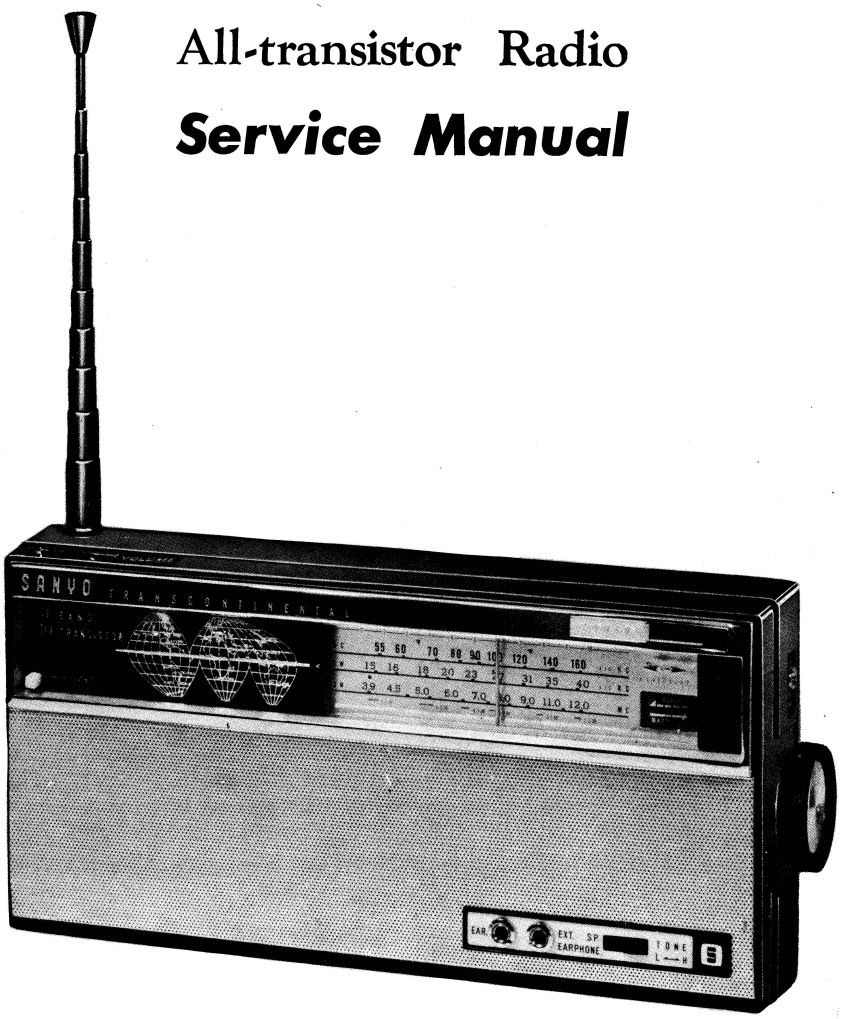
SANYO

MODEL
10L-P10

All-transistor Radio

Service Manual



SPECIFICATIONS

FREQUENCY RANGE

LW	150 kc/s – 400 kc/s
BC	535 kc/s – 1605 kc/s
SW	3. 9 mc/s – 12 mc/s

INTERMEDIATE FREQUENCY

470 kc/s

TRANSISTOR COMPLEMENT

(1)	2SA92	Local oscillator
(2)	2SA93	Mixer
(3)	2SA202	1st IF amplifier
(4)	2SA202	2nd IF amplifier
(5)	2SA203 or 2SA182	A. G. C.
(6)	2SB188	1st AF amplifier
(7)	2SB185	2nd AF amplifier
(8)	2SB187	3rd AF amplifier
(9)	2SB22×2	Power amplifier (B class pushpull output transformerless system)
(10)	IN 60	Diode ; Detector

OUTPUT POWER

Undistorted	300 mW
Maximum	450 mW

RADIATION SENSITIVITY

(Lower limit for 10 mW output)

LW	1000 μV/m
BC	200 μV/m
SW	180 μV/m

BATTERY

Type	6 V (4 C size standard flashlight batteries)

LOUDSPEAKER

Size and type	90 mm (3½″) permanent dynamic speaker

DIMENSIONS

Width	232 mm (9 inches)
Height	114 mm (4½ inches)
Depth	53 mm (2 inches)

WEIGHT

Approximately 990 grams (2.18 pounds) without batteries

SANYO ELECTRIC CO., LTD.

PART NO.	STOCK NO.	DESCRIPTION

LOUDSPEAKER

	R-S6163a	3½″ speaker

CABINET

	R-31365	Cabinet
	R-31366	Back
	R-32154	Dial cover
	R-28018a	Dial frame
	R-26277L	Front panel
	R-41151a	Speaker grill net
	R-26278	Volume control panel
	R-36055	Earphone jack & Tone switch panel
	R-26387L	Back panel
	R-39027a	Band selector knob
	R-26610	Disc metal for band selector knob
	R-33230	Volume control knob
	R-33226	Drums
	R-33182	Tuning control knob
	R-26388aL	Dial

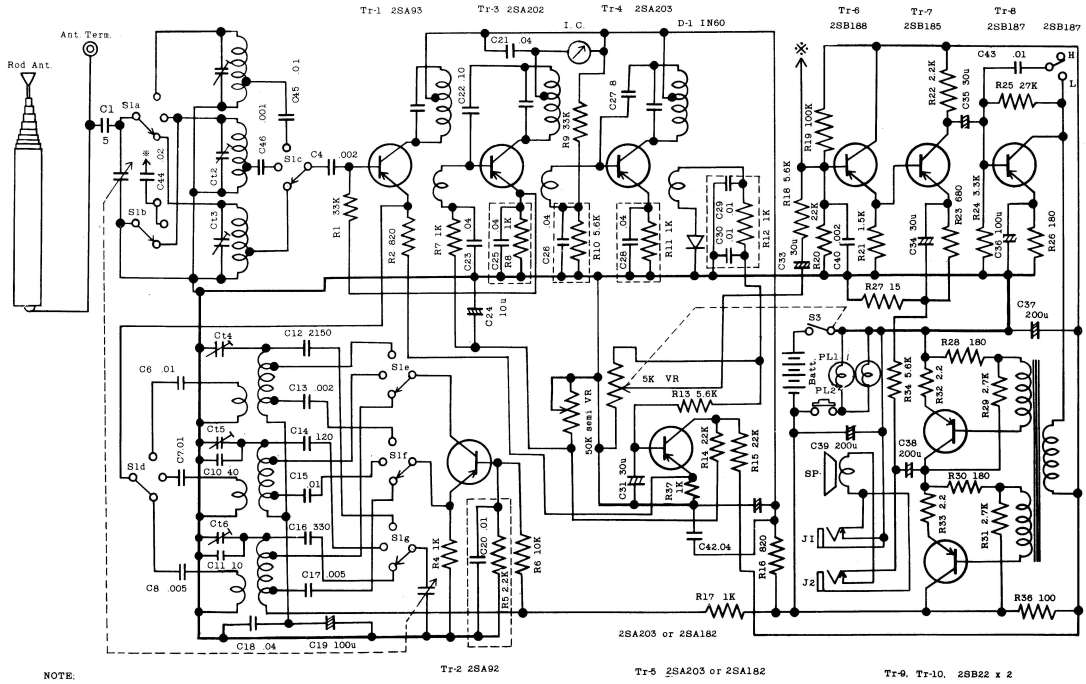
MISCELLANEOUS

	R-24031b	Screw to fix back cover to cabinet
	R-15041	Dial spring
	R-S8218a	Pointer
	R-23477a	Positive terminal
	R-S8220	Negative terminal
	R-S2040L	Earphone jack
	R-S6250	Earphone with plug
	R-S5503	Tuning indicator
	R-S1202	Pilot lamp
	R-S2025b	Antenna jack

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

Printed in Japan

Model 10L-P10 Circuit Diagram



NOTE:
K=1,000 All resistance values in "ohms"
All capacitance values less than 1.0 in "uF" and 1.0 and above in "uuF" except those indicated.

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 (Band switch in BC position)				
1	High side through 0.1 mf capacitor to antenna stator lug on tuning gang. Low side to chassis.	470 Kc	530 Kc	T 3 T 2 T 1
LONGWAVE RF ALIGNMENT				
2	Fashion loop of several turns of wire and radiate signal into loop antenna	405 Kc	right end	L 5
3		145 Kc	left end	Ct 5
4		Repeat Step 2 and 3.		
5		380 Kc	380 Kc	L 2
6		180 Kc	180 Kc	Ct 2
7		Repeat Step 5 and 6.		
BROADCAST RF ALIGNMENT				
8	Fashion loop of several turns of wire and radiate signal into loop antenna	530 Kc	left end	L 6
9		1,650 Kc	right end	Ct 6
10		Repeat Step 8 and 9.		
11		600 Kc	600 Kc	L 3
12		1,400 Kc	1,400 Kc	Ct 3
13		Repeat Step 11 and 12.		
SHORTWAVE RF ALIGNMENT				
14	Fashion loop of several turns of wire and radiate signal into loop antenna	3.8 mc	left end	L 4
15		12.5 mc	right end	Ct 4
16		Repeat Step 14 and 15.		
17		4.2 mc	4.2 mc	L 1
18		11.5 mc	11.5 mc	Ct 1
19		Repeat Step 17 and 18.		

PART NO.	STOCK NO.	DESCRIPTION

TRANSISTORS

Tr 1	2SA93	Mixer
Tr 2	2SA92	Local oscillator
Tr 3	2SA202	1st IF amplifier
Tr 4	2SA203	2nd IF amplifier
Tr 5	2SA203 or 2SA182	AGC
Tr 6	2SB188	1st AF amplifier
Tr 7	2SB185	2nd AF amplifier
Tr 8	2SB187	3rd AF amplifier
Tr 9	2SB22	Power amplifier
Tr 10	2SB22	Power amplifier

DIODE

D 1	IN-60	Detector

COILS

L1,2,3	R-W2106	Antenna coil
L 4	R-W8045	Oscillator coil SW
L 5	R-W8043	Oscillator coil LW
L 6	R-W8014	Oscillator coil BC

TRANSFORMERS

T 1	R-W5T008	1st IF transformer
T 2	R-W5T039	2nd IF transformer
T 3	R-W5T060	3rd IF transformer
	R-W6154	Input transformer

CONTROLS

S1a...g	R-S4247	Band selector
	R-C1029a	Variable capacitor
	R-C0013	2-block trimmer
VR S3	R-R11604a	Volume control
Semi VR	R-R11010	Semi-variable resistor
HL	R-S4192	Tone switch
	R-S4177a	Pilot light switch

ELECTROLYTIC CAPACITORS

C 19		100 μF	+200—10%	6V
C 24		10 μF	,,	3V
C 31		30 μF	,,	6V
C 32		100 μF	,,	6V
C 33		30 μF	,,	6V
C 34		30 μF	,,	3V
C 35		30 μF	,,	6V
C 36		100 μF	,,	6V
C 37		200 μF	,,	6V
C 38		200 μF	,,	6V
C 39		200 μF	,,	6V

FIXED CAPACITORS

C 1		5 pF	±0.5p	250V	Ceramic
C 3		15 pF	±10%	250V	,,
C 4		0.002 μF	+30—20%	100V	Mylar
C 6		0.005 μF	+30—20%	100V	,,
C 7		0.01 μF	+30—20%	100V	,,
C 8		0.005 μF	+30—20%	100V	,,
C 10		40 pF		250V	Ceramic
C 11		10 pF	±10%	250V	,,
C 12		2150 pF	±10%	125V	Styrol
C 13		0.002 μF	+30—20%	100V	Mylar
C 14		120 pF	±10%	1 KV	Styrol
C 16		300 pF	±10%	1 KV	Styrol
C 17		0.005 μF	+30—20%	100V	Mylar
C 18		0.04 μF	+80—20%	25V	Ceramic
C 21		0.04 μF	+80—20%	25V	,,
C 22		10 pF	±10%	250V	,,
C 23		0.04 μF	+80—20%	25V	,,
C 27		8 pF	±0.5 p	250V	,,
C 40		0.002 μF	+30—20%	100V	Mylar
C 42		0.04 μF	+80—20%	25V	Ceramic
C 43		0.01 μF	+30—20%	100V	Mylar
C 44		0.02 μF	+30—20%	100V	,,
C 45		0.003 μF	+30—20%	100V	,,
C 46		0.001 μF	+30—20%	100V	,,

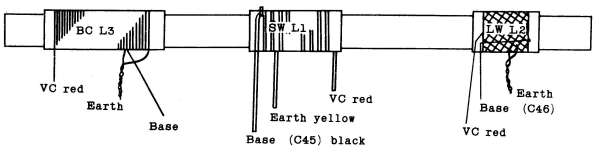
Later change
C 6→0.01 μF C27→10pF
C45→0.01 μF C22→13pF
C 3 disused
C37→200 μF

FIXED RESISTORS

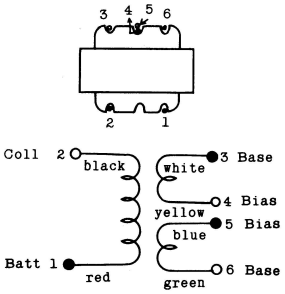
R 1		33 K ohms	±10%	½W	Mold
R 2		820 ,,	,,	,,	,,
R 4		1 K ,,	,,	,,	,,
R 6		10 K ,,	,,	,,	,,
R 7		1 K ,,	,,	,,	,,
R 9		33 K ,,	,,	,,	,,
R 13		5.6 K ,,	,,	,,	,,
R 14		22 K ,,	,,	,,	,,
R 15		22 K ,,	,,	,,	,,
R 16		820 ,,	,,	,,	,,
R 17		1 K ,,	,,	,,	,,
R 18		5.6 K ,,	,,	,,	,,
R 19		100K ,,	,,	,,	,,
R 20		22 K ,,	,,	,,	,,
R 21		1.5 K ,,	,,	,,	,,
R 22		2.2 K ,,	,,	,,	,,
R 23		680 ,,	,,	,,	,,
R 24		3.3 K ,,	,,	,,	,,
R 25		27 K ,,	,,	,,	,,
R 26		180 ,,	,,	,,	,,
R 27		15 ,,	,,	,,	,,
R 28		180 ,,	,,	,,	,,
R 29		2.7 K ,,	± 5%	,,	,,
R 30		180 ,,	±10%	,,	,,
R 31		2.7 K ,,	± 5%	,,	,,
R 32		2.2 ,,	±10%	,,	,,
R 33		2.2 ,,	,,	,,	,,
R 34		5.6 K ,,	,,	,,	,,
R 36		100 ,,	,,	,,	,,
R 37		1 K ,,	,,	,,	,,

Main Parts Connection

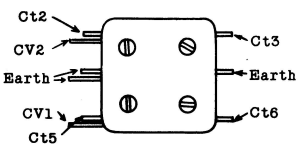
1. Antenna coil



4. Input transformer

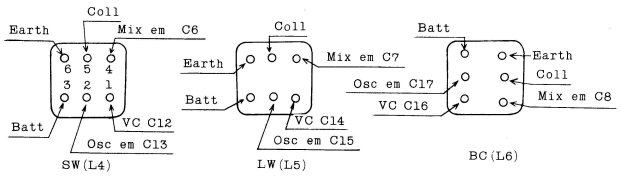


5. Tuning gang

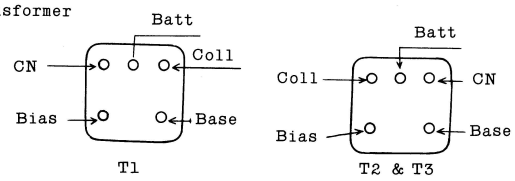


VC: tuning gang Coll: collector
Mix em: emitter of mixer
Osc em: emitter of oscillator
Batt: battery
CN: neutralizing capacitor

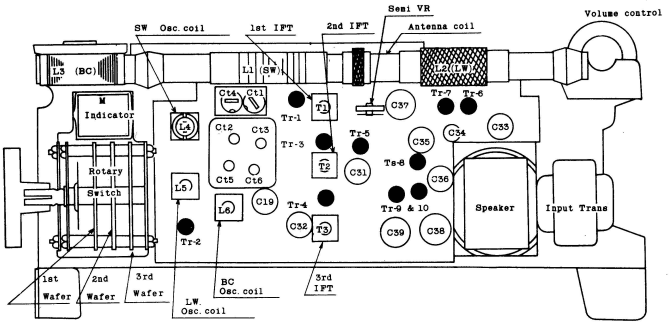
2. Local oscillator coil



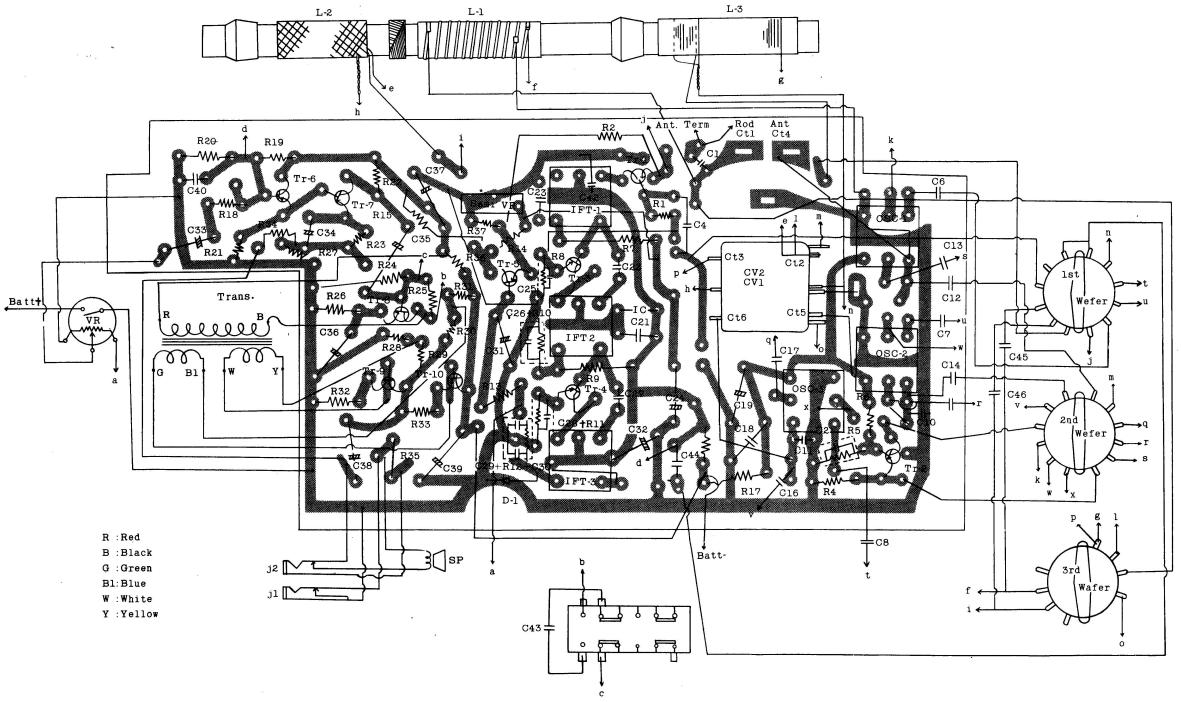
3. IF transformer



Main Parts Location



Model 10L-P10 Inter-Parts Connection



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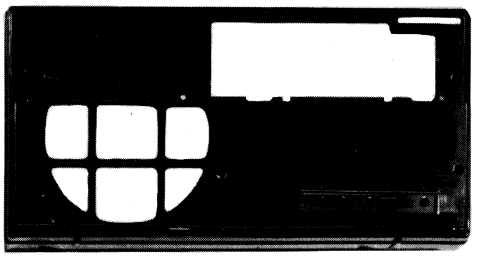

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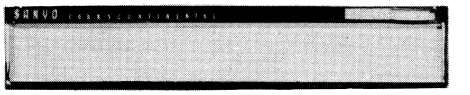

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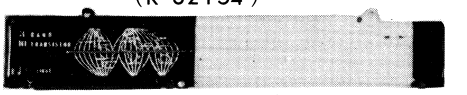
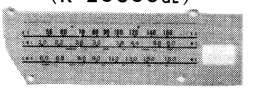


(R-31366)

(R-26388aL)



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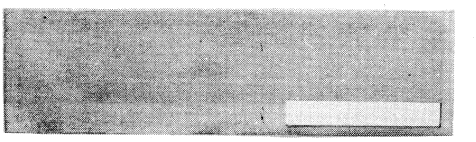

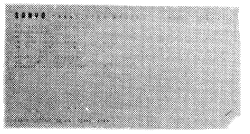

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