

FIGURE 1-2

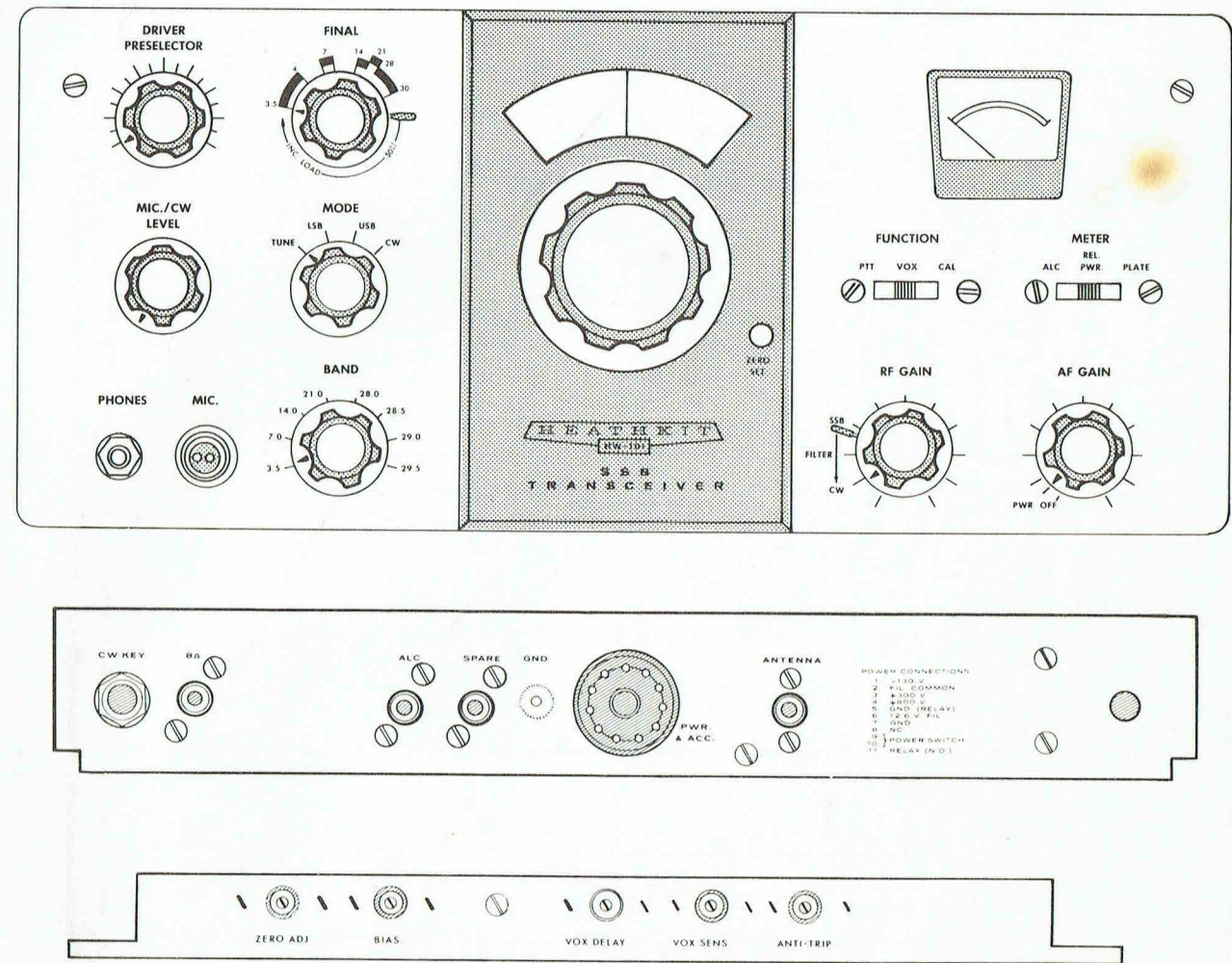
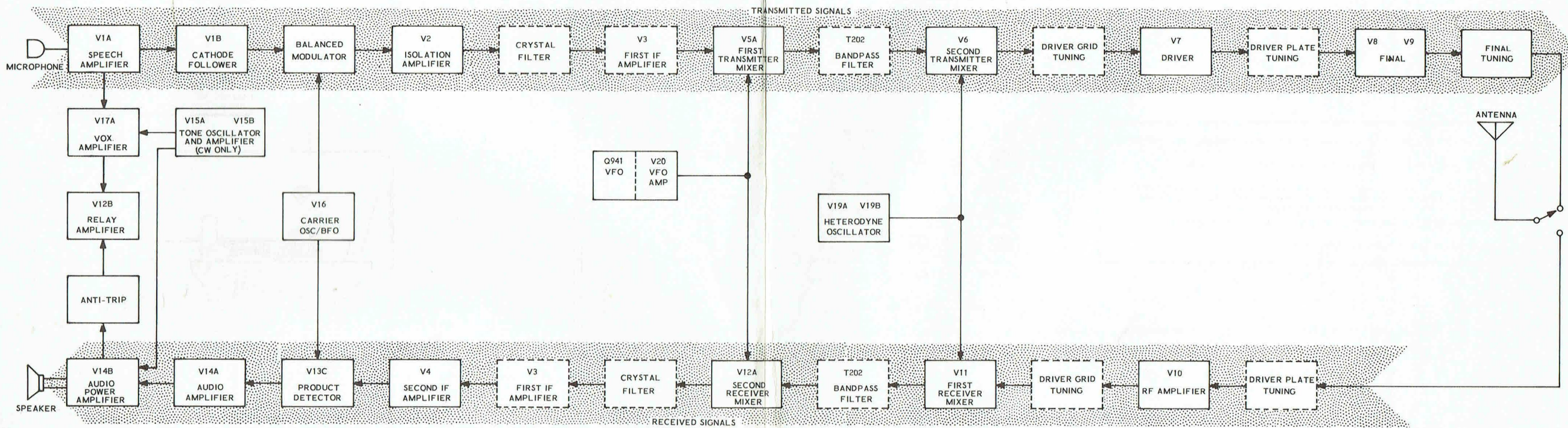
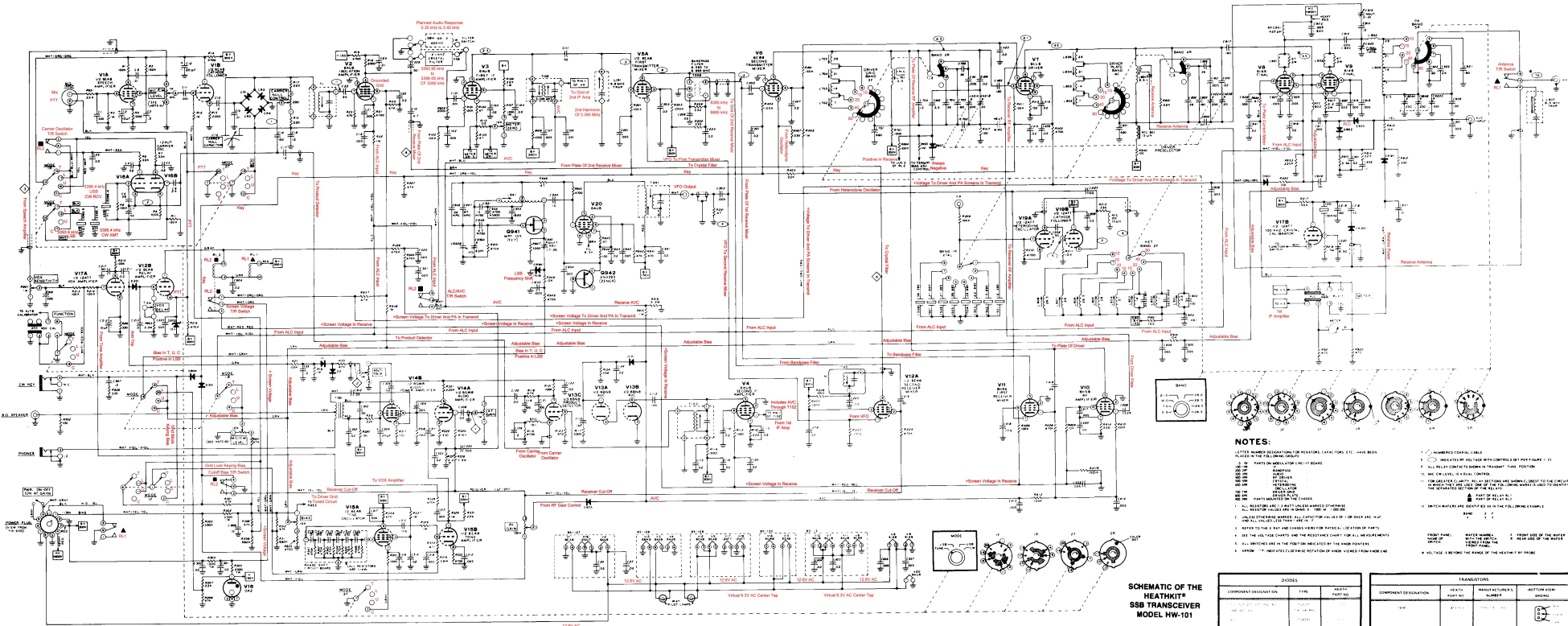


FIGURE 1-1



THESE BLOCKS ARE FOR THE CIRCUITS THAT ARE USED IN BOTH THE TRANSMITTING AND RECEIVING MODES OF OPERATION.

BLOCK DIAGRAM



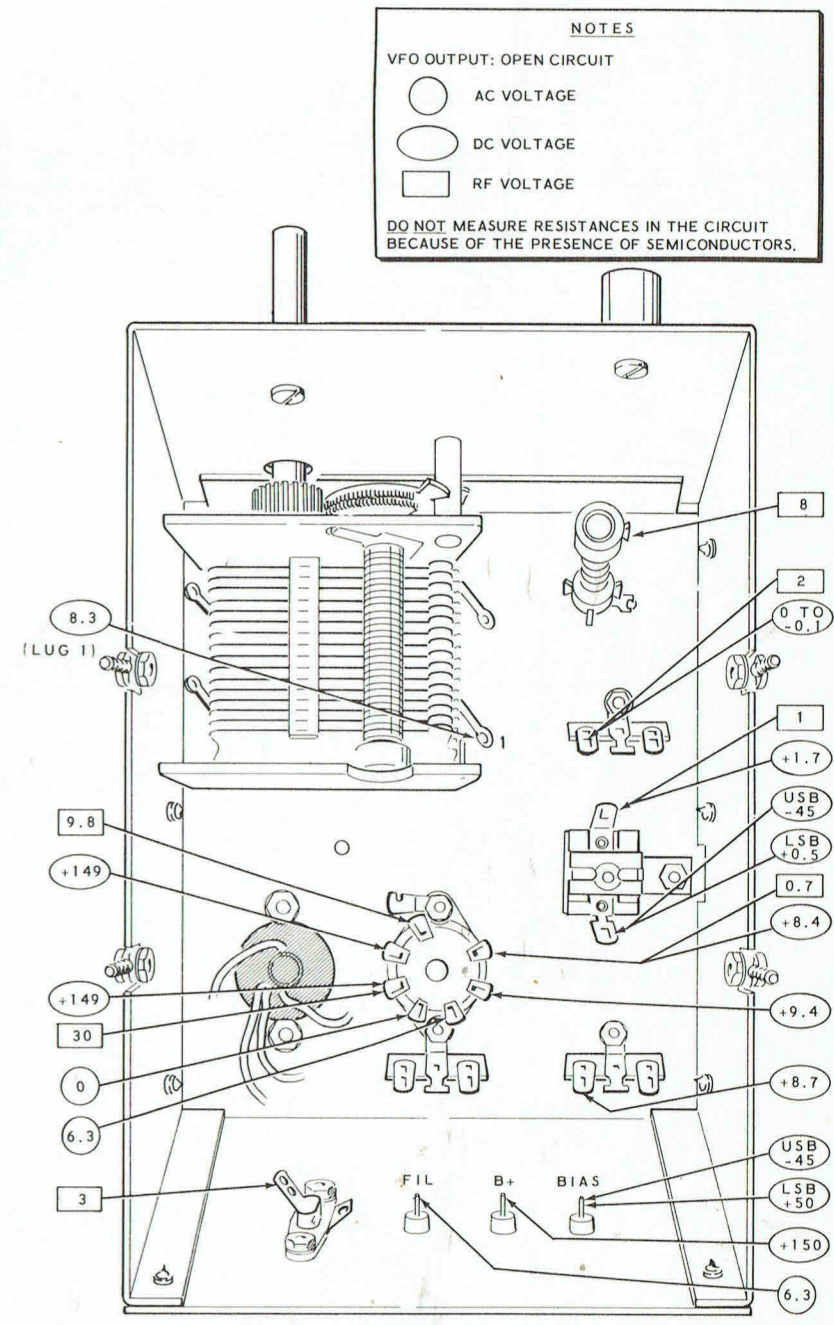
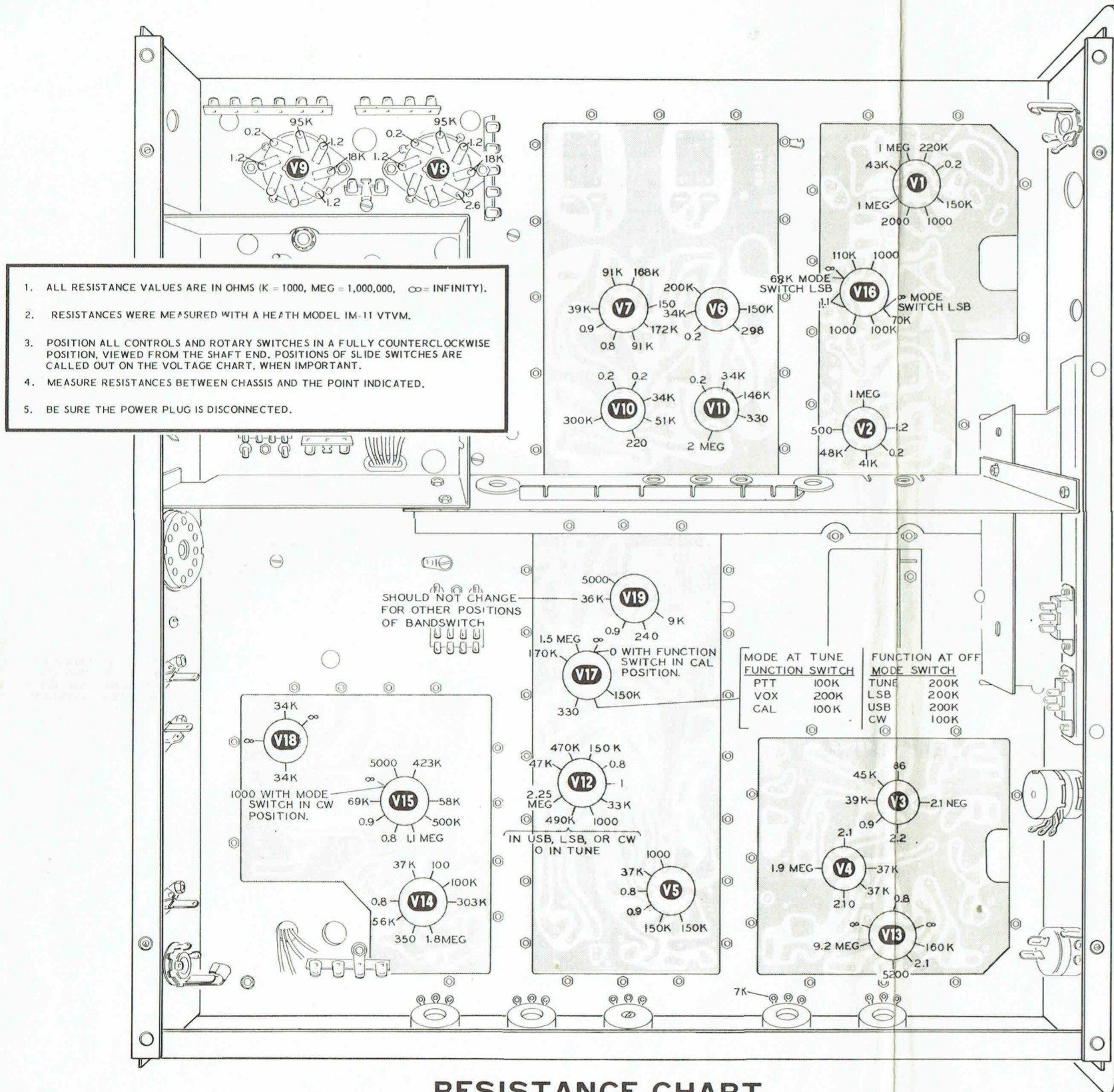
NOTES:

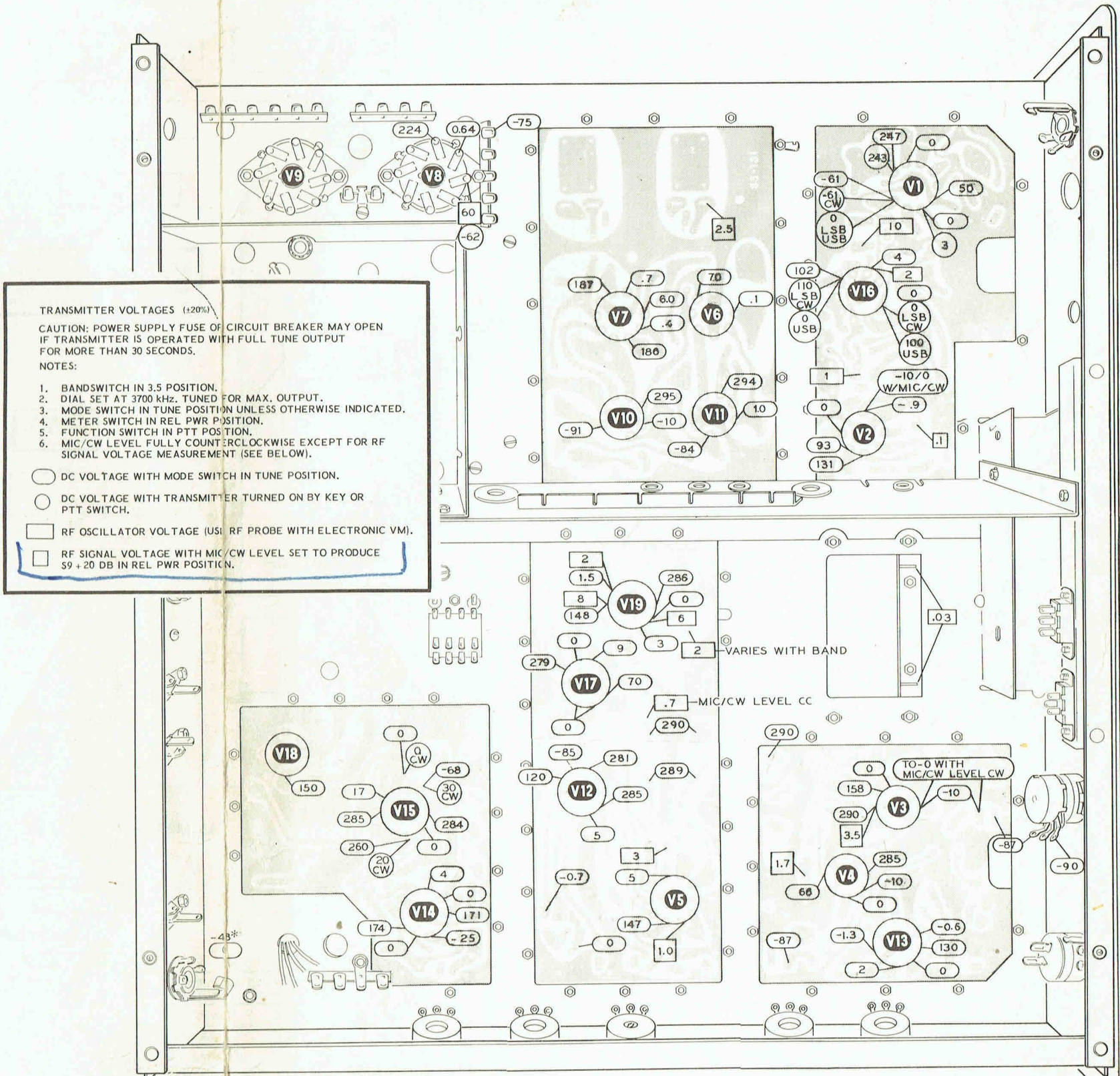
LETTER NUMBER DESIGNATIONS FOR RESISTORS, CAPACITORS, ETC. HAVE BEEN PLACED IN THE FOLLOWING MANNER:

- PARTS ON SPECIAL ORDER ARE LISTED IN THE PARTS LIST.
- RESISTORS ARE LISTED IN OHMS, KILOHMS (K), MEGOHMS (M), OR GIGAOHMS (G).
- CAPACITORS ARE LISTED IN PICO FARADS (P), MICRO FARADS (U), OR MILLIFARADS (M).
- RESISTOR TOLERANCES ARE 1% UNLESS OTHERWISE SPECIFIED.
- CAPACITOR TOLERANCES ARE 5% UNLESS OTHERWISE SPECIFIED.
- RESISTOR VALUES ARE IN OHMS, KILOHMS (K), MEGOHMS (M), OR GIGAOHMS (G).
- CAPACITOR VALUES ARE IN PICO FARADS (P), MICRO FARADS (U), OR MILLIFARADS (M).
- RESISTOR TOLERANCES ARE 1% UNLESS OTHERWISE SPECIFIED.
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- CAPACITOR VALUES ARE IN PICO FARADS (P), MICRO FARADS (U), OR MILLIFARADS (M).
- RESISTOR TOLERANCES ARE 1% UNLESS OTHERWISE SPECIFIED.
- CAPACITOR TOLERANCES ARE 5% UNLESS OTHERWISE SPECIFIED.

SCHEMATIC OF THE HEATHKIT® SSB TRANSCIVER MODEL HW-101

DIODES			TRANSISTORS			
COMPONENT DESIGNATION	TYPE	HEATHKIT PART NO.	COMPONENT DESIGNATION	HEATHKIT PART NO.	MANUFACTURER'S NUMBER	NOTATION
100	1N4001	100	100	6X4	6X4	100
101	1N4001	101	101	6X4	6X4	101
102	1N4001	102	102	6X4	6X4	102
103	1N4001	103	103	6X4	6X4	103
104	1N4001	104	104	6X4	6X4	104
105	1N4001	105	105	6X4	6X4	105
106	1N4001	106	106	6X4	6X4	106
107	1N4001	107	107	6X4	6X4	107
108	1N4001	108	108	6X4	6X4	108
109	1N4001	109	109	6X4	6X4	109
110	1N4001	110	110	6X4	6X4	110
111	1N4001	111	111	6X4	6X4	111
112	1N4001	112	112	6X4	6X4	112
113	1N4001	113	113	6X4	6X4	113
114	1N4001	114	114	6X4	6X4	114
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120	1N4001	120	120	6X4	6X4	120
121	1N4001	121	121	6X4	6X4	121
122	1N4001	122	122	6X4	6X4	122
123	1N4001	123	123	6X4	6X4	123
124	1N4001	124	124	6X4	6X4	124
125	1N4001	125	125	6X4	6X4	125
126	1N4001	126	126	6X4	6X4	126
127	1N4001	127	127	6X4	6X4	127
128	1N4001	128	128	6X4	6X4	128
129	1N4001	129	129	6X4	6X4	129
130	1N4001	130	130	6X4	6X4	130
131	1N4001	131	131	6X4	6X4	131
132	1N4001	132	132	6X4	6X4	132
133	1N4001	133	133	6X4	6X4	133
134	1N4001	134	134	6X4	6X4	134
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136	1N4001	136	136	6X4	6X4	136
137	1N4001	137	137	6X4	6X4	137
138	1N4001	138	138	6X4	6X4	138
139	1N4001	139	139	6X4	6X4	139
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141	1N4001	141	141	6X4	6X4	141
142	1N4001	142	142	6X4	6X4	142
143	1N4001	143	143	6X4	6X4	143
144	1N4001	144	144	6X4	6X4	144
145	1N4001	145	145	6X4	6X4	145
146	1N4001	146	146	6X4	6X4	146
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191	1N4001	191	191	6X4	6X4	191
192	1N4001	192	192	6X4	6X4	192
193	1N4001	193	193	6X4	6X4	193
194	1N4001	194	194	6X4	6X4	194
195	1N4001	195	195	6X4	6X4	195
196	1N4001	196	196	6X4	6X4	196
197	1N4001	197	197	6X4	6X4	197
198	1N4001	198	198	6X4	6X4	198
199	1N4001	199	199	6X4	6X4	199
200	1N4001	200	200	6X4	6X4	200







TRANSMITTER VOLTAGE CHART
FIGURE 1-21

RECEIVER VOLTAGE CHART NOTES

DC VOLTAGES ($\pm 20\%$)

- POWER SUPPLY AND 8 Ω SPEAKER CONNECTED.
- ANTENNA NOT CONNECTED.
- BAND SWITCH IN 3.5 POSITION.
- MODE SWITCH IN LSB POSITION.
- FUNCTION SWITCH IN PTT POSITION.
- RF GAIN MAXIMUM CLOCKWISE.
- AF GAIN AT 9 O'CLOCK POSITION.
- FILAMENT VOLTAGES NOT SHOWN: -
BROWN - 6.3 V AC/DC
WHITE/BROWN - 12.6 V AC/DC
- BIAS AT 50 MA PLATE CURRENT.

 MEASURED WITH 11 MEGOHM INPUT ELECTRONIC VM.

 RF VOLTAGES - NO SIGNAL (USE RF PROBE WITH ELECTRONIC VM).

SIGNAL VOLTAGES

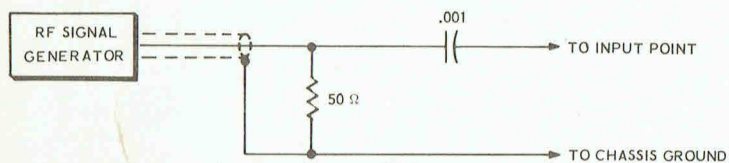
(Refer to Receiver DC Voltage Chart for Test Points)

CONTROL AND SWITCH SETTINGS AS IN DC VOLTAGE CHART EXCEPT AS FOLLOWS:

- DIAL FREQUENCY - 3,900 MHz
- MODE SWITCH - LSB OR USB.
- AF GAIN - SET TO HEAR SIGNAL WITH APPROXIMATELY 1000 Hz TONE.
- METER SWITCH IN ALC POSITION.

 SIGNAL INPUT POINTS.

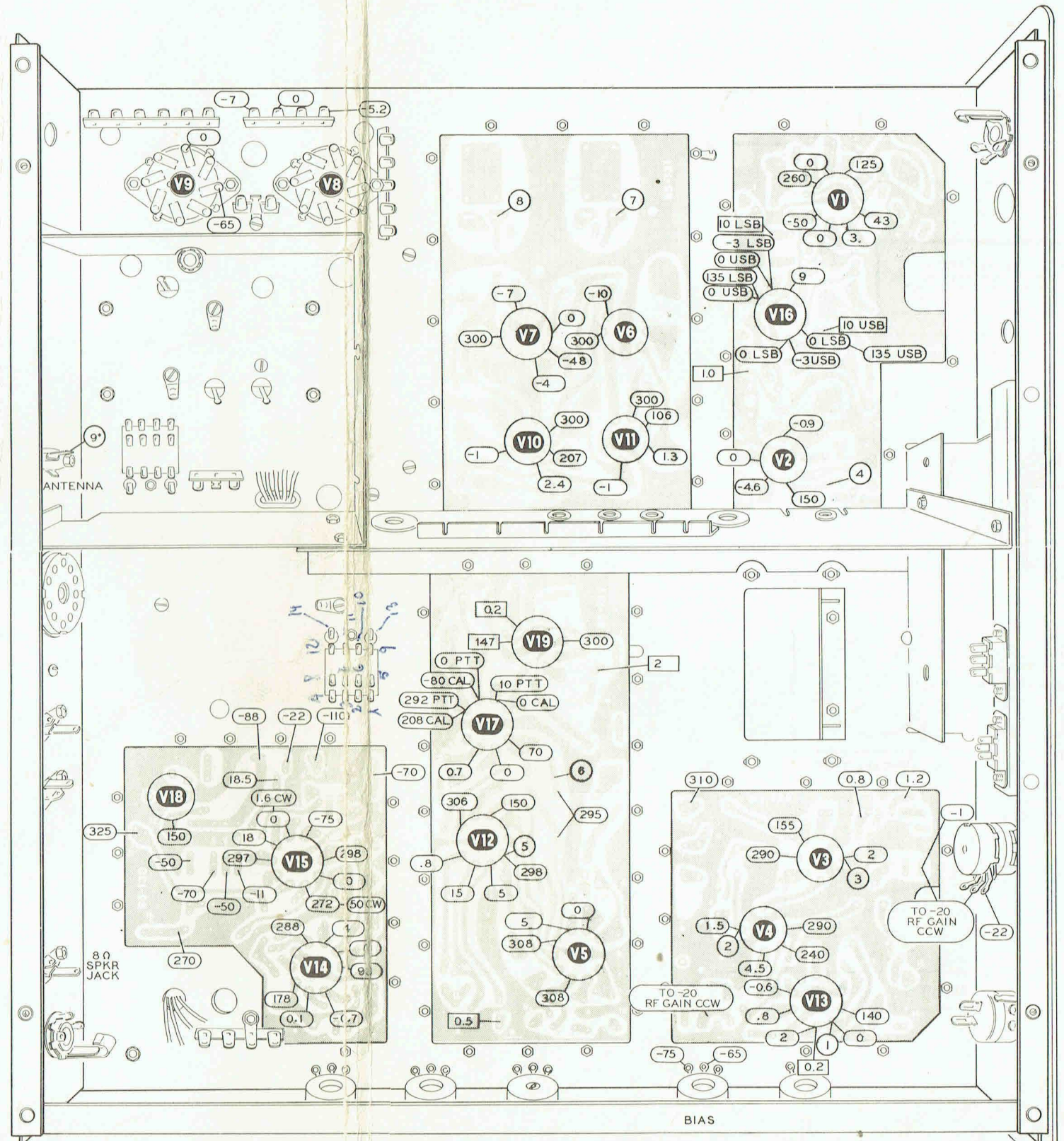
SIGNAL GENERATOR TERMINATION



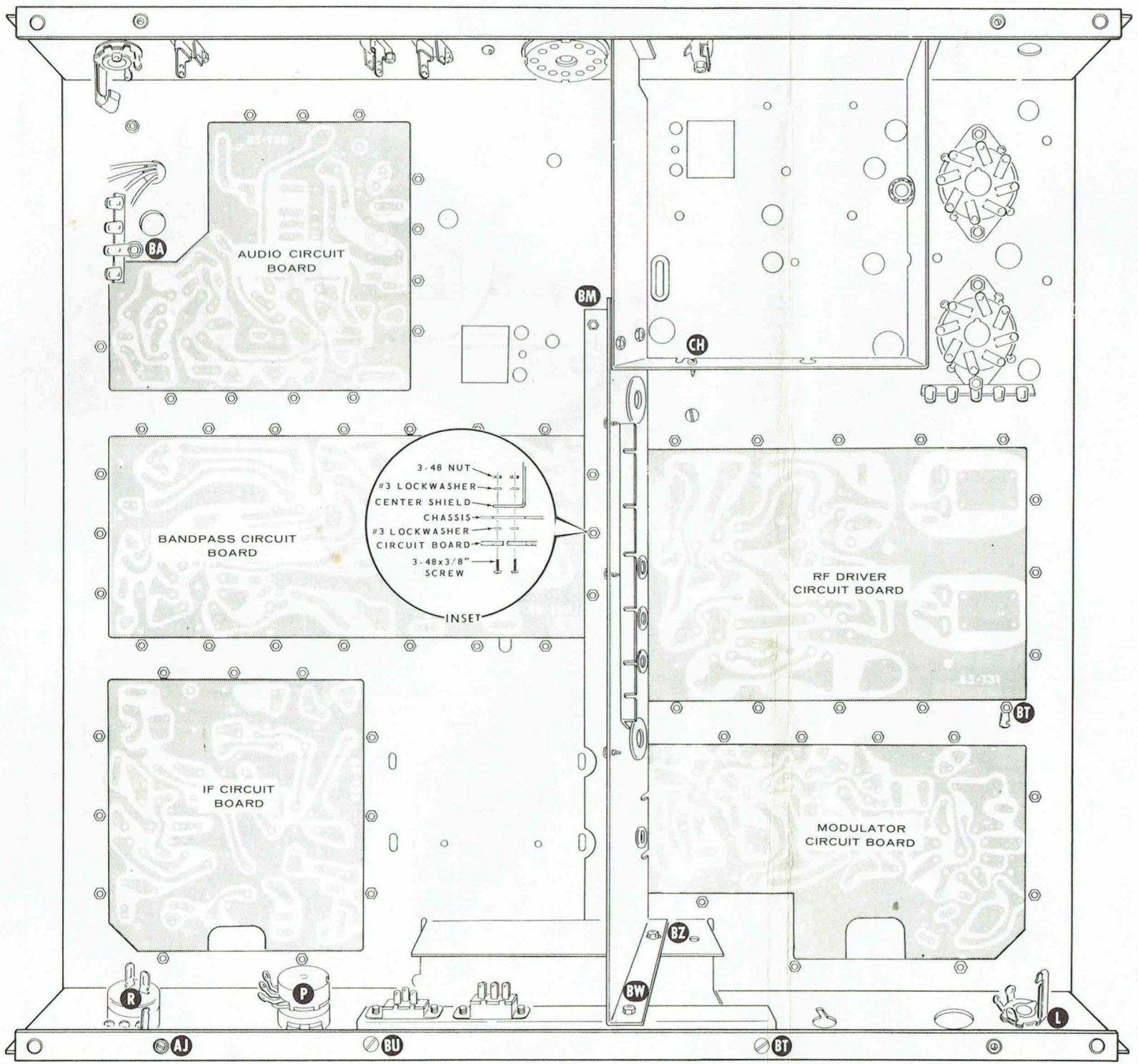
IMPORTANT: The crystal filter is quite narrow and the signal generator must be very carefully adjusted for the strongest signal indication at the Input Frequency listed in the chart below.

INPUT POINT	INPUT FREQUENCY	INPUT LEVEL	ELECTRONIC VM OR S-METER READING
1	3,395 MHz	20 mV	(AF GAIN MAX. CLOCKWISE) 4 V RMS AT 8 Ω JACK
2	"	10 mV	S-4
3	"	10 mV	S-9 + 60 DB.
4	"	10 mV	S-9 + 60 DB.
5	"	10 mV	S-9 + 10 DB.
6	8.5 MHz	10 mV	S-9 + 40 DB.
7	3,900 MHz	10 mV	S-9 + 20 DB.
8	3,900 MHz.	10 mV	S-9 + 40 DB PEAK DRIVER PRESELECTOR
XTAL CAL ON	3,900 MHz	10 mV	S-9 + 20 DB PEAK DRIVER PRE SELECTOR
9 *	3,900 MHz	30 μ V	S-9 APPROXIMATELY

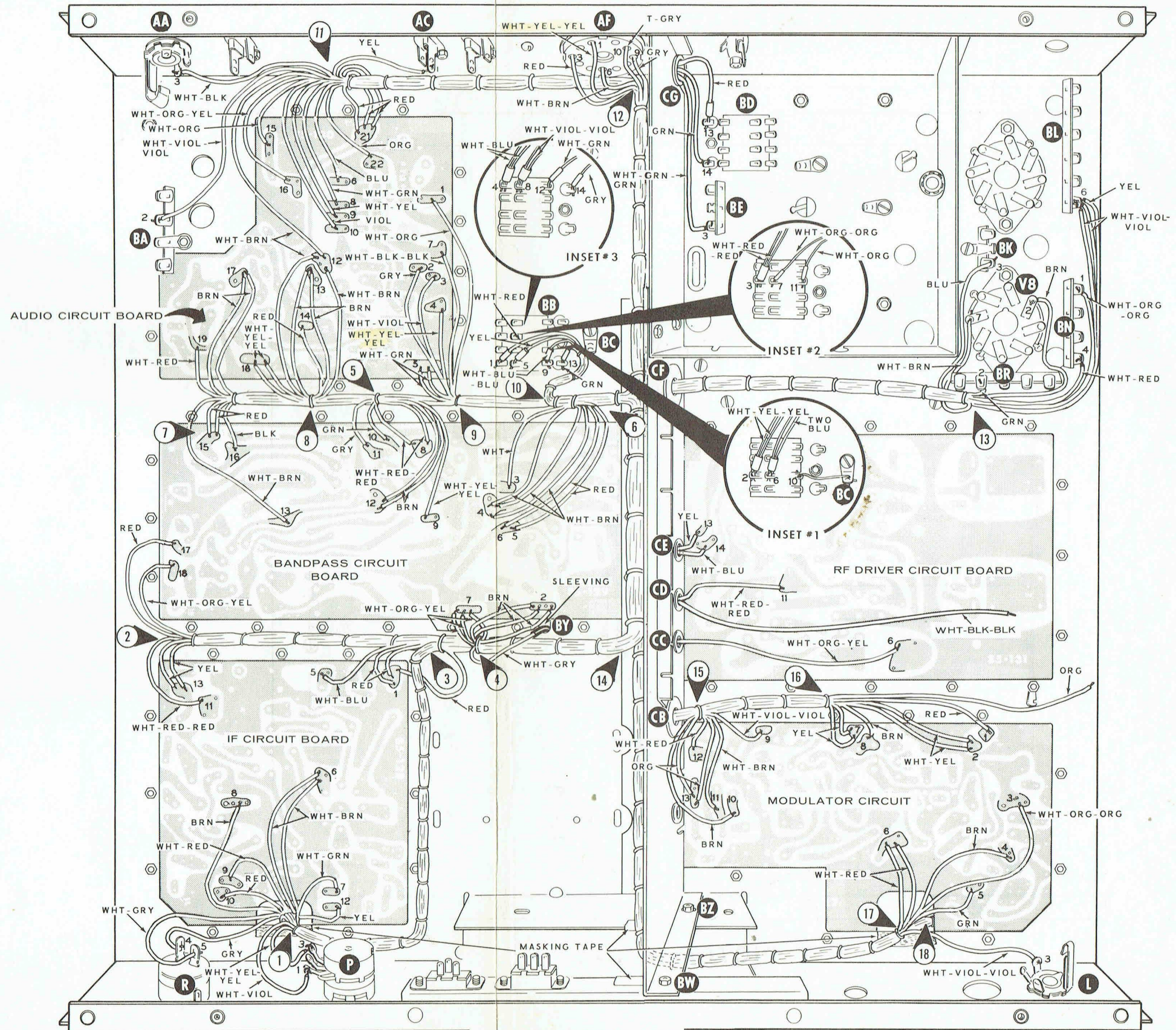
* GENERATOR CONNECTED DIRECTLY - NO TERMINATION.



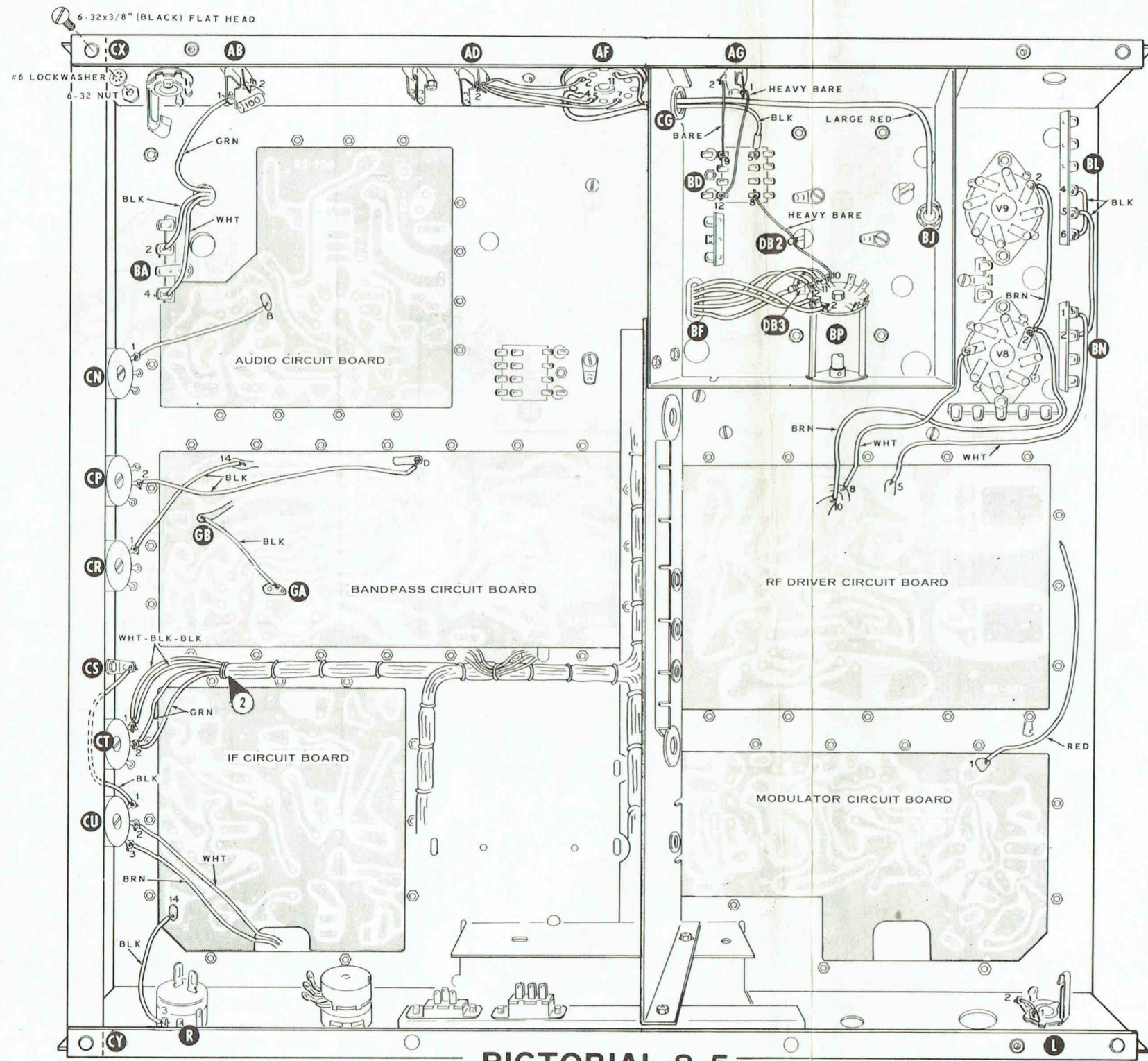
RECEIVER DC VOLTAGE CHART
FIGURE 1-20



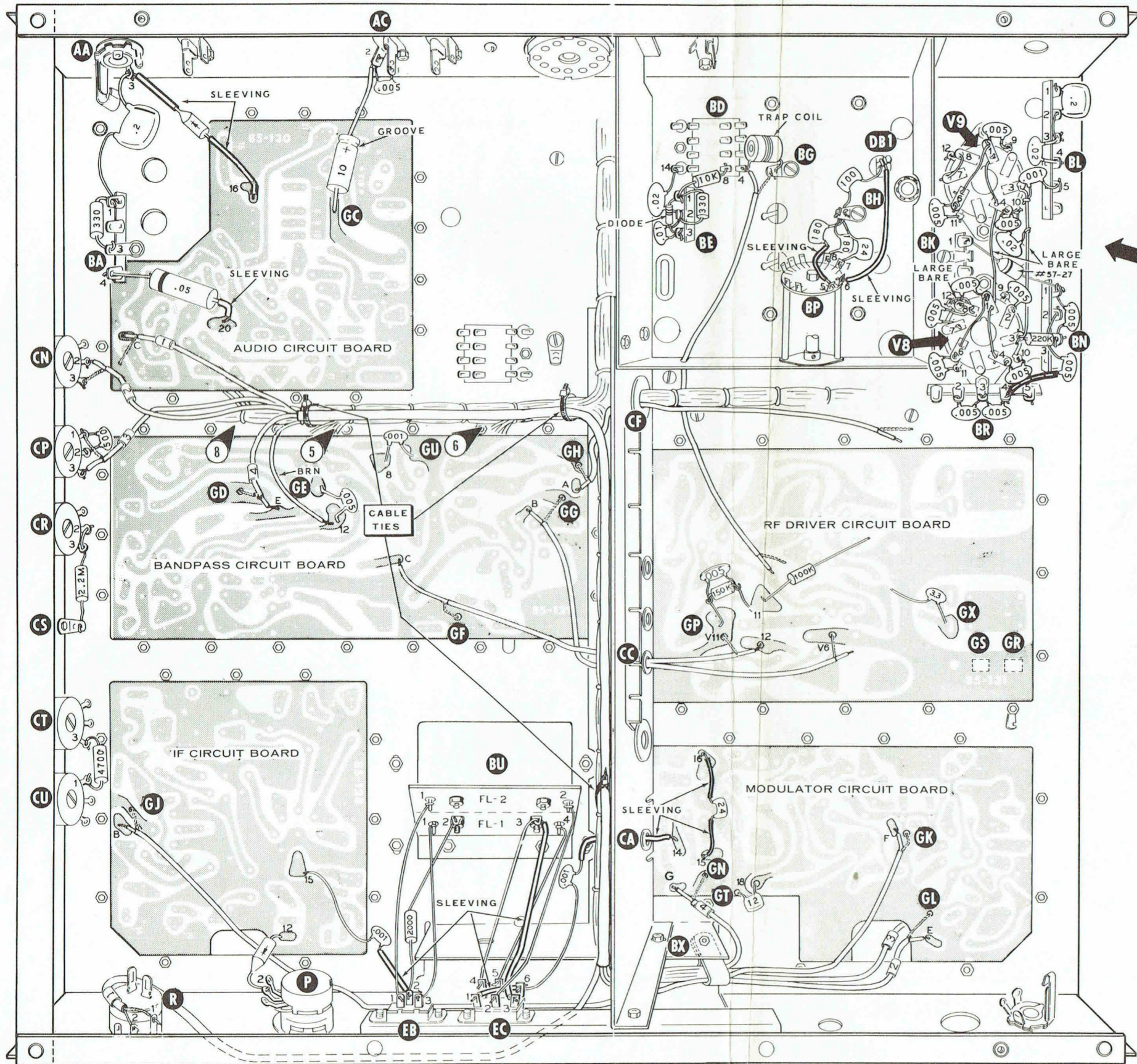
PICTORIAL 8-2



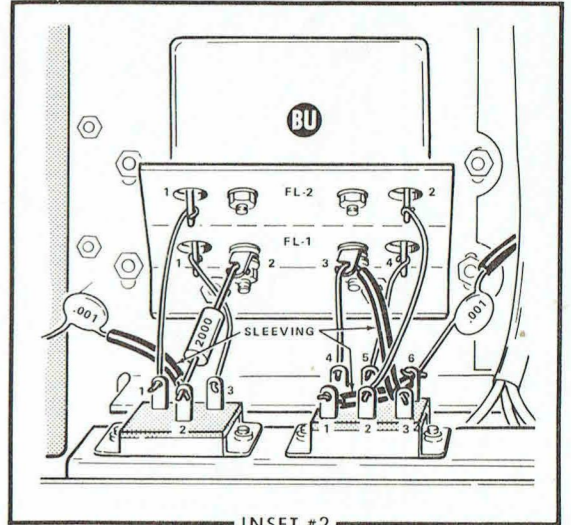
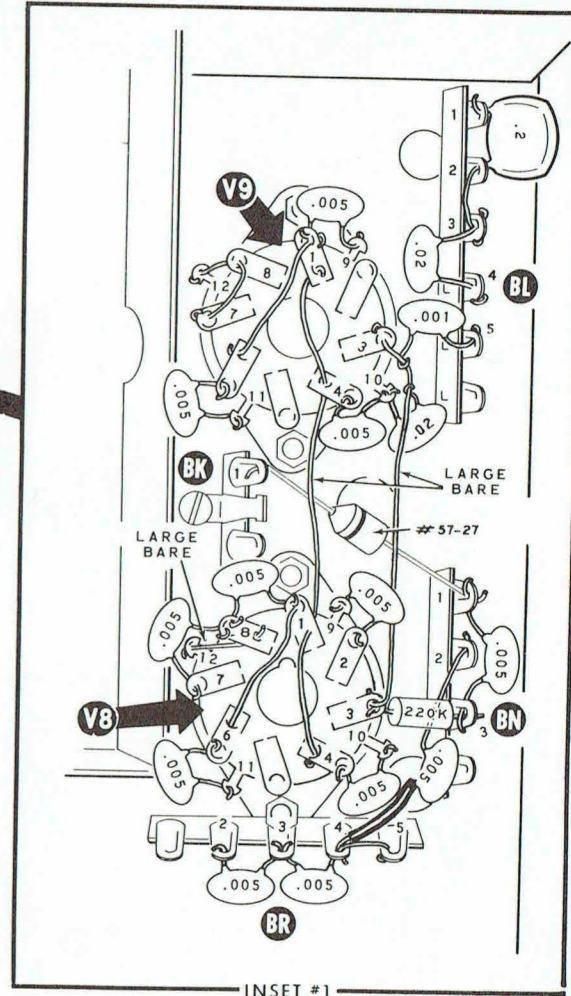
PICTORIAL 8-4



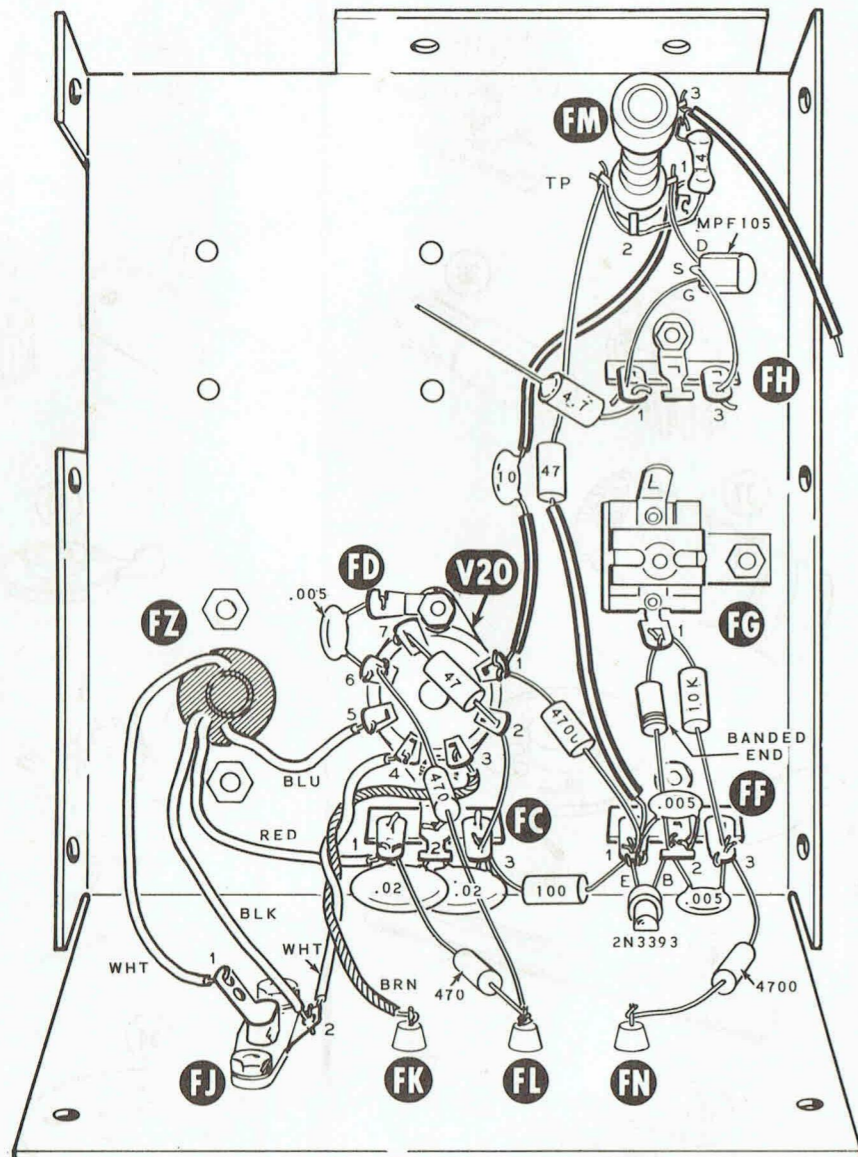
PICTORIAL 8-5



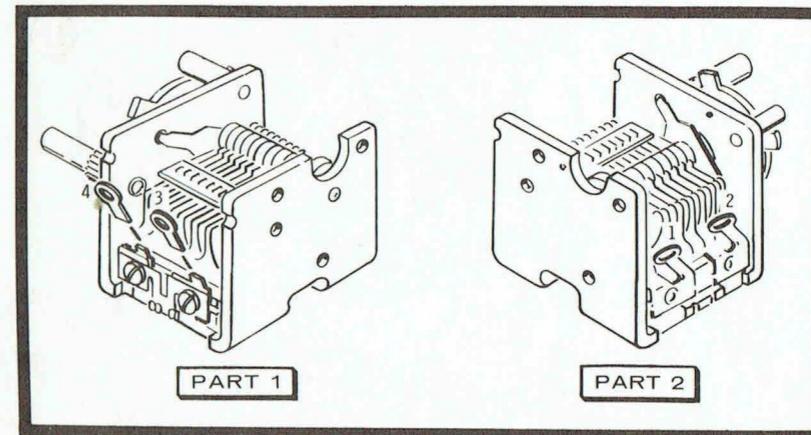
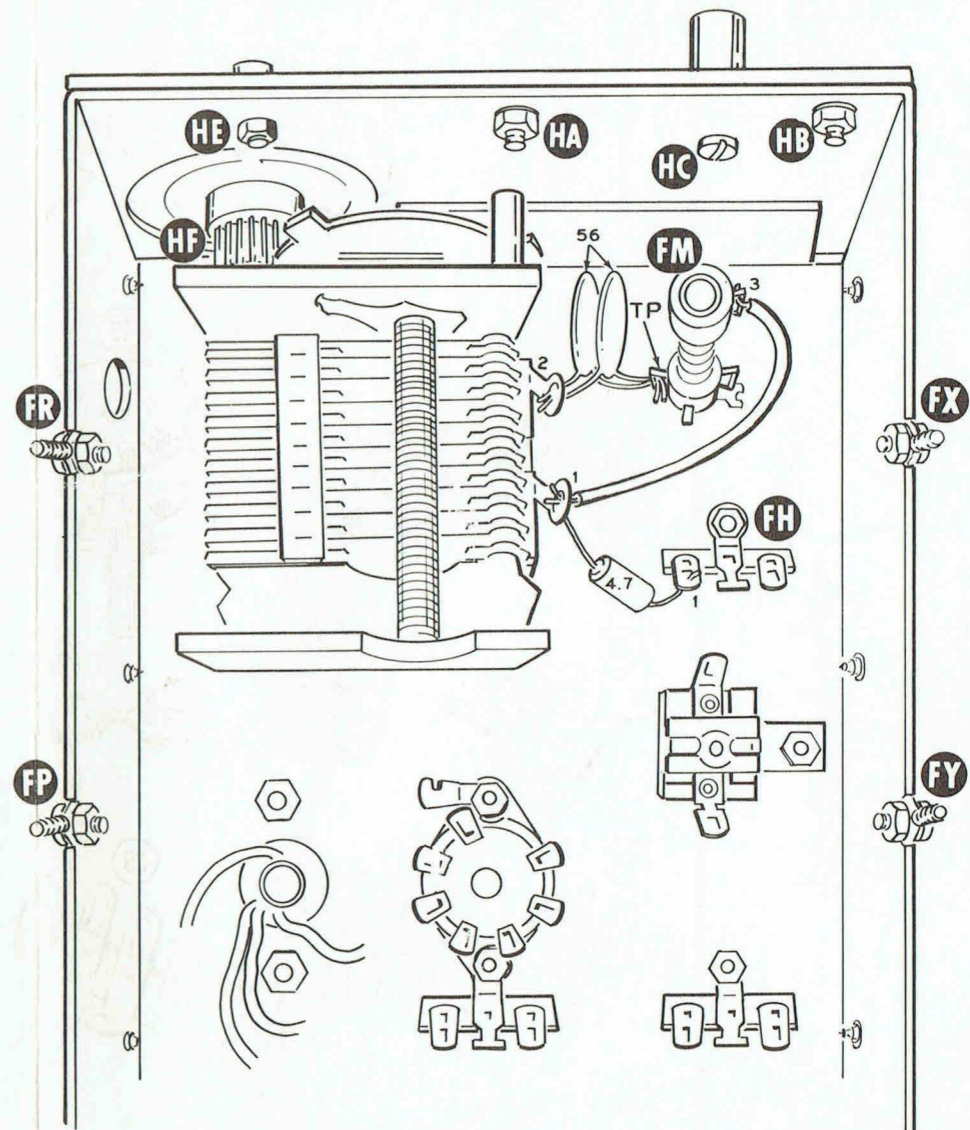
SEE INSET #2



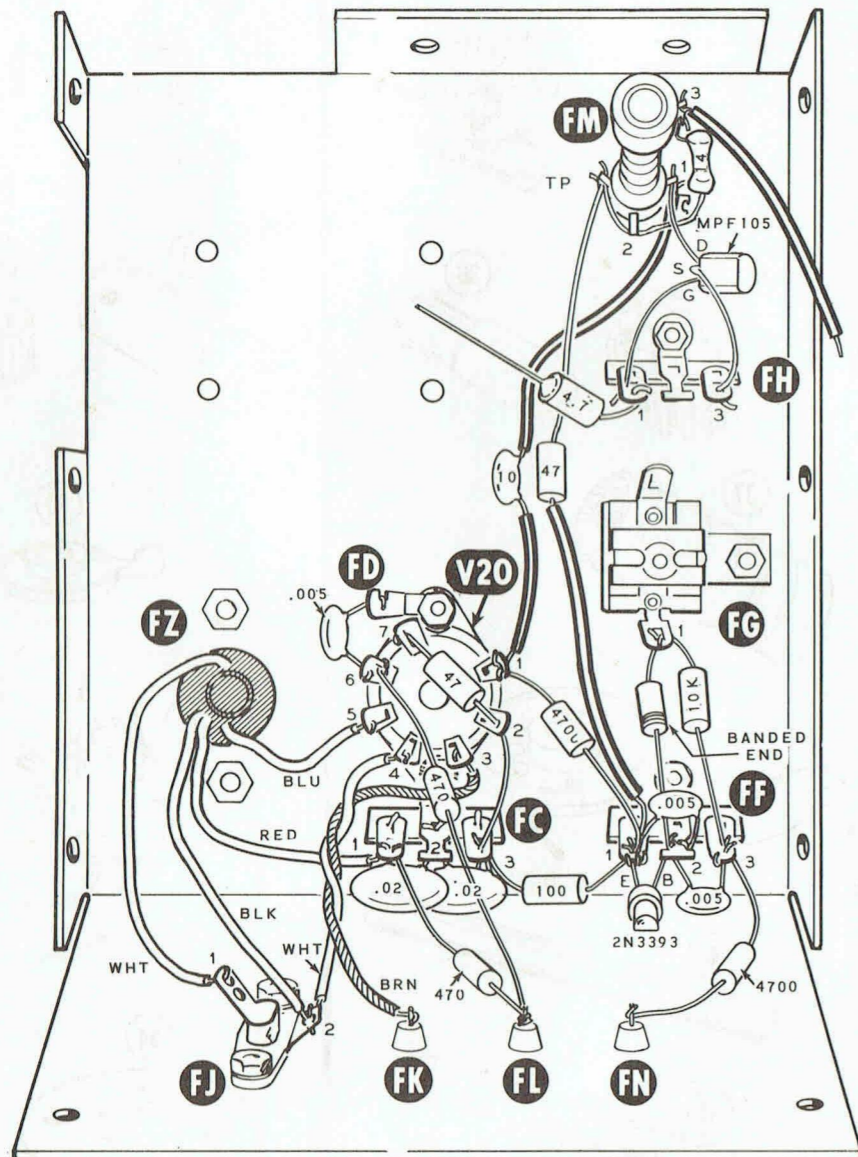
PICTORIAL 8-6



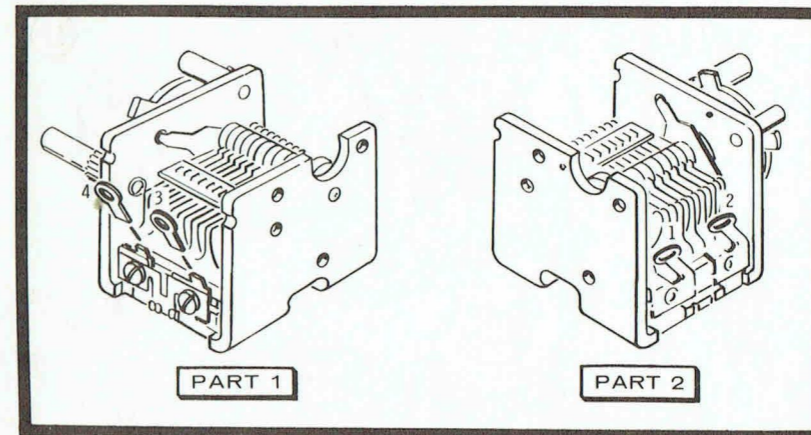
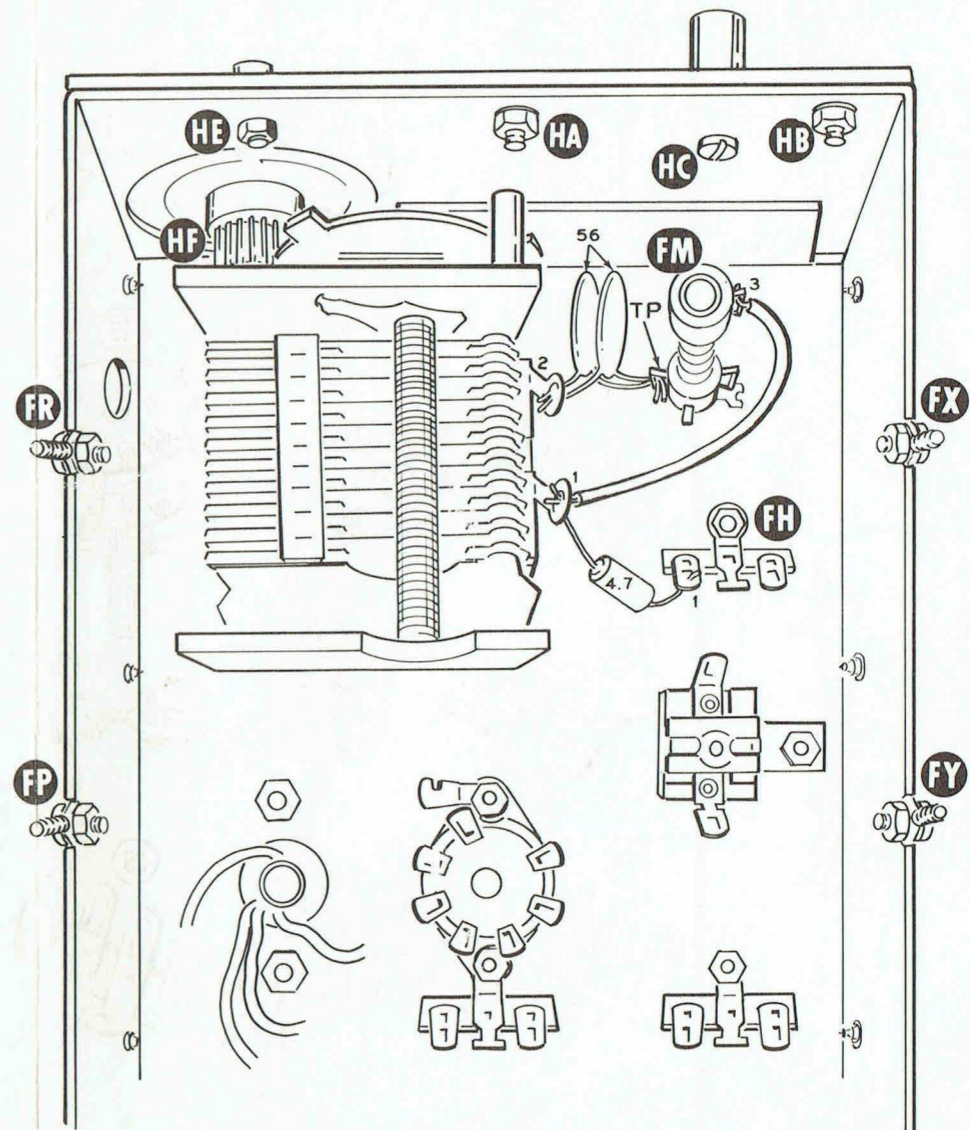
PICTORIAL 7-2



PICTORIAL 7-4

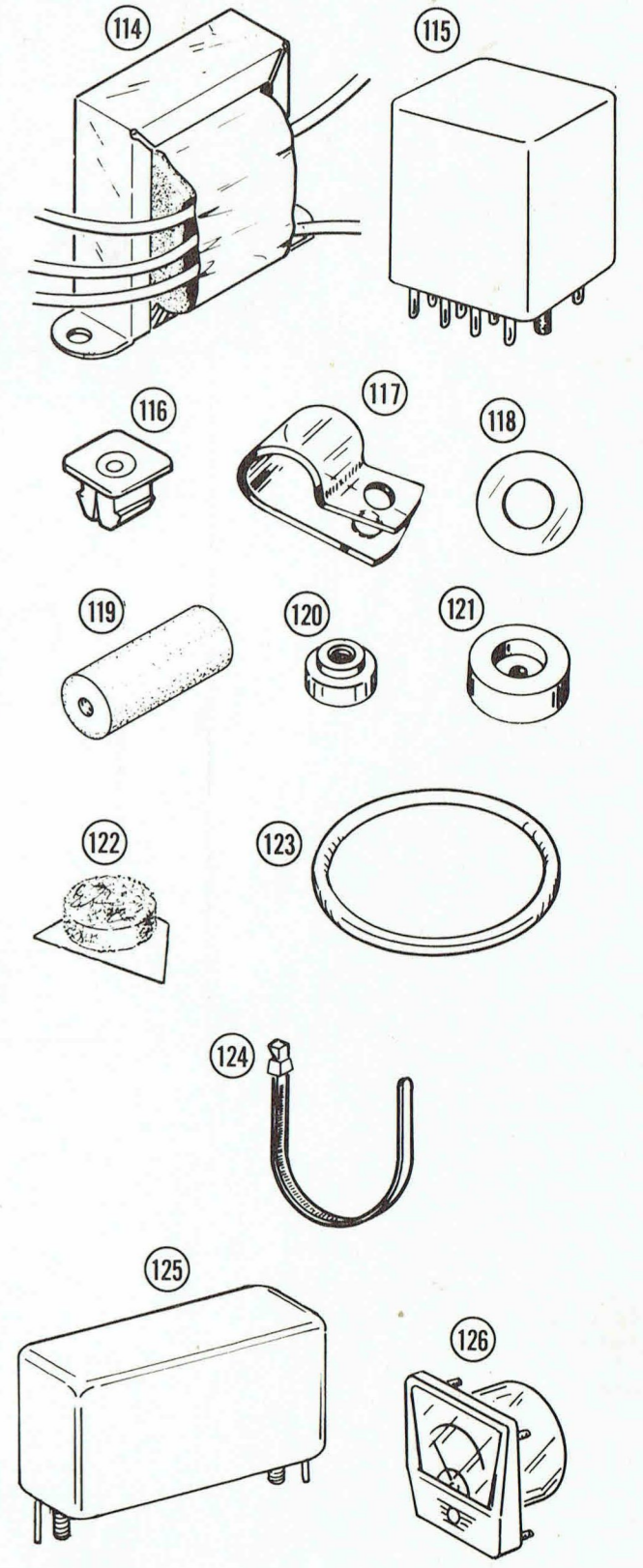
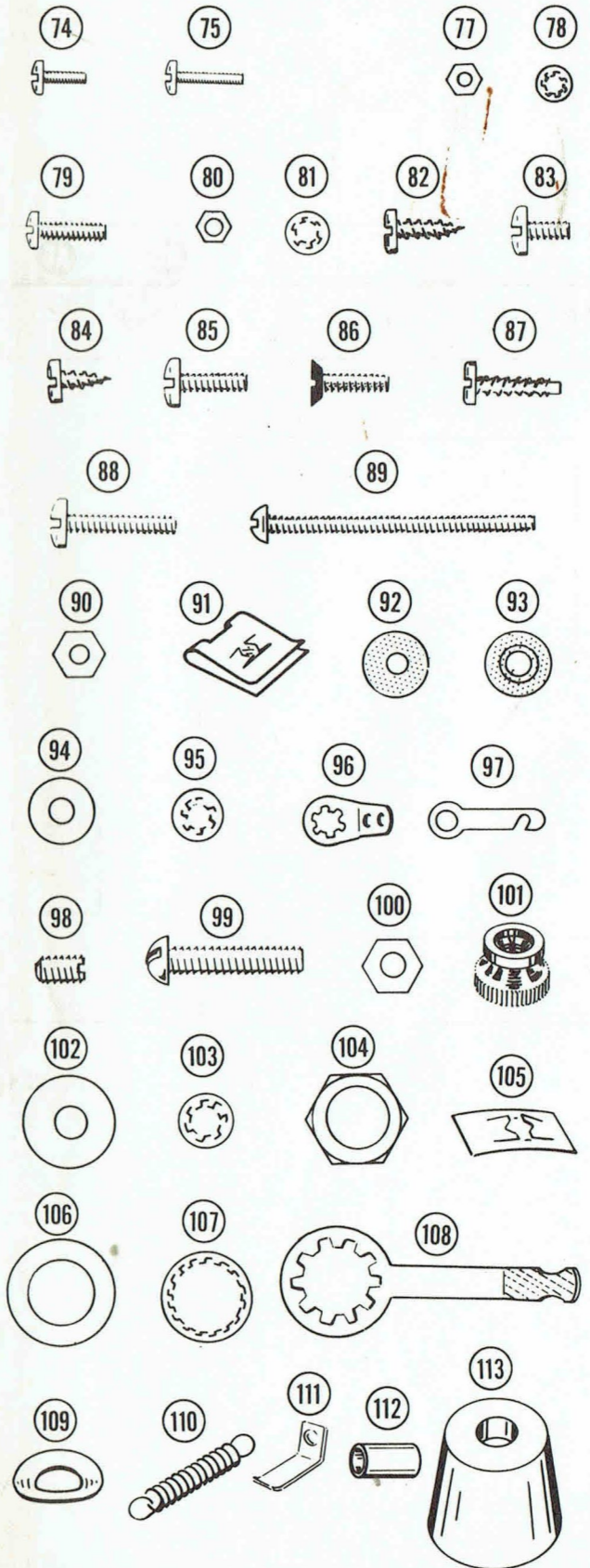
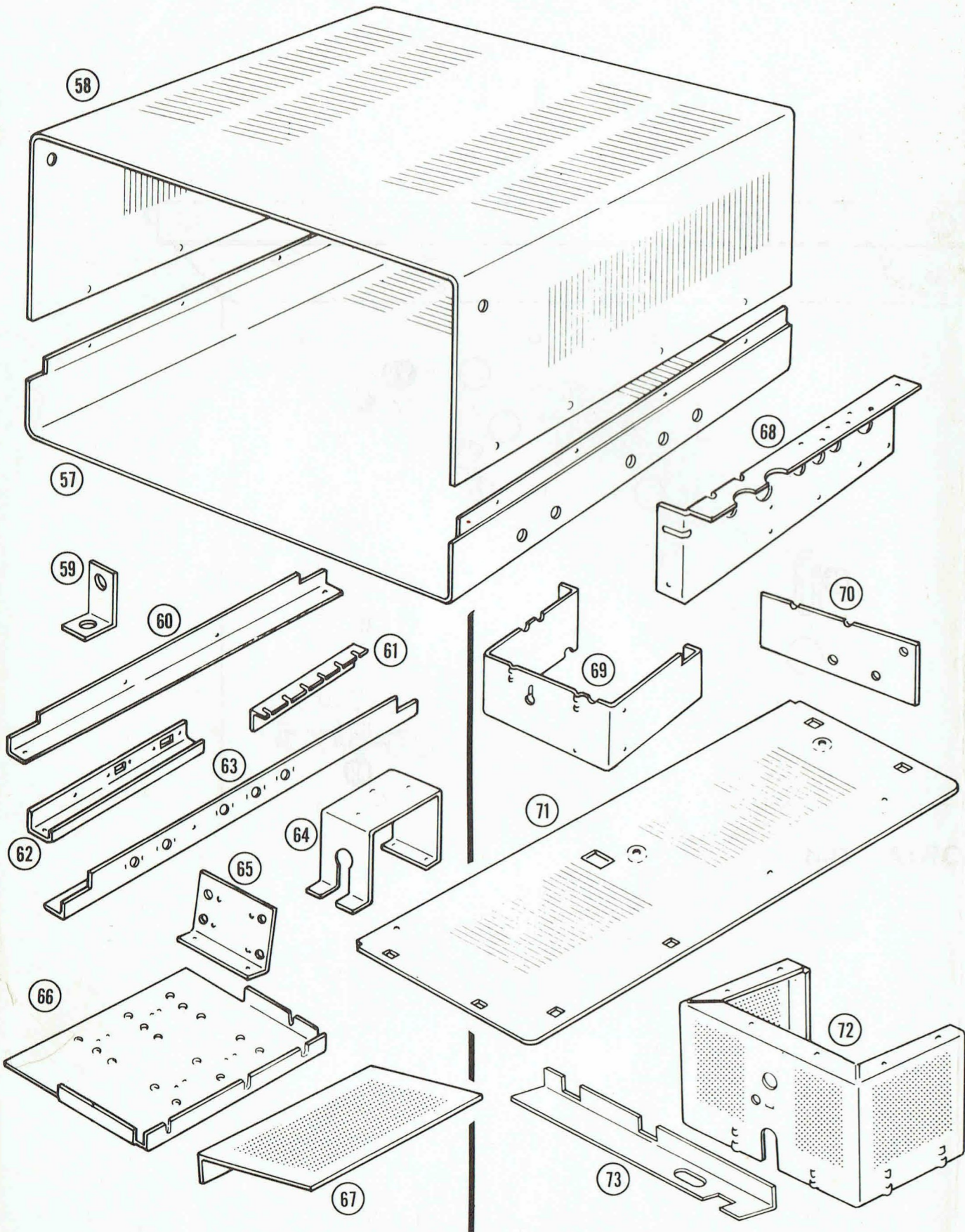


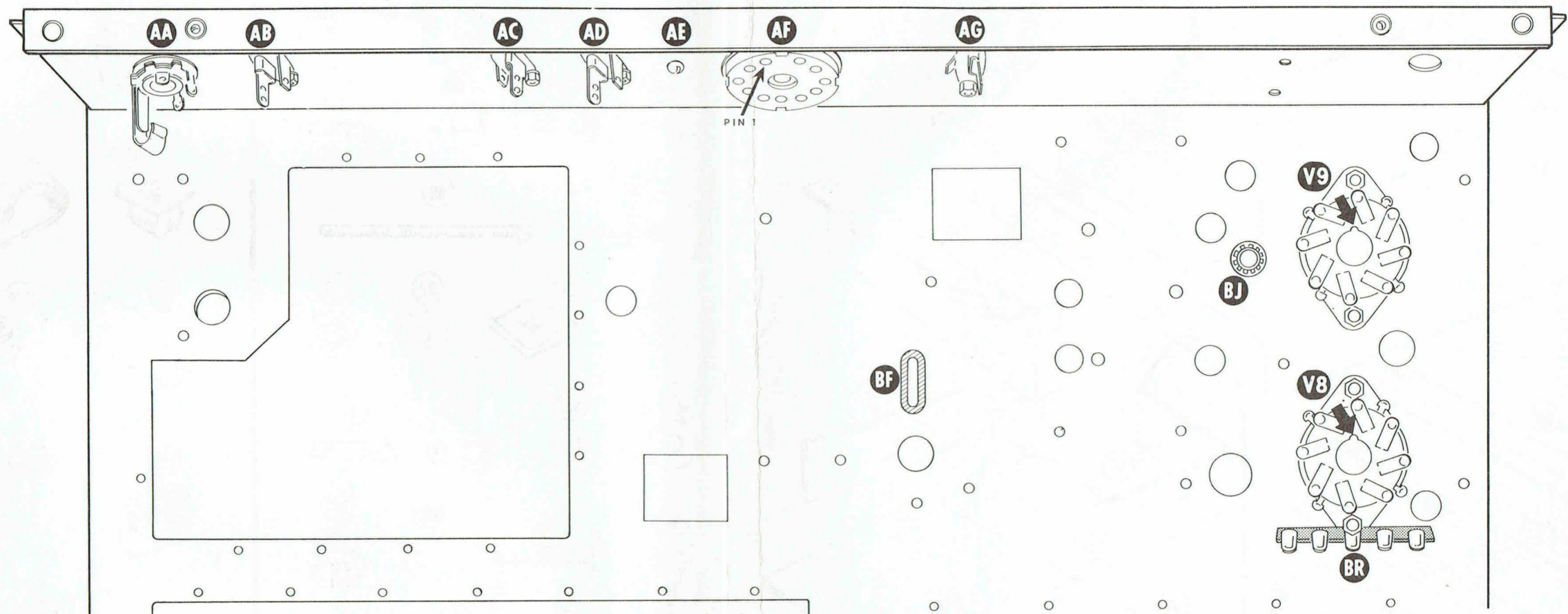
PICTORIAL 7-2



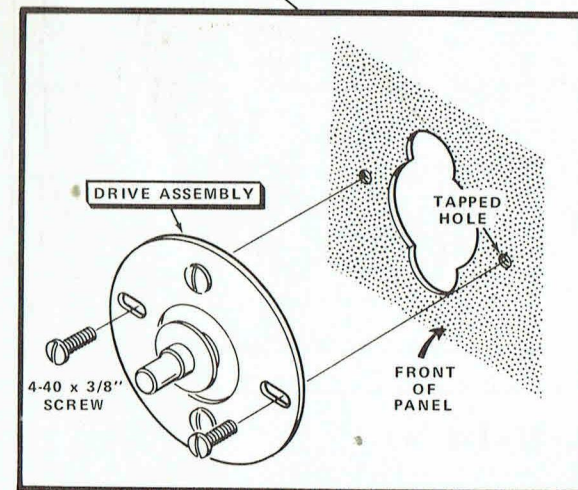
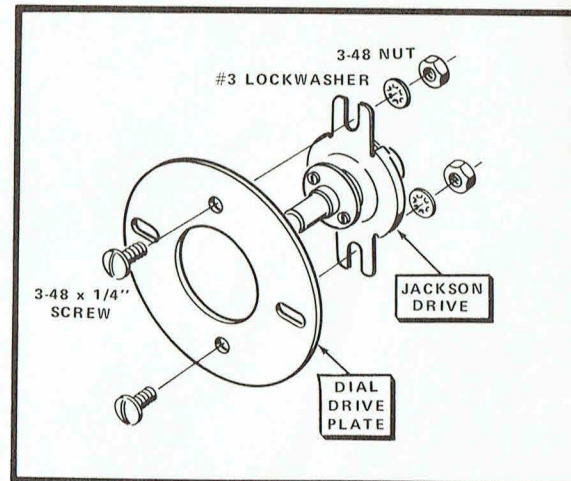
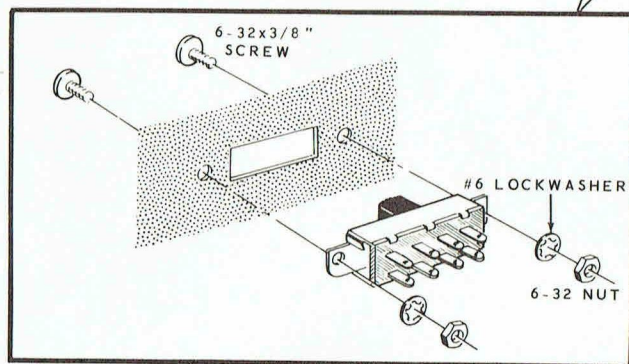
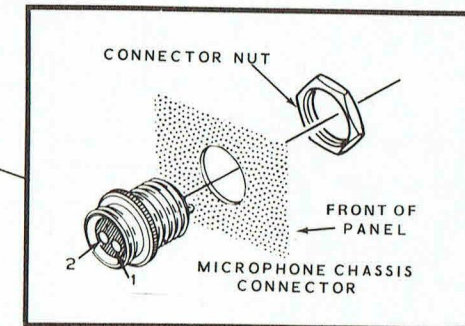
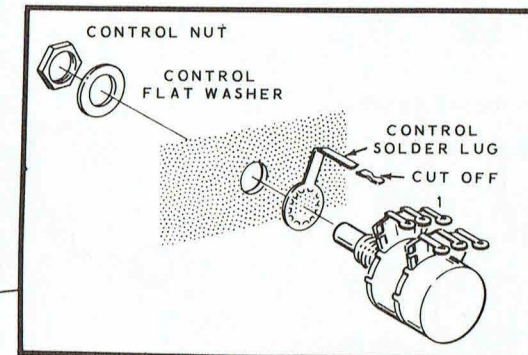
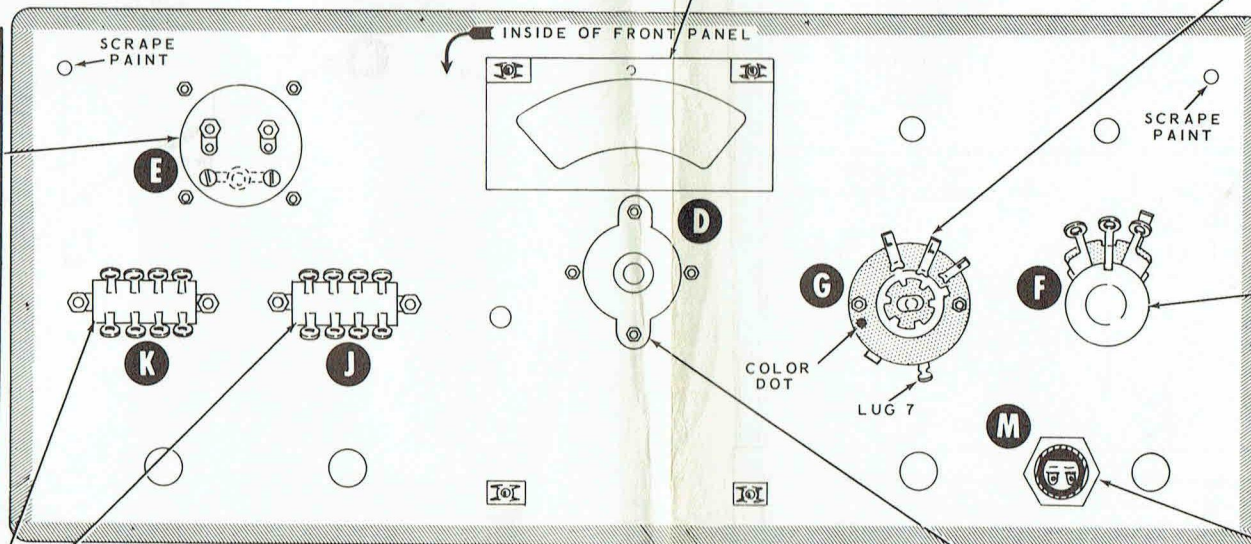
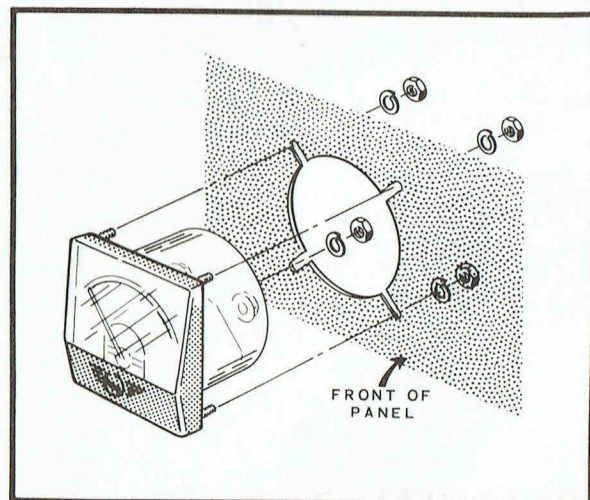
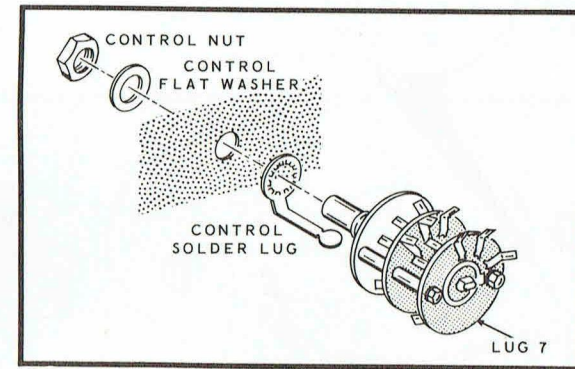
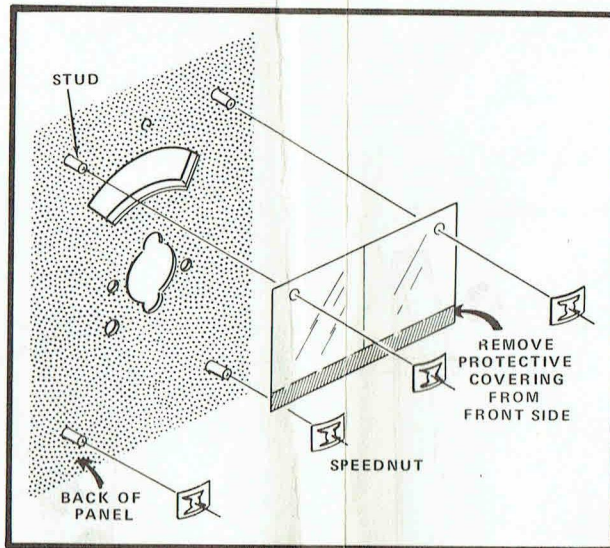
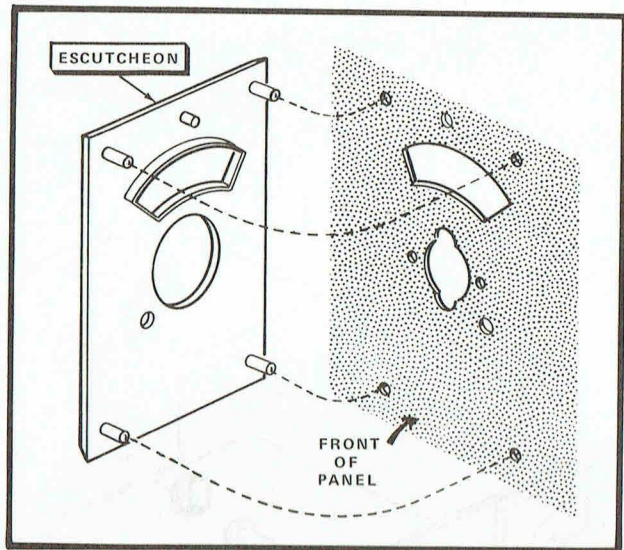
PICTORIAL 7-4

PARTS PICTORIAL (cont'd.)

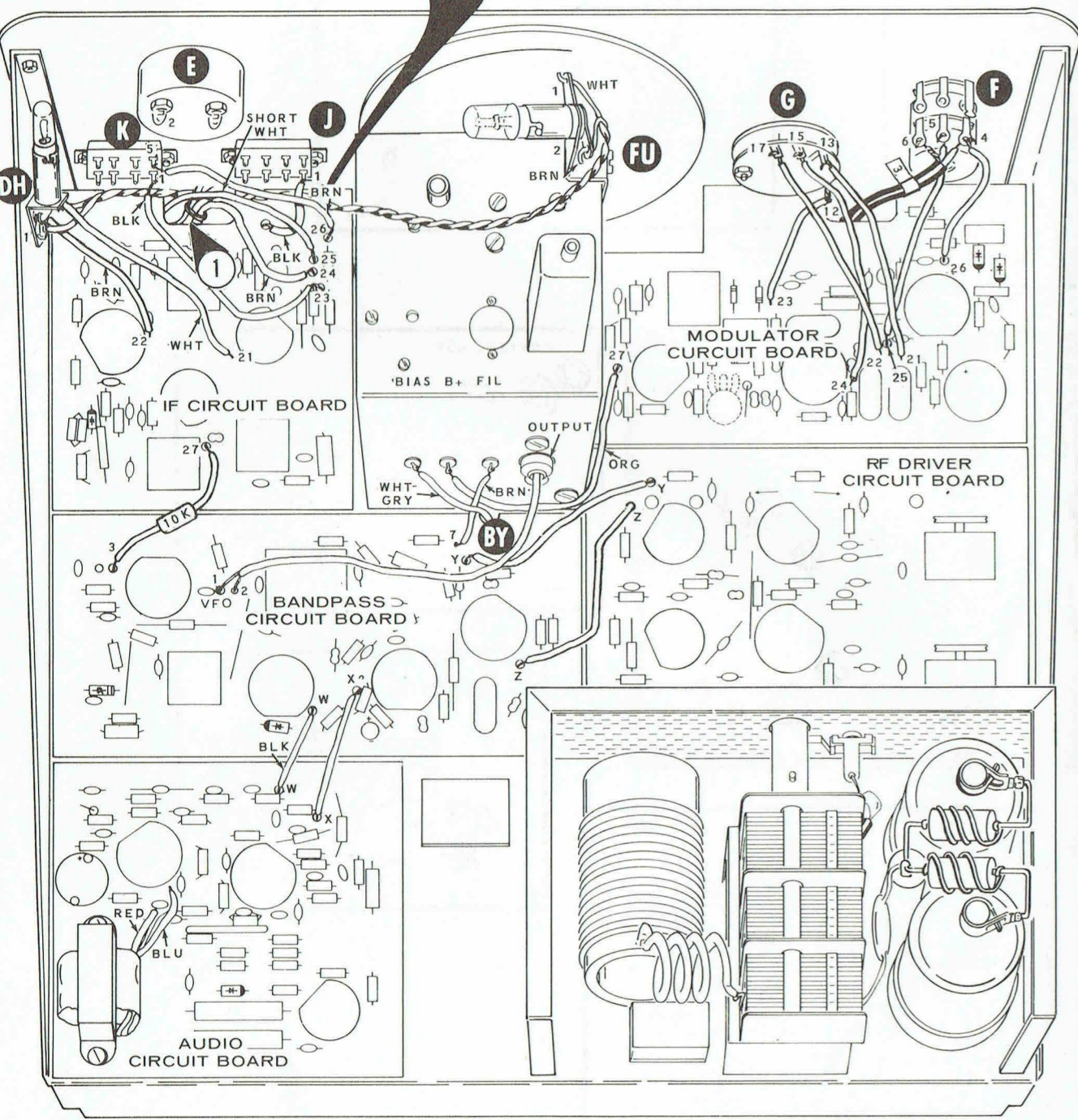
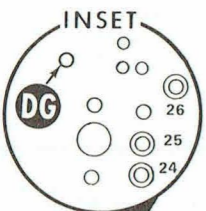




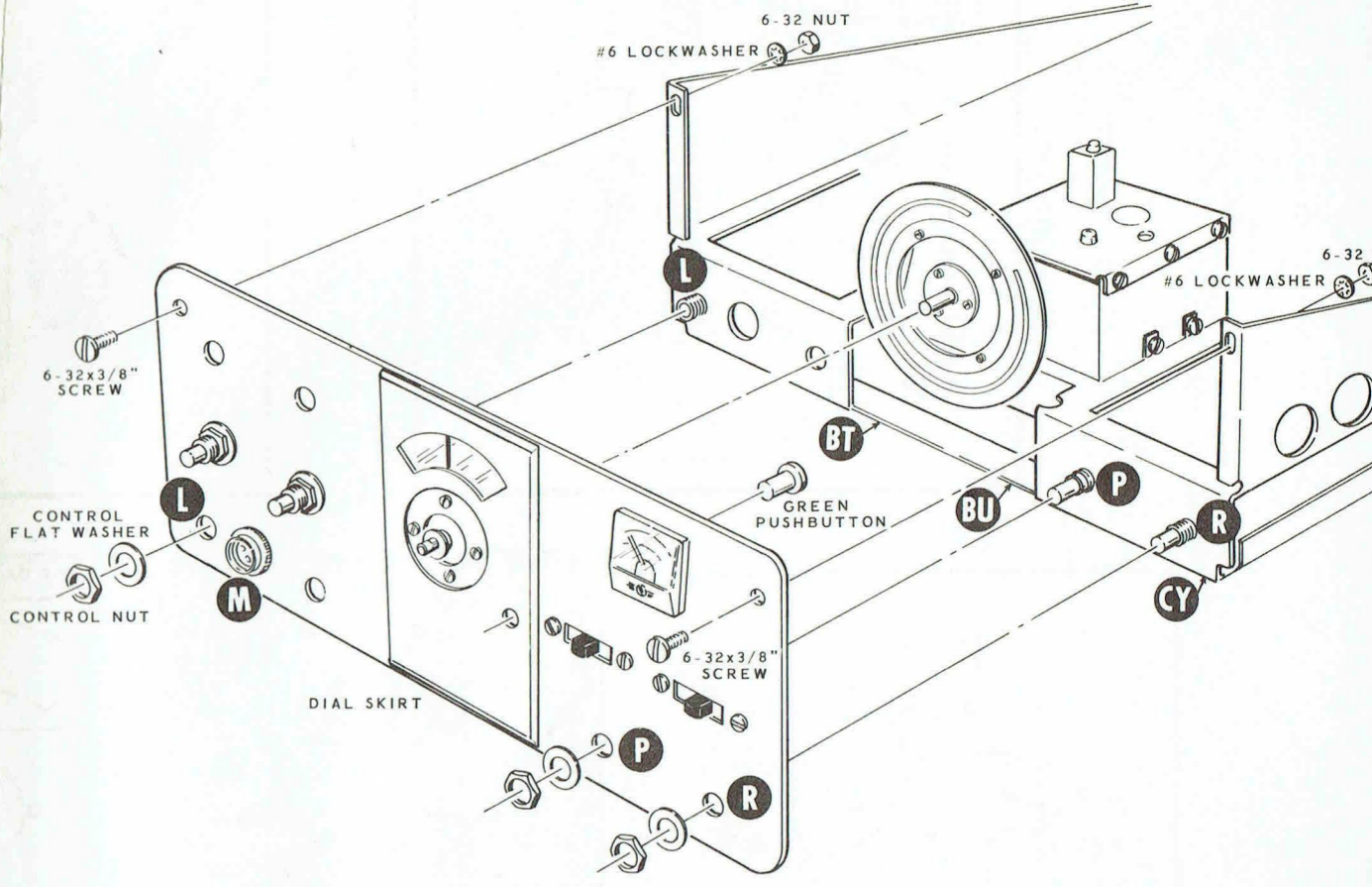
PICTORIAL 8-1



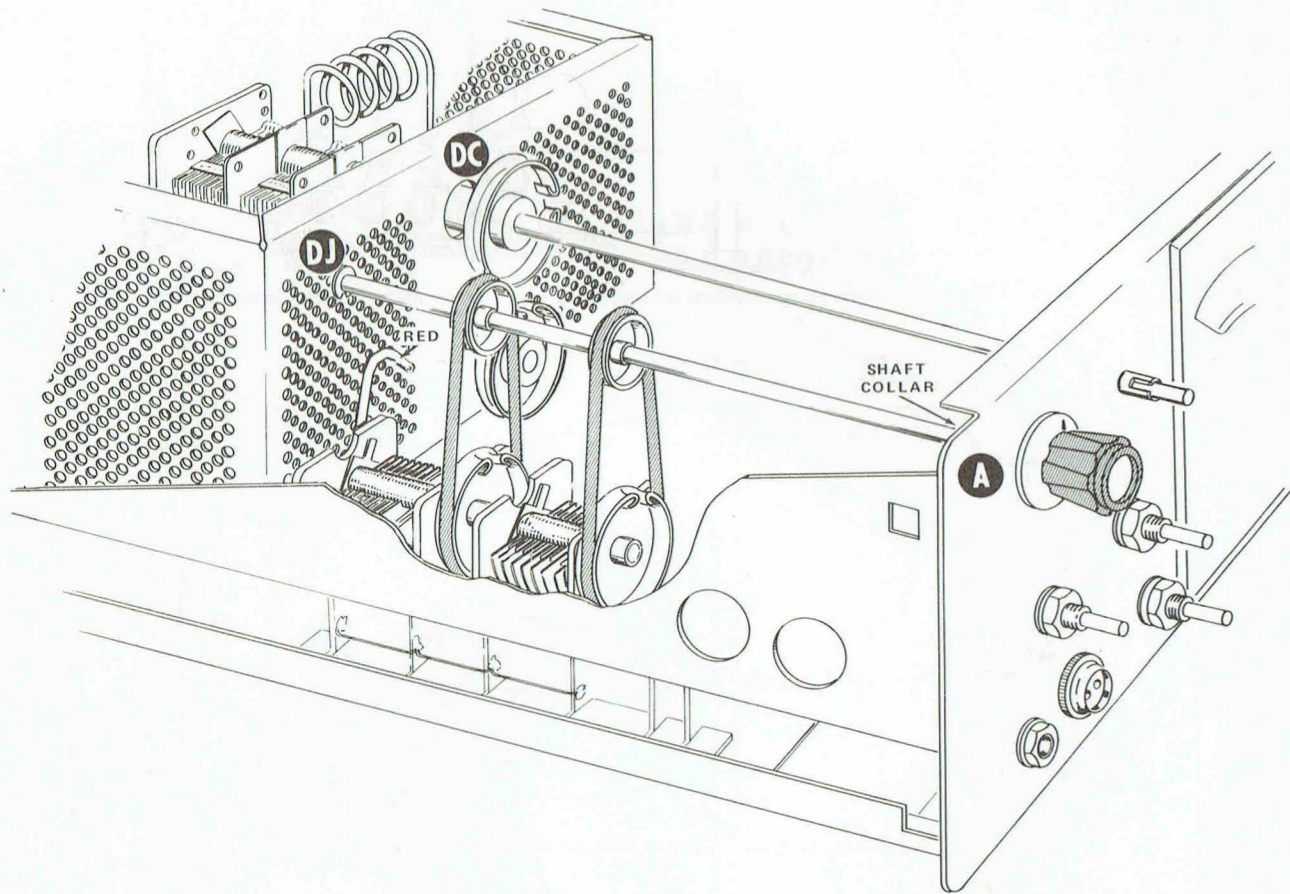
PICTORIAL 8-10



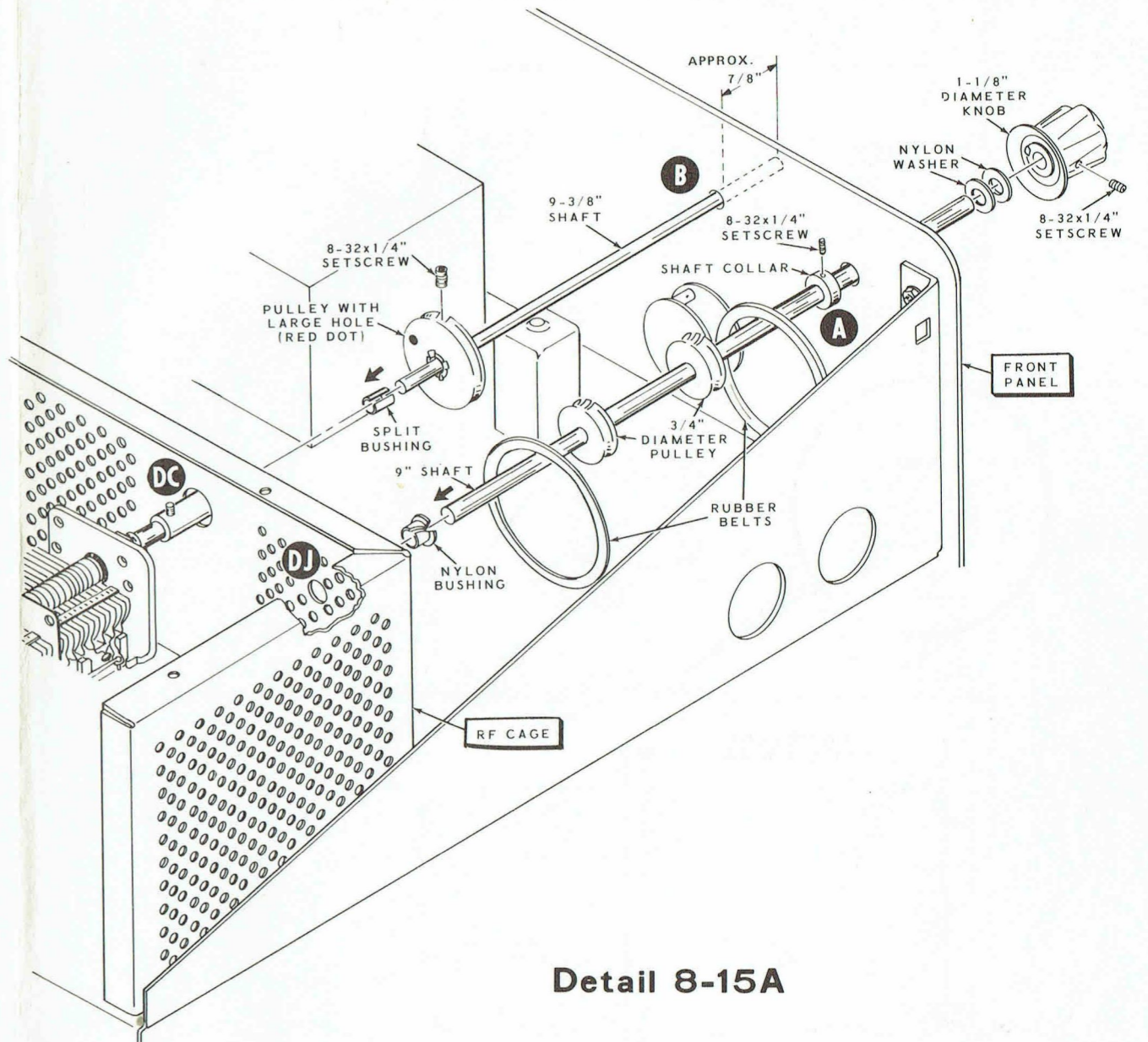
PICTORIAL 8-14



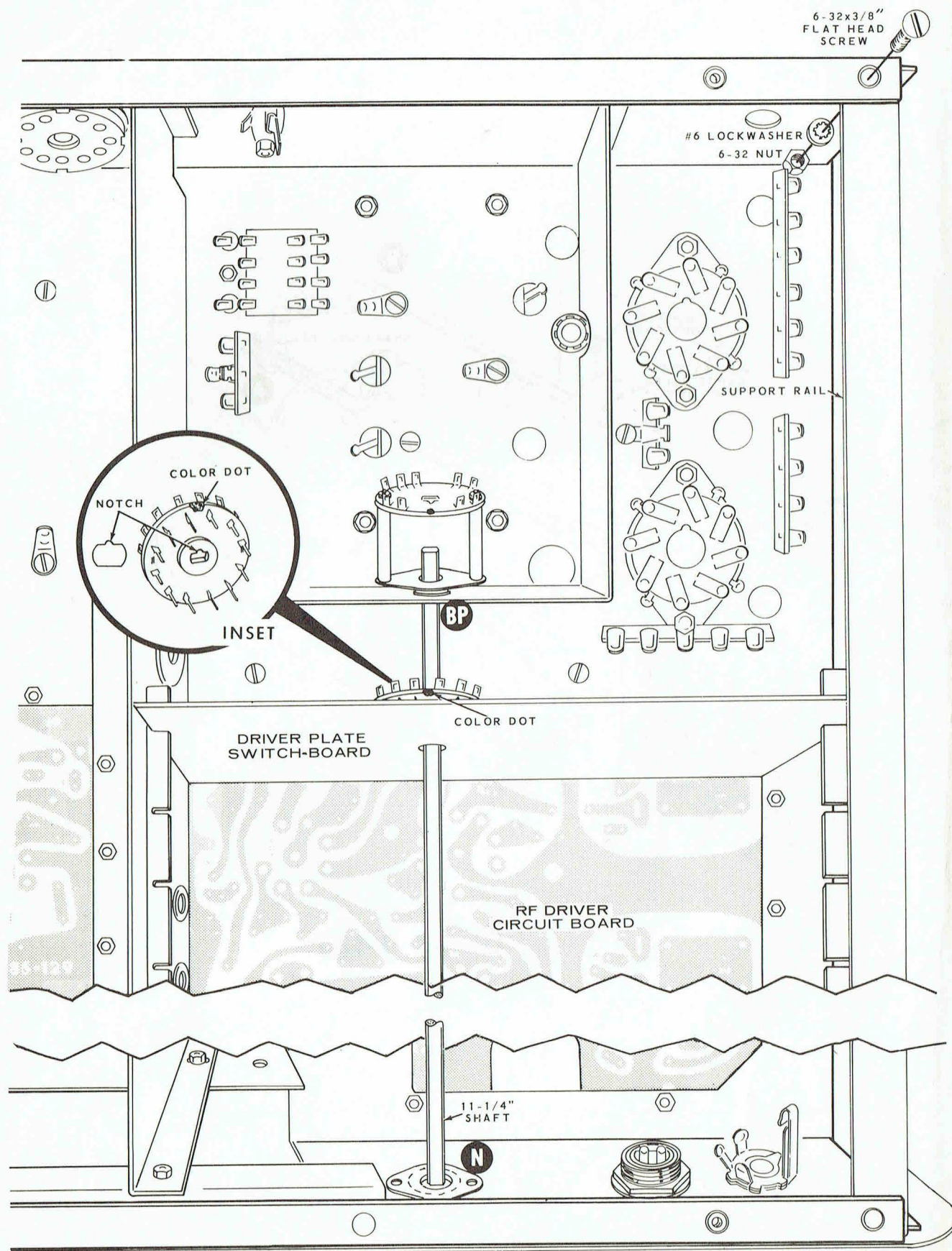
PICTORIAL 8-13



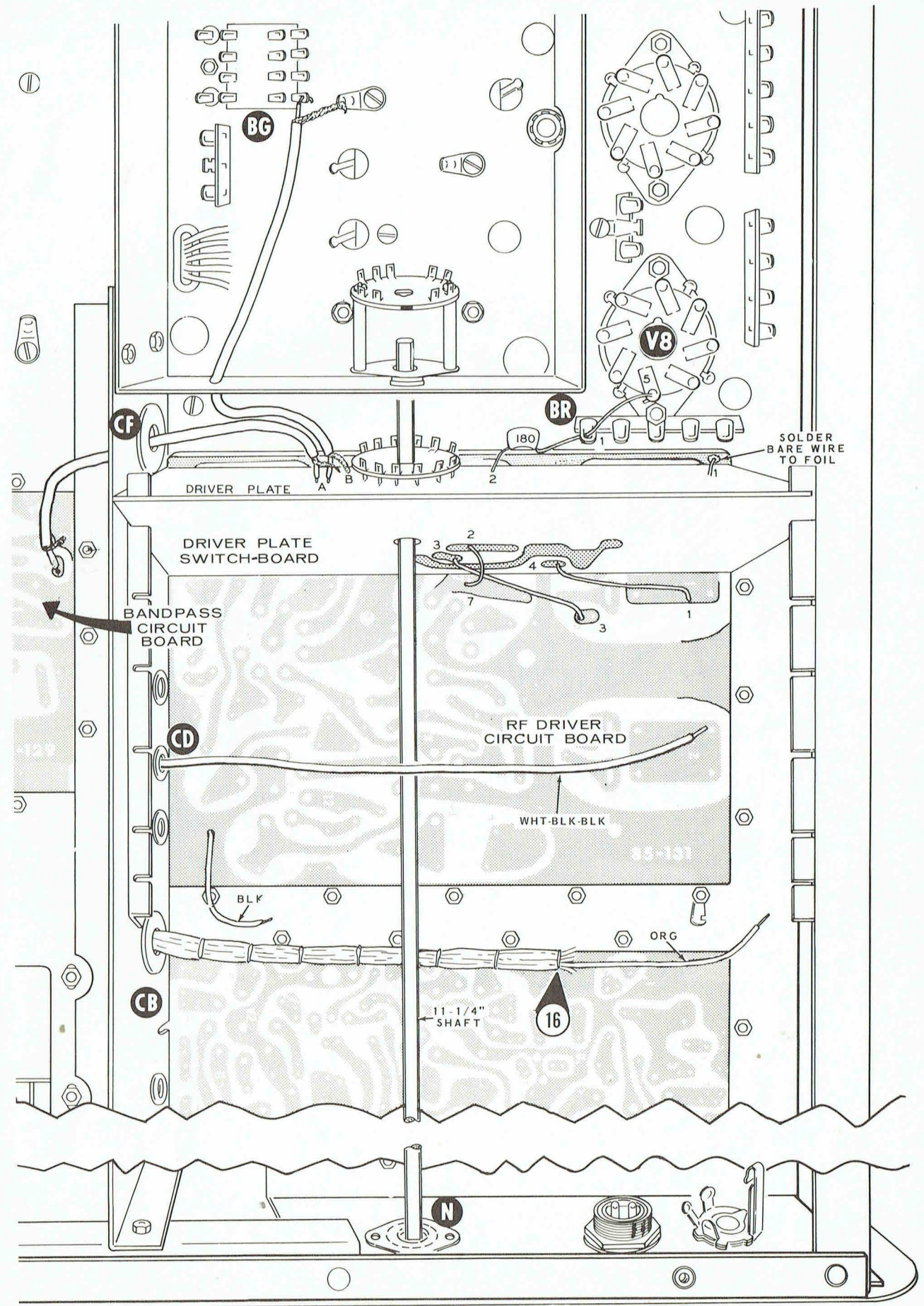
PICTORIAL 8-15



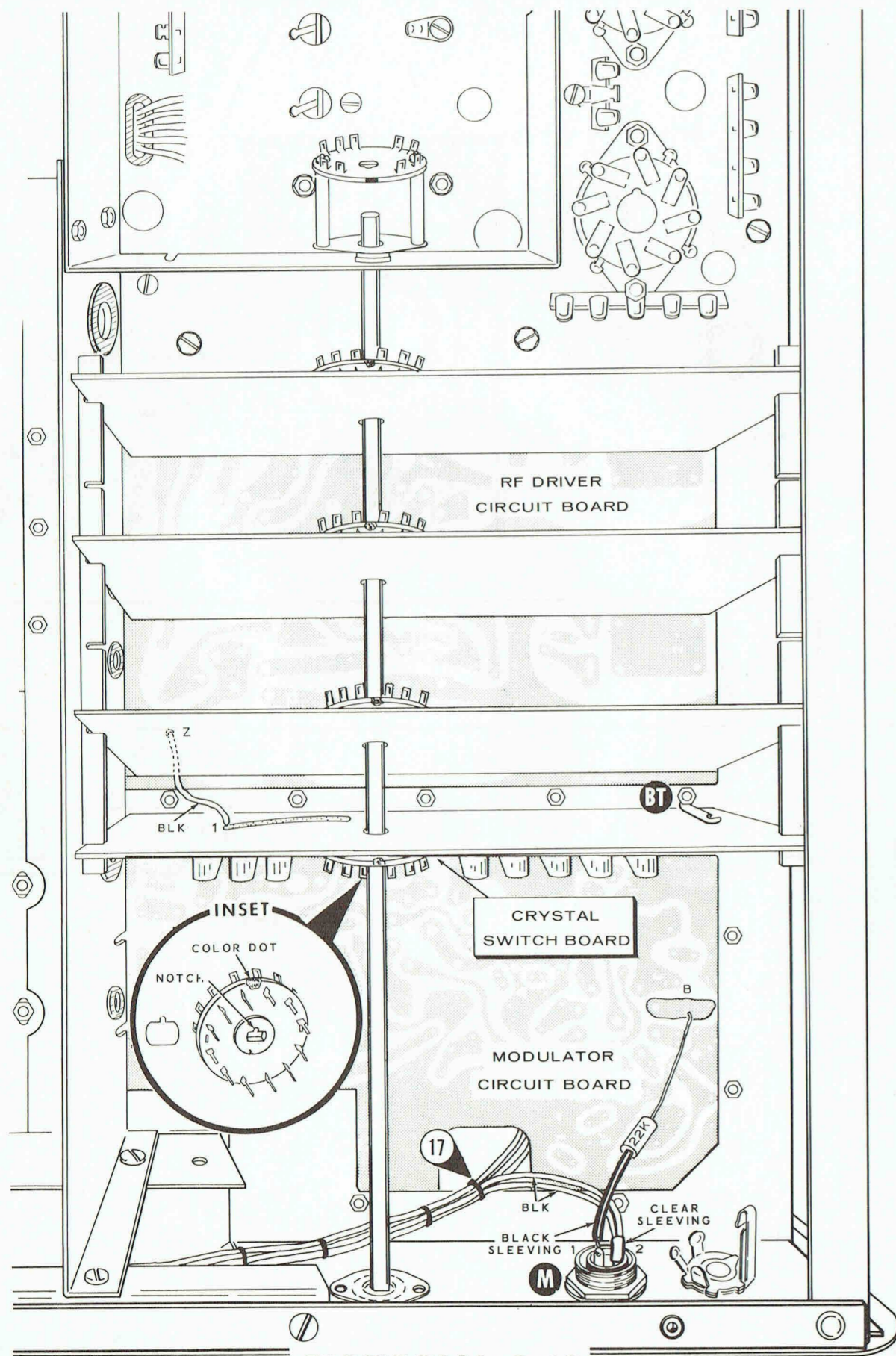
Detail 8-15A



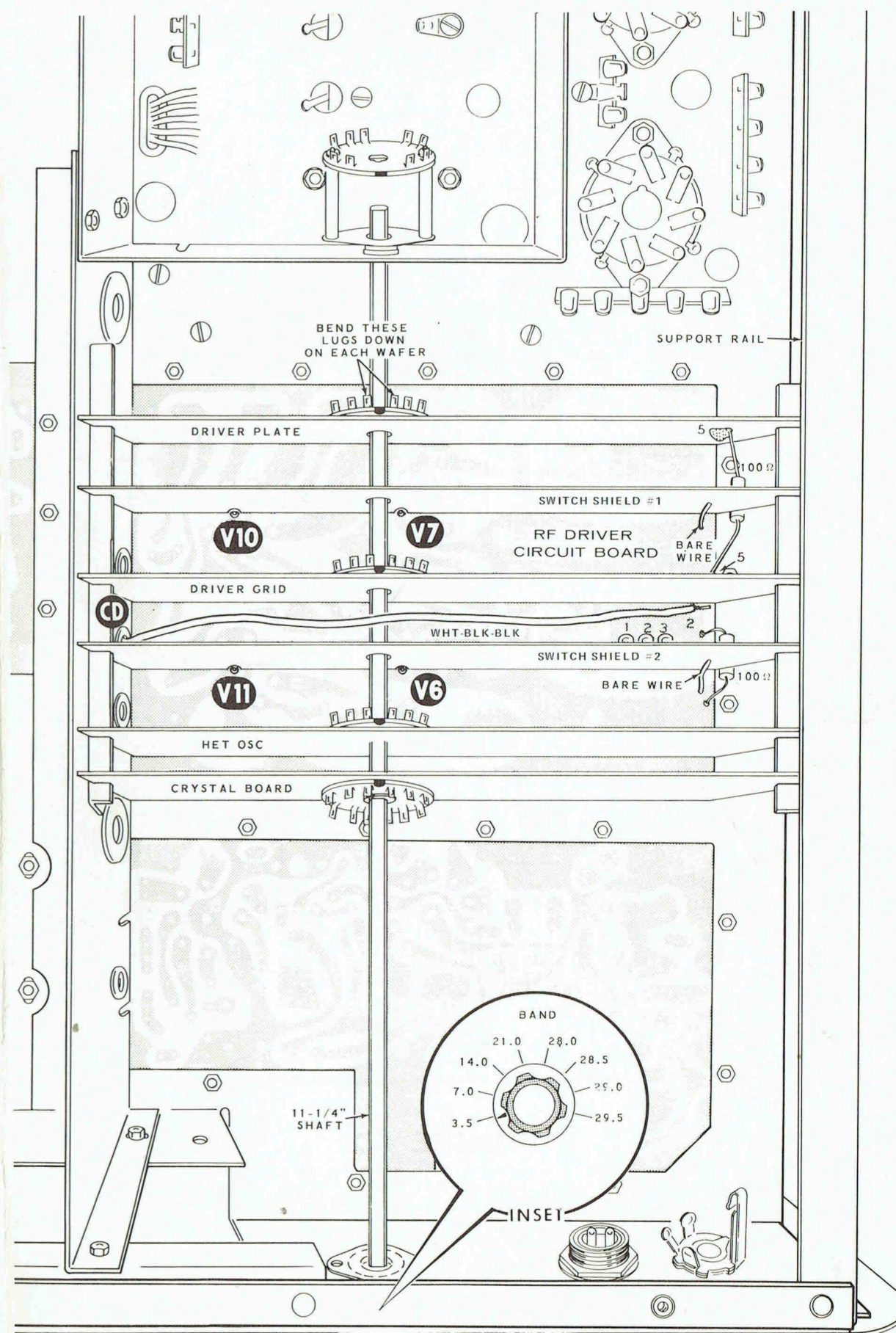
Detail 8-16B



PICTORIAL 8-16



PICTORIAL 8-19



Detail 8-19A