

MODELS S-53-A,
S-53-AU

GENERAL

- Tubes Seven plus rectifier
- Speaker 5-inch PM
- Voice Coil Impedance. 3.2 ohms
- Headset Output Low Impedance
- Antenna Provision for external antenna
- Tuning. Manual

Tuning Range.	Range	Frequency Coverage
	A	550 KC - 1650 KC
	B	2.6 MC - 6.4 MC
	C	6.2 MC - 16.5 MC
	D	14 MC - 31 MC
	E	48 MC - 55 MC

- Intermediate Frequency 2,075 mc
- Power Supply S-53A 105-125 V. 50 to 60 cycles AC
- S-53AU. 105-250 V. 40 to 130 cycles AC
- Power Consumption 50 watts

RESTRINGING DIAL CORD

To restring the general coverage dial cord, cut a 48-inch length of 30 lb. test dial cord and tie one end to the tension spring of the general coverage tuning capacitor drive pulley at position "1" on the diagram. Follow the sequence "1" through "12" and at position "12" stretch the tension spring and tie the cord securely.

Set the general coverage tuning condenser at maximum capacity and attach and set the pointer in line with the left hand index marker.

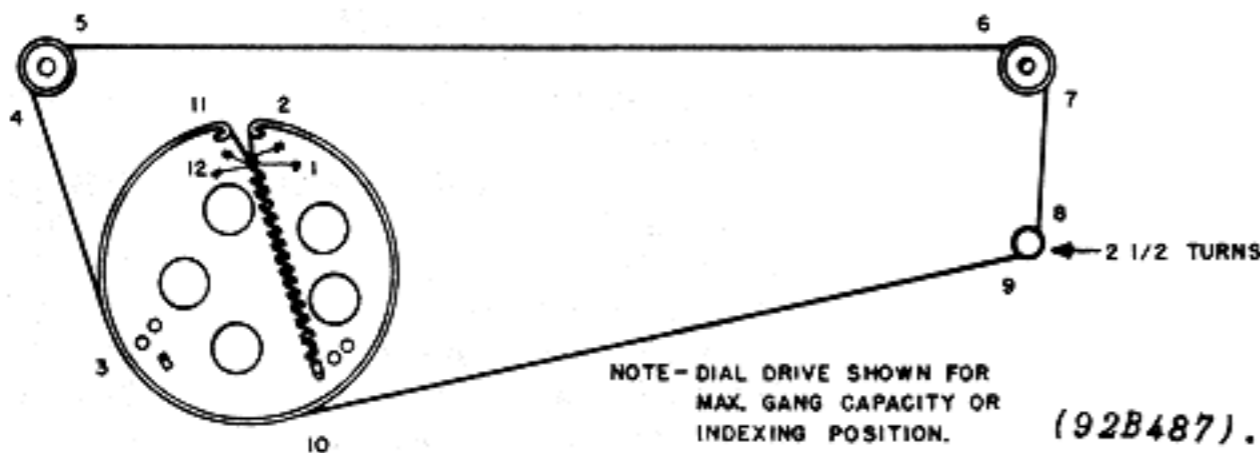


Fig. 1. Dial cable stringing procedure, general coverage dial.

To restring the band spread dial cord, cut a 36-inch length of 30 lb. test dial cord and follow the procedure as above, starting at position "A" ending at "L".

Set the bandspread condenser at minimum capacity and attach and set the pointer at "100" on the logging scale.

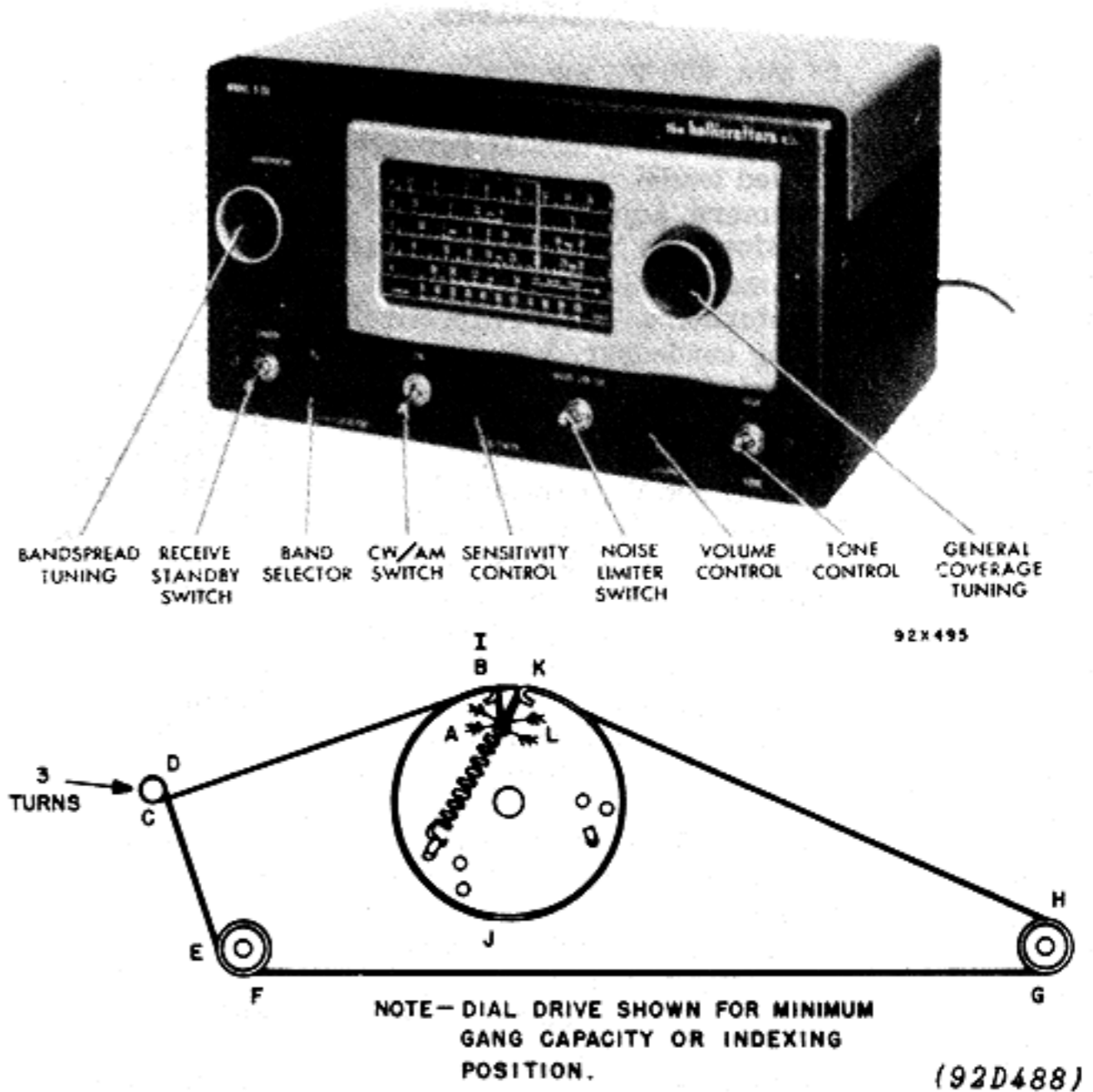


Fig. 2. Dial cable stringing procedure, band spread dial.

REPLACING LAMPS

Refer to Fig. 8. for the location of the two dial lamps used in the receiver. To gain access to defective lamps, reach in through cabinet cover and unclip the dial lamp sockets. The sockets may then be brought out into the open to change the defective lamp. Replace lamps with 6-8 V. Mazda #44, (Blue bead) lamps or equivalent.

ALIGNMENT PROCEDURE

Set the following controls before alignment.

- STANBY/RECEIVE Set at RECEIVE
- CW/AM Set at AM (see step 2)
- SENSITIVITY Set at maximum
- NOISE LIMITER Set at OFF
- VOLUME Set at maximum
- TONE switch. Set at HIGH
- BANDSPREAD Set at 100
- SPEAKER/PHONES switch Set at SPEAKER

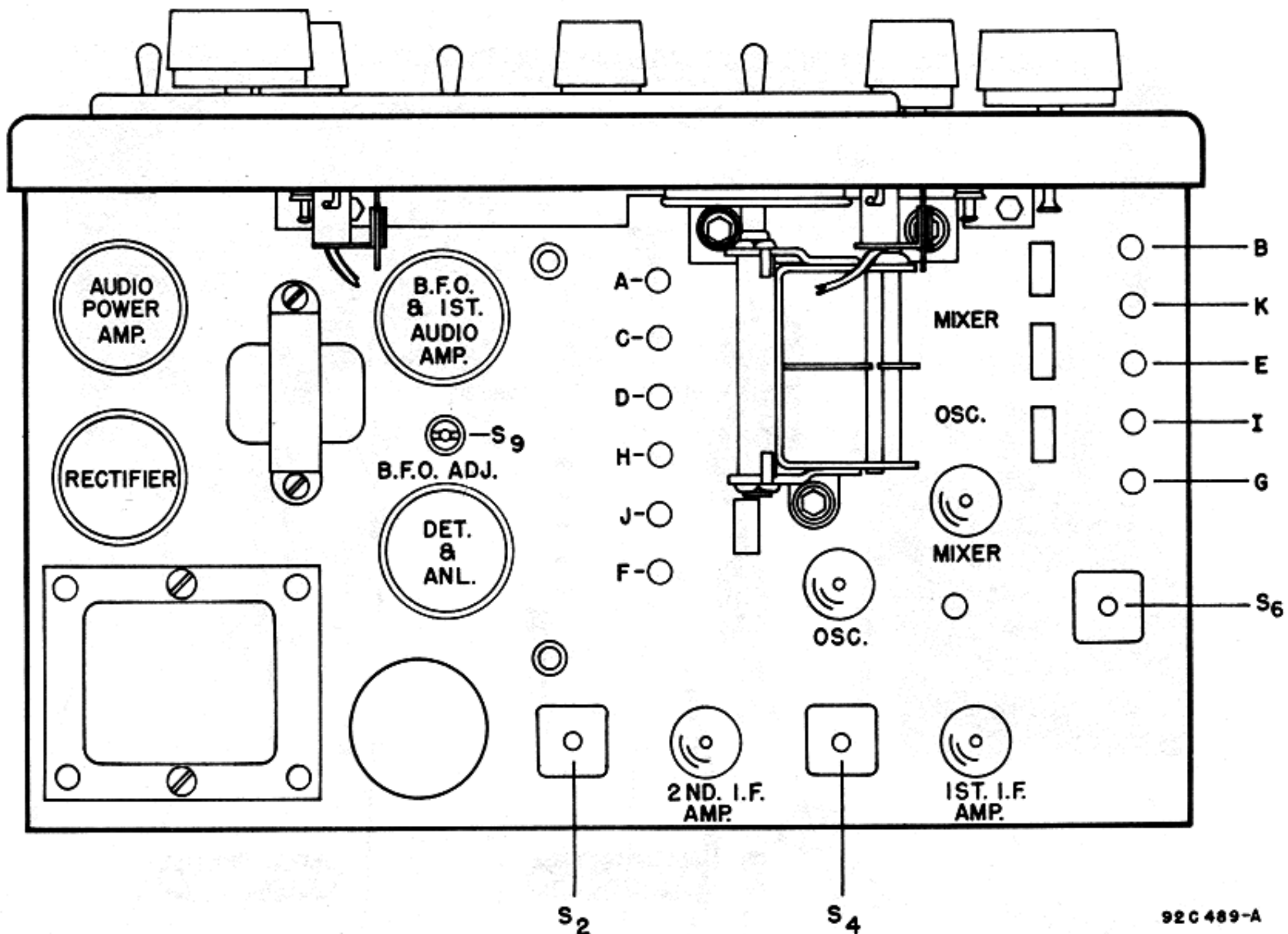
Remove the receiver chassis from the cabinet to make alignment adjustments. The chassis is held in the cabinet by three screws along both the bottom edge of the front panel and the rear of the cabinet, and two screws on either side of the front panel.

Before starting the alignment procedure, index the general coverage dial pointer on the low frequency end of the range and index the bandspread dial pointer at 100. The general coverage condenser should index at maximum capacity and the bandspread condenser should index at minimum capacity.

ALIGNMENT CHART

Step	Dummy Antenna	Signal Generator Coupling	Signal Generator Frequency	Band Selector Setting	Receiver Dial Setting	Adjust	Remarks
1	0.1 mfd. capacitor	High side to front stator section of tuning cap. Low side to chassis.	455 kc	A	Tuning cap. fully open	S1,S2,S3,S4,S5, S6,	Adjust for maximum audio output at speaker voice coil. Use just enough signal generator output to obtain a 50 mw audio level.
2	See step 1.	See step 1.	455 kc	A	See step 1.	S9	With the CW/AM switch set at CW, adjust S-9 for zero beat.
3	300 ohm carbon resistor	High side to "A1" on antenna strip. Jumper connected between "A2" and "G"	1500 kc 600 kc	A	1500 kc 600 kc	*A,B *C	Adjust for maximum output as in step 1.
4	See step 3.	See step 3.	6 mc	B	6 mc	*D,E	Adjust for maximum output as in step 1.
5	See step 3.	See step 3.	15 mc	C	15 mc	*F,G	Adjust for maximum output as in step 1.
6	See step 3.	See step 3.	30 mc	D	30 mc	*I,H	Adjust for maximum output as in step 1.
7	See step 3.	See step 3.	52 mc	E	52 mc	*J,K	Adjust for maximum output as in step 1.

*Note - Calibration adjustments.



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Fig. 3. Alignment points, top view.

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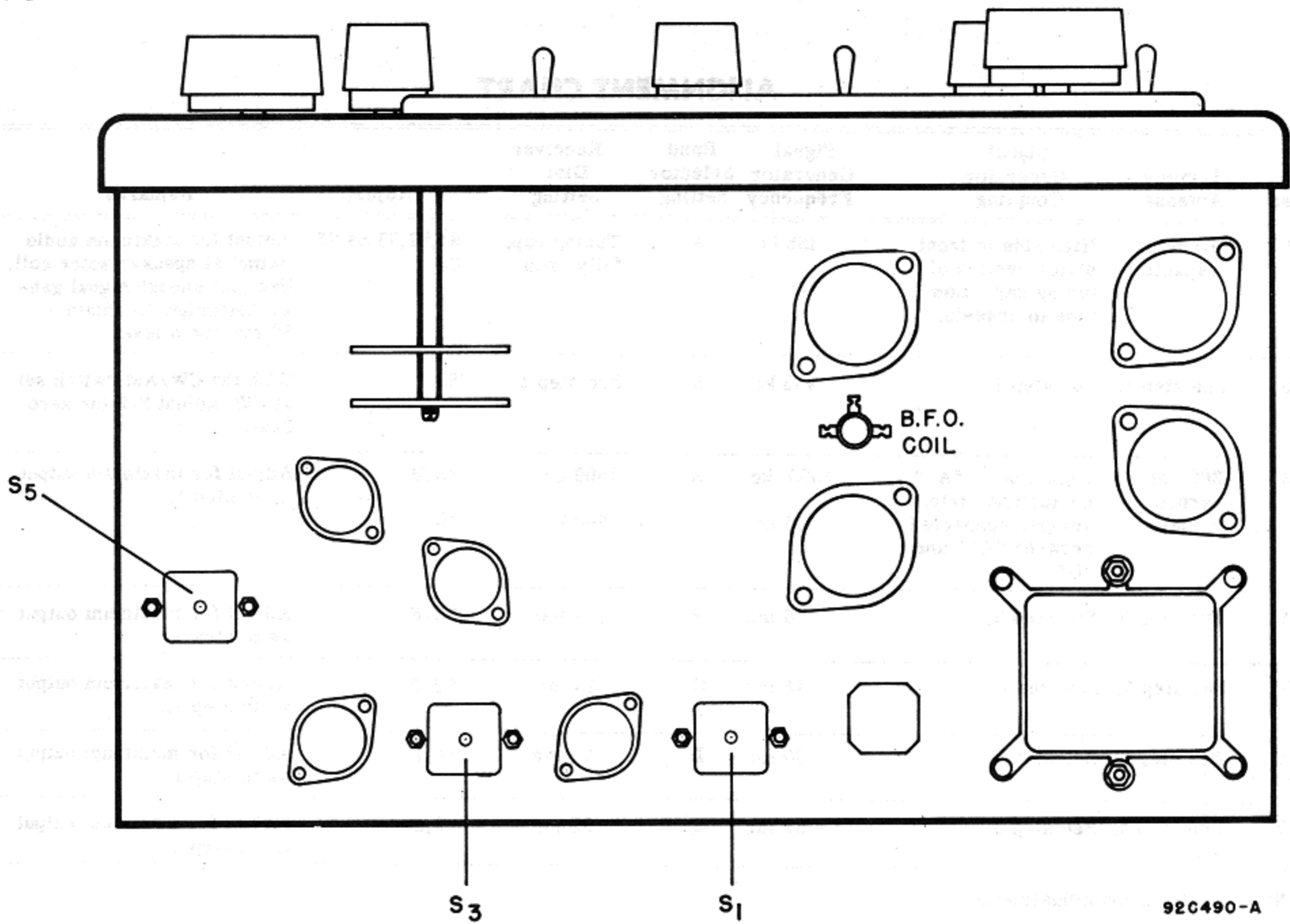


Fig. 4. Alignment points, bottom view.

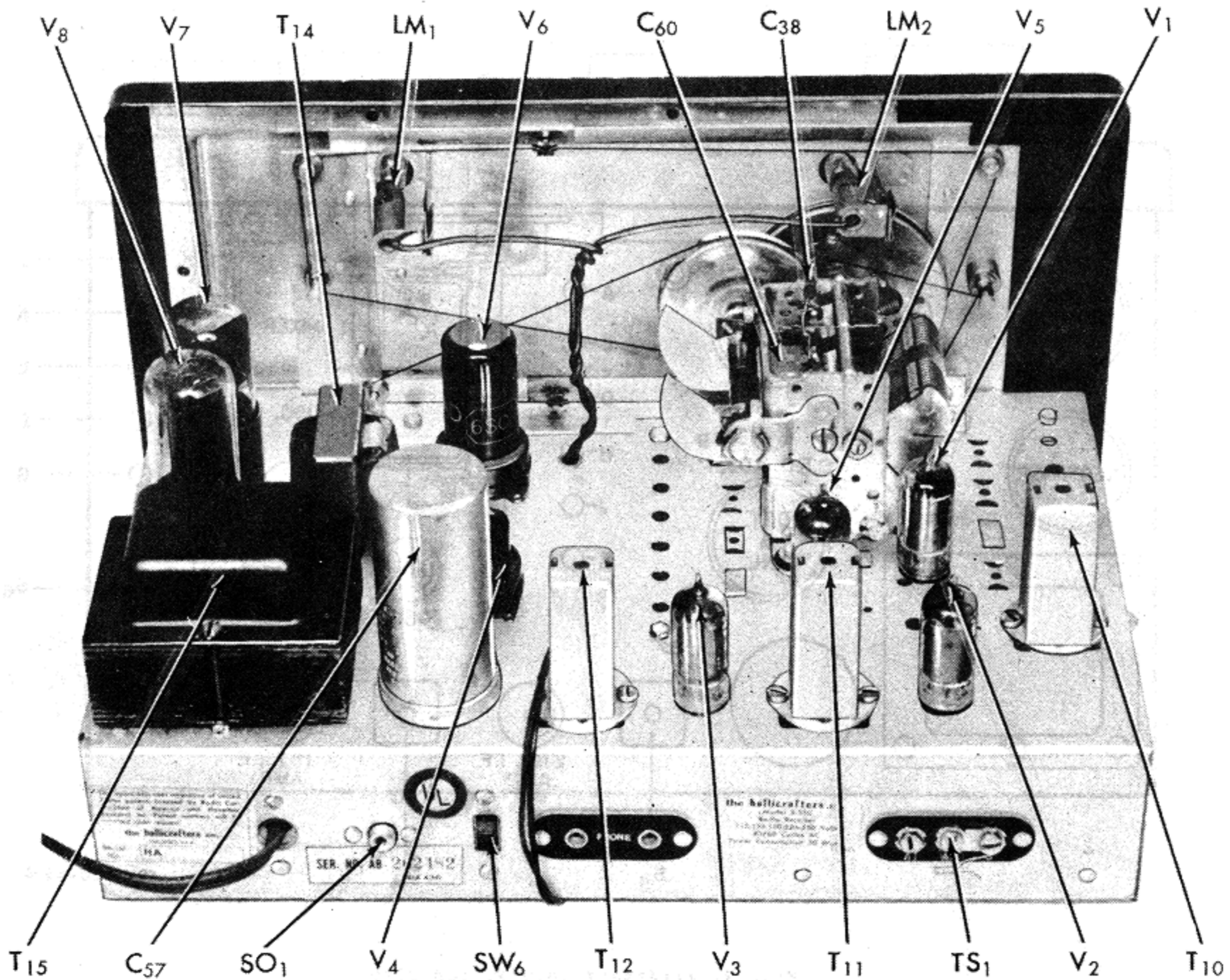


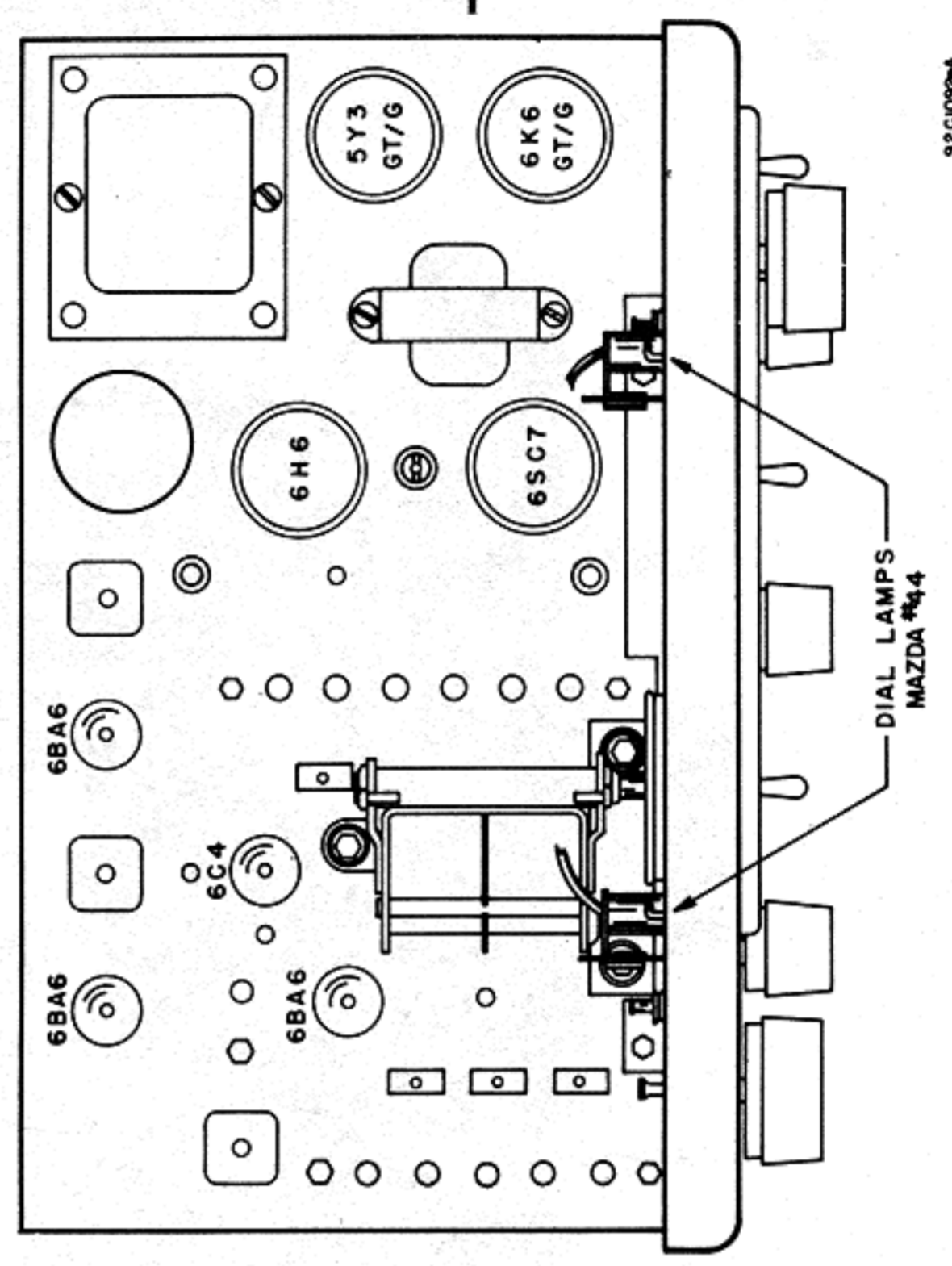
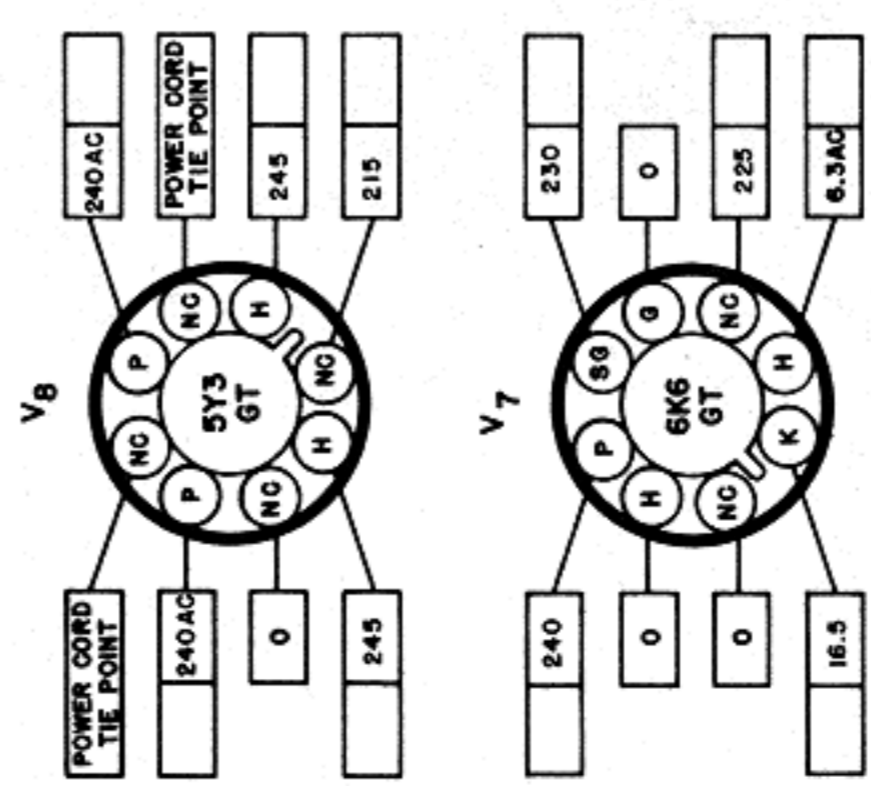
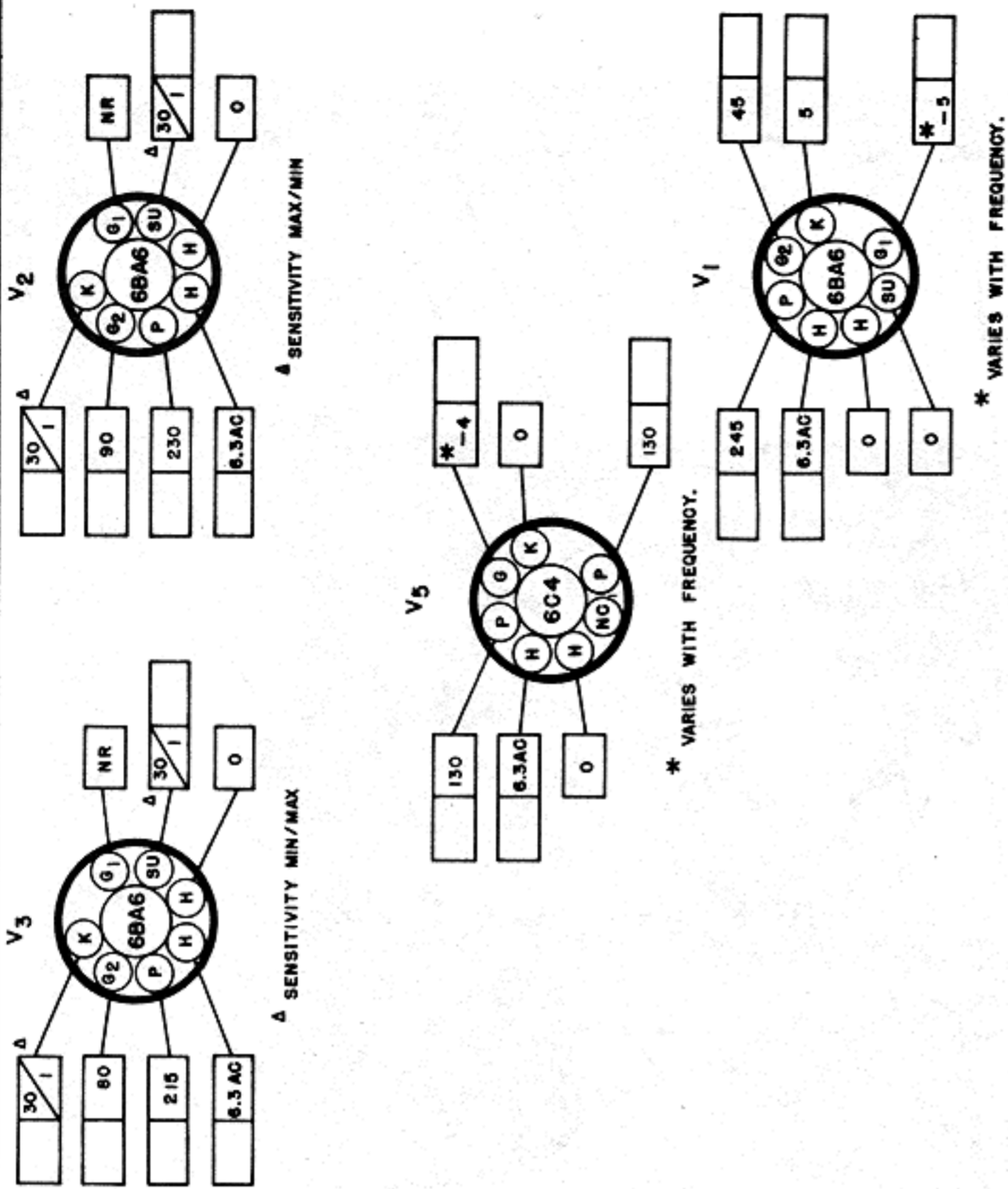
Fig. 5. Component location, top view.

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NOTES -

1. SOCKET VIEWS ARE BOTTOM VIEWS.
2. ALL VOLTAGES ARE MEASURED BETWEEN TUBE SOCKET TERMINALS AND CHASSIS WITH ZERO SIGNAL INPUT.
3. LINE VOLTAGE — 117 V. AC. (60 CYCLES).
4. ALL VOLTAGES SHOWN ARE DC. UNLESS OTHERWISE SPECIFIED.
5. DC VOLTAGES SHOWN WERE MEASURED WITH AN ELECTRONIC VOLTMETER.
6. READINGS TAKEN WITH STANDBY/RECEIVE SWITCH SET AT "RECEIVE"; CW/AM SWITCH SET AT "AM"; NOISE LIMITER SWITCH ON.
7. "NC" — NO CONNECTION. (VOLTAGE SHOWN FOR THIS TERMINAL ONLY WHEN TERMINAL IS USED AS A TIE LUG).
8. "NR" — NOT READABLE. (READING GENERALLY MEANINGLESS).
9. [] SPACE PROVIDED FOR SERVICE METER READINGS.

Fig. 7. Tube socket voltage chart

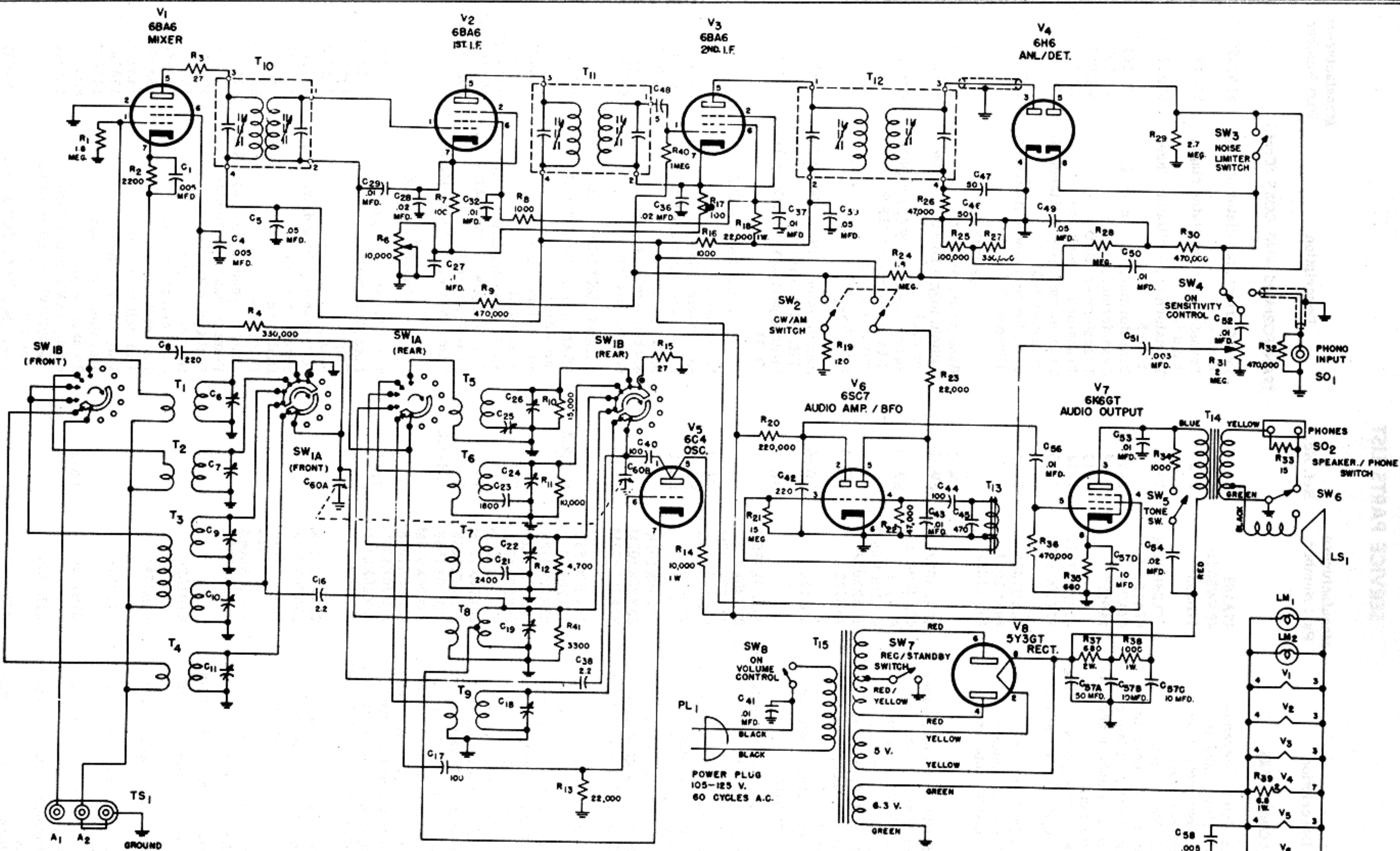


FRONT APRON
BOTTOM VIEW

Fig. 8. Top view, location of tubes and dial lamps.

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BAND SELECTOR POSITION	SWITCH SW. 1 RANGE
A	540-1650 KC.
B	2.5-6.6 MC.
C	6-11 MC.
D	13.5-32 MC.
E	47-55 MC.

NOTE:
SWITCH SHOWN IN POSITION E.

RESISTOR VALUES ARE IN OHMS.
CAPACITOR VALUES ARE IN MMF UNLESS OTHERWISE SPECIFIED.

LAST RESISTOR SYMBOL — R-41
LAST CAPACITOR SYMBOL — C-60

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Fig. 9. Schematic diagram.

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SERVICE PARTS LIST

Ref. No.	Description	Manufacturers Part Number	Ref. No.	Description	Manufacturers Part Number
CONDENSERS			TRANSFORMERS AND COILS (Cont.)		
C-1,4,58	.005 mfd. 450 V., ceramic	47A168	T-7	Transformer, oscillator stage, band C	51A1237
C-5,39,49	.05 mfd. 400 V., tubular	46AW503J	T-8	Transformer, oscillator stage, band D	51B1238
C-6,7,9,10,11	Trimmer assembly, 5 sections, antenna stage	44B355	T-9	Transformer, oscillator stage, band E	51B1239
C-8,42	220 mmf. 500 V., mica	47X20B221K	T-10,11	Transformer, 1st and 2nd IF	50C241
C-16,38,	2.2 mmf. 500 V., ceramic	47A160-4	T-12	Transformer, 3rd IF	50C242
C-17,40,44	100 mmf. 500 V., ceramic	47A086	T-13	Transformer, BFO	54B043
C-18,19,22,24,25,26	Trimmer assembly, 6 sections, oscillator stage	44B388	T-14	Transformer, audio output	55B107
C-21	2400 mmf. 500 V., silver mica	47X20C242J	T-15	Transformer, power (Standard) (Used on S-53-A)	52C164
C-23	1800 mmf. 2½ 500 V., silver mica	47X20C182G	T-15	Transformer, power (Universal) (Used on S-53-AU)	52C165
C-27	.1 mfd. 200 V., tubular	46AU104J	SWITCHES		
C-28,36,54	.02 mfd. 600 V., tubular	46AY203J	SW-1	Band switch assembly	60B323
C-29,32,37,43,50,52,53,56	.01 mfd. 600 V., tubular	46AZ103J	SW-2	Switch, toggle DPST, CW/AM control	60A285
C-41	.01 mfd. 600 V., molded paper	46AC103J	SW-3,5,7	Switch, toggle, SPST, STANDBY/REC., NOISE LIMITER & TONE control	60A138
C-45	470 mmf. 500 V., mica	47X20B471J	SW-4	Switch, part of SENSITIVITY control, R-6	
C-46,47	50 mmf. 500 V., ceramic	47A091	SW-6	Switch, slide, SPDT, SPEAKER/PHONE control	60A243
C-48	5 mmf. 500 V., ceramic	47X20UK050K	SW-8	Switch, part of VOLUME control R-31	
C-51	.003 mfd. 600 V., tubular	46AZ302J	PLUGS AND SOCKETS		
C-57	50-10-10 mfd. 350-10-25 V., electrolytic	45B122	PL-1	Line cord and plug	87A078
C-60	Tuning condenser, 2 section	48C198	SO-1	Receptacle, phono	36A041
RESISTORS			SO-2	Receptacle, headphone jack	88A071
R-1,24	1.8 megohms 1/2 watt, carbon	23X20X185M		Socket, octal (tube)	6A269
R-2	2200 ohms 1/2 watt, carbon	23X20X222M		Socket, miniature (tube)	6A297
R-3,15	27 ohms 1/2 watt, carbon	23X20X270M		Socket, dial light	86B063
R-4,27	330,000 ohms 1/2 watt, carbon	23X20X334K	TUBES, RECTIFIERS AND LAMPS		
R-6	10,000 ohms, variable SENSITIVITY control	25B603	V-1,2,3	6BA6, mixer, 1st & 2nd IF amplifier	90X6BA6
R-7,17	100 ohms 1/2 watt, carbon	23X20X101K	V-4	6H6, detector & ANL	90X6H6
R-8,16,34	1000 ohms 1/2 watt, carbon	23X20X102M	V-5	6C4, oscillator	90X6C4
R-9,30,32,36	470,000 ohms 1/2 watt, carbon	23X20X474M	V-6	6SC7, audio amplifier & BFO	90X6SC7
R-10	15,000 ohms 1/2 watt, carbon	23X20X153K	V-7	6K6-GT, power amplifier	90X6K6-GT
R-11	10,000 ohms 1/2 watt, carbon	23X20X103K	V-8	5Y3-GT, rectifier	90X5Y3-GT
R-12	4700 ohms 1/2 watt, carbon	23X20X472K	LM-1,2	Lamp, 6-8 V., 250 ma., Mazda#44	39A003
R-13,23	22,000 ohms 1/2 watt, carbon	23X20X223M	MISCELLANEOUS		
R-14	10,000 ohms 1 watt, carbon	23X30X103K	TS-1	Terminal strip, antenna	88A032
R-18	22,000 ohms 1 watt, carbon	23X30X223M		Lock, line cord	76A299
R-19	120 ohms 1/2 watt, carbon	23X20X121M		Clip, coil mtg.	76A325
R-20	220,000 ohms 1/2 watt, carbon	23X20X224K		Shaft, tuning drive	74A248
R-21	15 megohms 1/2 watt, carbon	23X20X156K		"C" washer (tuning drive shaft)	4A139
R-22,26	47,000 ohms 1/2 watt, carbon	23X20X473M		Spring, dial cord	75A012
R-25	100,000 ohms 1/2 watt, carbon	23X20X104K		Dial cord	38A019
R-28,40	1 megohm 1/2 watt, carbon	23X20X105M		Plate, dial	63C333
R-29	2.7 megohms 1/2 watt, carbon	23X20X275M		Pointer, general coverage dial	82A149
R-31	2 megohms, variable, VOLUME control	25B602		Pointer, band spread dial	82A148
R-33	15 ohms 1/2 watt, carbon	23X20X150M		Dial Glass (Calibrated)	22C204
R-35	680 ohms 1/2 watt, carbon	23X20X681K		Gasket, dial glass	12A042
R-37	680 ohms 2 watts, carbon	23X40X681M		Clip, dial glass mtg.	76A390
R-38	1000 ohms 1 watt, carbon	23X30X102M		Pad, dial clip	16A126
R-39	6.8 ohms 1 watt, carbon	23X30X068K		Pad, felt (round disc)	14A166
R-41	3300 ohms 1/2 watt, carbon	23X20X332K		Pad, sponge rubber	16A047-1
TRANSFORMERS AND COILS				Mounting feet, rubber	16A007
T-1	Transformer, antenna stage, band A	51B1028	LS-1	Speaker, P.M.	85C030
T-2	Transformer, antenna stage, band B	51B1244		Knob, BAND SELECTOR, SENSITIVITY and VOLUME controls	15A050
T-3	Transformer, antenna stage, band C & D	51B1026		Knob, BANDSPREAD & general coverage controls	15A047
T-4	Transformer, antenna stage, band E	51B1030			
T-5	Transformer, oscillator stage, band A	51B1235			
T-6	Transformer, oscillator stage, band B	51B1236			