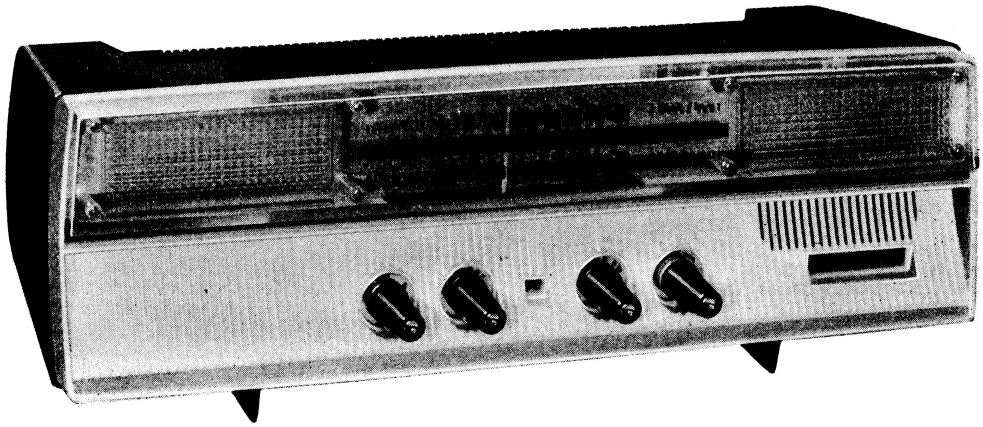
SANYO

MODEL 7S-T49

All-transistor Radio

Service Manual



SPECIFICATIONS

FREQUENCY RANGE

Standard Broadcast	540 - 1,600 kc
Shortwave	3.8 - 12 mc

INTERMEDIATE FREQUENCY

455 kc

TRANSISTOR COMPLEMENT

1 × 2SA60	Mixer
1 × 2SA202	1st IF Amplifier
1 × 2SA203	2nd IF Amplifier
1 × 2SB185	1st AF Amplifier
1 × 2SB186	2nd AF Amplifier
2 × 2SB187 (2SB56)	Power Amplifier

GERMANIUM DIODES & VARISTOR

1 × IN60	Oscillation Voltage Limiter
1 × IN60	Detector & AGC
1 × IN60	AGC
1 × SV - 30 (D22A)	Temperature Compensator

POWER OUTPUT

Undistorted	170 mW
Maximum	300 mW.

RADIATION SENSITIVITY

lower limit for 10 mW output

Standard Broadcast	320 μV/m
Short Wave	200 μV/m

BATTERY USED

6 volts (4 D size flashlight batteries)

Current Drain	No signal 12 mA
	Maximum 110 mA

LOUD SPEAKER

2 × 4 inches speaker
3.3 ohms at 1,000 c/s

CABINET DIMENSIONS

Width	470 mm (18½ inches)
Height	154 mm (6 inches)
Depth	137 mm (5½ inches)

NET WEIGHT

2400 grams (4.8 pounds)

SANYO ELECTRIC CO., LTD.

PART NO.	STOCK NO.	DESCRIPTION

RESISTOR & CAPACITOR PACKED

R6 + C9	R-CXC004	1K ohms + 0.04 mF
R11 + C12	R-CXC004	1K ohms + 0.04 mF

LOUD SPEAKER

SP	R-S6093	4" permanent dynamic type

CABINET

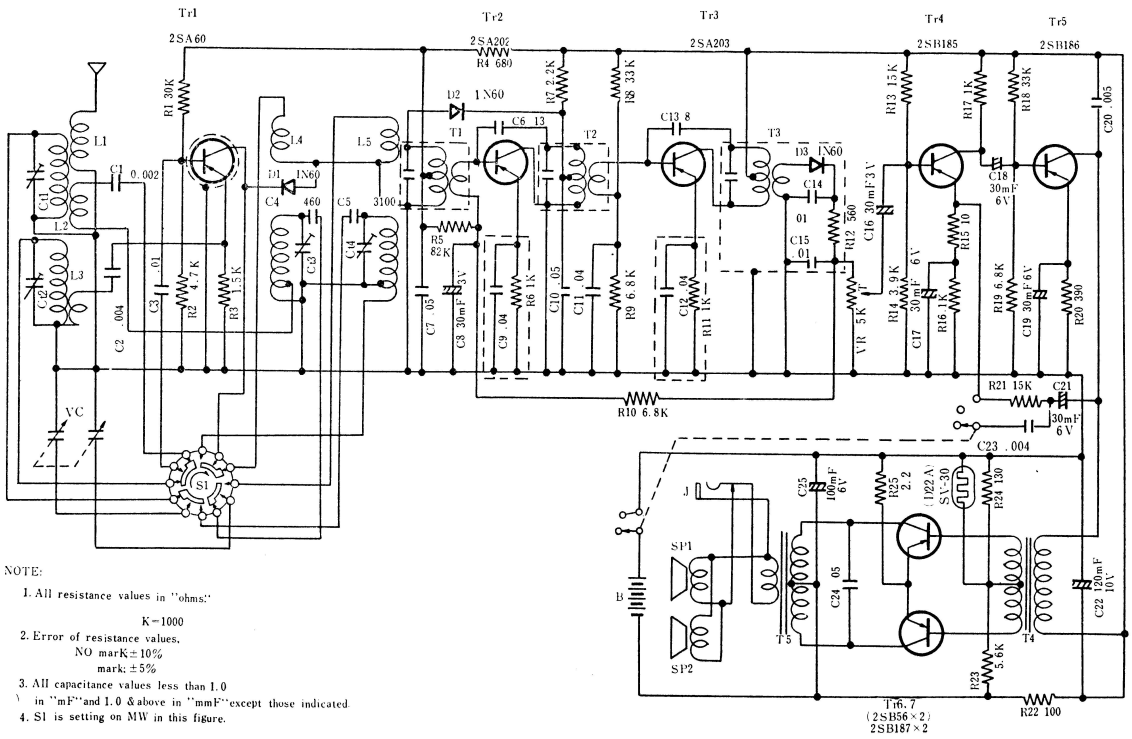
	R-31384	Cabinet
	R-31397	Back Cover
	R-26321	Back Plate
	R-31388	Panel
	R-31389	Dial
	R-32193	Terminal Case
	R-47231	Label A
	R-26425	Label B

MISCELLANEOUS

	R-S8157	Drum
	R-32196	Earphone Setting base
	R-15126	Dial String Spring
	R-S2040	Earphone Socket
	R-S2025a	Antenna Socket
	R-35171	Battery Cover
	R-23450	Decoration Metal
	R-32175	Sign Board

Printed in Japan

Model 7S-T49 Circuit Diagram



NOTE:

1. All resistance values in "ohms:"
   K=1000
2. Error of resistance values,
   NO markK±10%
   mark; ±5%
3. All capacitance values less than 1.0 in "mF" and 1.0 & above in "mmF" except those indicated.
4. S1 is setting on MW in this figure.

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 MAX. OUTPUT
IF ALIGNMENT				
1	Positive side O. 1 uF Capacitor in series to antenna stator lug on variable condenser Negative side to chasis	455 kc	540 kc	T 1 T 2 T 3
BROADCAST RF ALIGNMENT				
2	Fashion loop of several turns of wire and radiate signal into loop antenna	600 kc	600 kc	L 4
3		1,400 kc	1,400 kc	Ct 3
4		Repeat Step 2 and 3		
5		600 kc	600 kc	L 2
6		1,400 kc	1,400 kc	Ct 1
7		Repeat Step 5 ane 6		
SHORTWAVE RF ALIGNMENT				
8	Fashion loop of several turns of wire and radiate signal into loop antenna	11 mc	11 mc	Ct 4
9		4 mc	4 mc	L 5
10		Repeat Step 8 and 9		
11		11 mc	11 mc	Ct 2
12		4 mc	4 mc	L 3
13		Repeat Step 11 and 12		

PART NO.	STOCK NO.	DESCRIPTION

TRANSISTORS

Tr 1	2SA60	Mixer
Tr 2	2SA202	1st IF Amplifier
Tr 3	2SA203	2nd IF Amplifier
Tr 4	2SB185	1st AF Amplifier
Tr 5	2SB186	2nd AF Amplifier
Tr 6	2SB187	Power Amplifier
Tr 7	2SB187	Power Amplifier

DIODES AND VARISTOR

D 1	IN60	Oscillation Voltage Limiter
D 2	IN60	Detector & AGC
D 3	IN60	AGC
Va	SV-30	Temperature Compensator

COILS

L 1,2,3	R-S8281a	Antenna Coil
L 4	R-W8041	Oscillator Coil-BC
L 5	R-W8042a	Oscillator Coil-SW

TRANSFORMERS

T 1	R-W5T038	1st IF Transformer
T 2	R-W5T054	2nd IF, Transformer
T 3	R-M1001	Det Module
IPT	R-W6137①	Input Transformer
OPT	R-W6128	Output Transformer

CONTROLS

SW1	R-S4155	Band Switch
SW2	R-S4039	Tone Switch
VC	R-C1051	Variable Capacitor
Ct 1	R-C0019	4-block Trimmer
Ct 2	R-C0019	4-block Trimmer
Ct 3	R-C0019	4-block Trimmer
Ct 4	R-C0019	4-block Trimmer
VR	R-R12470	Volume Control

PART NO.	STOCK NO.	DESCRIPTION

ELECTROLYTIC CAPACITORS

C 8		30uF ± 200-10% 3WV
C 16		30uF + 200-10% 3WV
C 17		30uF + 200-10% 6WV
C 18		30uF + 200-10% 6WV
C 19		30uF + 200-10% 6WV
C 21		30uF + 200-10% 6WV
C 22		120uF + 200-10% 10WV
C 25		100uF + 200-10% 6WV

FIXED RESISTORS

R T		27K ohms ± 5% ½W Mold
R 2		4.7K ohms ± 10% ½W Mold
R 3		1.5K ohms ± 10% ½W Mold
R 4		680 ohms ± 10% ½W Mold
R 5		82K ohms ± 10% ½W Mold
R 7		2.2K ohms ± 10% ½W Mold
R 8		33K ohms ± 10% ½W Mold
R 9		6.8K ohms ± 10% ½W Mold
R 10		6.8K ohms ± 10% ½W Mold
R 13		15K ohms ± 10% ½W Mold
R 14		3.9K ohms ± 10% ½W Mold
R 15		10 ohms ± 10% ½W Mold
R 16		1K ohms ± 10% ½W Mold
R 17		1K ohms ± 10% ½W Mold
R 18		33K ohms ± 10% ½W Mold
R 19		6.8K ohms ± 10% ½W Mold
R 20		390 ohms ± 10% ½W Mold
R 21		15K ohms ± 10% ½W Mold
R 22		100 ohms ± 10% ½W Mold
R 23		5.6K ohms ± 5% ½W Mold
R 24		130 ohms ± 5% ½W Mold
R 25		2.2 ohms ± 10% ½W Mold

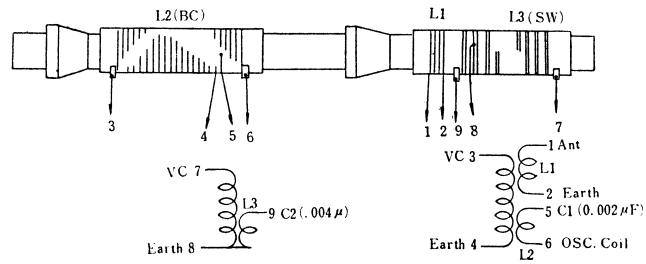
FIXED CAPACITORS

C 1		0.002μF + 30-20% 100WV Mylar
C 2		0.004μF + 30-20% 100WV Mylar
C 3		0.01 μF + 30-20% 100WV Mylar
C 4		460pF ± 3.5 % 250WV Titanium
C 5		3100pF ± 10 % 250WV Styrol
C 6		13 pF ± 10 % 25WV Ceramic
C 7		0.05 μF + 30-20% 100WV Mylar
C 10		0.05 μF + 30-20% 100WV Mylar
C 11		0.04 μF + 30-20% 100WV Mylar
C 13		8pF ± 10 % 25WV Ceramic
C 20		0.005μF + 80-20% 25WV Ceramic
C 23		0.004μF + 30-20% 100WV Mylar
C 24		0.05 μF + 30-20% 100WV Mylar

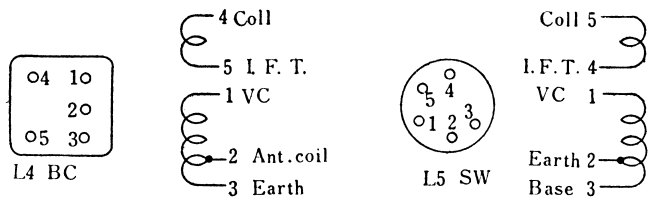
Main Parts Connection

7S-T49 MAIN PARTS TERMINAL I

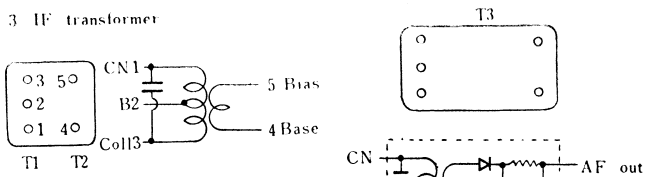
1 Antenna coil



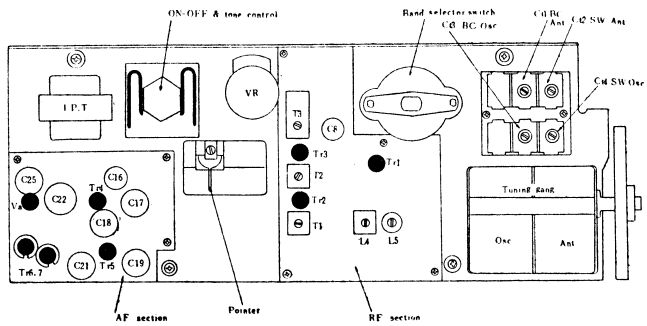
2. Oscillator coil



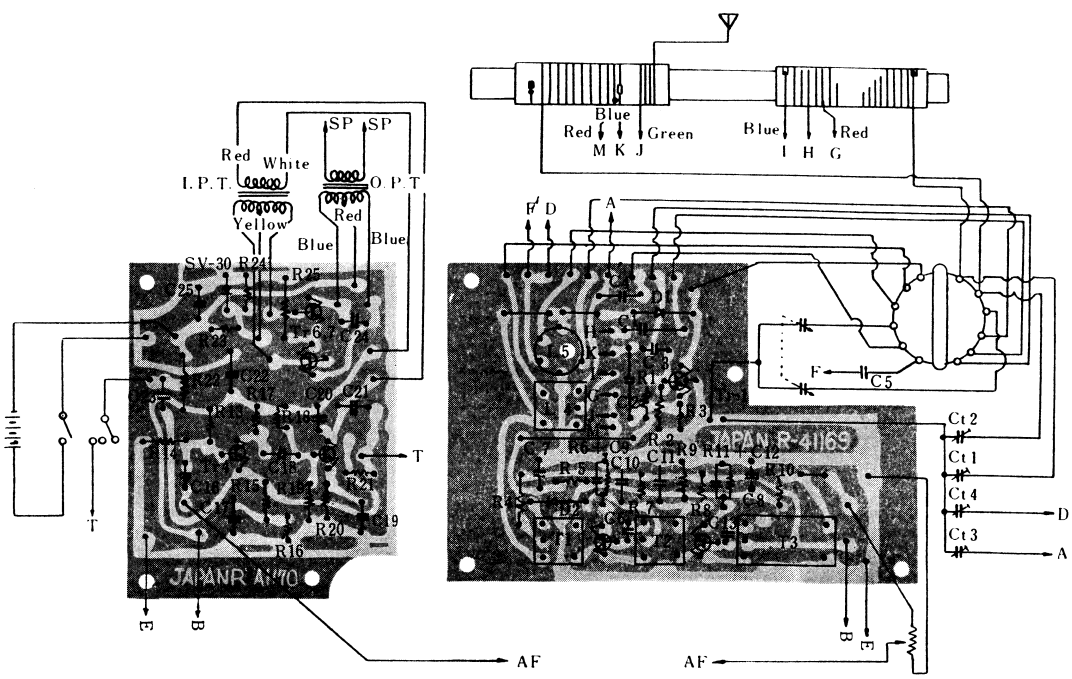
3 IF transformer

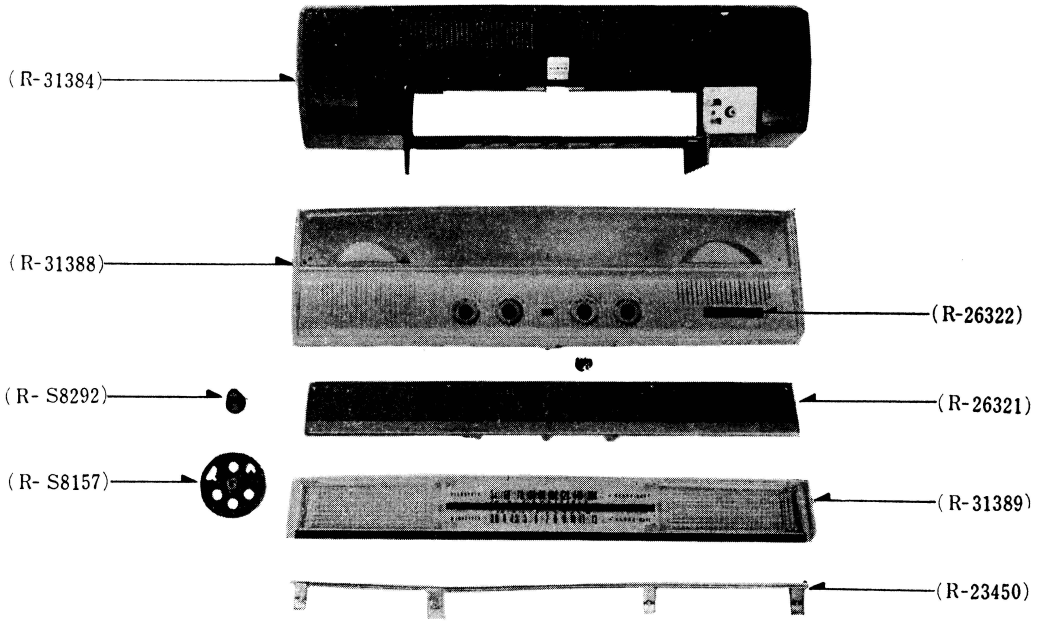


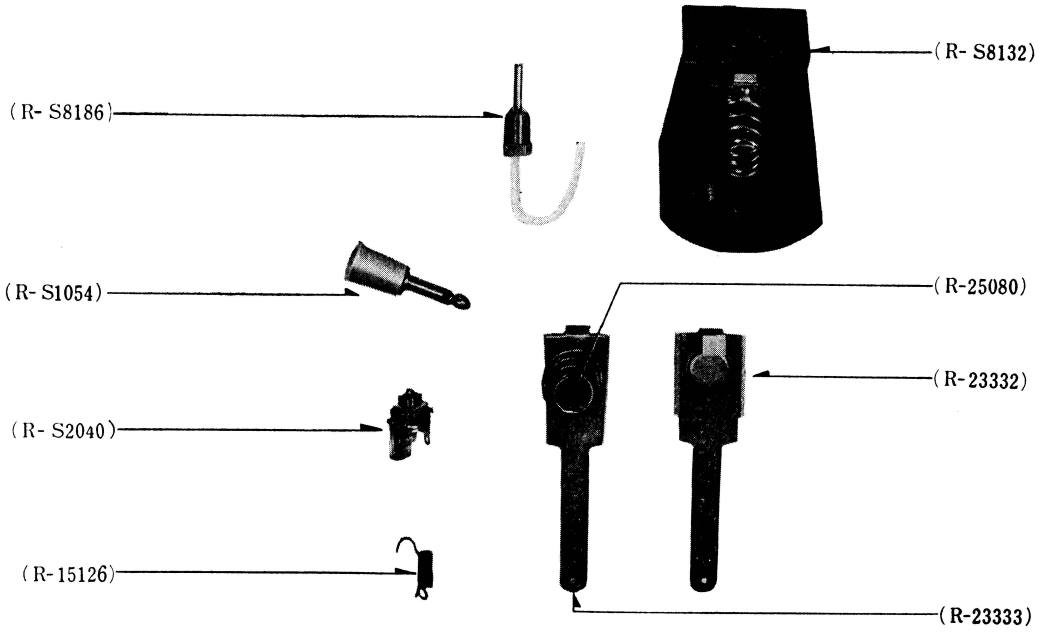
Main Parts Location



Model 7S-T49 Inter-Parts Connection




(R-31384)
(R-31388)
(R-26322)
(R- S8292)
(R-26321)
(R- S8157)
(R-31389)
(R-23450)


(R- S8132)
(R- S8186)
(R- S1054)
(R-25080)
(R-23332)
(R- S2040)
(R-15126)
(R-23333)