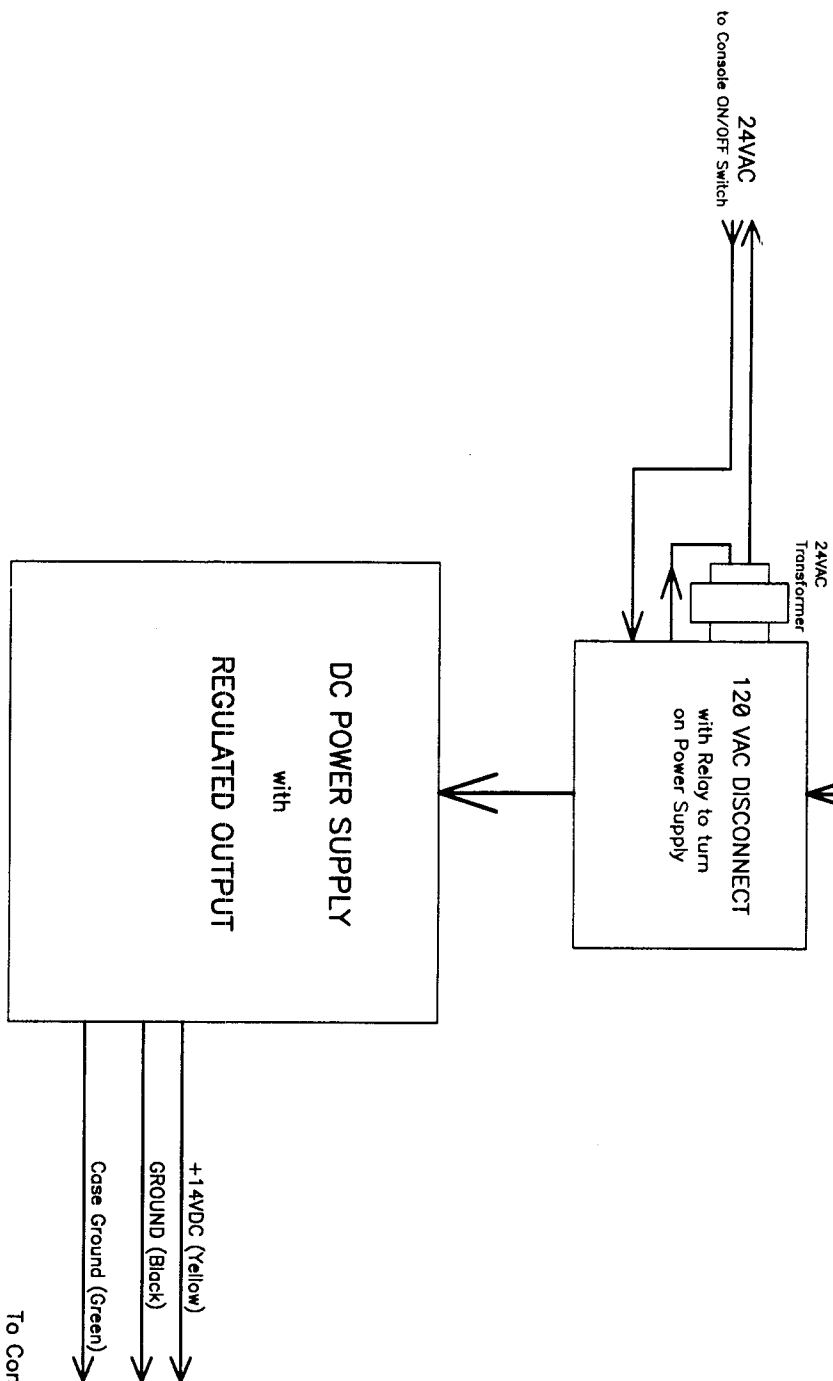


FROM CIRCUIT BOX

Computer Grade Circuit
in metal conduit with
green wire connected to
ground rod or water main.

POWER SOURCE

This hardware should be centrally located near the highest density copper boxes, thereby economizing on the wire lengths and gauges when considering the ampere draw and resulting voltage drop.



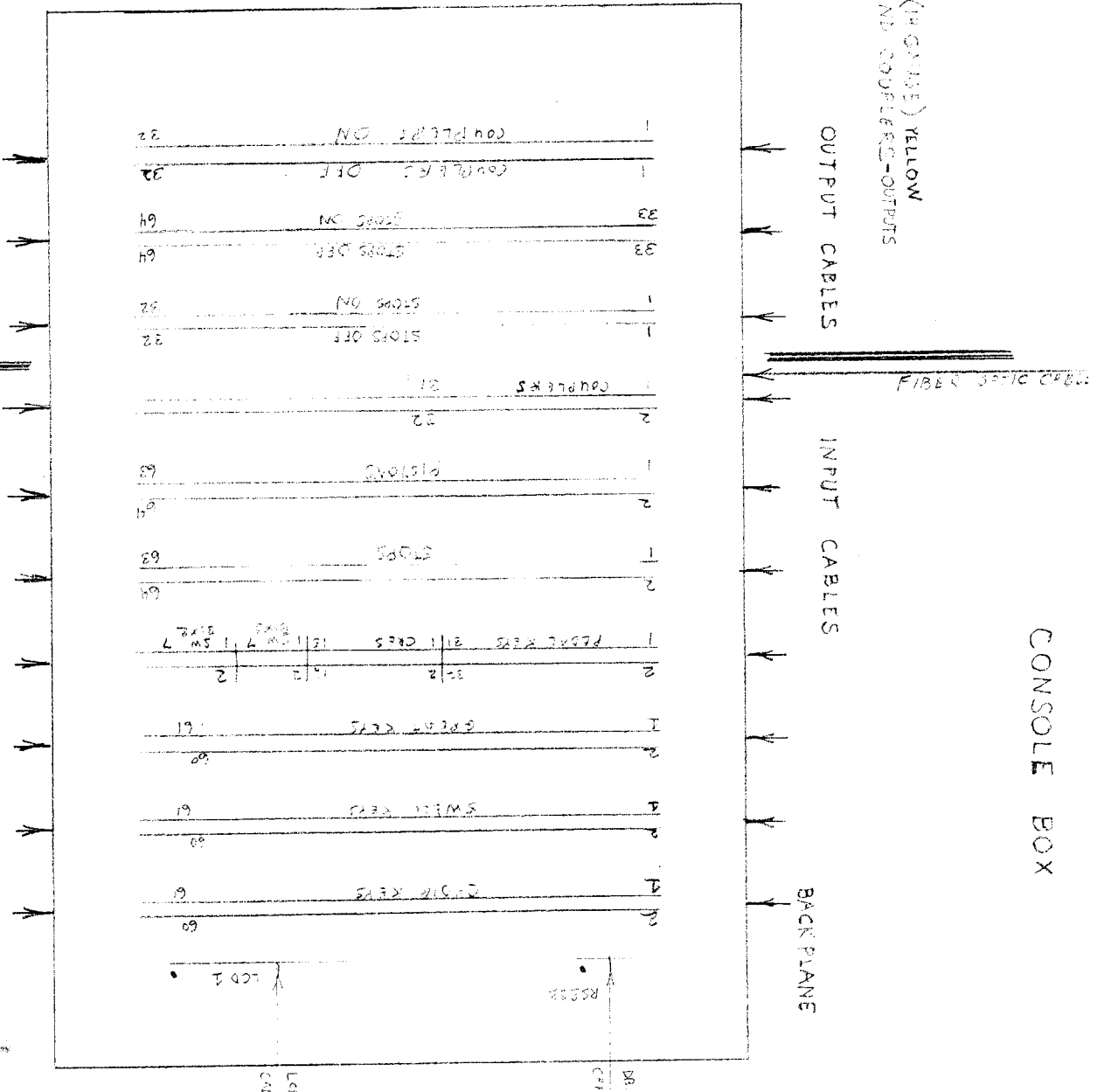
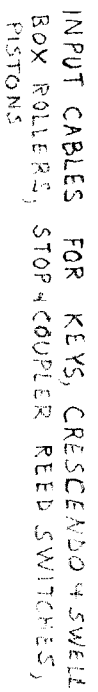
Date 9-9-98

Rev cx8

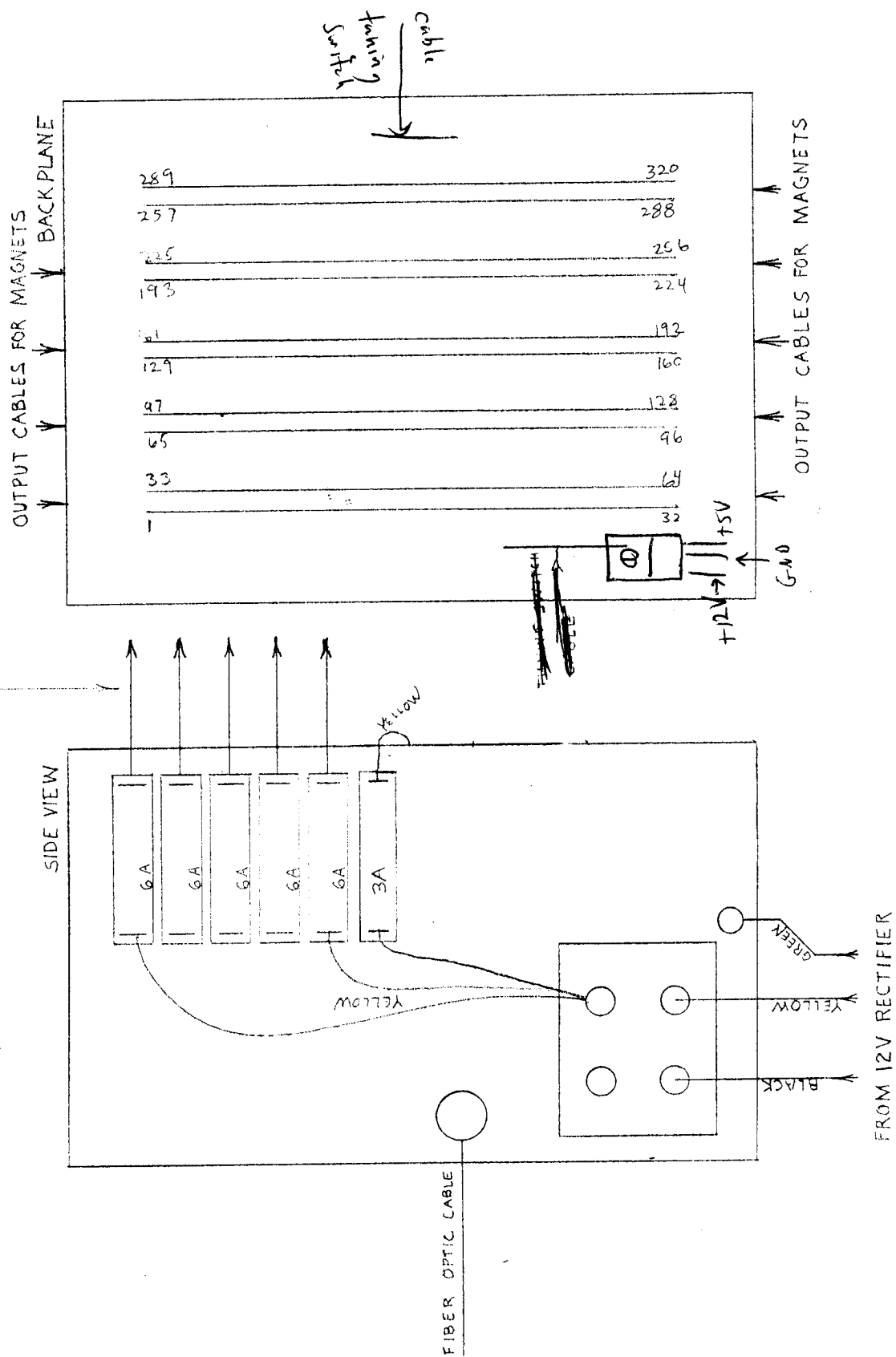
Title INSTALLATION INSTRUCTION DRAWINGS

Filename CX8.SCH

Sheet 1 of 2



COMMON FEED WIRE (14 GAUGE)
TO EACH RANK (YELLOW)



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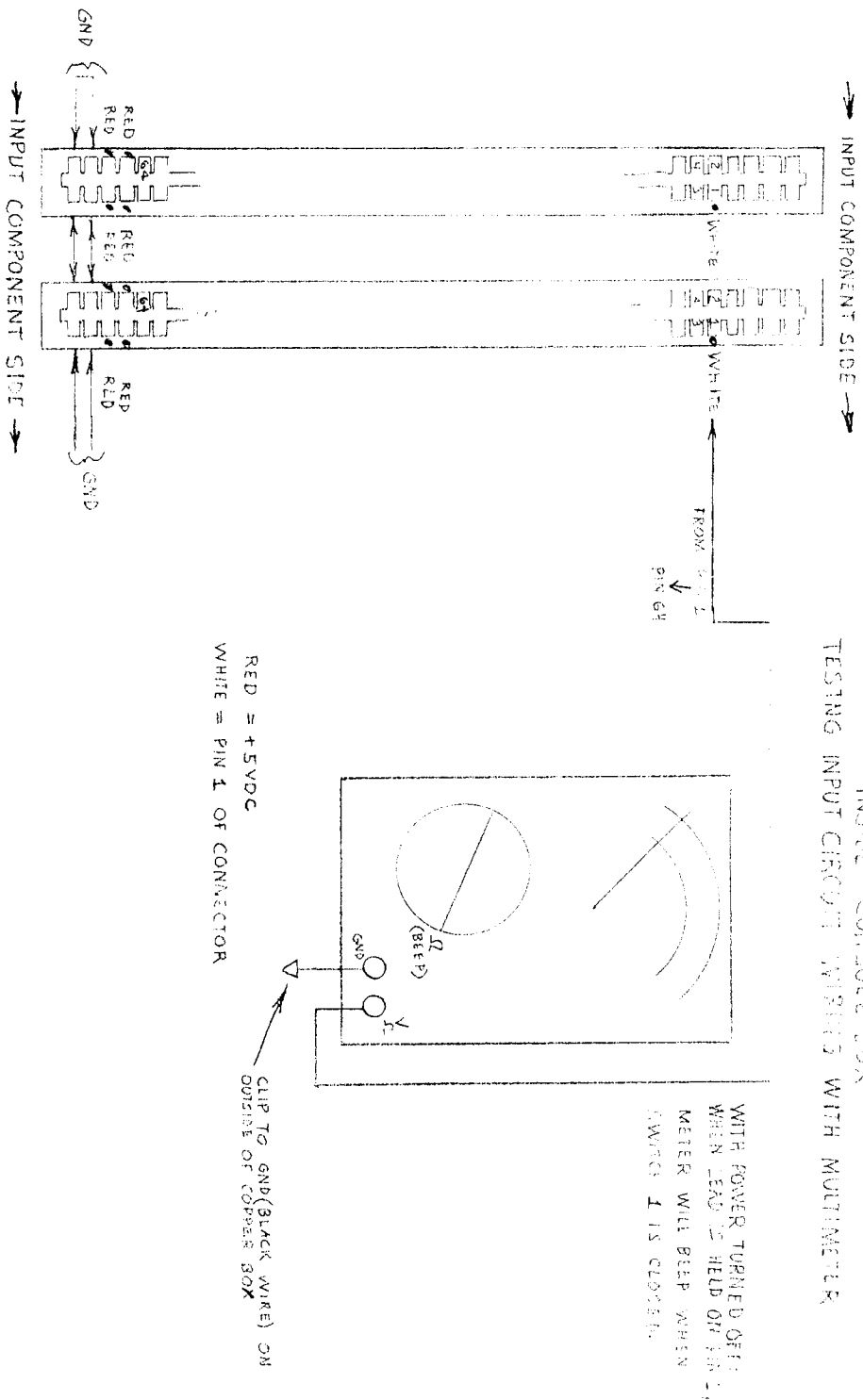
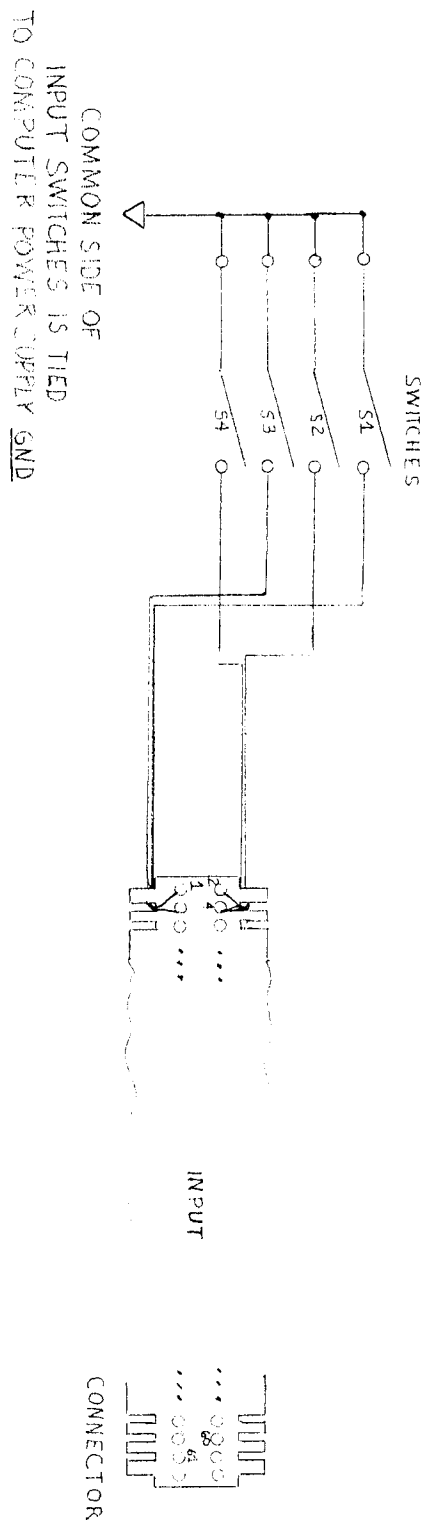
31

PIPE BOX ADDRESSES

JUMP PADS WITH SOLDER

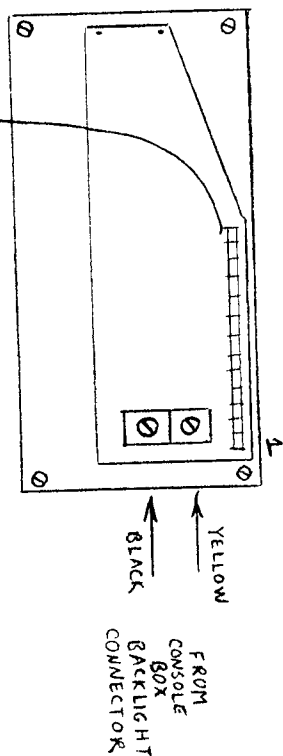
PS SHOWN

INPUT CIRCUIT

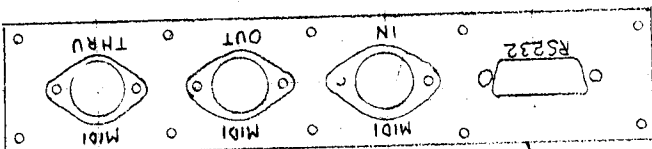


LCD AND LCD INVERTER WIRING DB9 CONNECTOR MIDI CONNECTOR

LCD VIEWED FROM BACK SIDE WHEN MOUNTED
SHOWING CONNECTOR POSITION AND CABLE HOOKUP

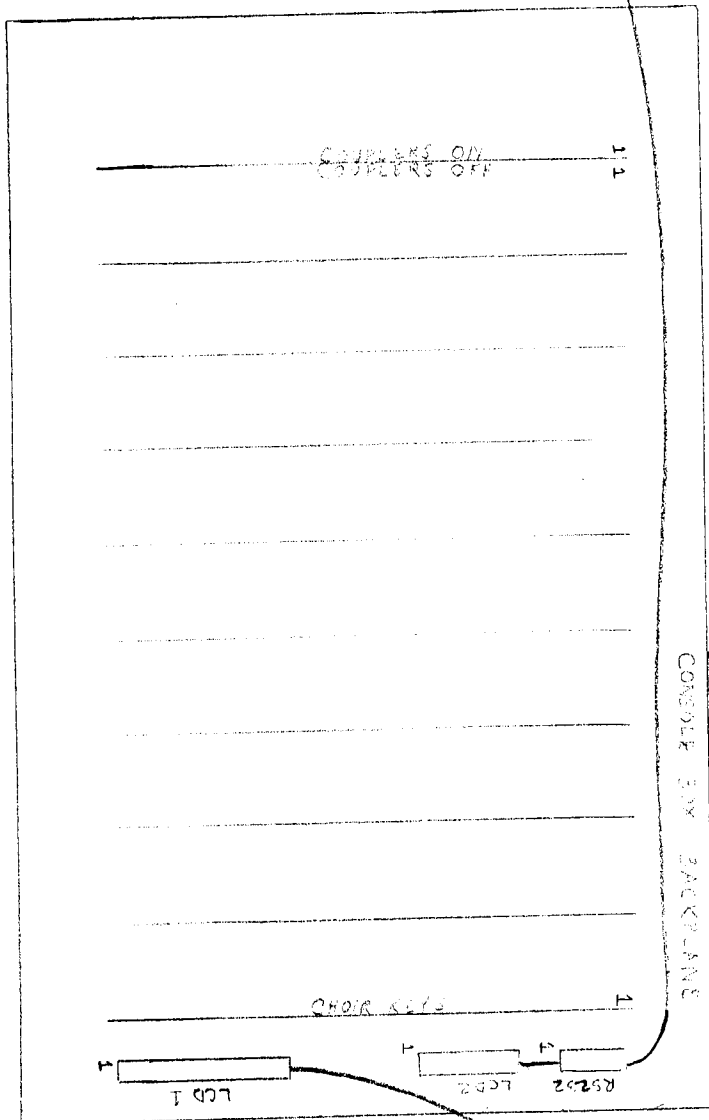


1. DRILL FOUR HOLES WITH CENTER
2. MOUNT CARD ON BACK SIDE OF



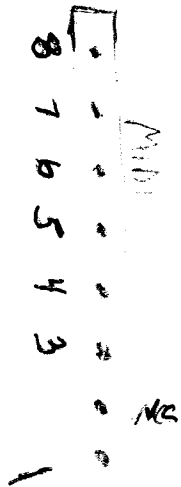
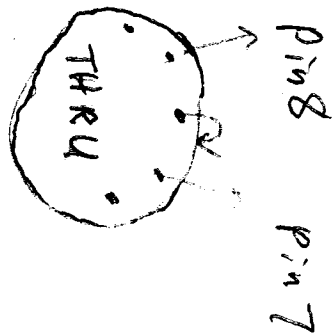
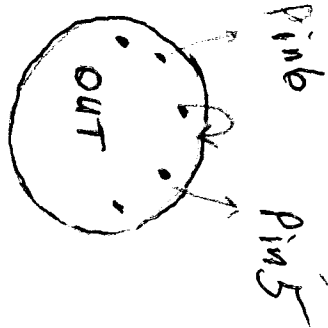
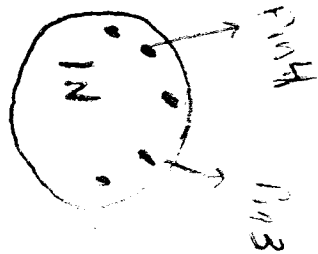
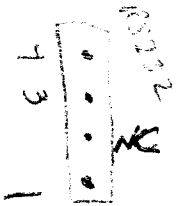
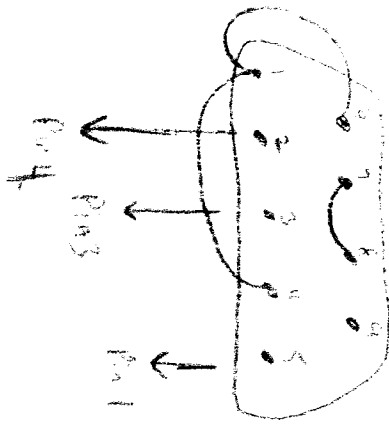
1/2 1/2 1/2 1/2

NOTE: PIN 4 IS MARKED WITH A WHITE DOT



COUPLERS ON
COUPLERS OFF

3/31/99 8:10AM
Copper box



Parameter	Test Method and Instrumentation	Frequency	Units	Type	Value	Units	Ref.
Insulation Force Connector to HFBR-150X/150/252/253X Modules	500 Hz HFBR-150/451 HFBR-150/451 HFBR-150/451	7 17 80	8			N	Note 4
Tensile Force Connector to Cable	500 Hz HFBR-150/451 HFBR-150/451	17 17 22	22			N	Notes 3, 4
Acoustic Connector to Connector Loss	500 Hz HFBR-150/451 with HFBR-150/451 HFBR-150/451	0.7 1.5	2.6			dB	Notes 1, 5
Resonance of Cable Connector to Acoustic	Simplex HFBR-150/451 HFBR-150/451	8 8	12			N	Note 4
Insulation force connector to HFBR-150X/150/252/253X Modules	500 Hz HFBR-150/451 HFBR-150/451	8 16 35				N	Notes 2, 4

1. Factory polish or field polish per recommended procedure.
2. No perceivable reduction in insertion force was observed after 2000 insertions. Destructive insertion force was typically at 178N (40lbf).
3. For applications where frequent temperature cycling over temperature extremes is expected please contact Hewlett-Packard for alternate connecting techniques.
4. All mechanical forces were measured after units were stored at 70°C for 168 hours and returned to 25°C, for one hour.
5. Minimum and maximum limits of eCC are for 0°C to 70°C temperature range. Typical value of eCC is at 25°C.

The following easy procedure describes how to make cable terminations. It is ideal for both field and factory installation. If a high volume connecting technique is required please contact Your Hewlett-Packard sales engineer for the recommended procedure and equipment.

Connecting the cable is accomplished with the Hewlett-Packard HFB-BR-4593 Polishing Kit consisting of a Polishing Fixture, 600 grit abrasive paper and 3 micron pink lapping film (3M Company, OCG-14). No adhesive material is needed to secure the cable in the connector, and the connector can be used immediately after polishing. Improved connector to cable attachment can be achieved with the use of a RTV adhesive for frequent, extreme temperature cycling environments or for elevated temperature operation.

Connectors may be easily installed on the cable ends with readily available tools. Materials needed for the terminating procedure are:

- 1) Hewlett-Packard Plastic Fiber Optic Cable
- 2) HFBR-4593 Polishing Kit
- 3) HFBR-4501/4503 Gray Simplex/Simplex Latching Connector and Silver Color Crimp Ring
- 4) HFBR-4511/4513 Blue Simplex/Simplex Latching Connector and Silver Color Crimp Ring
- 5) HFBR-4506 Parchment Duplex Connector and Gold Color Crimp Ring

- 6) Industrial Razor Blade or Wire Cutters
- 7) 16 Gauge Latching Wire Strippers
- 8) Crimp Tool, AMP 90364-2

The zip cord structure of the duplex cable permits easy separation of the channels. The channels should be separated approximately 50 mm (2.0 in.) back from the ends to permit connecting and polishing.

After cutting the cable to the desired length, strip off approximately 7 mm (0.3 in.) of the outer jacket with the gauge wire strippers. Excess webbing on duplex cable may have to be trimmed to allow the simplex or simplex latching connector to slide over the cable.

When using the duplex connector and duplex cable, the separated duplex cable must be stripped to equal lengths on each cable. This allows easy and proper seating of the cable into the duplex connector.



through the end of the connector. Carefully position the ring so that it is entirely on the connector and then crimp the ring in place with the crimping tool. One crimp tool is used for all connector crimping requirements.

Note: Place the gray connector on the cable end to be connected to the transmitter and the blue connector on the cable end to be connected to the receiver, to maintain the color coding (both connectors are the same mechanically). For duplex connector and duplex cable application, align the color coded side of the cable with the appropriate lugs of the duplex connector in order to match connections to the respective optical ports. The simplex connector crimp ring (silver color) cannot be used with the duplex connector. The duplex connector crimp ring (gold color) cannot be used with the simplex or simplex latching connectors.

SILVER COLOR CRIMP RING

SILVER COLOR CRIMP RING

**GOLD COLOR
CRIMP RING**

Any excess fiber protruding from the connector end may be cut off; however, the trimmed fiber should extend at least 1.5 mm (0.06 in.) from the connector end.

insert the connector fully into the polishing fixture with the trimmed fiber protruding from the bottom of the fixture.

This plastic polishing fixture can be used to polish two simplex connectors or two simplex latching connectors simultaneously, or one duplex connector.

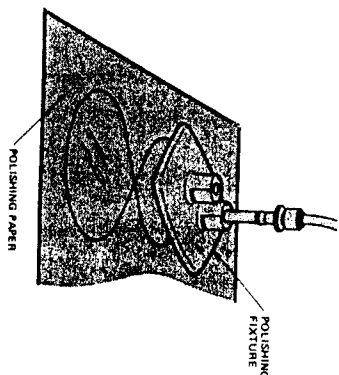
NOTE: The four dots on the bottom of the polishing fixture are wear indicators. Replace the polishing fixture when any dot is no longer visible.

Place the 600 grit abrasive paper on a flat smooth surface. Pressing down on the connector, polish the fiber and the connector using a figure eight pattern of strokes until the connector is flush with the bottom of the polishing fixture. Wipe the connector and fixture with a clean cloth or tissue.



The cable is now ready for use.

Note: Use of the pink lapping film time polishing step results in approximately 2 dB improvement in coupling performance of either a transmitter-receiver link or a bulk-head/splice over 800 grit polish alone. This fine polish is comparable to Hewlett-Packard factory polish. The fine polishing step may be omitted where an extra 2 dB of optical power is not essential, as with short link lengths. Proper polishing of the tip of the fiber/connector face results in a tip diameter between 2.8 mm (0.110 in.) minimum and 3.2 mm (0.125 in.) maximum.



For simultaneous multiple connector polishing techniques, please contact Hewlett-Packard.