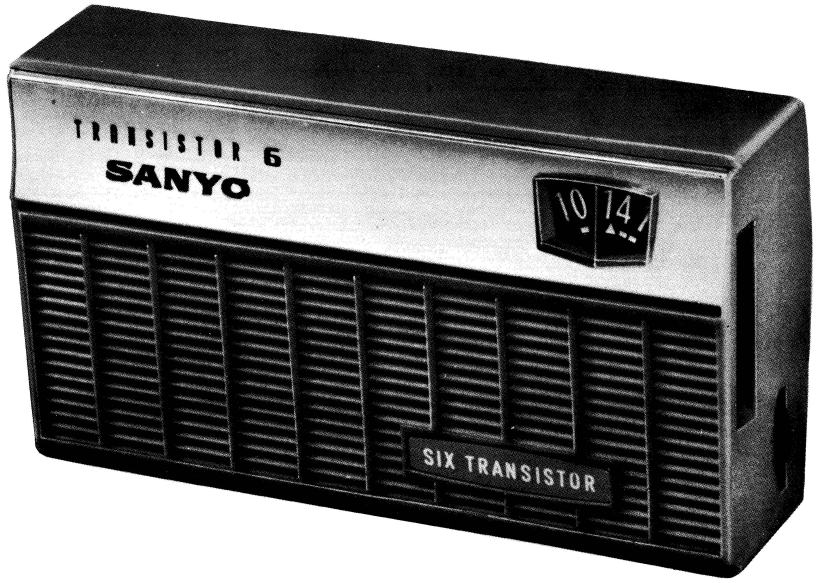
SANYO

MODEL
6C-19

All-transistor Radio

Service Manual



SPECIFICATIONS

TUNING RANGE
Standard Broadcast band 540 - 1600 Kc/s

INTERMEDIATE FREQUENCY
455 Kc/s

TRANSISTOR COMPONENT

(1)	2SA203 (2SA182)	Frequency Converter
(2)	2SA202 (2SA180)	1st IF Amplifier
(3)	2SA197 (2SA198)	2nd IF Amplifier
(4)	2SB185	Audio Amplifier
(5)	2SB187×2	Power Amplifier

GERMANIUM DIODE & THERMISTOR

(1)	1N60	Diode; Detector & AVC
(2)	SDT-20	Thermistor; Temperature Compensator

POWER OUTPUT

Undistorted	130 mW
Maximum	200 mW

RADIATION SENSITIVITY
1000 μV/m (Lower limit for 10mW output)

BATTERY
4.5 volts: 3 penlight batteries

Current drain	No signal	12 mA
	Maximum	85 mA

LOUDSPEAKER
2½″ permanent dynamic speaker
Voice coil impedance 7 ohms
Provision is made for connection of a low impedance earphone if desired

DIMENSIONS

Width	5½″
Height	3″
Depth	1½″

WEIGHT
Approximately 10 ozs (excluding battery)

SANYO ELECTRIC CO., LTD.

PART NO.	STOCK NO.	DESCRIPTION

CABINET

	R-48077	Leather case
	R-31433	Cabinet—front enclosure
	R-26485	Metal panel
	R-32243	Dial window cover
	R-26591	Badge "SIX TRANSISTOR"
	R-	Speaker grille net $2\frac{1}{8}'' \times 1\frac{3}{8}''$
	R-31434	Back cover—back enclosure
	R-24142a	Screw to fix back cover
	R-13027aL	Lock washer for above screw
	R-	Molt plane for battery cushion
	R-35179	Ferrite core holder
	R-32244	Tuning control knob
	R-32245	Volume control knob

MISCELLANEOUS

J 1	R-S2107	Earphone jack
	R-25137aL	Battery terminal—conical spring ⊖
	R-23550a	Battery terminal ⊕
	R-23551a	Battery terminal ⊕ & ⊖
	R-S6199	Earphone

Printed in Japan

PART NO.	STOCK NO.	DESCRIPTION

TRANSISTORS

Tr 1	2SA203 or 2SA182	Frequency Converter
Tr 2	2SA202 or 2SA180	1st IF Amplifier
Tr 3	2SA197 or 2SA198	2nd IF Amplifier
Tr 4	2SB185	Audio Amplifier
Tr 5	2SB187	Power Amplifier
Tr 6	2SB187	Power Amplifier

DIODE & THERMISTOR

D 1	1N 60	Detector
Th	SDT 20	Temperature compensator

COILS

L 1	R-W2117b	Antenna coil
L 2	R-W8059	Oscillator coil

TRANSFORMERS

T 1	R-W5T008	1st IF transformer
T 2	R-W5T009	2nd IF transformer
T 3	R-W5T043	3rd IF transformer
T 4	R-W6152	Input transformer
T 5	R-W6163	Output transformer

CONTROLS

	R-C1071	* Tuning variable capacitor
	R-C1066	* ,,
R 17	R-R11621b	Volume control
R 15	R-R11007	Semi-fixed value resistance (100K ohms)

* Either of the two is used. Difference between the two depends on their mounting methods.
R-C1071 mounted by screws
R-C1066 mounted by plastic melting
Electric characteristics of them are the same.

Volu
co

LOUDSPEAKER

	R-S6169	Speaker

PART NO.	STOCK NO.	DESCRIPTION

FIXED CAPACITORS

C 1		Titacon	3 pF	±0.5 pF
C 2		Mylar	0.004 μF 100WV	+30—20% MX-type
C 3		Mylar	0.01 μF 100WV	+30—20% MFL-type
C 5		Electrol.	30 μF 3 WV	V-type
C 6		Titacon	0.04 μF 25 WV	+80—20% RD-517 type
C 7		Titacon	16 pF 25 WV	±10%
C 8		Titacon	0.04 μF 25 WV	+80—20% RD-517 type
C 9		Titacon	0.04 μF 25 WV	+80—20% RD-517 type
C10		Mylar	0.02 μF 25 WV	+80—20% RD-517 type
*C11		Titacon	13 pF 25 WV	±10%
* ,,		Titacon	16 pF 25 WV	±10%
C12		Electrol.	5 μF 6 WV	V-type
C13		Electrol.	5 μF 6 WV	V-type
C14		Mylar	0.02 μF 100WV	+30—20% MFL-type
C15		Electrol.	30 μF 3 WV	V-type
C16		Electrol.	120 μF 6 WV	V-type
C17		Titacon	0.04 μF 25 WV	+80—20% RD-517 type
C18		Electrol.	50 μF 9 WV	V-type
C21		Mylar	0.01 μF 100WV	+30—20% MFL-type

* NOTE Either of the two is used depending on the transistor (Tr 2).

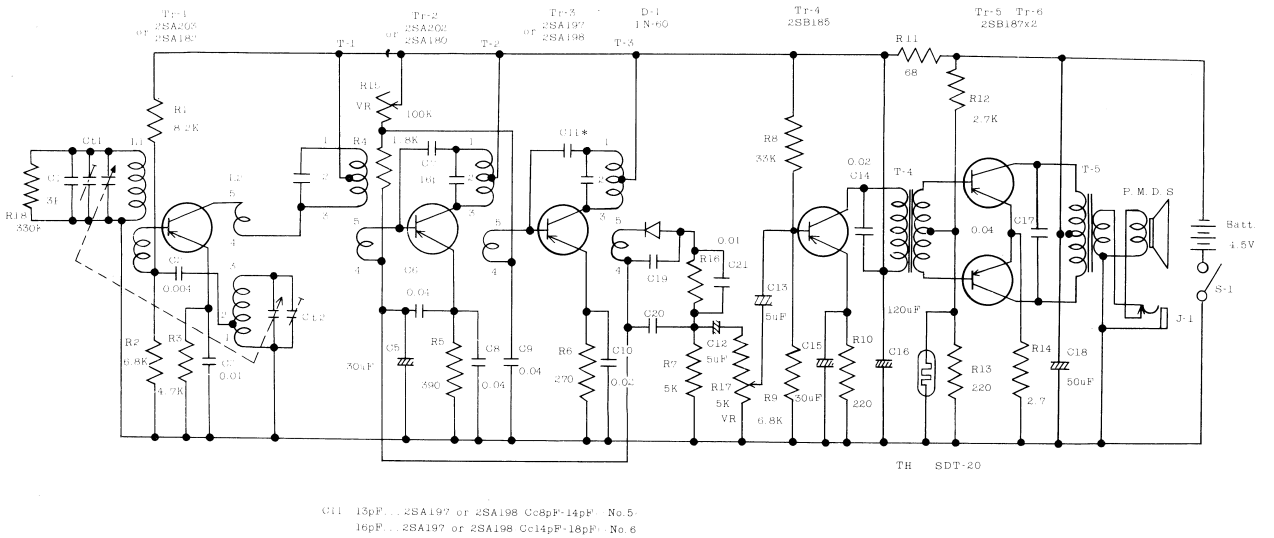
FIXED RESISTORS

R 1			8.2K ohms	±10% 1/4W
R 2			6.8K ,,	,, ,,
R 3			4.7K ,,	,, ,,
R 4		Carbon	1.8K ,,	± 5% ,,
R 5			390 ,,	±10% ,,
R 6			270 ,,	,, ,,
R 7			5 K ,,	,, ,,
R 8			33 K ,,	,, ,,
R 9			6.8K ,,	,, ,,
R 10			220 ,,	,, ,,
R 11			68 ,,	,, ,,
R 12		Carbon	2.7K ,,	,, ,,
R 13			220 ,,	,, ,,
R 14		Carbon	2.7 ,,	,, ,,
R 18			330K ,,	,, ,,

* Mold or carbon film is optionally used unless specified.

RESISTOR/CAPACITOR PACKED

R 16 +C19 +C20	R-CXC 002	(200 ohms ±20%) +(0.01 μF +80—20%) +(0.01 μF +80—20%)



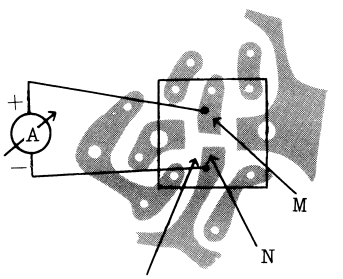
ALIGNMENT PROCEDURES

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 AVC 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.	450 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 loop antenna for signal radiation.	520 Kc	lower end	Osc. coil L2
3		1,680 Kc	upper end	Osc. trimmer Ct2
4		Repeat steps 2 and 3.		
5		600 Kc	600 Kc	Ant. coil L1
6		1,400 Kc	1,400 Kc	Ant. trimmer Ct1
7		Repeat steps 5 and 6.		

ADJUSTMENT OF SEMI-FIXED RESISTANCE (R15)

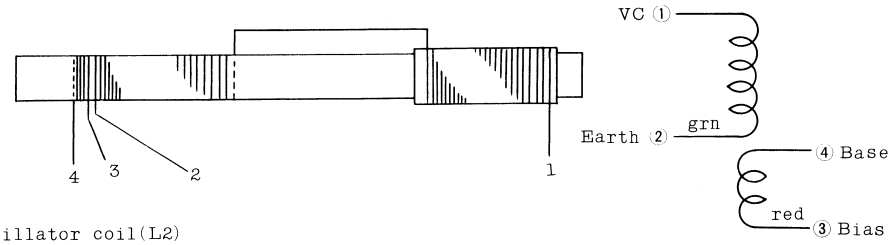
Set the value of R15 at maximum and make a receiver tune in no signal (station).
Apply 4.5 volts to the receiver as power source.
Connect an ammeter (range: lmA) between two points M and N as illustrated.
Adjust the value of R15 in order to obtain such a meter reading as 480~510 μA.
Short-circuit the two points by soldering after adjustment.



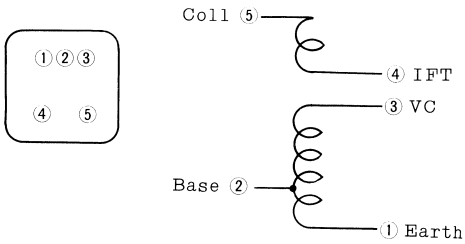
T2(2nd IFT)

Main Parts Connection

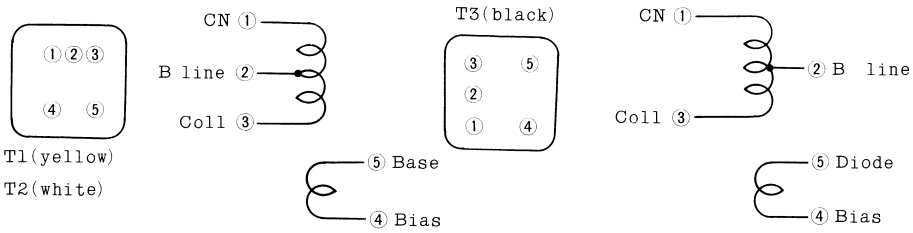
1. Antenna coil(L1)



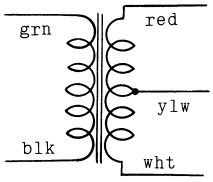
2. Oscillator coil(L2)



3. IF transformer

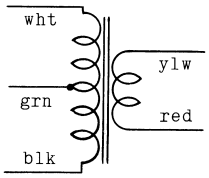


4. Input transformer



3k : 2k ohms

5. Output transformer

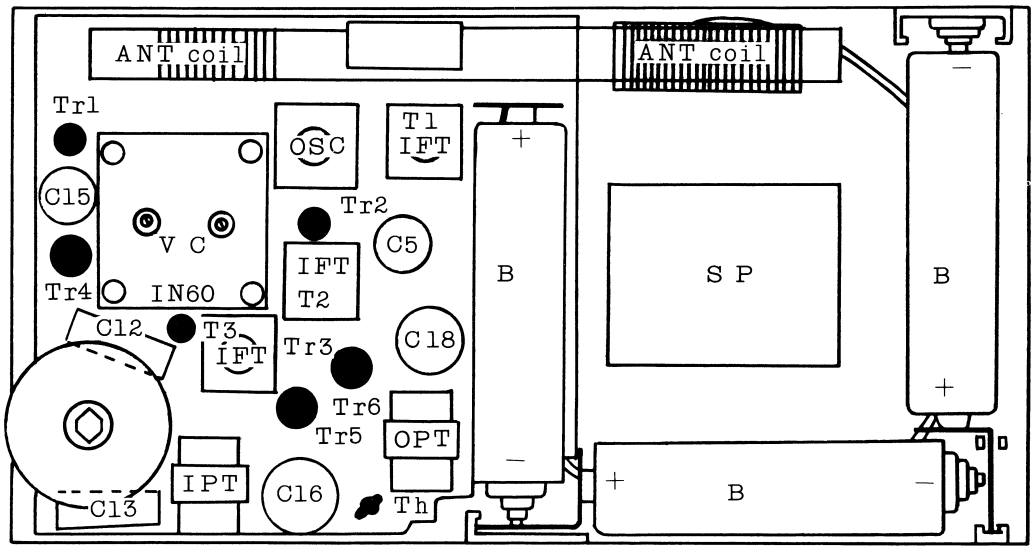


150 : 7 ohms

CN: neutralizing capacitor

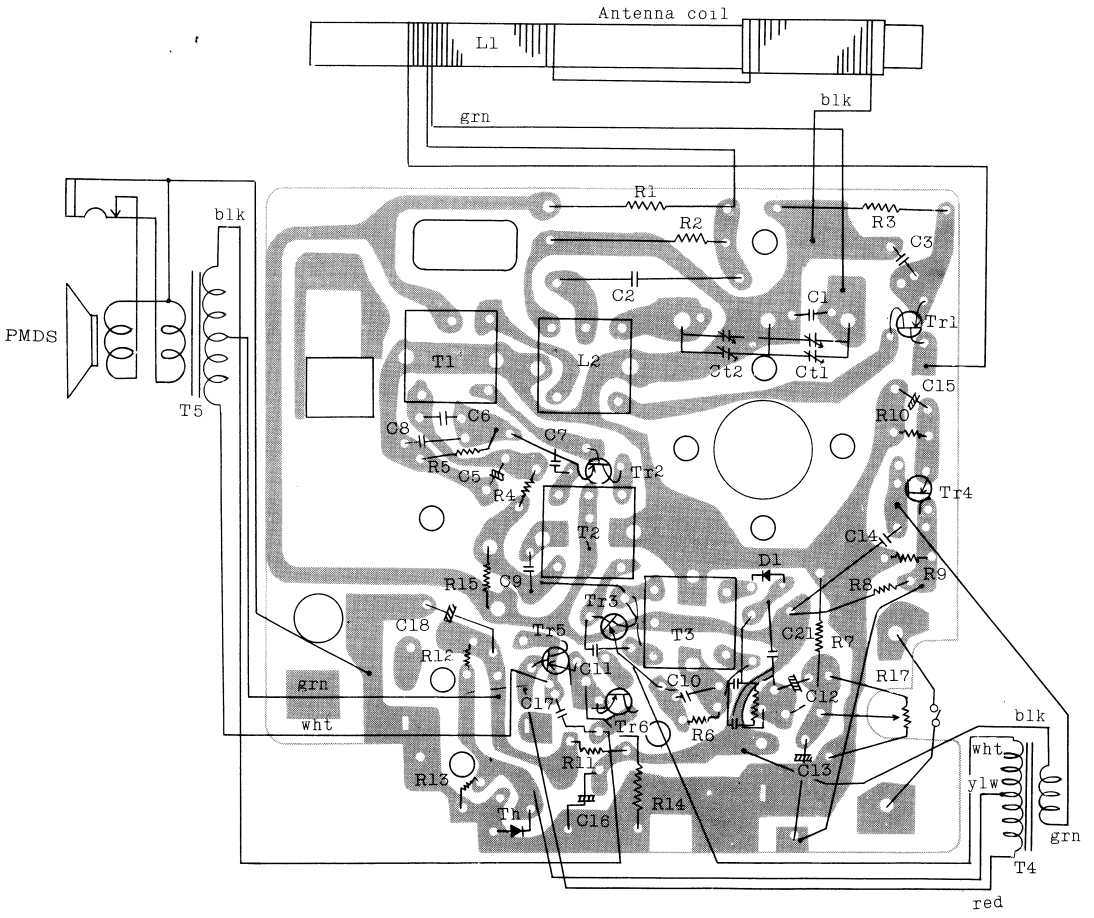
VC: (Tuning) variable capacitor

Main Parts Location



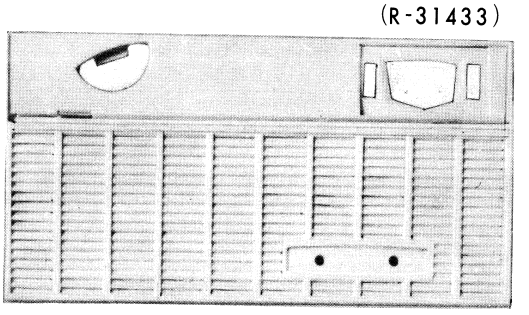
Volume control

Model 6C-19 Inter-Parts Connection



(R-26485)

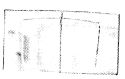
(R-31433)



(R-32244)

(R-32245)

(R-32243)



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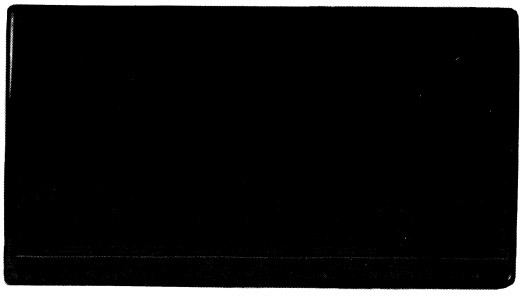
(R-31434)



(R-23551a)

(R-25137aL)

(R-23550a)