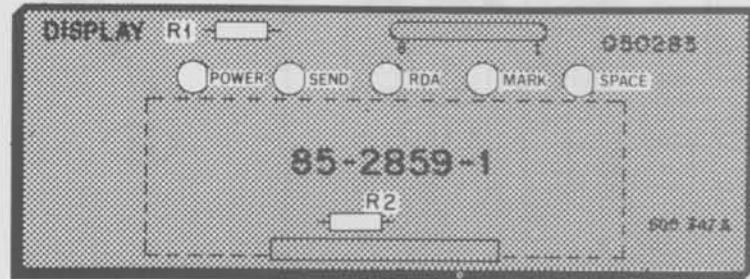
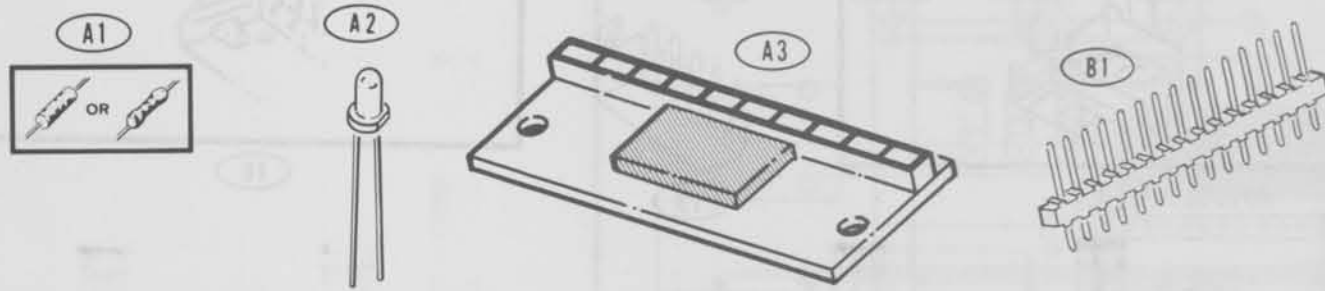


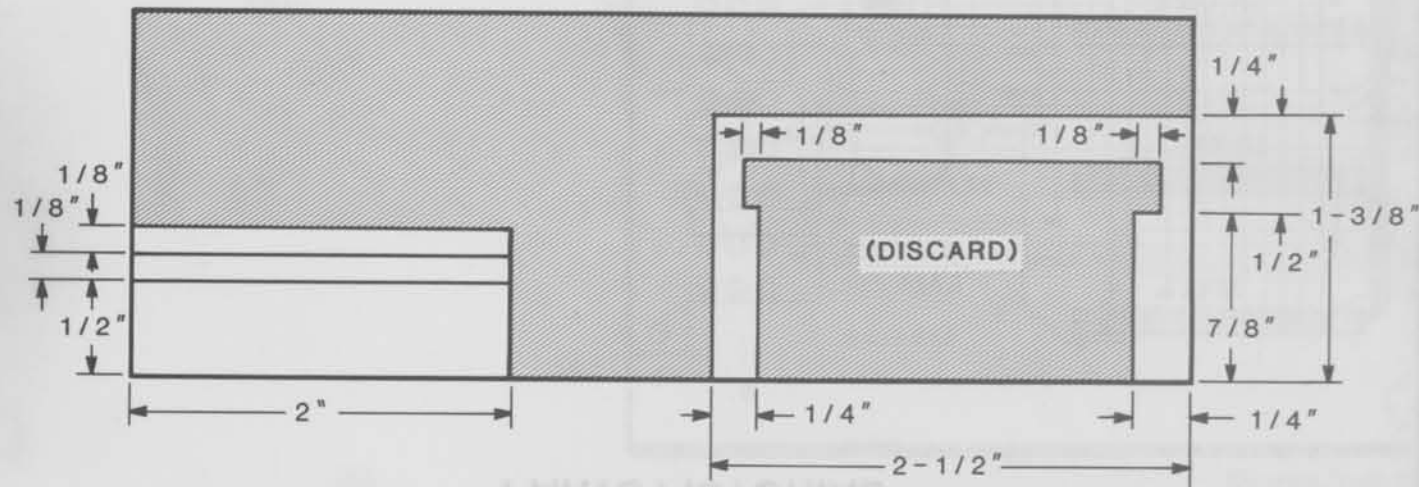
# ILLUSTRATION BOOKLET

Part of 595-3100-01

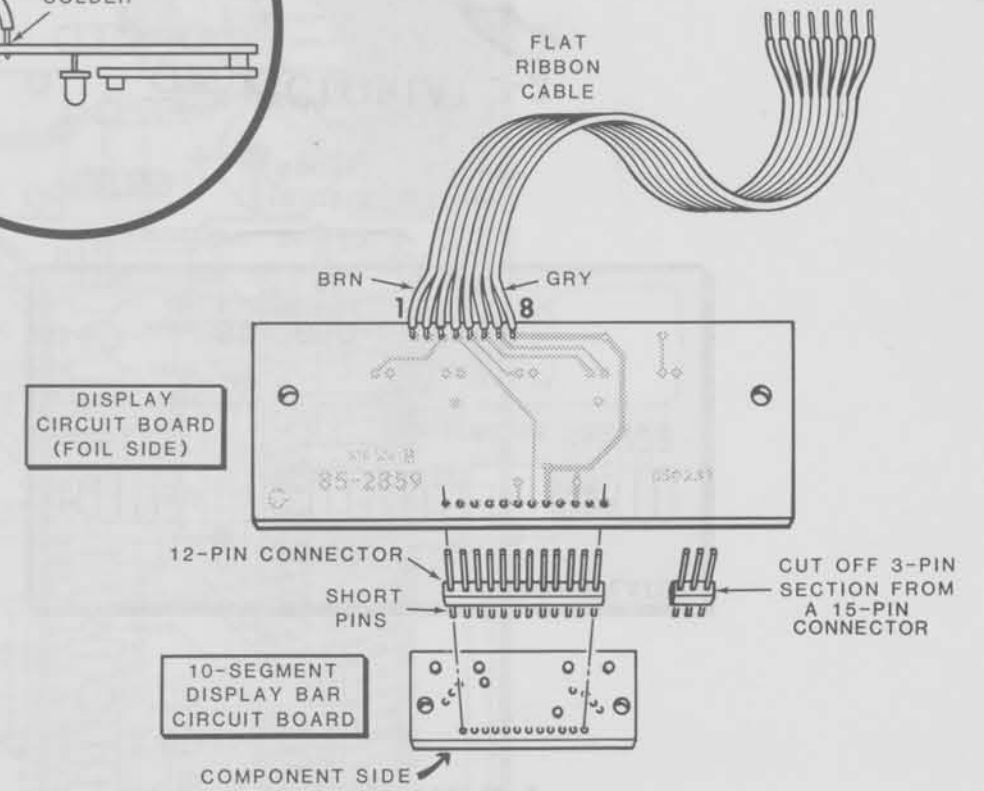
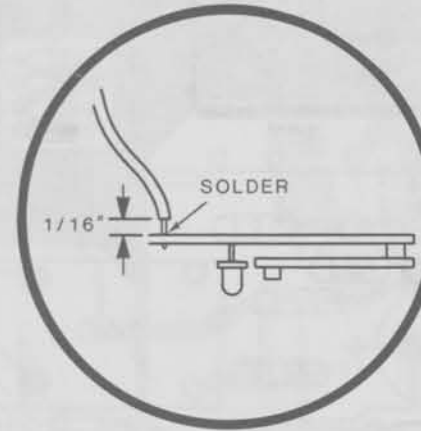
## DISPLAY CIRCUIT BOARD PARTS PICTORIAL



PICTORIAL 1-1



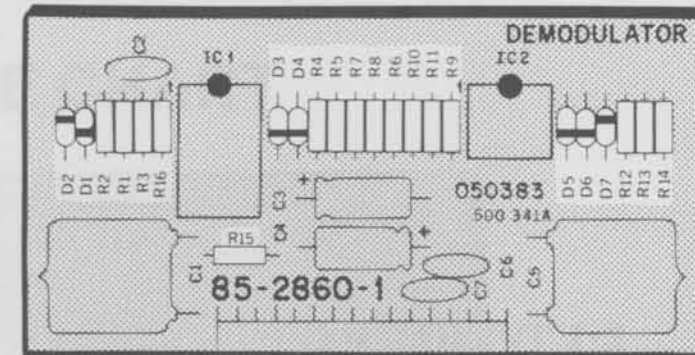
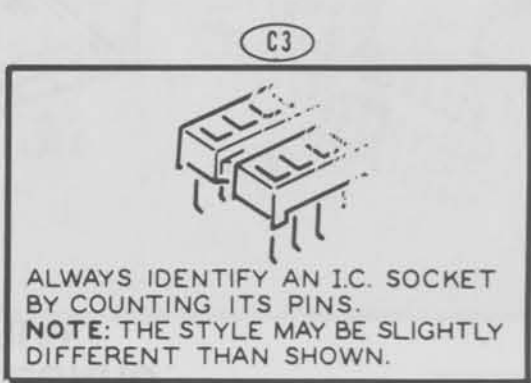
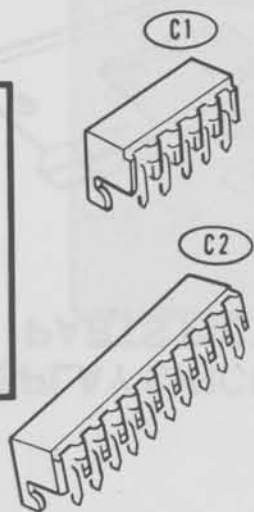
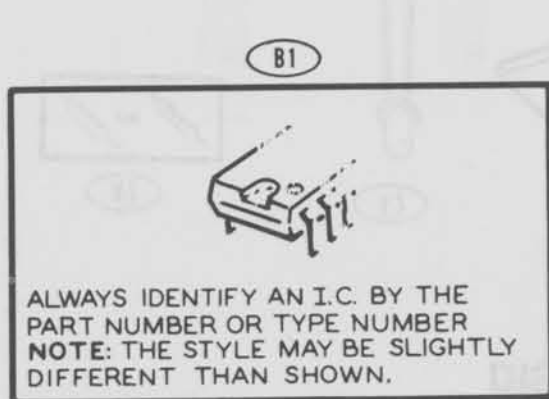
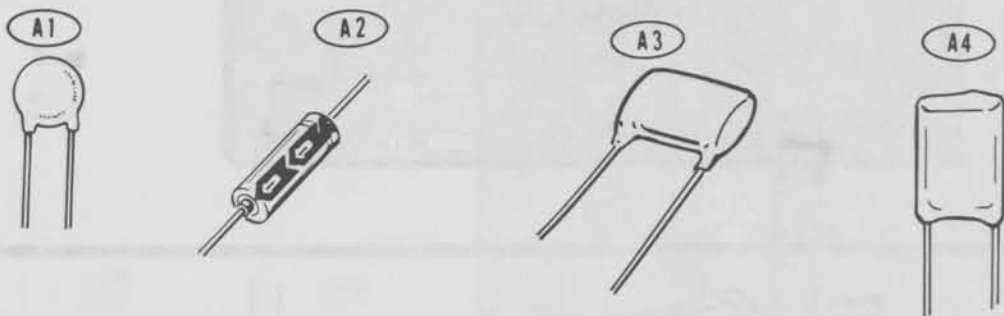
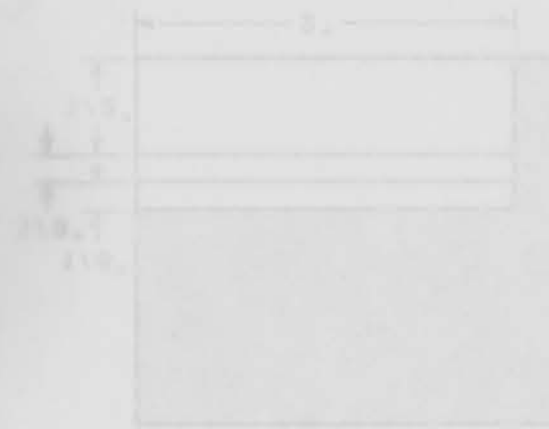
Detail 1-2B



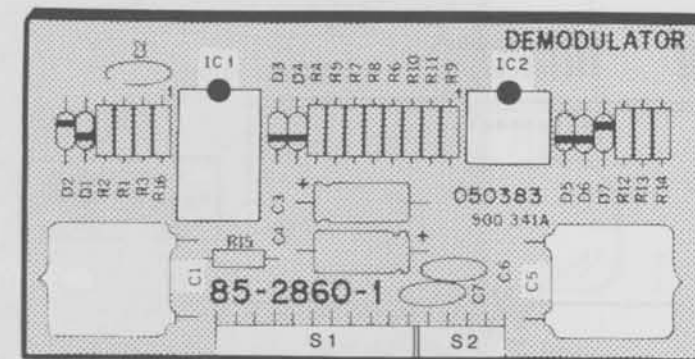
PICTORIAL 1-2

Model HD-3030

# RTTY DEMODULATOR CIRCUIT BOARD PARTS PICTORIAL

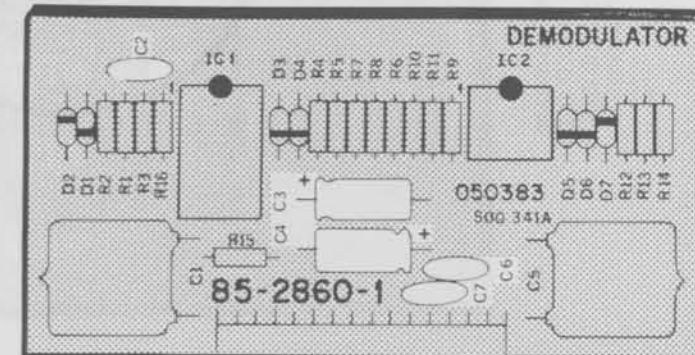


PICTORIAL 2-1



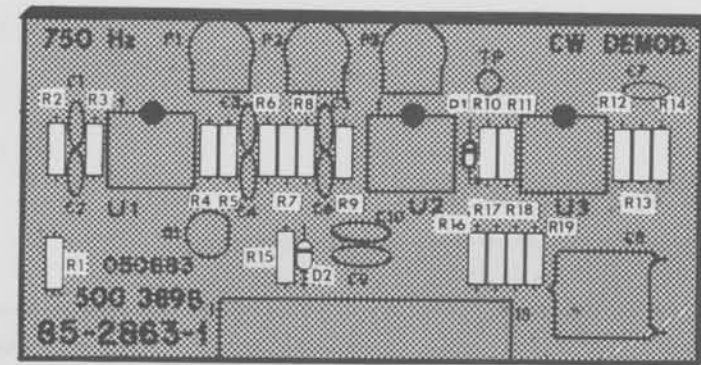
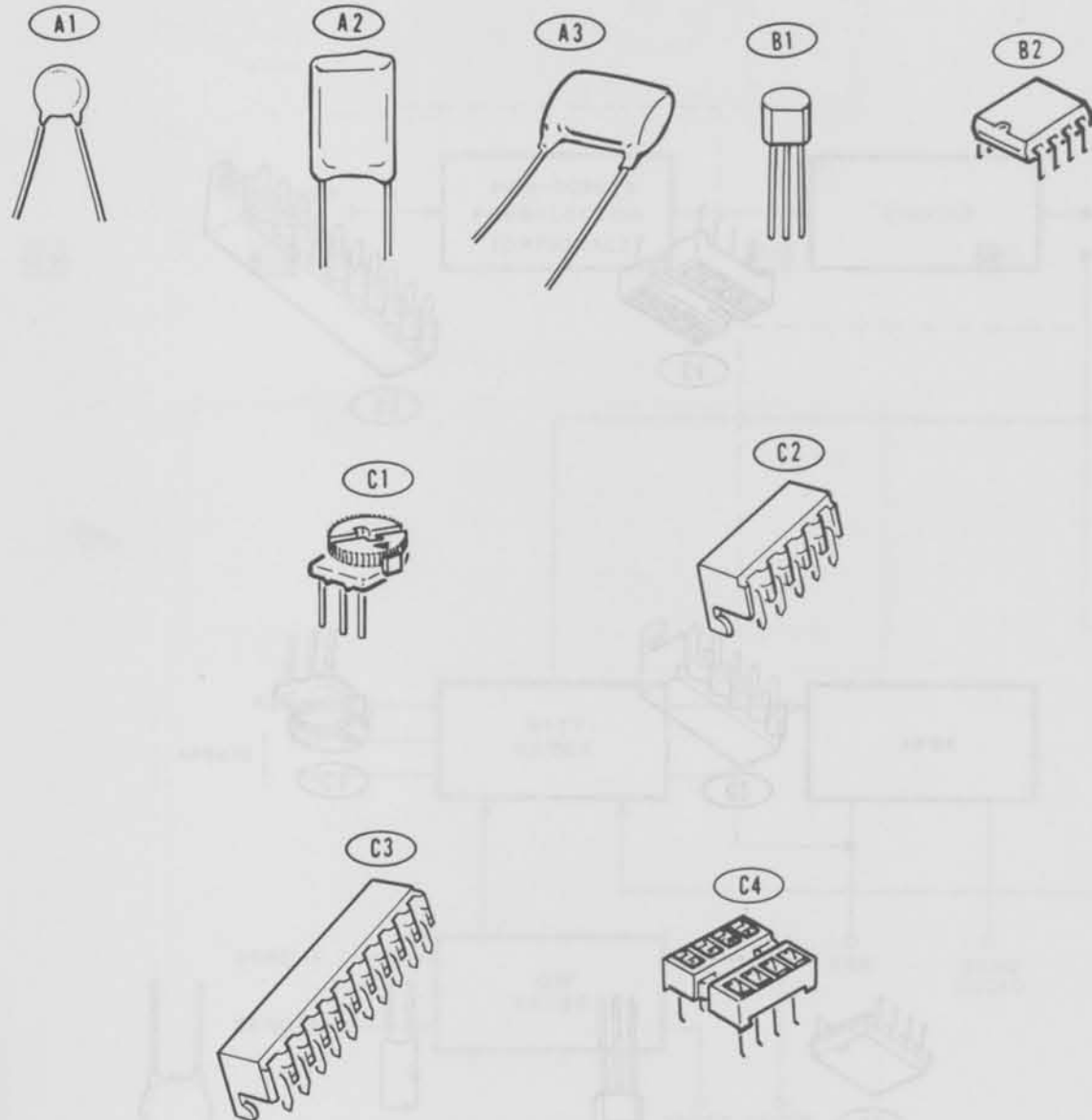
10-HOLE SOCKET      5-HOLE SOCKET

PICTORIAL 2-2

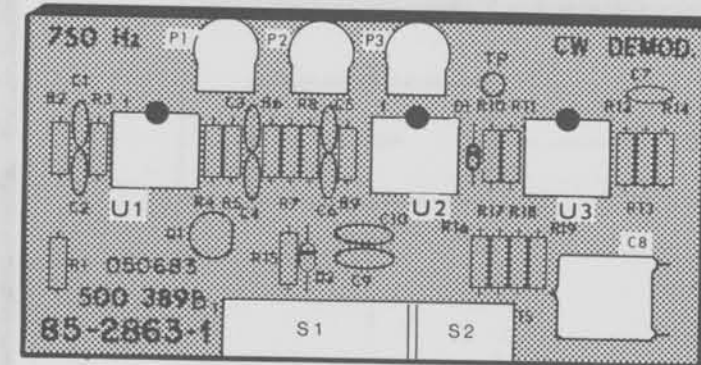


PICTORIAL 2-3

# CW DEMODULATOR CIRCUIT BOARD PARTS PICTORIAL

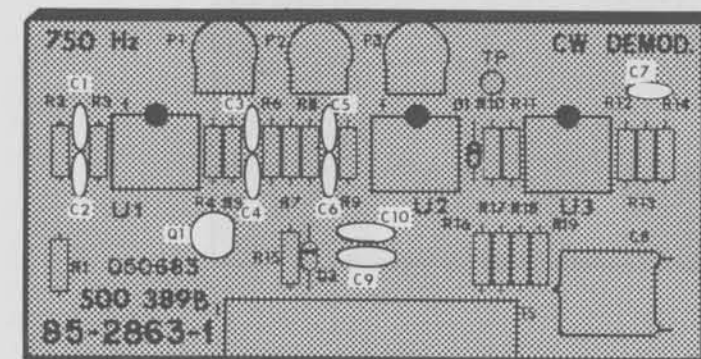


PICTORIAL 3-1



10-HOLE SOCKET 5-HOLE SOCKET

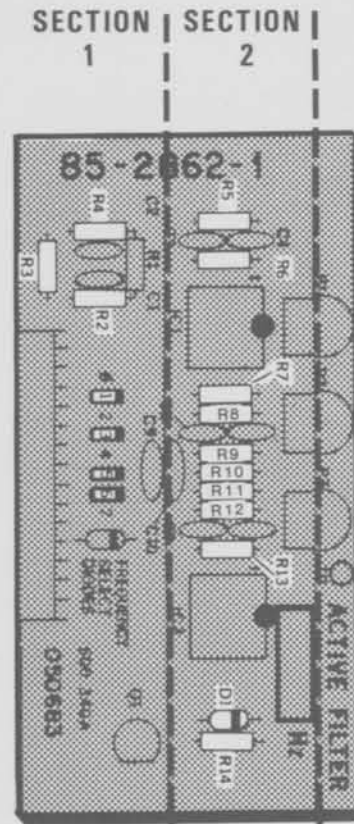
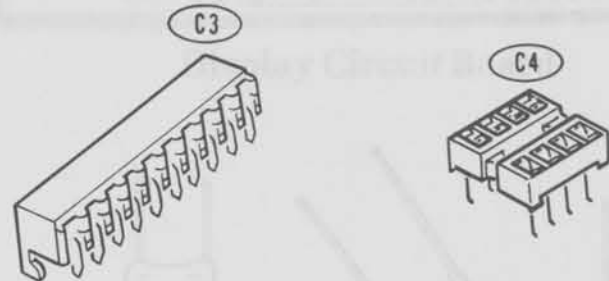
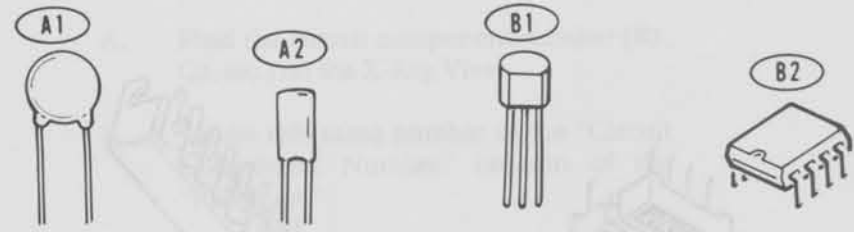
PICTORIAL 3-2



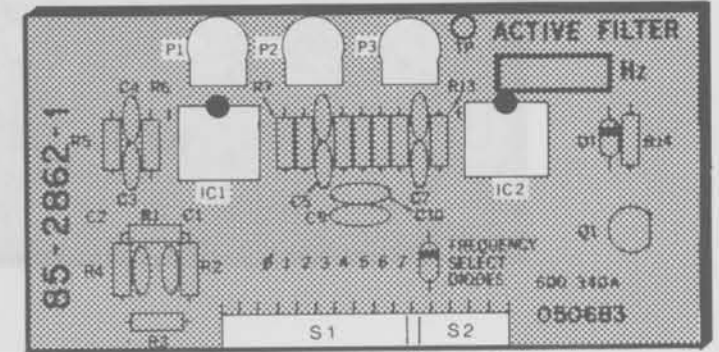
PICTORIAL 3-3

# ACTIVE FILTER (2295 Hz) CIRCUIT BOARD PARTS PICTORIAL

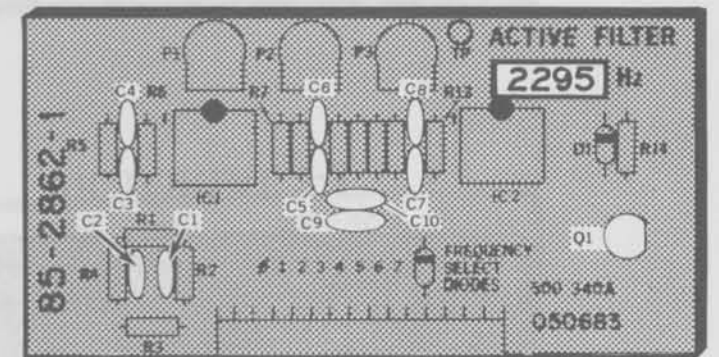
NOTE: To find the PART NUMBER of a component for the purpose of replacement, use the following instructions:



PICTORIAL 4-1

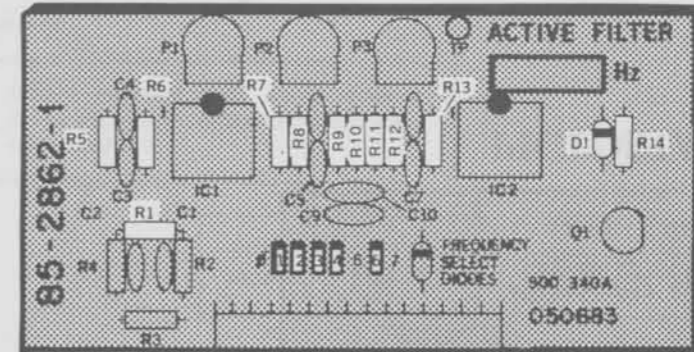
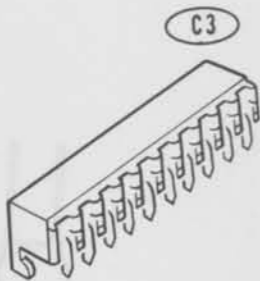
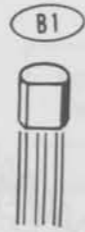


PICTORIAL 4-2

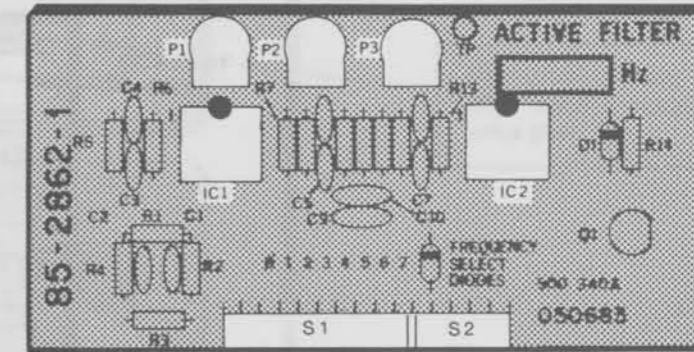


PICTORIAL 4-3

**ACTIVE FILTER (2125 Hz)  
CIRCUIT BOARD  
PARTS PICTORIAL**

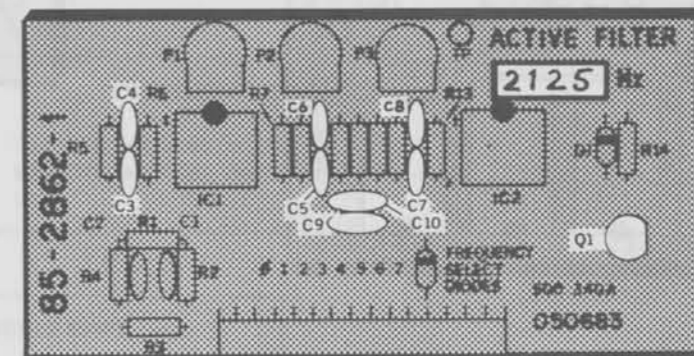


**PICTORIAL 5-1**



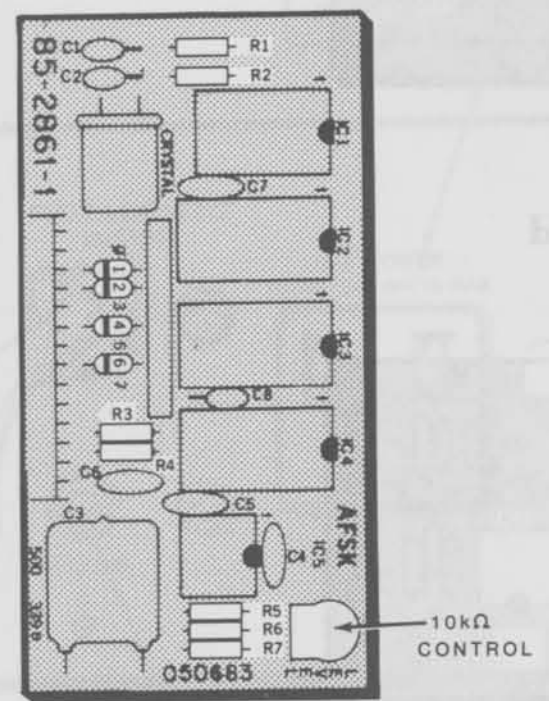
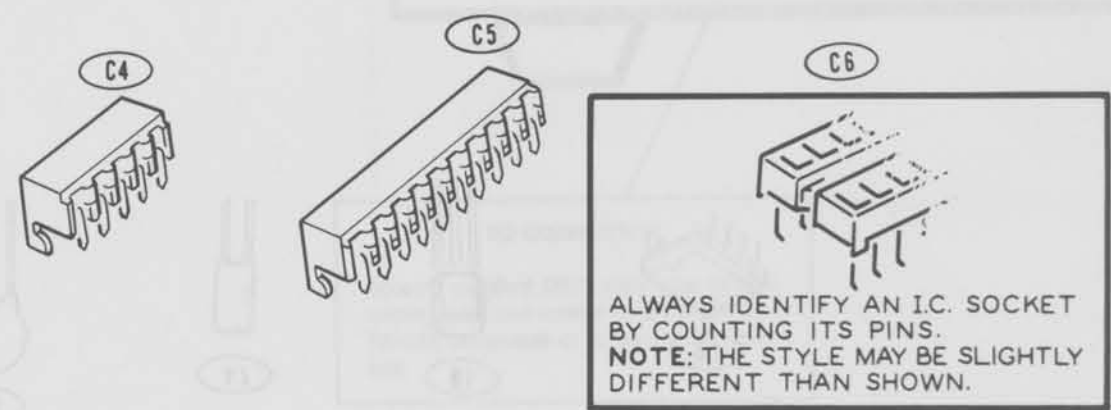
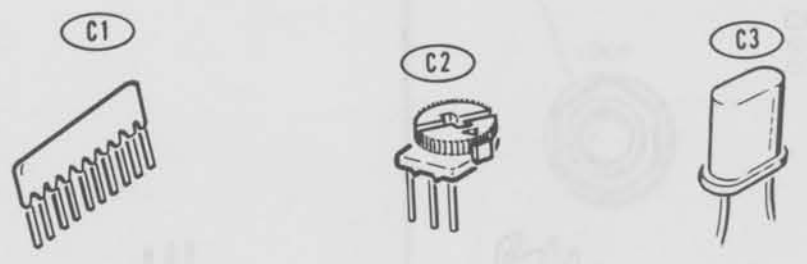
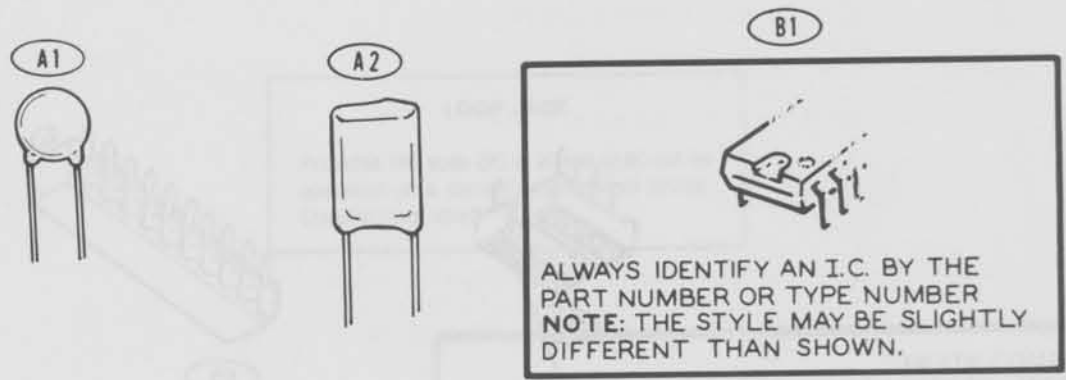
10-HOLE SOCKET      5-HOLE SOCKET

**PICTORIAL 5-2**

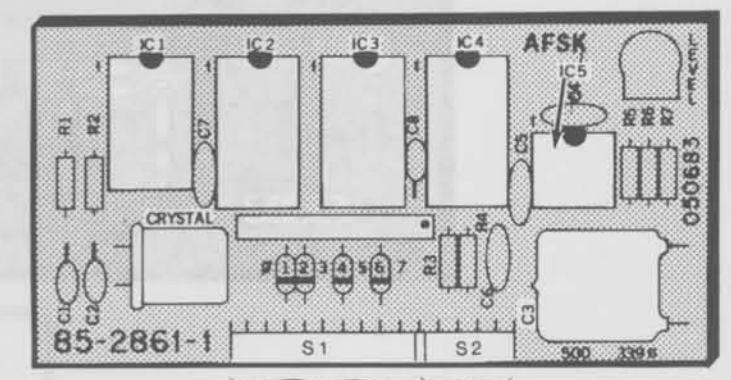


**PICTORIAL 5-3**

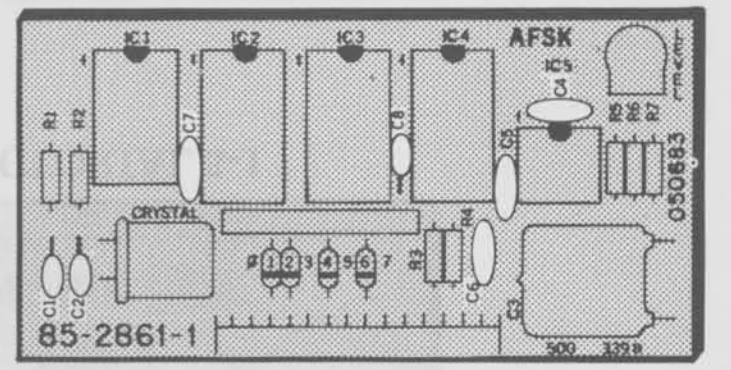
# AFSK CIRCUIT BOARD PARTS PICTORIAL



PICTORIAL 6-1

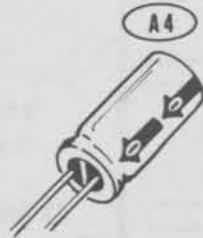


PICTORIAL 6-2

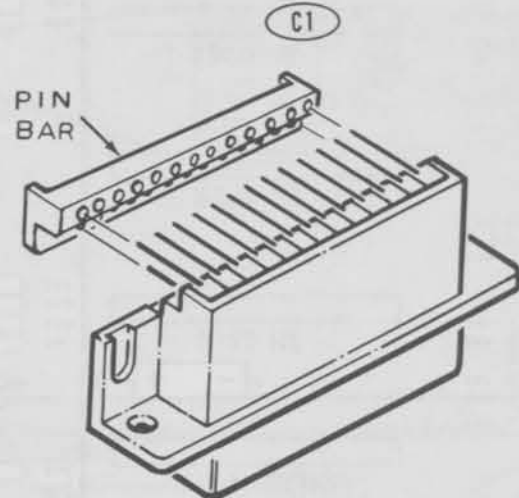
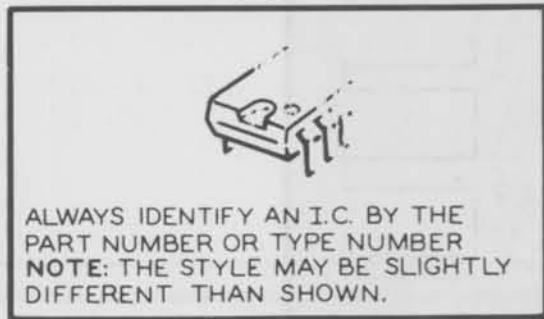


PICTORIAL 6-3

# MAIN CIRCUIT BOARD PARTS PICTORIAL

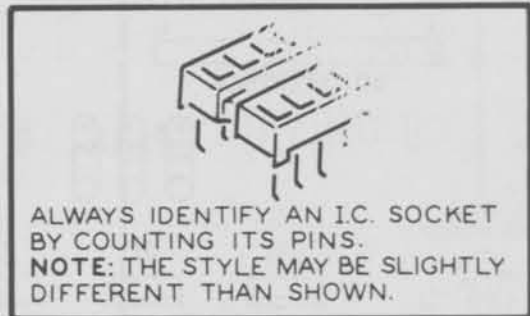


B2

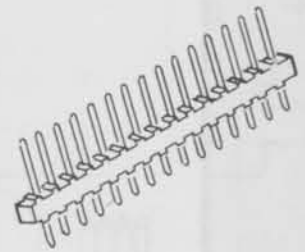


(1 OR 2 PIECE, PIN BAR MAY NOT COME ON CONNECTOR.)

C3



C2



D1



D2



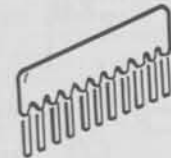
D3



D4



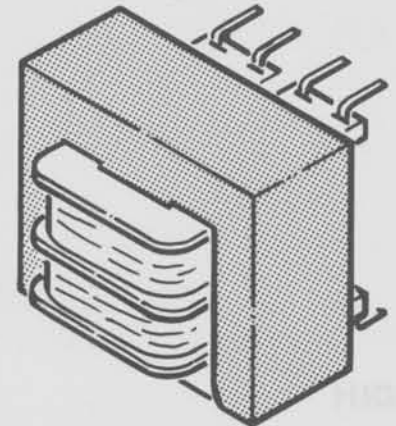
E1



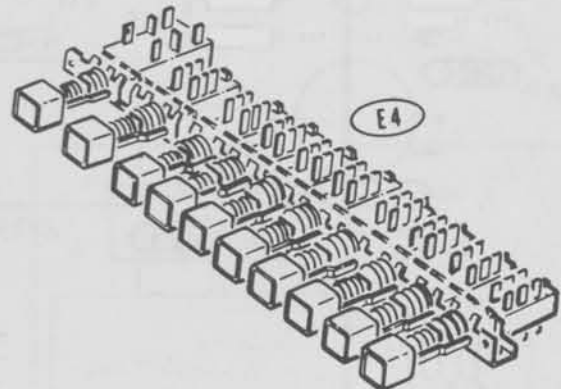
E2



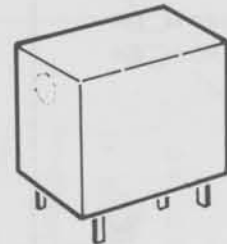
E3



E4



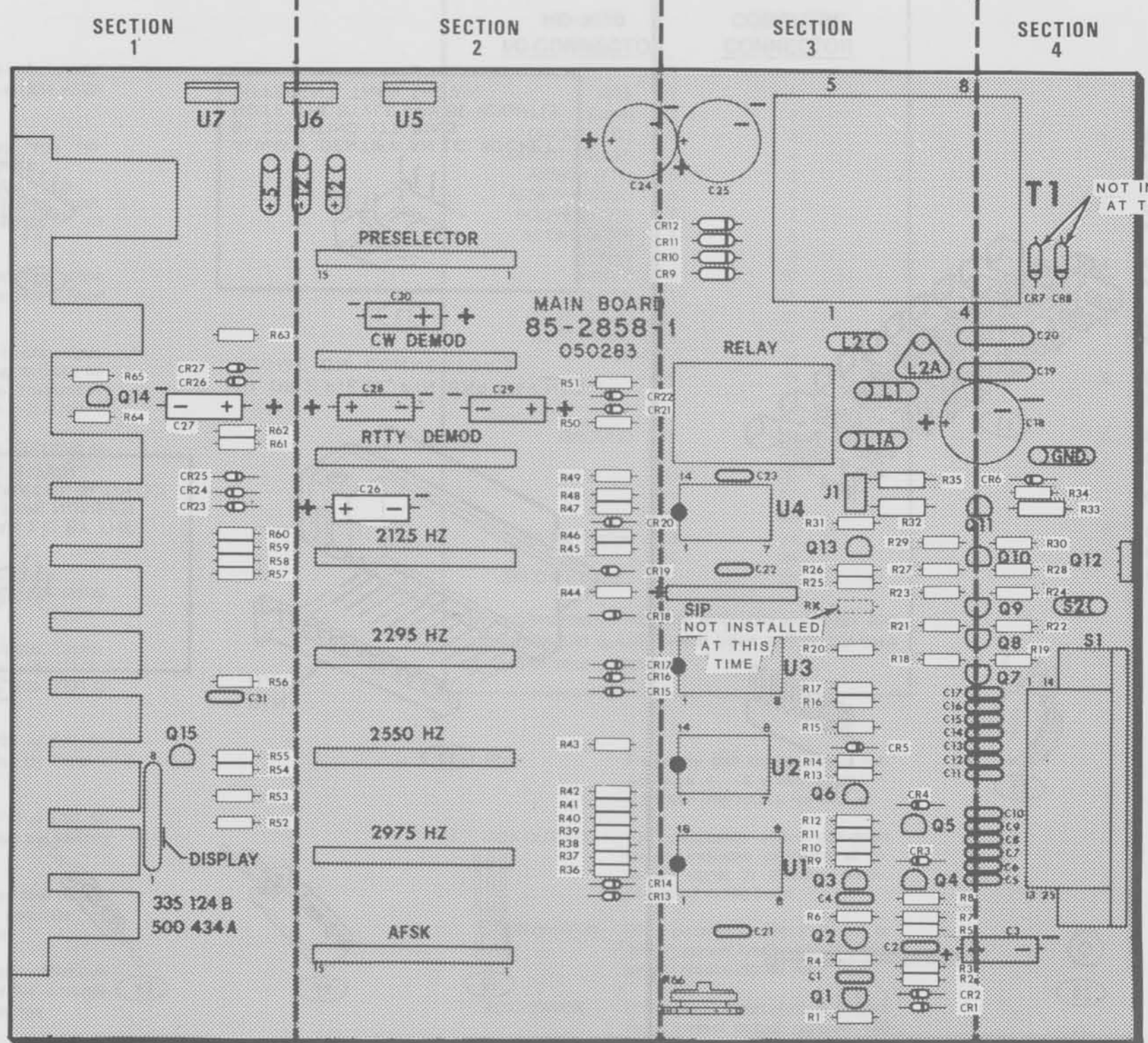
E5



SIGNAL DESCRIPTIONS

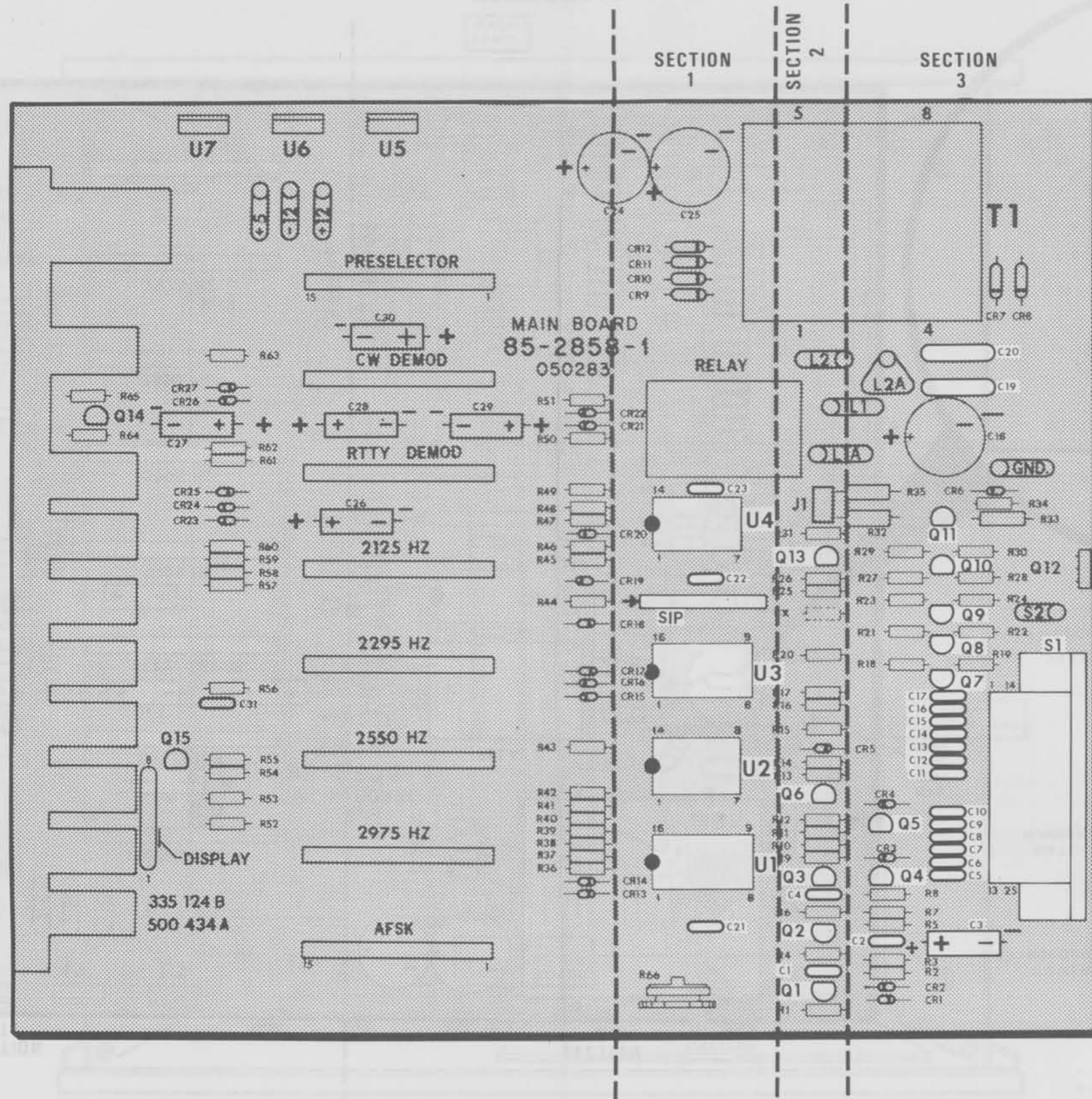
INTERCONNECTION CHART

INSTRUCTIONS



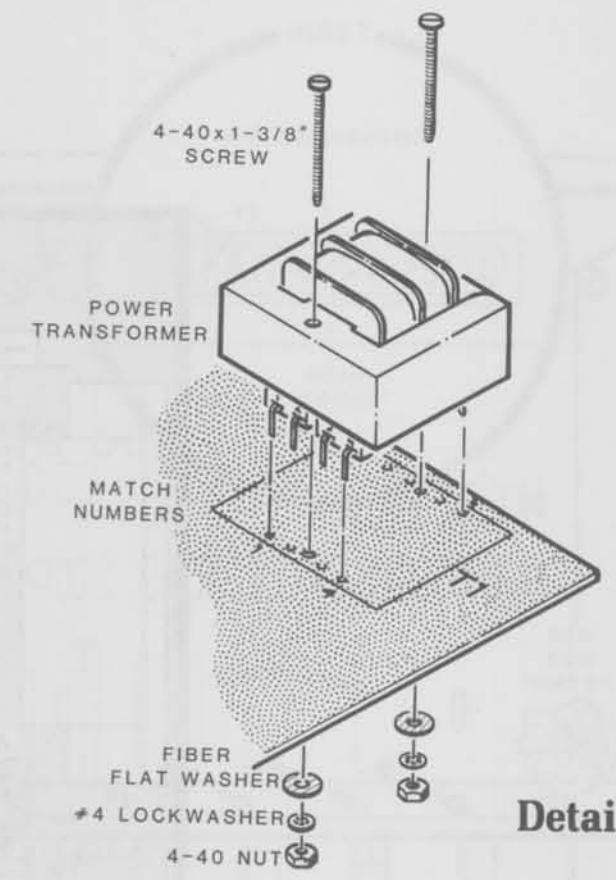
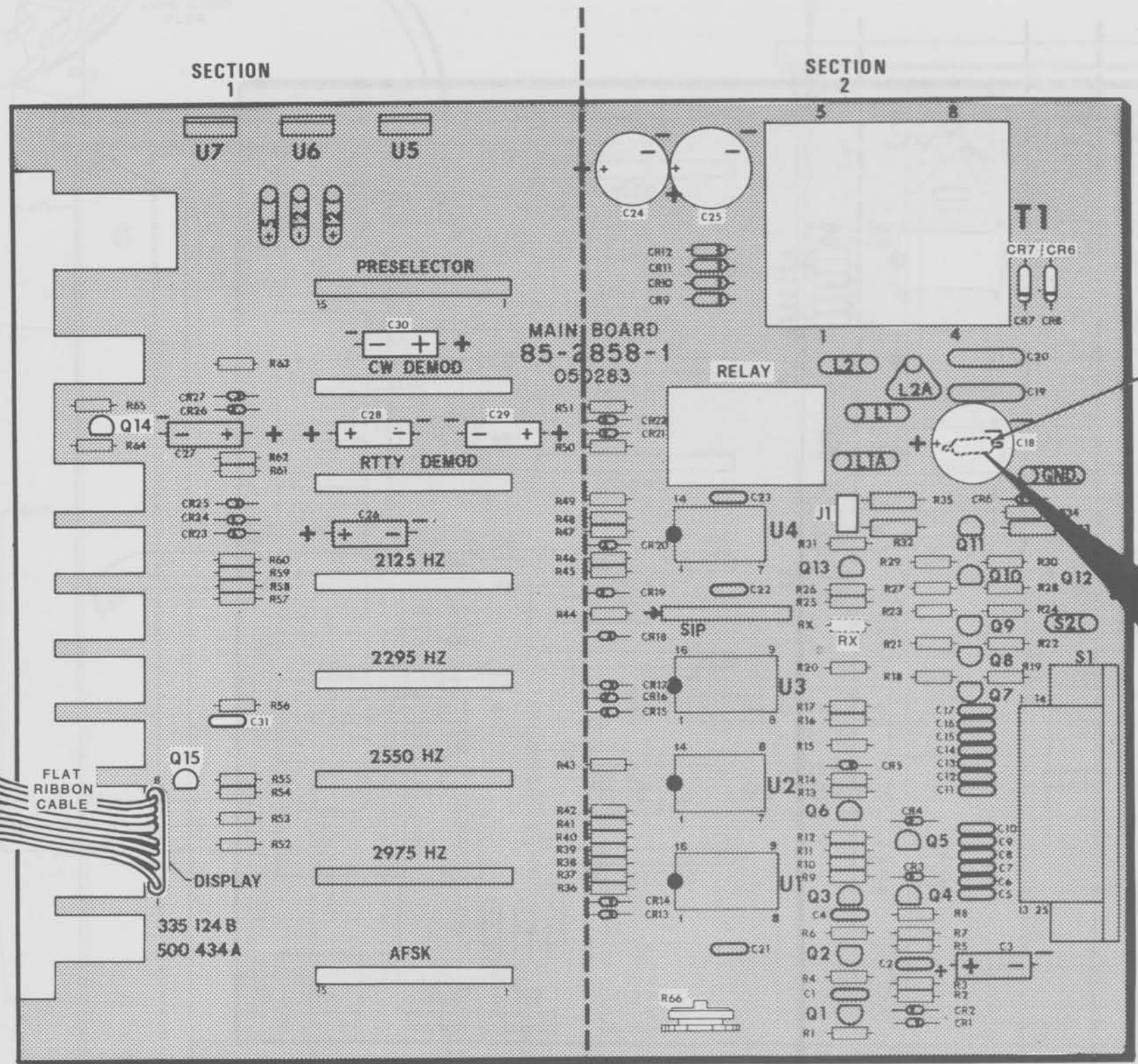
PICTORIAL 7-1



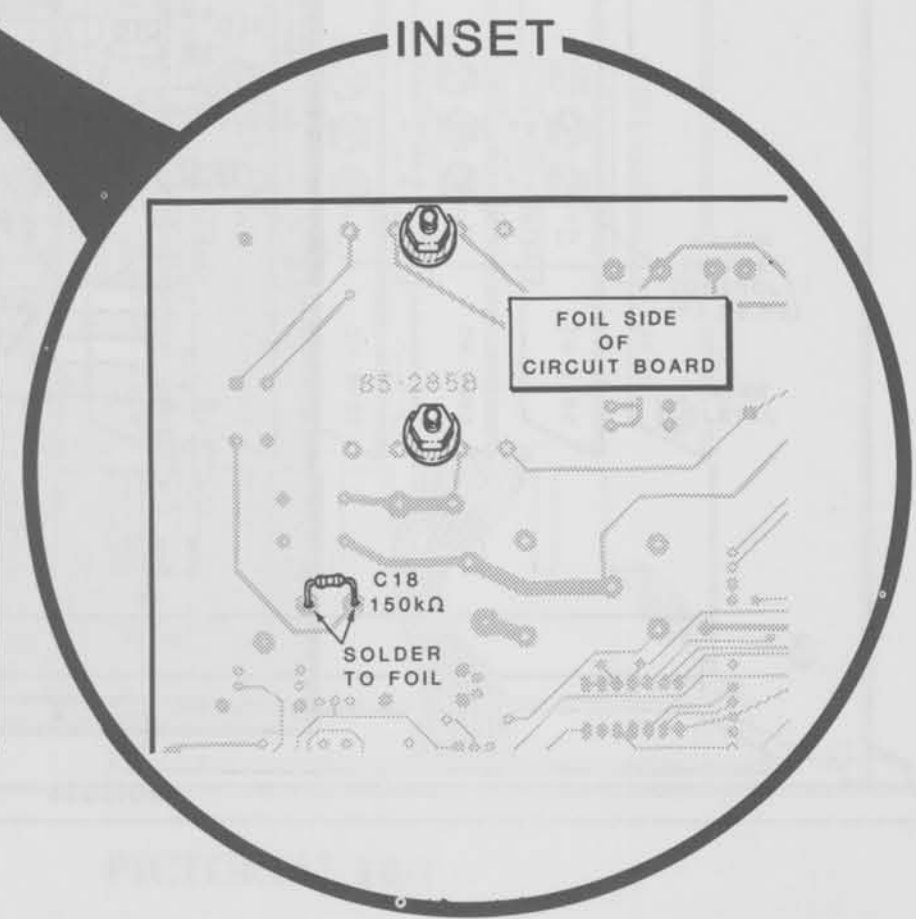


PICTORIAL 7-2

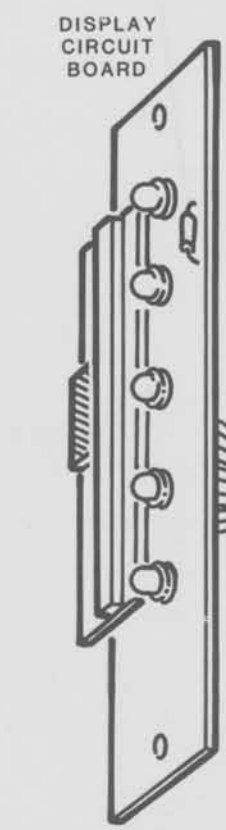
PICTORIAL 7-3



Detail 7-3A

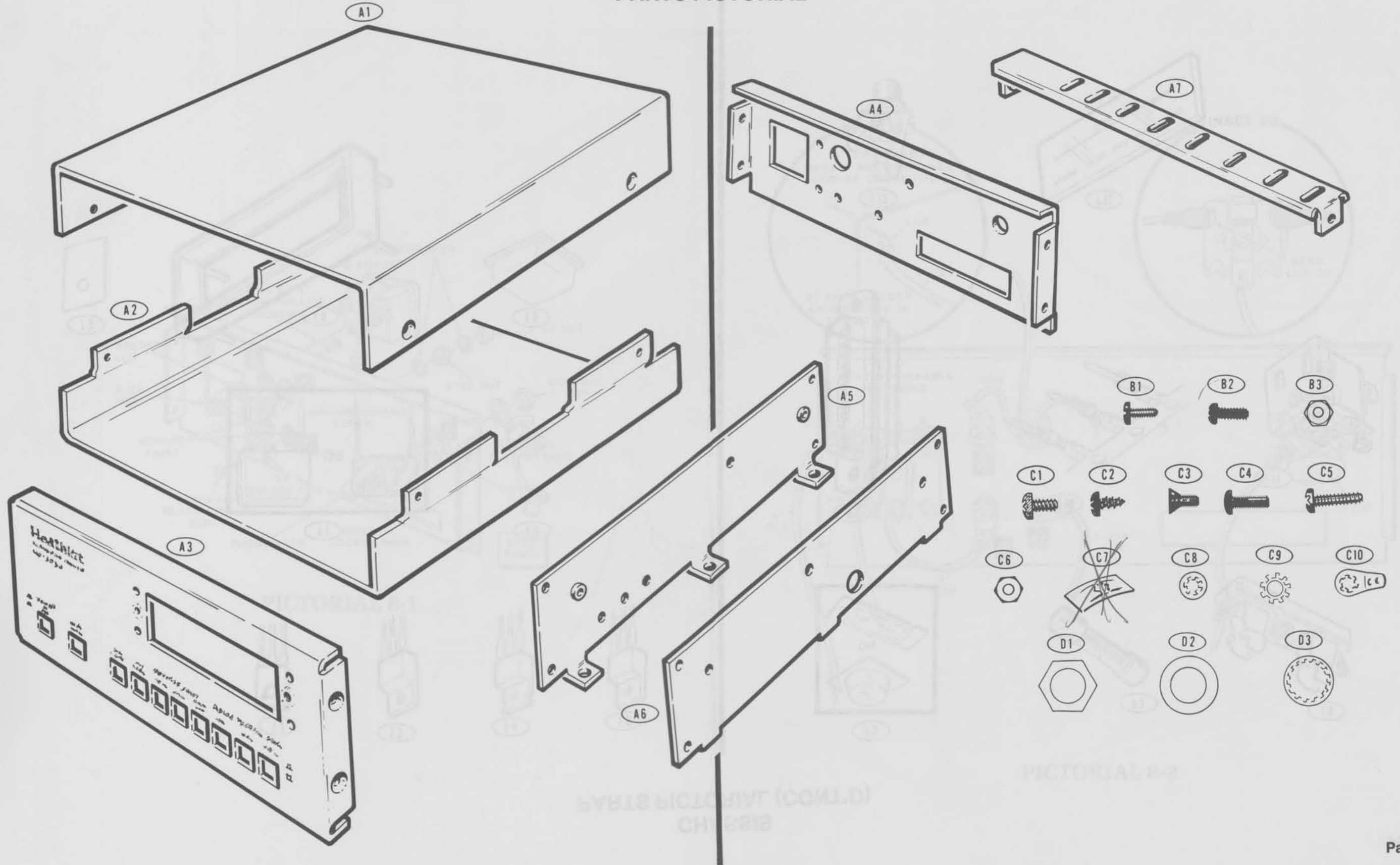


PICTORIAL 7-3

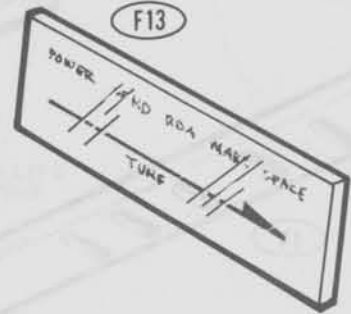
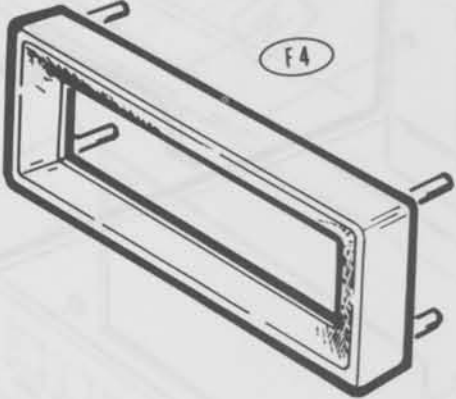
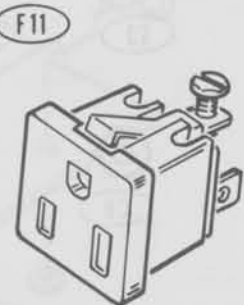
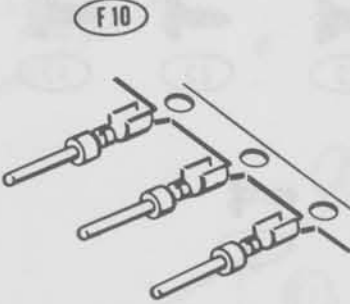
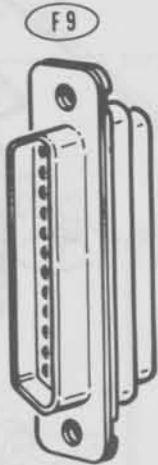
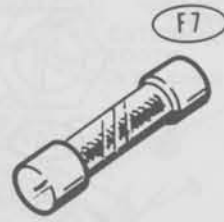
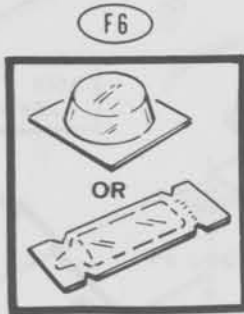
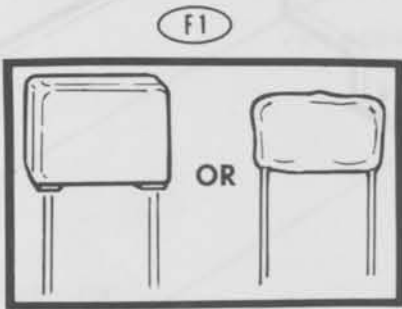


PICTORIAL 7-1

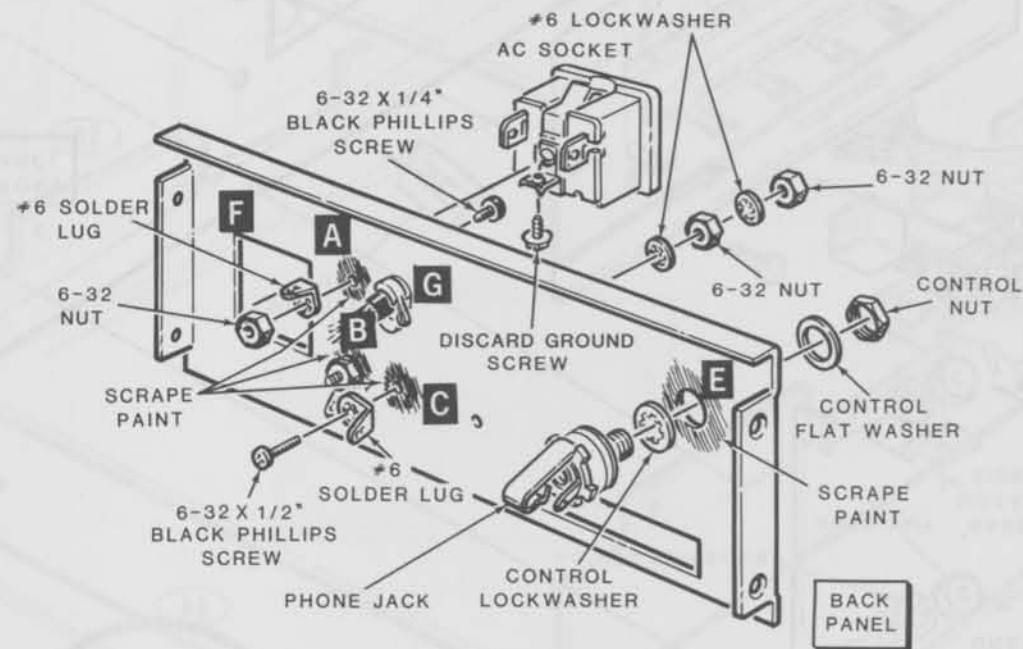
# CHASSIS PARTS PICTORIAL



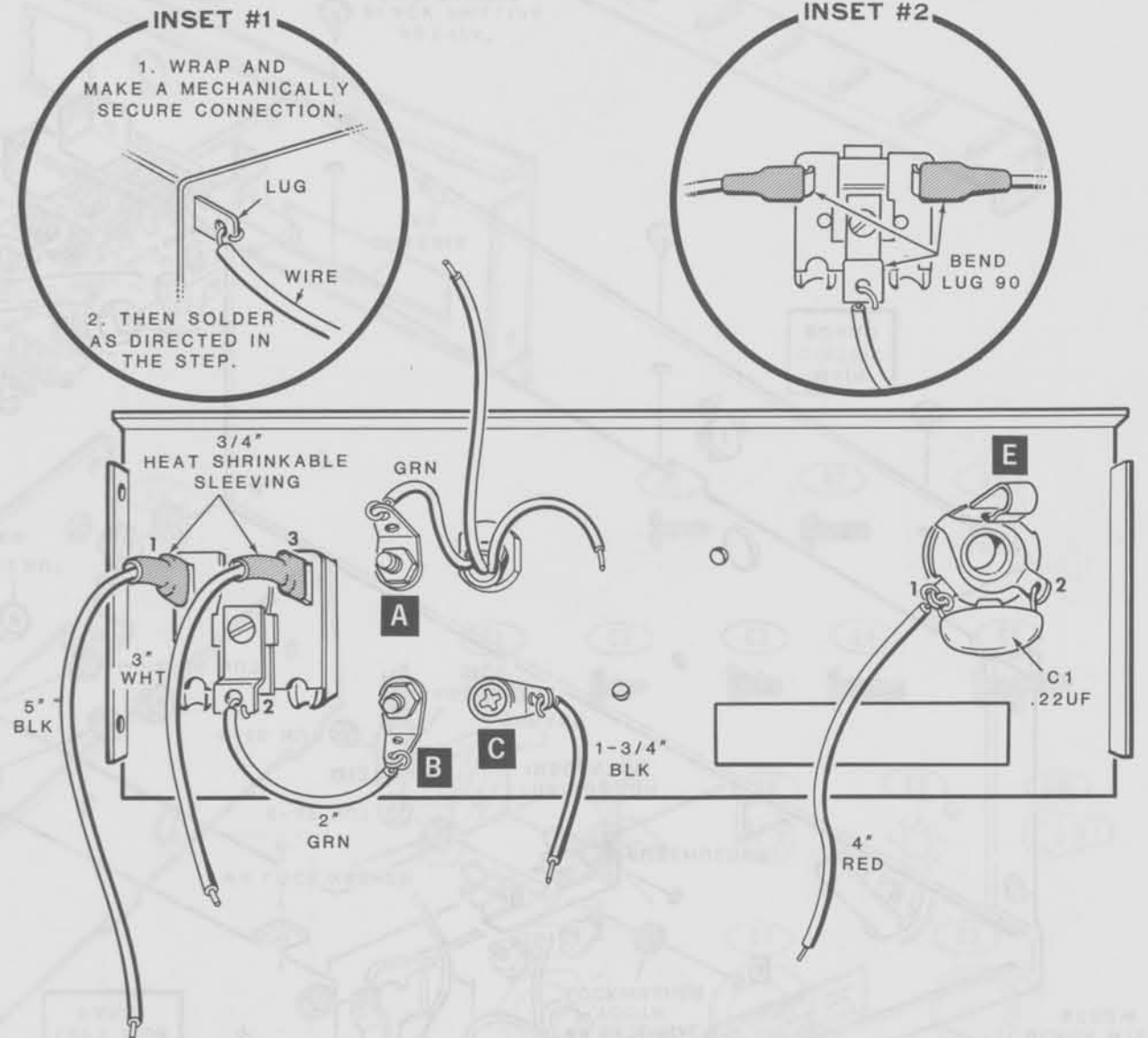
# CHASSIS PARTS PICTORIAL (CONT'D)



CRASSIS  
PARTS PICTORIAL

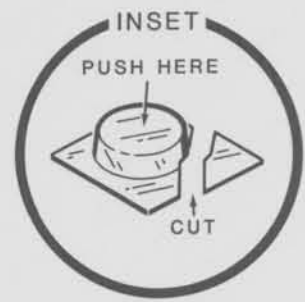
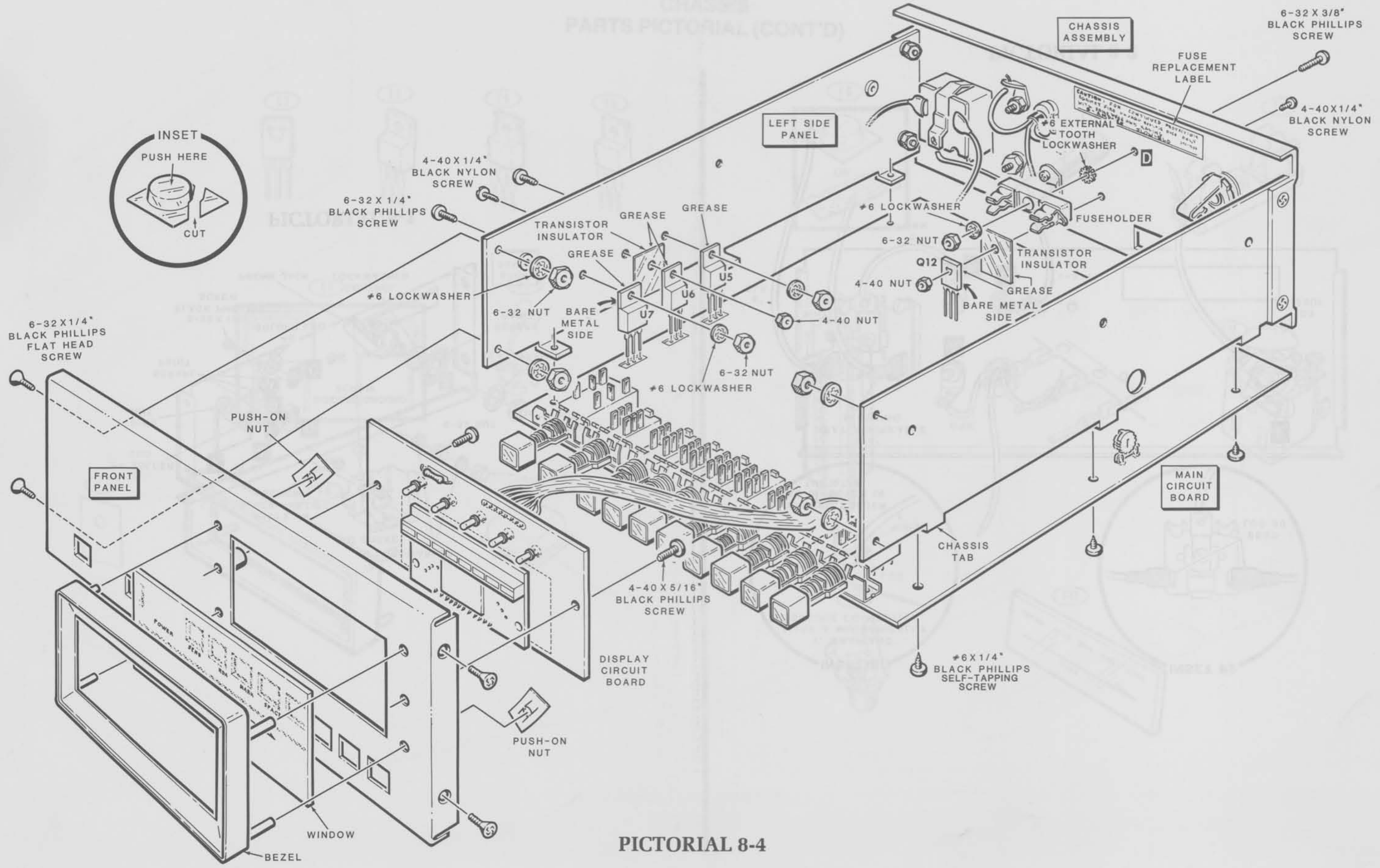


PICTORIAL 8-1

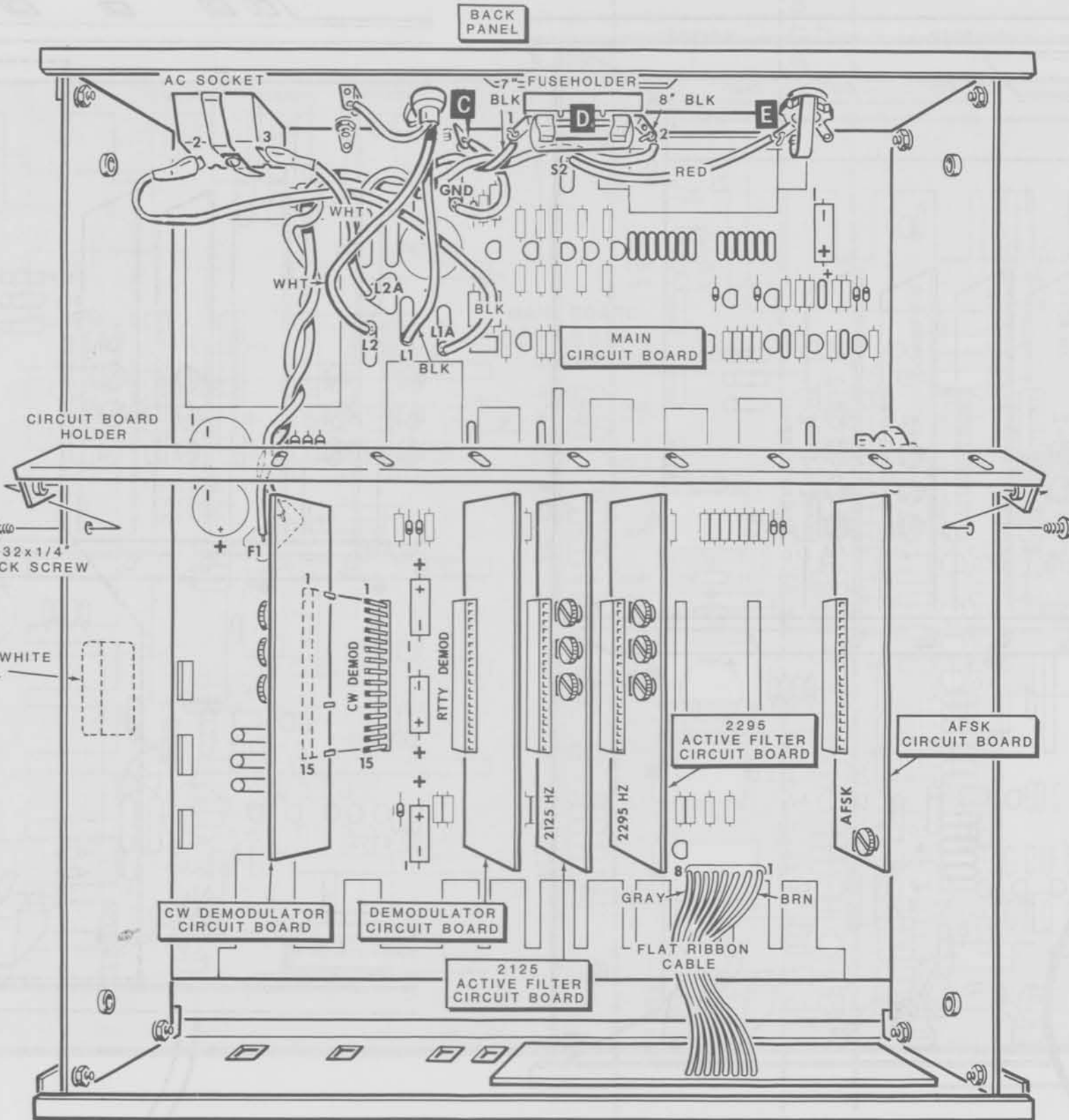


PICTORIAL 8-2

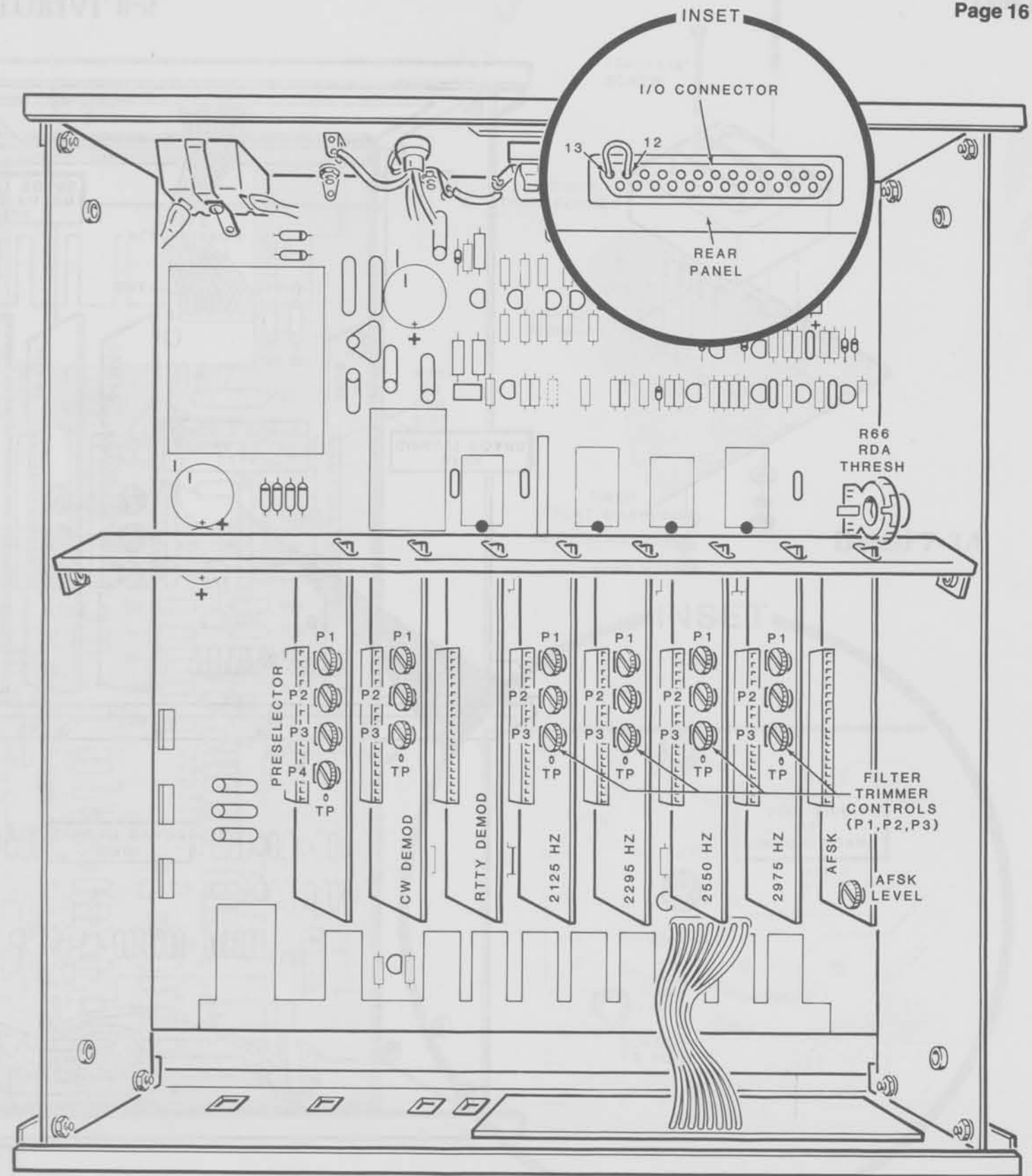
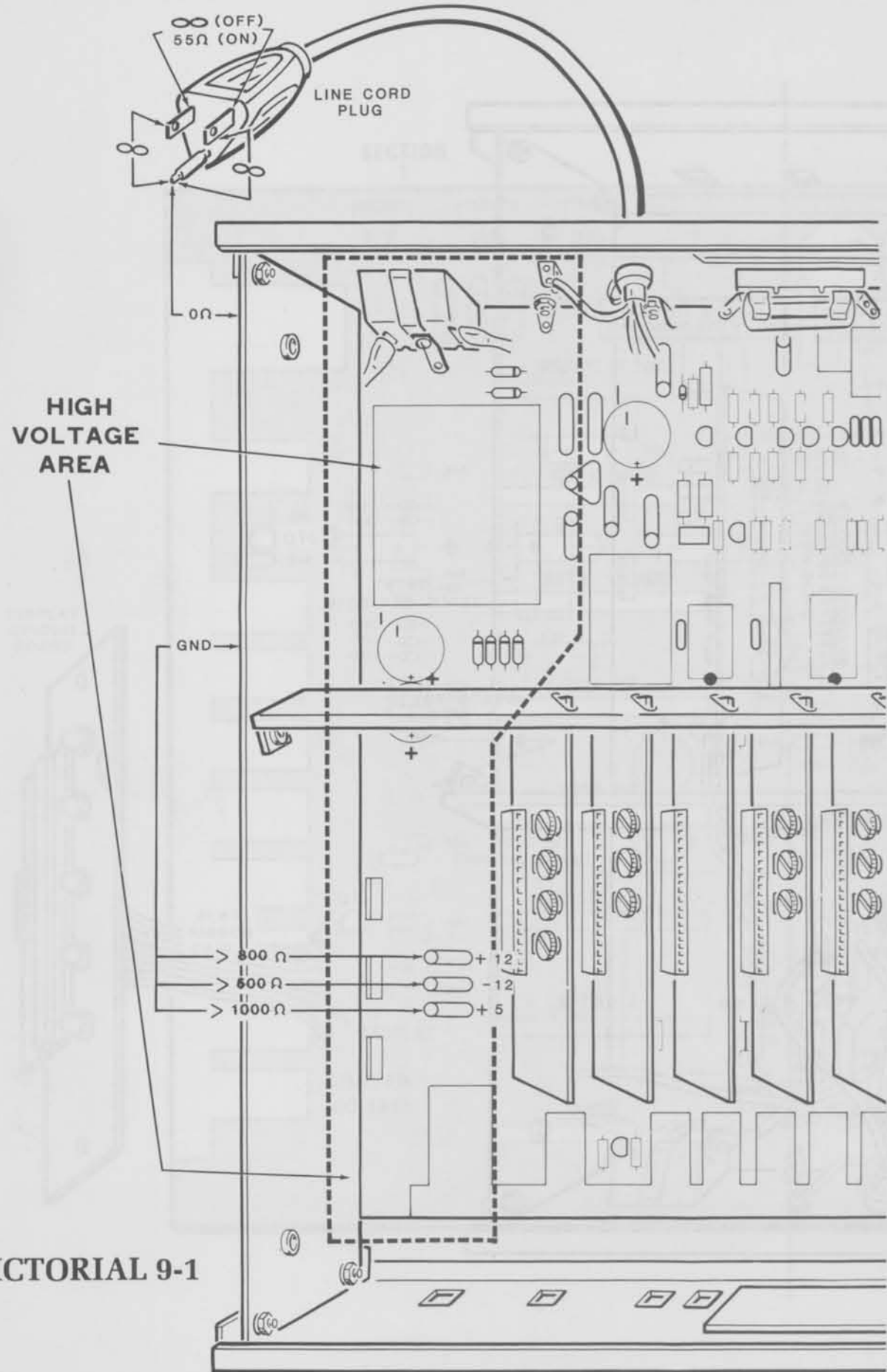
CHASSIS PARTS PICTORIAL (CONT'D)



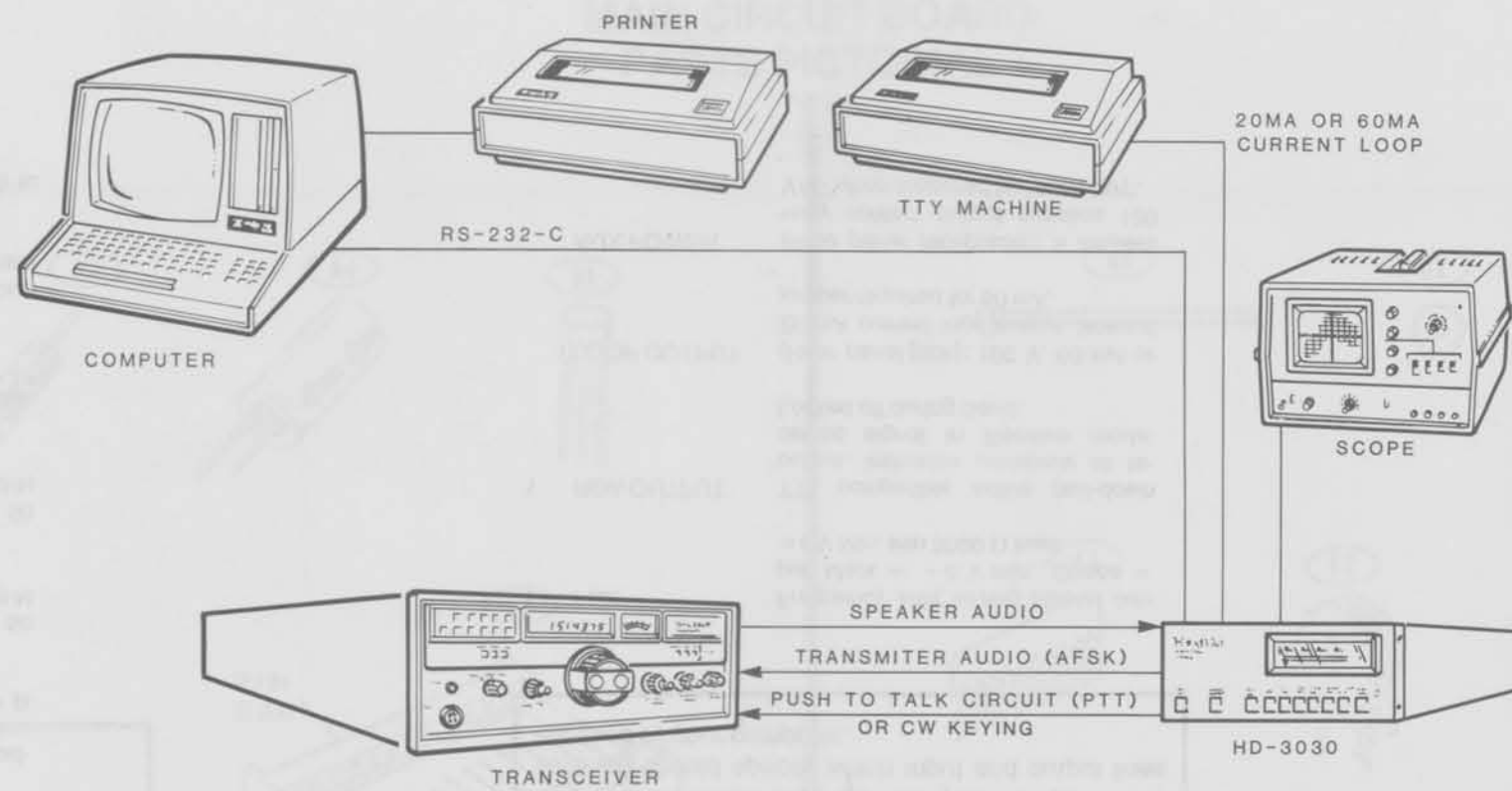
PICTORIAL 8-4



PICTORIAL 8-5

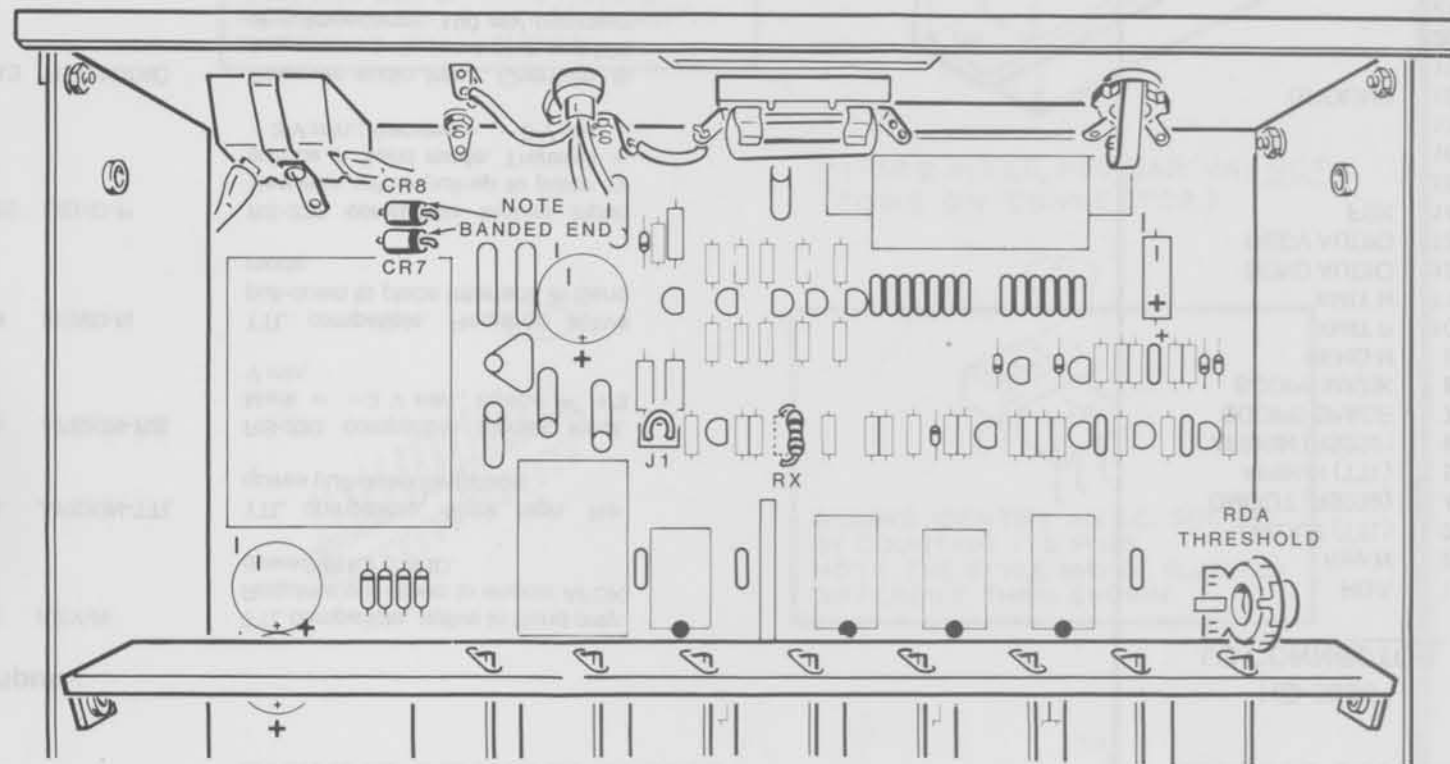






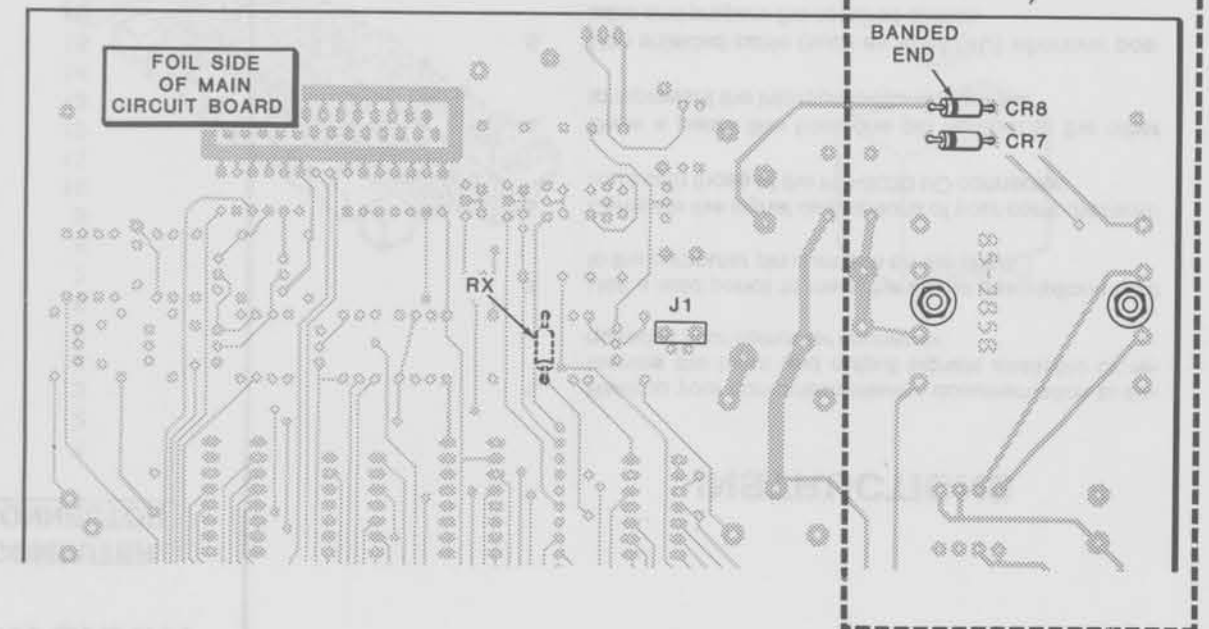
PICTORIAL 11-1

PART A



PART B

HIGH VOLTAGE AREA



PICTORIAL 11-2

## SIGNAL DESCRIPTIONS

### Inputs:

2	KEY-N	TTL compatible, active in Send only. Requires pull-down to enable AFSK downshift for CW ID.
5	AFSKIN-TTL	TTL compatible, Mark high. Requires pull-down for Space.
6	AFSKIN-RS	RS-232 compatible bipolar input. Mark = -3 V min., Space = +3 V min.
9	SEND-N	TTL compatible. Requires active pull-down to place Interface in Send mode.
25	SEND-P	RS-232 compatible bipolar input. Requires active pull-up to place Interface in Send mode. Transmit = +3 V min.; Receive = -3 V min.
13	RECAUDIO	Receiver audio input. Connects to any source between 4 ohm and 600 ohm impedance, 100 mV minimum level.

### Outputs:

3	DMOUT-TTL	TTL compatible demodulator keying output. Mark high.
4	DMOUT-RS	RS-232 compatible bipolar demodulator output. Mark = -6 V min.; Space = +6 V min. into 3000 $\Omega$ load.
10	XMIT-P	Positive keying for PTT or CW. 50 mA maximum. Toggled by Send-N or Send-P inputs.
11	XMIT-N	Negative keying for PTT or CW. 50 mA maximum. Toggled by Send-N or Send-P inputs.
7	SCOPE MARK	50 k $\Omega$ impedance Mark filter output, phase corrected for accurate "+" display on oscilloscope.
8	SCOPE SPACE	50 k $\Omega$ impedance Space filter output, phase corrected for accurate "+" display on oscilloscope.
12	SENDAUDIO	AFSK audio output, adjustable 0 to 2 volts rms, 600 $\Omega$ impedance.

## INTERCONNECTION CHART

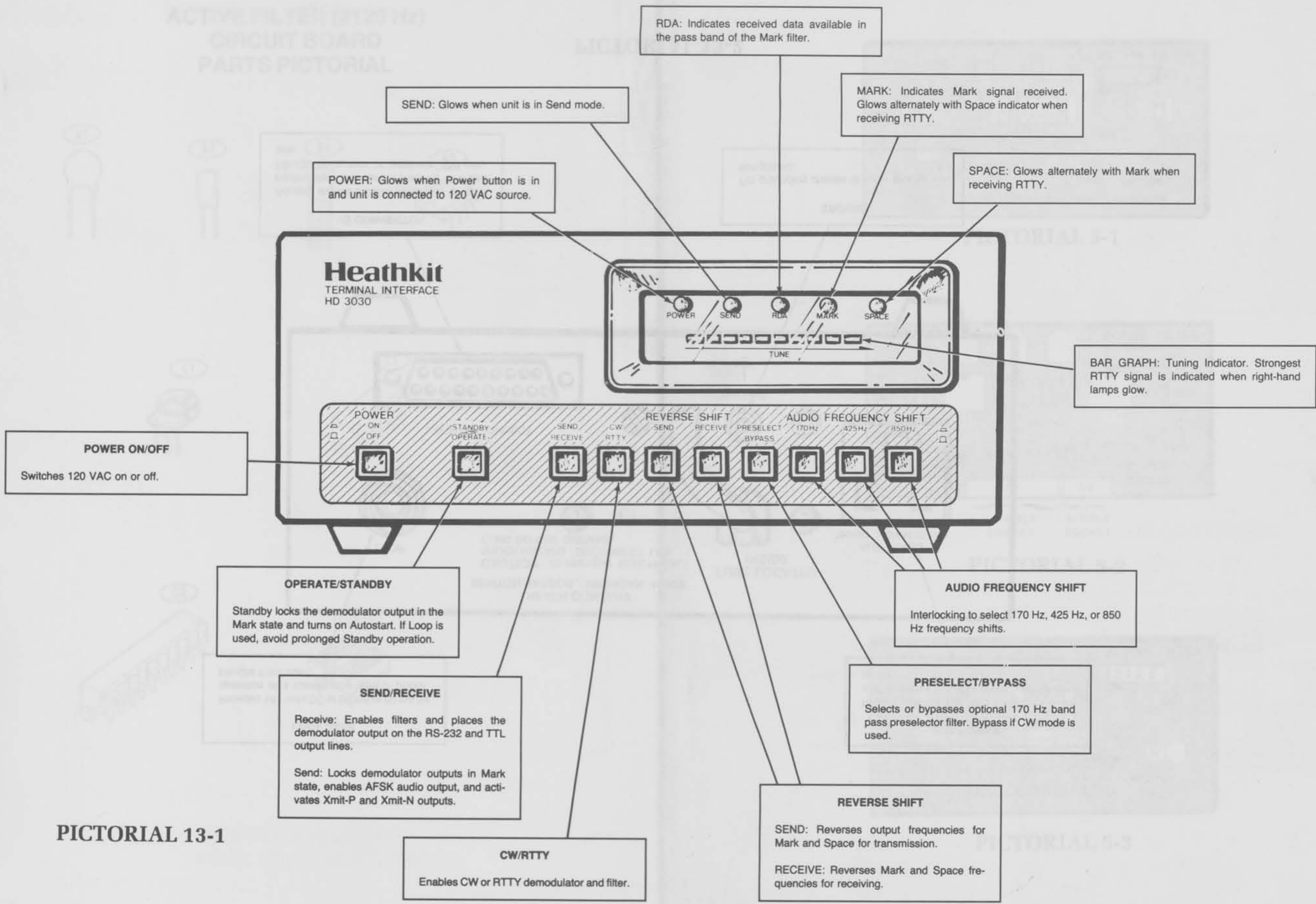
HD-3030 I/O CONNECTOR		COMPUTER CONNECTOR
	RDA	1
	Key-N	2
	DMOUT (TTL)	3
	DMOUT (RS232)	4
	AFSKIN (TTL)	5
	AFSKIN (RS232)	6
	SCOPE SPACE	7
	SCOPE MARK	8
	SEND N	9
	XMIT P	10
	XMIT N	11
	SEND AUDIO	12
	RECV AUDIO	13
	FSK	14
		15
		16
		17
	GROUND	18
		19
		20
		21
		22
	No Connection	23
		24
	SEND P (RS-232)	25

The documentation supplied with your computer and software should specify which input and output lines are used by your computer.

14	FSK	Frequency shift keying bipolar output. Mark = -6 V min.; Space = +6 V Min. into 3000 $\Omega$ load.
1	RDA OUTPUT	TTL compatible active pull-down output. Indicates presence of received signal in Receive mode. Locked off during Send.
	LOOP OUTPUT	(Rear panel jack): 100 V, 60 mA or 20 mA current loop output. Internal jumper required for 60 mA.
	AUX POWER	(Rear panel receptacle): 5 ampere relay contact output supplies 120 VAC when triggered by "Autostart".

## INSTRUCTIONS

1. Refer to your computer/software documentation to determine the input and output signals available or required at your computer connector.
2. Use a lead pencil to mark the signal descriptions next to the computer pin numbers on the chart.
3. Compare the signal descriptions of your computer/software with those of the HD-3030 I/O connector.
4. Draw a pencil line from one pin number to the other to represent the interconnections required.
5. Use shielded cable (such as RG-174U) wherever possible and prepare the required cables.
6. Connect and solder the cable ends to the appropriate pins of your I/O connector plugs, as you drew them on the chart. Label the plugs "HD-3030" and "Computer".
7. Connect the "HD-3030" plug to the I/O connector on the rear of your Terminal Interface, and the "Computer" plug to your computer.



RDA: Indicates received data available in the pass band of the Mark filter.

MARK: Indicates Mark signal received. Glows alternately with Space indicator when receiving RTTY.

SPACE: Glows alternately with Mark when receiving RTTY.

SEND: Glows when unit is in Send mode.

POWER: Glows when Power button is in and unit is connected to 120 VAC source.

BAR GRAPH: Tuning Indicator. Strongest RTTY signal is indicated when right-hand lamps glow.

**POWER ON/OFF**  
Switches 120 VAC on or off.

**OPERATE/STANDBY**  
Standby locks the demodulator output in the Mark state and turns on Autostart. If Loop is used, avoid prolonged Standby operation.

**SEND/RECEIVE**  
Receive: Enables filters and places the demodulator output on the RS-232 and TTL output lines.  
Send: Locks demodulator outputs in Mark state, enables AFSK audio output, and activates Xmit-P and Xmit-N outputs.

**CW/RTTY**  
Enables CW or RTTY demodulator and filter.

**AUDIO FREQUENCY SHIFT**  
Interlocking to select 170 Hz, 425 Hz, or 850 Hz frequency shifts.

**PRESELECT/BYPASS**  
Selects or bypasses optional 170 Hz band pass preselector filter. Bypass if CW mode is used.

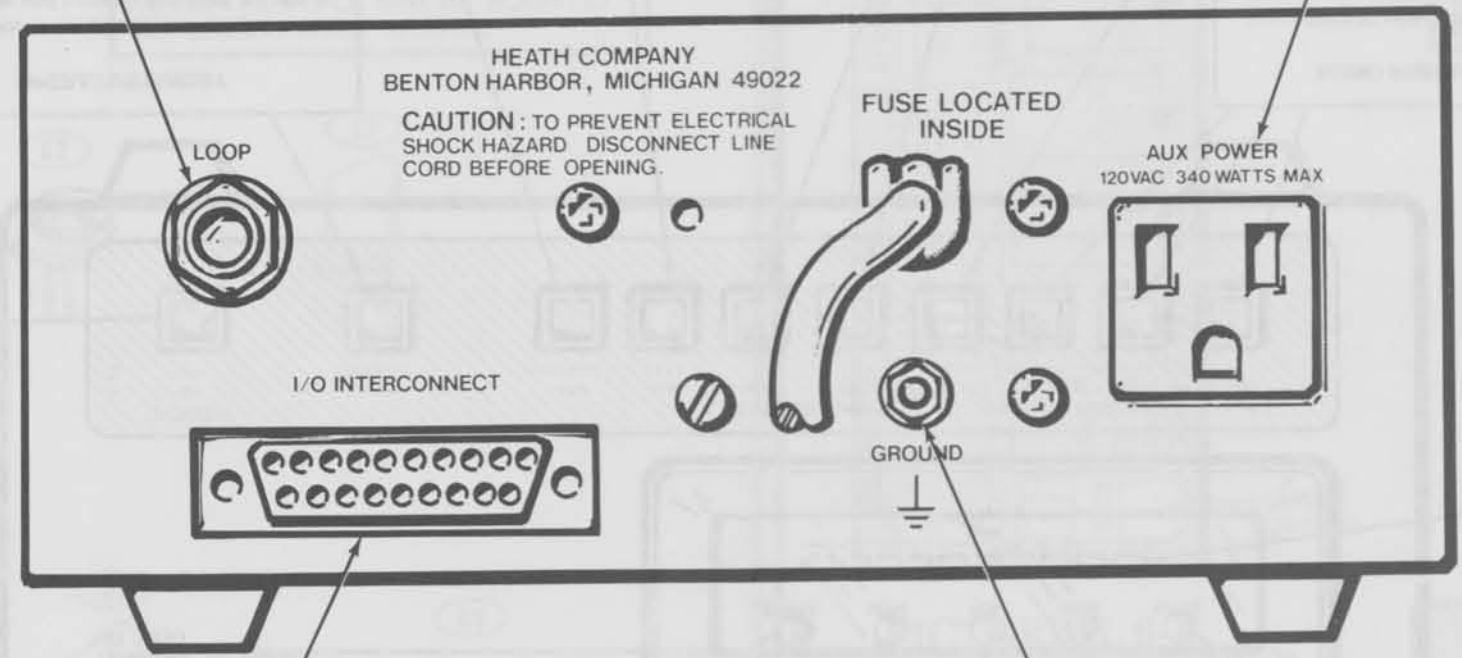
**REVERSE SHIFT**  
SEND: Reverses output frequencies for Mark and Space for transmission.  
RECEIVE: Reverses Mark and Space frequencies for receiving.

PICTORIAL 13-1

AFSK CIRCUIT BOARD  
PICTORIAL 13-PARTS PICTORIAL

**LOOP JACK**  
Provides 140 volts DC at 20 mA or 60 mA for operation of a current loop type of printer. Disable if not used.

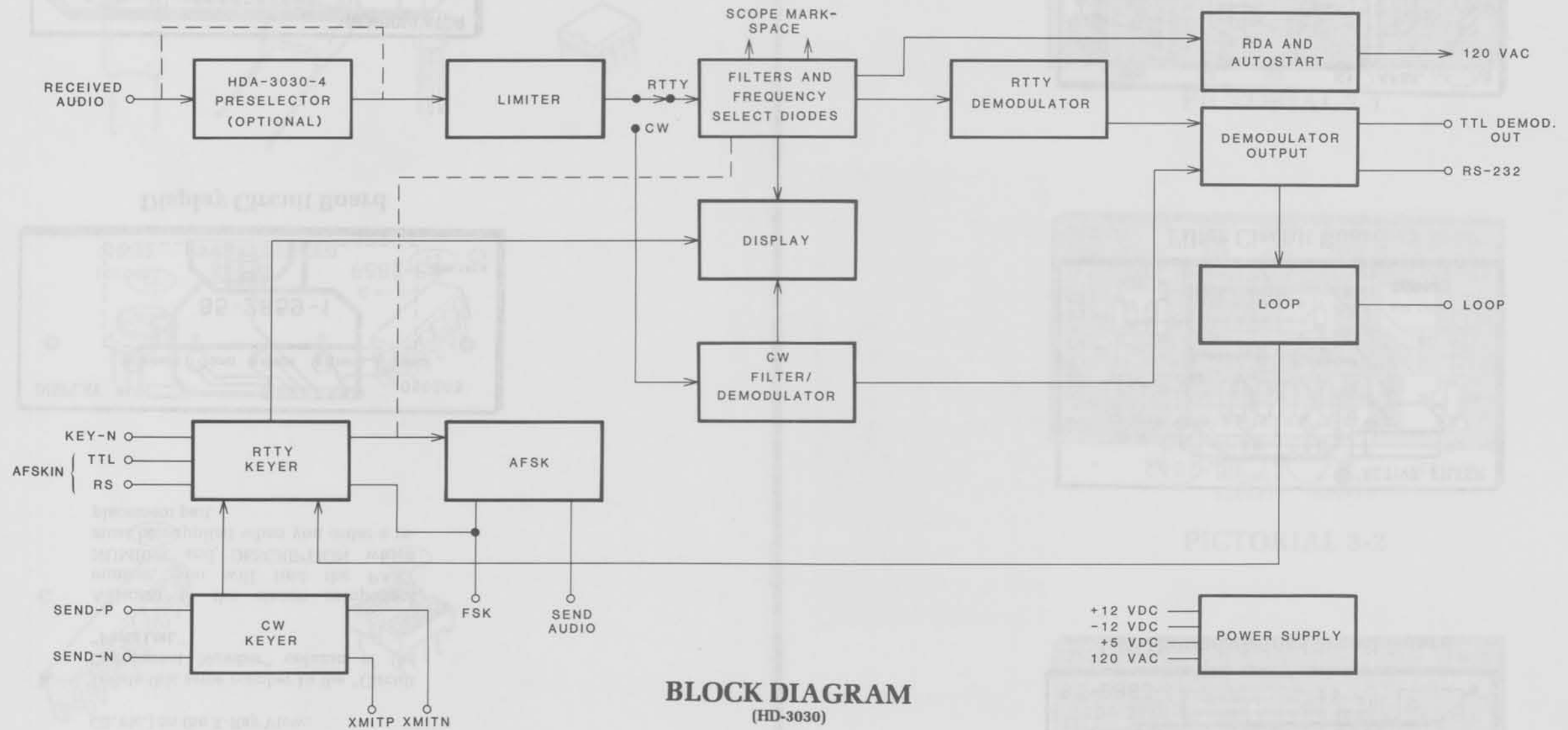
**AUX POWER**  
Relay controlled 120 VAC receptacle used with Autostart to turn on computer and/or printer.



**I/O CONNECTOR**  
Accepts standard DB25 male plug for connecting data and control lines for TTY and RS-232 computers or terminals, and printers.

**GROUND**  
For grounding chassis to water pipe or station ground.

PICTORIAL 13-2

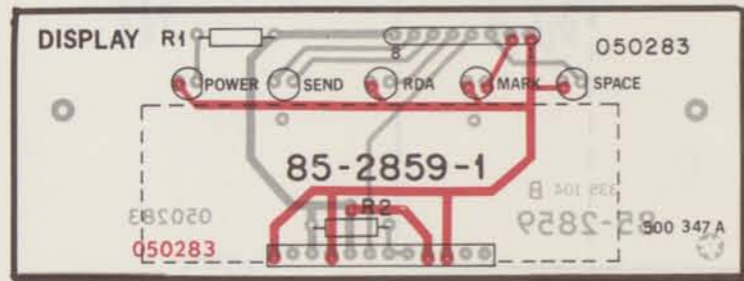


**BLOCK DIAGRAM**  
(HD-3030)

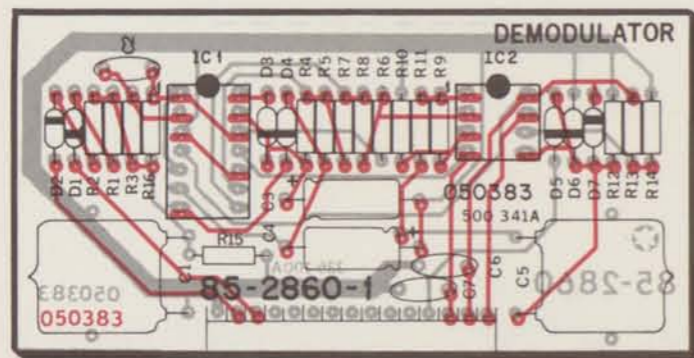
# CIRCUIT BOARD X-RAY VIEWS

NOTE: To find the PART NUMBER of a component for the purpose of ordering a replacement part:

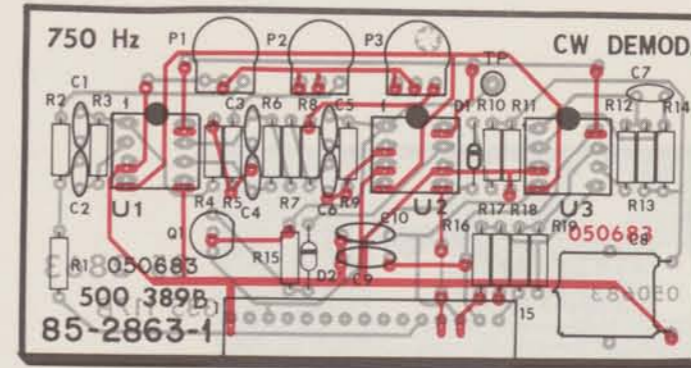
- A. Find the circuit component number (R1, C3, etc.) on the X-Ray View.
- B. Locate this same number in the "Circuit Component Number" column of the "Parts List."
- C. Adjacent to the circuit component number, you will find the PART NUMBER and DESCRIPTION which must be supplied when you order a replacement part.



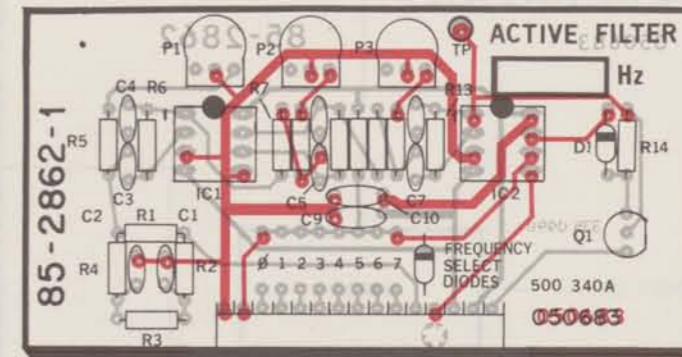
Display Circuit Board



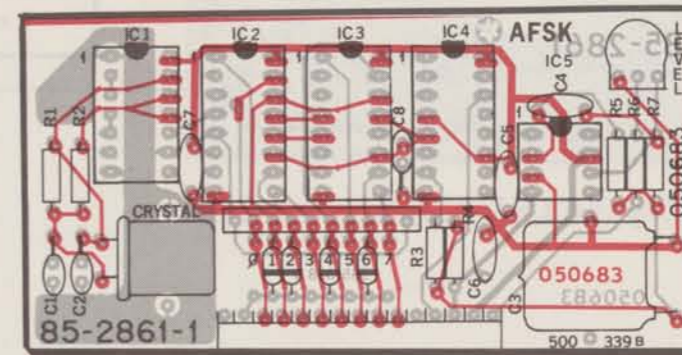
Demodulator Circuit Board



CW Demodulator Circuit Board



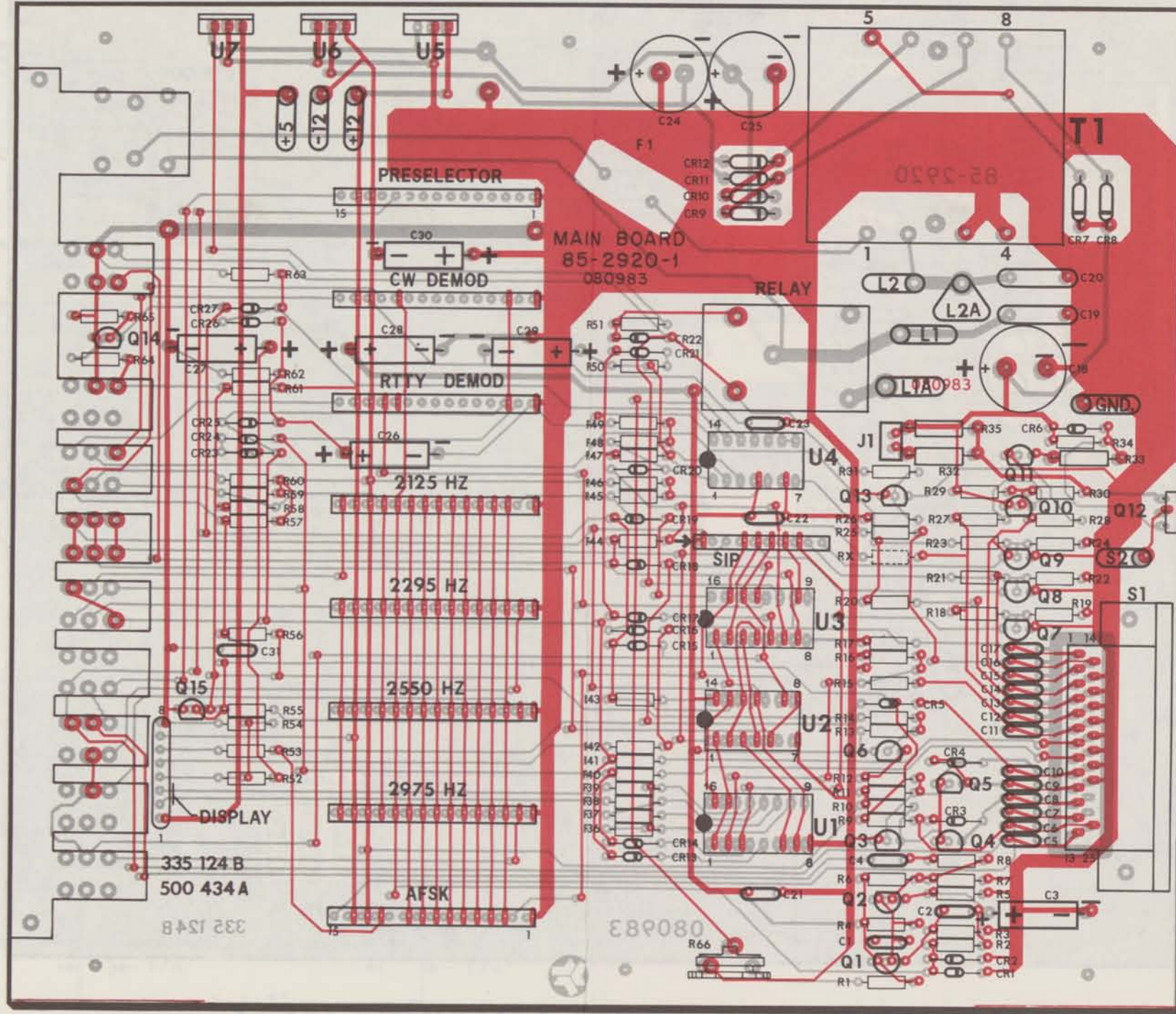
Filter Circuit Board



AFSK Circuit Board

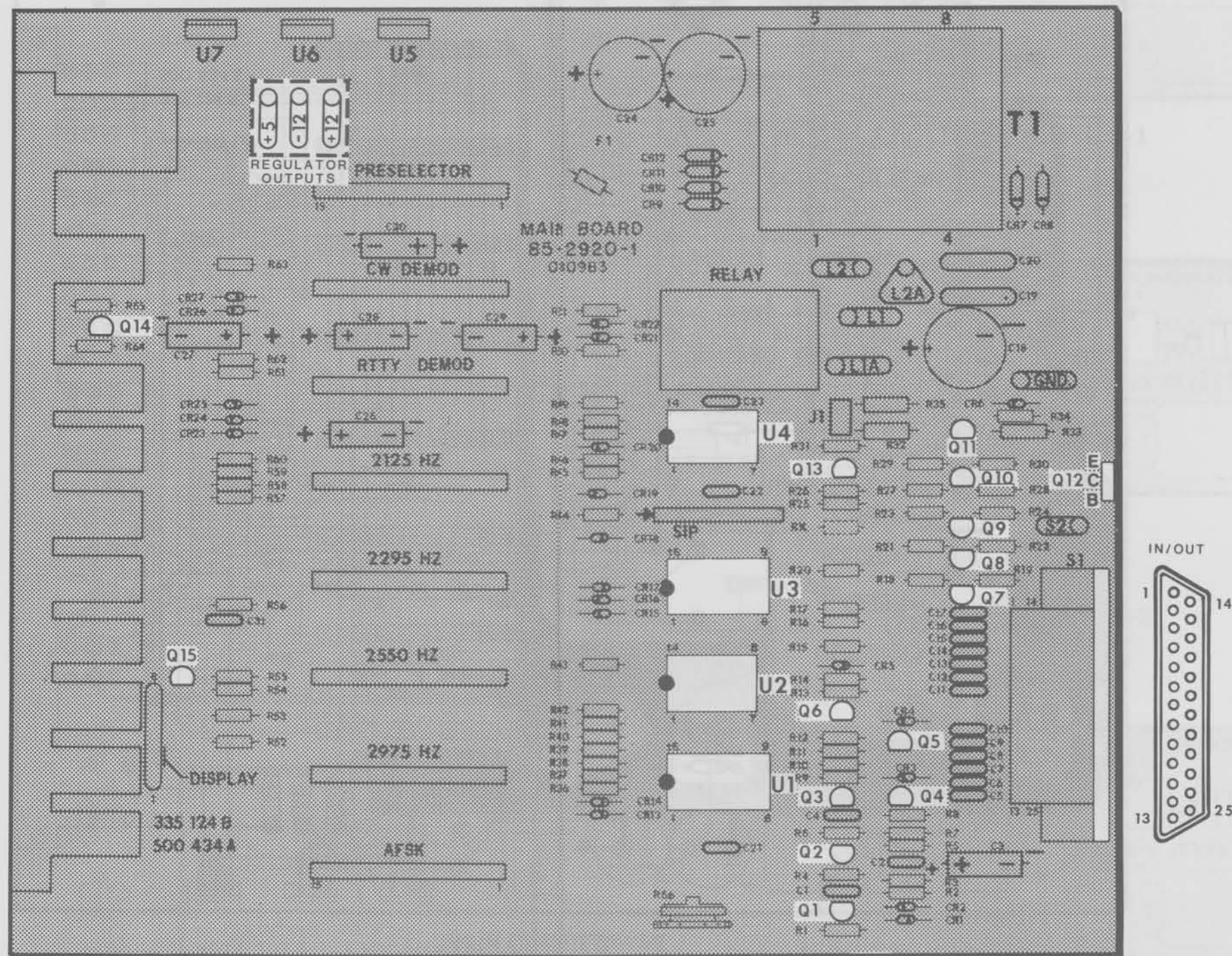
(Shown from the component side of the circuit board. The foils on the component side are shown in red.)

Main Circuit Board



(Shown from the component side of the circuit board. The foils on the component side are shown in red.)

# TEST POINTS FOR VOLTAGE CHART



PICTORIAL 14