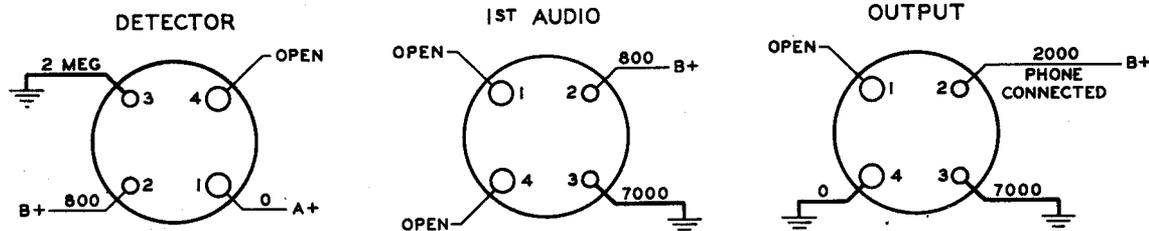


RADIO RECEIVER AND TRANSMITTER BC-148, BC-151, AND BC-156

Part of: SCR-131, 161,
and 171.

Reference:
TM 11-237

RESISTANCE MEASUREMENTS RECEIVER

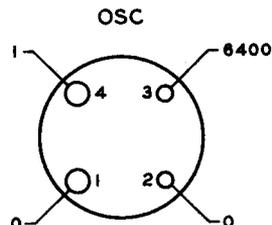


All measurements (except to ground), are from point indicated to battery connection panel, tubes and batteries removed. All values are ohms. Bottom view of socket.

All measurements and adjustments apply to BC-148, BC-151, and BC-156. Frequencies shown in parenthesis apply to the equipment whose BC numbers follow. All other frequencies shown apply to the BC-148.

TRANSMITTER

All values are ohms measured between point indicated and socket SO-22, tube and Cord CD-103 removed and relay closed by hand. Top view of socket.



ADJUSTMENTS

RECEIVER COMPENSATING ADJUSTMENT.

1. Set up receiver for operation, turn on Frequency Meter Set SCR-211-(*) and receiver. Allow them to warm up.
2. Set frequency meter and receiver dial to 3960 kc (4370 kc for BC-151 and 2640 kc for BC-156).
3. Remove screw plug at back of apparatus box marked RECEIVER COMPENSATING and adjust C_2 to zero beat signal from frequency meter.

BALANCING ADJUSTMENT.

1. Remove the metal screw plug at the back of the apparatus box marked BALANCING.
2. Turn on receiver and set dial to 4360 kc (5100 kc for BC-151 and 3040 kc for BC-156).
3. Connect a vacuum tube voltmeter capable of reading 0.05 volts alternating current across the loop terminals (across antenna coil in BC-156), receiver in oscillating condition.

TRANSMITTER COMPENSATING ADJUSTMENT.

1. Remove screw plug marked TRANSMITTER COMPENSATING near the top at right-hand side of the apparatus box.
2. Turn on receiver and transmitter, carefully tune receiver to 4360 kc (5100 kc for BC-151 and 3040 kc for BC-156).

4. Set frequency meter and receiver dial to 4360 kc (5100 kc for BC-151 and 3040 kc for BC-156), and adjust C_2 for zero beat.
5. Repeat 3 and 4 until receiver dial setting is correct at both 3960 and 4360 kc (4370 kc and 5100 kc for BC-151, 2640 kc and 3040 kc for BC-156).
6. Replace screw plug at back of apparatus box.

GENERATOR GN-35.

1. Adjustment.--Check the rating on the name plate before connecting the generator to the BC-148, BC-151, or BC-156. The name plate rating which is uppermost should be for 10 volts and 400 volts. If the rating is different, reverse the name plate and adjust the generator as follows:
 - a. Connect the generator to the set with Cord CD-103.
 - b. Connect a d-c voltmeter capable of reading 400 volts between pins 3 and 4 at generator socket.

4. Adjust loop (antenna for BC-156) tuning capacitor C_2 for maximum on VTVM.
5. Adjust C_2 for minimum on VTVM.
6. Repeat steps 4 and 5 until no further change is noted in VTVM reading.
7. Replace metal screw plug and remove VTVM. The receiver is now adjusted for minimum radiation from the oscillating detector.
3. Depress key and turn adjusting screw C_2 to zero beat transmitter with receiver. The loop (antenna for BC-156) circuit is now compensated for loss of capacitance caused by disconnecting the receiver while transmitting.

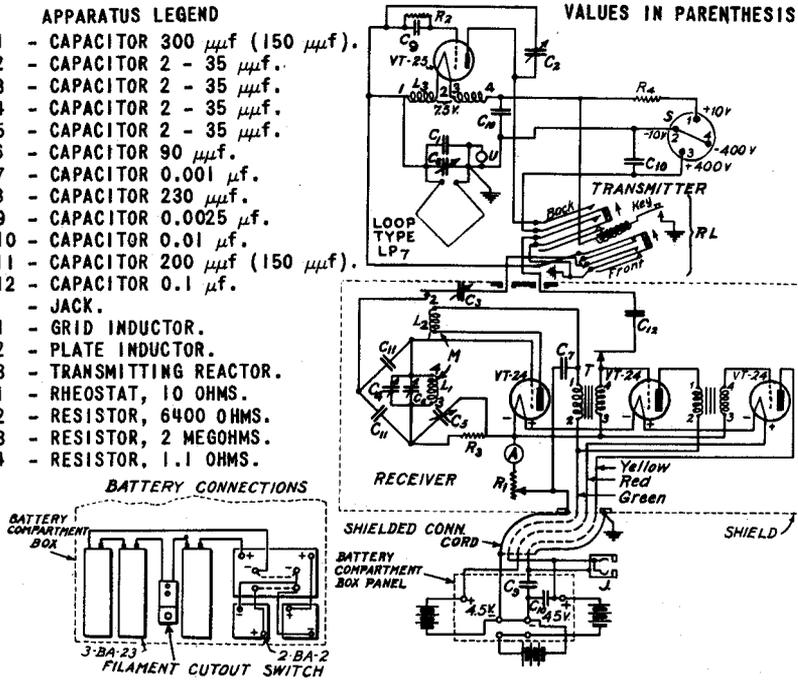
c. Crank the generator at normal speed and turn the VOLTAGE REGULATOR armature screw clockwise to increase or counterclockwise to decrease the voltage until voltmeter indicates 400 volts with transmitting key closed.

2. Care.--Grease bearings with WB grease, general purpose No. 2, every 1024 operating hours. Bearings are accessible by removing the five screws holding the projection on right side of generator housing, also the screws holding the two diamond-shaped plates on left side of the generator.

SCHEMATIC BC-148, BC-151

- APPARATUS LEGEND**
- C1 - CAPACITOR 300 μf (150 μf).
 - C2 - CAPACITOR 2 - 35 μf .
 - C3 - CAPACITOR 2 - 35 μf .
 - C4 - CAPACITOR 2 - 35 μf .
 - C5 - CAPACITOR 2 - 35 μf .
 - C6 - CAPACITOR 90 μf .
 - C7 - CAPACITOR 0.001 μf .
 - C8 - CAPACITOR 230 μf .
 - C9 - CAPACITOR 0.0025 μf .
 - C10 - CAPACITOR 0.01 μf .
 - C11 - CAPACITOR 200 μf (150 μf).
 - C12 - CAPACITOR 0.1 μf .
 - J - JACK.
 - L1 - GRID INDUCTOR.
 - L2 - PLATE INDUCTOR.
 - L3 - TRANSMITTING REACTOR.
 - R1 - RHEOSTAT, 10 OHMS.
 - R2 - RESISTOR, 6400 OHMS.
 - R3 - RESISTOR, 2 MEGOHMS.
 - R4 - RESISTOR, 1.1 OHMS.

VALUES IN PARENTHESIS APPLY TO BC-151



SCHEMATIC BC-156

- APPARATUS LEGEND**
- C1 - CAPACITOR, 350 μf .
 - C2 - CAPACITOR, 2 - 35 μf .
 - C3 - CAPACITOR, 2 - 35 μf .
 - C4 - CAPACITOR, 2 - 35 μf .
 - C5 - CAPACITOR, 2 - 35 μf .
 - C6 - CAPACITOR, 90 μf .
 - C7 - CAPACITOR, 0.001 μf .
 - C8 - CAPACITOR, 330 μf .
 - C9 - CAPACITOR, 0.0025 μf .
 - C10 - CAPACITOR, 0.01 μf .
 - C11 - CAPACITOR, 200 μf .
 - C12 - CAPACITOR, 0.1 μf .
 - J - JACK.
 - L1 - GRID INDUCTOR.
 - L2 - PLATE INDUCTOR.
 - L3 - TRANSMITTING REACTOR.
 - L4 - ANTENNA INDUCTOR.
 - R1 - RHEOSTAT, 10 OHMS.
 - R2 - RESISTOR, 6400 OHMS.
 - R3 - RESISTOR, 2 MEGOHMS.
 - R4 - RESISTOR, 1.1 OHMS.

