SANYO

MODEL

6S-08
6S-08N

All-transistor Radio

Service Manual

SPECIFICATIONS

FREQUENCY RANGE

standard broadcast band	540 - 1,600 kc
shortwave band	3.8 - 12 mc

INTERMEDIATE FREQUENCY 455 kc

OUTPUT POWER

Model 6S-08	
undistorted	150 mW (average)
maximum	210 mW (average)
Model 6S-08N	
undistorted	170 mW (average)
maximum	230 mW (average)

RADIATION SENSITIVITY

standard broadcast band	120 μV/m for 10 mW output (average)
shortwave band	120 μV/m for 10 mW output (average)

POWER SOURCE

6-volt DC (four $1\frac{1}{2}$ - volt size D flashlight batteries)

CURRENT DRAIN

no signal	10 mA
maximum	65 mA

LOUDSPEAKER

5-inch permanent dynamic speaker
voice coil impedance 3.3 ohms

TRANSISTOR COMPLEMENT

2SA60	frequency converter
2SA202 or 2SA180	1st IF amplifier
2SA203 or 2SA182	2nd IF amplifier
2SB186	audio amplifier
2SB187 × 2	power amplifier (class B push-pull)

GERMANIUM DIODES

1N60	detector & AGC
1N60	oscillation voltage limiter
1N60	AGC

THERMISTOR or VARISTOR

Model 6S-08	
SV - 30 (varistor)	temperature compensator
Model 6S-08N	
SDT - 20 (thermistor)	temperature compensator

CABINET DIMENSIONS

width	13 inches
height	6 inches
depth	$4\frac{1}{2}$ inches

NET WEIGHT

$3\frac{1}{2}$ lbs approx. (including batteries)

SANYO ELECTRIC CO., LTD.

PART NO.	STOCK NO.	DESCRIPTION

CABINET

	R-31326	Cabinet -back enclosure
	R-31328	Panel -front enclosure
	R-31327	Battery section cover
	R-32129	Dial plate
	R-35123a	Handle
	R-32116	Handle fixing base
	R-25099a	Handle fixing metal
	R-23391	Battery terminal +
	R-S8173	Battery terminal —
	R-24253	Screw -batt. sect. cover mtg.
	R-33192	Knob
	R-26196	Knob decorator
	R-26226a	front panel
	R-26223	Knob halo -volume control
	R-26224	Knob halo -tuning control
	R-26225a	Band select identification sheet

PART NO.	STOCK NO.	DESCRIPTION

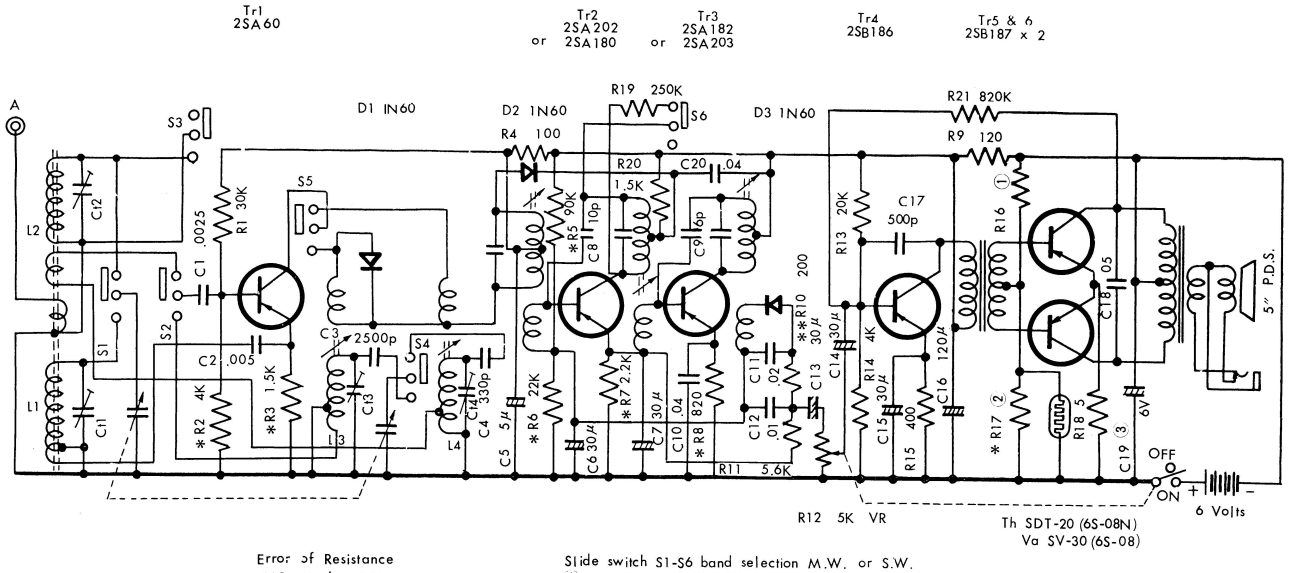
MISCELLANEOUS

	R-11848	Chassis
	R-41127	Printed wiring board
	R-S8126	Tuning shaft
	R-24070a	Pulley
	R-24071a	Pulley shaft
	R-S8157	Drum
	R-24255	Pointer
	———	Dial cord 0.7ϕ tetron 100 cm
	R-44007	Rubber grommet
	R-11849	Band switch mtg. angle
	R-15041	Coiled spring -dial cord stringing
	R-S2025a	Antenna jack
	R-S8265	Ant. lead with stick-on rubber
	R-S2040	Earphone jack
	R-35171	Battery inserting tube
	R-S1054	Earphone plug
	R-S3063	Soldering lug

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

Printed in Japan

CIRCUIT DIAGRAM



Error of Resistance
NO Mark 10%
* Mark 5%
* * Mark 20%

Slide switch S1-S6 band selection M.W. or S.W.
① R16 ····· (6S-08) 4.7K; (6S-08N) 3.9K
② R17 ····· (6S-08) 130; (6S-08N) 200
③ C19 ····· (6S-08) 50μ; (6S-08N) 120μ

ALIGNMENT PROCEDURES

Apply volt-meter across the voice coil. Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain output reading in order to avoid AGC function.

STEP	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	ADJUST FOR MAXIMUM OUTPUT
IF ALIGNMENT				
1	High side through 0.1 μF capacitor to antenna stator lug on tuning gang. Low side to chassis.	455 kc	lower end	IF transformer T 3 T 2 T 1
BROADCAST RF ALIGNMENT				
2	Fashion loop of several turns of wire and feed signal into it for signal radiation.	600 kc	600 kc	Osc coil L4
3		1400 kc	1400 kc	Osc trimmer Ct4
4		Repeat steps 2 and 3.		
5		600 kc	600 kc	Ant coil L2
6		1400 kc	1400 kc	Ant trimmer Ct2
7		Repeat steps 5 and 6.		
SHORTWAVE RF ALIGNMENT				
8	Fashion loop of several turns of wire and feed signal into it for signal radiation.	11 mc	11 mc	Osc trimmer Ct3
9		4 mc	4 mc	Osc coil L3
10		Repeat steps 8 and 9.		
11		11 mc	11 mc	Ant trimmer Ct1
12		4 mc	4 mc	Ant coil L1
13		Repeat steps 11 and 12.		

PART NO.	STOCK NO.	DESCRIPTION

TRANSISTORS

Tr 1	2SA60	frequency converter
Tr 2	2SA202 or 2SA180	1st IF amplifier
Tr 3	2SA203 or 2SA182	2nd IF amplifier
Tr 4	2SB186	audio amplifier
Tr 5	2SB187 (without fin) (with fin)	power amplifier (Model 6S - 08) (Model 6S - 08N)
Tr 6	2SB187 (without fin) (with fin)	power amplifier (Model 6S - 08) (Model 6S - 08N)

GERMANIUM DIODES

D 1	1N60	oscillation voltage limiter
D 2	1N60	AGC
D 3	1N60	detector & AGC

VARISTOR or THERMISTOR

V a	SV-30	temperature compensator (Model 6S - 08)
T h	SDT-20	temperature compensator (Model 6S - 08N)

COILS

L 1, 2	R-S8175d	antenna coil assembly
	(R-W2071b	antenna coil only)
	(R-35077b	antenna holder)
L 3	R-W8023a	oscillator coil SW
L 4	R-W8011	oscillator coil MW

TRANSFORMERS

T 1	R-W5T008	1st IF transformer C - 6038A
T 2	R-W5T009	2nd IF transformer C - 6029A
T 3	R-W5T023	3rd IF transformer C - 6022A
T 4	R-W6137	input transformer
T 5	R-W6098	output transformer (Model 6S-08)
	R-W6155	(Model 6S-08N)

CONTROLS

S 1-6	R-S4109	slide switch for band selection
VR(R12)	R-R12445a	volume control
V C	R-C1040d	variable tuning gang
Ct 1-4	R-C0006a	4-gang trimmer

LOUDSPEAKER

P D S	R-S6104	speaker with T5 OPT R - W6098 (Model 6S - 08)
	R-S6174	R - W6155 (Model 6S - 08N)

PART NO.	DESCRIPTION

ELECTROLYTIC CAPACITORS

C 5	5 μF	+250-10%	6WV	Vertical type	
C 6	30 〃	〃 〃	〃	〃	〃
C 7	30 〃	〃 〃	〃	〃	〃
C 13	30 〃	〃 〃	〃	〃	〃
C 14	30 〃	〃 〃	〃	〃	〃
C 15	30 〃	〃 〃	〃	〃	〃
C 16	120 〃	〃 〃	10WV	〃	〃
C 19	50 〃	〃 〃	6WV	〃	〃 (Model 6S - 08)
	120 〃	〃 〃	〃	Vertical type (Model 6S - 08N)	

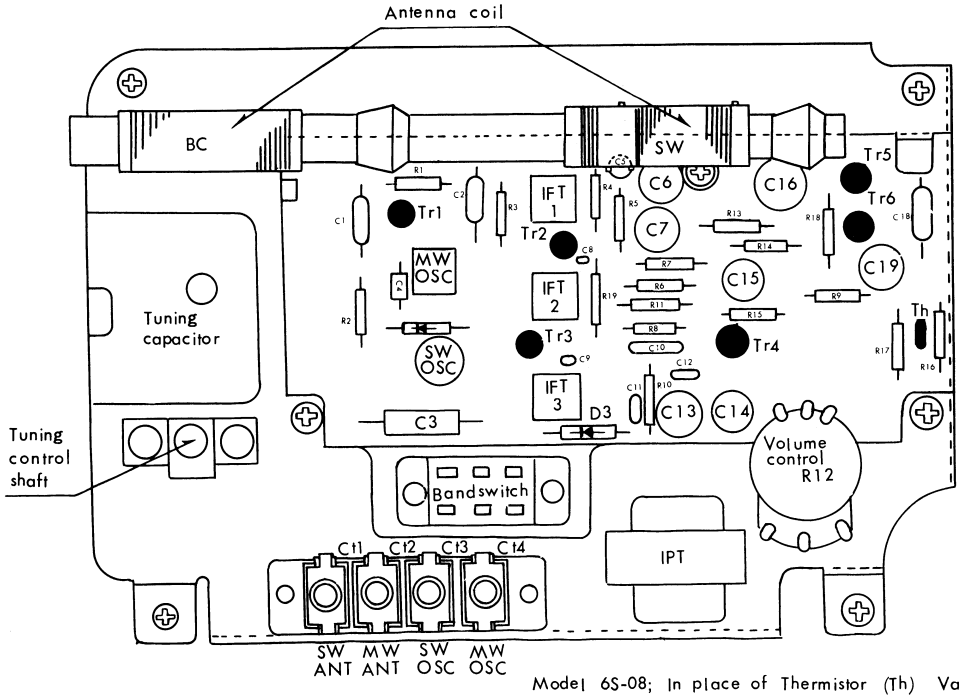
FIXED CAPACITORS

C 1	0.0025μF	+30-20%	100WV	Mylar Tubular	
C 2	0.005 〃	〃 〃	〃	〃	〃
C 3	2500pF	±10%	250WV	Styrol	
C 4	330 〃	〃	125WV	〃	
C 8	10 〃	〃	25WV	Ceramic	
C 9	6 〃	〃	〃	〃	
C 10	0.04μF	+80-10%	〃	〃	Disc
C 11	0.02 〃	〃 〃	〃	〃	〃
C 12	0.01 〃	〃 〃	〃	〃	〃
C 17	500pF	+30-20%	100WV	Mylar Tubular	
C 18	0.05μF	〃 〃	〃	〃	〃
C 20	0.04 〃	+80-20%	25WV	Ceramic Disc	

FIXED RESISTORS

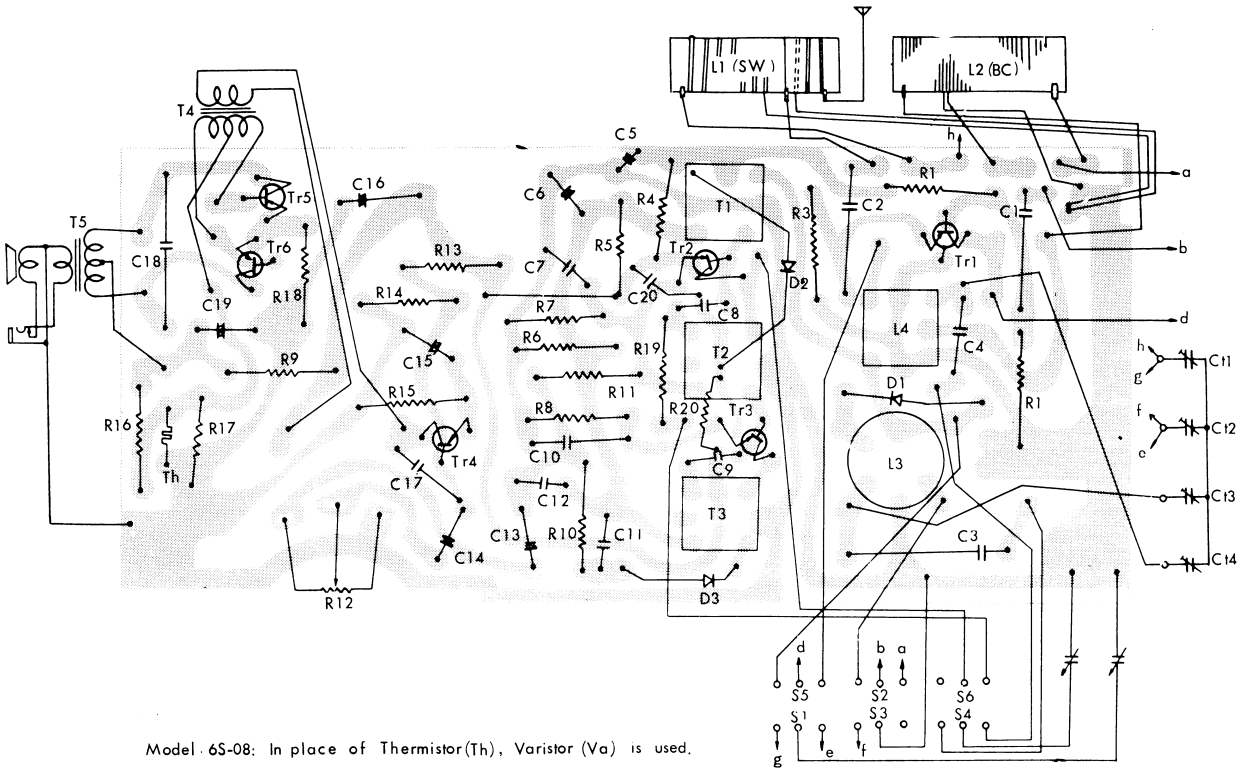
R 1	Solid	30K ohms		±10%	½W
R 2	Carbon	4K 〃		± 5%	¼W
R 3	〃	1.5K 〃		〃	〃
R 4	Solid	100 〃		±10%	½W
R 5	Carbon	90K 〃		± 5%	¼W
R 6	〃	22K 〃		〃	〃
R 7	〃	2.2K 〃		〃	〃
R 8	〃	820 〃		〃	〃
R 9	Solid	120 〃		±10%	½W
R 10	〃	200 〃		±20%	〃
R 11	〃	5.6K 〃		±10%	〃
R 13	〃	20K 〃		〃	〃
R 14	〃	4K 〃		〃	〃
R 15	〃	400 〃		〃	〃
R 16	〃	4.7K 〃		〃	〃 (Model 6S - 08)
	〃	3.9K 〃		〃	½W (Model 6S - 08N)
R 17	Carbon	130 〃		± 5%	¼W (Model 6S - 08)
	〃	200 〃		〃	¼W (Model 6S - 08N)
R 18	Solid	5 〃		±10%	½W
R 19	〃	250K 〃		〃	〃
R 20	〃	1.5K 〃		〃	〃
R 21	〃	820K 〃		〃	〃

MAIN PARTS LAYOUT (Model 6S-08N)



Model 6S-08; In place of Thermistor (Th) Varistor (Va) is used.

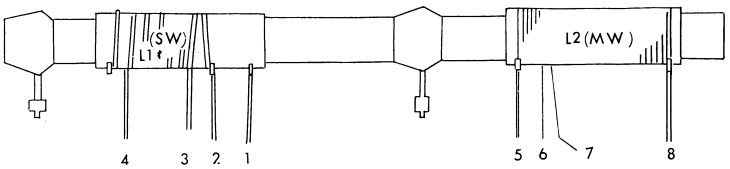
INTER-PARTS WIRING ILLUSTRATION (Model 6S-08N)

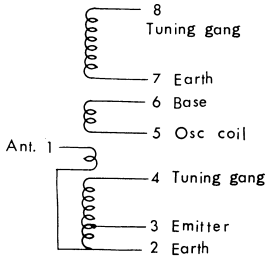


Model 6S-08; In place of Thermistor(Th), Varistor (Va) is used.

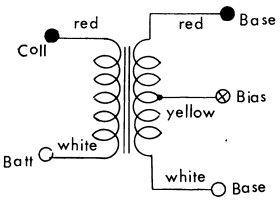
MAIN PARTS TERMINAL IDENTIFICATION

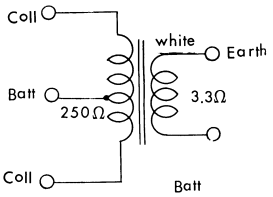
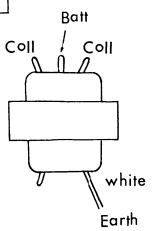
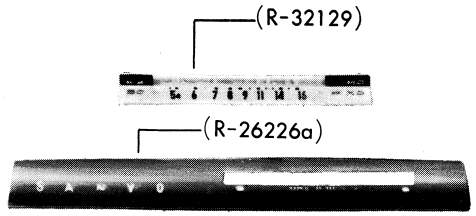
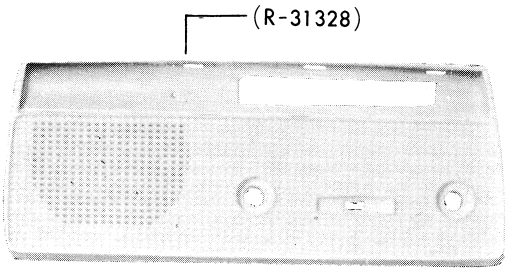
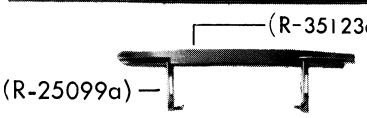
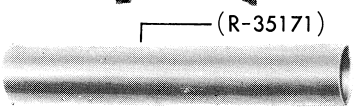
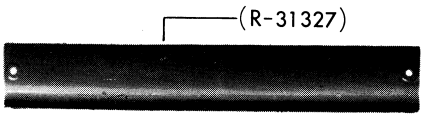
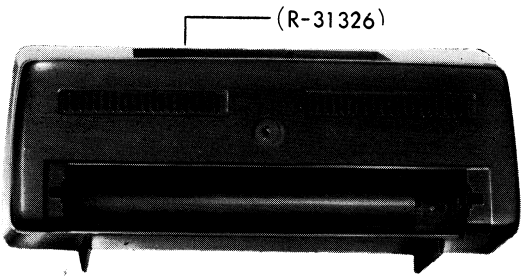
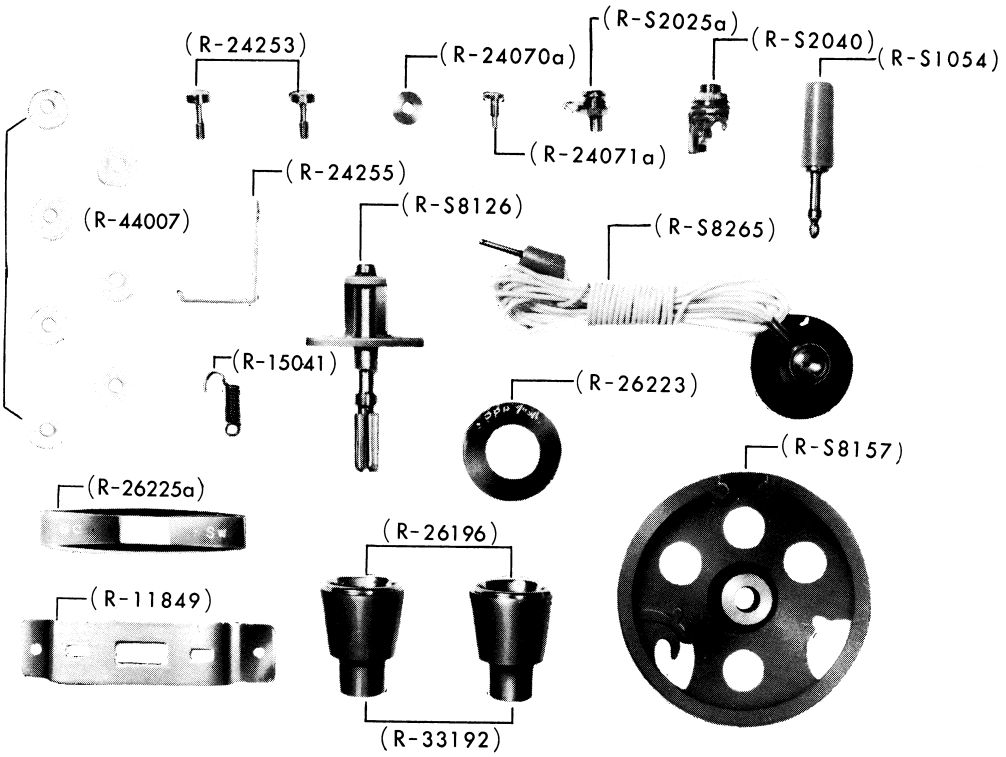
1. Antenna coil





2. Input transformer
R-W6137



9K : 3K ohms

3. Output transformer