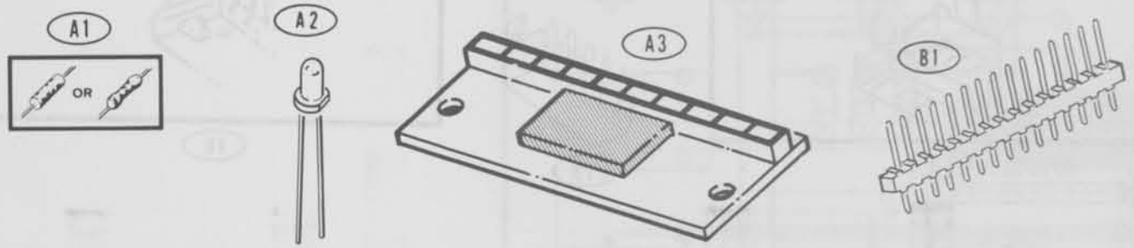
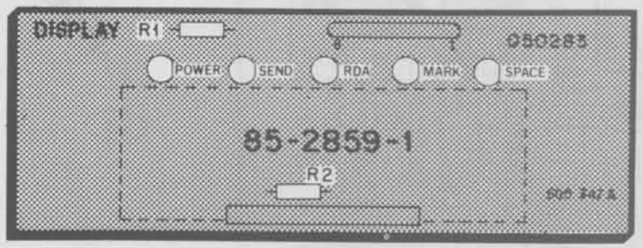
ILLUSTRATION BOOKLET

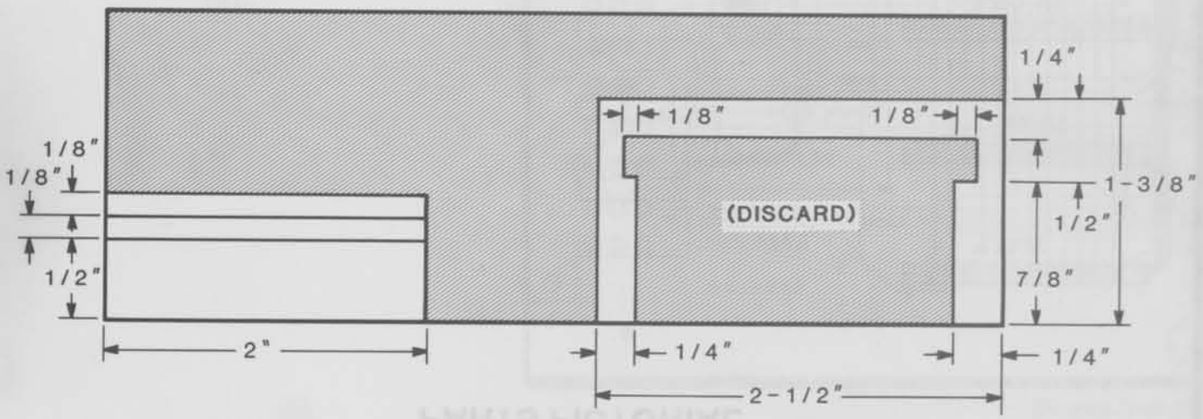
Part of 595-3100-01

DISPLAY CIRCUIT BOARD PARTS PICTORIAL

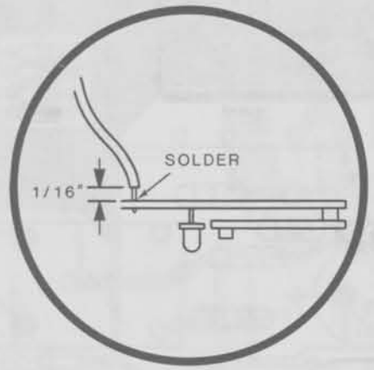


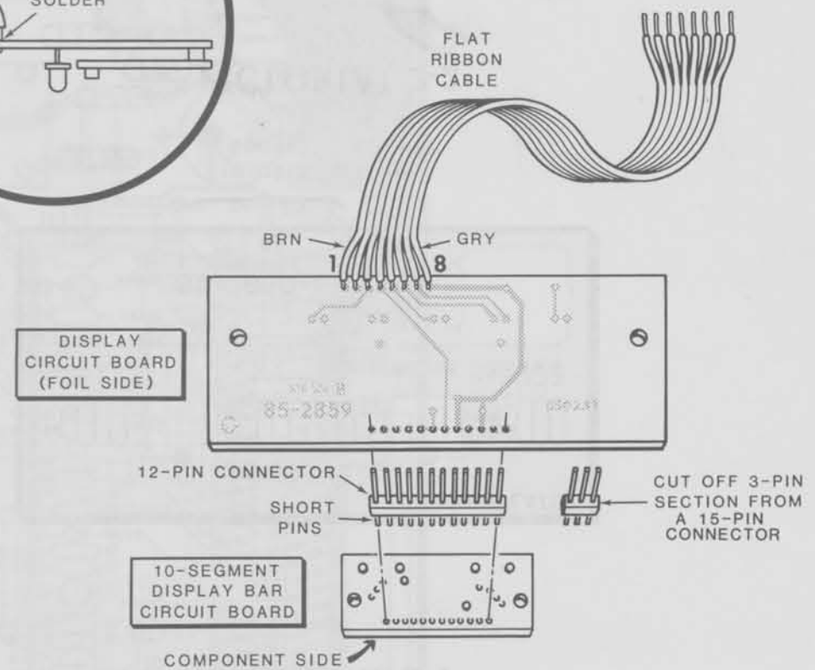


PICTORIAL 1-1



Detail 1-2B

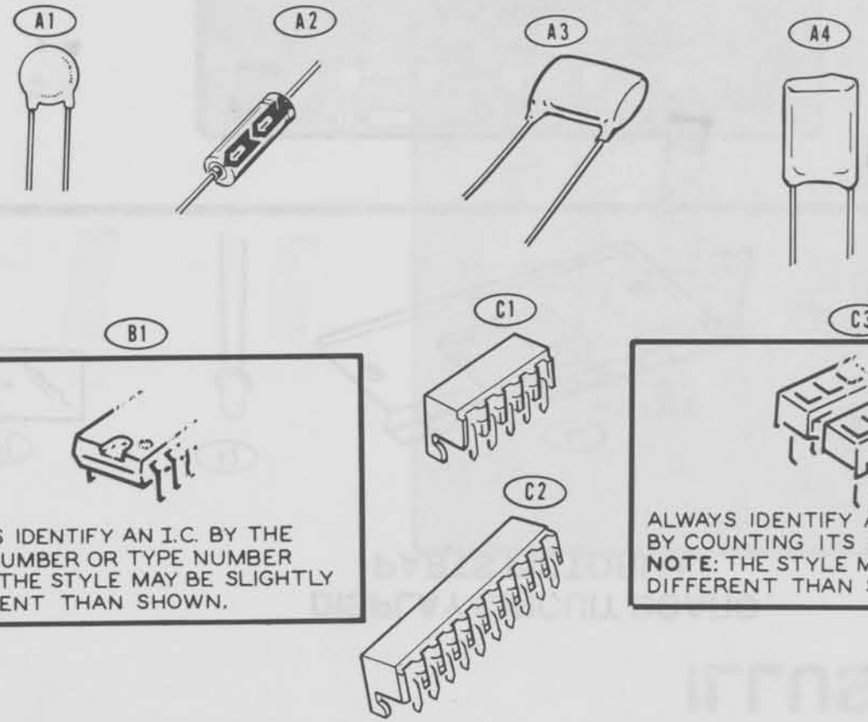


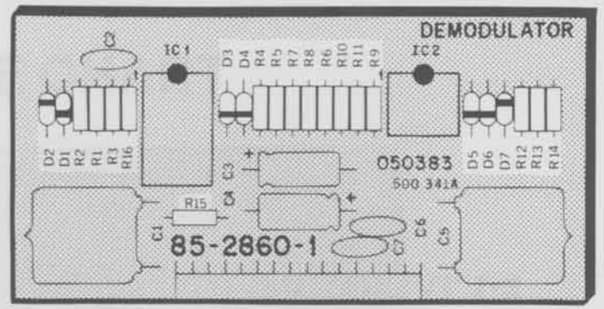


PICTORIAL 1-2

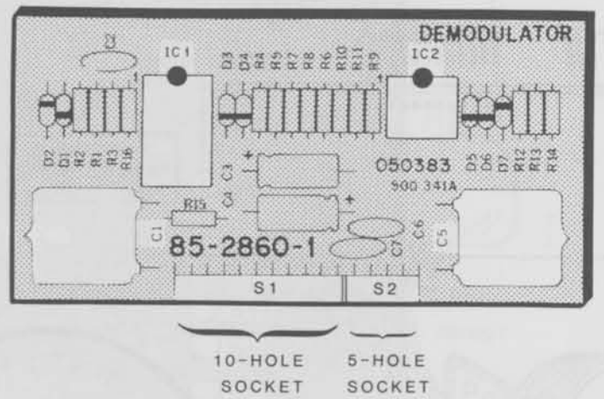
Model HD-3030

RTTY DEMODULATOR CIRCUIT BOARD PARTS PICTORIAL

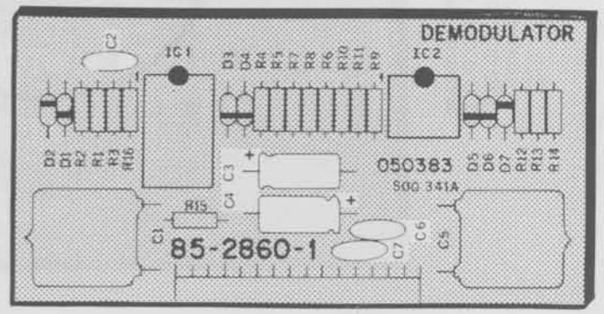




PICTORIAL 2-1

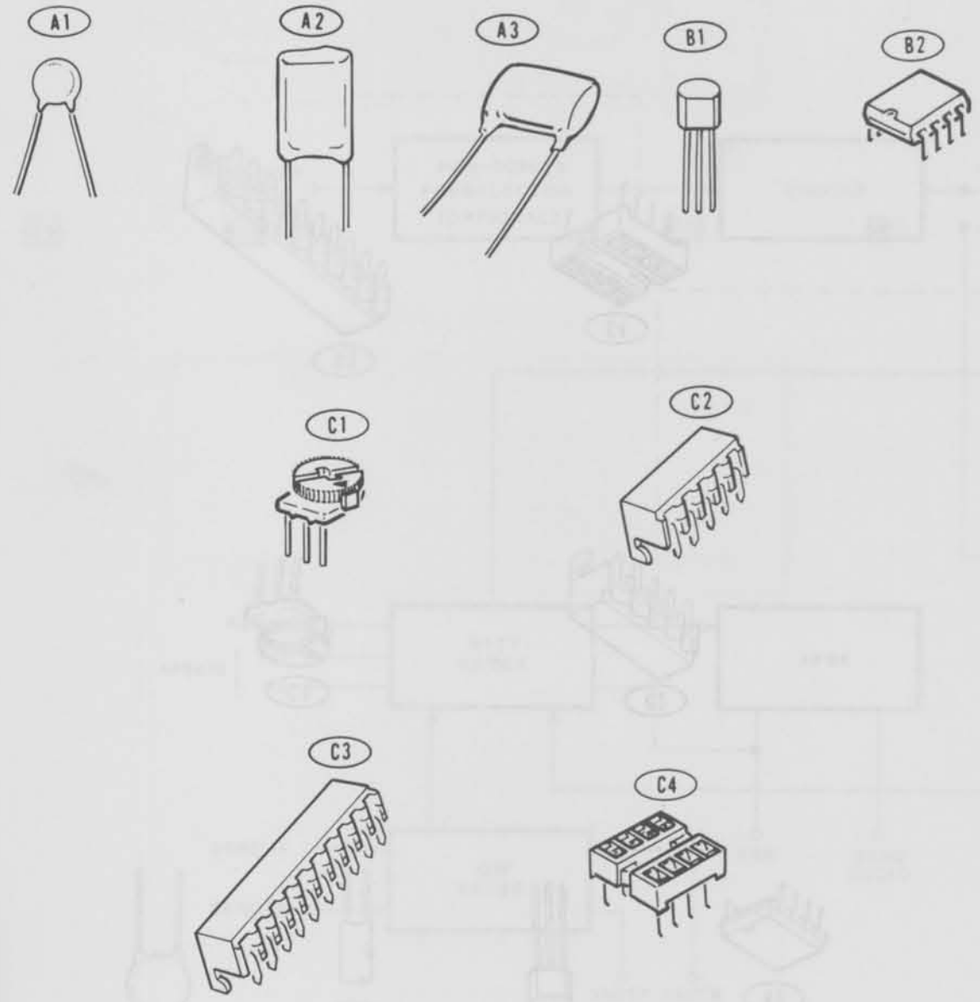


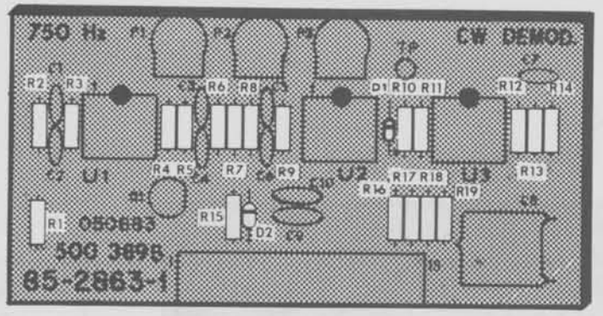
PICTORIAL 2-2



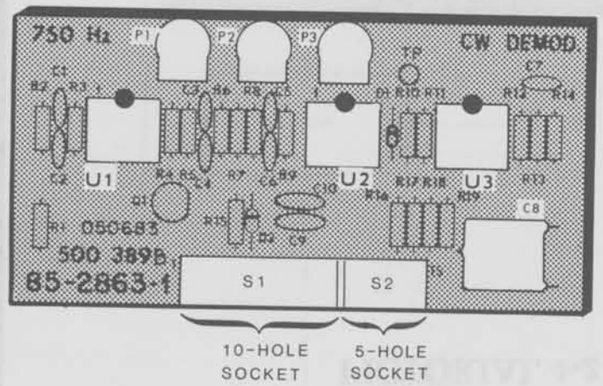
PICTORIAL 2-3

CW DEMODULATOR CIRCUIT BOARD PARTS PICTORIAL

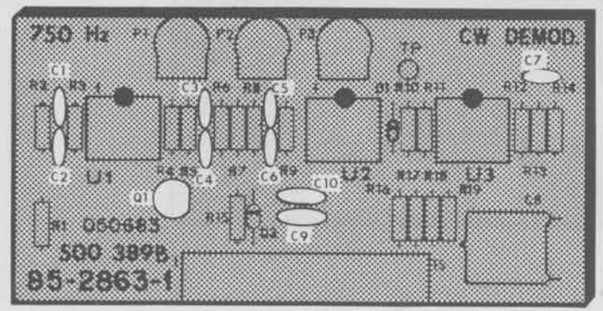




PICTORIAL 3-1

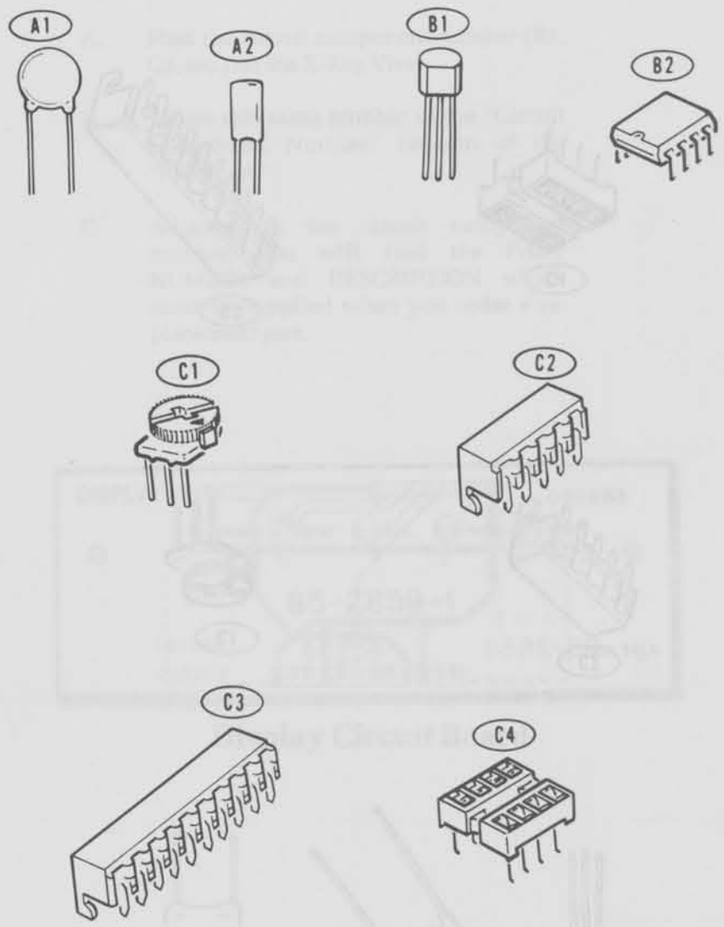


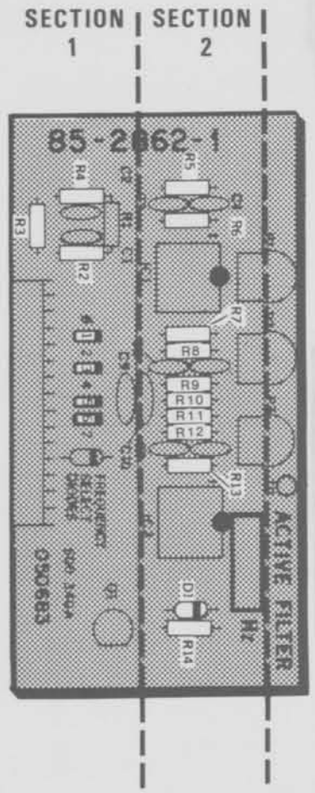
PICTORIAL 3-2



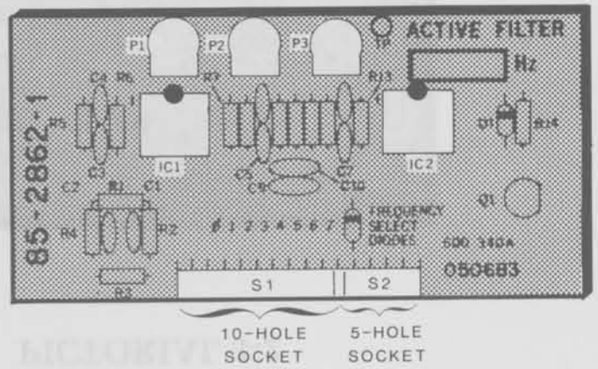
PICTORIAL 3-3

ACTIVE FILTER (2295 Hz) CIRCUIT BOARD PARTS PICTORIAL

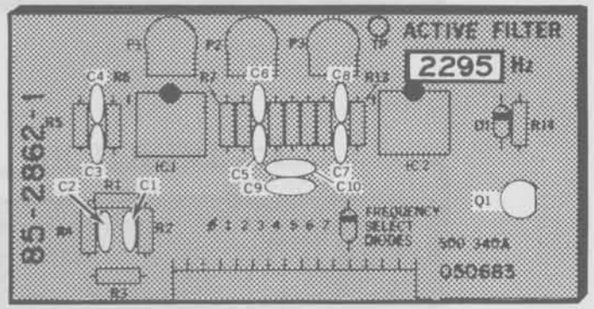




PICTORIAL 4-1

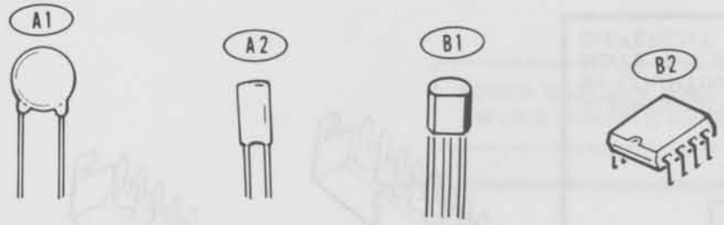


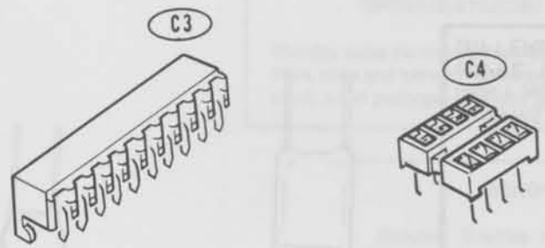
PICTORIAL 4-2

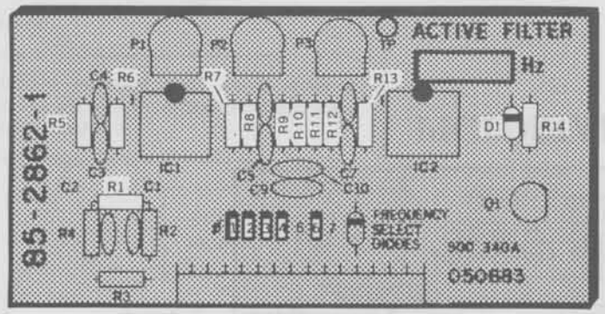


PICTORIAL 4-3

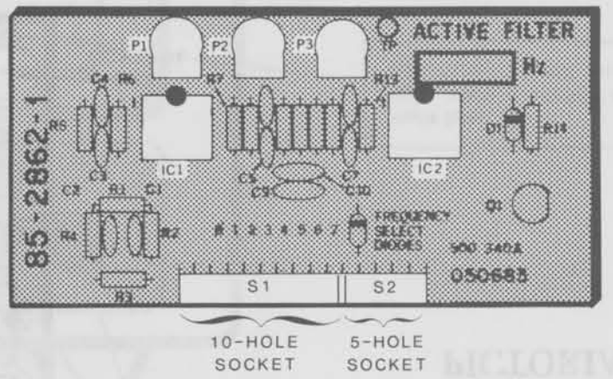
ACTIVE FILTER (2125 Hz)
CIRCUIT BOARD
PARTS PICTORIAL



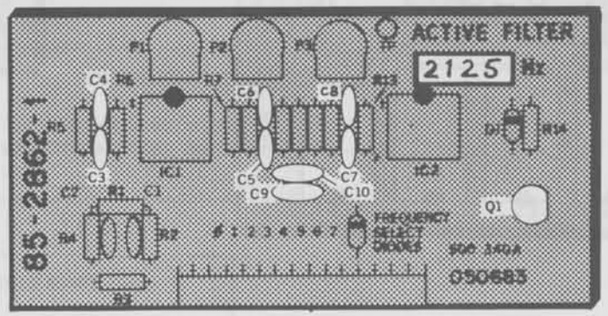




PICTORIAL 5-1



PICTORIAL 5-2



PICTORIAL 5-3

AFSK CIRCUIT BOARD PARTS PICTORIAL

A1

A2

B1

ALWAYS IDENTIFY AN I.C. BY THE PART NUMBER OR TYPE NUMBER
NOTE: THE STYLE MAY BE SLIGHTLY DIFFERENT THAN SHOWN.

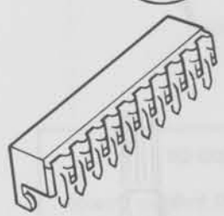
C1

C2

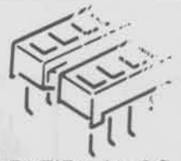
C3

C4

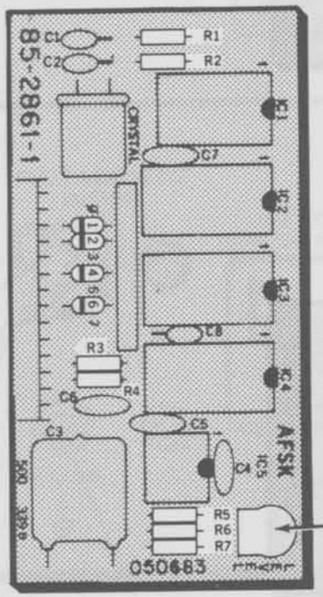
C5



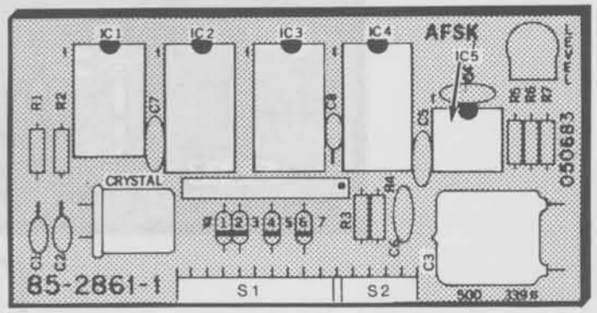
C6



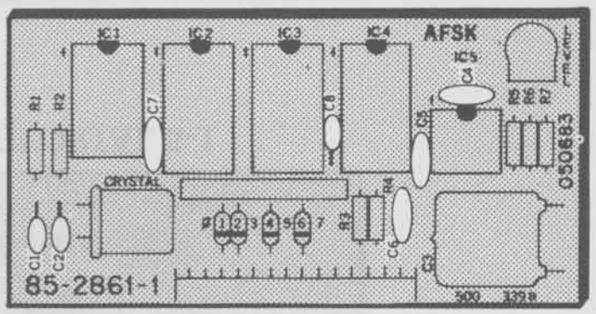
ALWAYS IDENTIFY AN I.C. SOCKET BY COUNTING ITS PINS.
NOTE: THE STYLE MAY BE SLIGHTLY DIFFERENT THAN SHOWN.



PICTORIAL 6-1



PICTORIAL 6-2



PICTORIAL 6-3

MAIN CIRCUIT BOARD
PARTS PICTORIAL

A1

A2

A3

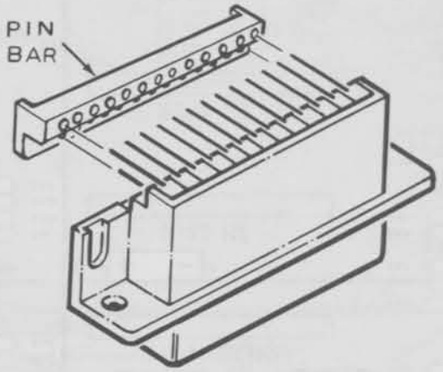
A4

B1

B2

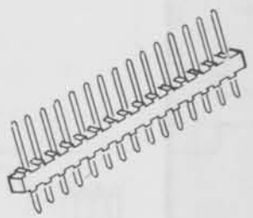
ALWAYS IDENTIFY AN I.C. BY THE PART NUMBER OR TYPE NUMBER
NOTE: THE STYLE MAY BE SLIGHTLY DIFFERENT THAN SHOWN.

C1



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

C2



C3

ALWAYS IDENTIFY AN I.C. SOCKET BY COUNTING ITS PINS.
NOTE: THE STYLE MAY BE SLIGHTLY DIFFERENT THAN SHOWN.

D1

D2

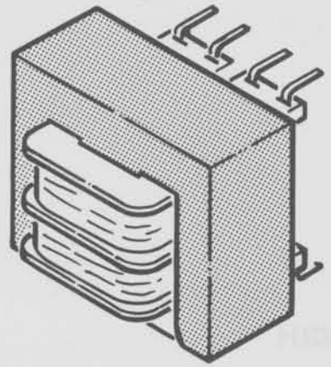
D3

D4

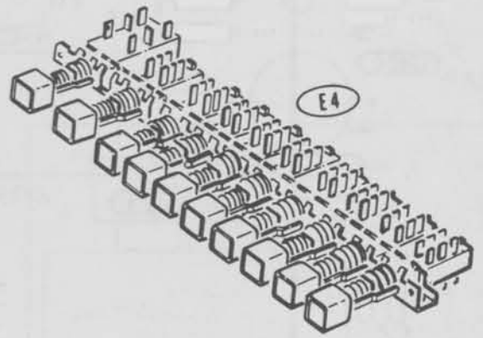
E1

E2

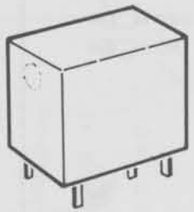
E3

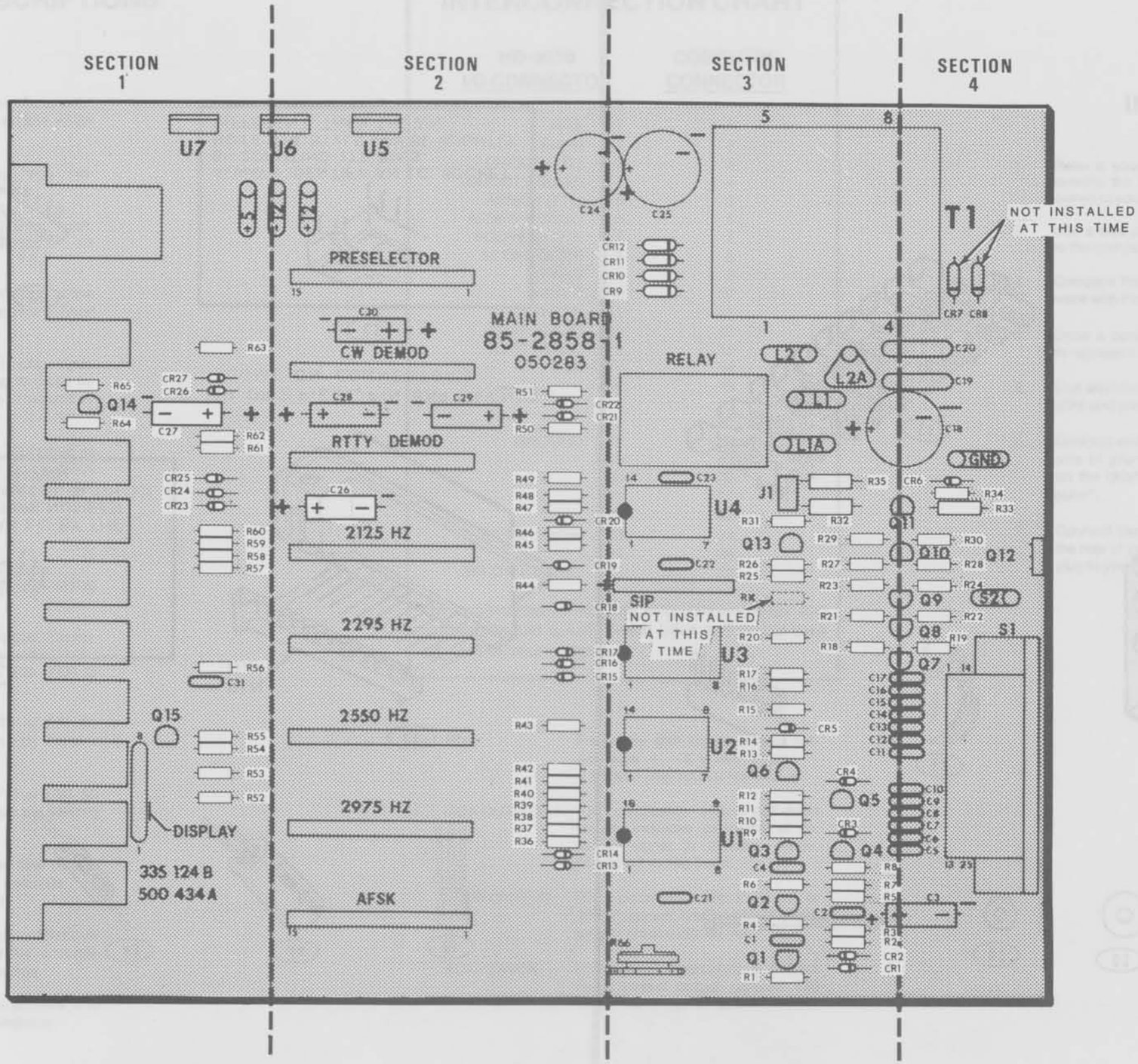


E4

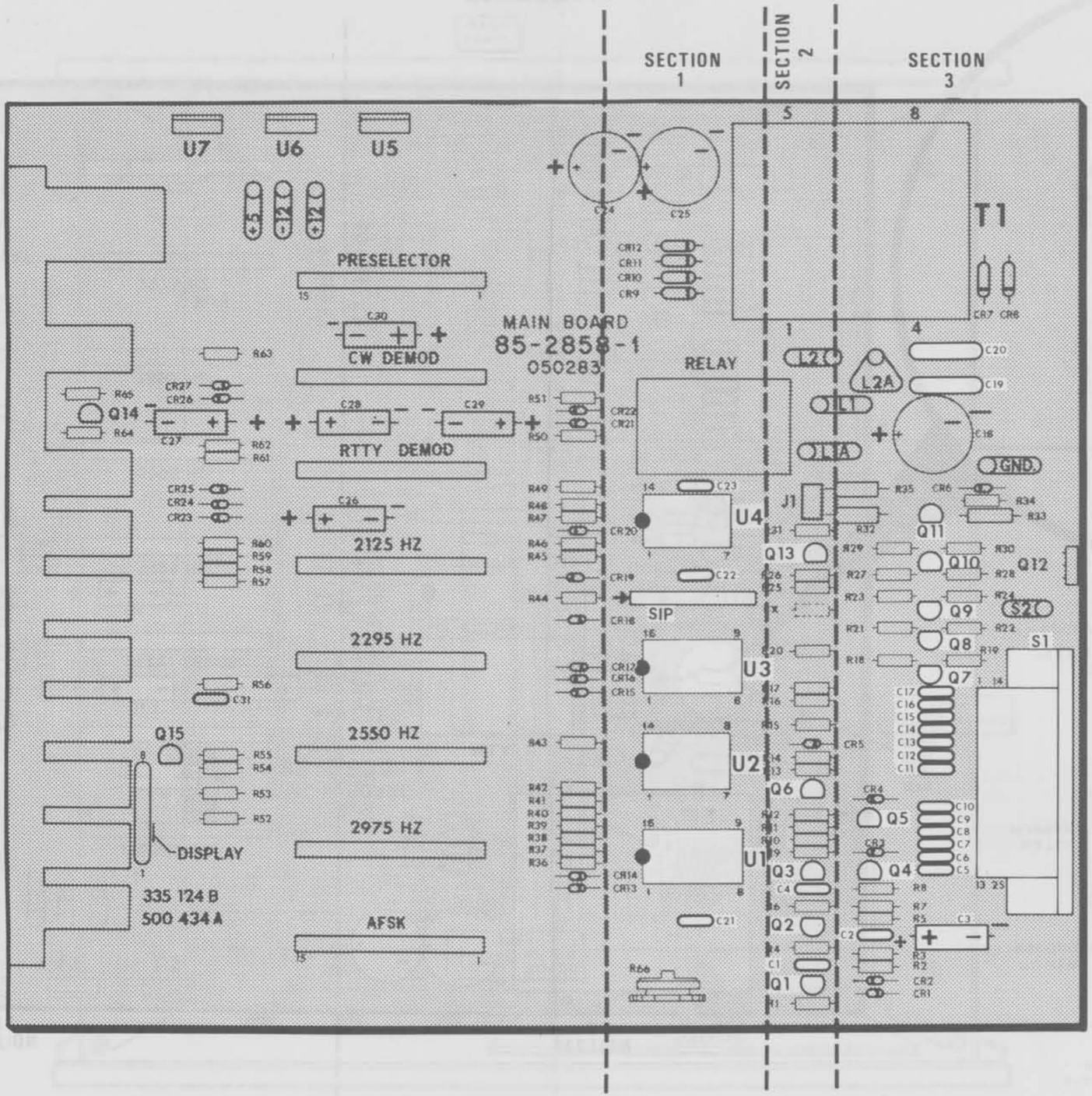


E5

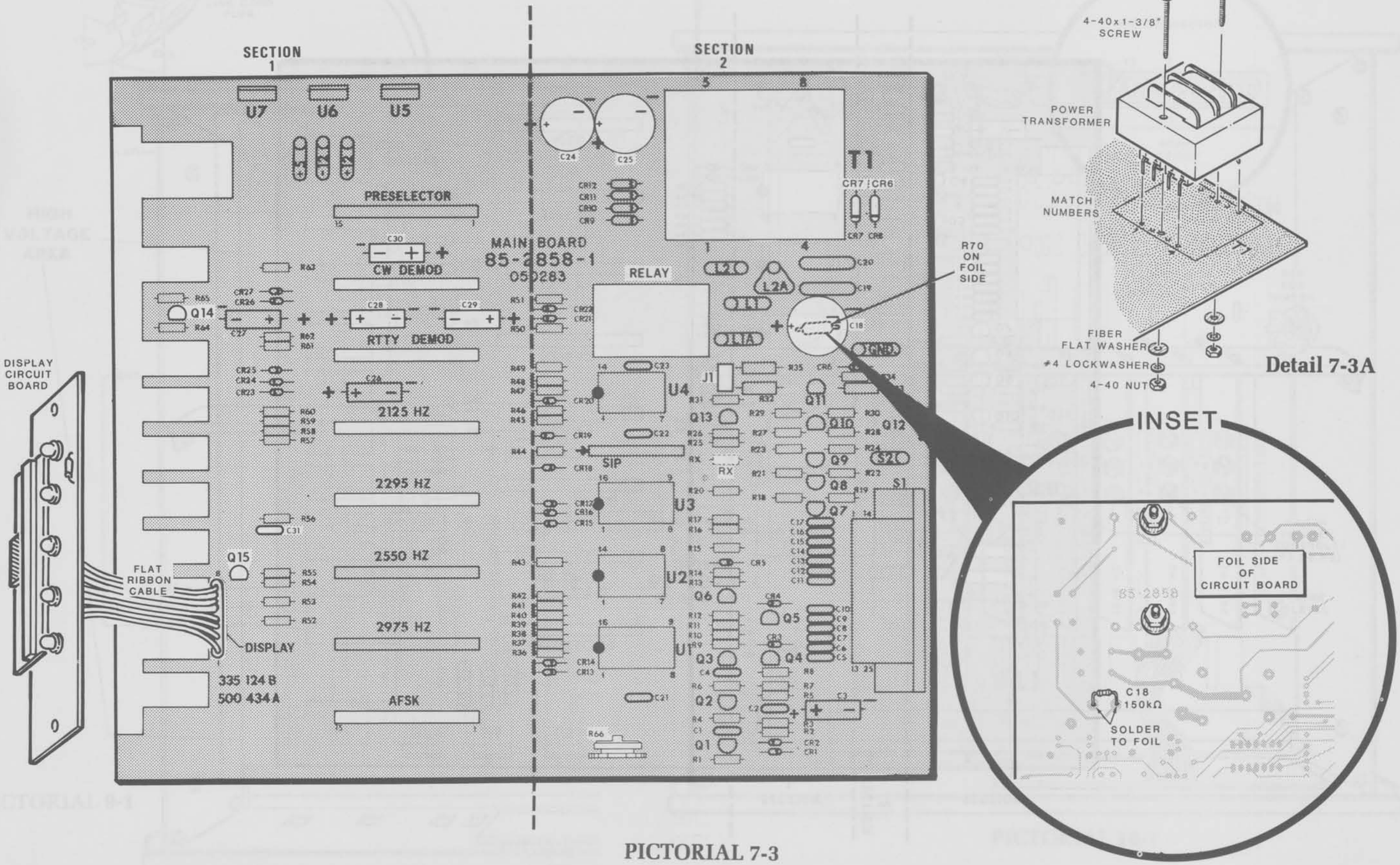




PICTORIAL 7-1



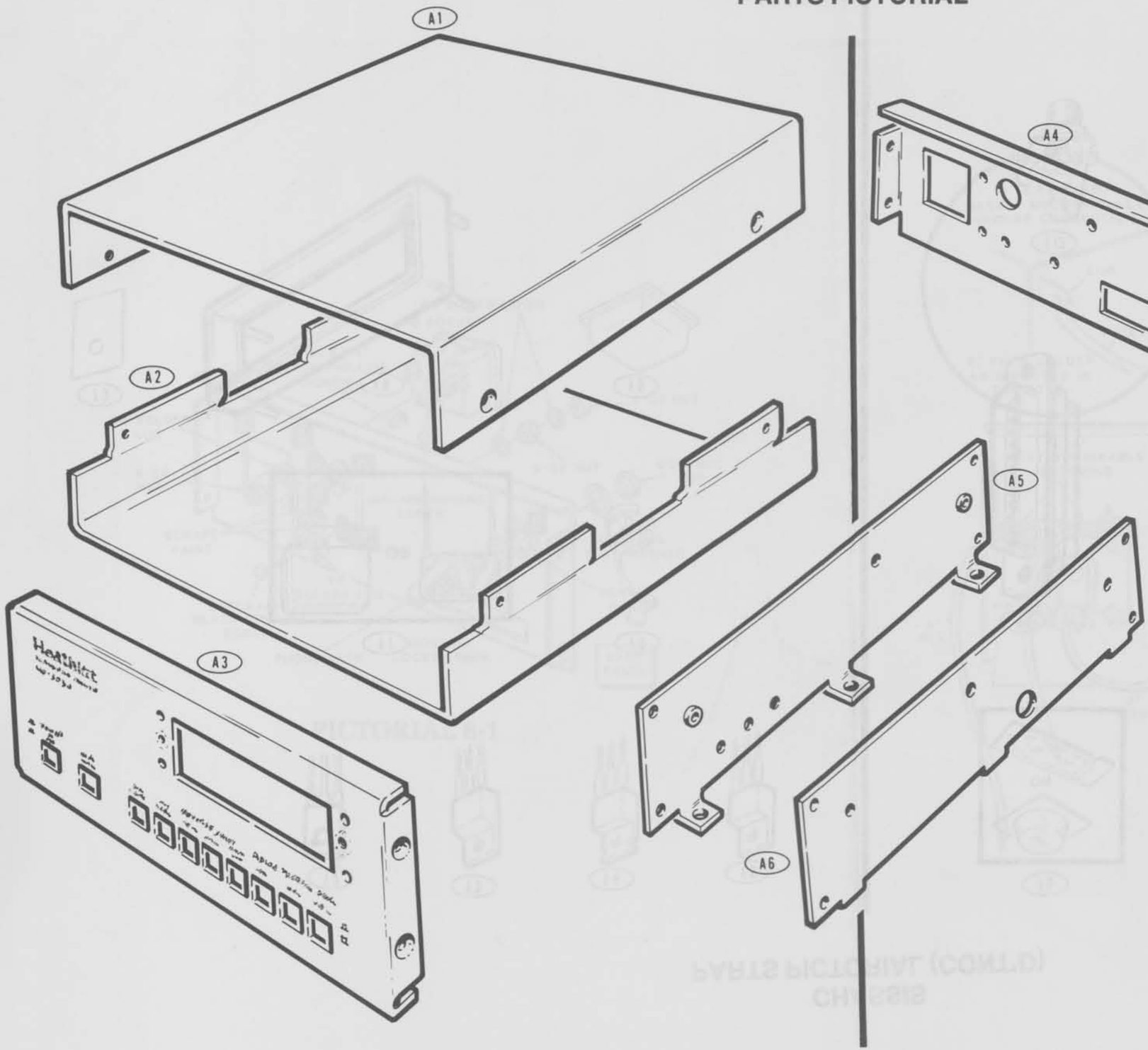
PICTORIAL 7-2

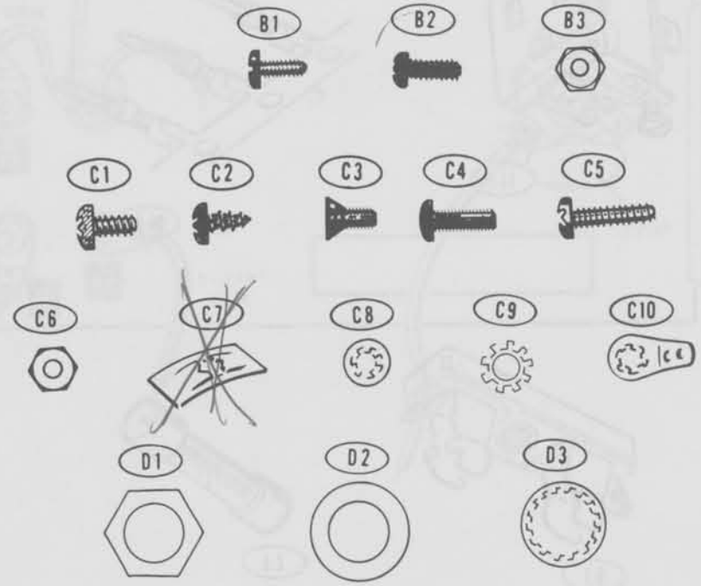


Detail 7-3A

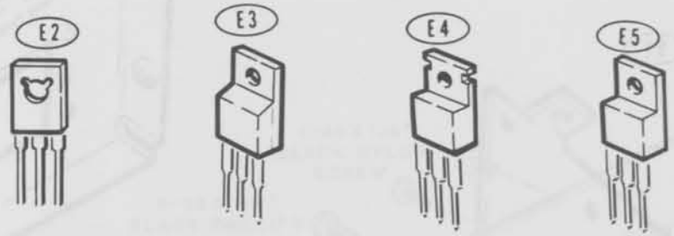
PICTORIAL 7-3

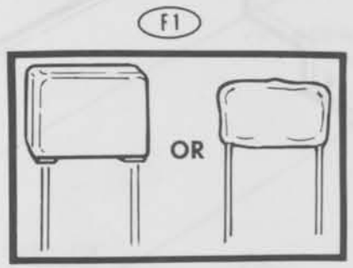
CHASSIS
PARTS PICTORIAL

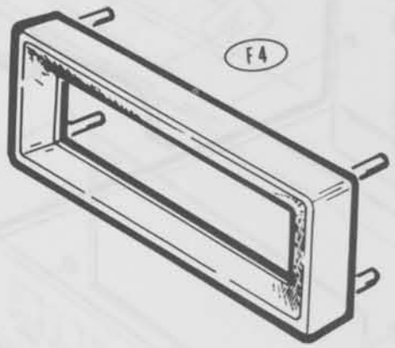


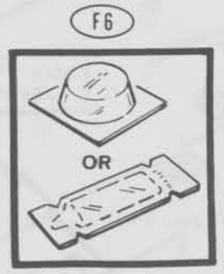


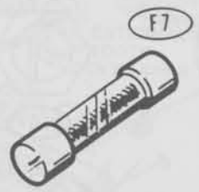
CHASSIS
PARTS PICTORIAL (CONT'D)

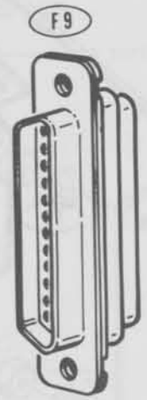


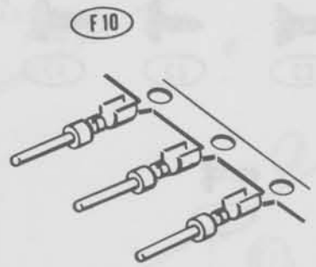


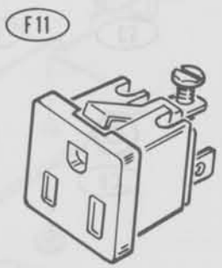


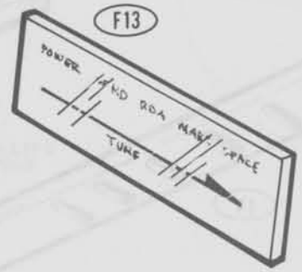


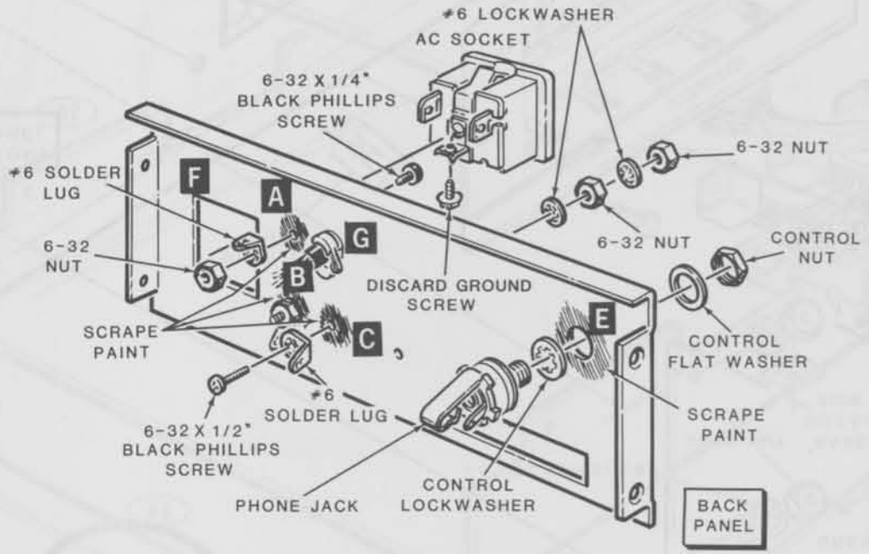




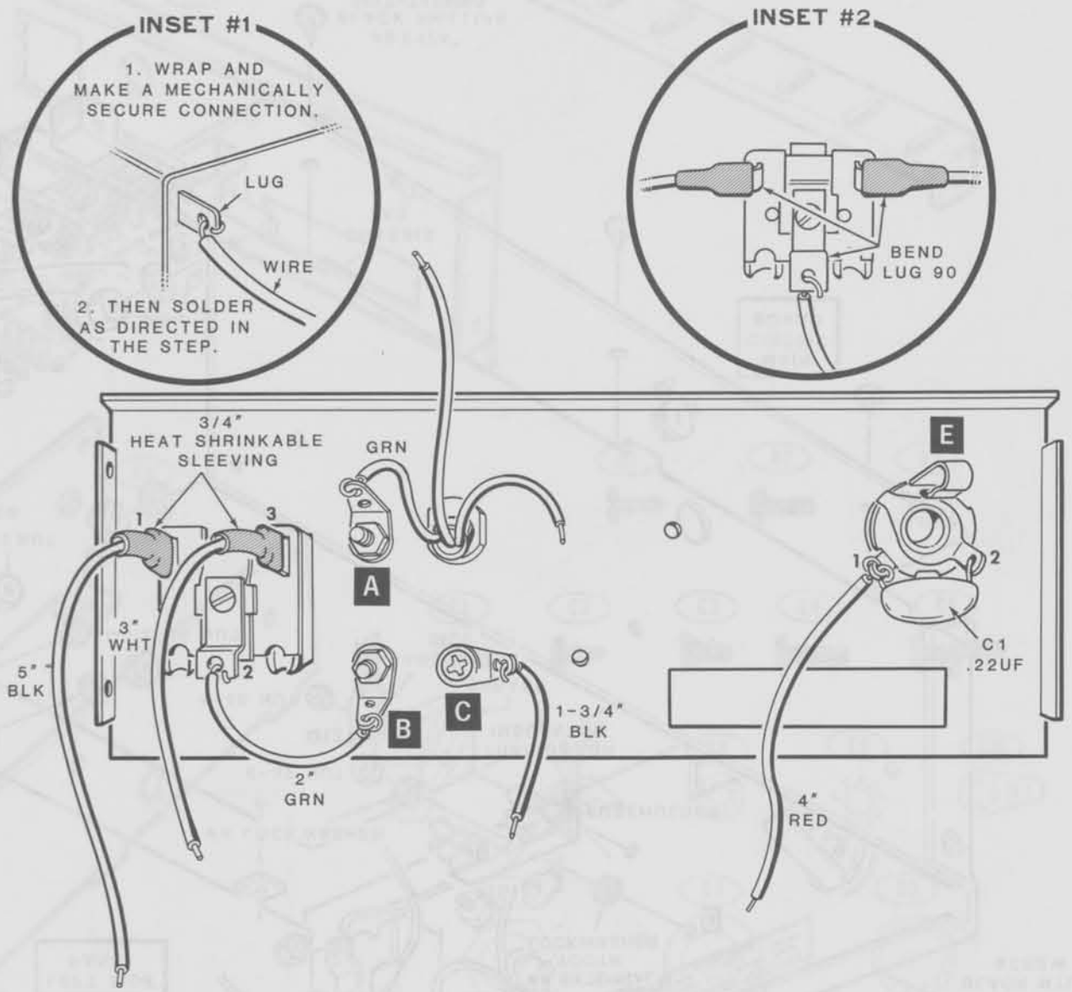




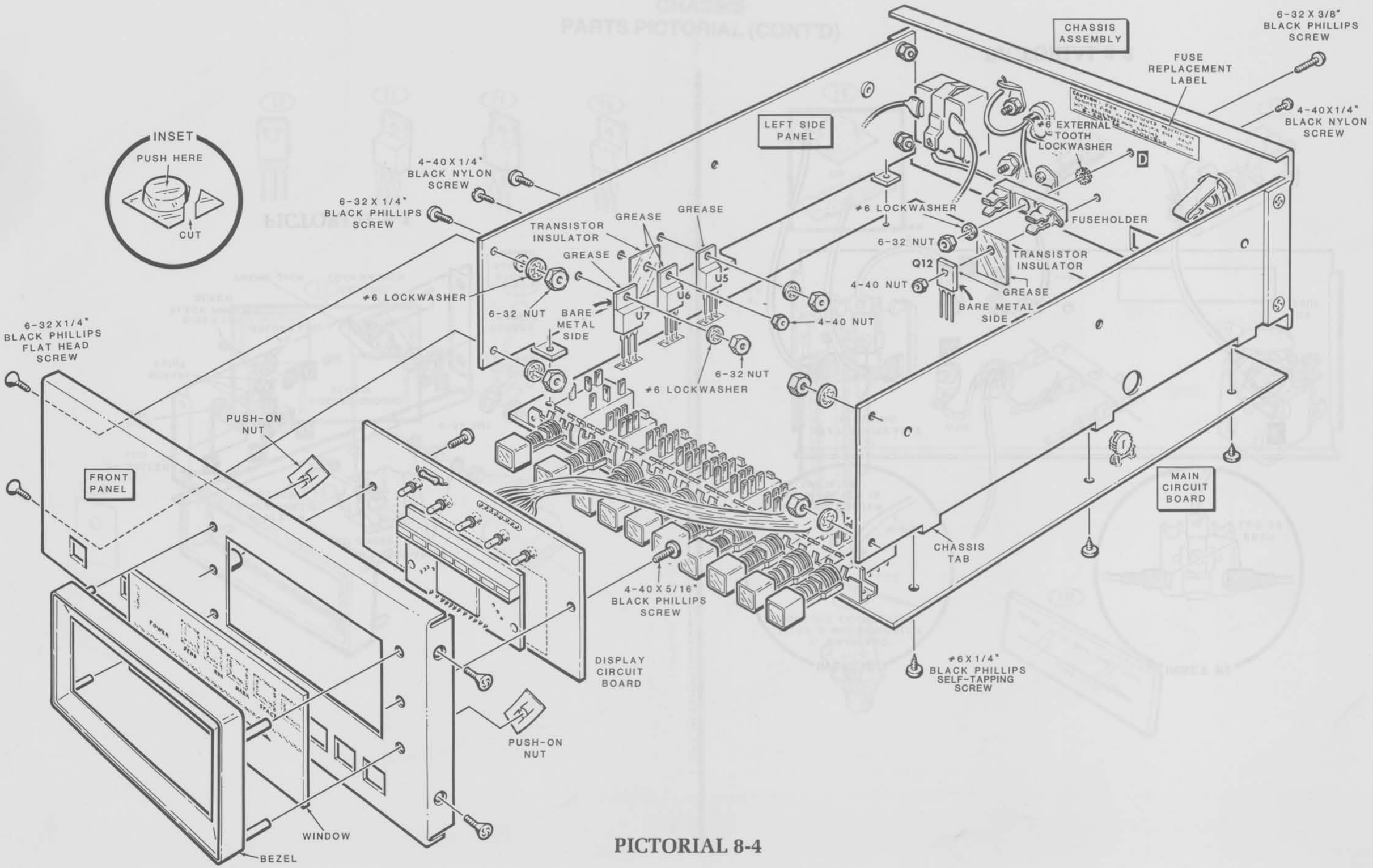




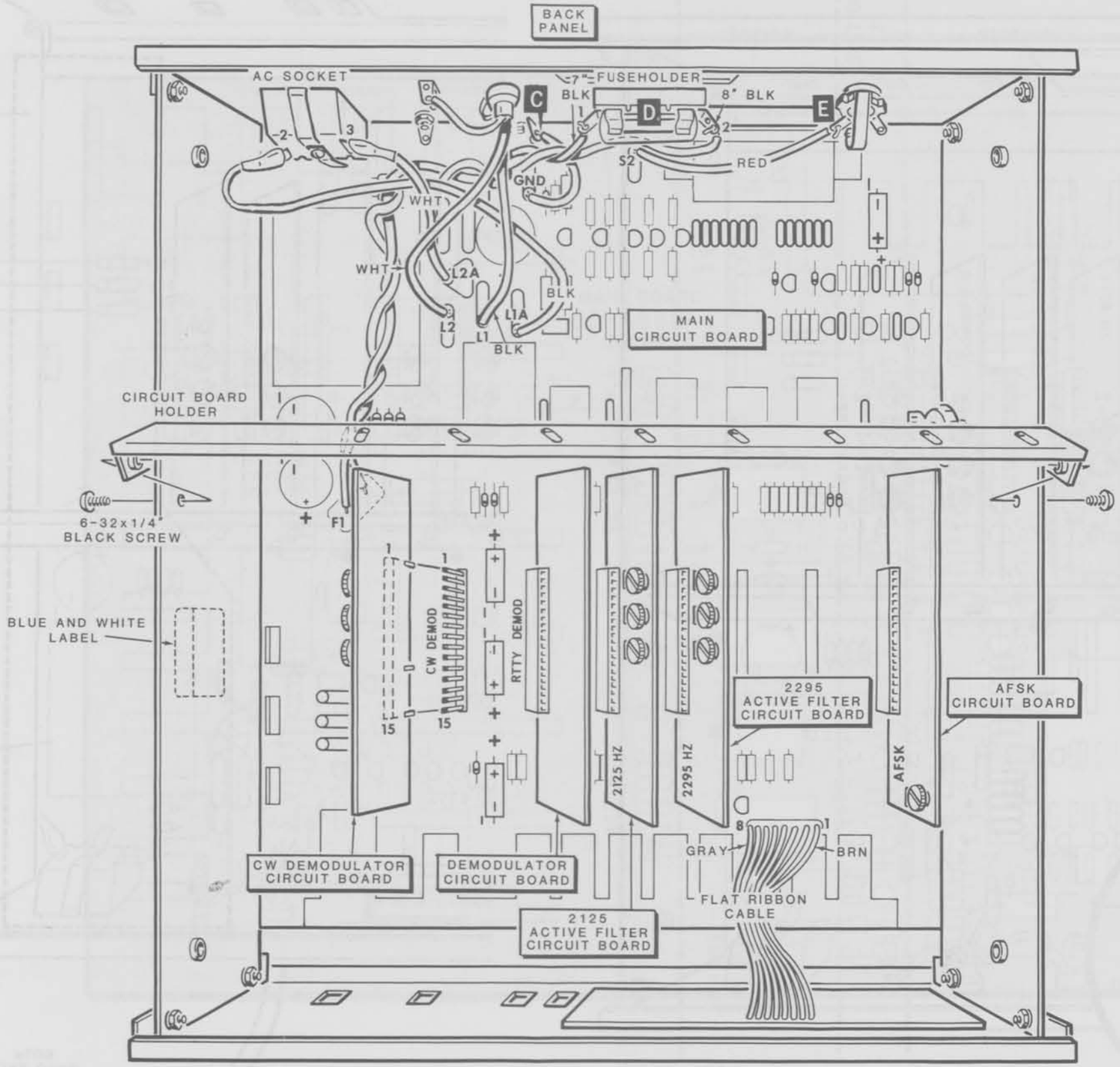
PICTORIAL 8-1



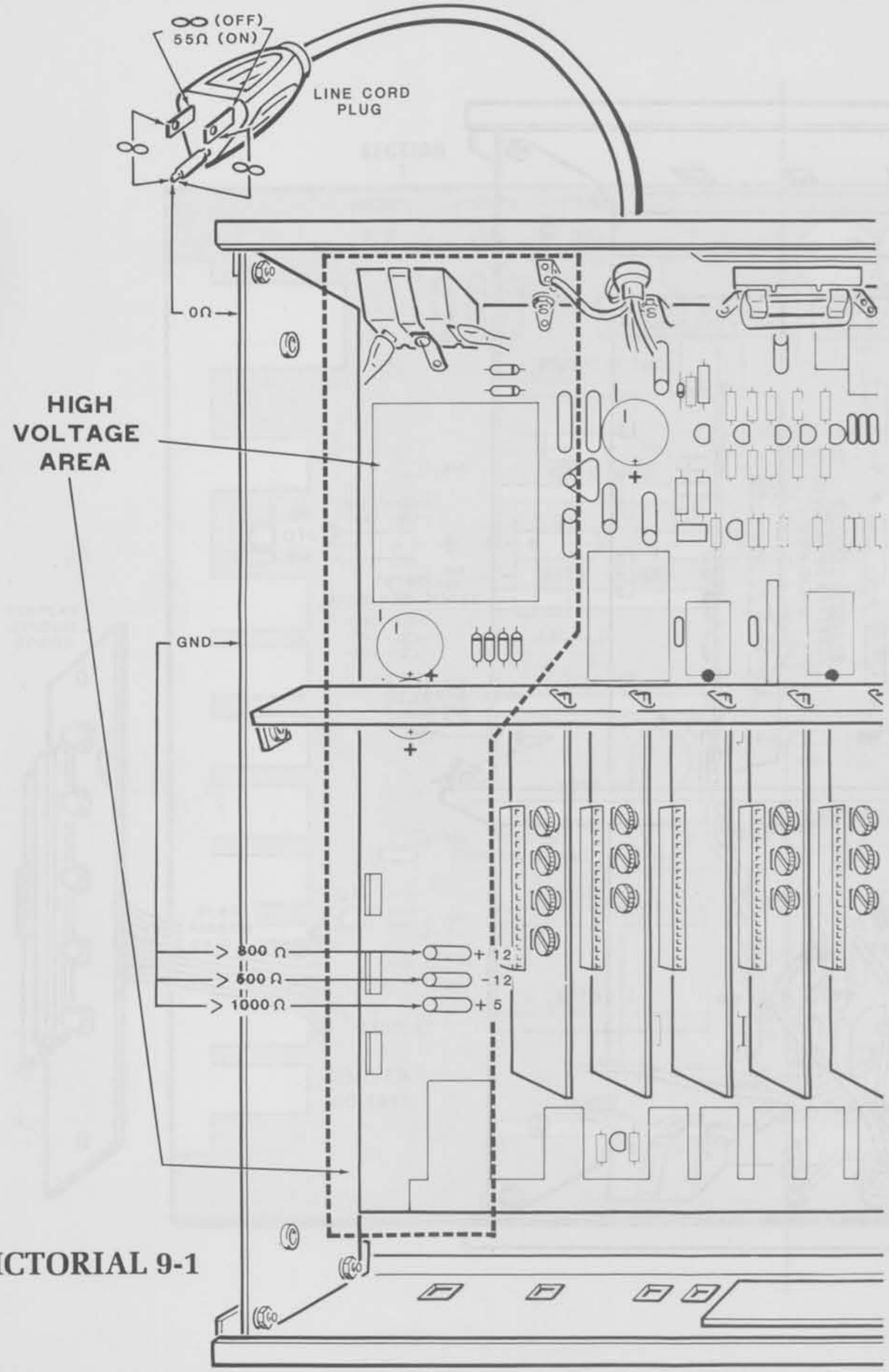
PICTORIAL 8-2



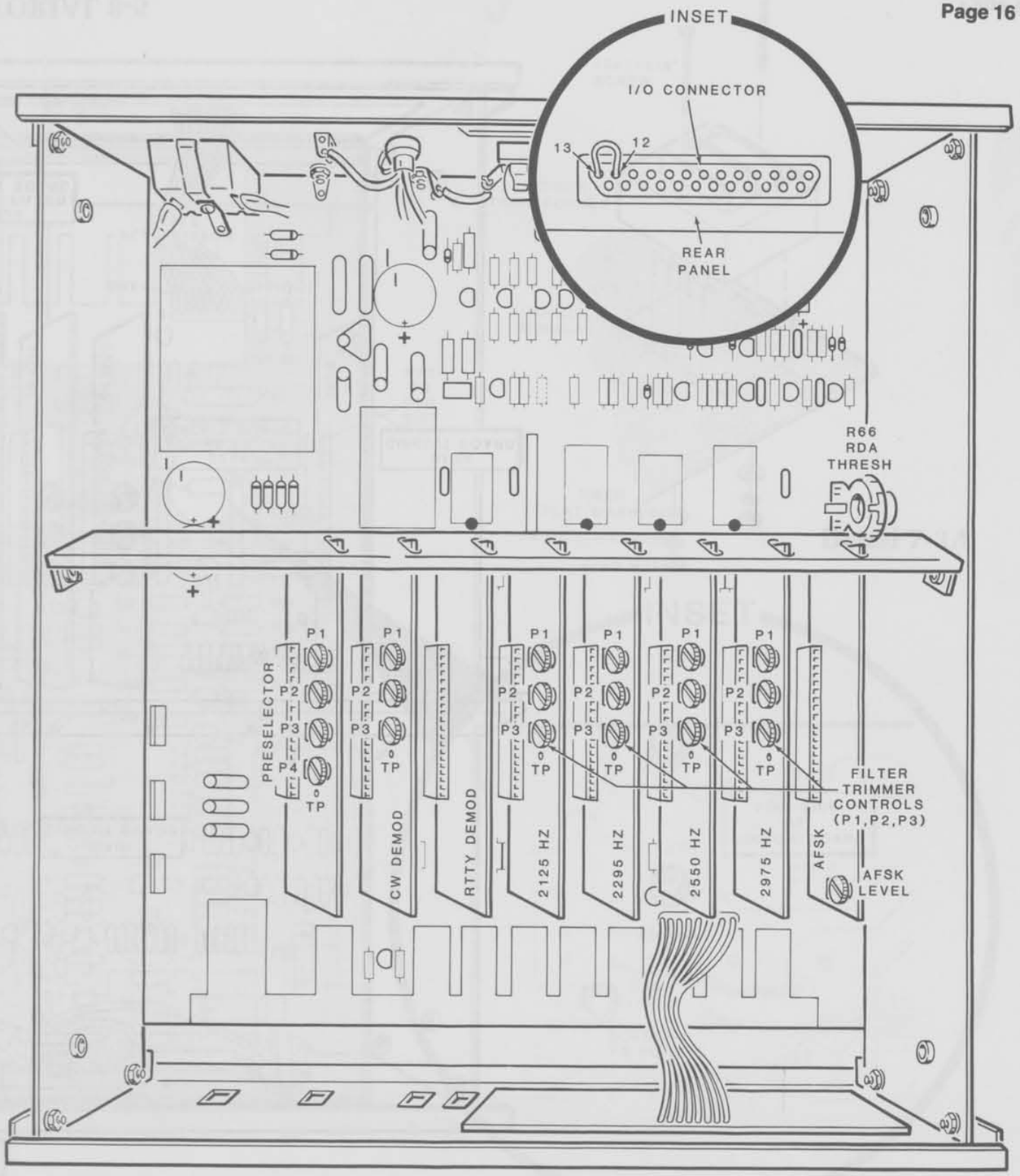
PICTORIAL 8-4



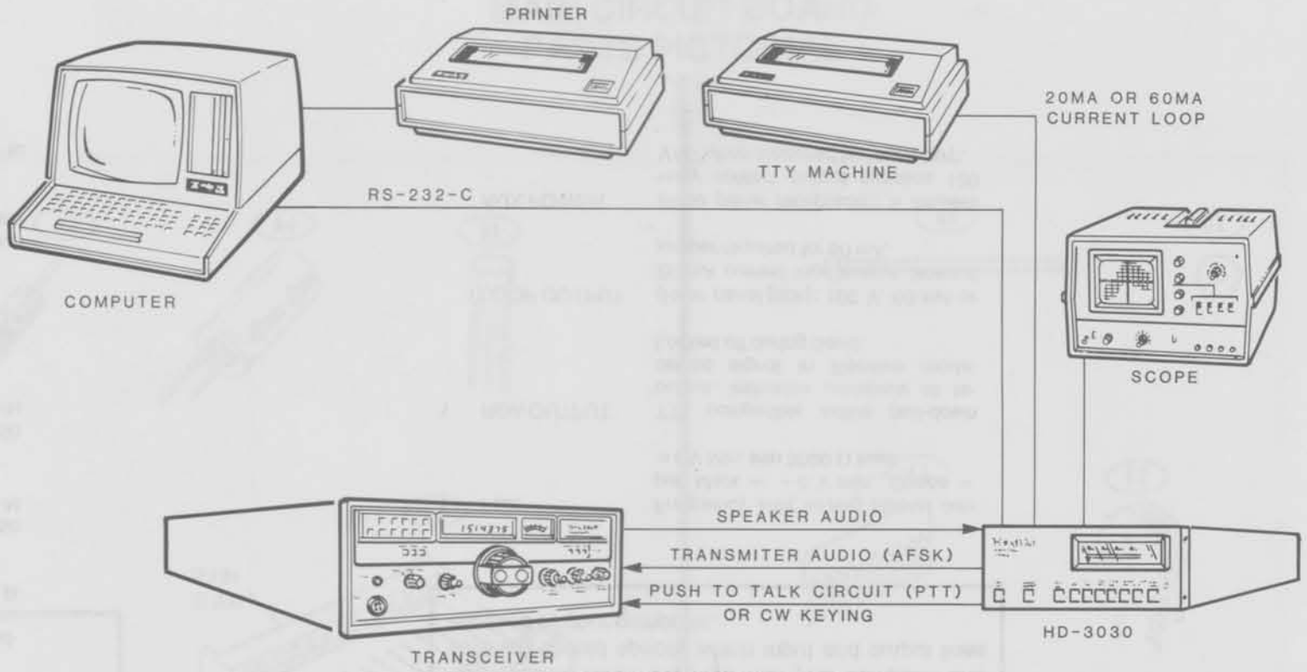
PICTORIAL 8-5



PICTORIAL 9-1

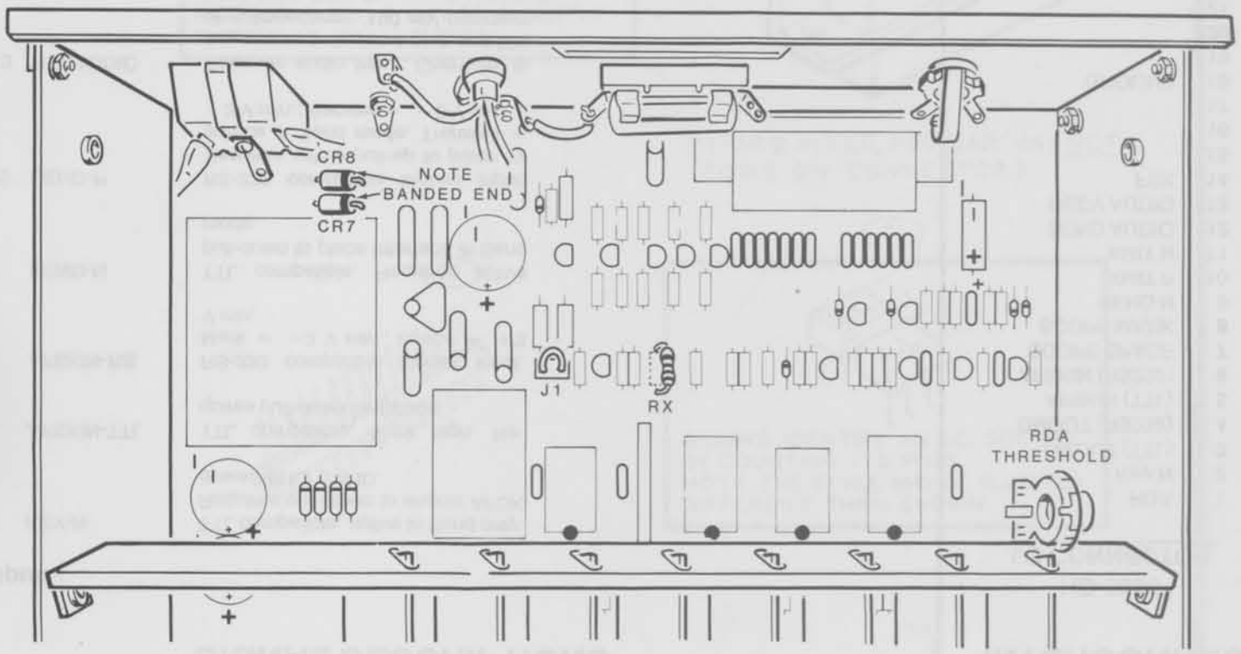


PICTORIAL 10-1



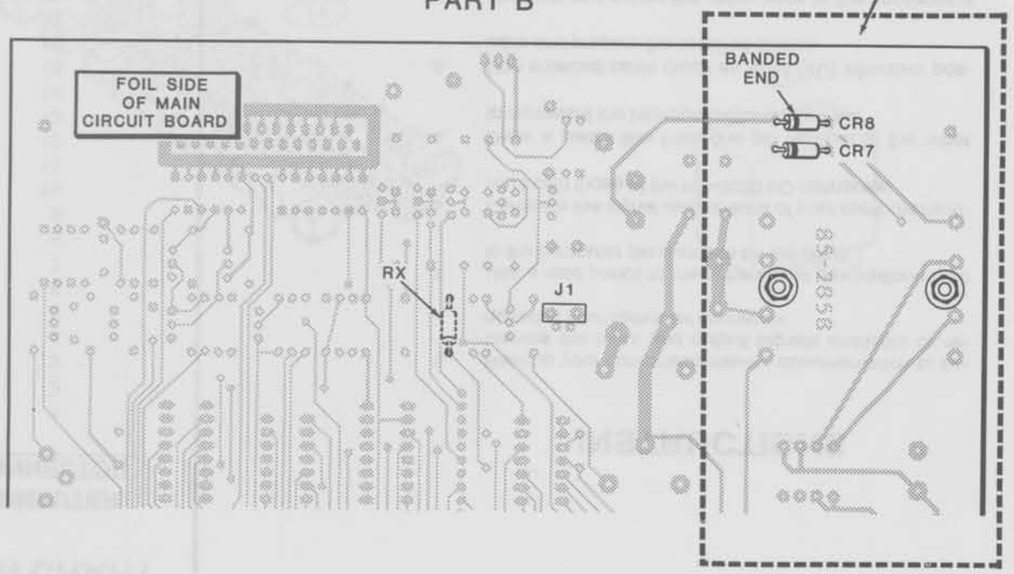
PICTORIAL 11-1

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 Ω 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 kΩ impedance Mark filter output, phase corrected for accurate "+" display on oscilloscope.
8	SCOPE SPACE	50 kΩ impedance Space filter output, phase corrected for accurate "+" display on oscilloscope.
12	SENDAUDIO	AFSK audio output, adjustable 0 to 2 volts rms, 600 Ω impedance.

INTERCONNECTION CHART

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

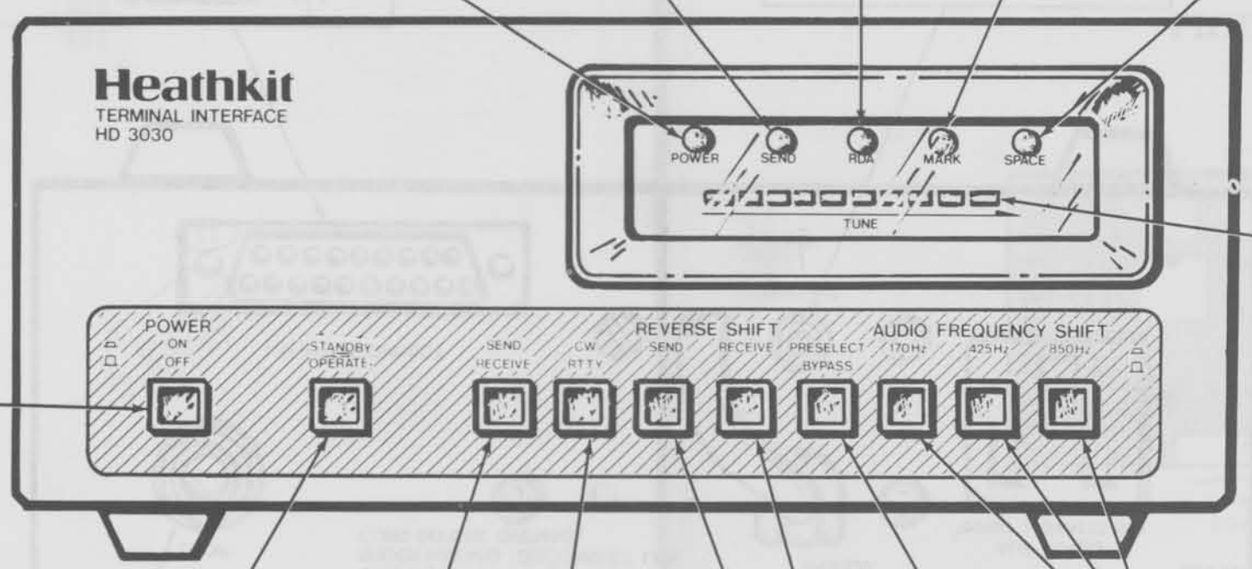
RDA: Indicates received data available in the pass band of the Mark filter.

SEND: Glows when unit is in Send mode.

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

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

SPACE: Glows alternately with Mark when receiving RTTY.



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

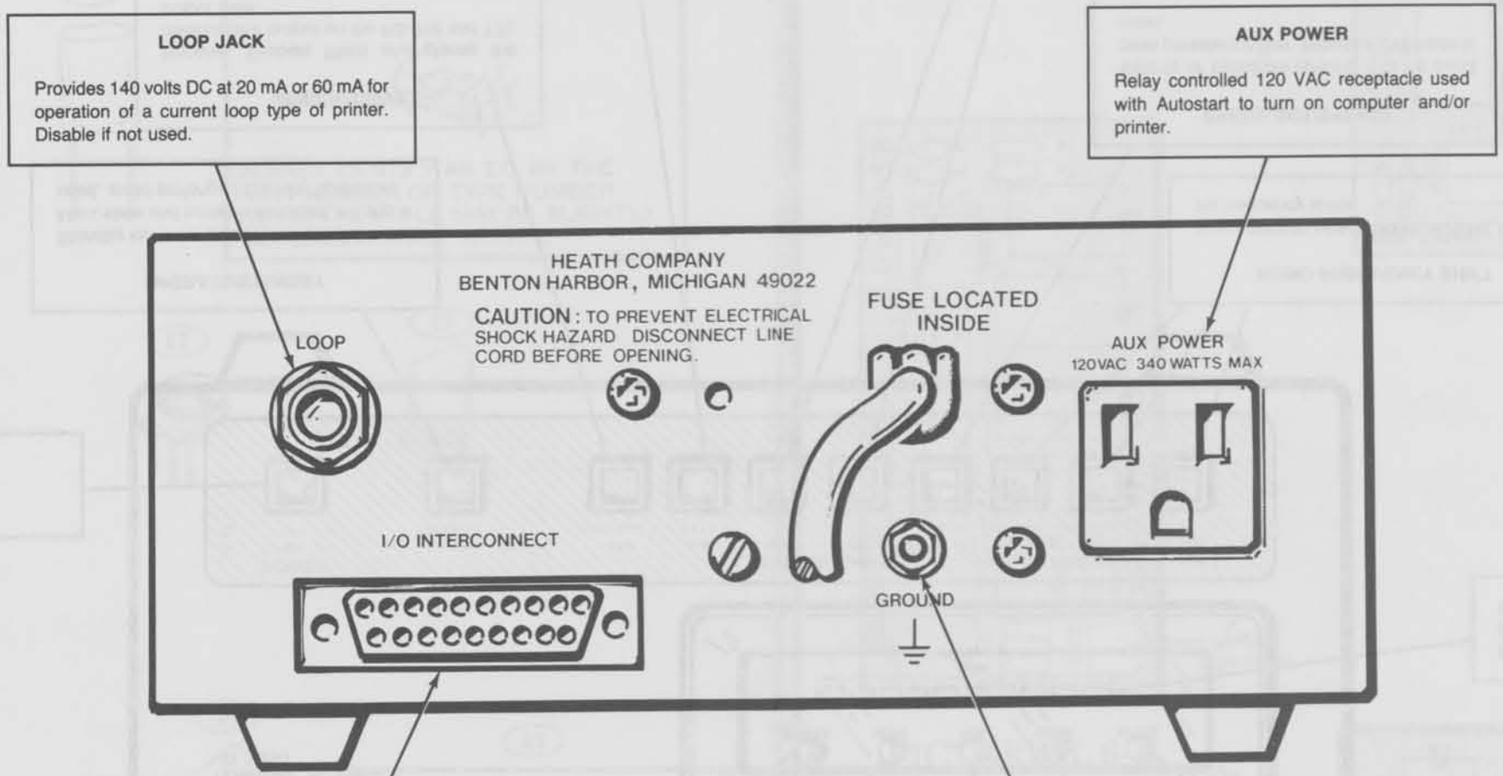
Selects or bypasses optional 170 Hz band pass preselector filter. Bypass if CW mode is used.

REVERSE SHIFT

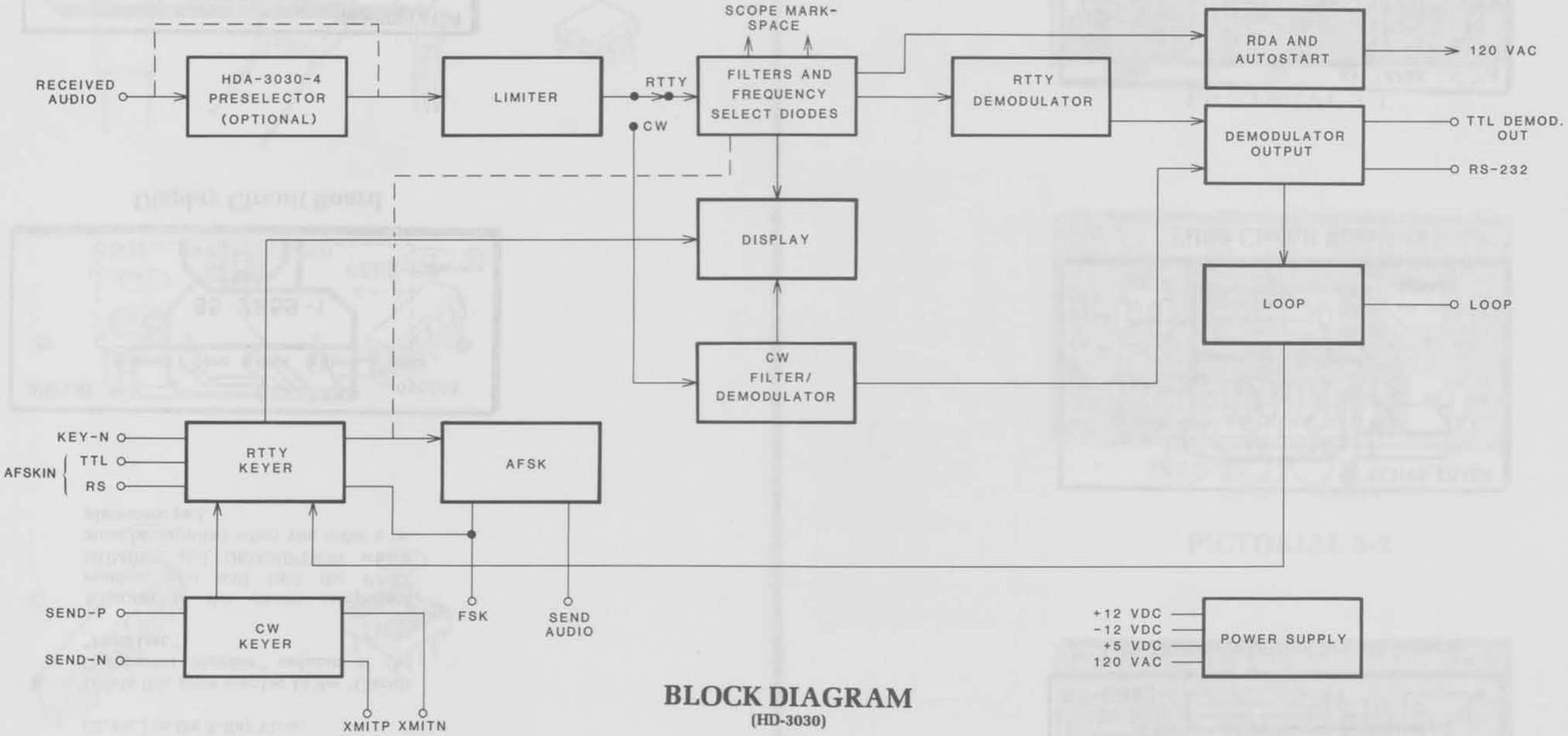
SEND: Reverses output frequencies for Mark and Space for transmission.

RECEIVE: Reverses Mark and Space frequencies for receiving.

PICTORIAL 13-1



PICTORIAL 13-2



BLOCK DIAGRAM
(HD-3030)

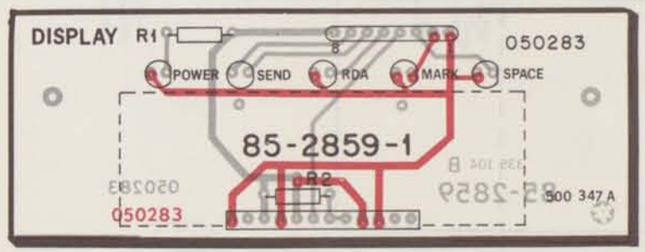
CIRCUIT BOARD X-RAY VIEWS

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

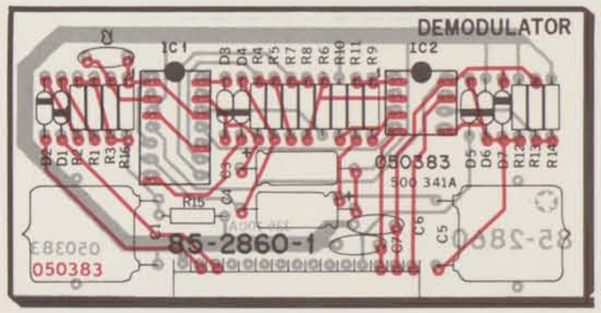
A. Find the circuit component number (R1, C3, etc.) on the X-Ray View.

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.

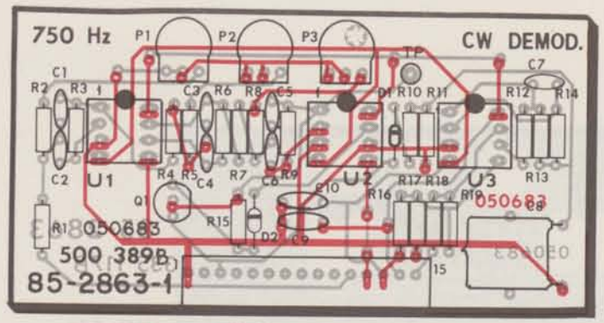


Display Circuit Board

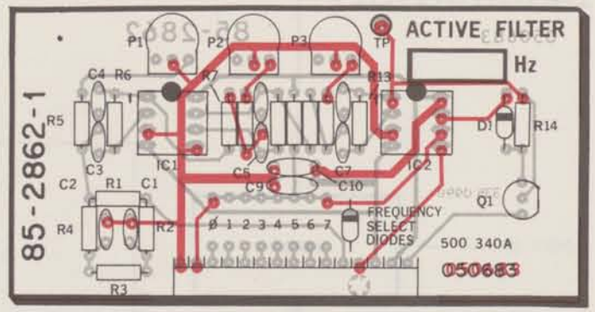


Demodulator Circuit Board

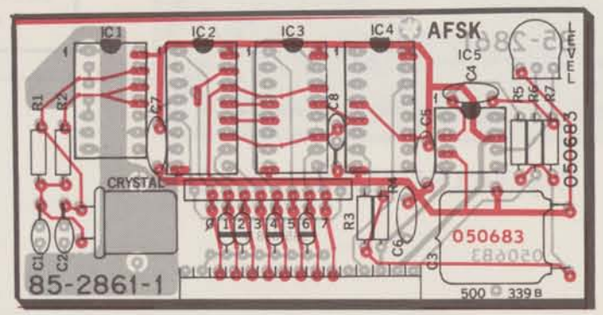
(Shown from the component side of the circuit board. The foils on the component side are shown in red.)



CW Demodulator Circuit Board

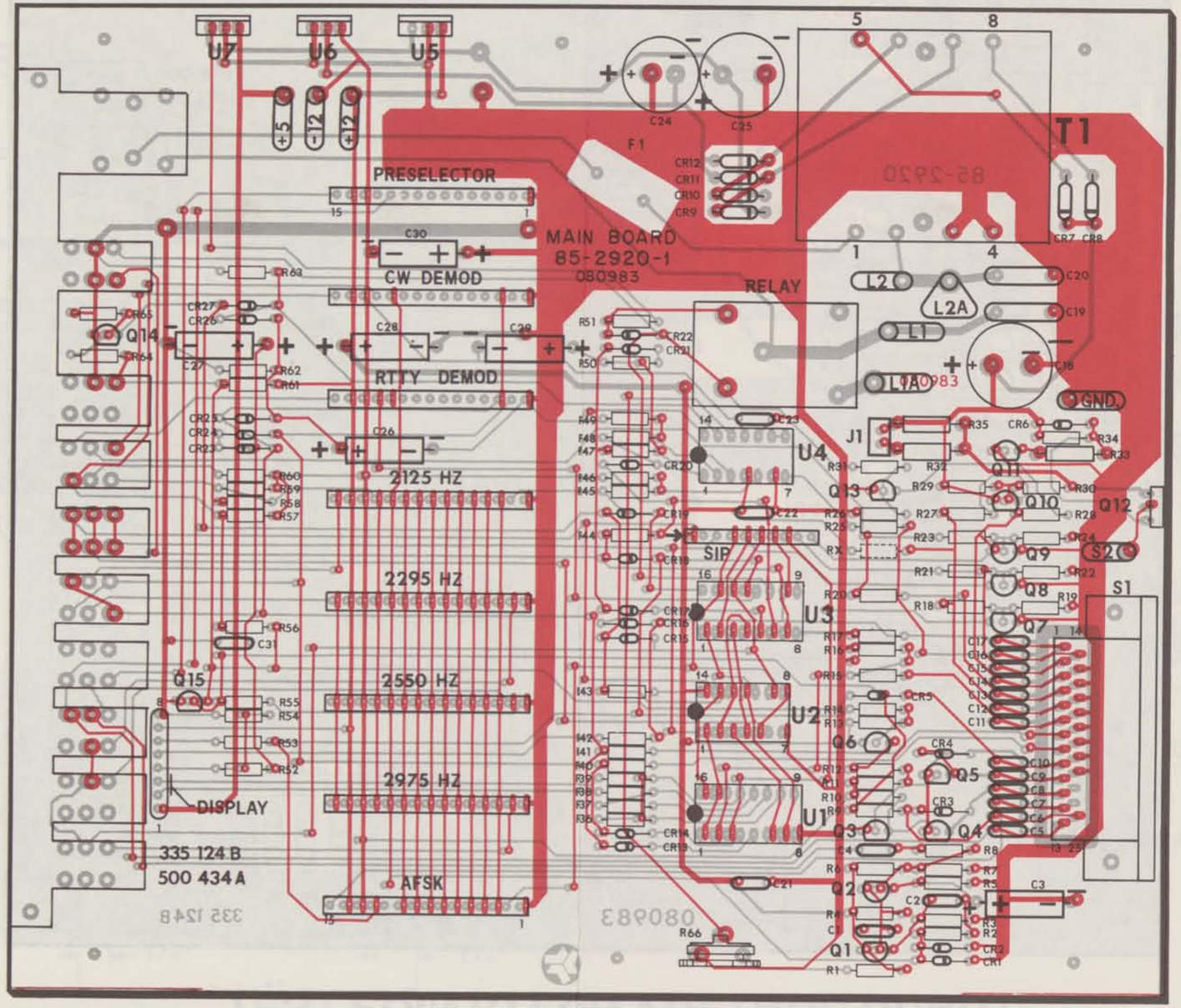


Filter Circuit Board



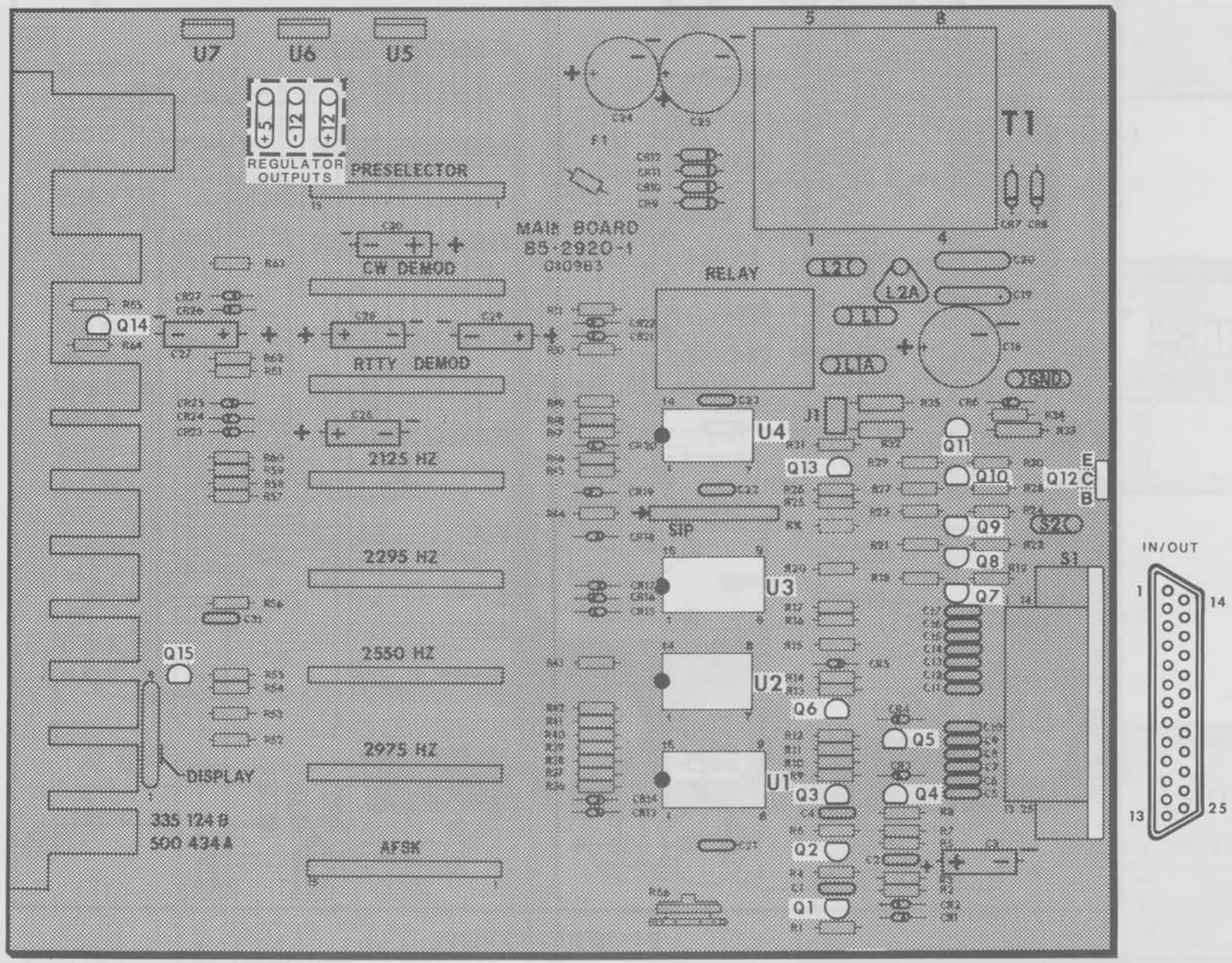
AFSK Circuit Board

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