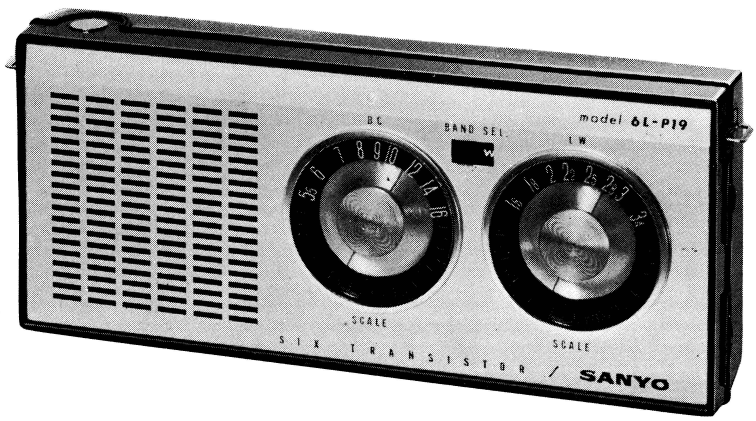
MODEL

6L-P19

SANYO

All-transistor Radio

Service Manual



SPECIFICATIONS

FREQUENCY RANGE

BC	540 - 1600 Kc/s
LW	150 - 350 Kc/s

INTERMEDIATE FREQUENCY

455 Kc/s

TRANSISTOR COMPLEMENT

2SA201	frequency converter
2SA202	1st IF amplifier
2SA203	2nd IF amplifier
2SB186	audio amplifier
2SB187 × 2	power amplifier (B class pushpull)

GERMANIUM DIODE & THERMISTOR

1N - 60	Diode ; detector & AGC
SDT - 20	Thermistor ; temperature compensator

OUTPUT POWER

Undistorted	170 mW
Maximum	270 mW

RADIATION SENSITIVITY

(Average for 10 mW output)

BC band	100 μV/m
LW band	160 μV/m

BATTERY

4.5 volts (3 penlight batteries)

current drain ;	no signal	10 mA
	maximum	105 mA

LOUDSPEAKER

2½ - inch permanent dynamic speaker

Voice coil impedance 7 ohms at 1,000 c/s

DIMENSIONS

7½″ wide × 3¼″ high × 1⅜″ thick

WEIGHT

Approximately 1 pound without batteries

SANYO ELECTRIC CO., LTD.

PART NO.	STOCK NO.	DESCRIPTION

CABINET

	R-31444	Cabinet
		Speaker grille net
	R-26584	Front panel
	R-32288	Dial disc BC
	R-32289	Dial disc SW
	R-26517	Disc metal for dial disc
	R-12091a	Strap hanging eye metal
	R-31476	Back cover
	R-24031b	Screw to fix back cover
	R-13004L	Lock washer for above screw
	R-41027	Cushion pasted to back cover
	R-23528	Disc cover for hole hiding

MISCELLANEOUS

	R-12094a	Speaker mtg. metal	
	R-S8490	Band select knob	Band selector
	R-25144	Contact metal	Band selector
	R-13051a	Pressure spring	Band selector
	R-15141	Pin-pressure spring mtg.	Band selector
	R-26518a	Pointer disc	

PART NO.	STOCK NO.	DESCRIPTION

MISCELLANEOUS (Continued)

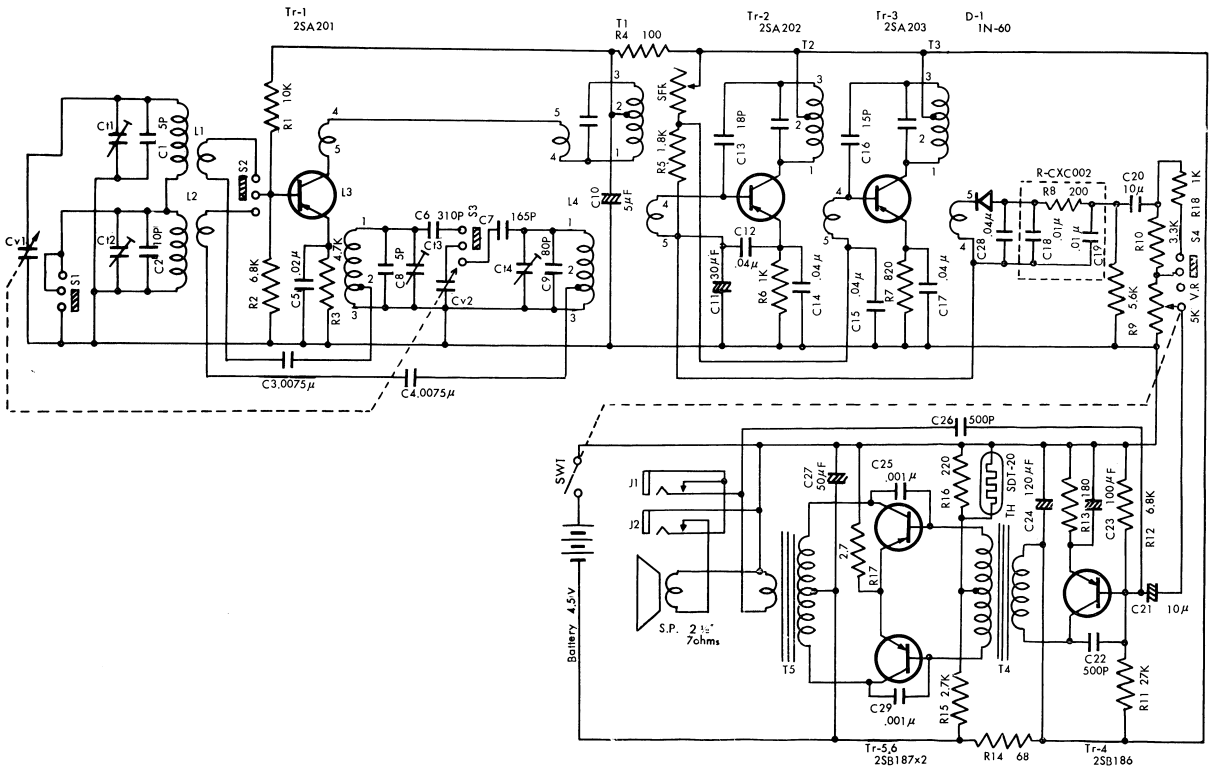
	R-39036	Drum
	R-24424	Shaft holding nut
	R-24425	Shaft for drum mtg.
	R-13027aL	C washer
	R-24427	Hex nut
	R-24426	Stud nut
	R-12082	Speed washer
	R-15142	Tension spring
	R-24232	Guide shaft
	R-24421	Tuning control shaft
	R-33312	Tuning control knob
	R-33315	Volume control knob
	R-35189	Battery holder
	R-47303	Battery instruction sheet
	R-35147	Ferrite core end holder
	R-23566a	(+) terminal
	R-25143L	(−) terminal (taper coil)
	R-S2081	Dual earphone jack
	R-S6199	Earphone
	R-48096	Leather case
	R-39042	Shoulder strap
	R-39044	Earphone case
		Operating instruction sheet

CHANGE Earphone R-S6199 — R-S6210

SPECIFICATION SUBJECTS TO CHANGE WITHOUT NOTICE.

Printed in Japan

CIRCUIT DIAGRAM



ALIGNMENT PROCEDURES

Apply volt-meter across the voice coil. Volume control should be at maximum position. Output of signal generator should be not 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	Positive side through 0.1 μF capacitor to antenna stator lug on tuning gang. Nagative side to ground.	450 kc	lower end	IF transformer T 3 T 2 T 1
LONGWAVE RF ALIGNMENT				
2	Make loop of several turns of wire and feed signal into it.	145 kc	lower end	LW osc. coil L4
3		365 kc	upper end	LW osc. trim. Ct4
4		Repeat steps 2 and 3.		
5		160 kc	160 kc	LW ant. coil L2
6		340 kc	340 kc	LW ant. trim. Ct2
7		Repeat steps 5 and 6.		
BROADCAST RF ALIGNMENT				
8	Make loop of several turns of wire and feed signal into it.	520 kc	lower end	BC osc coil L3
9		1680 kc	upper end	BC osc. trim. Ct3
10		Repeat steps 8 and 9.		
11		600 kc	600 kc	BC ant. coil L1
12		1400 kc	1400 kc	BC ant. trim. Ct1
13		Repeat steps 11 and 12.		
LONGWAVE RF REALIGNMENT				
14	Make loop of several turns of wire and feed signal into it.	340 kc	340 kc	LW ant. trim. Ct2

PART NO.	STOCK NO.	DESCRIPTION

TRANSISTORS

Tr 1	2SA201	Frequency converter
Tr 2	2SA202	1st IF amplifier
Tr 3	2SA203	2nd IF amplifier
Tr 4	2SB186	Audio amplifier
Tr 5	2SB187	Power amplifier
Tr 6	2SB187	Power amplifier

DIODE AND THERMISTOR

D 1	1N60	Detector & AGC
T H	SDT20	Temperature compensator

COILS

L1 L2	R-S8489	Antenna coil with holder & terminal lug strips
L 3	R-W8075	BC oscillator coil JFTO 1954F red
L 4	R-W8076	SW oscillator coil JFTO 1898F green

TRANSFORMERS

T 1	R-W5T038	1st IF transformer C-6038F yellow
T 2	R-W5T054	2nd IF transformer FMC 6029F white
T 3	R-W5T060	3rd IF transformer FMC 6156R black
T 4	R-W6183	Input transformer 2K : 1K ohms
T 5	R-W6165	Output transformer 150 : 7 ohms

CONTROLS

V R	R-R11622a	Volume control with switch 5K ohms
CV 1, 2	R-C1074	Tuning capacitor
Ct1~4	R-C0026	4-block trimmer
S F R	R-R11007	Semi-fixed resistor 100K ohms

LOUDSPEAKER

S P	R-S6135	2½″ permanent dynamic 7 ohms 0.3W

RESISTOR/CAPACITOR PACKED

R 8	R-CXC002	(200 ohms ± 20%)
+C18		+ (0.01 μF + 80-20%)
+C19		+ (0.01 μF + 80-20%)

PART NO.	DESCRIPTION

FIXED CAPACITORS

C 1	5 pF	±0.5 pF	25WV	Ceramic	
C 2	10 〃	±10%	50WV	〃	
C 3	0.0075 μF	+30–20%	〃	Mylar	Square
C 4	0.0075 〃	〃 〃	〃	〃	〃
C 5	0.02 〃	〃 〃	〃	〃	〃
C 6	310 pF	±10%	125WV	Styrol	Tubular
C 7	165 〃	〃	〃	〃	〃
C 8	5 〃	±0.5 pF	25WV	Ceramic	
C 9	80 〃	±10%	〃	〃	Disc
C 12	0.04 μF	+80–20%	〃	〃	Square
C 13	18 pF	±10%	〃	〃	
C 14	0.04 μF	+80–20%	〃	〃	Square
C 15	0.04 〃	〃 〃	〃	〃	〃
C 16	15 pF	±10%	〃	〃	
C 17	0.04 μF	+80–20%	〃	〃	Square
C 22	500 pF	+30–20%	50WV	Mylar	Tubular
C 25	0.001 μF	〃 〃	〃	〃	Square
C 26	500 pF	〃 〃	〃	〃	Tubular
C 28	0.04 μF	〃 〃	〃	〃	Square
C 29	0.001 〃	〃 〃	〃	〃	〃

ELECTROLYTIC CAPACITORS

C 10	5 μF	+200–10%	6WV	Vertical	type
C 11	30 〃	〃 〃	3WV	〃	〃
C 20	10 〃	〃 〃	〃	〃	〃
C 21	10 〃	〃 〃	〃	〃	〃
C 23	100 〃	〃 〃	〃	〃	〃
C 24	120 〃	〃 〃	6WV	〃	〃
C 27	50 〃	〃 〃	9WV	〃	〃

FIXED RESISTORS

R 1	10K ohms	±10%	¼W
R 2	6.8K 〃	〃	〃
R 3	4.7K 〃	〃	〃
R 4	100 〃	〃	〃
R 5	1.8K 〃	± 5%	〃
R 6	1K 〃	±10%	〃
R 7	820 〃	〃	〃
R 9	5.6K 〃	〃	〃
R 10	3.3K 〃	〃	〃
R 11	27K 〃	〃	〃
R 12	6.8K 〃	〃	〃
R 13	180 〃	〃	〃
R 14	68 〃	〃	〃
R 15	2.7K 〃	〃	〃
R 16	220 〃	〃	〃
R 17	2.7 〃	〃	〃
R 18	1K 〃	〃	〃

ADJUSTMENT OF SEMI-FIXED RESISTOR

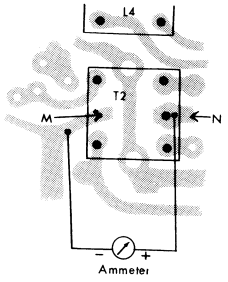
Set the value of semi-fixed resistor (SFR) at maximum and make a receiver tune in no signal (station) area of the lowest frequency.

Apply 4.5 volts to the receiver as power source.

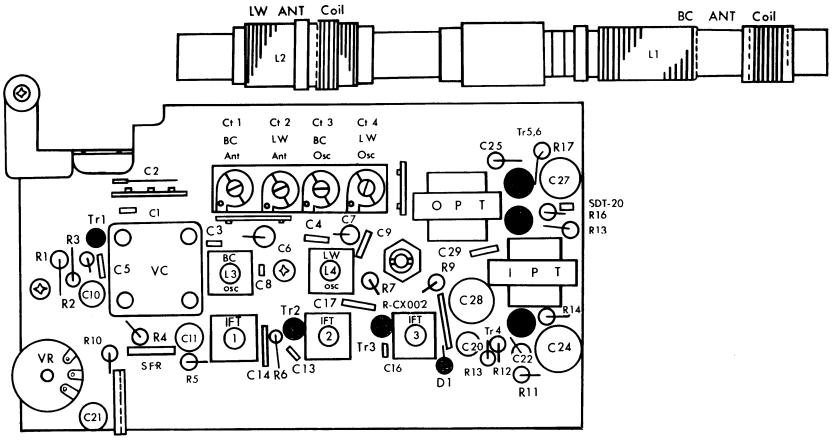
Connect an ammeter (range : 1 mA) between two points M and N as illustrated.

Adjust the value of SFR in order to obtain 410～440 micro-ampere meter deflection.

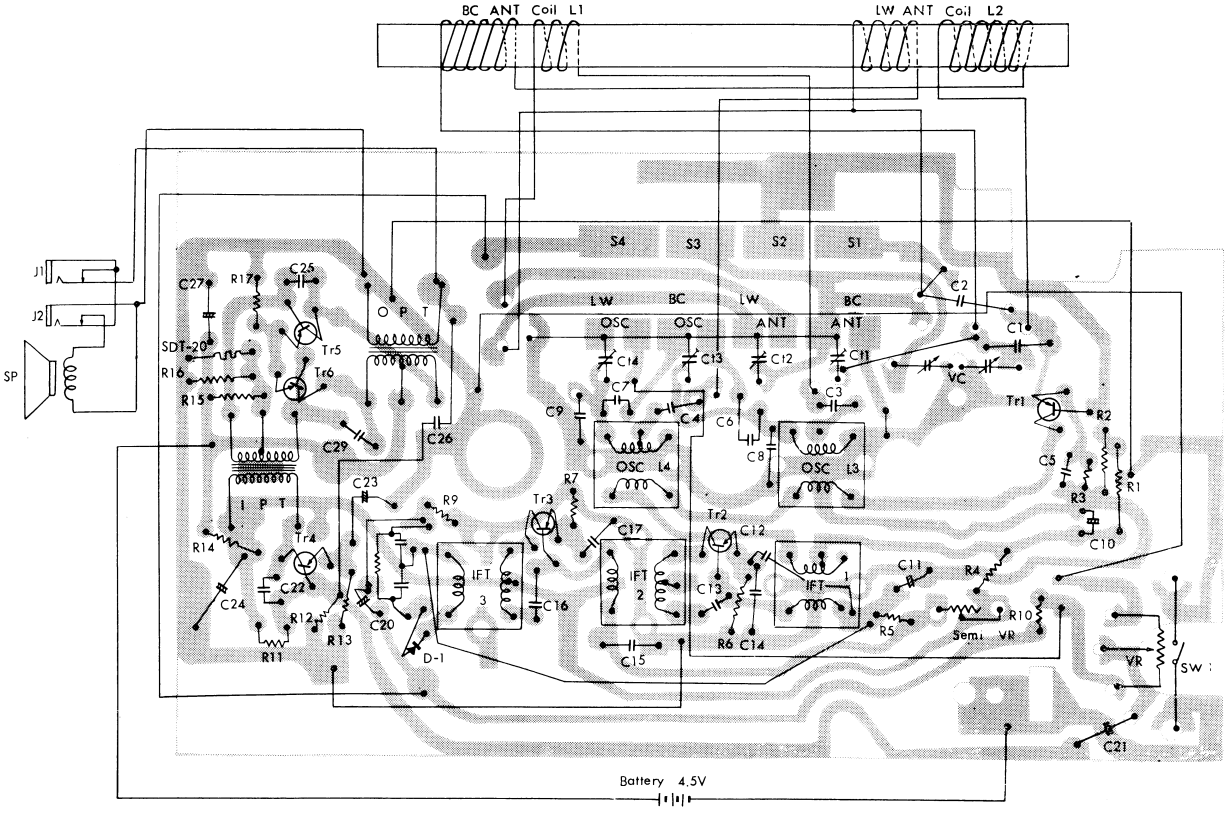
Short-circuit the two points by soldering after adjustment.



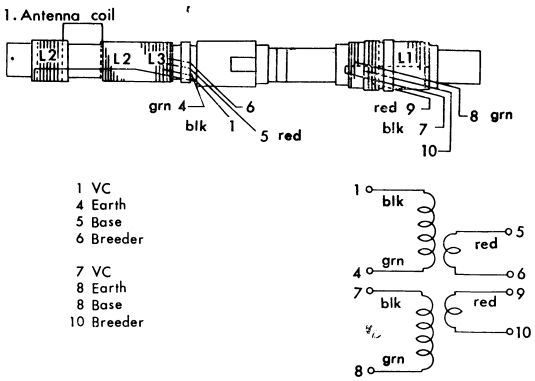
MAIN PARTS LOCATION

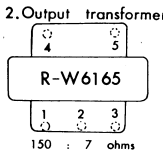


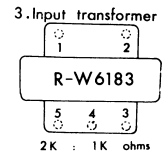
INTER PARTS WIRING ILLUSTRATION

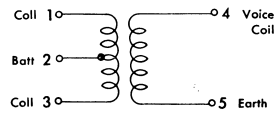


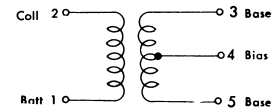
MAIN PARTS TERMINAL IDENTIFICATION











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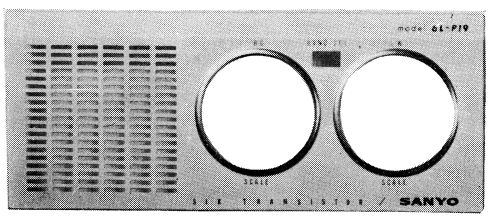

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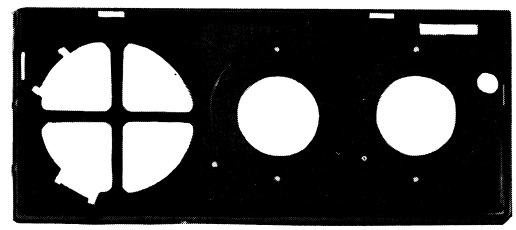

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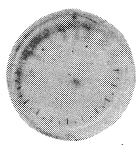

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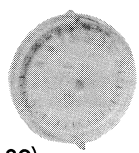

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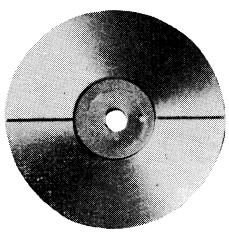

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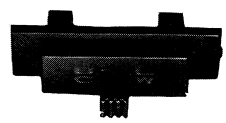

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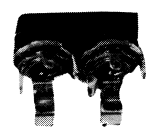

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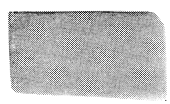

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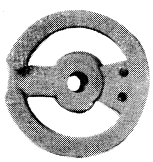

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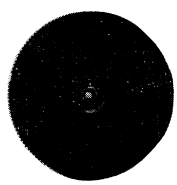

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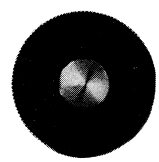

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