# TYPE 192B TELEPHONE
# DESCRIPTION AND INSTALLATION

CONTENTS PAGE



## 1. GENERAL

1.01 This section provides description, installation, and field maintenance information on the Type 192B STARLITE® telephone in the rotary dial and Touch Calling Unit (TCU) versions.

1.02 This section is reissued to provide information on options, installation, maintenance, adjustments, and modifications. Due to the extensive changes involved, change indicators are omitted. Remove the previous issue of this section from the binder or microfiche file and replace it with this issue.

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## 2. DESCRIPTION

2.01 The Type 192B telephone is a wall-version telephone that may be equipped with either a rotary dial or a TCU (Figures 1 and 2, respectively). Both the rotary dial and TCU versions are mounted on a rectangular plastic number plate located in the center of the telephone housing.

2.02 Depending on the service requirements, the rotary dial may be numerical 1 through 0, Metropolitan ABC, SATT A, or SATT B. Refer to Table 1 for identification of each rotary dial type.

2.03 The Type 192B telephones equipped with a TCU are manufactured with a Type 12D TCU. Previously manufactured TCU's were the Type 12C Inductor-Capacitor TCU (LCTCU) and the Type 12C Integrated Circuit TCU (ICTCU). Refer to Table 2 for identification of each TCU.

2.04 The Type 192B telephones are equipped with a Type 811 handset that is hard-wired to the telephone base. The telephone housing and handset cords are available in the colors listed in Table 3. To order a housing or a handset cord, take the part number shown under DESCRIPTION in Table 3 and add the suffix for the color that you wish to order.

2.05 Normally, the telephone is supplied with a Type 46A straight-line ringer. For frequency-selective ringing, a Type 148 or 151 ringer, manufactured by International Telephone and Telegraph (ITT), can be mounted inside the telephone. (When installing the type 148 or 151 ringers, mounting bracket kit SE-47-A is required.) When an externally mounted ringer is required, a Type 33 ringer unit must be installed.

## 3. PREINSTALLATION

### Location

3.01 In locating the telephone, be guided by the customer's wishes if installation requirements permit. If the customer's wishes cannot be followed, explain the reason to the customer. Be careful to ensure that the location provides adequate ringer sound intensity throughout the area to be served.

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Touch Calling Unit Selection With Type 82A and 84A Carriers

3.02 The Type 12C LCTCU equipped telephones can be used with 8402A, 8403A, 8404A, 8212A, and 8213A station channel units. The Type 12C ICTCU or 12D TCU equipped telephones can be used with 8404A, 8212A, and 8213A station channel units. The Type 12C ICTCU or 12D TCU equipped telephone can also be used with 8402A and 8403A station channel units provided that these units have been modified with an add-on battery feed booster circuit.

## 4. INSTALLATION

Type 192B Telephone With Line Cord Jack

4.01 To install the Type 192B telephone on the wall, mounting kit HH-880066-2 is required. This kit allows the telephone to be attached to either WECo or GTE AE wall jacks.

4.02 Use the following procedure to assemble the wall-mounting kit (refer to Figure 3 and Table 4):

(a) Install the latch bar in the base slots provided.
(b) Install the latch bar spring by snapping it into the base with the end in the slot in the latch bar.
(c) Plug the adapter cord into the jack provided in the telephone and dress the cord in the adapter cord channel in the base.
(d) Using side cutters, snip the four corners and remove the rectangular center section in the base.

NOTE: Insert a screwdriver blade or similar object into the base in the area below the center section and pry up and snap out the lower plug.

(e) Insert the plug of the adapter cord into the proper plug shell jack and snap the plug shell jack into the base. The tab of the shell jack must be aligned with the corresponding opening on the base. The contacts of the shell/plug insert assembly should be oriented toward the back of the housing and the line cord jack.

Type 192B Telephone Without Line Cord Jack

4.03 The Type 192B telephone is available with either a WECo plug shell or a GTE AE plug shell. Both plug shells include a wire assembly that is hard-wired to the transmission network. All other hardware is installed in the base of the telephone.

4.04 To install a Type 192B telephone, equipped with a plug shell, refer to Figures 4 and 5 and proceed as follows:

(a) Align the plastic plug, which protrudes from the rear of the telephone baseplate assembly, with the wall outlet opening. The two locking pins extending from the faceplate of the wall outlet will line up with the two openings in the telephone baseplate (Figure 4).
(b) While depressing the chrome latching lever on the lower right side of the telephone, push the telephone baseplate against the wall outlet until the jack and plug are completely engaged (Figure 5). Then pull the telephone downward to engage the locking pins into the telephone baseplate.
(c) Release the latching lever to lock the telephone to the wall outlet.

Stamping the Telephone Number

4.05 The Type 192B telephones equipped with a rotary dial have a screw-mounted fingerwheel. A stick-on number card with a telephone number on its surface is placed over the fingerwheel.

4.06 To stamp the telephone number on the telephone number strip when the telephone is equipped with a TCU, proceed as follows:

(a) Insert the tip of a 3/8-inch blade screwdriver under the top edge of the telephone number strip cover and gently lift it up until the ends come out of their grooves.
(b) Lift the telephone number strip out of its recess and stamp or wire the telephone number on the front surface.
(c) Reinstall the telephone number strip in its recess.
(d) Bend the telephone number strip cover slightly to permit the edges to enter their grooves, and release it just enough to allow it to snap into position.

## 5. FIELD MAINTENANCE

5.01 Maintenance of the Type 192B telephone is normally limited to cleaning and replacing components. The components that are considered replaceable on the customer's premises are the TCU or rotary dial assembly, the ringer, the handset, the transmitter and receiver, and the handset cord (Figure 6). To reconnect component leads, refer to Figures 7 through 10. Refer to Figures 11 and 12 and Table 5 for handset cord lead connections.

NOTE: When inserting the spade-terminated leads into the quick-connect terminals, use terminal insertion tool BT-900493-SP (Figure 13). If a receptacle requires resizing, use resizing tool CT-900514-SP.

CAUTION: After replacing any components within the telephone, verify that all wires are properly dressed (Figure 14). Properly dressed wires should not contact the hookswitch actuator, hookswitch actuator spring, or dial pileup springs, and should not contact any other wire and terminal assembly. Wire terminals should not be bent. Incorrectly dressed wires could cause binding of the actuator or malfunction of the telephone.

5.02 If the telephone is no longer usable, replace the telephone. To replace the telephone, depress the latching lever while sliding the telephone assembly upward. This will release the locking pins. Then pull the telephone assembly away from the wall to disengage the plug and jack.

CAUTION: After removal of the Type 192B telephone from the wall, avoid damage to the Phone Mart plug which protrudes from the telephone baseplate (Figure 3).

Housing Removal

NOTE: Prior to housing removal, remove the telephone from the wall. Refer to paragraph 5.02 for telephone removal instructions.

5.03 To remove the housing (Figure 6), proceed as follows:

(a) With the telephone in the upright position, locate the tab on the bottom end of the baseplate.
(b) Using a screwdriver blade, push the tab in to disengage the baseplate from the housing.
(c) Lift the housing upward to disengage the tab at the upper end of the telephone housing.

Rotary Dial Replacement

5.04 To replace the rotary dial, refer to Figure 6 and proceed as follows:

CAUTION: Avoid contact of the dial springs and governor assemblies. Contact could affect speed and percent break settings.

(a) Remove the telephone housing (refer to paragraph 5.03).
(b) Disconnect the dial leads from the transmission network terminals.
(c) Remove the two dial mounting screws and the rotary dial mounting bracket.
(d) Lift the dial up and out through the front of the housing.
(e) Secure the new rotary dial to the front housing with the dial mounting bracket and two screws.
(f) Connect the dial leads to the transmission network.
(g) Wrap the dial wires around the hook on the dial mounting bracket two times (Figure 15).
(h) Twist the wires together. Position the wires away from the actuator and spring and over the handset cord.
(i) Fold the ringer capacitor over the dial and ringer wires, and the handset cord, to hold them in place.
(j) Position the housing over the baseplate. Verify that no wires are pinched between the housing and baseplate.
(k) Replace the housing (refer to paragraph 5.12).

Touch Calling Unit Replacement

5.05 To replace the TCU, refer to Figure 6 and Table 2, and proceed as follows:

CAUTION: Safe grounding and handling procedures must be adhered to when handling the Type 12C ICTCU or Type 12D TCU. The tone generator is susceptible to damage by electrostatic discharge and is subject to voltage overstressing. Power must not be applied when handling this TCU. Never touch the frequency spring electrical connections of the Type 12C TCU; they can be mechanically damaged as well. For further TCU precautionary handling procedures, refer to Section 997-307-500 (12C ICTCU) or 997-309-500 (12D TCU).

(a) Remove the telephone housing (refer to paragraph 5.03).
(b) Disconnect the TCU leads from the transmission network terminals.
(c) Remove the two TCU mounting screws.
(d) Lift the TCU from the adapter plate and the telephone housing.

NOTE: Before the Type 12D TCU is installed in the telephone, the static shield (supplied with the Type 12D TCU as a separate item) must be installed on the face of the TCU. To install the static shield, align the holes in the shield with the TCU pushbuttons, making certain the tab is bent toward the printed wiring card side of the TCU. The tab and wire assembly should be positioned above the "1" pushbutton. After the static shield is properly oriented on the TCU, gently press the shield down over the TCU pushbuttons until it is flat against the TCU subfaceplate. Connect the black wire assembly to transmission network terminal 2.

(e) Attach the TCU brackets (Figure 16) to the TCU with the two No. 4-40 flathead screws.
(f) Secure the TCU to the housing and faceplate with two screws (Figure 17).
(g) Connect the TCU leads to the transmission network.
(h) Dress the wires away from the actuator and spring. Position the wires over the handset cord (Figure 14).
(i) Fold the ringer capacitor over the TCU and ringer wires, and the handset cord, to hold them in place.
(j) Position the housing over the baseplate. Verify that no wires are pinched between the housing and baseplate.
(k) Replace the housing (refer to paragraph 5.12).

Type 46A Ringer Replacement

5.06 To replace the Type 46A ringer, refer to Figure 6 and proceed as follows:

NOTE: If field adjustments are deemed necessary, they should be limited to the bias spring and clapper-to-gong clearance. Disassembly of the ringer should not be performed. When adjusting the ringer mechanically, bias spring adjustment should be performed by adding or removing tension. The spring in the notch is the normal position. The bias spring can be removed from the notch for more sensitivity in long loop applications. Clapper-to-gong clearance should be adjusted by rotating the gong in the clockwise direction only and maintaining a perceptible to 0.025-inch clearance as judged.

(a) Remove the telephone housing (refer to paragraph 5.03).
(b) Disconnect the ringer leads from the transmission network.
(c) Remove the ringer mounting screw.
(d) Move the ringer to release it from the two molded mounting posts in the baseplate.
(e) Wrap the wires of the new ringer under the ringer.

(f) Place the ringer in position and secure with one screw.
(g) Dress the BLK and BLU ringer wires around the side of the jack assembly mounting post. Route the wires between the transmission network capacitors and the wall of the baseplate (Figure 14).
(h) Connect the RED and GRN ringer wires into the transmission network (Tables 6 and 7).

NOTE: Verify that proper polarity is maintained. Reverse polarity makes the ringer more susceptible to bell tap. If bell tap occurs, check the polarity of the line jack. If jack polarity is correct and bell tap is still present, reverse the RED and GRN lead connections.

(i) Dress the wires over the transmission network terminals. Fold the ringer capacitor over the ringer and dial or TCU wires, and the handset cord, to hold them in place (Figure 14).
(j) Position the housing over the baseplate. Check to see that no wires are pinched between the housing and baseplate.
(k) Replace the housing (refer to paragraph 5.12).

NOTE: When telephone ringers are replaced, the Ringer Equivalence Number (REN) shown on the FCC registration label (Figure 3) should be verified and/or changed to ensure that the REN is correct. Refer to Table 8 to identify the correct REN number.

Handset Replacement

5.07 The handset of the telephone is hard-wired to the transmission network. The base allows for a new jack to incorporate the plug-ended handset cord under development in the modular program. A strain relief clamp (Figure 6) is used until the handset incorporates the miniature plugs. To remove the handset, proceed as follows:

(a) Remove the housing as described in paragraph 5.03.
(b) Push the strain relief plug in with the flat blade of a screwdriver. Carefully press down on the protruding plastic of the strain relief clamp (just inside the base).
(c) Remove the strain relief clamp from the base.
(d) Remove the wires from the transmission network and remove the strain relief clamp from the handset cord.

5.08 To replace the handset, proceed as follows:

(a) Place the strain relief clamp on the cord past the J-hook and push it through the cord hole in the baseplate (Figure 6).
(b) Push the strain relief clamp into the cord hole until it snaps.
(c) Connect the handset cord leads to the transmission network terminals (Table 5).
(d) Dress the excess cord between the transmission network and the ringer.
(e) Fold the ringer capacitor over the handset cord to hold the cord in place.
(f) Position the housing over the baseplate. Verify that no wires are pinched between the housing and baseplate.
(g) Replace the housing (refer to paragraph 5.12).

Handset Disassembly and Reassembly

5.09 To disassemble the handset, refer to Figure 18 and proceed as follows:

(a) Unscrew the receiver cap and lift the receiver capsule out of the handset shell.
(b) Disconnect the YEL and BLK leads from the terminals located on the back of the receiver capsule.

NOTE: If provided, leave the receiver gasket mounted in the receiver cap unless it requires replacement. The receiver gasket is glued to the receiver cap of some Type 811 handsets.

(c) Unscrew the transmitter cap from the handset and lift out the capsule.
(d) Lift the transmitter center contact spring out of the handset.
(e) Disconnect the GRN lead from the transmitter center contact spring.
(f) Disconnect the RED lead from the transmitter rim contact spring.
(g) Loosen the strain relief clamp securing screw which is in the rim contact spring, and remove the strain relief clamp from under it.
(h) Pull the handset cord out of the handset shell.
(i) Lift the transmitter rim contact spring out of the handset transmitter well.

5.10 To assemble the handset, proceed as follows:

CAUTION: For handsets manufactured October 1980 or after, position the receiver key in one of the two side slots.

(a) Place the transmitter rim contact spring in the handset transmitter well.
(b) Insert the end of the handset cord with the longest conductor leads through the hole in the handset shell. Push the YEL and BLK conductors through the handset shell into the receiver well.
(c) Engage the handset cord strain relief clamp with the strain relief clamp screw on the transmitter rim contact spring.
(d) Connect the RED handset cord lead to the transmitter rim contact spring.
(e) Connect the GRN handset cord lead to the transmitter center contact spring.
(f) Install the transmitter center contact spring in the handset transmitter shell.
(g) Place the transmitter capsule into position in the handset transmitter well.
(h) Place the receiver cushion spring into position on the receiver.
(i) Connect the BLK and YEL handset cord leads to the terminals on the back of the receiver capsule. Refer to the note in paragraph 5.01.
(j) Place the receiver capsule into position in the handset receiver well. Align the receiver cushion spring with the edges of the receiver well and receiver capsule.
(k) Place the receiver cap over the receiver capsule and tighten the receiver cap on the handset shell.

Handset Cord Replacement

5.11 To replace the handset cord, proceed as follows:

(a) Remove the telephone set housing and disconnect the handset cord.
(b) Remove the caps and capsules from the handset.
(c) Lift out and remove the transmitter central contact spring.
(d) Loosen the terminal screw on the central contact spring and rim contact spring, and disconnect the GRN and RED leads (Figures 11 and 12).
(e) Loosen the strain relief clamp screw and free the clamp.
(f) Loosen the terminal screws at the receiver end and remove the cord lead.
(g) Pull out the old cord and feed the leads of the new cord through the entrance hole in the transmitter end of the handset. Feed the leads that must be connected at the receiver end through the handset handle and into the receiver cavity.
(h) Connect the handset cord leads, fasten the strain relief clamp, and replace the springs, capsules, and caps.
(i) Connect the cord to the telephone (refer to Figures 11 and 12).

Housing Assembly

5.12 To replace the housing, proceed as follows:

(a) Check to see that all wires are dressed properly (Figure 14).
(b) Position the tab on the top inside of the housing over the notched edge of the topside of the baseplate.
(c) Lower the housing over the baseplate until the hookswitch actuator protrudes through the housing.
(d) Lower the bottom end of the housing until the tab on the lower end of the baseplate engages with the housing.

6. MODIFICATIONS

ITT Ringer Installation

6.01 To install an ITT 148 ringer (straight-line) or an ITT 151 ringer (frequency) into the telephone, use the SE-47-A ringer mounting bracket kit manufactured by the Suttle Apparatus Corporation. The kit should include one mounting bracket, two short screws, two long screws, and two spacers. The two spacers are not used for assembly to the Type 192B telephone. To install the mounting bracket, refer to Figure 19 and proceed as follows:

(a) Using the short screws, attach the mounting bracket to the telephone baseplate ringer mounting holes.
(b) Using the long screws, secure the ITT ringer to the mounting bracket.
(c) Refer to Tables 6 and 7 and the note in paragraph 5.06(h) to make the necessary wiring connections.
(d) Refer to Table 8 to verify REN identification.

ANI Tip-Party Identification

6.02 For ANI tip-party identification, when no ringer is used, a D-284686-A inductor assembly is required for the 2,650 inductive mark. Mount the inductor assembly in the slot normally used for the slide switch on illuminated dial telephones. Connect the inductor leads to transmission network HB-1008 as follows:

(a) Black lead to terminal 21.
(b) Slate lead to terminal 9.
(c) Red lead - tape and store.

Type 820 SOUND-BOOSTER Handset Installation

6.03 Customers with hearing impairments may be provided with the optional Type 820 SOUND-BOOSTER handset, which is similar to the Type 811 handset except for the addition of the volume control dial and a single-stage, variable gain transistor amplifier that increases the sound volume from the receiver.

6.04 To install the Type 820 handset, perform the following:

(a) Remove the handset and retractile cord from the telephone, making note of the color of each handset cord lead and the terminal screw to which the colored lead is connected.
(b) Connect the J-hook strain relief clamp (on the retractile cord of the Type 820 handset) to the pierced hole provided in the telephone set baseplate or molded base.
(c) Connect the Type 820 handset retractile cord leads to the same terminal (color for color) from which the standard retractile handset cord leads were disconnected. These are shown in Table 5.
(d) Position the extra cord length to the right of the J-hook strain relief clamp.

NOTE: Care must be exercised during installation of the handset to prevent the handset cord from interfering with normal telephone operation.

Radio-Frequency-Interference Correction

6.05 This telephone generates and uses low-level Radio-Frequency (RF) energy. This telephone complies with FCC Part 15, Subpart J for Class B computing devices. If not used in strict accordance with the manufacturer's instructions, this telephone can cause interference to radio and/or television reception. The Radio-Frequency Interference (RFI) may occur within any of the telephone components or in a line connection external to the telephone. To determine whether RFI is external or internal, refer to the 471-150 subdivision of GTE Practices and perform the test procedure.

6.06 In the event that such Radio-Frequency Interference (RFI) does occur, the following action should be taken:

(a) Make certain this telephone is the RFI source. To do so, proceed as follows:

(1) If applicable, disconnect from the source of ac power.
(2) If RFI is still present, disconnect the telephone from the telephone line. If RFI is still present, this telephone is not the source.

(b) If either of the above does stop the RFI, proceed as follows:

(1) Reorient the receiving antenna on the radio or television receiving RFI.
(2) Relocate this telephone relative to the radio or television receiving RFI.
(3) Plug this telephone into a different wall jack and/or the radio or television being interfered with into a different ac wall outlet.

6.07 If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:

"How to Identify and Resolve Radio-TV Interference Problems."

This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

Type 33 Ringer Box Installation

6.08 When harmonic or superimposed ringing schemes must be used, install the Type 33 ringer box. The Type 33 ringer box is wired from the factory for bridged ringing (Figure 20). If other ringing schemes are required, refer to Table 9. If necessary, refer to Section 473-810-201 for additional instructions.

Message-Waiting Lamp Installation

6.09 The message-waiting kit, HH-880052-1, is available for Type 192B telephones. The kit includes a neon lamp with a yellow fluted cap; an 82-kilohm, 1/4-watt resistor; and two spade-tipped leads.

6.10 To install a message-waiting lamp in a Type 192B telephone, proceed as follows:

(a) Remove the telephone housing (refer to paragraph 5.03).
(b) Use the template provided with the modification kit to locate the hole position (Figure 21).
(c) Drill a 5/16-inch-diameter hole at the location indicated by the template.
(d) Place the escutcheon ring over the lamp wires and into position at the base of the lamp.
(e) Place the lamp in position and install the push nut (Figure 21).
(f) Connect the lamp leads to transmission network (HB-1008) terminals 8 and 10.
(g) Replace the telephone housing.

Station Restriction Conversion

6.11 The telephone may be rewired to prevent dialing of outside calls. Refer to Table 10 for wiring instructions. This modification prevents dialing whenever the polarity of the tip (L2) wire is positive with respect to the ring (L1) wire. When the tip is negative with respect to the ring, dialing is not restricted.

Connections for A and A1 Leads

6.12 To connect the A and A1 leads for Key Telephone System (KTS) use in TCU telephones, proceed as follows:

(a) Move the GRN line cord jack lead from transmission network terminal 8 to transmission network terminal 9.
(b) Move the YEL line cord jack lead from transmission network terminal 9 to transmission network terminal 8.
(c) Move the ringer capacitor lead from transmission network terminal 8 to transmission network terminal 9.
(d) Move the BRN Touch Calling Unit lead from transmission network terminal 3 to transmission network terminal 9.
(e) Connect the BLK line cord jack lead to transmission network terminal 3.

6.13 To connect the A and A1 leads for KTS use in rotary dial telephones, proceed as follows:

(a) Remove the brass strap connected to transmission network terminals 2 and 3.
(b) Move the GRN line cord jack lead from transmission network terminal 8 to transmission network terminal 2.
(c) Move the ringer capacitor lead from transmission network terminal 8 to transmission network terminal 2.
(d) Connect the YEL cord jack lead to transmission network terminal 8.
(e) Connect the BLK line cord jack lead to transmission network terminal 3.

## 7. TEST PROCEDURES

7.01 When the central office is equipped with a dial test circuit (or DTMF subset and party identification circuit) and a test receiver circuit, the telephone can be tested on the customer's premises for correct party identification and digit registration. Perform these tests as follows:

(a) Access the test circuit by keying the predetermined access code.

(1) If the test circuit is in use, busy tone is received.
(2) Test circuit access is indicated by receipt of a burst of dial tone to the telephone under test.

(b) On party lines, verify that correct party identification has been made by keying in the digit 1 (ring party) or the digit 2 (tip party) corresponding to the customer's party-line assignment. On single-party lines, key in the digit 1.

(1) Correct party registration reapplies dial tone to the line.

(2) Incorrect or no party registration returns busy tone for 3 or 4 seconds, followed by dial tone.
(3) Retest can be made by momentarily depressing the hookswitch, then proceeding to key in digit 1 or 2 again.

NOTE: Party identification check must be made to condition the test circuit for the digit registration test. A digit registration test may be performed after the party identification check, whether or not correct party registration occurs.

(c) After the party identification check is made, test the TCU tone generator frequency combinations by depressing the pushbuttons of the TCU in a sequential order, starting with pushbuttons 1, 2, and 3, and proceeding through 0.

(1) After all digits are inserted, correct digit registration is indicated by the return of three bursts of 480-cycle tone (zip tone) followed by dial tone.
(2) If correct digit registration does not occur, no zip tone will be received. This indicates a malfunction in the TCU tone generator.

(d) If the test circuit provides for digit verification after each pushbutton is depressed, depress the pushbuttons in a sequential order starting with pushbuttons 1, 2, and 3, and proceeding through 0.

(1) If correct digit registration occurs, dial tone is momentarily interrupted after each pushbutton is depressed.
(2) If digit registration does not occur, steady dial tone is heard.

(e) When a digit registration malfunction occurs, momentarily depress the hookswitch and repeat the test, starting with the party identification check.

NOTE: This hookswitch flash must not be long enough to release the entire connection.

7.02 Testing may also be accomplished by placing a call to a test desk at the central office. The installer may reach the test desk by keying the designated test number. The central office test desk operator will instruct the installer to perform the following:

(a) Depress the pushbutton corresponding to the party identification digit (1 or 2). The test desk operator will receive a visible indication of which digit has been registered by the receiver.
(b) Sequentially depress each of the 10 TCU numerical pushbuttons. The numerical equivalent and the sequence in which they are received will be displayed at the test desk. If necessary, the test operator may reset the test circuit to retest the calling telephone.

TABLE 1. IDENTIFICATION OF ROTARY DIAL VERSIONS.

| DESCRIPTION | PART NO. | SUFFIX COLOR CODES: BASIC BLACK | SAND BEIGE | AVOCADO | CLASSIC IVORY | TURQUOISE | ESPRESSO BROWN | CAMELLIA PINK | BASIC WHITE | FORGET-ME-NOT BLUE |
|---|---|---|---|---|---|---|---|---|---|---|
| Numerical 1-0 | D-84942- | X | X | X | X | X | X | X | X | X |
| Numerical 1-0 lighted | | A | A | A | A | A | A | A | A | A |
| Metropolitan ABC | D-84935- | XWA | XWB | XWT | XWE | XWG | XWY | XWL | XWM | XWK |
| Metropolitan ABC Lighted | | AW | AW | AW | AW | AW | AW | AW | AW | AW |
| SATT A | D-84936- | XWA | XWB | XWT | XWE | XWG | XWY | XWL | XWM | XWK |
| SATT A lighted | | AW | AW | AW | AW | AW | AW | AW | AW | AW |
| SATT B | D-84937- | XWA | XWB | XWT | XWE | XWG | XWY | XWL | XWM | XWK |
| SATT B Lighted | | AW | AW | AW | AW | AW | AW | AW | AW | AW |

TABLE 2. IDENTIFICATION OF TCU VERSIONS.

| DESCRIPTION | ASSEMBLY PART NO. | SUBFACEPLATE COLOR | NOMENCLATURE |
|---|---|---|---|
| 12-pushbutton, ABC, coil-capacitor oscillator | D-840000-A | Doeskin gray | 12C LCTCU |
| 12-pushbutton, 1-0, coil-capacitor oscillator | HD-840109-A | Doeskin gray | 12C LCTCU |
| 12-pushbutton, ABC, integrated circuit oscillator | D-840000-F | Dark gray | 12C ICTCU |
| 12-pushbutton, 1-0, integrated circuit oscillator | HD-840109-D | Dark gray | 12C ICTCU |
| 12-pushbutton, ABC, integrated circuit oscillator | HD-840124-A | Doeskin gray (Note) | 12D TCU |

NOTE: Primary identification is the presence of a raised dot in the center of the # pushbutton,

TABLE 3. TYPE 192B TELEPHONE HOUSING, HANDSET, AND HANDSET CORD COLOR CODES.

| | | SUFFIX COLOR CODES | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DESCRIPTION | PART NO. | BASIC BLACK | SAND BEIGE | AVOCADO | CLASSIC IVORY | TURQUOISE | ESPRESSO BROWN | CAMELLIA PINK | BASIC WHITE | FORGET-ME-NOT BLUE |
| Housing Assembly | HD-480047- | A | B | T | E | G | Y | L | M | K |
| Handset Assembly | L-9054- | DA | DB | DT | DE | DG | DY | DL | DM | DK |
| Handset Cord Assembly (6ft) | HD-543534- | DA | DB | DT | DE | DG | DY | DL | DM | DK |
| Handset Cord Assembly (12ft) | HD-543534- | WA | WB | WT | WE | WG | WY | WL | WM | WK |

TABLE 4. MOUNTING KIT (HH-880066-2) COMPONENTS.

| ITEM | PART NO. | DESCRIPTION | AMOUNT |
|---|---|---|---|
| 1 | HD-580062-A | Latch Bar | 1 |
| 2 | HD-110040-A | Latch bar spring | 1 |
| 3 | HD-540165-B | Adapter cord | 1 |
| 4 | HD-570058-A | Plug shell WECo jack | 1 |
| 5 | HD-570057-A | Plug shell GTE jack | 1 |

TABLE 5. TYPE 811 AND 820 HANDSET CORD LEAD CONNECTIONS TO TRANSMISSION NETWORK TERMINALS.

| HANDSET CORD LEAD | FOR ROTARY DIAL CONNECT TO TERMINAL | FOR 12C LCTCU CONNECT TO TERMINAL | FOR 12C ICTCU CONNECT TO TERMINAL | FOR 12D TCU CONNECT TO TERMINAL |
|---|---|---|---|---|
| RED | 5 | 15 | 15 | 15 |
| GRN | 23 | 5 | 23 | 23 |
| YEL | 4 | 12 | 12 | 12 |
| BLK | 23 | 23 | 23 | 23 |

*LCTCU = Inductor-Capacitor Touch Calling Unit.
ICTCU = Integrated Circuit Touch Calling Unit.

TABLE 6. RINGING OPTIONS FOR FCC-APPROVED STANDARD BRIDGED MINIATURE PLUG AND JACK CONNECTIONS.

| TYPE OF RINGING OPTION | | INTERIOR WIRES TO MINIATURE JACK | | | | TRANSMISSION NETWORK TERMINALS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | LINE CORD MINIATURE JACK LEADS | | | | RINGER LEADS (Note 1) | | | | CAPACITOR LEADS | |
| | | RED | GRN | YEL | BLK | RED | GRN | YEL | BLK | RED | GRN | BLK | BLU | | |
| | Metallic bridged | 3 | 4 | Resistor plug lead (Note 2) | | 10 | 8 | 15 (Notes 2 and 3) | A (Notes 2 and 3) | 10 | 16 | NC | NC | 8 | 16 |
| Standard Rotary Dial or TCU | Divided ringing - L2 (+ tip) to ground | 3 | 4 | 5 | - | 10 | 8 | 9 | NC | 16 | 8 | NC | NC | 8 | 16 |
| | Divided ringing - L1 (- ring) to ground | 3 | 4 | 5 | - | 10 | 8 | 9 | NC | 10 | 16 | NC | NC | 9 | 16 |
| | Divided ringing - L1 (- ring) to ground | 3 | 4 | 5 | - | 10 | 8 | 9 | NC | 10 | 16 | NC | NC | 9 | 16 |
| SATT Rotary Dial | Metallic bridged | 3 | 4 | Resistor plug lead (Note 2) | | 10 | 8 | 15 (Note 2) | A (Note 2) | 10 | 16 | NC | NC | 8 | 16 |
| | Divided ringing - L2 (+ tip) to ground | 3 | 4 | 5 | - | 10 | 8 | 9 | NC | 8 | 16 | NC | NC | 8 | 16 |
| | ANI service tip party (Note 4) | 3 | 4 | 5 | - | 10 | 8 | 9 | NC | 16 | 9 | 21 | NC | 6 | 16 |

NC = No Connection. Tape and store these ringer leads.

NOTES:
1. Insulate and tape the unused ringer leads separately.
2. Use with the lighted rotary dial version only.
3. If the telephone is equipped with a TCU, tape and store these leads separately.
4. For ANI service tip party identification when no ringer is used, proceed as follows:

   (a) For a 2,650-ohm inductive mark, use a D-284686-A inductor assembly wired as follows:

      (1) BLK lead to terminal 21.
      (2) SL GRAY lead to terminal 9.
      (3) RED lead - tape and store.

   (b) For a 3,000-ohm resistive mark (dial off normal), refer to drawing H-885452.

TABLE 7. RINGING OPTIONS FOR CONNECTING BLOCK ATTACHMENTS.

| RINGING OPTIONS | TERMINAL BLOCK CONNECTIONS | | | | | | | | | | TRANSMISSION NETWORK TERMINALS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LINE CORD | | | | | INTERIOR WIRES | | | | | RINGER LEADS | | CAPACITOR LEADS | | LINE CORD | | | | | |
| | RED | GRN | YEL | BLK | BLU | RED | GRN | YEL | BLK | BLU | RED | GRN | | | RED | GRN | YEL | BLK | BLU | |
| Metallic Bridged TCU or Standard | L1 | L2 | 4G | 3 (Note 1) | 6 | L1 | L2 | 4G | Resistor plug lead | | 10 | 16 | 8 | 16 | 10 | 8 | 9 | A | 15 | |
| Divided Ringing-L2 (+ Tip) to Ground TCU or Standard Dial | L1 | L2 | 4G | (Note 2) | | L1 | L2 | 4G | - | - | 16 | 9 | 8 | 16 | 10 | 8 | 9 | (Note 2) | | |
| Divided Ringing-L1 (-Ring) to Ground TCU or Standard Dial | L1 | L2 | 4G | (Note 2) | | L1 | L2 | 4G | - | - | 10 | 16 | 9 | 16 | 10 | 8 | 9 | (Note 2) | | |
| Metallic Bridged SATT Dial | L1 | L2 | 4G | 3 (Note 1) | 5 | L1 | L2 | 4G | Resistor plug lead | | 10 | 16 | 8 | 16 | 10 | 8 | 9 | A | 15 | |
| Divided Ringing-L1 (+ Tip) to Ground SATT Dial | L1 | L2 | 4G | (Note 2) | | L1 | L2 | 4G | - | - | 8 | 16 | 9 | 16 | 10 | 8 | 9 | (Note 2) | | |
| Divided Ringing-L1 (-Ring) to Ground SATT Dial | L1 | L2 | 4G | (Note 2) | | L1 | L2 | 4G | - | - | 10 | 16 | 9 | 16 | 10 | 8 | 9 | (Note 2) | | |
| ANI Inductive Tip for Type 46A Ringer (Note 3) | L1 | L2 | 4G | (Note 2) | | L1 | L2 | 4G | - | - | 10 | 9 | 6 | 16 | 10 | 8 | 9 | (Note 2) | | |

NOTES:
1. Use with the lighted rotary dial version only.
2. If the telephone is equipped with a TCU, tape and store these leads separately.
3. For ANI service tip party identification when no ringer is used, proceed as follows:

   (a) For a 2,650-ohm inductive mark, use a D-284686-A inductor assembly wired as follows:

      (1) BLK lead to terminal 21.
      (2) SL lead to terminal 9.
      (3) RED lead - tape and store.

   (b) For a 3,000-ohm resistive mark (dial-off normal), refer to drawing H-885452.

TABLE 8. RINGER EQUIVALENCY NUMBER IDENTIFICATION.

| | HARMONIC | | SYNCHROMONIC | | DECIMONIC | |
|---|---|---|---|---|---|---|
| RINGER TYPE | FREQUENCY | VALUE | FREQUENCY | VALUE | FREQUENCY | VALUE |
| C | 16.6 | 1.2 | 16.6 | 1.2 | | |
| D | | | 20 | 1.0 | 20 | 1.0 |
| E | 25 | 1.0 | | | | |
| F | | | 30 | 1.0 | 30 | 1.0 |
| G | 33.3 | 1.0 | | | | |
| H | | | | | 40 | 1.0 |
| J | | | 42 | 1.0 | | |
| K | 50 | 1.0 | | | 50 | 1.0 |
| L | | | 54 | 1.0 | | |
| M | | | | | 60 | 1.0 |
| N | 66.6 | 1.0 | 66.6 | 1.0 | | |
| P* | 33.3-25 | | 20-30 | | TYPE 48 SL. 1.0<br>TYPE 46 SL. 1.2<br>TYPE 45 SL. 1.0 | |

* GTE AE Straight-Line Ringers.

NOTE: ITT 148 SL MINI RINGER 1.0P (ITT 151 FREQUENCY MINI RINGER 1.0X replace X with an alpha character for ringer frequency. EXAMPLE: 33.3 = 1.0G).

TABLE 9. TYPE 33 RINGER UNIT CONNECTIONS.

| | RINGER UNIT TERMINAL STRIP CONNECTIONS | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TYPE OF RINGING | CAPACITOR | | RINGER | | WIRING FROM MINIATURE JACKS CONNECTING TO TERMINALS | | | |
| | BLK | WHT | RED | GRN | BLK | RED | GRN | YEL |
| Bridged | 3 | 1 | 1 | 4 | 2 | 3 | 4 | 5 |
| Divided +Tip (Note) | 5 | 1 | 1 | 4 | 2 | 3 | 4 | 5 |
| Divided -Ring (Note) | 5 | 1 | 1 | 3 | 2 | 3 | 4 | 5 |

NOTE: A lighted dial cannot be used with this ringing scheme.

TABLE 10. STATION RESTRICTION CONVERSION.

| STEP | 12C TCTCU-EQUIPPED TELEPHONE | 12C ICTCU/12D TCU EQUIPPED TELEPHONE |
|---|---|---|
| 1 | Remove, tape, and store the following leads:<br><br>BRN lead on TB-C.<br><br>RED lead on TB-D. | Remove, tape, and store the following leads:<br><br>BRN lead on TB-C.<br><br>WHT lead on TN-1. |
| 2 | Move WHT lead on TN-1 to TN-11 (Note 1). | Move RED lead on TB-D to TN-1. |
| 3 | Strap TN-1 to TB-C and TN-2 to TB-D. | Move GRN lead on TN-2 to TN-11 (Note 1). |
| 4 | Cathode (band end) to TN-1 and anode to TN-11 of diode FD-1029-DG. | Strap TN 1 to TB-C and TN-2 to TB-D. |
| 5 | | Cathode (band end) to TN-11 and anode to TN-2 of diode FD-1029-DG (Note 1). |

LEGEND:

TN = Transmission network terminal.
TB = Terminal board or strip terminal.

NOTE:

1. If a rotary-dial spark suppression capacitor is connected to TN-11, it should be removed. This capacitor is not needed in a TCU-equipped telephone.

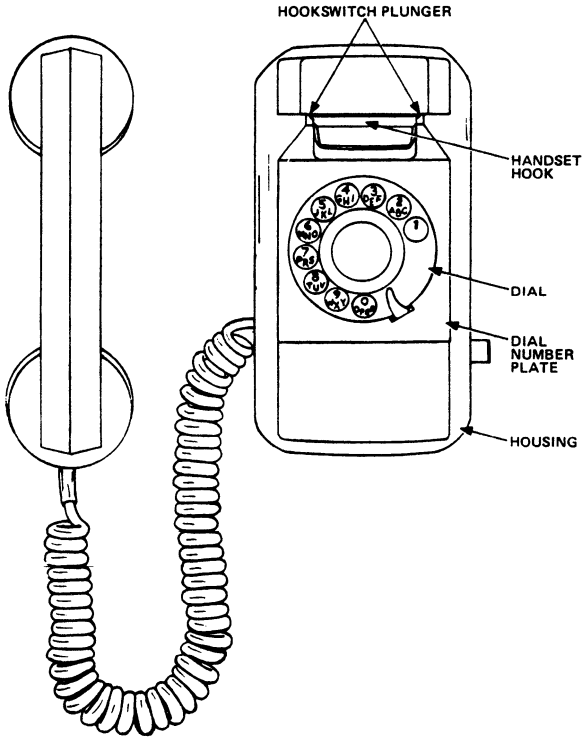
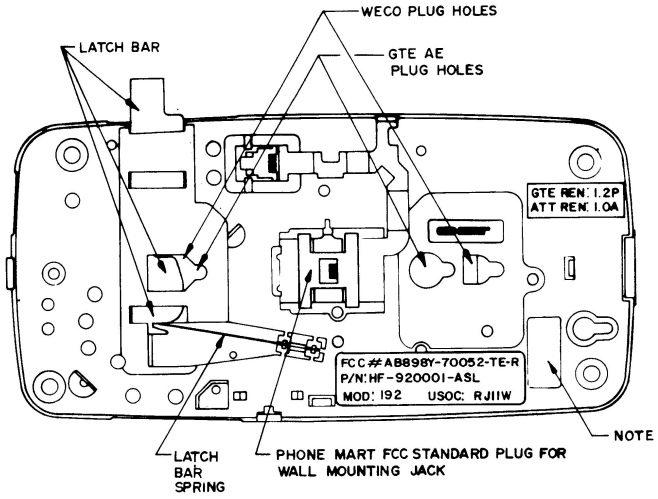



Figure 1. Type 192B Telephone (Rotary Dial Version).

Figure 2. Type 192B Telephone (TCU Version).




NOTE:
FCC REGISTERED TELEPHONES WILL USE BASEPLATE (HD-781035-A) WITH INSERT WHICH READS "COMPLIES WITH PART 68, FCC RULES."
NON FCC REGISTERED TELEPHONES WILL USE BASEPLATE (HD-781035-B) WITH A BLANK INSERT.

Figure 3. Type 192B Telephone Baseplate.

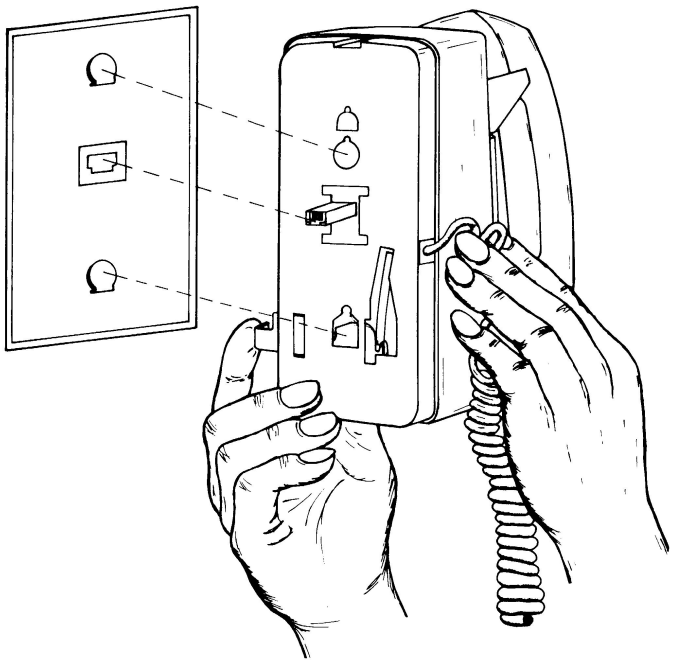


Figure 4. Alignment of Type 192B Telephone Baseplate With Wall Outlet.

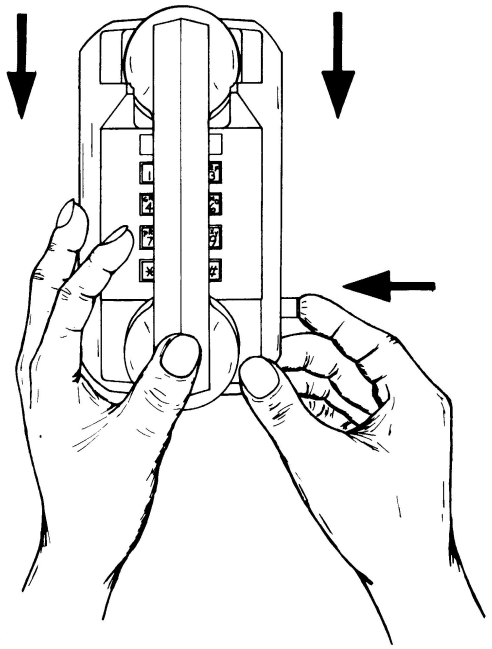


Figure 5. Engaging the Locking Pins into the Baseplate.

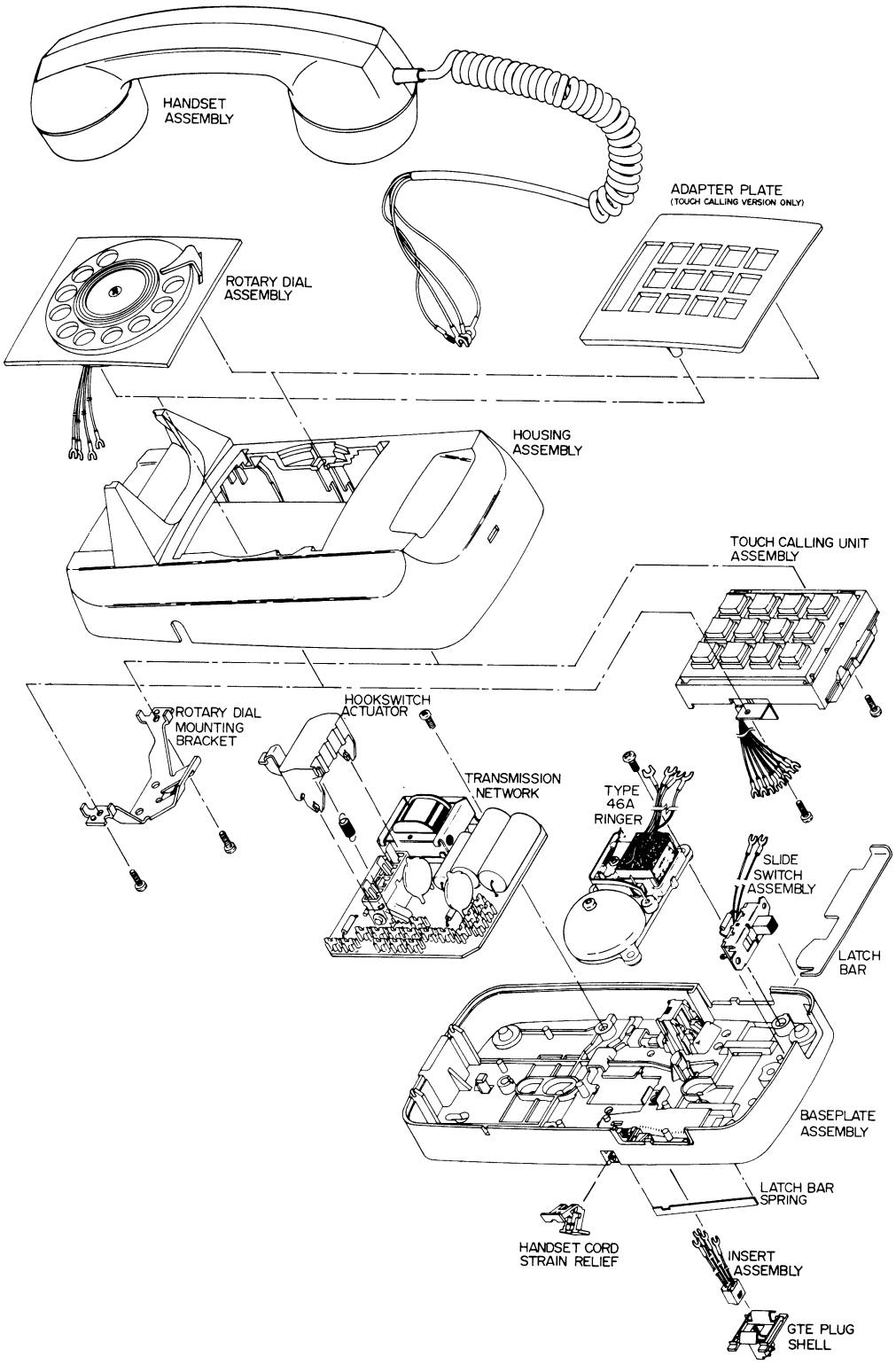
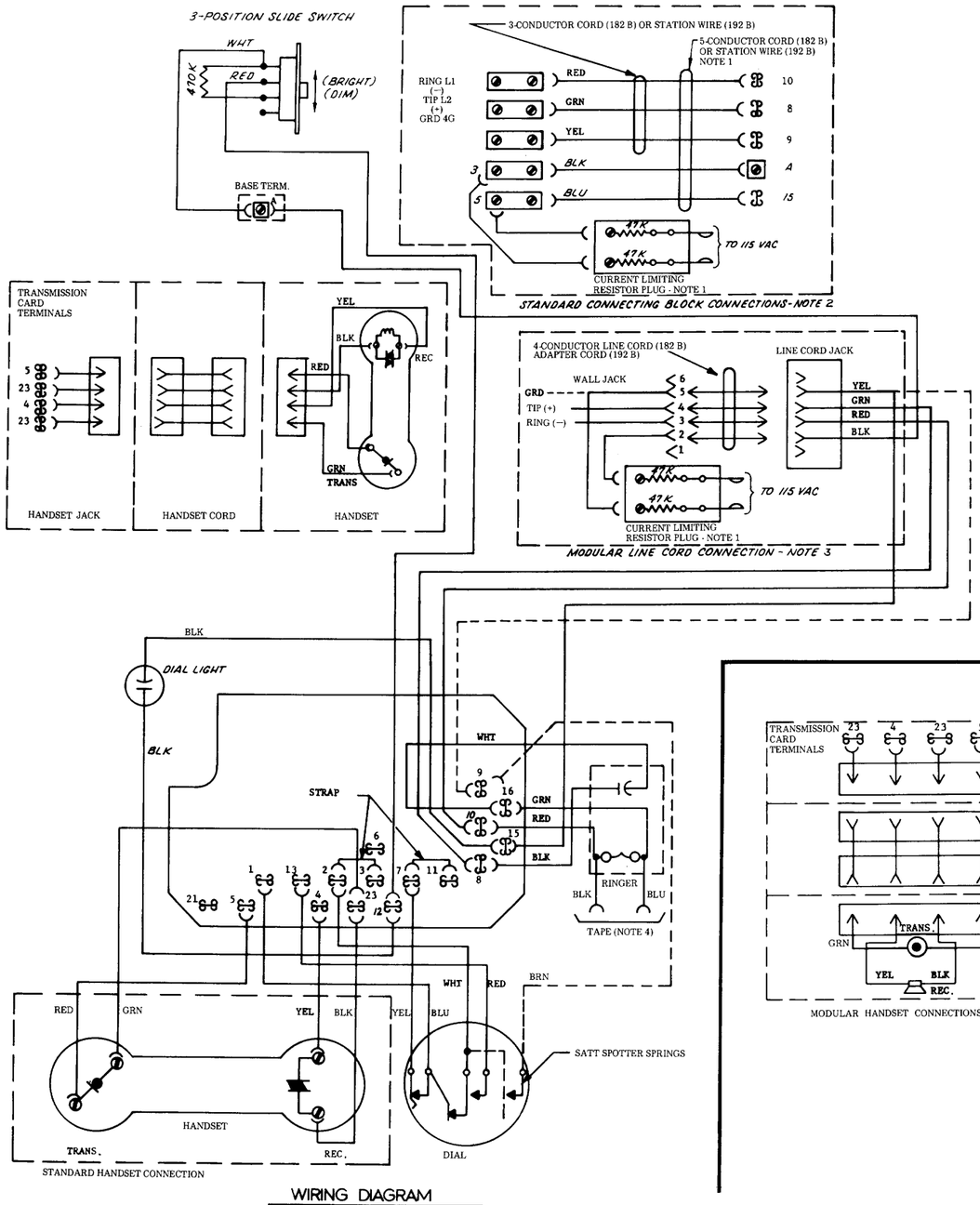
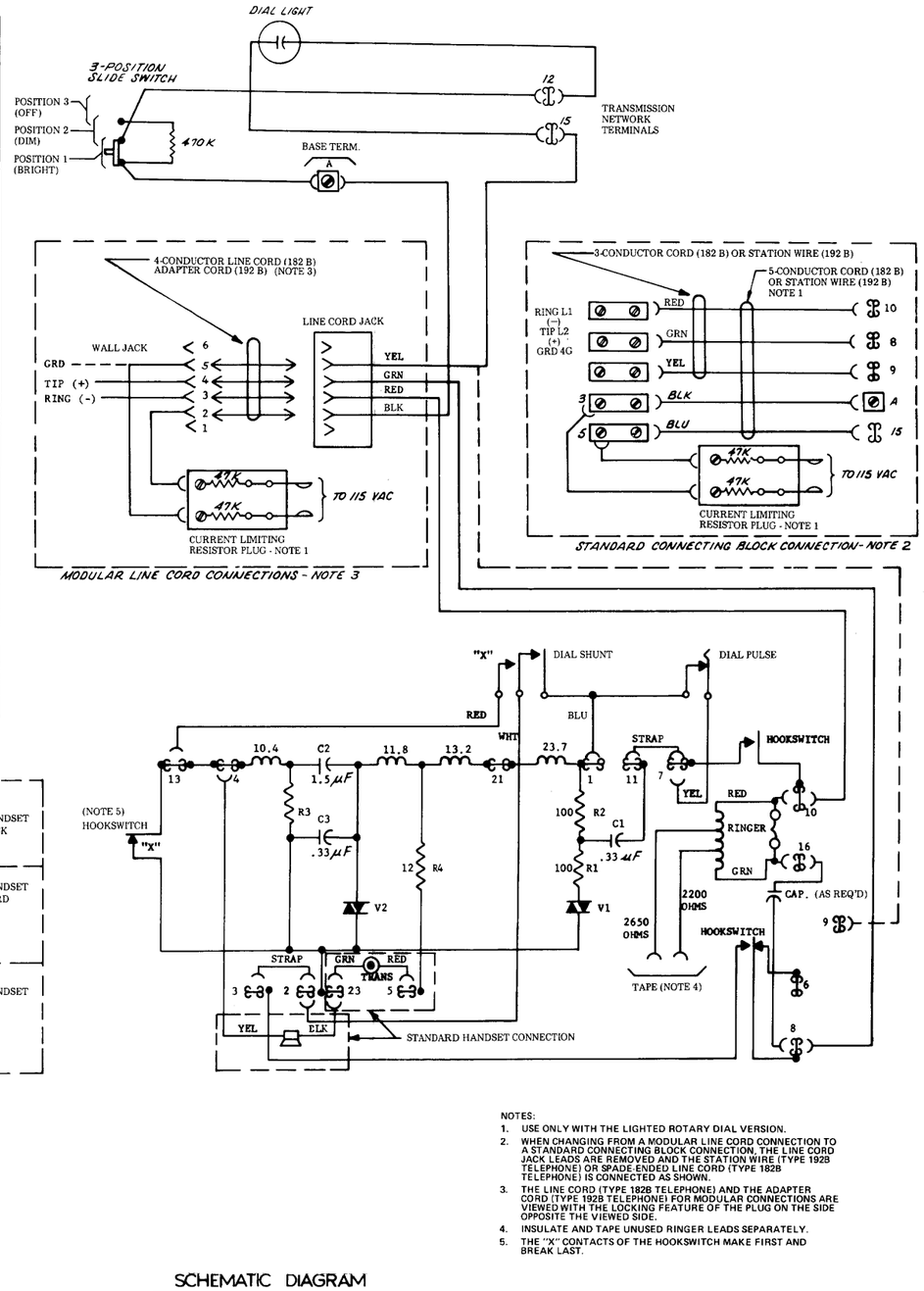



Figure 6. Type 192B Telephone (Exploded View).




NOTES:
1. USE ONLY WITH THE LIGHTED ROTARY DIAL VERSION.
2. WHEN CHANGING FROM A MODULAR LINE CORD CONNECTION TO A STANDARD CONNECTING BLOCK CONNECTION, THE LINE CORD JACK LEADS ARE REMOVED AND THE STATION WIRE (TYPE 192B TELEPHONE) OR SPADE-ENDED LINE CORD (TYPE 182B TELEPHONE) IS CONNECTED AS SHOWN.
3. THE LINE CORD (TYPE 182B TELEPHONE) AND THE ADAPTER CORD (TYPE 192B TELEPHONE) FOR MODULAR CONNECTIONS ARE VIEWED WITH THE LOCKING FEATURE OF THE PLUG ON THE SIDE OPPOSITE THE VIEWED SIDE.
4. INSULATE AND TAPE UNUSED RINGER LEADS SEPARATELY.
5. THE "X" CONTACTS OF THE HOOKSWITCH MAKE FIRST AND BREAK LAST.

Figure 7. Schematic and Wiring Diagram for Type 192B Telephones Equipped With a Rotary Dial.

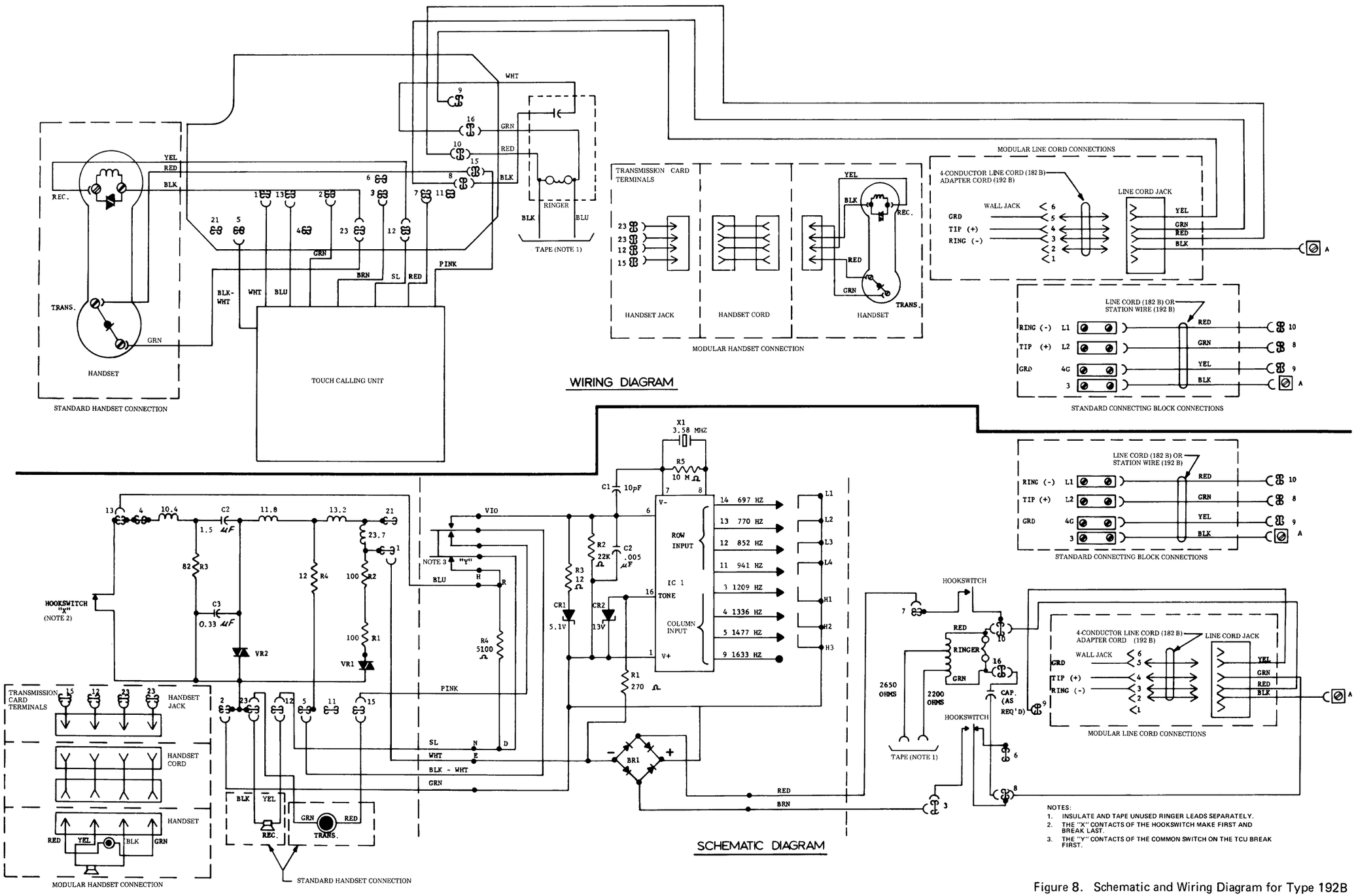
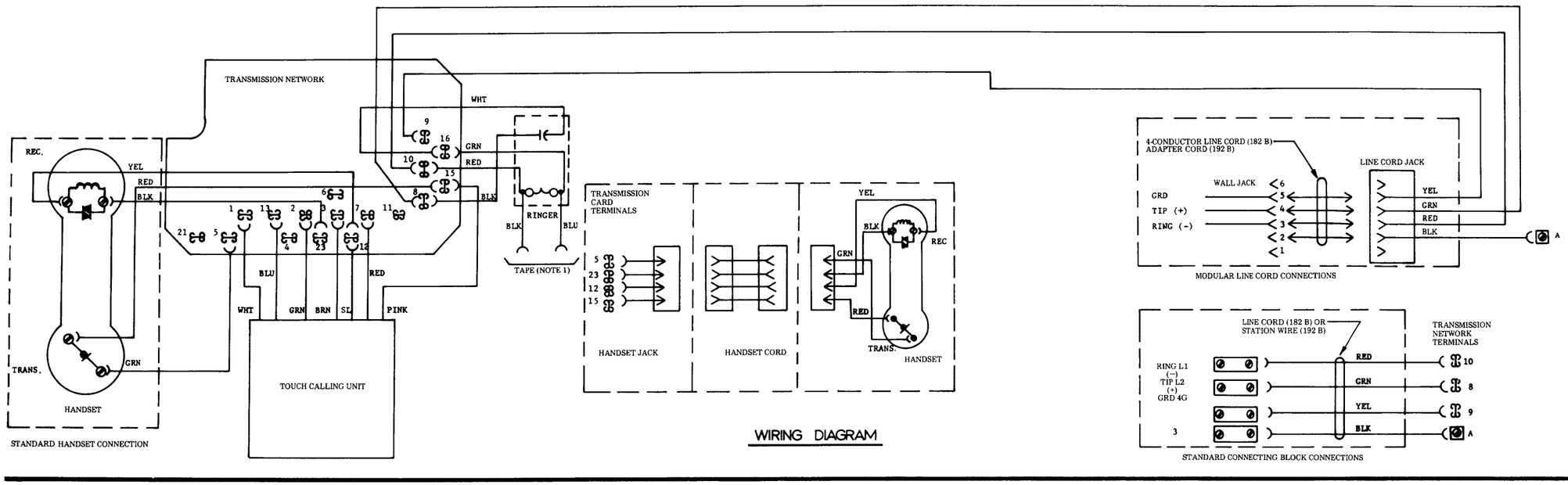



Figure 8. Schematic and Wiring Diagram for Type 192B Telephones Equipped With a Type 12C ICTCU.



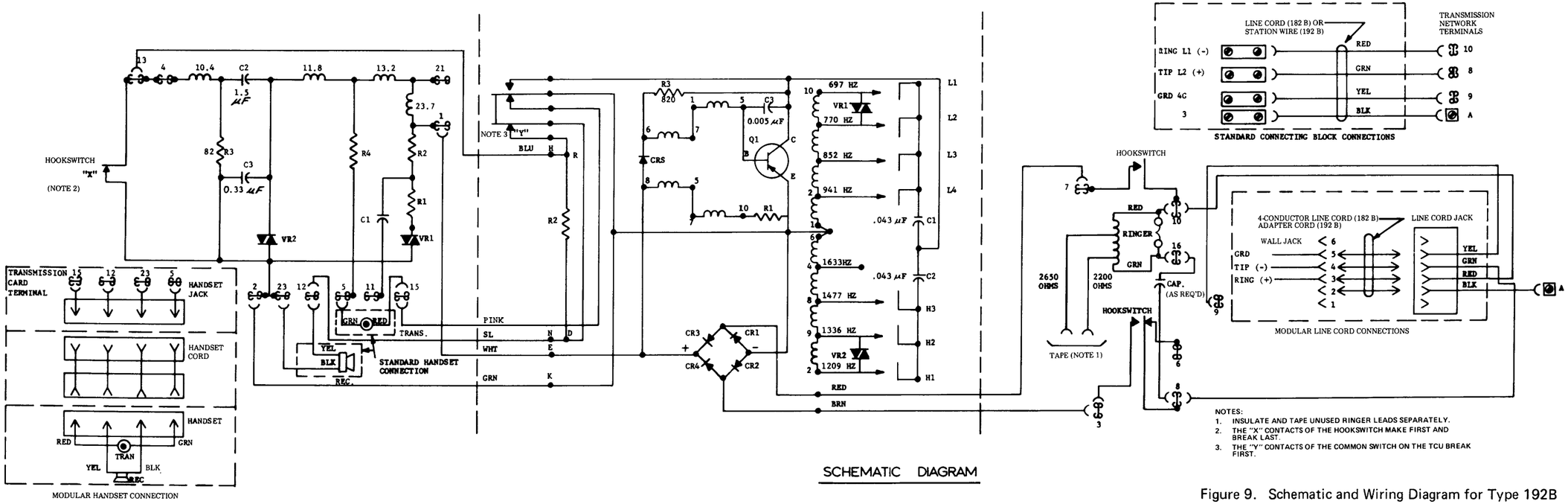




Figure 9. Schematic and Wiring Diagram for Type 192B Telephones Equipped With a Type 12C LCTCU.

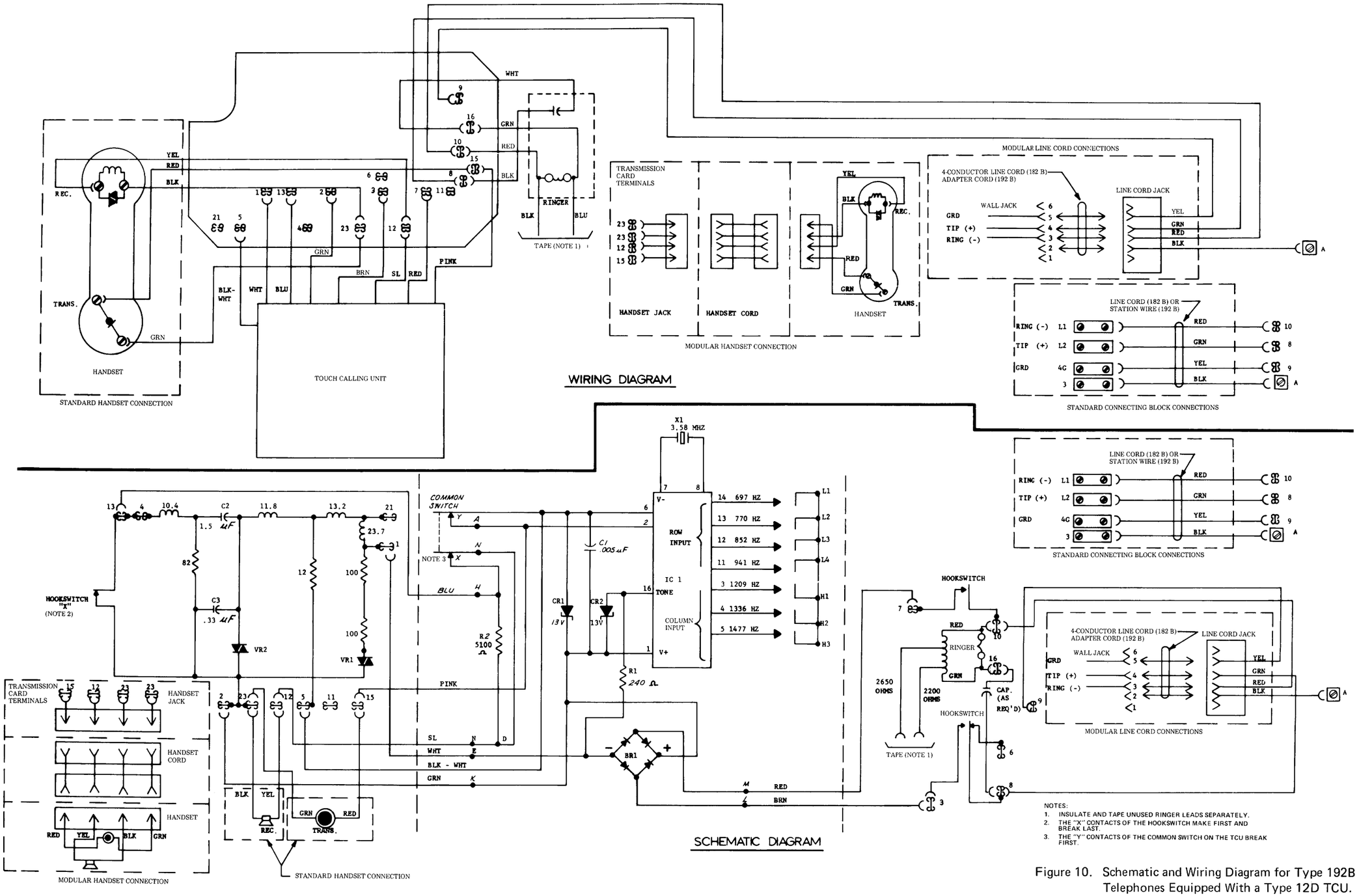



Figure 10. Schematic and Wiring Diagram for Type 192B Telephones Equipped With a Type 12D TCU.

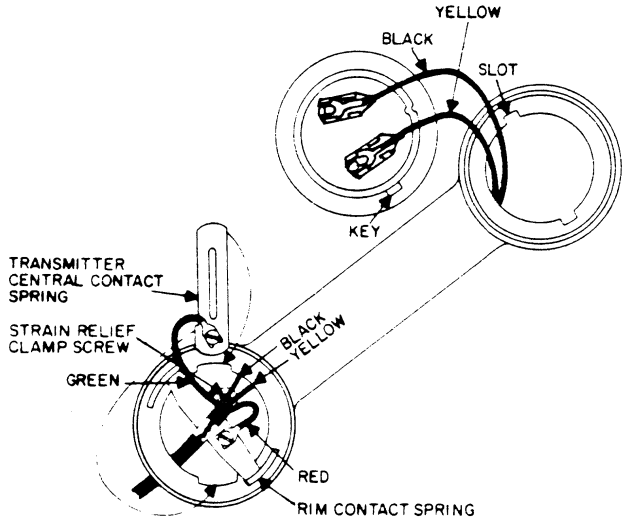



Figure 11. Internal Wiring for Type 810 and 811 Handsets.

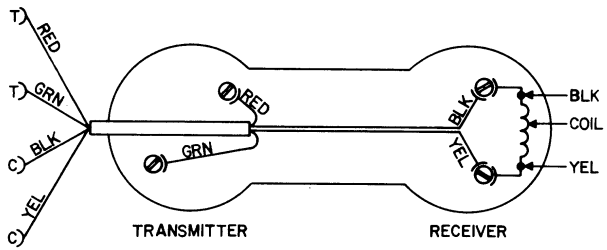



Figure 12. Internal Wiring for Type L-9081 (SOUND-BOOSTER) Handsets.

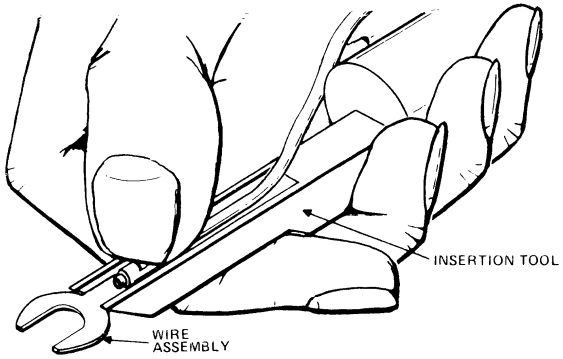
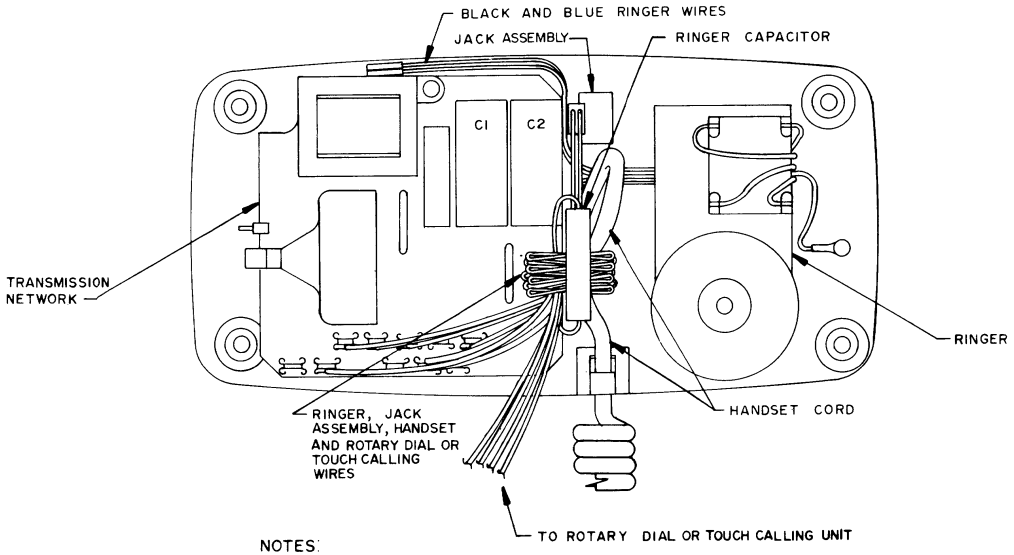



Figure 13. Wire Assembly Insertion Method.




NOTES:

1. THE TRANSMISSION NETWORK CARD OF TELEPHONES EQUIPPED WITH A ROTARY DIAL HAS TWO LARGE CAPACITORS C1 AND C2.
2. THE TRANSMISSION NETWORK CARD OF TELEPHONES EQUIPPED WITH A TCU HAS ONLY ONE LARGE CAPACITOR C2.

Figure 14. Internal View of Type 192B Telephone Baseplate.

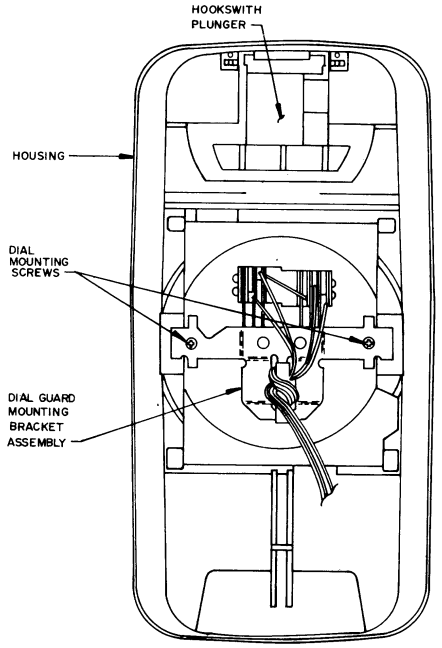



Figure 15. Internal View of Type 192B Telephone Housing Equipped With Rotary Dial.

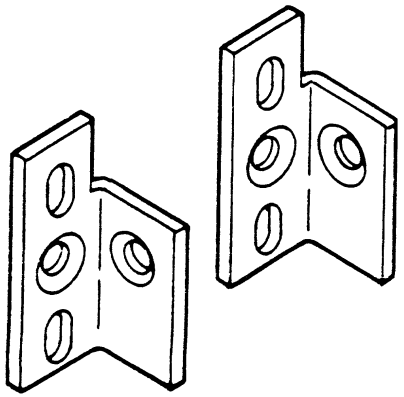


Figure 16. TCU Mounting Brackets for Type 192B Telephone.

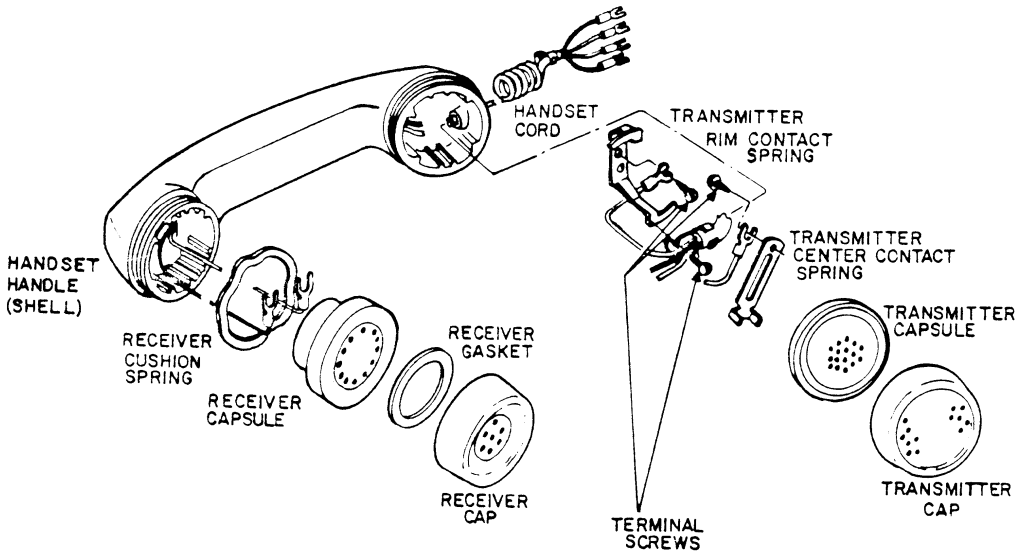



Figure 18. Exploded View of Type 811 Handset.

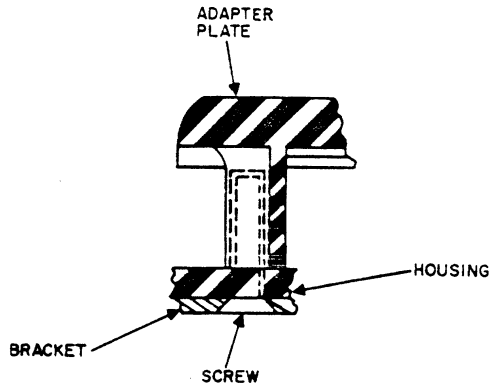



Figure 17. Method of Attaching TCU to Housing.

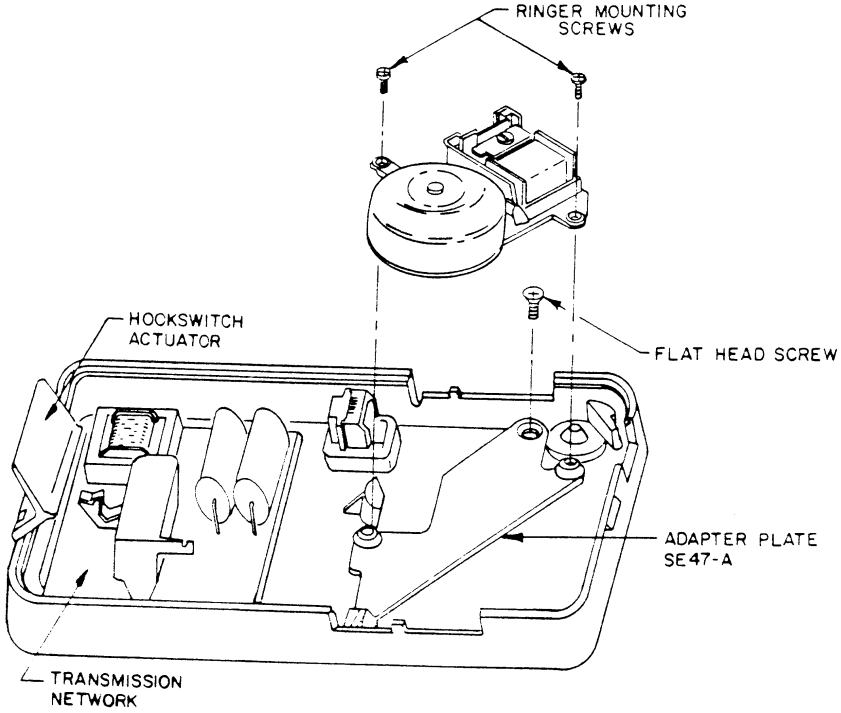



Figure 19. ITT Ringer Installation.

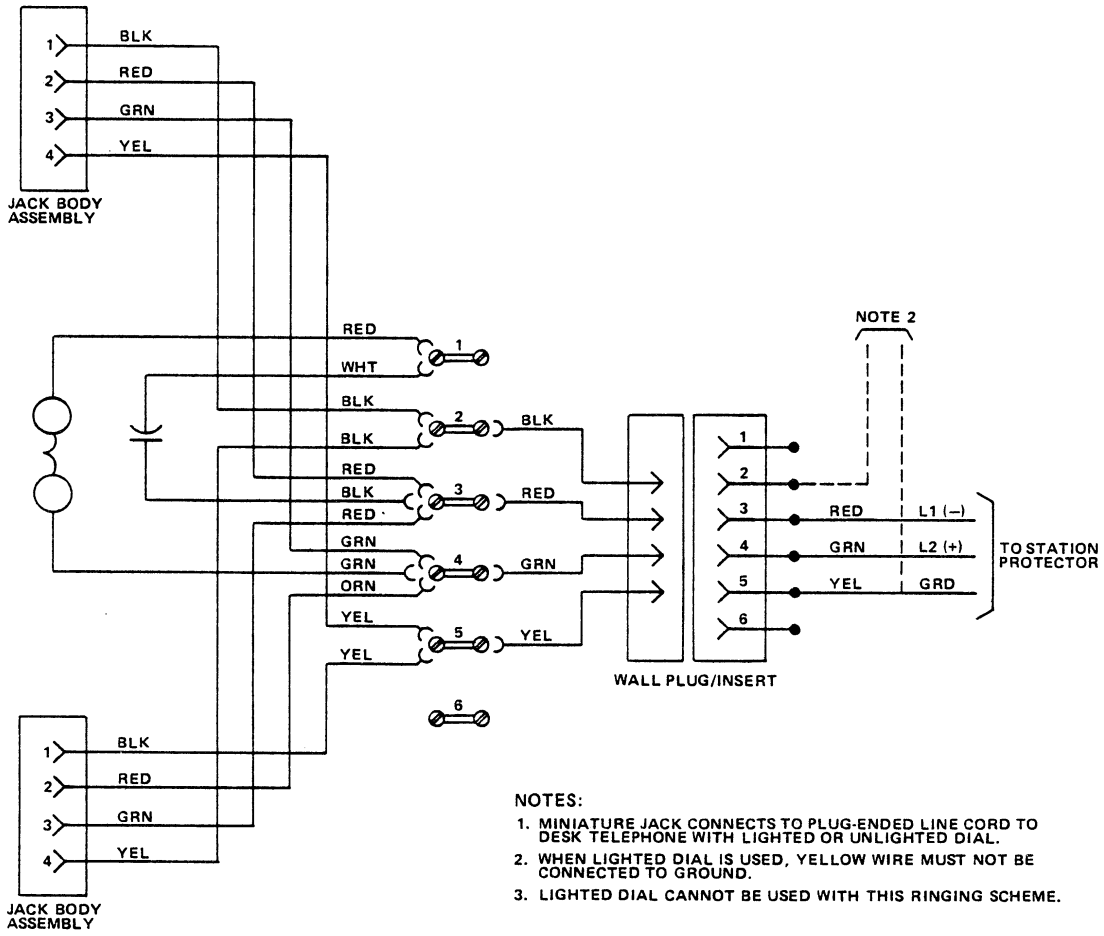



Figure 20. Wiring Diagram for Bridged Ringing.

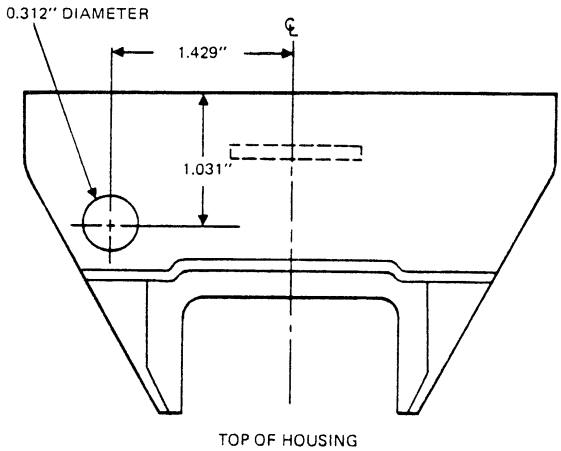



Figure 21. Message-Waiting Lamp Mounting Hole Locations.

# TYPE 192B TELEPHONE
# DESCRIPTION AND INSTALLATION

## 1. GENERAL

1.01 This addendum to Issue 1 of this section adds a new low voltage kit, HH-880052-2, to the high voltage kit, HH-880052-1.

1.02 Microfiche Copy Recipients. Remove Issue 1 of this section from the file and replace it with the microfiche copy identified as Issue 1, Addendum 1. Changes are marked in the replacing copy.

1.03 Paper Copy Recipients. In ink or red pencil, make the changes indicated in part 2 of this addendum. Write "See Addendum" in the margin next to each change. File the addendum directly in front of the addended section.

1.04 GTE Automatic Electric (AE) practices are used by GTE employees for operating and maintaining the equipment GTE AE manufactures and sells. These practices may change or may not be suitable in a specific situation and so are recommended as suggested guidelines only. GTE AE hereby disclaims any responsibility and/or liability for any consequential or inconsequential damages that may result from the use of such practices unless such practices are utilized in conjunction with the operation and maintenance of original equipment manufactured or supplied by GTE AE and covered by its standard warranty. GTE AE acknowledges that the customer's special requirements policy/practices may take precedence over those supplied by GTE AE and covered by its standard warranty. GTE AE acknowledges that the customer's special requirements policy/practices may take precedence over those supplied by GTE AE if conflicts develop during installation and ongoing operation.

1.05 This practice is provided with the understanding that it shall not be copied or reproduced in whole or in part or disclosed to others without the prior written permission of GTE AE.

## 2. CHANGES

2.01 Change paragraph 6.09 to read:

> 6.09 To install a message-waiting lamp in Type 192B telephone, use high voltage kit, HH-880052-1 or low voltage kit, HH-880052-2, depending on the voltage available. The maximum breakdown voltage for the high voltage kit is 95 VAC or 135. VDC. The maximum breakdown voltage for the low voltage kit is 65 VAC or 90 VDC. Both kits contain a lamp assembly that consists of a neon lamp with one yellow fluted cap; one 82-kilohm, 1/4-watt resistor; and two spade-tipped leads. The leads on the high voltage assembly are red and white. The leads on the low voltage assembly are black and white. To install a message-waiting lamp, refer to Figure 21 and proceed as follows: