

SPECIFICATIONS

TYPE OF CIRCUIT: 6 tube superheterodyne circuit covering standard and shortwave broadcasts with automatic volume control; and a pentode output circuit. The receiver is designed to operate from either a 6 volt storage battery or a 115 volt 60 cycle A.C. supply. A Plug-Switch is provided on the power unit for selection of either voltage supply. Place the plug with arrow pointing toward voltage being used. With a 6 volt storage battery supply, a vibrator in conjunction with a 6X5G tube is used for supplying "B" voltage to the receiver. When using a 115 volt supply, the vibrator is removed from the circuit. (See schematic diagram page 2).

To obtain maximum performance from the receiver, a Philco Aerial, part number 45-2428 should be used.

POWER SUPPLY: 6 volt storage battery Philco type 116R or a 115 volt 60 cycle A.C. power supply.

INTERMEDIATE FREQUENCY: 470 K.C.

TUNING RANGES: 530 to 1720 K. C.—5.7 to 18.0 M. C.

POWER OUTPUT: 1.5 watts

PHILCO TUBES USED: 6A8G, converter and oscillator; 6K7G, I.F.; 6J5G, 2nd detector; 6K5G, 1st audio; 6K6G output; 6X5G, rectifier.

SPEAKER USED: HR-23
KR-29

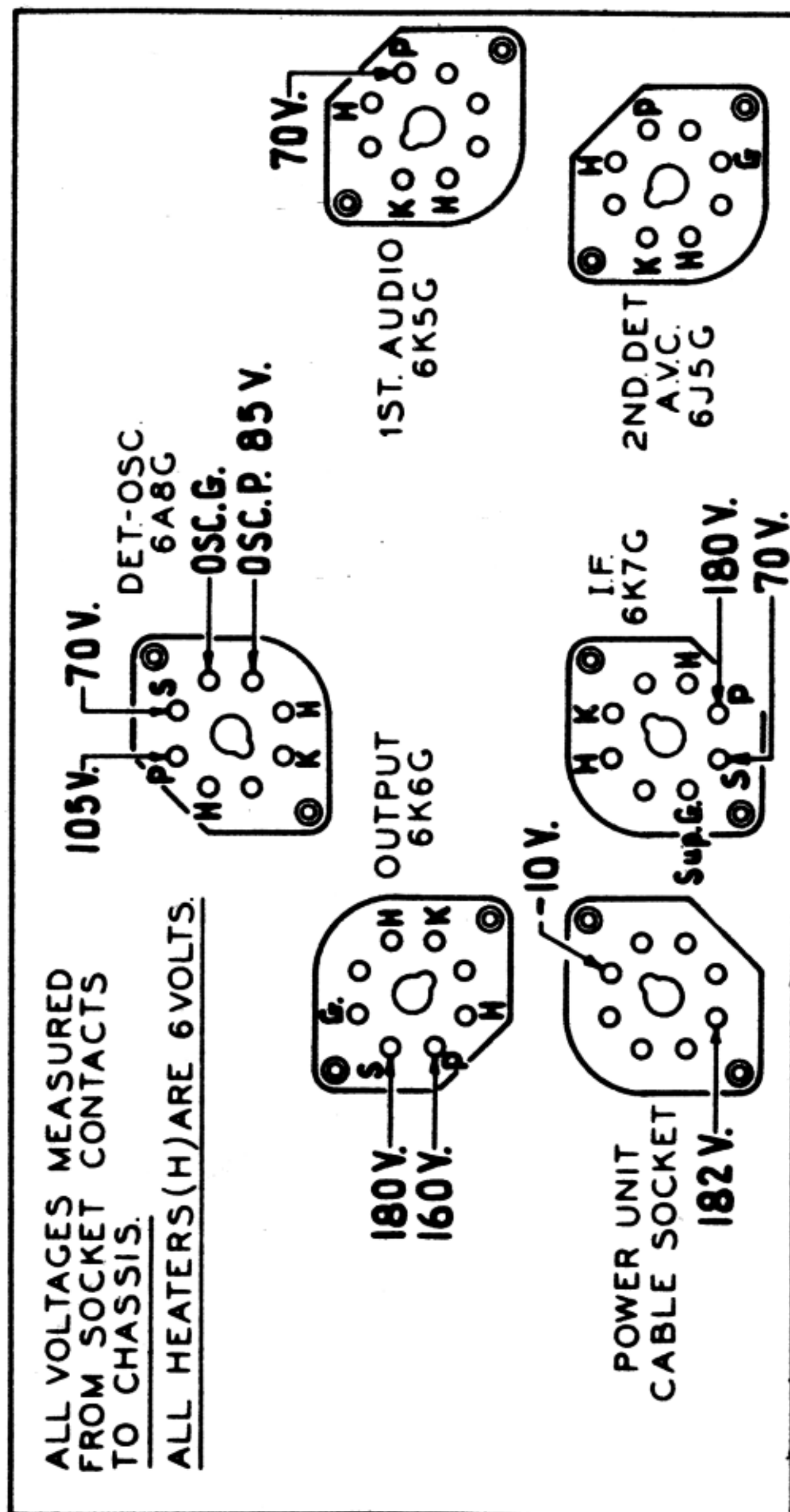


Fig. 1. Socket Voltages, Underside of Chassis

The voltages indicated by arrows were measured with a Philco 026 Circuit Tester which contains a sensitive voltmeter. Volume Control minimum. Storage Battery fully charged or 115 V. A.C. Power Supply.

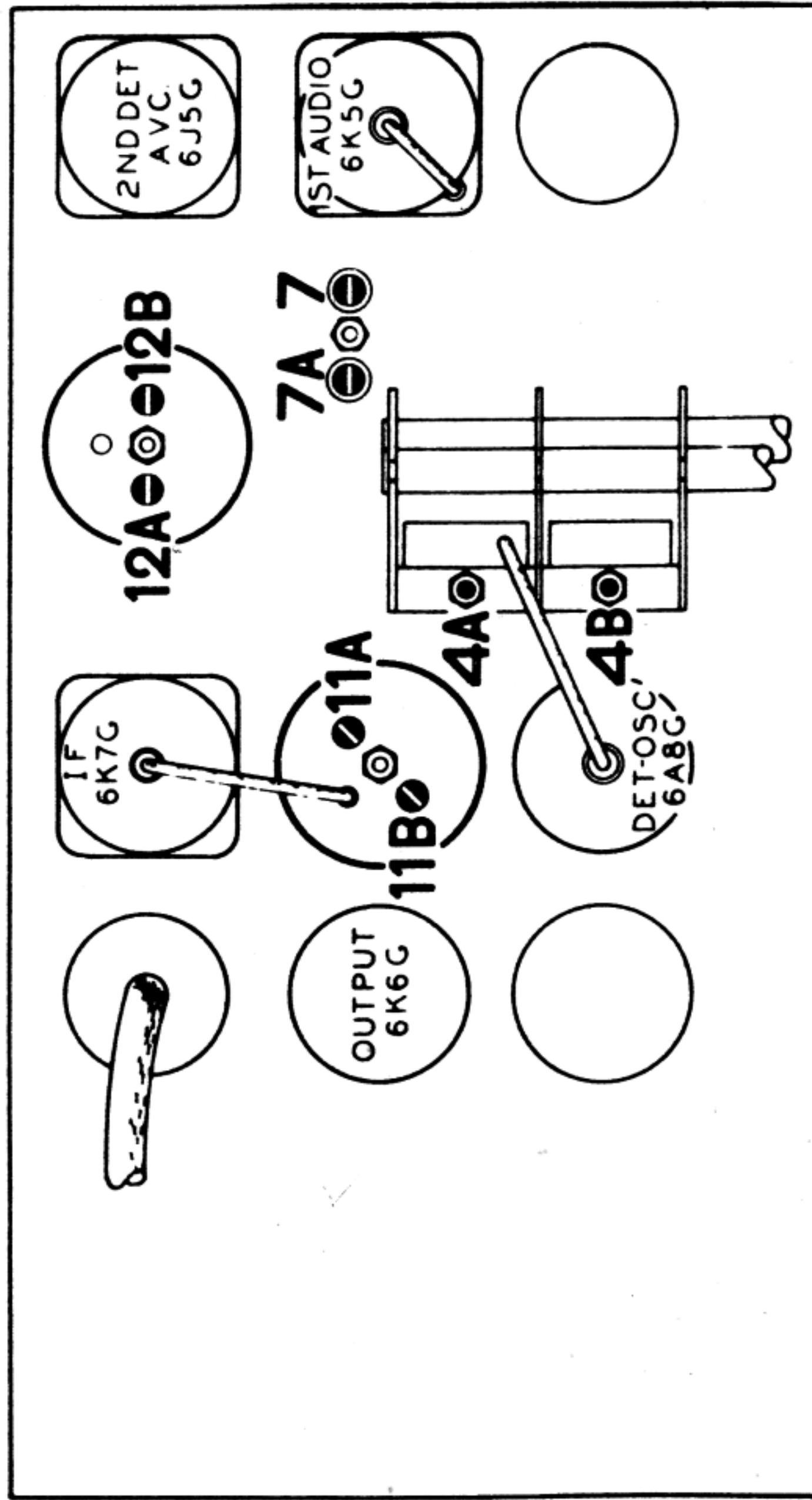


Fig. 2. Locations of Compensators

Alignment of Compensators

EQUIPMENT REQUIRED: (1) Signal Generator, having a fundamental frequency range covering the tuning and intermediate frequencies of the receiver. Philco Model 077 A.C. operated Signal Generator or Model 088 Battery operated, Signal Generator, which have the required frequency range are the correct instruments for this purpose; (2) Output meter, Philco Model 026 circuit tester incorporates a sensitive output meter and is recommended; (3) Philco

Fibre Handle Screw Driver, part No. 27-7059 and Fibre Wrench, part No. 3164.

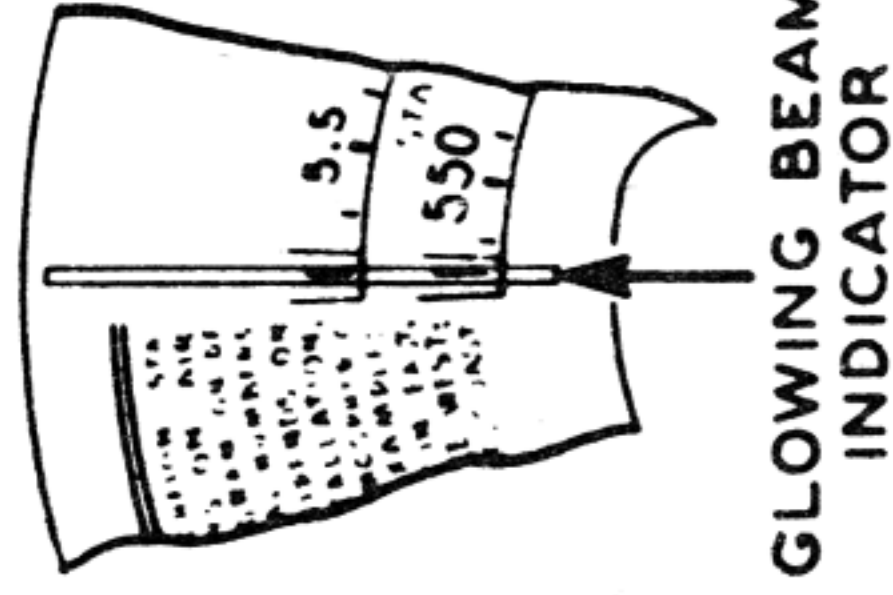
OUTPUT METER: The 026 output meter is connected to the plate and cathode terminals of the 6K6G tube. Adjust the meter to use the (0-30) volt scale and advance the attenuator control of the generator until a readable indication is noted on the output meter after signal is applied.

Operations in Order	SIGNAL GENERATOR			RECEIVER			NOTES
	Cable Connections	Dummy Antenna Note A	Dial Freq.	Control Positions	Dial Freq.	Adjust Compensators In Order	
1	6A8G Grid	.1 mfd.	470 K. C.	Vol. Control Max. Range Switch (1)	580 K. C.	(12B), (12A) (11B), (11A)	Adjust all compensators for "Max." output
2	Antenna and ground of receivers	400 ohms	18.0 M. C.	Range Switch (2)	18.0 M. C.	(4B)	Check image at 17.060 M. C.
3	Antenna and ground of receivers	200 mmfd.	1550 K. C.	Range Switch (1),	1550 K. C.	(7), (4A)	
4	Antenna and ground of receivers	200 mmfd.	580 K. C.	Range Switch (1)	580 K. C.	(7A)	
5	Antenna and ground of receivers	200 mmfd.	1550 K. C.	Range Switch (1)	1550 K. C.	(7), (4A)	

NOTE "A"—The Dummy Antenna is a condenser connected in series with the signal generator output lead. Use the capacity or resistance as specified in each step of the above procedure.

NOTE "B"—**DIAL CALIBRATION:** In order to adjust the receiver correctly the dial must be aligned to track properly with the tuning condenser. To adjust the dial proceed as follows:

1. Turn the tuning condenser to maximum capacity position (plate fully meshed).
2. Holding the tuning condenser in this position, loosen the dial clamp; then turn the dial until the indicator is centered on the middle index line (See Fig. 3). Tighten clamp in this position.



GLOWING BEAM INDICATOR

Fig. 3. Dial Calibration.

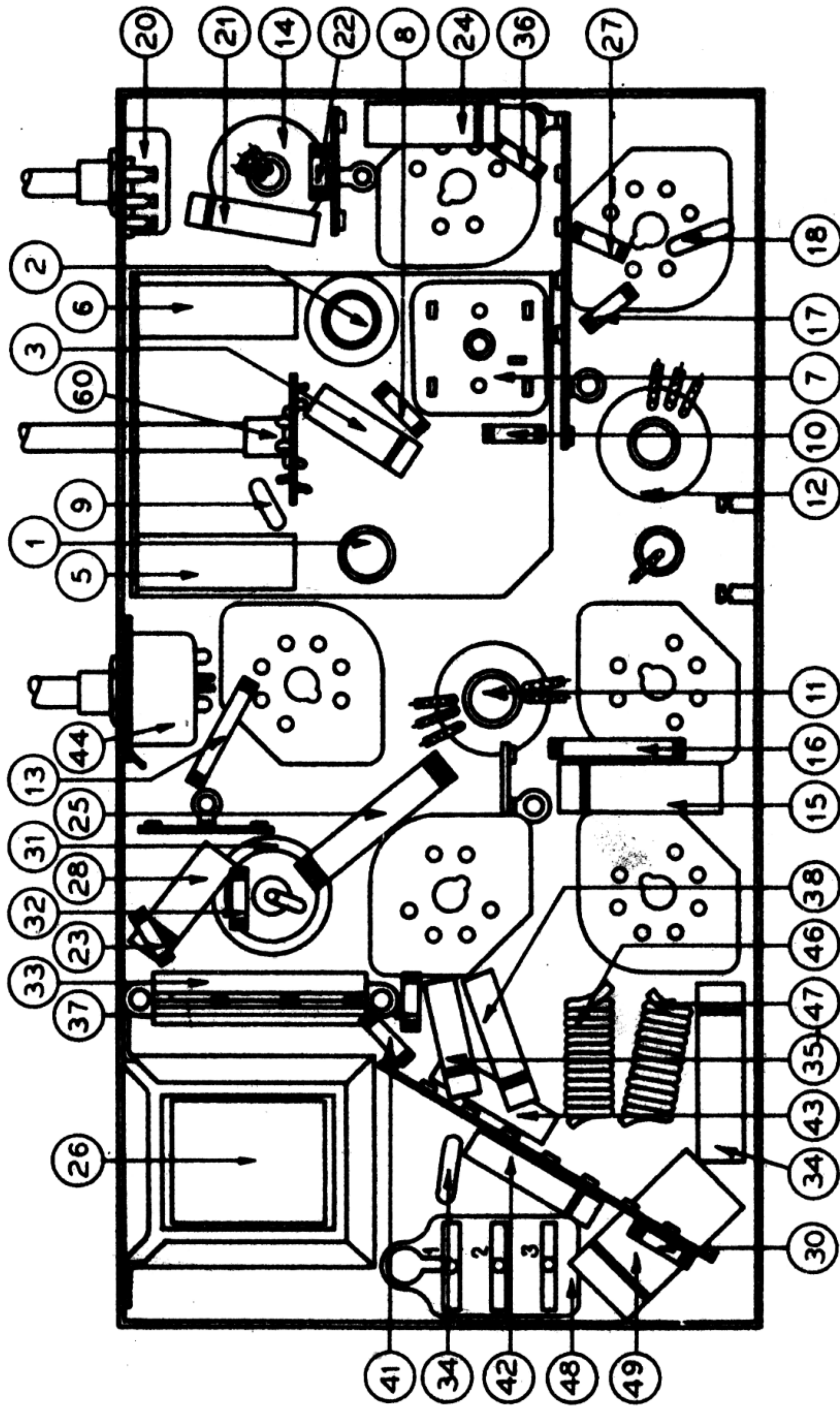
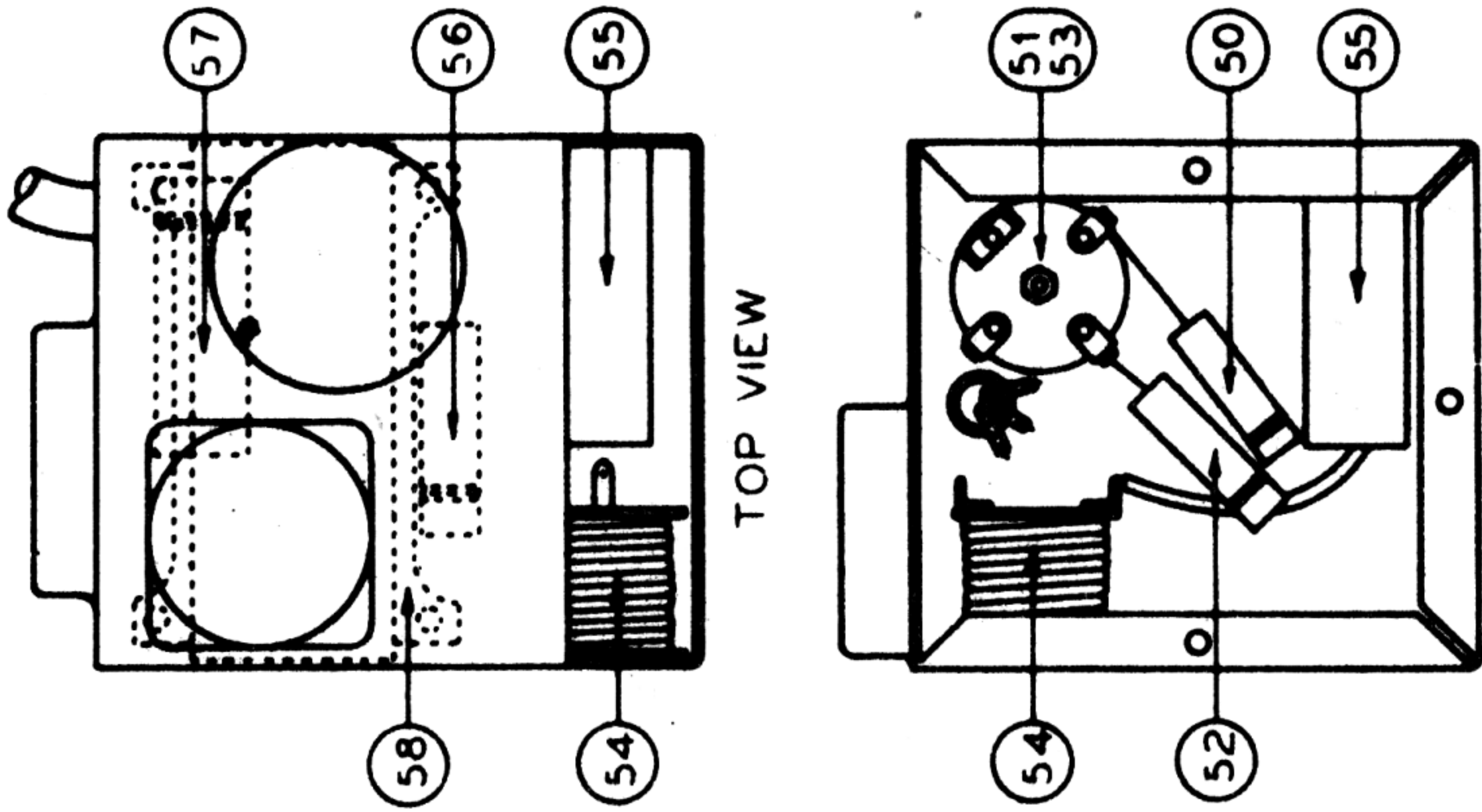


Fig. 6. Part Locations, Underside of Chassis

Fig. 5. Vibrator Unit Part Locations

Replacement Parts Model 38-40, Code 121

Schem. No.	Description	Part No.	List Price	Schem. No.	Description	Part No.	List Price
1	Antenna Transformer (Range 2)	32-2558	\$0.70		Mtg. Rubber (Vibrator Unit)	5189	\$0.03
2	Antenna Transformer (Range 1)	32-2667	1.60		Mtg. Rubber (Vibrator Unit)	27-4585	
3	Condenser (.05 mf. tubular)	30-4519	.20		Mtg. Screw (Vibrator Unit)	W-767	
4	Tuning Condenser	31-2065	5.00		Mtg. Spacer (Vibrator Unit)	28-6772	
5	Osc. Transformer (Range 2)	32-2668	1.25		Pilot lamp Ass'y	38-8844	.35
6	Osc. Transformer (Range 1)	32-2559	.50	61	Plug (Voltage Selector)	28-9247	
7	Compensator (2 sections)	31-6188	.50		Rubber Sleeve (Vibrator)	27-4637	
8	Resistor (120,000 ohms, 1/2 W)	33-412339	.20		Rubber Bumper (Dial)	27-4570	
9	Condenser (3500 mmf.)	30-1094	.40		Screen	27-5320	.10
19	Resistor (5,000 ohms, 1/2 W)	33-250339	.20		Shield (Vibrator)	38-9245	
11	1st I.F. Transformer	32-2580	2.20		Socket (Voltage Selector)	27-6054	.15
12	2nd I.F. Transformer	32-2582	2.20		Socket (Rectifier Tube)	27-6058	.11
13	Resistor, (51,000 ohms, 1 W)	33-351439	.20		Socket (6 prong)	27-6086	.11
14	Electrolytic Condenser (8-8 mf)	30-2291			Socket (7 prong)	27-6087	.11
15	Condenser (.1 mf.)	30-4455	.25		Socket (Vibrator)	27-6090	
16	Resistor (10,000 ohms, 1W)	33-310439	.20		Vernier Drive	31-2128	
17	Resistor (1.0 meg. 1/2 W)	33-510339	.20		"T" CABINET		
18	Condenser (110 mmf. mica)	30-1031	.20		Bezel Plate & Frame	40-6124	.90
19	Resistor (51,000 ohms, 1/2 W part (12))	33-351339	.20		Bezel Gasket	27-8311	.01
20	Volume Control	33-5215	1.00		Bezel Glass	27-8298	.05
21	Condenser (.015 mf. tubular)	30-4358	.20		Bezel Ring	28-5078	.55
22	Resistor (1.0 meg. 1/2 W)	33-510339	.20		Bezel Screw	W-1821	C.60
23	Resistor (1.0 meg. 1/2 W)	33-510339	.20		Speaker KR29	36-1379	
24	Condenser (.1 mf. tubular)	30-4499	.20		"K" and "X" CABINETS		
25	Resistor (10,000 ohms, 2 W)	30-310539	.30		Bezel Plate & Frame Ass'y	40-6128	1.05
26	Filter Choke	32-7543	1.35		Bezel Gasket	27-8313	.01
27	Resistor (1.0 meg. 1/2 W)	33-510339	.20		Bezel Glass	27-8300	.06
28	Condenser (.05 mf tubular)	30-4444	.20		Bezel Ring	28-5080	.70
29	Condenser (.15 mf tubular)	30-4191	.25		Speaker HR23	36-1380	
30	Resistor (4,000 ohms, 1/2 W)	33-240339	.20				
31	Electrolytic Condenser (25 mf.)	30-2219	1.50				
32	Resistor (490,000 ohms, 1/2 W)	33-449339	.20				
33	Resistor—Wire wound, (202-8—35 ohms)	33-3316	.35				
34	Condenser (250 mmf. mica)	30-1032	.25				
35	Condenser (.015 mf tubular)	30-4515	.20				
36	Resistor (330,000 ohms, 1/2 W)	33-433339	.20				
37	Resistor (490,000 ohms, 1/2 W)	33-449339	.20				
38	Condenser (.03 mf tubular)	30-4447	.20				
39	Output Transformer	32-7936					
40	Cone & Voice Coil Assembly (KR29)	36-3540	1.00				
	Cone & Voice Coil Assembly (HR23)	36-3797					
41	Resistor (99,000 ohms, 1/2 W)	33-399339	.20				
42	Condenser (.05 mf tubular)	30-4444	.20				
43	Condenser (.008 mf tubular)	30-4112	.20				
44	Tone and Power Switch	42-1393					
45	Pilot Lamp bulb	34-2068	.12				
46	"A" Choke	32-2866					
47	"A" Choke	32-2038	.15				
48	Condenser (.05—.05 mf bakelite)	3615DG	.40				
49	Condenser (.5 mf tubular)	30-4551					
50	Condenser (.02 mf tubular)	30-4481	.20				
51	"B" Choke	32-2836					
52	Condenser (.02 mf tubular)	30-4481	.20				
53	"B" Choke (Part of 51)						
54	"A" Choke	32-1954	.40				
55	Condenser (.5 mf metal housing)	30-4296	.60				
56	Condenser (.015 mf tubular)	30-4552					
57	Condenser (.5 mf tubular)	30-4551					
58	Power Transformer	32-7934					
59	Vibrator	41-3367					
60	Range Switch	42-1358	.75				
	Cable (A.C.)	L-2778	.40				
	Cable (Battery)	41-3364					
	Cable-Vibrator ("K" and "X" Cabinet)	41-3369					
	Cable-Vibrator (T cabinet)	41-3368					
	Clip (Dial)	28-2488	C.90				
	Clip Mtg. (R.F. Coil)	28-5002	.02				
	Dial	27-5333	.60				
	Dial Washer—Rubber	27-4598	.03				
	Dial Clamp	28-5089	.03				
	Knob (Tuning)	27-4330	.10				
	Knob (Vernier)	27-4331	.10				
	Knob (Volume)	27-4332	.10				
	Mtg. Foot (Tuning Condenser)	28-5022					
	Mtg. Rubber (Tuning Condenser)	27-4599	.04				

AntiqueRadioSchematics.org



**Publication Digitized and Provided By
Steve's Antique Technology**

Vintage Schematics and Publications

www.StevenJohnson.com

Digital File Copyright © 2015 StevenJohnson.com, Auburn NY

This digital file is for use by original purchaser only and may not be shared or redistributed.