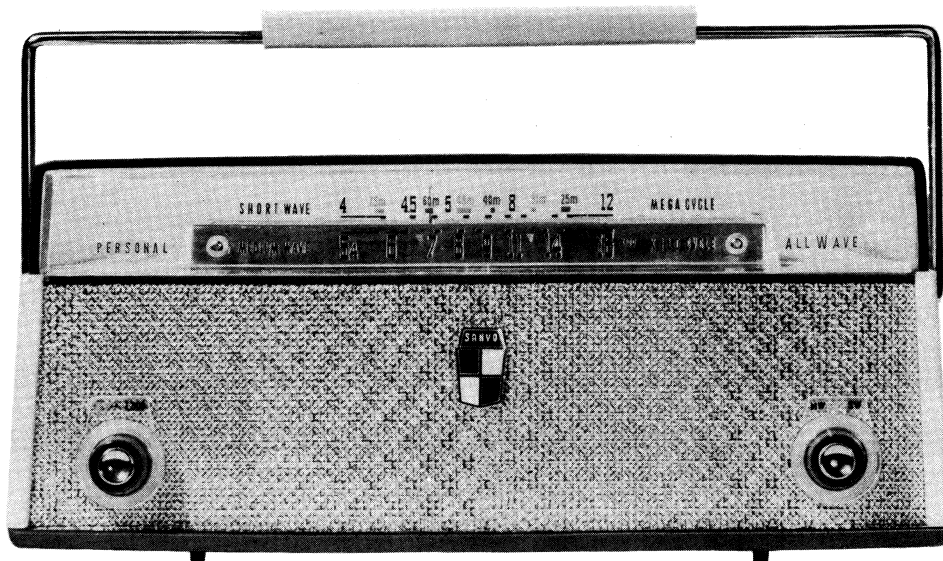


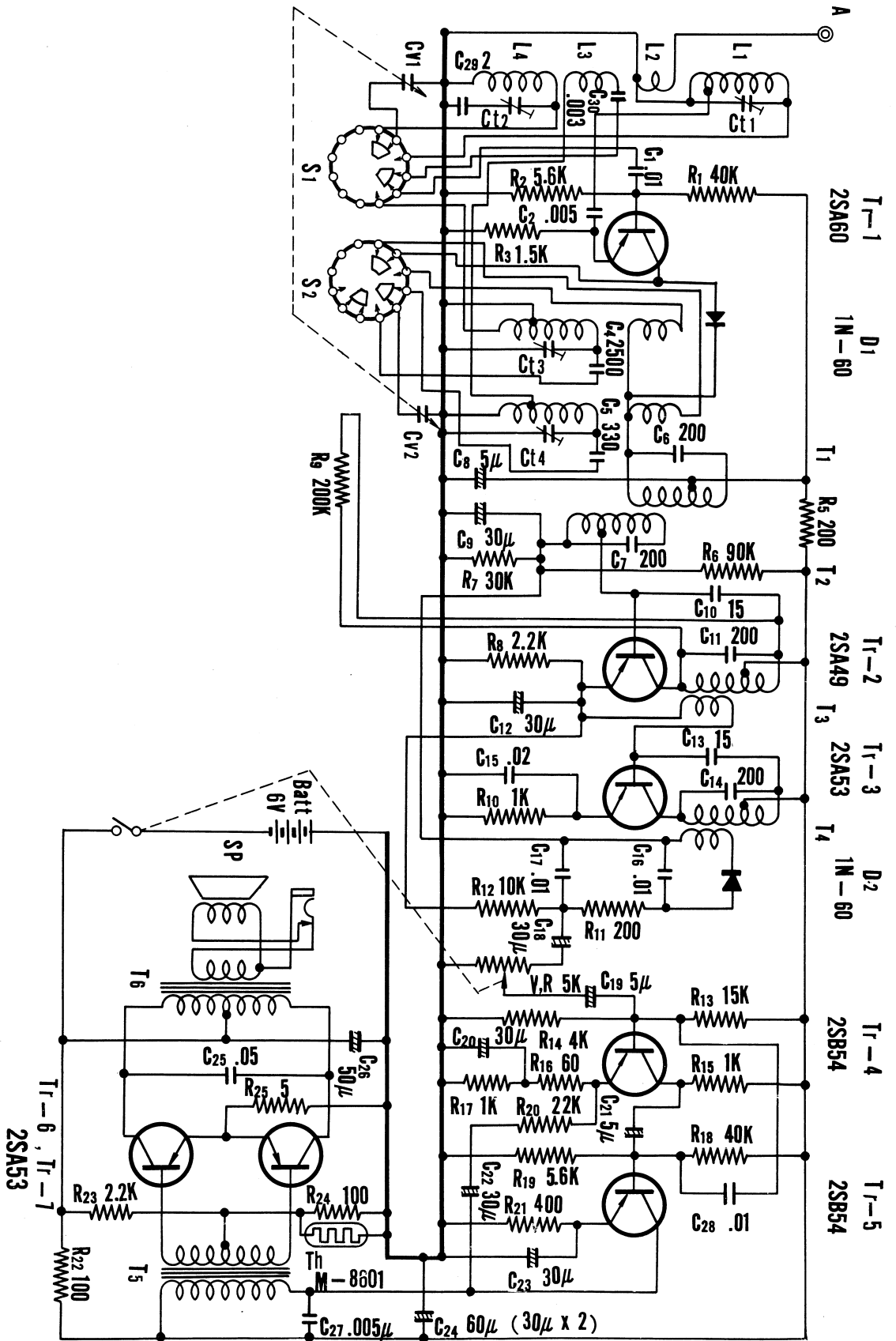


## Service Manual



### SPECIFICATION

WAVE RANGE	540 - 1,605 kc (MW) 3.9 - 12 mc (SW)
INTERMEDIATE FREQUENCY	455 kc
TRANSISTOR COMPLEMENT	1×2SA60      Frequency Converter 1×2SA49      1st IF Amplifier 1×2SA53      2nd IF Amplifier 1×2SB54      1st AF Amplifier 1×2SB54      2nd AF Amplifier 2×2SB56      Power Amplifier
GERMANIUM DIODE AND THERMISTOR	1×1N60      Detector & AGC 1×1N60      OSC Voltage Limiter 1×M8601      Temperature Compensation
RADIATION SENSITIVITY	Lower Limit for 10 mW 564 $\mu$ V/m      MW Band 178 $\mu$ V/m      S W Band
BATTERY USED	4 1½-volt size D Flashlight Batteries (6 volts)
CURRENT DRAIN	12.0~74.0 mA
POWER OUTPUT	Undistorted      120 mW Maximum      220 mW
LOUDSPEAKER	3½"×5½" oval, Permanent Dynamic Voice Coil Impedance 3.3 ohms at 1,000 cycles
CABINET DIMENSION	Length      295 mm (11½") Height      125 mm (5") Thickness      119 mm (4¾")
NET WEIGHT	1,550 grs (3 pounds 7 ounces) incl. bat- teries



## ALIGNMENT PROCEDURE

**Output Meter Alignment:** Connect the volt-meter with the both ends of the voice-coil, and turn the volume control to maximum.

**Test Oscillator:** For all alignment operation, connect the low side of the test oscillator to the circuit board and keep the oscillator output as low as possible to avoid AGC.

Step	Connect High Side of Sig. Gen. to:-	SIG. GEN. Output	Dial Pointer Setting	Adjust for Maximum Output
1	Connection lug of CV ANT. side sect. of V.C. in series with 0.1 $\mu$ f	455 kc	Quiet Point near 530 kc	I.F. Transformer T 4      T 3 T 2      T 1
2	Short wire placed near antenna for radiated signal.	530 kc	Gang fully closed	M.W. Osc. Coil
3		1,650 kc	Gang fully open	Osc. Trimmer CT4
4		Repeat Step 2 and 3.		
5		600 kc	600 kc Signal	M.W. Ant. Coil
6		1,400 kc	1,400 kc Signal	Ant.. Trimmer CT2
7		Repeat Step 5 and 6.		
8		Set Band Selector Switch to Short wave Band		
9	Short wire placed near antenna for radiated signal.	12.1 mc	Gang fully open	Osc. Trimmer CT3
10		3.8 mc	Gang fully closed	S.W. Osc. Coil
11		Repeat Step 9 and 10.		
12		11 mc	11 mc Signal	Ant. Trimmer CT1
13		4 mc	4 mc signal	S.W. Ant. Coil
14		Repeat Step 12 and 13.		

## PARTS LIST

### TRANSISTORS

PART No.	ORIGINAL TYPE	DESCRIPTION
Tr 1	2SA60	Frequency Converter
Tr 2	2SA49	1st IF Amplifier
Tr 3	2SA53	2nd IF Amplifier
Tr 4	2SB54	1st AF Amplifier
Tr 5	2SB54	2nd AF Amplifier
Tr 6	2SB56	Power Amplifier
Tr 7	2SB56	Power Amplifier

### GERMANIUM DIODE AND THERMISTOR

PART No.	ORIGINAL TYPE	DESCRIPTION
D 1	1N60	Detector & AGC
D 2	1N60	OSC Voltage Limiter
TH	M8601	Temperature Compensation

### VARIABLE CAPACITOR

PART No.	STOCK No.	REMARKS
VC	R-C1040	

### VOLUME CONTROL

PART No.	STOCK No.	REMARKS
VR	R-R12436	

### COILS

PART No.	STOCK No.	DESCRIPTION
L 1	R-W2055	Antenna Coil
L 2	R-W3022	Oscillator Coil MW
L 3	R-W8012	Oscillator Coil SW

### TRANSFORMERS

PART No.	STOCK No.	DESCRIPTION
T 1	R-W5T037	I. F. T.
T 2	R W5T044	I. F. T.
T 3	R-W5T042	I. F. T.
T 4	R-W5T010	I. F. T.
T 5	R-W6070	I. P. T.
T 6	R-W6071	O. P. T.

### FIXED RESISTORS

PART No.	RATING		TOLERANCE	DESCRIPTION
	OHMS	WATT		
R 1	40K	1/2	± 10%	
R 2	5.6K	1/2	± 10%	
R 3	1.5K	1/2	± 10%	
R 5	200	1/2	± 20%	
R 6	90K	1/2	± 10%	
R 7	30K	1/2	± 10%	
R 8	2.2K	1/2	± 10%	
R 9	200K	1/2	± 20%	
R 10	1K	1/2	± 10%	
R 11	200	1/2	± 20%	
R 12	10K	1/2	± 20%	
R 13	15K	1/2	± 20%	
R 14	4K	1/2	± 10%	
R 15	1K	1/2	± 10%	
R 16	60	1/2	± 20%	
R 17	1K	1/2	± 20%	
R 18	40K	1/2	± 20%	
R 19	5.6K	1/2	± 10%	
R 20	22K	1/2	± 20%	
R 21	400	1/2	± 20%	
R 22	100	1/2	± 20%	
R 23	2.2K	1/2	± 10%	
R 24	100	1/2	± 10%	
R 25	5	1/2	± 10%	

### ELECTROLYTIC CONDENSER

PART No.	RATING		TOLERANCE	DESCRIPTION
	CAP	VOLT		
C 8	5 $\mu$ f	6		
C 9	30 "	6		
C 12	30 "	6		
C 18	30 "	6		
C 19	5 "	6		
C 20	30 "	6		
C 21	5 "	6		
C 22	30 "	6		
C 23	30 "	6		
C 24	60 "	6		
C 26	50 "	9		

### LOUDSPEAKER

PART No.	STOCK No.	TYPE		
		SIZE	FIELD	V.C. IMP.
SP	R-S6090	3 1/2" x 5 1/2"	P. D.	3.3 ohms

### MISCELLANEOUS

PART No.	STOCK No.	DESCRIPTION
M 1	R-S4100	Band Selector Switch
M 2	R-S8130	Switch Knob (set of 2)

### FIXED CAPACITORS

PART No.	RATING		TOLERANCE	DESCRIPTION
	CAP	VOLT		
C 1	0.01 $\mu$ f	25	+ 80%	
C 2	0.005 "	50	+ 30%	
C 4	2500 pf		± 10%	
C 5	330 pf		± 10%	
C 10	15 pf	25	± 10%	
C 13	15 pf	25	± 10%	
C 15	0.02 $\mu$ f	25	+ 80%	
C 16	0.01 "	25	+ 80%	
C 17	0.01 "	25	+ 80%	
C 25	0.05 "	100	± 20%	
C 27	0.005 "	25	+ 80%	
C 28	0.01 "	25	+ 80%	
C 29	2 pf		+ 30%	
C 30	0.003 $\mu$ f	50	- 20%	

