

**BELL SYSTEM PRACTICES**  
**Station Installation and Maintenance**

**SECTION C63.289**  
**Issue 6, 5-25-49**  
**AT&T Co Standard**

## **L.B.T., C.B.S. ANTI-SIDETONE STATIONS**

### **BALANCING NETWORK AND BATTERY SUPPLY FILTER CONNECTIONS**

#### **1. GENERAL**

1.01 This section covers the induction coil balancing network and common source battery supply connections for local battery talking common battery signaling anti-sidetone stations. It is reissued to include the 309 and 357-type telephone sets and an additional resistance for the LB network in Table 1.

1.02 When dry cells are employed for transmitter battery supply they shall be connected in series with the battery terminals of the subscriber set, using the number of cells specified in the section entitled "Transmission Zoning of Station Apparatus." The connections for L.B.T. sets employing dry cell batteries are given in the individual sections in Division C60 covering the connections for desk stands, hand telephone sets, telephone sets and subscriber sets for specific classes of service.

#### **2. BALANCING NETWORKS**

2.01 Means are provided in the sets covered in this section whereby various networks may be connected in the induction coil balancing circuit to obtain satisfactory sidetone balance when the sets are used on the different types of subscriber loops employed in the plant. See section entitled "Transmission Zoning of Station Apparatus." Table 1 indicates the connections to be made in the sets to obtain the proper network for each of the zone codes and the set should be connected for the zone code as specified on the service order.

TABLE I

Transmission Zone Code	307, 309 (X) and 357 Type Telephone Sets	653Y, YD, YR, YT and YDT, 634Y, YD, YR, YT and YDT Subscriber Sets With 104A Induction Coil	653Y, YD, YR, YT and YDT, 634Y, YD, YR, YT and YDT Subscriber Sets With 113D Induc- tion Coil	653BB, 634BB Subscriber Sets
<b>LA</b> (for- merly LR)	Yellow-Black from con- denser to A on induc- tion coil Red from condenser to R on terminal strip Both ends of Red-White strap on C on induction coil	Yellow from condenser to A on induction coil Black from condenser to BK Both ends of Black strap on C on induction coil	White from S <sub>2</sub> on in- duction coil to BK Black from condens- er to wood screw Black strap from S <sub>2</sub> to wood screw	White from resist- ance to W Red from condens- er to LT
<b>LB</b>	Connect a KS-8058 — (400) ohm or KS-13490- L2 (390) ohm resistance from A on induction coil to R on terminal strip Yellow-Black from con- denser to A on induc- tion coil Red from condenser to A on induction coil Both ends of Red-White strap on C on induction coil See Notes 1 and 2	Connect a KS-8058 — (400) ohm or KS-13490- L2 (390) ohm resistance from A on induction coil to BK Yellow from condenser to A on induction coil Black from condenser to wood screw Both ends of Black strap on C on induction coil See Notes 1 and 2	Connect a 63FD or KS-8058 — (280) ohm or KS-13490- L2 (300) ohm re- sistance between S <sub>2</sub> on induction coil and BK Black from condens- er to wood screw Black strap from S <sub>2</sub> to wood screw See Notes 1, 2 and 3	Connect a 63FD or KS-8058 — (280) ohm or KS-13490- L2 (300) ohm re- sistance between white lead from resistance and W Red from condens- er to LT See Notes 1, 2 and 4

**TABLE 1 (Continued)**

Transmission Zone Code	307, 309 (X) and 357 Type Telephone Sets	653Y, YD, YR, YT and YDT, 634Y, YD, YR, YT and YDT Subscriber Sets With 104A Induction Coil	653Y, YD, YR, YT and YDT, 634Y, YD, YR, YT and YDT Subscriber Sets With 113D Induc- tion Coil	653BB, 634BB Subscriber Sets
<b>LC</b>	<p><b>Yellow-Black</b> from con- denser to <b>C</b> on induc- tion coil Red from condenser to R on terminal strip Both ends of Red-White strap on C on induction coil See Note 1</p>	<p><b>Yellow</b> from condenser to <b>C</b> on induction coil Black from condenser to BK <b>One end</b> of Black strap on <b>C</b> to wood screw See Note 1</p>	<p><b>White</b> from S<sub>2</sub> on induction to wood screw <b>Black</b> from condens- er to BK Black strap from S<sub>2</sub> to wood screw See Note 1</p>	<p><b>White</b> from resist- ance to LT  <b>Red</b> from condens- er to W See Note 1</p>
<b>LD</b>	<p><b>Yellow-Black</b> from con- denser to <b>R</b> on terminal strip Red from condenser to R on terminal strip <b>Red-White</b> strap from C on induction coil to <b>R</b> on terminal strip See Note 1</p>	<p><b>Yellow</b> from condenser to A of induction coil <b>Black</b> from condenser to wood screw <b>One end</b> of Black strap on C of induction coil to BK See Note 1</p>	<p><b>White</b> from S<sub>2</sub> on in- duction coil to BK  Black from condens- er to wood screw <b>Black strap</b> from wood screw to BK See Note 1</p>	<p><b>White</b> from resist- ance to W  Red from condens- er to LT <b>Strap between W and LT</b> See Note 1</p>

BALANCING  
NETWORK  
AND BAT.  
SUP. FILTER  
CONNECTIONS

**TABLE 1 (Continued)**

Note 1: Bold face type indicates connections that must be changed in the set as furnished.

Note 2: The 63FD or KS-8058-280 or 400 ohm or KS-13490-L2 300 or 390 ohm Resistance is not furnished as part of the set and must be obtained separately.

Note 3: To make this connection, the White lead from S<sub>2</sub> on the induction coil should be connected to any unused terminal on the set and the resistance should be connected from that terminal to BK. If there is no unused terminal, an extra terminal should be added to the set.

Note 4: To make this connection, the White lead from the resistance should be connected to any unused terminal on the set and the resistance should be connected from that terminal to W. If there is no unused terminal, an extra terminal should be added to the set.

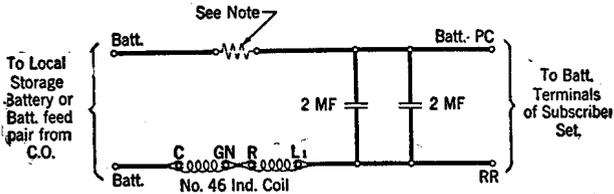
(X) For 309-type telephone sets yellow and slate condenser leads replace yellow-black and red condenser leads respectively.

2.02 As noted in Table 1, subscriber sets, except the 634BB and 653BB, may be equipped with 104A or 113D induction coils. The network condenser may be either .5 mf or .65 mf, the .5 mf being preferable with the 104A coil and the .65 mf with the 113D coil. These sets may come equipped with either coil but the coils are not interchangeable in the field. The corresponding terminals of the two coils are given below.

104A-L <sub>1</sub>	RBK	C	A	SL	BL
113D-S	S <sub>1</sub>	S <sub>2</sub>	S <sub>2</sub>	P	P

**3. BATTERY FEED FILTER**

3.01 Where one or more L.B.T. Anti-Sidetone stations receive transmitter battery supply from a common source such as from a local storage battery, rectifier or over cable pairs from a central office battery, a filter is necessary in each transmitter circuit. This filter is coded as a 634BD Subscriber Set. The connections for this set are shown in Fig. 1. Provision is made in the filter set to mount a resistance to control the value of the transmitter current as covered in Fig. 1.



**Fig. 1—634BD Subscriber Set (Battery Feed Filter)**

Note: When required in order to adjust transmitter current, to 100-125 mils, install a resistance of the value specified in the service order. Connect grounded side of battery to the "Batt" terminal connected to the resistance or if resistance is not required, to "Batt-PC" terminal. The terminal in the bell box or wall set going directly to the transmitter winding of the induction coil or the blue conductor of the mounting cord of 307-type and 309-type telephone sets should be connected to the "RR" terminal of the 634BD set, except on ring party stations, where it should be connected to "Batt-PC".

3.02 The station apparatus to be used with the 634BD subscriber set for this purpose should be as shown in Figs. 2 to 8 inclusive or should be the 307E, F, G, H, telephone sets or the 309 or 357-type telephone sets equipped with an F2B hand set.

3.03 It should be noted that changes in connections are necessary both in subscriber sets (bell boxes) except the 634BB and in the associated hand telephone set or desk stand so they are connected as shown in the figures. This section shows the modified connections for the 634Y and 634YD sets. For this use, modifications should be made in the 634YR and 634YT, the same as in the 634YD. The 634BB may be used without modification with hand telephone sets or desk stands connected as shown in Figs. 6 and 7.

3.04 The terminal designated E in Fig. 2 and K in Fig. 3, to which the black lead from SL on sets having 104A induction coils or from P on sets having 113D induction coils is transferred, may be any spare terminal in the set, regardless of designation.

3.05 If a wall set is required, use the 653BB subscriber set connected as shown in Fig. 8 or the 357-type telephone set equipped with a F2B hand set, the connections of which are given in the section covering Telephone Sets, 357-type, Connections.

3.06 If a desk type telephone set is required, use the 307E, F, G or H telephone set except for four-party selective or eight-party semi-selective in which case use the 309-type telephone set equipped with a F2B hand set. The connections for these sets are given in the sections covering Telephone Sets 307-type and 309-type, Connections.

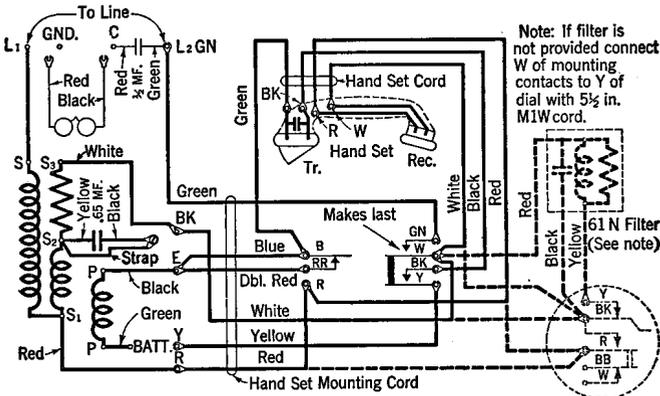


Fig. 2—634Y Subscriber Set and 207-Type Hand Telephone Set (Rewired) for Use with 634BD Subscriber Set

Note: E2B Hand Set may be used in place of E2C. The subscriber set may be equipped with a 113D induction coil as shown or with a 104A induction coil.

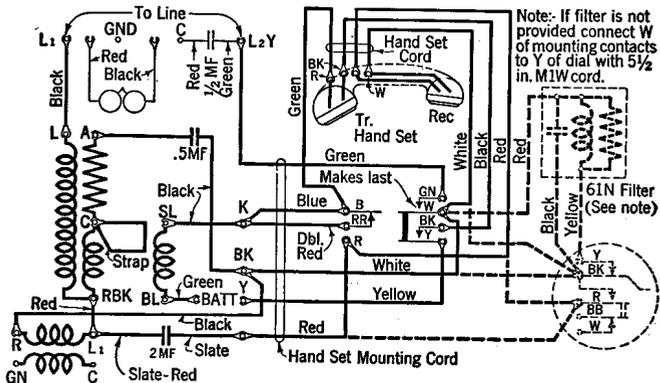
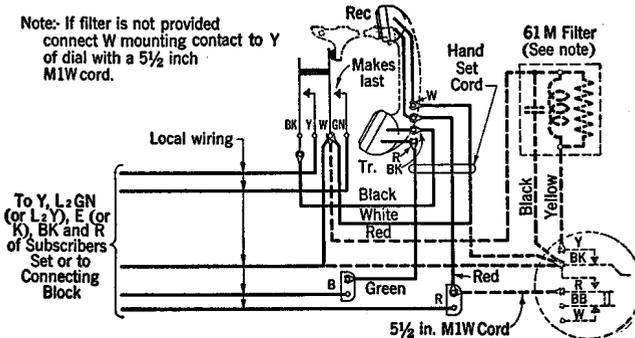


Fig. 3—634YD Subscriber Set and 207-Type Hand Telephone Set (Rewired) for Use with 634BD Subscriber Set

Note: E2B or E2C Hand Set may be used in place of F2B shown in the figure.

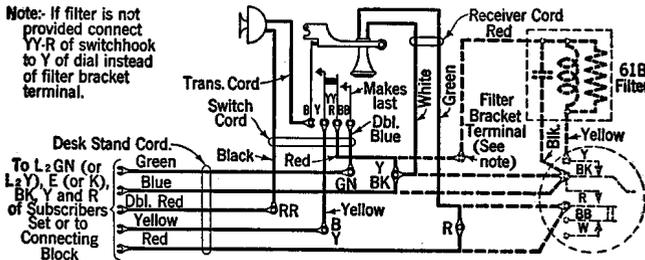
The subscriber set may be equipped with a 104A induction coil as shown or with a 113D induction coil.



**Fig. 4—G1 Type Hand Set Mounting (Rewired) for Use with 634YD and 634BD Subscriber Sets**

Note: Use E2B, E2C or F2B Hand Set with 634YD Subscriber Set (wired per Fig. 3).

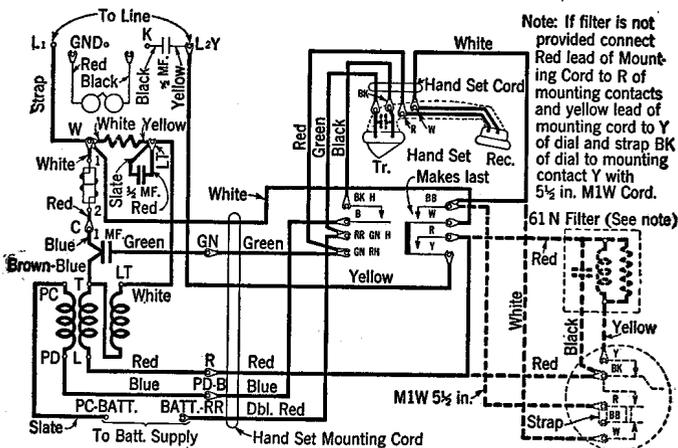
Use only E2B or E2C Hand Set with 634Y Subscriber Set (wired per Fig. 2).



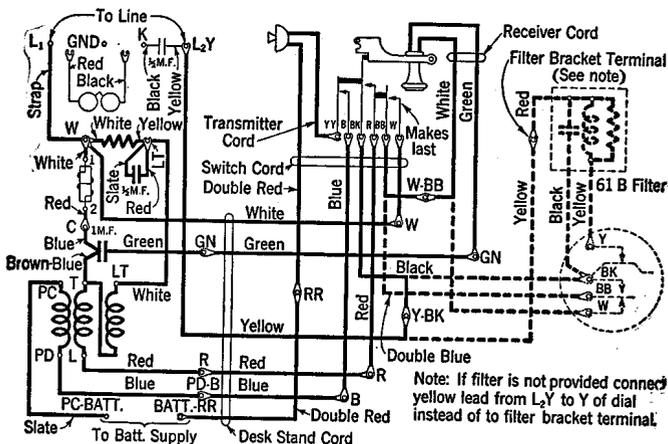
**Fig. 5—151AL Desk Stand (Rewired) for Use with 634YD and 634BD Subscriber Sets**

Note: Use 144 or 706A Receiver with 634YD Subscriber Set (wired per Fig. 3).

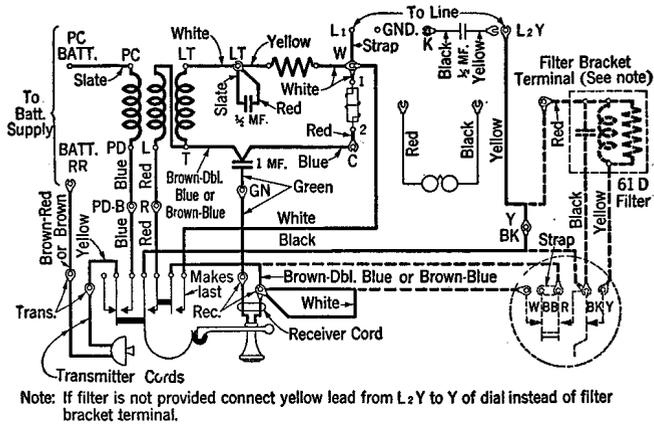
Use only 144 Receiver with 634Y Subscriber Set (wired per Fig. 2).



**Fig. 6—206-Type Anti-Sidetone Hand Telephone Set Shown with 634BB Subscriber Set**



**Fig. 7—151S Anti-Sidetone Desk Stand (Manual and Dial) Shown with 634BB Set**



**Fig. 8—653BB Anti-Sidetone Subscriber Set (Manual or Dial)**