

## TELEPHONE BASES

### AC1 AND AD1

### IDENTIFICATION, INSTALLATION, AND MAINTENANCE

#### 1. GENERAL

1.01 This section is reissued to:

- Add 2220B Hand Telephone Set
- Add P-90D231 Polarity Guard Assembly
- Add D5AN Mounting Cord (AD1 Base)
- Change reference to 165B Adapter (AD1 Base)

Since this reissue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

#### 2. IDENTIFICATION

2.01 The AC1 telephone base (Fig. 1) mounts on a flat vertical surface while the AD1 (Fig. 2) may be placed on a flat horizontal surface.

2.02 Either of these telephone bases may be used in conjunction with a 220A, 1220A, or 2220B hand telephone set to make up a complete telephone set.

2.03 For other information on the 220A, 1220A, or 2220B hand telephone set, refer to Section 502-320-100.

#### ORDERING GUIDE

Base, Telephone, AC1-\*

Base, Telephone, AD1-\*

##### (a) Replaceable Components

- Adapter, 165A (includes P-28E424 resonator and adapter mounting screws) AC1 base

- Adapter, 165B (includes P-28E424 resonator and adapter mounting screws) early AD1 Base

- P-28E261 Base (AC1)

- P-28E351 Base (AD1)

- P-82E8\* Cover

- P-82E2\* Housing and Plunger Assembly (AC1)

- P-82E4\* Housing Assembly (AD1)

- P-22F438 Resonator Assembly, (AD1 Base current production)

- Ringer, P1A

##### (b) Associated Apparatus or Equipment (order separately)

- Cord, Mounting, D5AL-\* (5 feet-6 inches, 9 or 13 feet) AD1 base

- Transformer 2012A or equivalent

##### (c) Optional Apparatus or Equipment (ordered separately)

- Cord, Mounting, D5AN-\* (5 feet-6 inches, 9 or 13 feet retractable) AD1 base. Use in place of D5AL cord when specified on customer service order.

\*Refer to Table A for color selection.

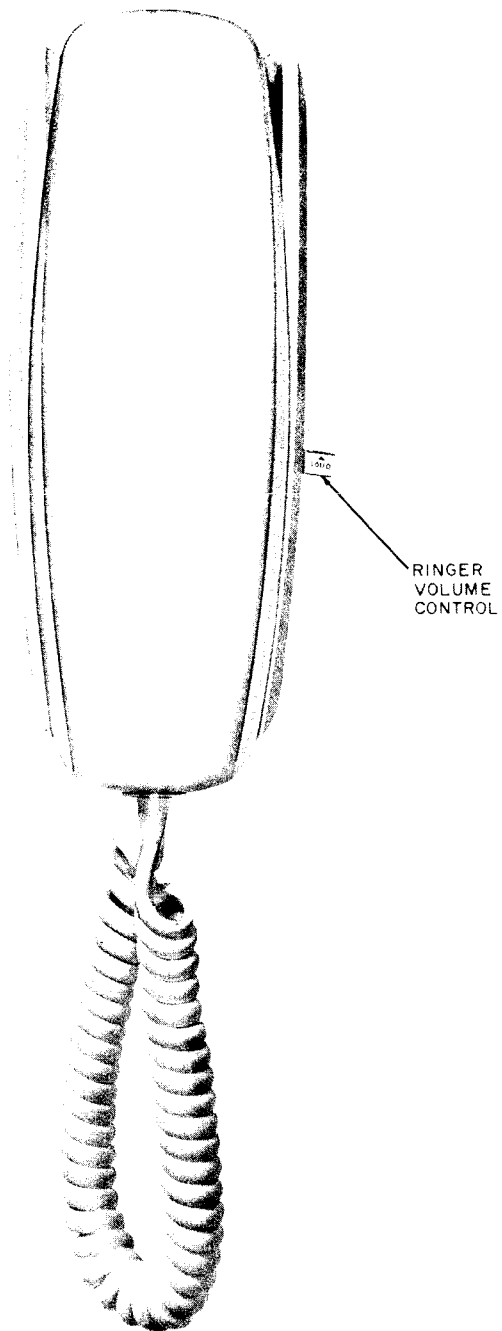
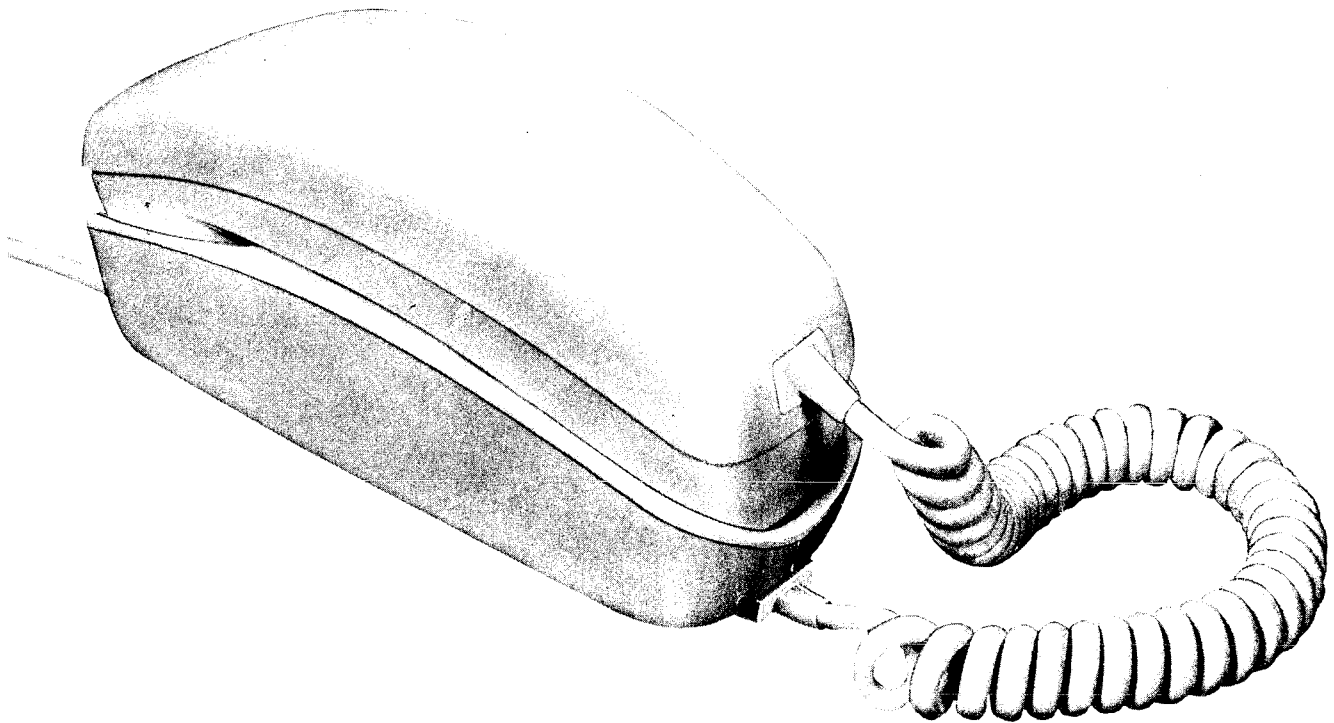


Fig. 1—AC1 Telephone Base With 220A Hand Telephone Set



**Fig. 2—AD1 Telephone Base With 1220A Hand Telephone Set**

## COLOR

**TABLE A  
COLOR ORDERING GUIDE**

STANDARD COLOR*	SUFFIX
Black	—03
Ivory	—50
Green	—51
Red	—53
Yellow	—56
White	—58
Rose Pink	—59
Lt. Beige	—60
Lt. Gray	—61
Aqua Blue	—62
Turquoise	—64

\*Refer to Section 500-120-100 for promoted colors.

## DESIGN FEATURES

- Factory-wired for individual and 2-party service
- Adjustable ringer volume control
- AC1 base (for vertical mounting) - jack equipped to receive plug-ended handset cord
- AD1 base (for horizontal mounting) - jack equipped to receive plug-ended handset and mounting cords
- A lead control (optional)
- 4-party full selective or 8-party semiselective ringing by adding 426N diode (optional)

## APPLICATION

- CO or PBX lines
- 1A1, 1A2, and 6A key telephone system (optional)

## 3. INSTALLATION

### (a) Planning

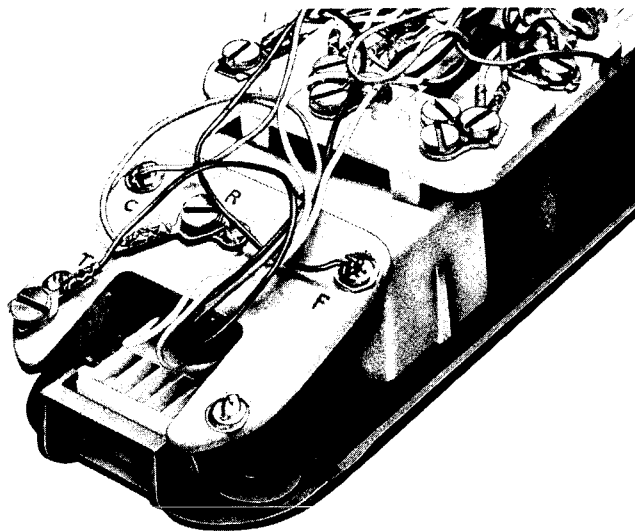
- Safety for yourself, customer, and maintenance personnel
- Location - desk, table, wall, etc.
- Availability of power outlet for hand telephone set dial light transformer
- Space requirements
- General appearance of installation

### (b) Installing



***Polarity Guard should only be installed when instructed by local administrative practices or procedures for end-to-end signaling purposes when battery and ground reversals are encountered (Fig. 3).***

- (1) Where a single dial light is involved, use a 2012A transformer. Select a 105-120 volt ac receptacle not controlled by a switch.



**Fig. 3—P-90D231 Polarity Guard Assembly, Installed**

Use a 2A clamp to secure transformer to the outlet. Where two or more dial light sets are installed, refer to the section on station transformers for use with multiple installations.



***DO NOT USE A 2012B TRANSFORMER—Use 2012A or equivalent transformer supplying voltage for the 6.3V dial lamp.***

- (2) For proper illumination of the dial the length of wire between the transformer and telephone set should not exceed 250 feet of inside wire.
- (3) Ringing and/or identification ground, where required, is common to the lamp circuit. Damage to the transformer may result if there is sufficient ground potential difference between power and telephone grounds. Refer to appropriate section on bonding to power grounds in Division 460.
- (4) A typical AC1 and AD1 telephone base installation including the hand telephone set, is shown in Fig. 4 and 5.
- (5) The plastic housings of the AC1 and AD1 bases are secured by captive housing screws located behind the P-82E800 cover (Fig. 6 and 7). To remove the housing from either base assembly use a KS-16750 type

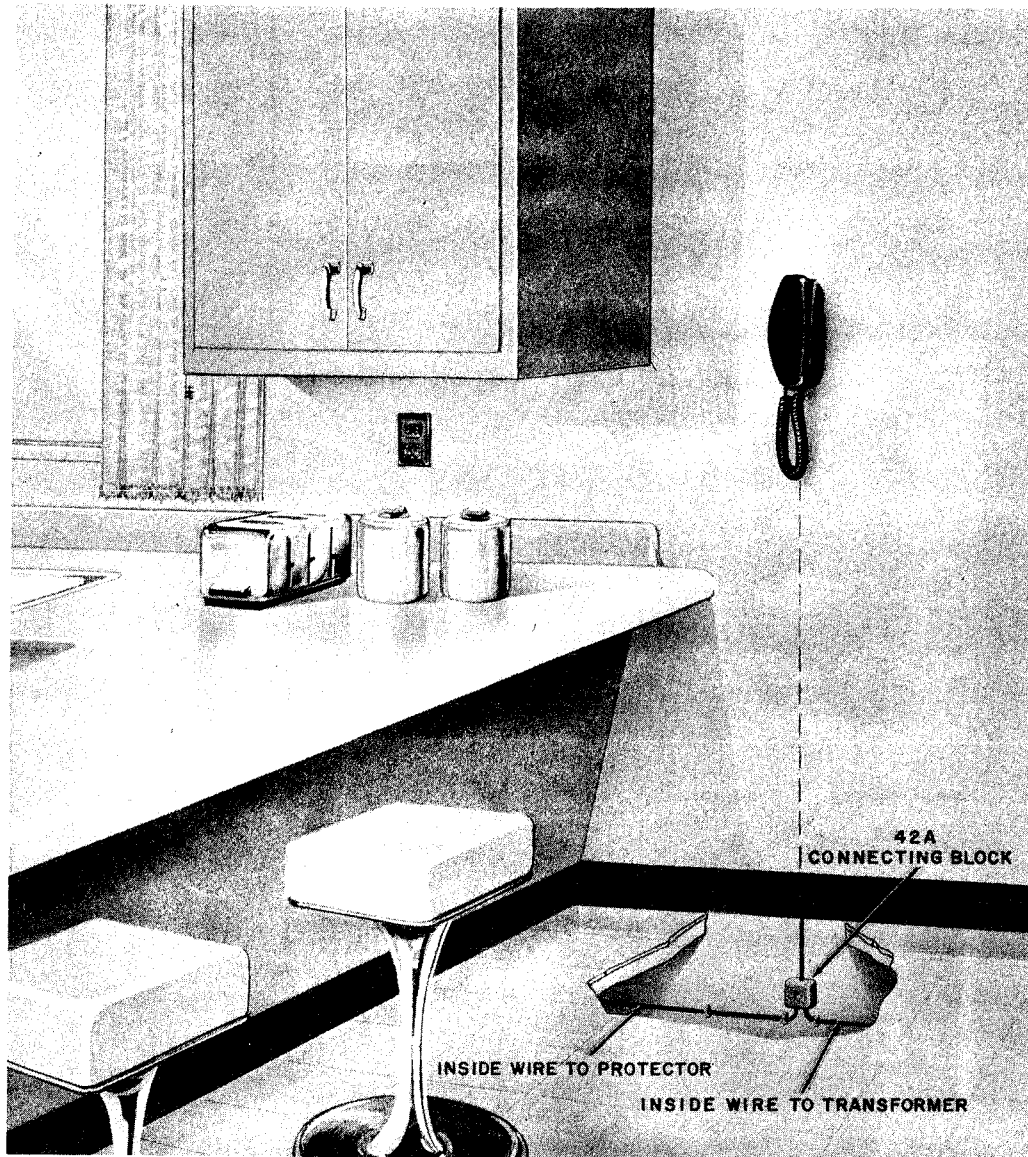


Fig. 4—Typical Installation of AC1 Telephone Base With 220A Hand Telephone Set

releaser or equivalent to remove the P-82E800 cover (Fig. 8). ***Be careful not to damage the housing.*** Loosen the two captive screws, which are now exposed, and lift the housing off.

(6) A 426N diode (Fig. 9) must be installed in either the AC1 or AD1 base assembly when connecting for 4-party full selective or 8-party semiselective ringing. The two leads from the diode are designated No. 1 and No. 2. Lead No. 1 extends from the flanged (gold) base of the diode; lead No. 2 extends from

the housing tip of the diode. Place the diode in the opening provided in the terminal board (Fig. 9). Dress the leads to the appropriate terminal board terminals, refer to Section 502-321-400 for connections.

(7) Where extreme noise induction conditions exist, the 426N diode will not be used. Instead, a cold-cathode tube or a ringer isolator installed on a 74A connecting block may be used. See section on inductive noise and Section 502-321-400 for connections.



Fig. 5—Typical Installation Of AD1 Telephone Base With 220A Hand Telephone Set

(c) AC1 Base (Wall)

- (1) Remove housing from base assembly and install base in accordance with standard

installation procedures. See appropriate connection figure for connections.

**Note:** The AC1 base may be mounted directly to a firm vertical surface. If necessary, use

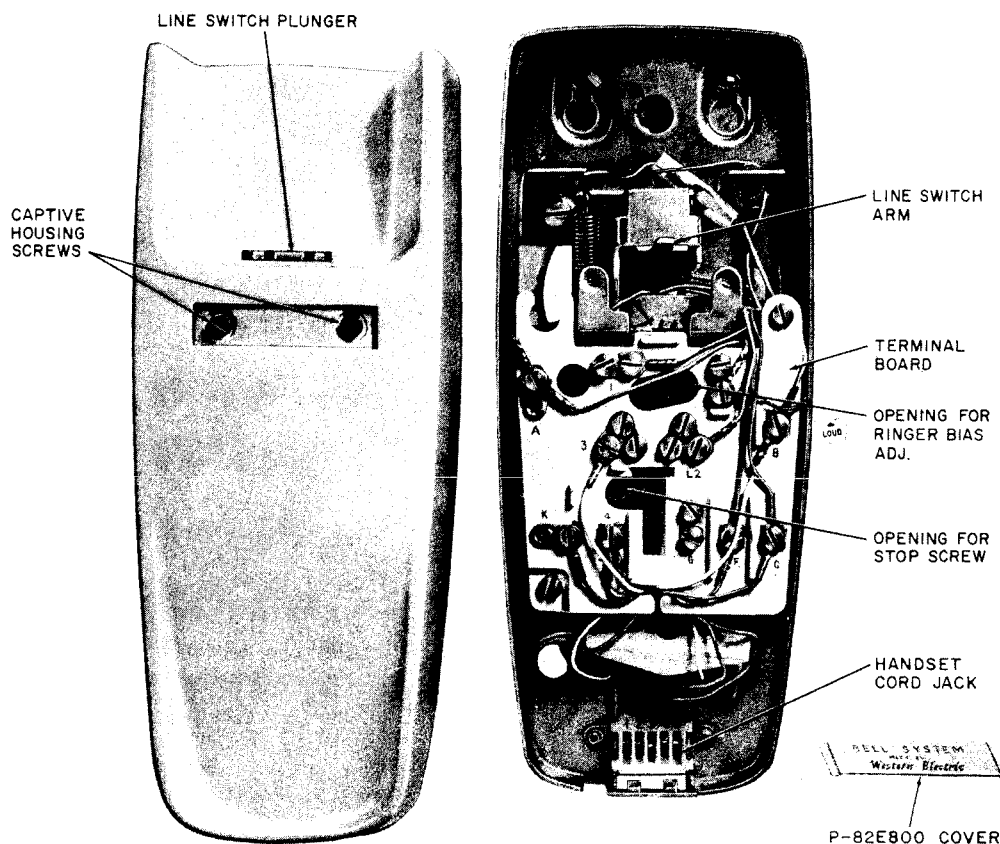


Fig. 6—Interior Of AC1 Telephone Base

a 155-type adapter or 182-type backboard. Refer to appropriate section in Division 463 for additional information on adapters and backboards.

(2) When inside wire to the AC1 (wall) telephone base is exposed, terminate the line and transformer wiring at a common bridging point, such as a 42A connecting block (Fig. 4). Run one quad station wire from the connecting block to the telephone base. Wiring may enter from the opening at the bottom, top, or through the backplate.

(3) In cases where an inside wire is already in place through a wall, an exposed wire run may be necessary between the dial light transformer and the base.

(4) To replace the housing on the base, expose the line switch plunger and hold in place while the housing is placed on the backplate.

The plunger can then be released so it will rest properly on the line switch arm of the base assembly. Tighten the captive housing screws and replace the P-82E800 cover.

#### (d) AD1 Base (Desk)

(1) When installing an AD1 telephone base, terminate the line and transformer wiring at a common bridging point, such as a 42A connecting block (Fig. 5). Connect the spade-tipped leads of a D5AL (Fig. 10) or D5AN mounting cord at the bridging point, as shown in Section 502-321-400.

(2) Insert the plug end of the D5AL or D5AN mounting cord (Fig. 11) into the jack located on the underside of the base assembly. **Make sure that the spring clip of the plug snaps into place to secure the plug.** Lay the cord in the cord channel and slide the cord retainer over the cord.

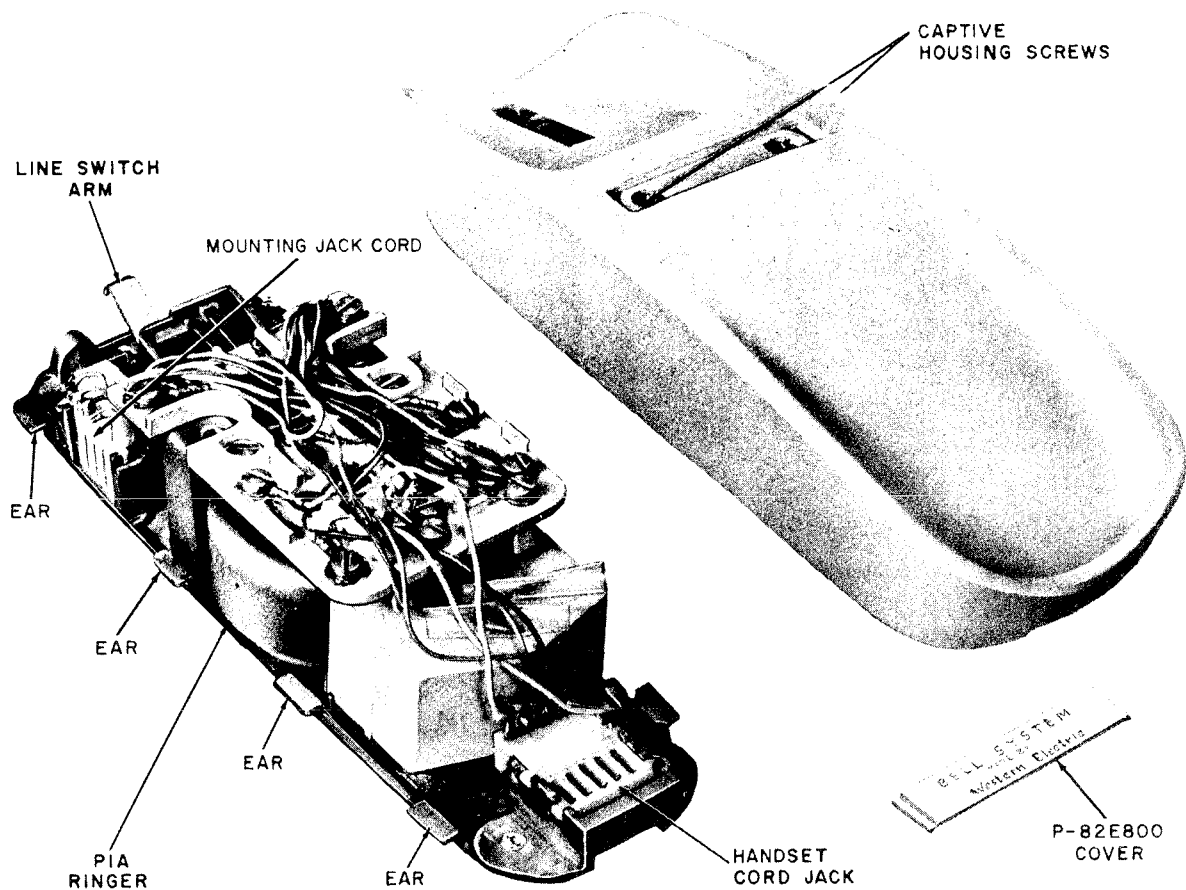


Fig. 7—Interior Of AD1 Telephone Base (Current Production)

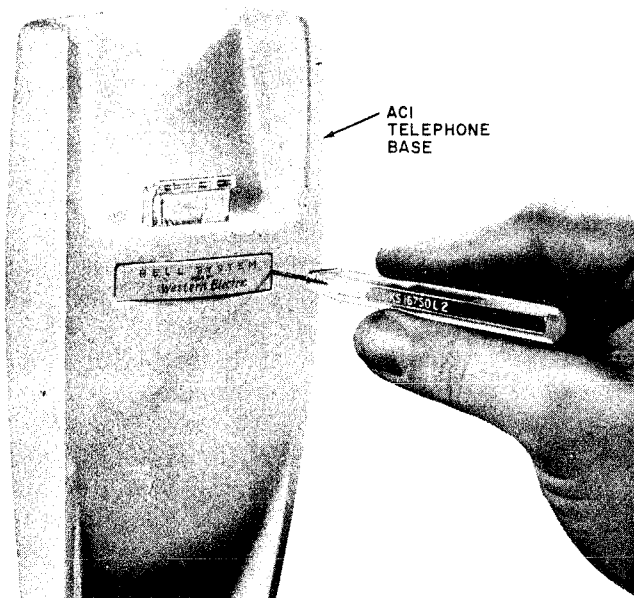


Fig. 8—Removing P-82E800 Cover

(3) To remove the D5AL or D5AN mounting cord from the AD1 base (Fig. 12), use a KS-16750 type reaser or equivalent to slide the cord retainer from the channel. Lift the cord from the channel. Place the tool in the space provided (at side of plug) and apply pressure against the spring clip toward the body of the plug. When the spring clip has been depressed, pull the plug out of the jack.

(4) To replace the housing on the base the housing must clear the ears (Fig. 7) on the base in order to seat properly. Tighten the captive housing screws and replace the P-82E800 cover.

(e) *Portable Installation (AD1 Base)*

(1) For portable installations of the AD1 telephone base, terminate the line and transformer wiring to 550A jacks or equivalent.



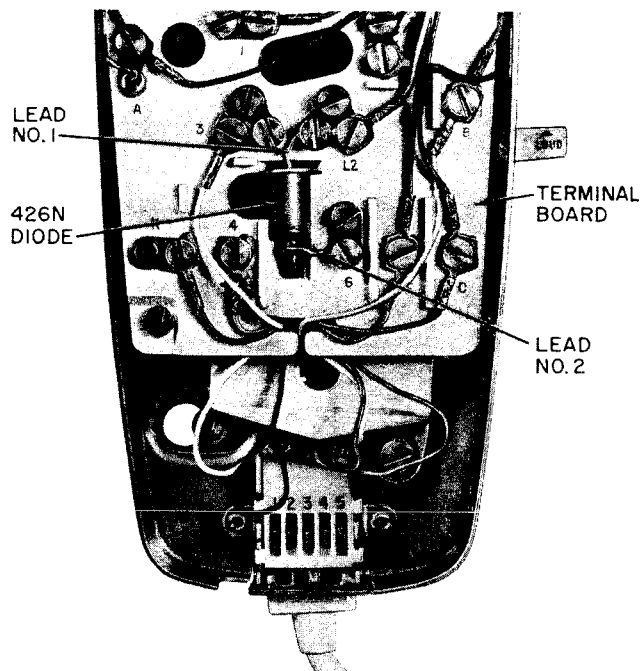


Fig. 9—426N Diode Installed

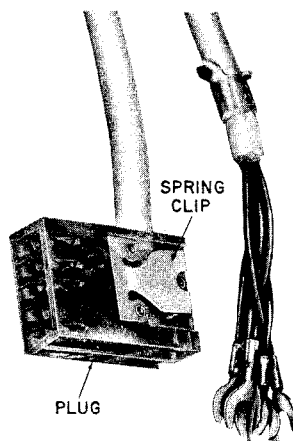


Fig. 10—D5AL Mounting Cord

**Note:** For portable installations when only one portable telephone set is equipped with a dial light, one 2012A transformer may be connected to two or more jacks. When more than one portable telephone set with dial light is installed, refer to section on station transformers for selection of proper power source.

- (2) Connect the spade-tipped leads of the D5AL or D5AN mounting cord to a 505A plug. Connect other end of mounting cord to AD1 base in normal manner.



**On 2-party tip stations requiring ground identification, be sure that the jacks and plugs are installed in accordance with the section on jacks and plugs.**

#### (f) **Hand Telephone Set Cord Installation and Removal**

- (1) Insert hand telephone set cord plug (square grommet end) into jack of AC1 or AD1 base, **make sure that the spring snaps into place to secure the plug.**
- (2) When removing the hand telephone set cord from an AC1 or AD1 telephone base, use a KS-16750 type releaser or equivalent to release the spring clip (Fig. 13). Place the tool in the space provided and apply pressure against the spring clip toward the body of the plug, pull the plug out of the jack.

## 4. MAINTENANCE

**4.01** Maintenance of the AC1 and AD1 telephone bases is limited to ringer bias adjustment, burnishing or adjusting contacts, and replacement of defective components.

**4.02** For adjustments and ringer cutoff feature of the P1A ringer, refer to Section 501-259-101.

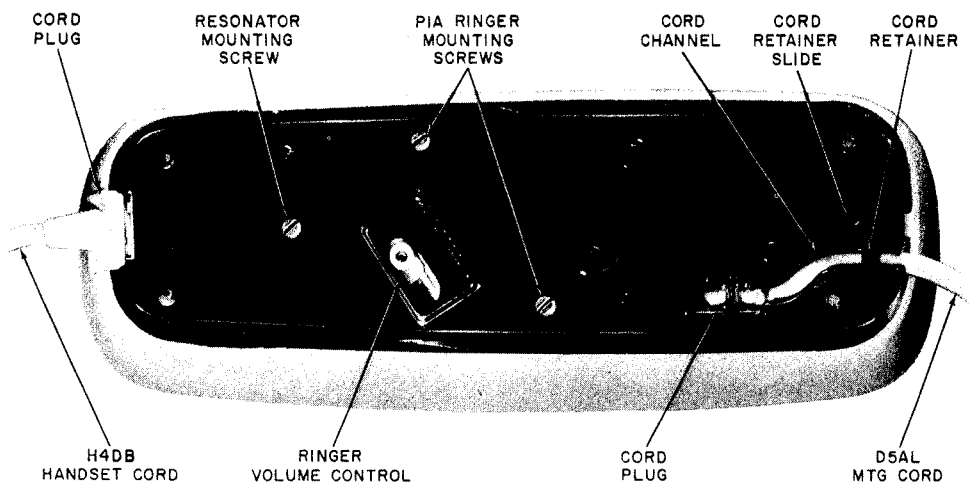


Fig. 11—Underside Of AD1 Telephone Base (Current Production)

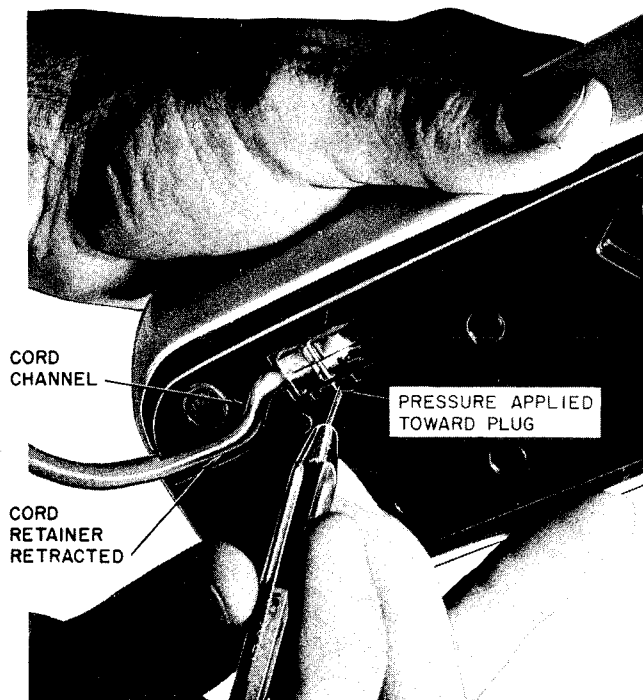


Fig. 12—Removing Mounting Cord From AD1 telephone Base

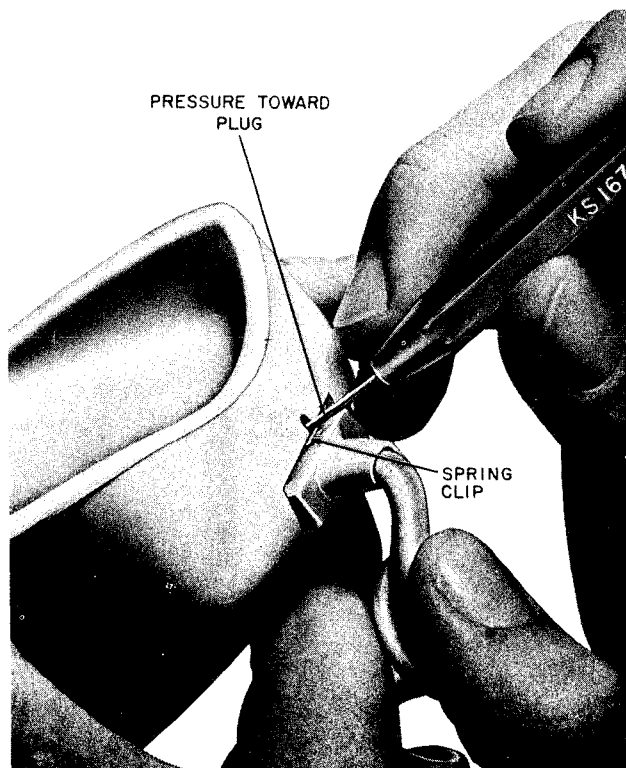


Fig. 13—Removing Handset Cord From AD1 Telephone Base

4.03 To replace a defective P1A ringer, perform the following:

- (1) Disconnect the ringer leads.

- (2) Remove the terminal board mounting screws.
- (3) Remove ringer mounting screws from underside of AD1 base (Fig. 11).

**Note:** In current production AD1 bases, ringer and resonator are mounted directly to base. In AC1 and early production AD1 bases, the ringer and resonator are secured to a mounting adapter which must be removed from the base to gain access to the ringer mounting screws.

- (4) Replace defective ringer with new ringer.

- (5) On the AC1 base (wall), engage the ringer volume control with the adjusting lever before fastening the ringer mounting adapter to the base.

- (6) Reposition and fasten the terminal board, and connect new ringer leads.

## 5. WIRING DIAGRAM INDEX

Fig. 14—AC1 Telephone Base, Wiring Diagram

Fig. 15—AD1 Telephone Base, Wiring Diagram

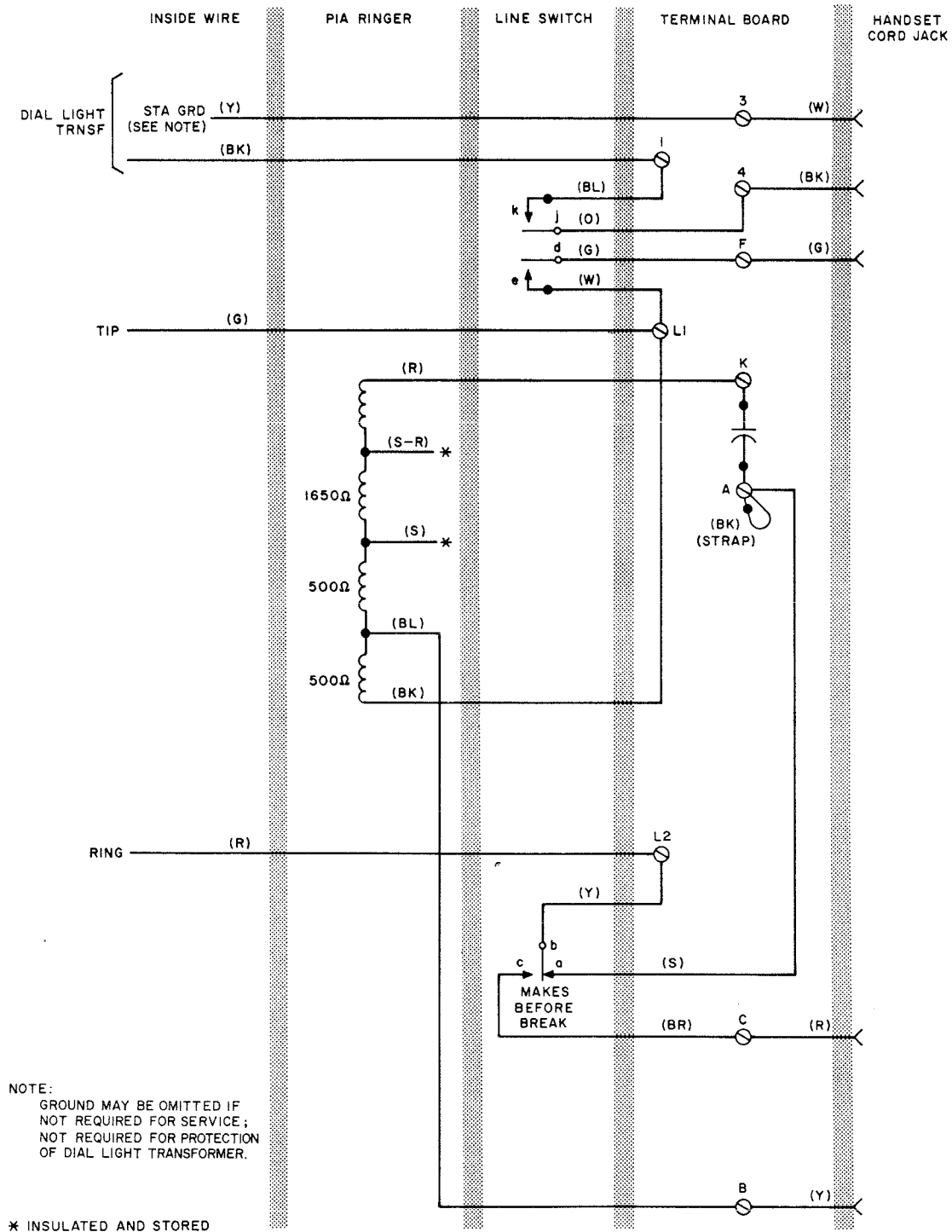


Fig. 14—AC1 Telephone Base, Wiring Diagram

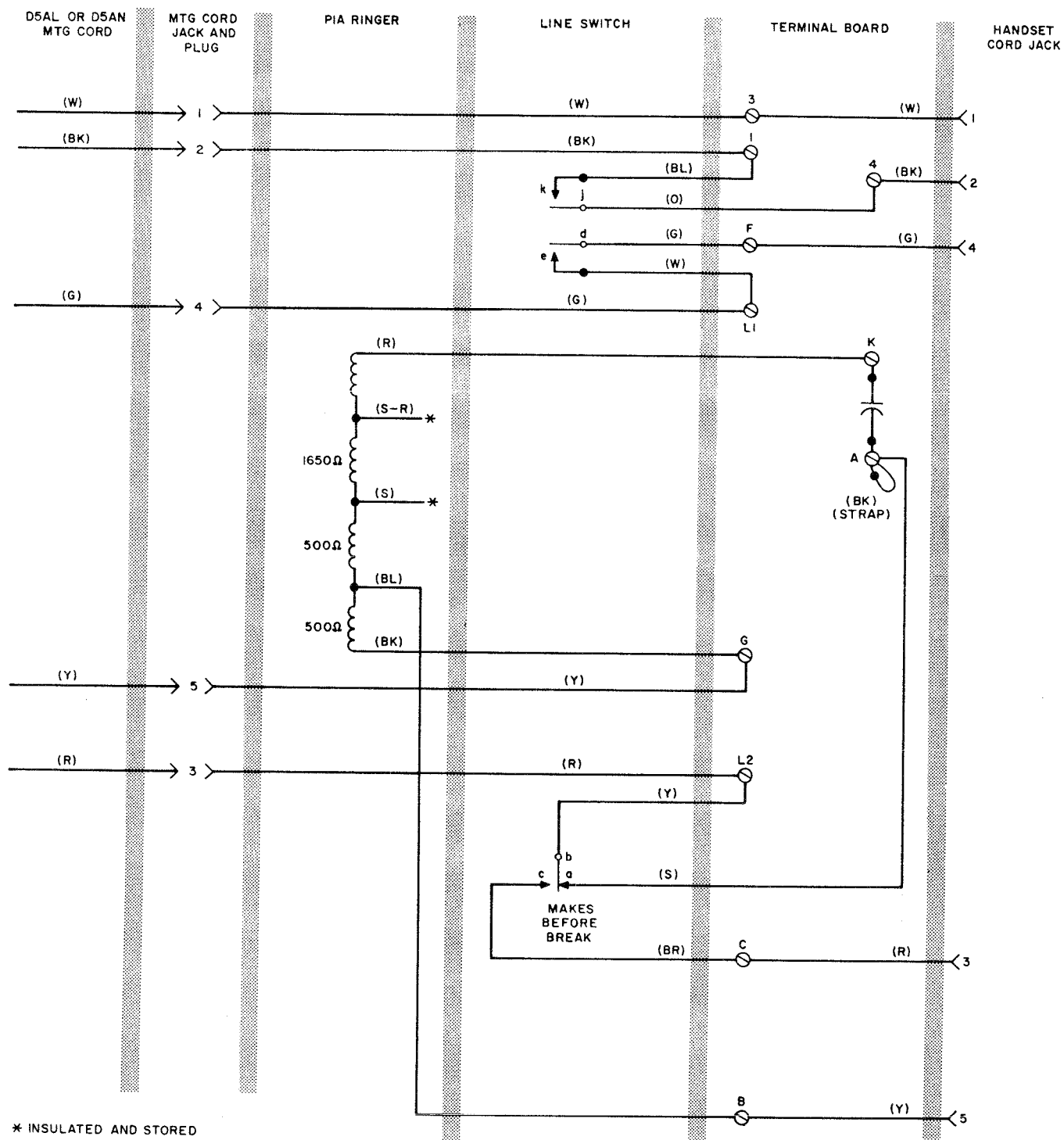


Fig. 15—AD1 Telephone Base, Wiring Diagram