

## POLARITY GUARDS

### IDENTIFICATION

#### 1. GENERAL

- 1.01 This section contains information on polarity guards (Fig. 1, 2, and 3).
- 1.02 This section is reissued to:
- Add information on D-180893, D-180896, D-180984, and D-181006 Kit of Parts
  - Show D-180250 and D-180788 Kits of Parts MD
  - Show 819040528 (P-90D052), 819040536 (P-90D053), 819040122 (P-90D012), 819040601 (P-90D060), 819040619 (P-90D061), 819041971 (P-90D197), and 819041708 (P-90D170) guard assemblies MD
  - Revise paragraph 4.01.

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

- 3.01 Available in physical arrangements shown in Fig. 1.
- 3.02 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 network by spade-tipped leads.

- 3.03 Polarity guards for station sets are secured in vacant areas of the telephone sets or mounted with brackets or screws as designated in Table A or B.

- 3.04 Figure 2 provides circuit diagrams for polarity guards.

- 3.05 The D-180984 Kit of Parts contains the same circuit as the D-180896, however, the components are arranged such that they fit into the 2220B or 2220BM hand telephone set. The D-180984 Kit of Parts contains an adapter permitting the use of a modular handset cord.

#### 4. APPLICATION

- 4.01 A currently produced 35-type dial must be installed in a telephone set associated with a speakerphone system or telephone set equipped with G6- or G8-type handset when a polarity guard is to be installed.



*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.*

- 4.02 Refer to appropriate telephone set section for connection information.

#### 5. ORDERING GUIDE

- 5.01 Refer to Table A for ordering information.

#### NOTICE

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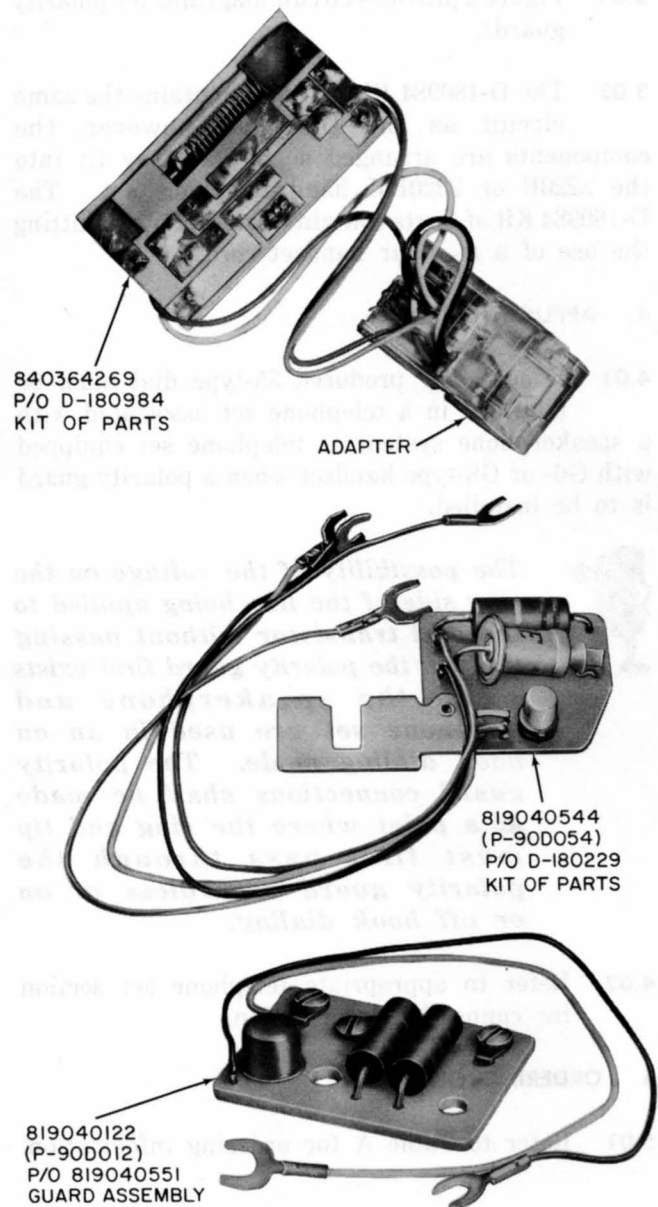
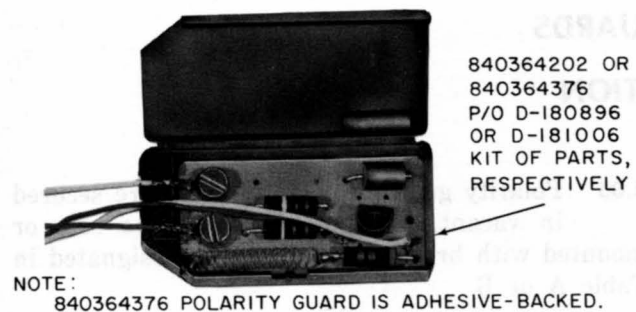


Fig. 1—Current Polarity Guard

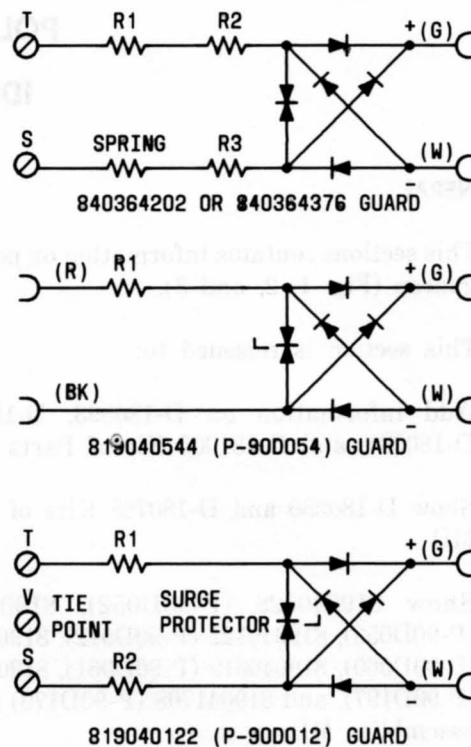
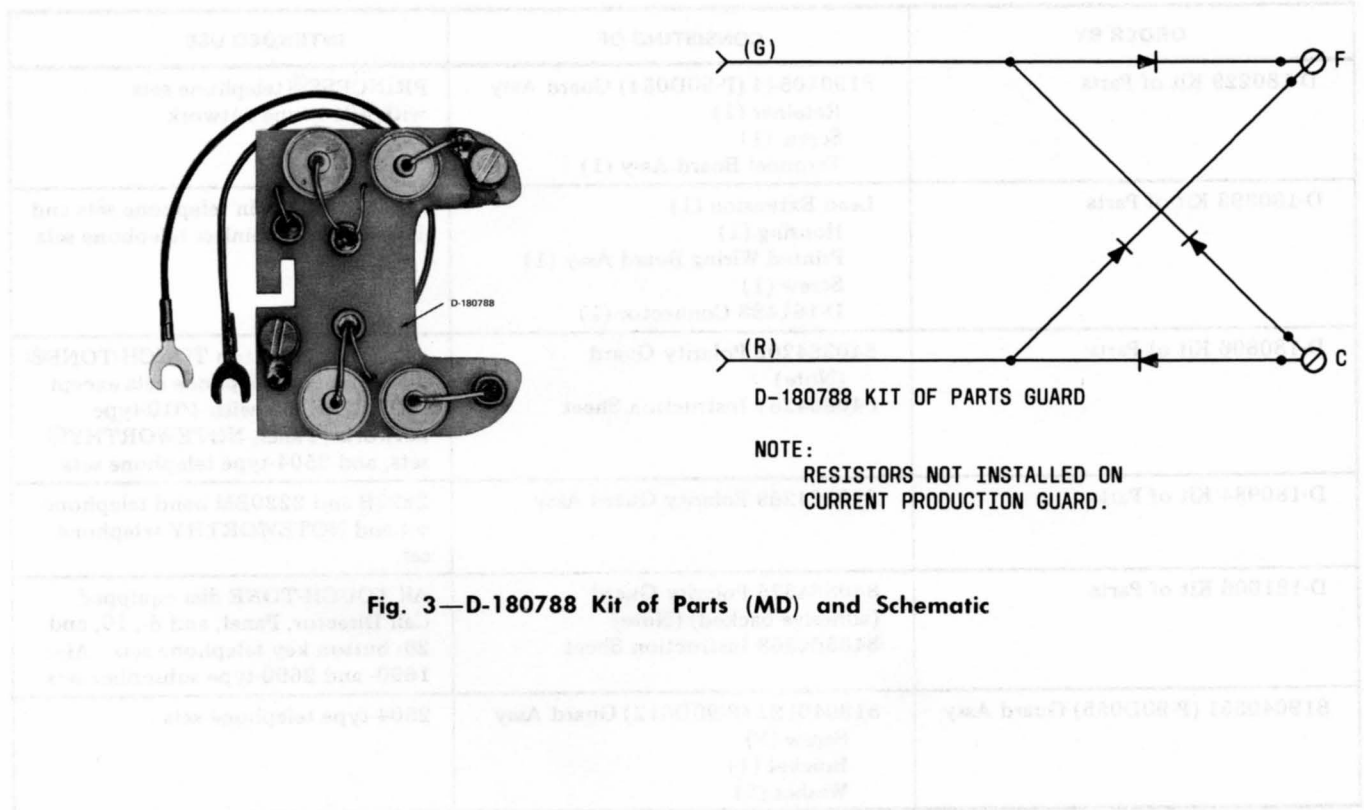


Fig. 2—Current Polarity Guard, Schematics



**Fig. 3—D-180788 Kit of Parts (MD) and Schematic**



TABLE A

## CURRENTLY AVAILABLE POLARITY GUARDS FOR STATION SETS

ORDER BY	CONSISTING OF	INTENDED USE
D-180229 Kit of Parts	819040544 (P-90D054) Guard Assy Retainer (1) Screw (1) Terminal Board Assy (1)	PRINCESS® telephone sets with 4010-type network
D-180893 Kit of Parts	Lead Extension (1) Housing (1) Printed Wiring Board Assy (1) Screw (1) D-161488 Connector (1)	1C2 and 2C2 coin telephone sets and 10A and 20A coinless telephone sets
D-180896 Kit of Parts	840364202 Polarity Guard (Note) 840364251 Instruction Sheet	All 0- and 1- button TOUCH-TONE® dial equipped telephone sets except PRINCESS sets with 4010-type networks, Panel, NOTEWORTHY® sets, and 2504-type telephone sets
D-180984 Kit of Parts	840364269 Polarity Guard Assy	2220B and 2220BM hand telephone set and NOTEWORTHY telephone set
D-181006 Kit of Parts	840364376 Polarity Guard (adhesive backed) (Note) 840364368 Instruction Sheet	All TOUCH-TONE dial equipped Call Director, Panel, and 6-, 10, and 20- button key telephone sets. Also 1690- and 2690-type subscriber sets
819040551 (P-90D055) Guard Assy	819040122 (P-90D012) Guard Assy Screw (2) Bracket (1) Washer (2)	2504-type telephone sets

*Note:* This polarity guard may be ordered in bulk by its nine digit comcode number.

**TABLE B**  
**MANUFACTURE DISCONTINUED POLARITY GUARDS**

POLARITY GUARD	CONSISTING OF	USED WITH
819040528 (P-90D052) Guard Assy	819040122 (P-90D012) Guard Assy Screw (1) Washer (1) Bracket (1)	1500- and 2500-type telephone sets
819040536 (P-90D053) Guard Assy	819040122 (P-90D012) Guard Assy FHM Screws (2) 22 Hex Nuts (2)	1554, 1555, 1558, 2551, 2554, 2555, and 2558 wall sets
819040122 (P-90D012) Guard Assy	819040122 (P-90D012) Guard Assy	1660B- and 2660A-type telephone sets
819040601 (P-90D060) Guard Assy	819040122 (P-90D012) Guard Assy Metal Bracket (1)	1750-, 1751-, 1753-, 2750-, 2751-, and 2753-type telephone sets
819040619 (P-90D061) Guard Assy	819040122 (P-90D012) Guard Assy Metal Bracket (1) FHM Screw (1)	1752-, 2752-, 2526B-, and 2754- type telephone sets
D-180250 Kit of Parts	819040122 (P-90D012) Guard Assy Guard Mtg Strip (1) Screw (1)	1660A-type telephone sets, 1690- and 2690-type subscriber sets
819041971 (P-90D197) Guard Assy	819040122 (P-90D012) Guard Assy equipped with double coated foam tape	All Call Director telephone sets (except 3640-type) equipped with TOUCH-TONE dials, also 2830-, 2831-, 2851-, and 2852-type telephone sets 2750, 2751, 2752, and 2754 telephone sets equipped with 4228, network
D-180788 Kit of Parts	102962008 Guard Assy (Note)	AC and AD telephone bases used with TRIMLINE® hand telephone sets
819041708 (P-90D170) Guard Assy	819040122 (P-90D012) Guard Assy Metal Bracket (1)	2830-, 2831-, 2851-, and 2852-type telephone sets

*Note:* The 102962008 guard assembly contains four diodes but does not have surge protection.