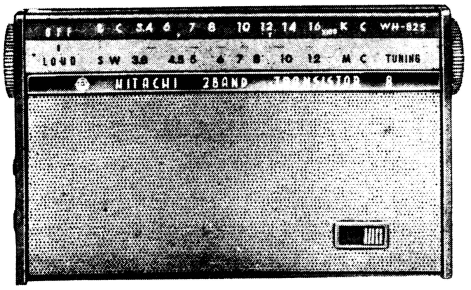


MODEL WH-825R

8 TRANSISTOR RADIO

SERVICE MANUAL

Hitachi, Ltd.

DESCRIPTION

This new pocket radio model WH-825 is a product of the world famous Hitachi engineering.

Hence the highest quality of reception in suitable sensitivity, tone and reliability is assured. Separate converter system using two Hitachi drift transistors and double tuning system with two stage I-F amplifier assure the highest selectivity, and new detector circuit using transistors assures higher sensitivity and better performance of AGC than in the case of using germanium. A powerful dynamic speaker and three stage A-F amplifier produce rich volume and undistorted tone. For short wave reception, the eight stage telescopic antenna which is found in the bottom compartment of the leather carrying case should be attached to the radio. Combination type ferrite antenna built in this receiver has been specially developed by Hitachi's advanced radionic technique for efficiently catching even weak signals.

Housed in a shock proof cabinet, they come in three colors of black, coral and beige.

The radio is covered with a hard leather carrying case and packed in a beautiful box. A personal earphone isprovided for private listening.

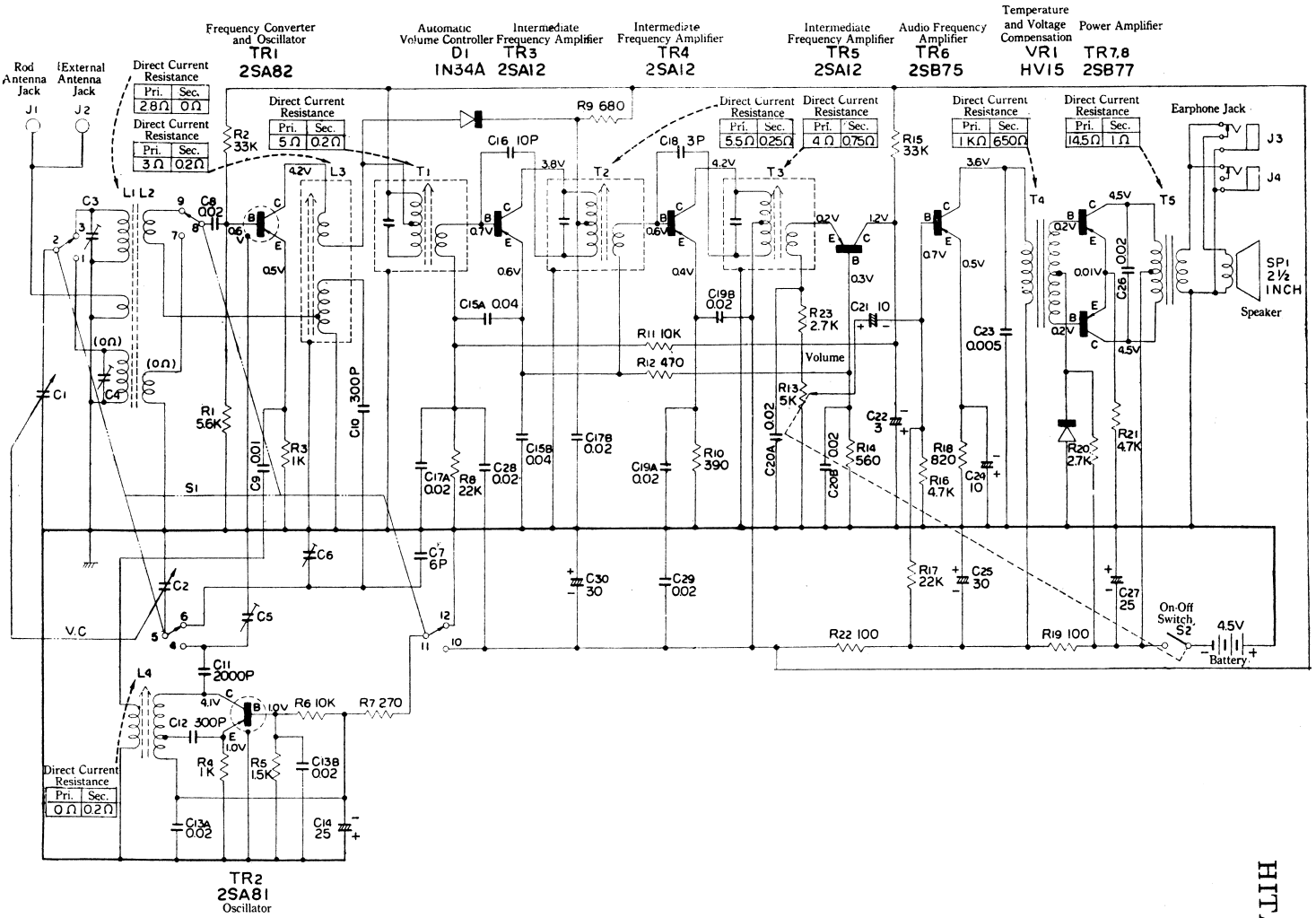
FEATURE

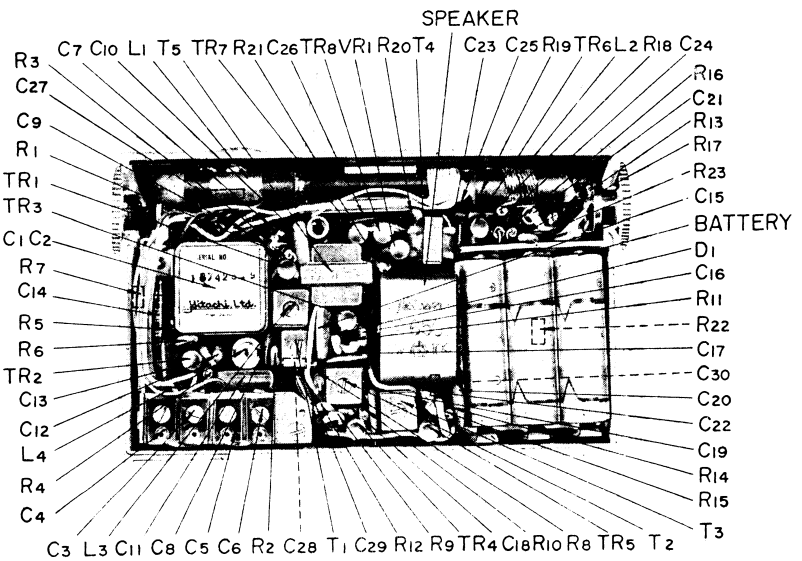
1. Use of the high efficiency Hitachi transistor with almost endless life assures that this radio will be operating at optimum reception for many years.
2. The all-printed circuit and the new "dip-soldering" method adopted for parts attachment eliminate all risks of failure and assure almost endless life for this radio.
3. The high quality speaker with a wide sound range and powerful two-stage A-F amplifier circuit reproduces undistorted tone, rich in volume.
4. Uniformly excellent reception is assured by the temperature and voltage compensating varistor even under wide variation of ambient temperature and battery voltage.
5. The case is of shock-proof molded plastic and comes in two attractive colors which will not discolor even after years of use.

SPECIFICATIONS

Circuit system	8-transistor superheterodyne
Tuning range	535~1,605 kc. 3.8~12 Mc
Intermediate frequency	455 kc
Transistor components	2SA82 Frequency converter 2SA81 Oscillator 2SA12×2 Intermediate frequency amplifier 2SA12 Detector and automatic gain controller 2SB75 Audio frequency amplifier 2SB77×2 Push-pull audio frequency power amplifier
Germanium	1N34A Automatic volume controller
Varistor	HV15 Temperature and voltage compensation
Output	120mW (Undistorted), 170 mW (Maximum)
Power source	4.5 V Battery Eveready 1015 N. E. D. A. 1604 Ray-O-Vac 1604 Burgess 2V6 G. E. 88 EUC. 006 P
Earphone	EL-213 type magnetic earphone
Speaker	2½″ P. M. speaker
Dimensions	6½″ W×3⅜″ H×1⅜″D
Weight	3.7 lbs. (including batteries)

CIRCUIT DIAGRAM





HITACHI WH-825R

ALIGNMENT PROCEDURE

Adjustments

(1) Check the battery voltage before making adjustments. Replace the battey with a new one, if the voltage is insufficient.

(2) Set the volume control at maximum.

(3) Apply 400 % or 1,000 % modulation on the test oscillator and connect its output to the telescopic antenna through 10 pF capacitor. Also, connect the oscillator ground with the printed circuit earth wiring.

(4) Set a vacuum tube voltmeter or a circuit tester at the AC 3V range and connect it to the earphone jack. Adjust the points listed in the tables below so that the meter gives maximum indication. Since the output voltage will rise as the adjustments are made, turn down the oscillator output so that the voltmeter indication will not exceed 0.5 V. Adjust the IF and RF circuits in the order given in the tables below.

Adjustment of intermediate frequency (IF) circuits
(Preparation: Set band switch at EC and tuning gang fully open)

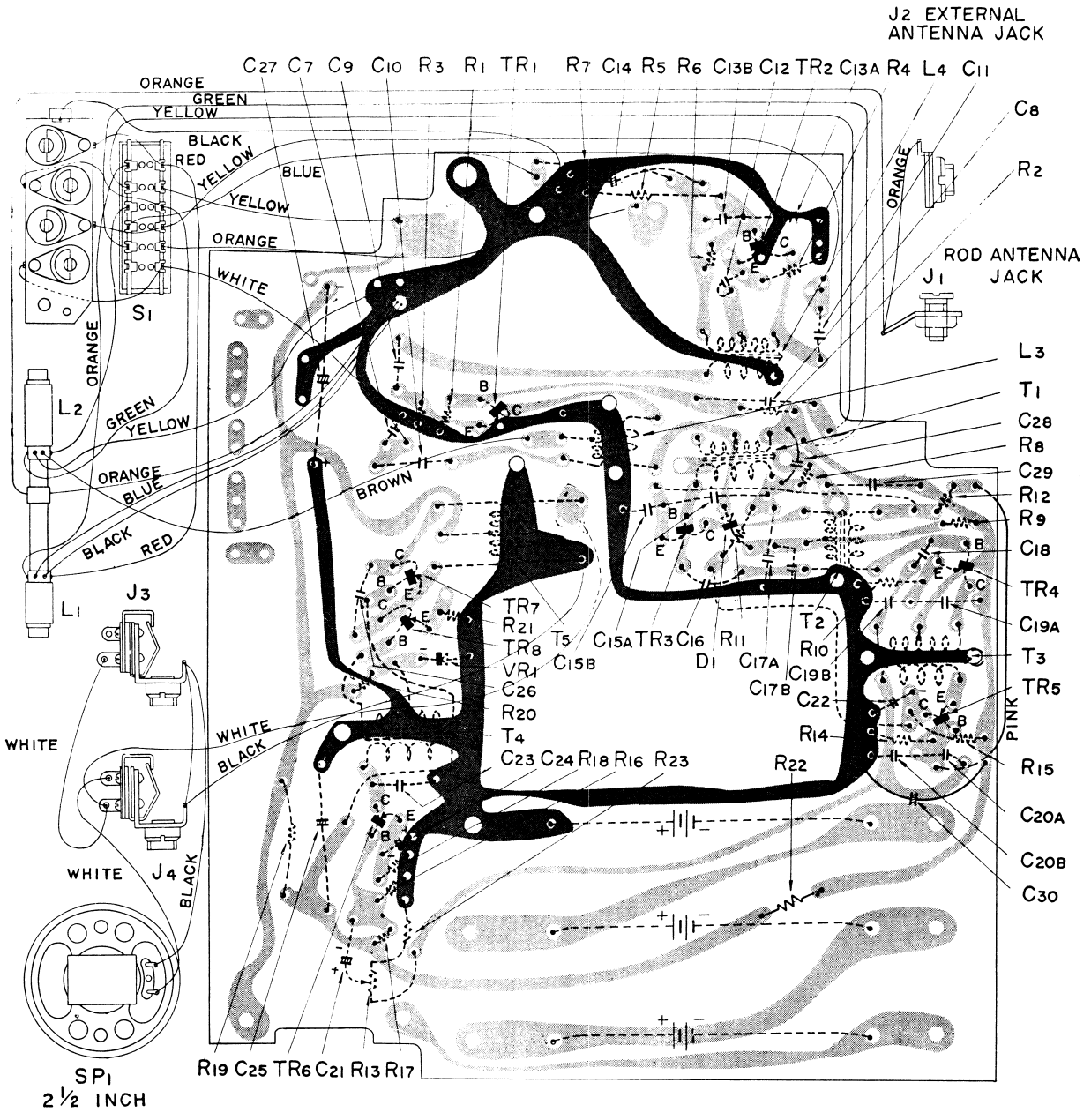
Order of adjustment	Dial pointer setting	Oscillator frequency	Adjustment point
1	Gang fully open	455 kc	T_3
2	"	"	T_2
3	"	"	T_1
4	Gang fully open	455 kc	Repeat 1~3

Adjustment of high frequency (BC) circuits
(Preparation: Set band switch at BC)

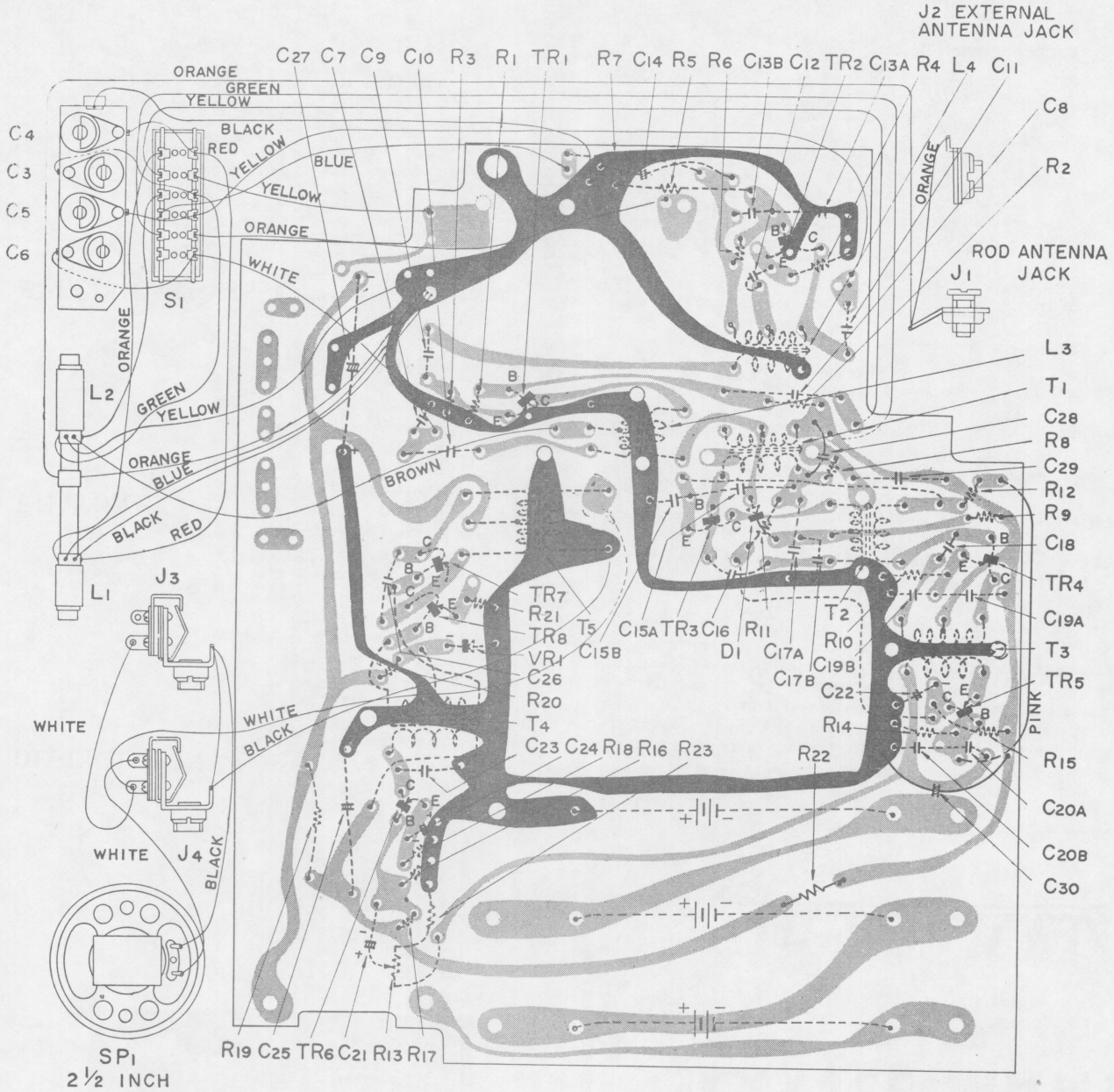
Order of adjustment	Dial pointer setting	Oscillator frequency	Adjustment point
5	Gang fully close	525 kc	L_3
6	Gang fully open	1,650 kc	C_6
7	1.400 kc	1,400 kc	Repeat 5 and 6
8			C_3
9	600 kc	600 kc	Adjust L_1 position
10			Repeat 8 and 9

Adjustment of high frequency (SW) circuits
(Preparation: Set band switch at SW)

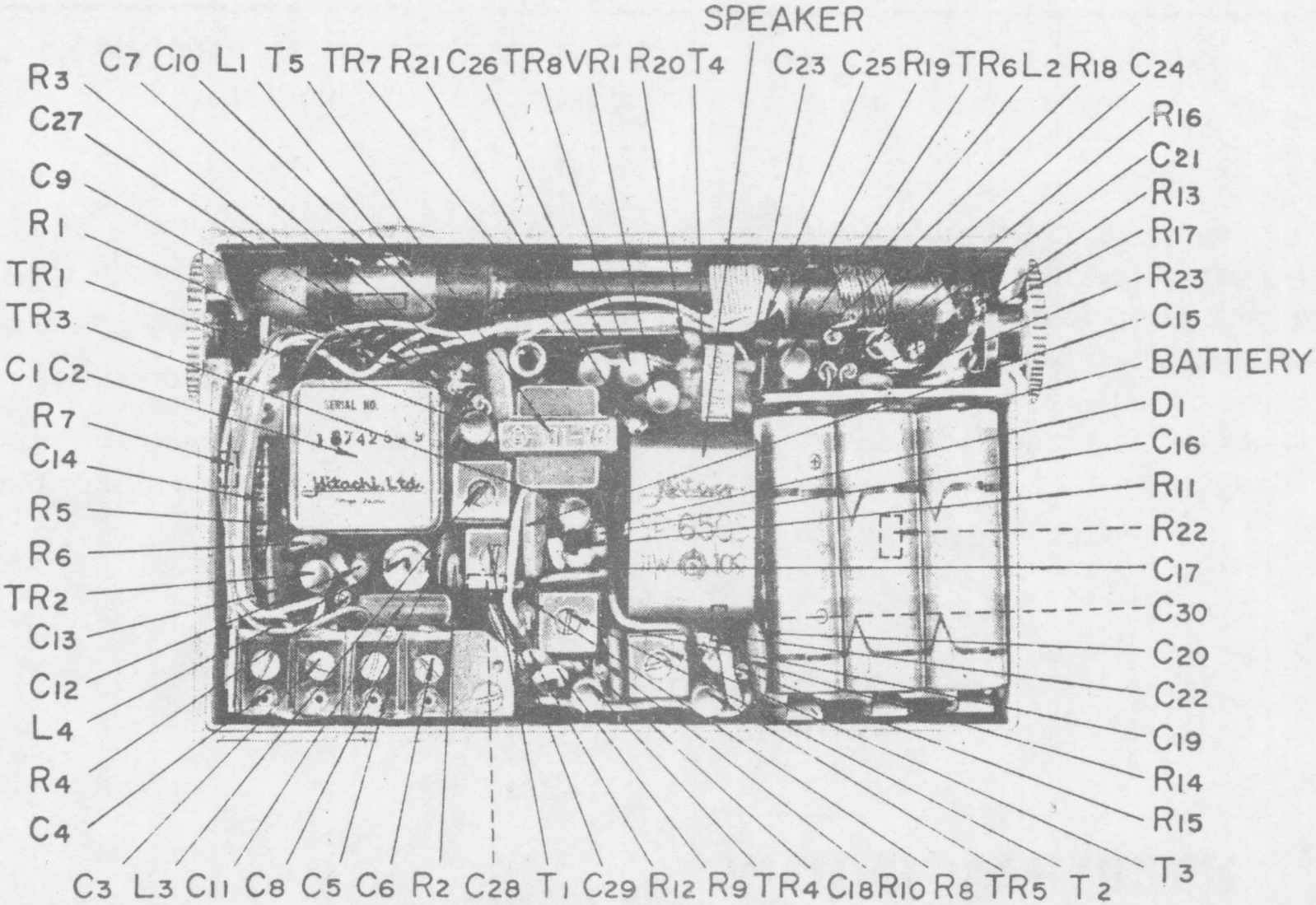
Order of adjustment	Dial pointer setting	Oscillator frequency	Adjustment point
11	Gang fully close	3.75 Mc	L_4
12	Gang fully open	12.3 Mc	C_5
13			Repeat 11 and 12
14	4 Mc	4 Mc	Adjust L_2 position
15	11 Mc	11 Mc	C_4
16			Repeat 14 and 15



MODEL WH-825R



MODEL WH-825R


SPEAKER
C7 C10 L1 T5 TR7 R21 C26 TR8 VR1 R20 T4
C23 C25 R19 TR6 L2 R18 C24
R3
C27
C9
R1
TR1
TR3
C1 C2
R7
C14
R5
R6
TR2
C13
C12
L4
R4
C4
R16
C21
R13
R17
R23
C15
BATTERY
D1
C16
R11
R22
C17
C30
C20
C22
C19
R14
R15
T3
C3 L3 C11 C8 C5 C6 R2 C28 T1 C29 R12 R9 TR4 C18 R10 R8 TR5 T2
SERIAL NO.
Hitachi, Ltd.