SERVICE HINTS

1. How to remove the printed circuit board
   1) Remove the battery cover and take the battery out so that the back cover can be removed.
   2) Pull the two knobs in front to remove then.
   3) Remove the five screws shown in the Fig. 4, and pull the printed circuit board keeping its back portion lifted a little.

2. How to loop dial cord
   1) Cut the dial cord to 25".
   2) Turn the variable condenser to its maximum capacity (lowest frequency).
   3) Tie the dial cord to one end of the spring, and loop the dial cord according to the arrows shown in the Fig. 5 (Wind the cord around the tuning shaft four times; and the once and half through the notched section of dial pulley).
   4) Adjust the dial pointer to the adjusting mark of the chassis and fix the pointer to the dial cord.

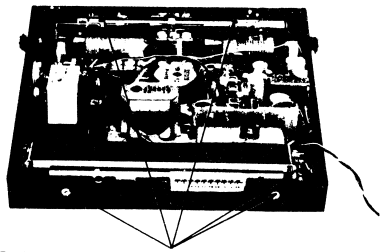

Fig. 4

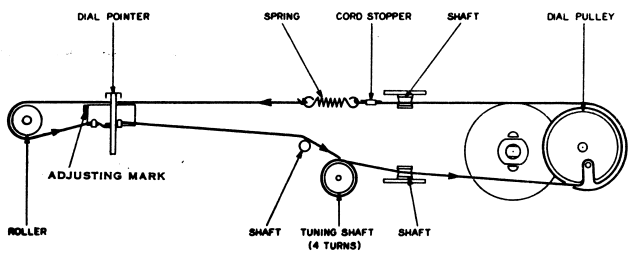

Fig. 5

ALIGNMENT PROCEDURE

Alignment as portable radio

1. Use battery having specified voltage. Voltage, when the switch is turned on (with no signal), must not be less than 5.5V.
2. Turn the volume control knob fully clockwise.
3. Connect the output of the signal generator (modulated by 400c/s 30%) to a loop antenna (4" in diameter looped 2 or 3 rounds) and couple the loop antenna to the ferrite-core antenna.
4. Connect the vacuum tube voltmeter (with AC 3V or less scale) to each end of the voice coil of the speaker.
5. Make the following adjustments to gain maximum on voltmeter.
6. During alignment, be sure to adjust the output of the signal generator so that the reading on voltmeter may drop to adjustable minimum, as it rises according to adjustment.

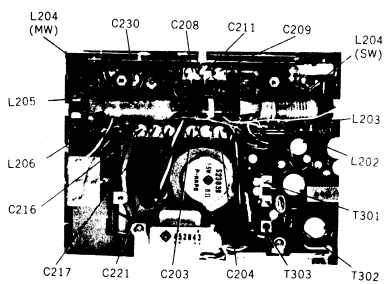

Fig. 6

Step	Set Band Selector to	Sig. Gen. Output	Dial Pointer Setting	Adjust for Max. Output
1	MW	455kc	Quiet point at the highest frequency	T301, T302, T303
2		Repeat step 1 for few times		
3	MW	515kc	Quiet point at the lowest frequency	L205
4		1,650kc	Quiet point at the highest frequency	C221
5		600kc	600kc signal	L204 (MW)
6		1,400kc	1,400kc signal	C211
7		Repeat steps 3, 4, 5 and 6 for few times		
8	SW 1	3.1Mc	Quiet point at the lowest frequency	L206
9		7.7Mc	Quiet point at the highest frequency	C217
10		3.6Mc	3.6Mc signal	L204 (SW)
11		7.0Mc	7.0Mc signal	C209
12		Repeat steps 8, 9, 10 and 11 for few times		
13	SW 2	7.4Mc	Quiet point at the lowest frequency	C230
14		12.5Mc	Quiet point at the highest frequency	C216
15		11Mc	11Mc signal	C208
16		Repeat steps 13, 14, and 15 for few times		

Alignment as car radio

Operate the receiver as car radio, connect the output of a signal generator to such a dummy antenna as Fig.7, and connect the dummy antenna to the telescopic antenna jack for car radio.

Connect AC prove of vacuum tube voltmeter to speaker cord of mounting case. Make adjustments of the following table.

Align the radio after removing it from the mounting case and confirm the alignment after proving it to the case.

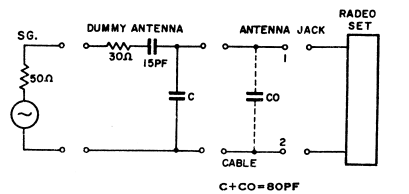

Fig. 7

Step	Set Band Selector to	Sig. Gen. Output	Dial Pointer Setting	Adjust for Max. Output
1	MW	600kc	600kc signal	L202
2	SW 1	3.6Mc	3.6Mc signal	L203
3		7.0Mc	7.0Mc signal	C204
4	SW 2	9.5Mc	9.5Mc signal	C203

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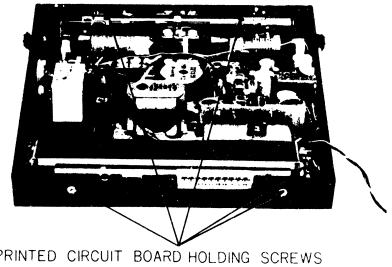

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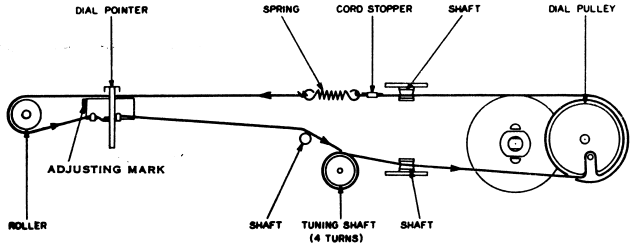

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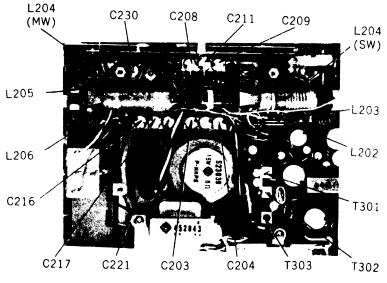

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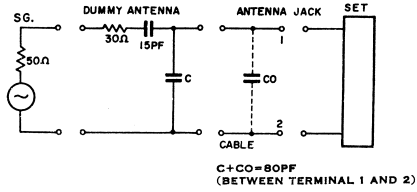

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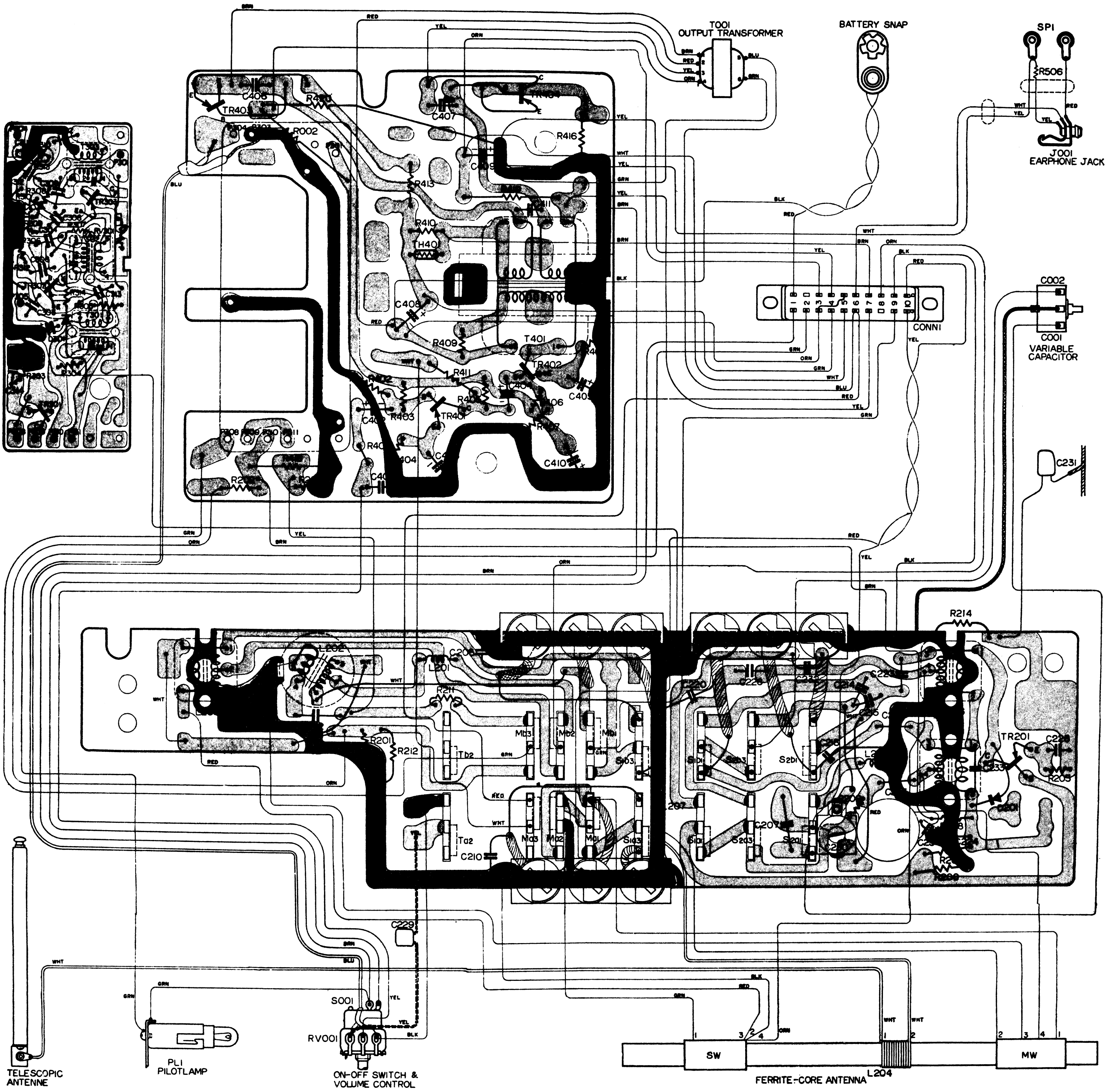
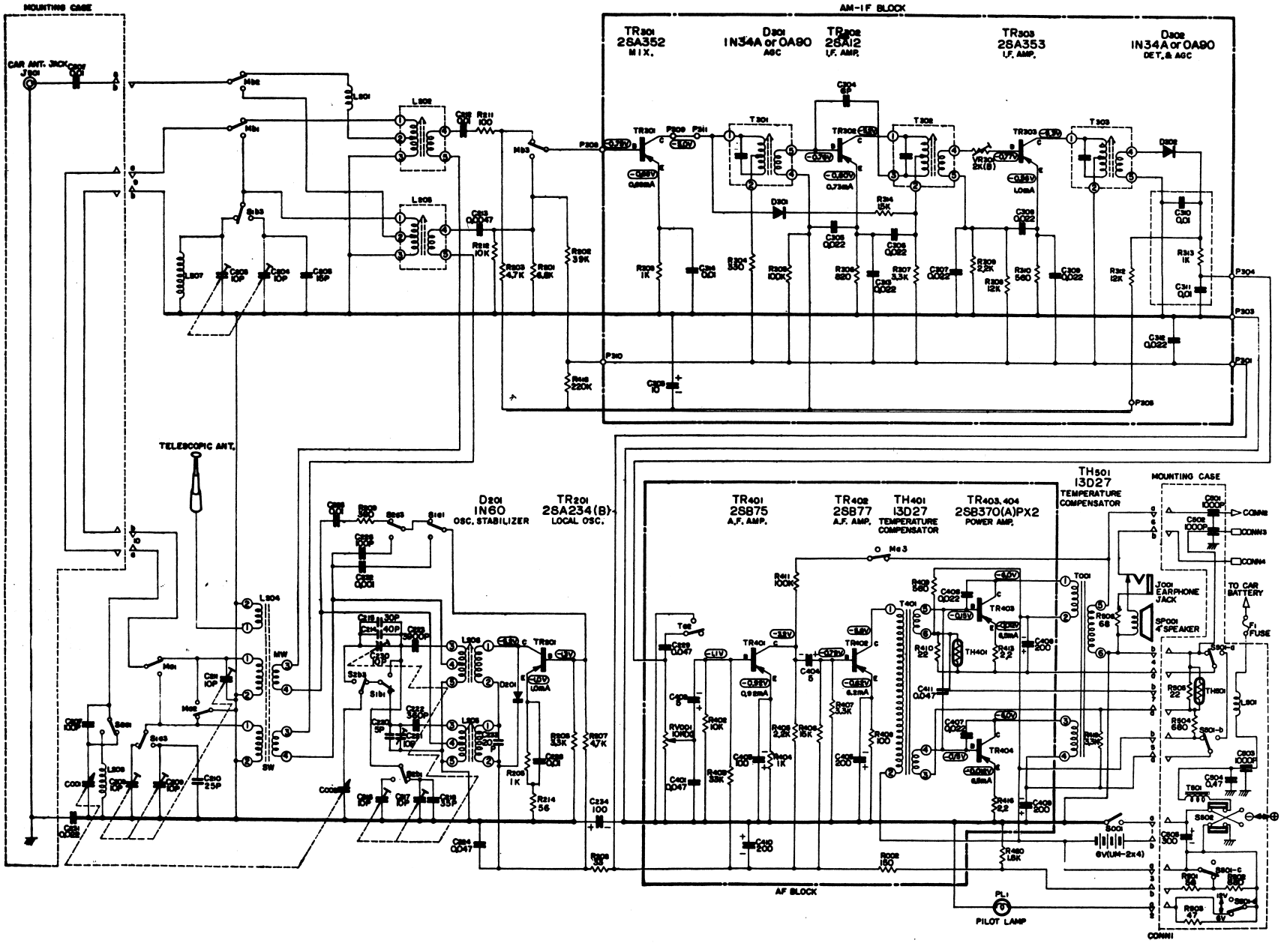
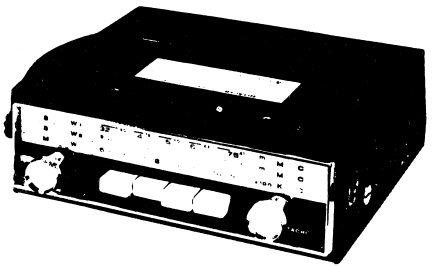
H54 Hitachi WM-800S




MOUNTING CASE
AM-I.F BLOCK
TR301 2SA352 MIX.
D301 IN34A or OA90 AGC
TR302 2SA12 I.F. AMP.
TR303 2SA353 I.F. AMP.
D302 IN34A or OA90 DET. & AGC
CAR ANT. JACK J501
TELESCOPIC ANT.
D201 IN60 OSC. STABILIZER
TR201 2SA234(B) LOCAL OSC.
TR401 2SB75 A.F. AMP.
TR402 2SB77 A.F. AMP.
TH401 I3D27 TEMPERATURE COMPENSATOR
TR403,404 2SB370(A)PX2 POWER AMP.
TH501 I3D27 TEMPERATURE COMPENSATOR
J001 EARPHONE JACK
SP001 4" SPEAKER
TO CAR BATTERY
F1 1A FUSE
6V(UM-2x4)
PL1 PILOT LAMP
AF BLOCK
CONN1
CONN2
CONN3
CONN4



HITACHI
Hitachi, Ltd. Tokyo Japan

8-TRANSISTOR CAR RADIO

MODEL WM-800S

SERVICE MANUAL

SPECIFICATIONS

CIRCUIT SYSTEM .....8-transistor superheterodyne
TUNING RANGE.....MW 530~1,605kc
SW1 3.2~7.5Mc
SW2 7.5~12Mc
INTERMEDIATE
FREQUENCY 455kc
TRANSISTOR COMPONENT
2SA234 .....Local Oscillator
2SA352 .....Frequency Mixer
2SA12.....I.F. Amp.
2SA353 .....I.F. Amp.
2SB75.....A.F. Amp.
2SB77.....A.F. Amp.
2SB370×2.....Class-B Push-pull Power Amp.
GERMANIUM DIODE
1N34A .....AGC
1N34A .....Det. & AGC
1N60 .....Oscillator Stabilizer
THERMISTOR
13D27×2 .....Temperature Compensator

POWER OUTPUT .....(P) 1.5W (Maximum)
(C) 2W (Maximum)
LOUDSPEAKER .....4" P.M
ANTENNA .....Built-in ferrite-core antenna & telescopic antenna (for portable)
POWER SOURCE.....(P) 6V (JIS UM-2 or STANDARD "C" cell or PERTRIX 235 or equivalent
(C) 12V/6V, ⊖/⊕ earth
CURRENT
CONSUMPTION .....(P) 30mA
(C) 50mA (In case of 6V)
35mA (In case of 12V)
DIMENSIONS.....(P) 7½" × 2⅜" × 6¾" (192 × 61 × 71㎜)
(C) 7¾" × 2⅛" × 8" (197 × 72 × 202㎜)
ACCESSORIES .....Mounting brackets for radio unit

Note: (P) means portable radio.
(C) means car radio.

DESCRIPTION

1. Universal type
WM-800S which is a universal type car radio designed to be used also as a portable radio can be easily installed on any car having the battery voltage of 6V or 12V, (+) grounded or (−) grounded type, because this radio is equipped with a voltage change-over switch and a grounding polarity change-over switch.
Beside,owing to the external speaker terminal, you can use another speaker instead of the speaker of this radio.
2. High sensitivity
Owing to HITACHI mesa type transistor and drift type transistors, WM-800S assures you of a noisefree high sensitivity even in narrow and deep valleys or between tall buildings.
3. Large audio output
By the adoption of the two high performance transistors, 2SB370 (used in the push-pull audio output circuit), undistorted and large audio output can be obtained with little power consumption. In addition, audio output is not reduced with the voltage change-over switch changed to 6V.
4. Dial illumination
When you use this radio as a car radio, a red indication lamp will illuminate the dial scale with the On-off switch turned on.
In the day time, by the help of this indication lamp, you can see whether the radio is operating or not.