

## POLARITY GUARDS IDENTIFICATION

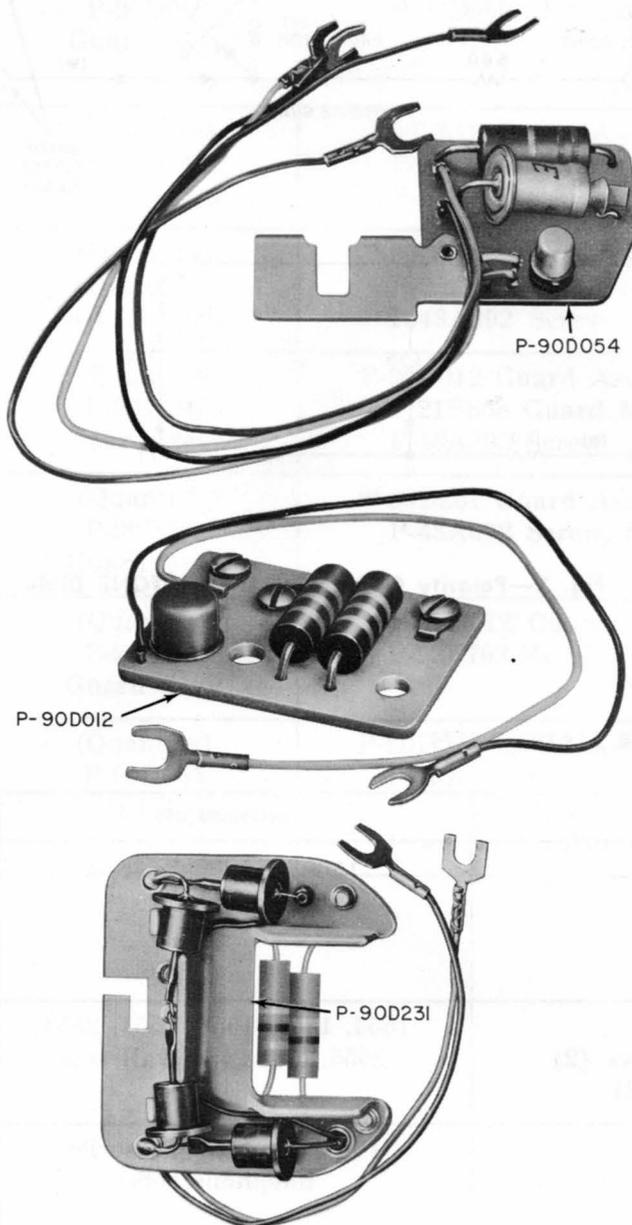


Fig. 1—Guard Assemblies

### 1. GENERAL

1.01 This section is reissued to add the polarity guards intended for use with the TRIMLINE® and 2851 series telephone sets. Since this reissue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

### 2. PURPOSE

2.01 Used in conjunction with TOUCH-TONE® dials to maintain correct dial polarity for end-to-end signaling.

### 3. DESIGN FEATURES

(a) Available in three physical arrangements shown in Fig. 1

(b) In general, the polarity guard is composed of a diode assembly, resistors, and a surge protector mounted on a printed circuit board and connected in the telephone set by screw terminals and/or spade-tipped leads.

*Note:* P-90D231 guard assembly contains four diodes and two resistors but does not have any surge protection.

(c) Polarity guards for station sets are mounted with brackets or screws as designated in Table A

(d) Fig. 2 provides circuit diagrams for polarity guards.

### 4. APPLICATION

4.01 Polarity guards can be added, when specified by local instructions to existing TOUCH-TONE sets manufactured after late 1966.

4.02 Speakerphone systems and telephone sets having G6 or G8 handsets will require current production 25- or 35-type dials when a polarity guard is added.



*The possibility of the voltage on the ring side of the line being applied to the dial transistor without passing through the polarity guard first exists when the speakerphone and telephone set are used in an on hook dialing mode. The polarity guard connections shall be made at a point where the ring and tip must first pass through the polarity guard regardless of on or off hook dialing.*

4.03 Refer to appropriate telephone set connection section before installing a polarity guard to prevent damage to the polarity guard components.

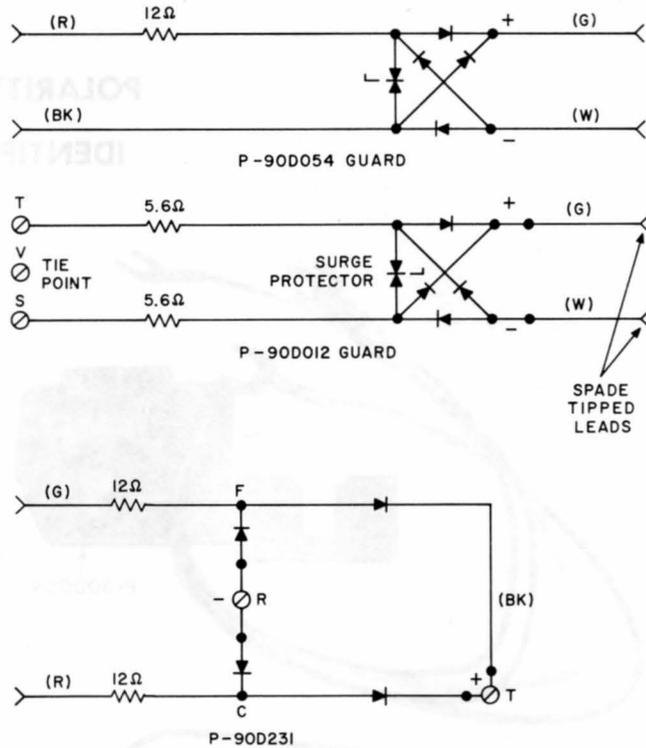


Fig. 2—Polarity Guards For TOUCH-TONE Dials

5. ORDERING GUIDE

TABLE A

POLARITY GUARDS FOR STATION SETS

ORDER BY	CONSISTING OF	INTENDED USE
(Quantity) P-90D052 Guard Assy	P-90D012 Guard Assy P-43A392 Screw P-481904 Washer P-20F900 Bracket	1500 and 2500 series telephone sets
(Quantity) P-90D053 Guard Assy	P-90D012 Guard Assy P-180906 F.H.M. Screws (2) P-218828 Hex. Nuts (2)	1554, 1555, 1558, 2551, 2554, 2555, and 2558 wall sets
(Quantity) P-90D012 Guard Assy	P-90D012 Guard Assy	1660B and 2660A series telephone sets
(Quantity) D-180229 Kit of Parts	P-90D054 Guard Assy P-26E164 Retainer P-43A392 Screw P-21F675 Terminal Board Assy	1700 and 2700 series telephone sets

TABLE A (Cont)

## POLARITY GUARDS FOR STATION SETS

ORDER BY	CONSISTING OF	INTENDED USE
(Quantity) P-90D060 Guard Assy	P-90D012 Guard Assy P-90D060 Metal Bracket	1750, 1751, and 1753 2750, 2751, and 2753 series telephone sets
(Quantity) P-90D061 Guard Assy	P-90D012 Guard Assy P-21F989 Metal Bracket P-43A392 F.H.M. Screw	1752, 2752, and 2754 series telephone sets
(Quantity) D-180250 Kit of Parts	P-90D012 Guard Assy P-22F193 Guard Mtg. Strip P-43A392 Screw	1660A series telephone sets
(Quantity) P-90D197 Guard Assy	P-90D012 Guard Assy P-21F558 Guard Mtg. Strip P-43A392 Screw	1630 and 2630 series telephone sets
(Quantity) P-90D231 Guard Assy	P-90D231 Guard Assy P-43A392 Screw, SPL F.H.M. (2)	AC1 and AD1 Telephone Bases used with TRIMLINE® hand telephone sets
(Quantity) P-90D170 Guard Assy	P-90D012 Guard Assy P-22F703 Metal Bracket	2851 series wall telephone set
(Quantity) P-90D055 Guard Assy	P-90D012 Guard Assy P-43A392 Screw (2) P-21F699 Bracket P-481904 Washer (2)	2504B telephone sets

**POLARITY GUARDS  
IDENTIFICATION**

**1. GENERAL**

1.001 This addendum supplements Section 501-321-100, Issue 2.

1.002 The addendum is reissued to reflect the change in issue number and to add information on polarity guards for use on 1220A, 2220B, and 2851-type telephone sets.

**6. INSTALLATION OF POLARITY GUARDS**

The following Part 6 has been added.

6.01 Polarity guards are not factory installed in telephone sets and must be ordered separately as required.

6.02 Each polarity guard is packed with the hardware and brackets necessary for installation, except as noted.

Table B - Polarity Guard Mounting Details

<u>Guard Assembly</u>	<u>Use On</u>	<u>Mounts</u>
*P-90D052	1500-2500 Series	Right Dial Bracket Mounting Screw
*P-90D053	1550-2550 Wall Sets	Base Pan Below Ringer
**P-90D012	1660A Series	Rear Base Pan
*P-90D012	1660B-2660 Series	Rear Base Pan
***P-90D054	1700-2700 Series	Right Dial Bracket Mounting Screw
*P-90D060	1750-51-53 2750-51-53	Between Network And Line Switch
*P-90D061	1752-2752	Between Network and Speakerphone Amplifier
*P-90D012	1630D	In Place of Buzzer With P-21F558 Mounting Strip
*P-90D170	2851 Series	Left-Hand 635A5 Key Support Bracket
P90D231	1220A 2220A	In AC1 and AD1 Base on Top of Resonator and Handset Cord Jacks

\*Order Piece Part No. "Guard Assembly"

\*\*Order D-180250 Kit of Parts

\*\*\*Order D-180229 Kit of Parts (includes terminal board for connecting guard with four spade-tipped leads; terminal board mounts between dial brackets)