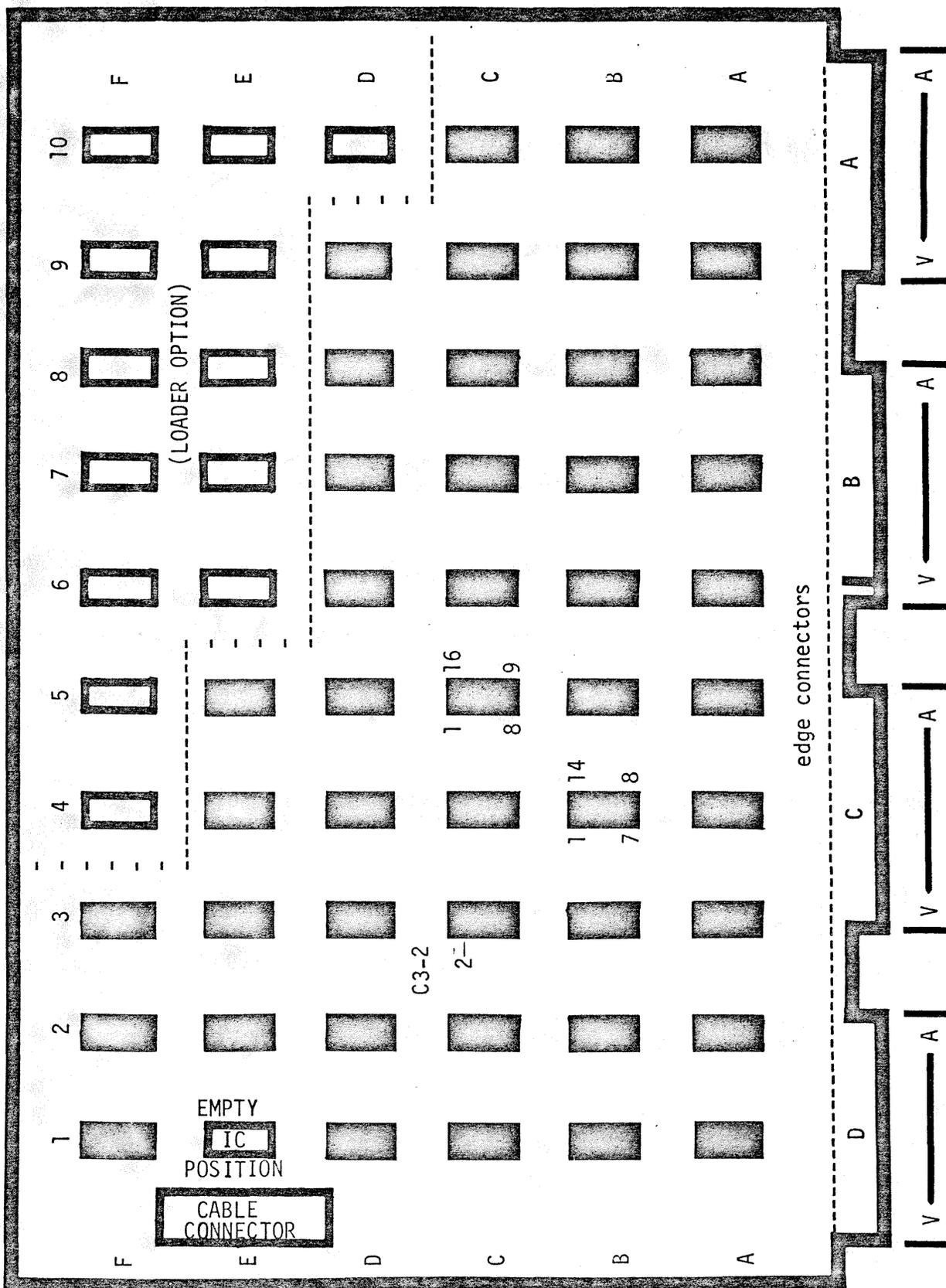
Figure 3-3. Front View of Coupler Board
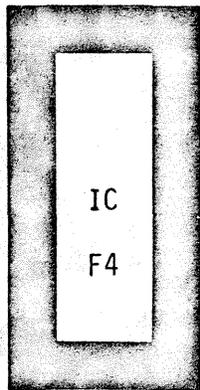
For Priority 2:
Cut A and connect B;
Connect C8-11 to AS-1.

For Priority 3:
Cut A and connect B;
Cut C and connect D;
Connect C8-11 to AU-1.

IC F4

IC F5

B

A   C   D

GROUND BUS

To C8-11

Traces
on back
of board

For 3:   For 2:   For 1

AU-1   AT-1   AS-1   AR-1

EDGE CONNECTOR A
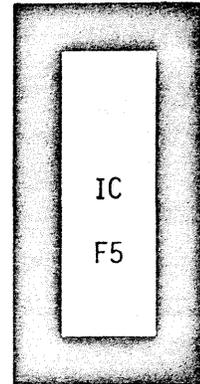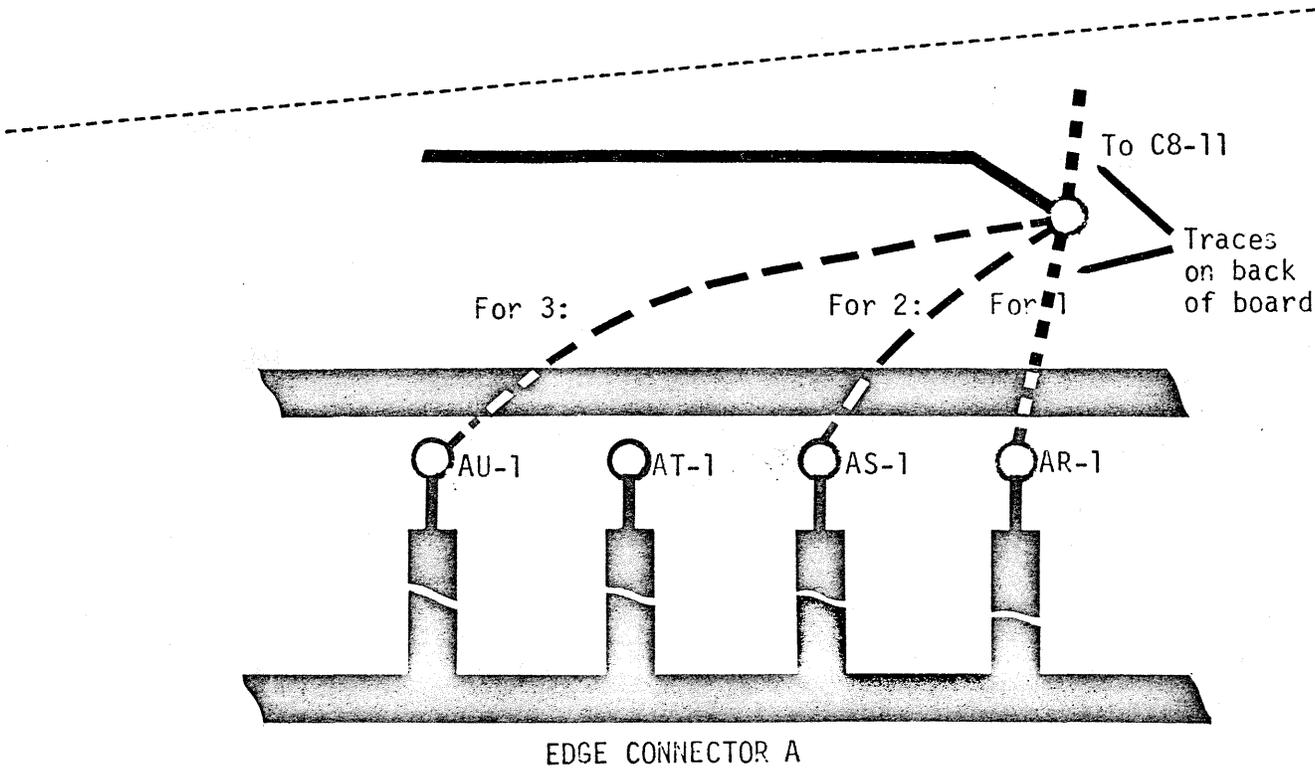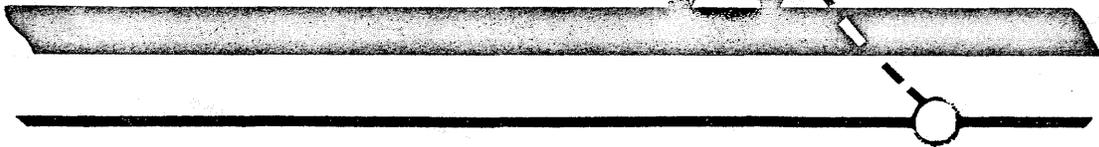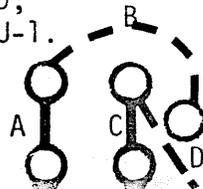
Figure 3-4. Wiring Changes for Device Priority

IC

E9

GROUND BUS

on back side
to ground

to E9-1ıııı

CUT FOR HIGH SPEED PAPER
TAPE READER RIM LOADER
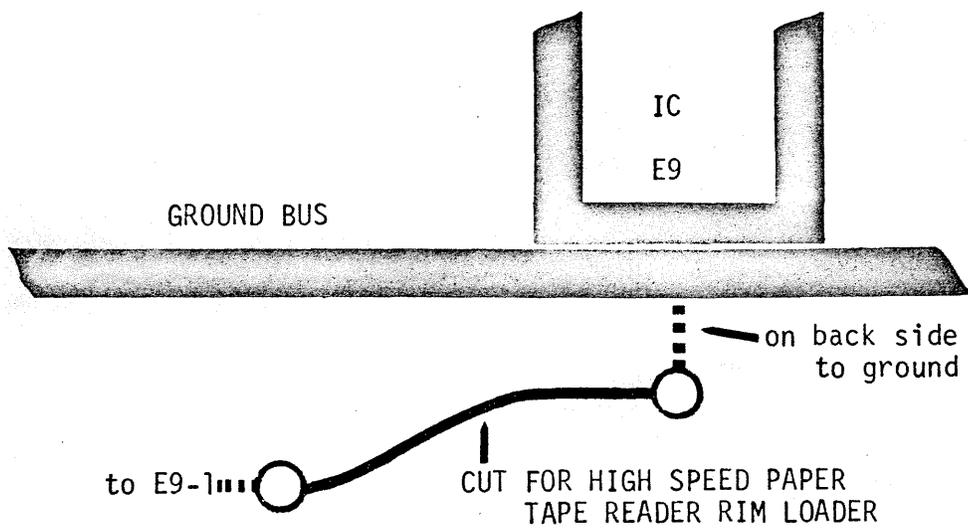
Figure 3-6.   Wiring Change For High Speed Paper Tape Reader

For **20** sectors:
Connect E_1 to E_2;
break connection
from E_2 to E_3.

IC
C6

to C7-11

E_3

—*CUT*
trace on back of board

to B6-1 and B1-1

E_2

ADD JUMPER ON BACK OF BOARD

← E1
(PIN 16)

Ic
B6
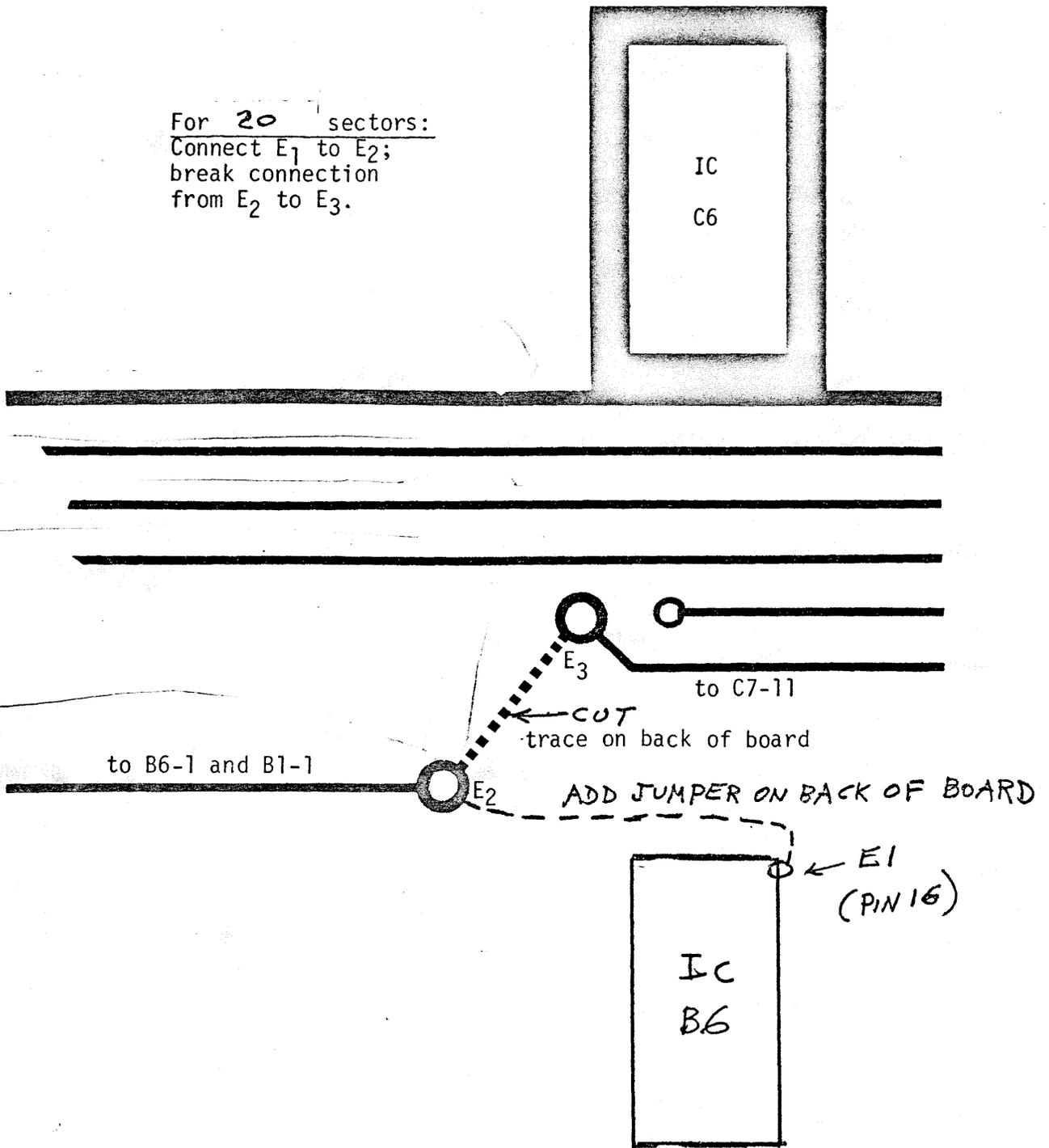
Figure 3-7. Sector Format Change on Coupler Card