

## INSTALLATION GUIDE FOR PMC-30 POWER SUPPLY TO ZETA THREE

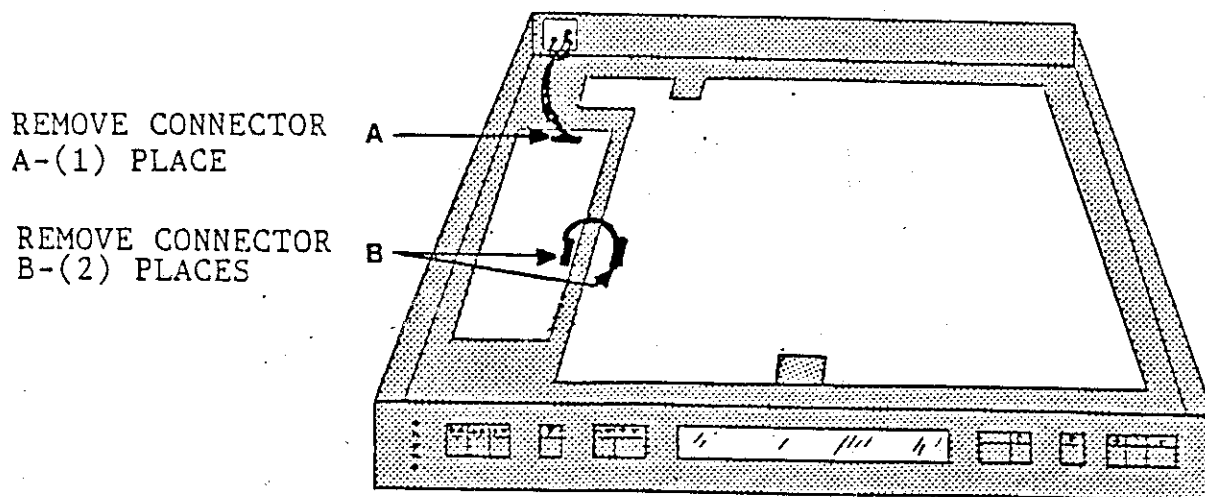
**PURPOSE:** To install new ELCO type PMC-30 type power supply.

**TOOLS:** You will need a Phillips type screw driver, straight edge screw driver, a heavy pair of pliers (not needle nose), wire cutters and a fine tipped soldering iron. You will also need a large, flat surface, such as a table top.

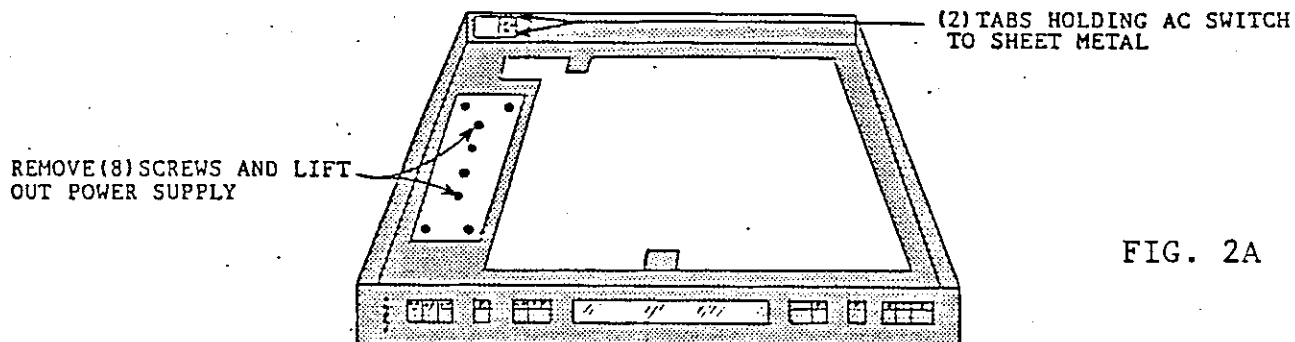
### SECTION ONE - *Instructions for ELCO PCM-30 power supply installation.*

1. Disconnect the power cord from the Zeta and remove the cover.
2. Remove the existing power supply by disconnecting the 2 white molex type ramp connectors between the power supply and Zeta main board (J-50) and between the power supply and AC power connector on the rear panel. (use fingers to *gently* push connector ramp back and *carefully* remove the cable connector by lifting straight up). The cable interconnecting the power supply and the Zeta main board (Fig-1 labeled B) should be disconnected from *both boards* and the AC connector (Fig-1 labeled A) should be removed from the power supply end only. (the AC switch will still be attached to the Zeta sheet metal)

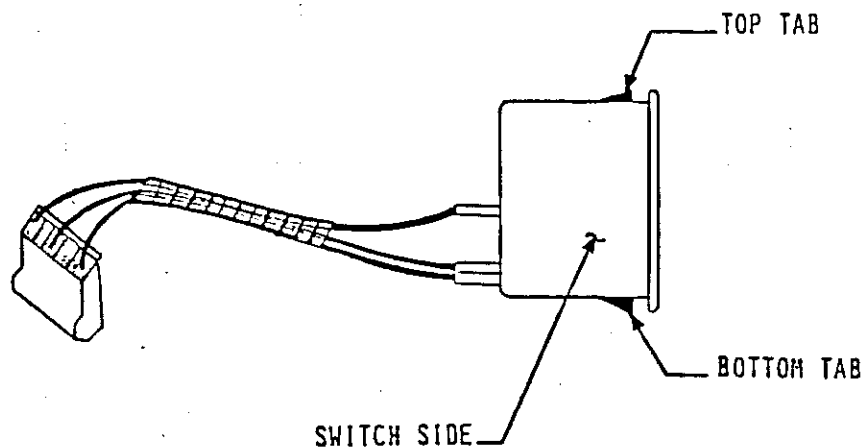
FIG. 1



3. Remove 8 screws holding the power supply circuit board to the sheet metal (Fig-2A). Then, lift out power supply circuit board.



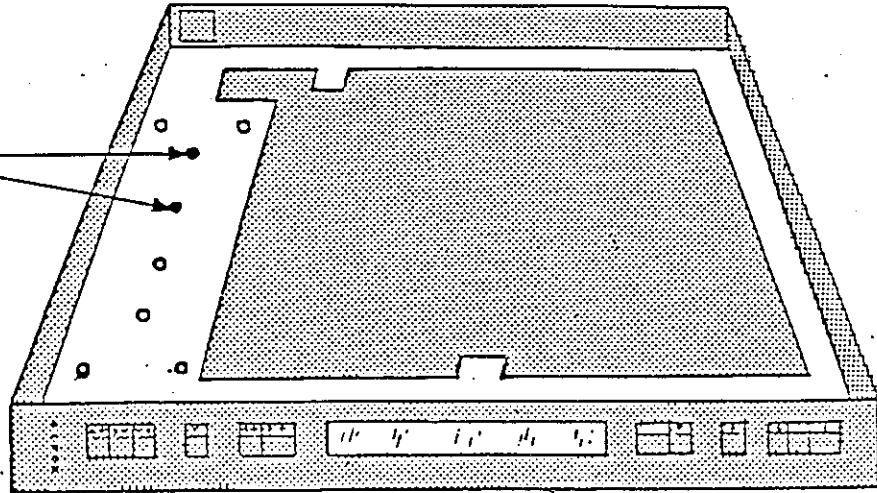
4. Remove the AC receptacle (FIG-2B) from the rear panel of the Zeta by depressing 2 clips, one on the top and one on the bottom of the plastic AC switch receptacle (press on upper tab first and push the top edge of the switch part way out and then press on lower tab and completely remove connector).



5. Next, two supporting "PEM" posts (threaded metal supports) in the sheet metal must be removed to allow the new power supply to be attached. Locate the two PEM studs to be removed (Fig-3). Double check that you have the correct ones. With a large, heavy plier, grip the PEM stud firmly and gently rock back and forth until loose. Then, *push* the PEM stud through the metal and remove. **DO NOT BANG ON TOP OF PEM STUD TO LOOSEN** as metal distortion and circuit vibration damage may result. *Make sure to remove only the two PEM studs shown.*

REMOVE ONLY THESE  
TWO PEMS

FIG. 3



6. Now you can install the new ELCQ PMC-30 power supply assembly. First remove the AC moxex cable (Fig 4) from the new power supply (there should still be one cable connected on the new power supply assembly). Set the power supply assembly in place locating the angled shield side toward the Zeta main board. Now, line up the holes between the remaining PEM studs and the metal on the new power supply assembly and install the three screws firmly (Fig-5).

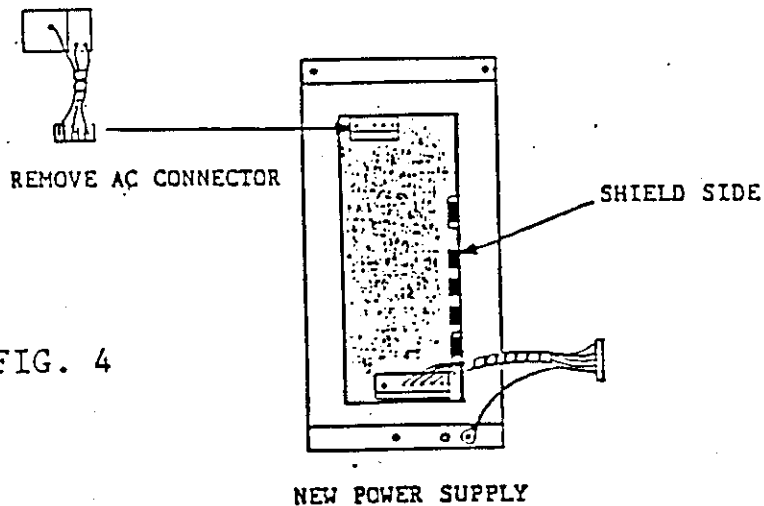
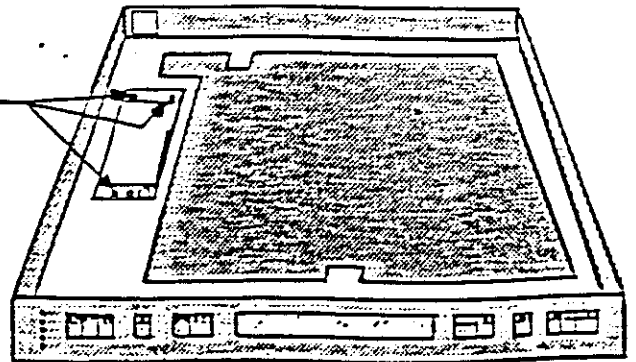


FIG. 4

FIG. 5

ADD (3) SCREWS TO SECURE  
NEW POWER SUPPLY TO SHEET  
METAL



7. Connect the AC power switch to the rear panel by sliding the white molex connector through the hole in the metal keeping the AC power switch toward the middle of the Zeta. (Fig-6A). Make sure that the AC connector tabs (top and bottom) click into place. Next, connect the white AC molex connector from the switch to the power supply. Watch out for the lock ramp orientation on the connector (Fig-6B). Then, connect the remaining white molex connector (the side with extra wire attached) to the Zeta Three main board (J-50). (see Fig-6B)

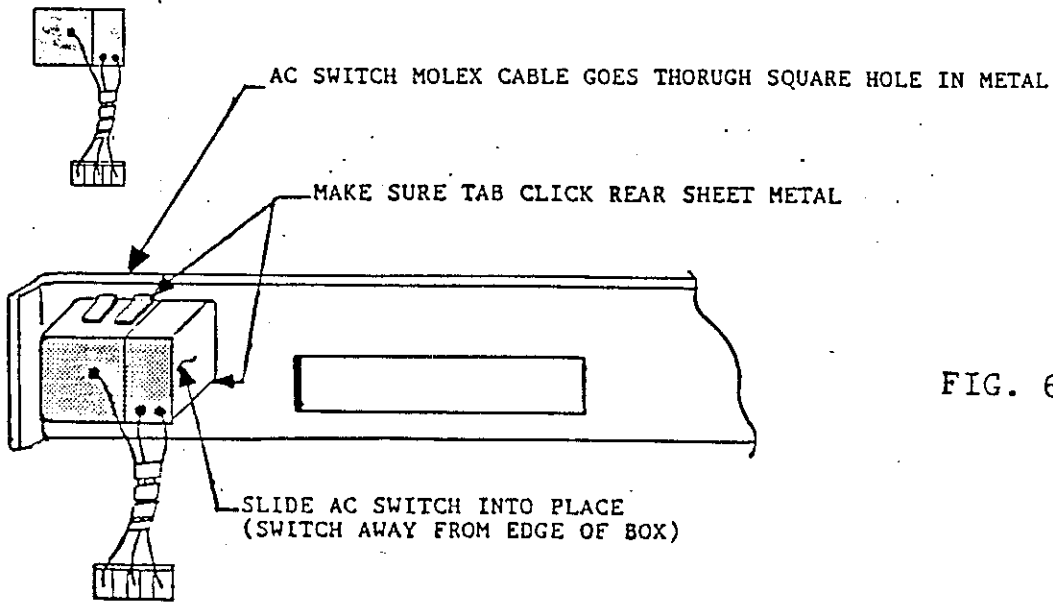


FIG. 6A

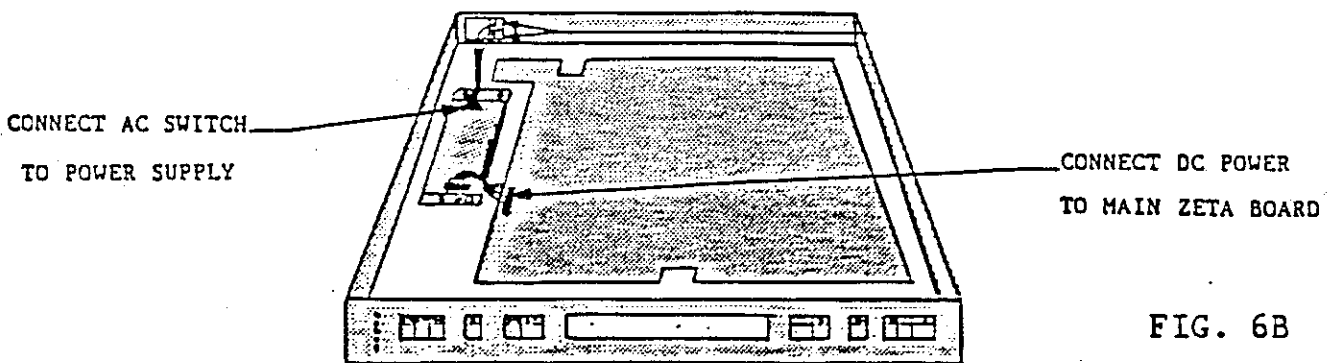


FIG. 6B

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## SECTION TWO - ZETA THREE MAIN BOARD MODIFICATIONS

The Zeta main board requires several modifications to be compatible with the new ELCO PMC-30 power supply.

**TOOLS** - You will need wire cutters, a fine tipped soldering iron, one 6.8 K-ohm resistor (1/4 watt) and some jumper wire (2 sizes). The resistor and jumper wire is included in the ELCO power supply kit.

1. Delete (Remove from circuit) the following components by cutting out of circuit board with fine tipped wire cutters (Fig 7). Cut components at base of wire connections to board.

C-4	0.1 uF	(tan box)
R-3	330 K-OHM	(orange,orange,yellow stripe pattern)
CR-2	1N914 DIODE	(clear/orange body with black stripe)

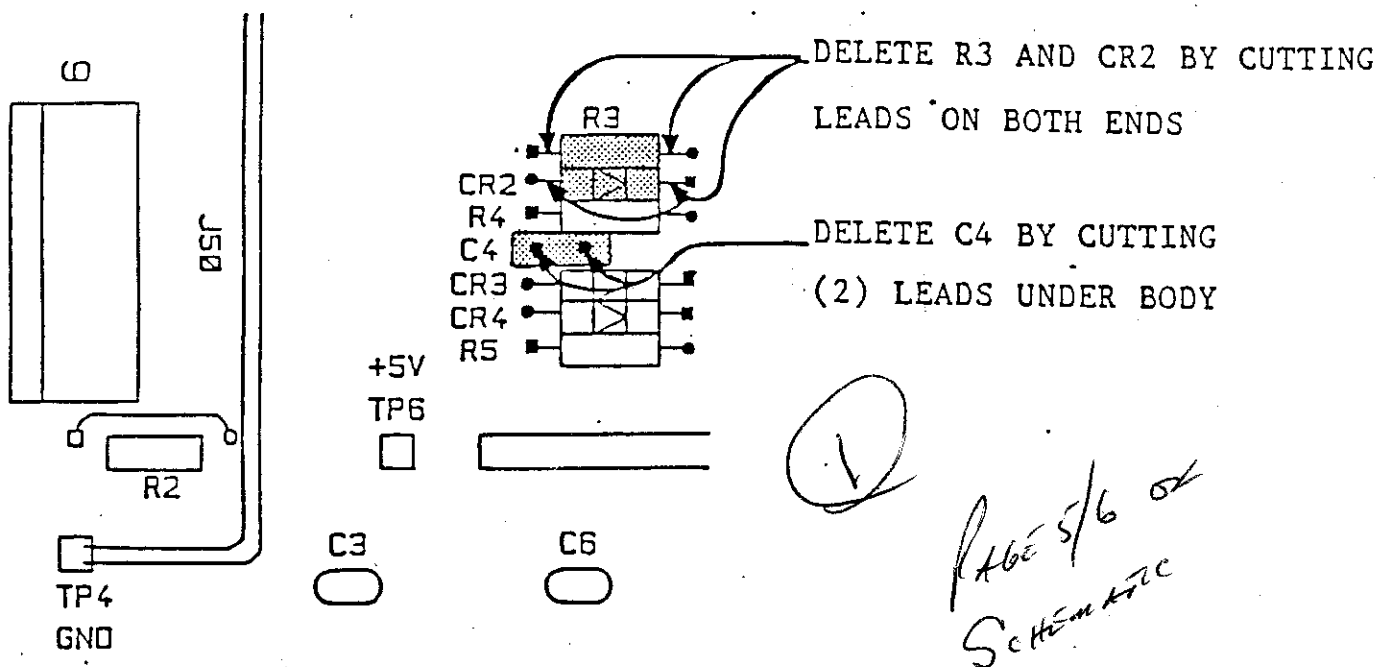


FIG. 7

2. Add a 6.8 K-OHM resistor (blue/grey/red), (piggy back style) to R5 (yellow/purple/red) (Fig 8A and FIG 8B).

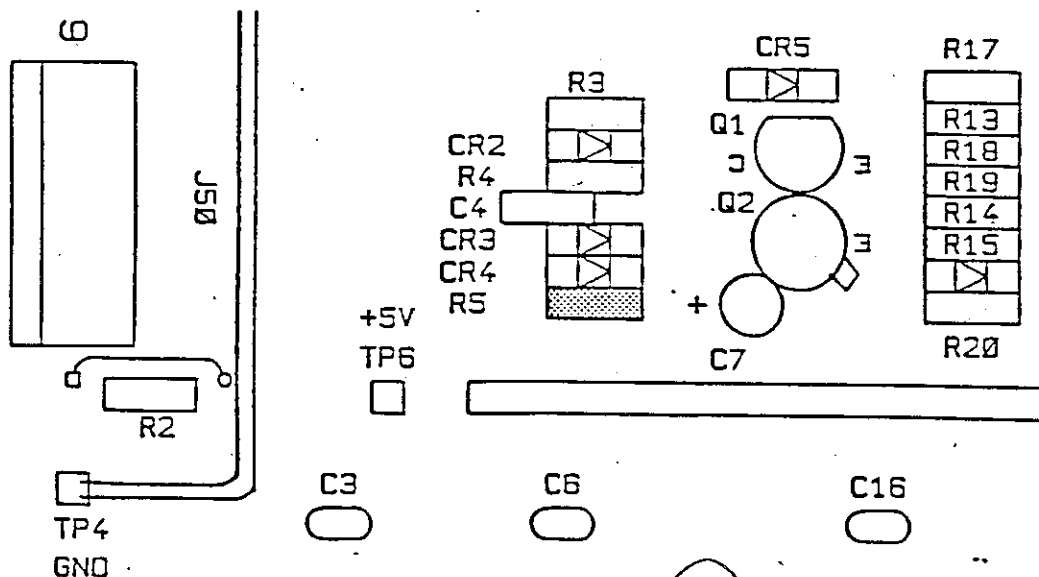


FIG. 8 A

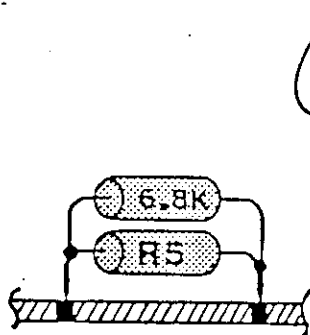
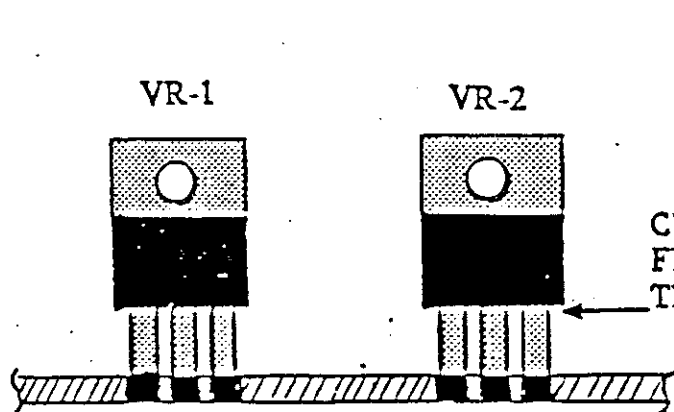


FIG. 8 B

ADD 6.8K RESISTOR AND SOLDER TO TOP OF EXISTING RESISTOR

*2*  
*PAGE 5/6 OF SCHEMATIC*

3. Locate VR-1 and VR-2 (Fig 9). With fine tipped wire cutters, remove black main body of VR-1 and VR-2 and leave the pins as long as possible. Make sure to cut the pins as close to the body of the device (away from the circuit board) as possible because they are to be used as jumpers later. (if the leads are too short or you make a mistake there is heavy gauge jumper wire to extend the length of the pins included in the kit just in case).



VIEWED FROM FRONT OF ZETA THREE

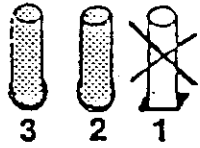
FIG. 9

*3*  
*PAGE 6/6 OF SCHEMATIC*

4A. Leave VR-1 lead pins 2 and 3 long and connect leads 2 and 3 together (now you can cut pin 1 off close to board) (Fig 10A, 10B)

FIG. 10A

*VR1*

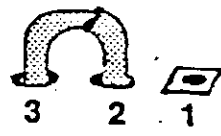


CUT OUT END PIN

4

FIG. 10B

*Pin 1  
b/b of  
Solder*

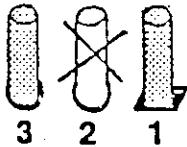


CAREFULLY BEND AND SOLDER REMAINING (2) LEADS

4B. Leave VR-2 lead pins 1 and 3 long and connect leads 1 and 3 together (now you can cut pin 2 off close to board)

FIG. 11 A

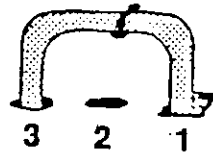
*VR2*



CUT MIDDLE PIN OUT

5 *Pin 2  
b/b of  
Solder*

FIG. 11B



CAREFULLY BEND AND SOLDER (2) REMAINING LEADS TOGETHER

NOTE: PIN 1 HAS THE SQUARE PAD

5. Add jumper from the ground test point TP-4 to the AC test point TP-3 (Fig 12).

6. Add jumper from the round pad of CR-2 (now removed from board) to the via hole (a very small metalized hole), located to the right of C-60 and above VR-2 (Fig 12). *Double check that you have found the correct via hole in the circuit board.*

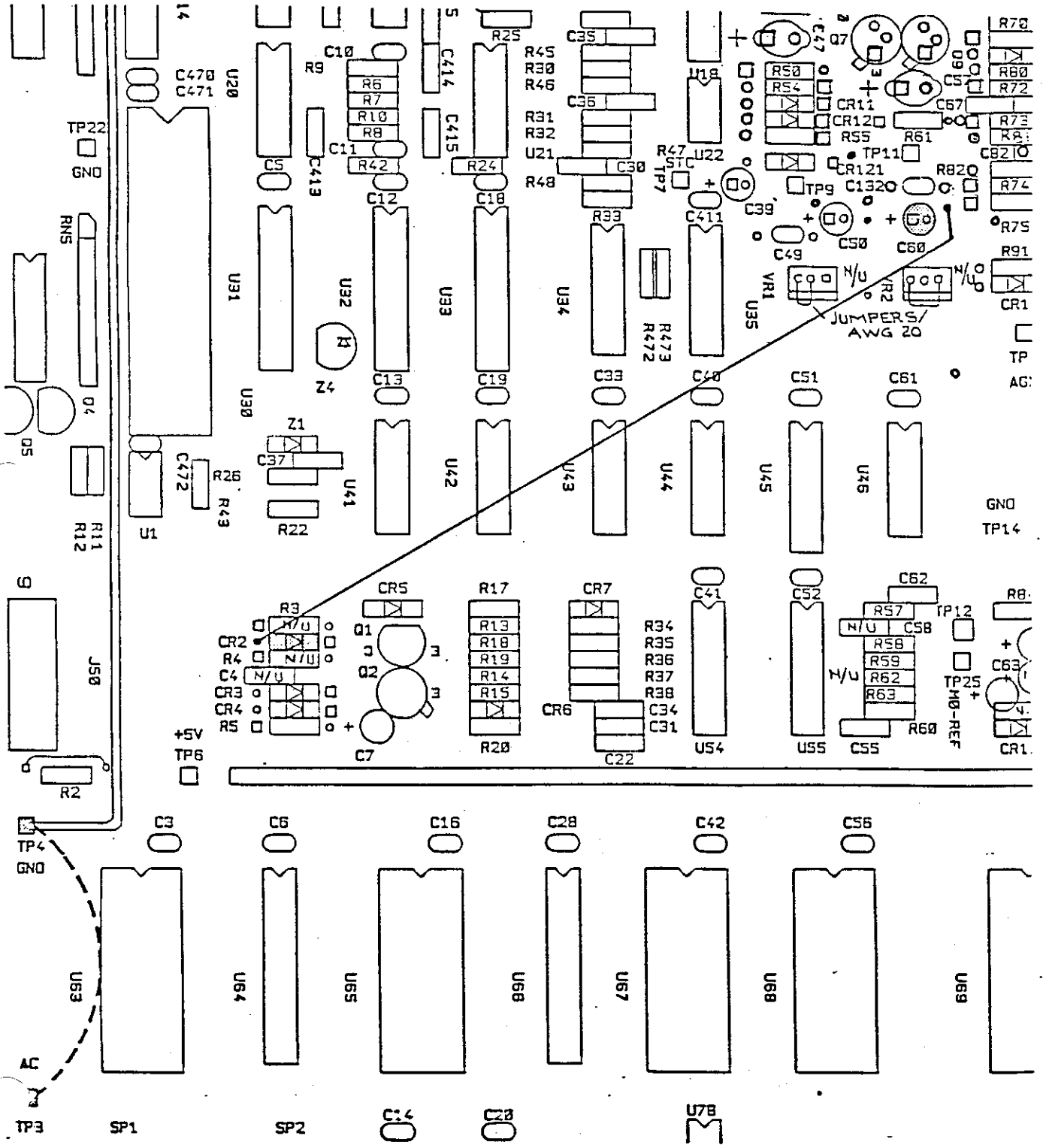
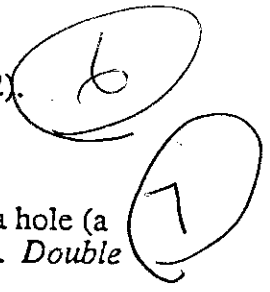


FIG. 12



### SECTION THREE - DC GROUND STRAPPING

There are two terminals on the new power supply labelled DC Gnd and Chassis:

DC Gnd: This is the internal operating ground of the Zeta-Three.

Chassis: This terminal connects directly both to the metal case and to the AC third pin electrical ground.

For installations with no special grounding requirements, the new Zeta-Three should be operated as shipped from the factory, with the DC Gnd and Chassis terminals strapped together.

On the other hand, when the Zeta is installed in a studio with a separate central ground, DC Gnd may be unstrapped from the Chassis terminal, and connected directly to the central ground (Fig 13, 14).

#### ZETA GROUNDING CONFIGURATIONS:

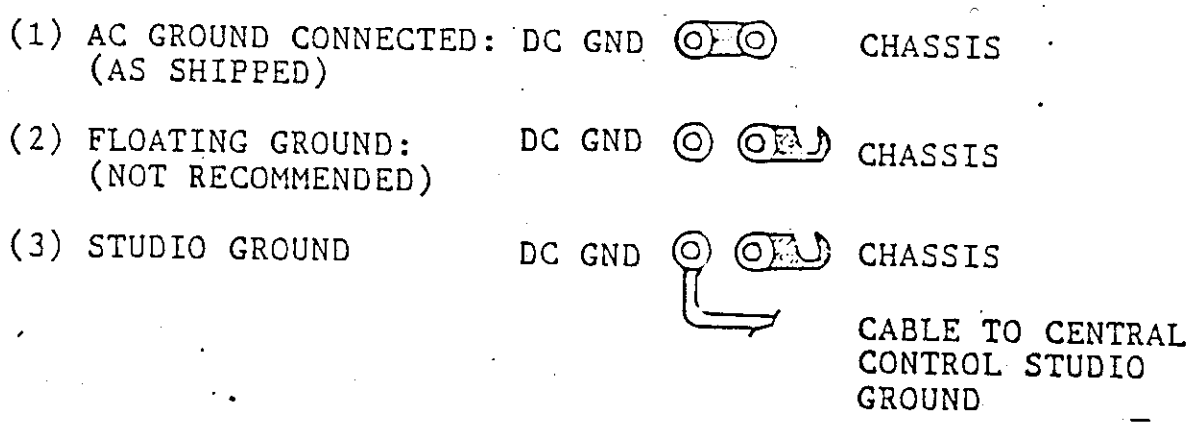


FIG. 13

## NOTES:

1. For the usual safety reasons, the AC third pin electrical ground is always connected to the metal case.
2. One side effect of the new supply is that the menu option "Z06 RESOLVE=MAINS" will no longer be supported.

The new power supply allows three methods of connecting ground.

1. For those with no special grounding requirements
2. Floating ground (not recommended)
3. External studio ground (see below)

To bring in an external ground to the Zeta Three you must have the ground wire enter the Zeta chassis at some point. The simplest locations are thru the aux in/out connectors (if not used) since this provides a large gauge entrance to the chassis). A second possibility is to enter in thru the vent hole pattern (if present). As an *absolute last resort* for very large ground wires, one may *very carefully* drill a hole above the slave transport connector.

CREATIVE GROUND WIRE ACCESS

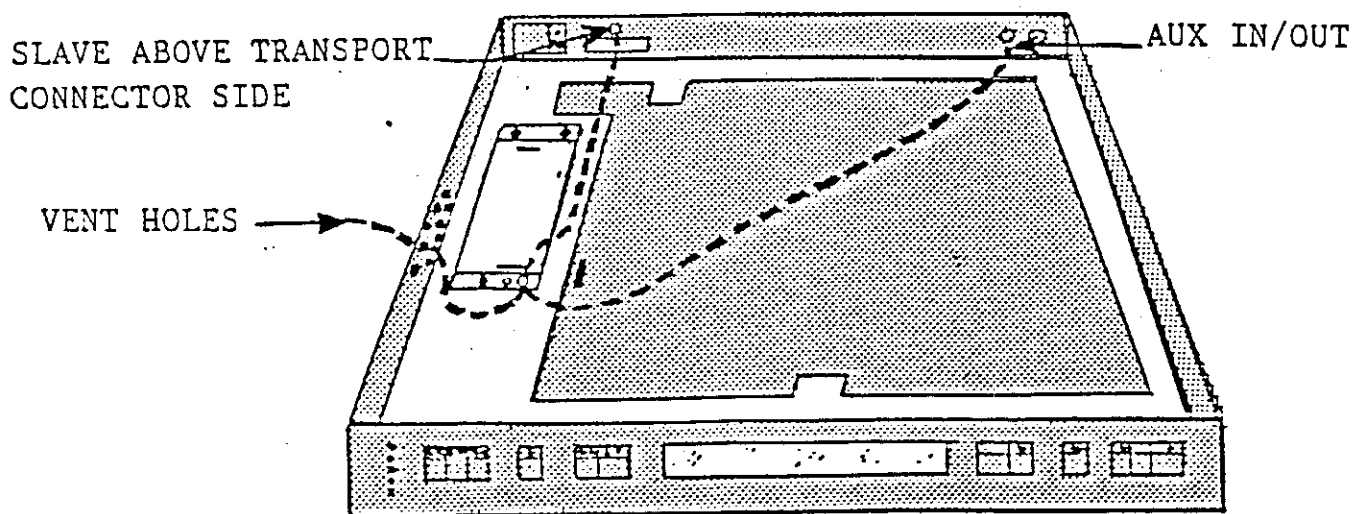


FIG. 14