

## POLARITY GUARDS

### IDENTIFICATION

#### 1. GENERAL

- 1.01 This sections contains information on polarity guards (Fig. 1, 2, 3, 4, and 5).
- 1.02 The reason for reissuing this section is to show the D-180229 Kit of Parts and P-90D012 guard assembly manufacture discontinued (MD). Revision arrows are used to emphasize the more significant changes.

#### 2. PURPOSE

- 2.01 Polarity guards are used in conjunction with TOUCH-TONE\* telephone dials to maintain correct dial polarity for end-to-end signaling.

#### 3. DESIGN FEATURES

- 3.01 Polarity guards are available in the 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

\*Trademark of American Telephone and Telegraph Company.

with brackets or screws as designated in Table A or B.

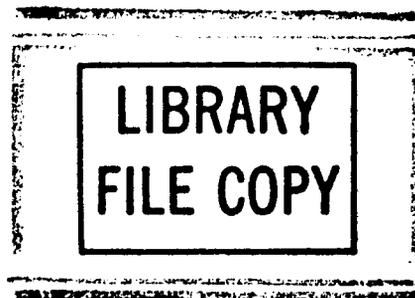
- 3.04 Figure 2 provides circuit diagrams for current polarity guards.
- 3.05 The D-180984 Kit of Parts contains the same circuit as the D-180896, however, the components are arranged such that they fit into the 2220B or 2220BM hand telephone set. The D-180984 Kit of Parts contains an adapter permitting the use of a modular handset cord.
- 3.06 Refer to appropriate telephone set section for connection information.



*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.*

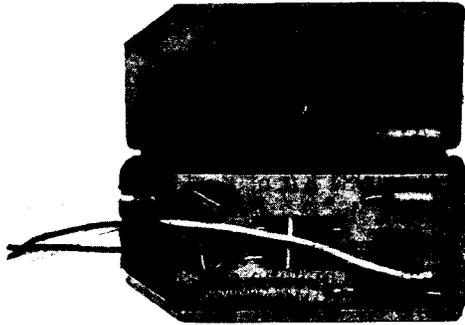
#### 4. ORDERING GUIDE

- 4.01 Refer to Table A for ordering information.
- 4.02 Manufacture discontinued polarity guards are shown in Table B.



#### NOTICE

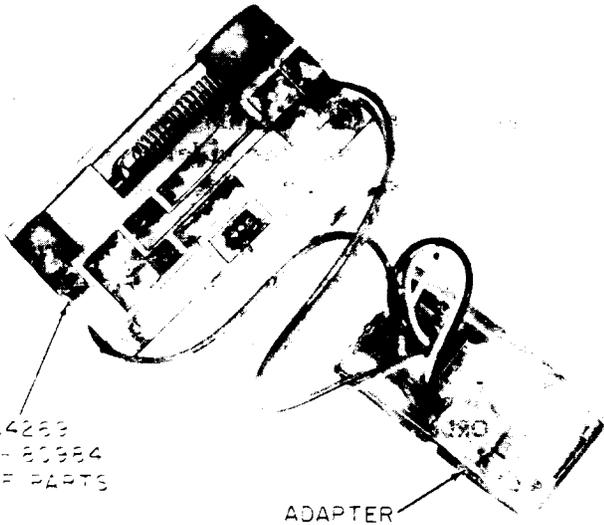
Not for use or disclosure outside the  
Bell System except under written agreement



840364202 OR  
840364376  
(SEE NOTE)  
P/O D-180896  
OR D-181006  
KIT OF PARTS,  
RESPECTIVELY

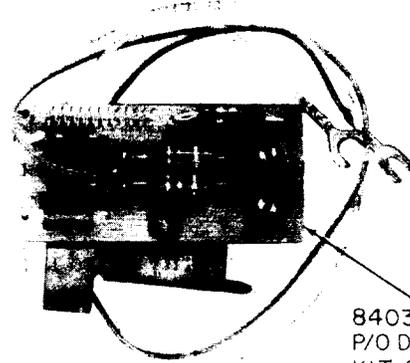


POLARITY  
GUARD  
ASSEMBLY  
P/O D-180893  
KIT OF PARTS



840364289  
P/O D-180984  
KIT OF PARTS

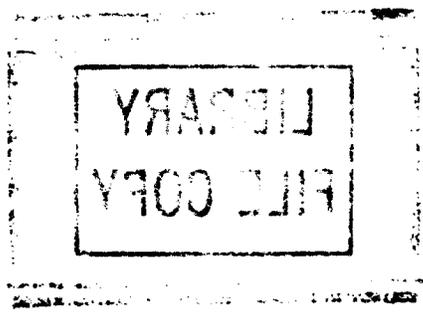
ADAPTER



840364426  
P/O D-181063  
KIT OF PARTS

NOTE:  
840364376 POLARITY GUARD IS  
ADHESIVE-BACKED.

Fig. 1—Current Polarity Guards



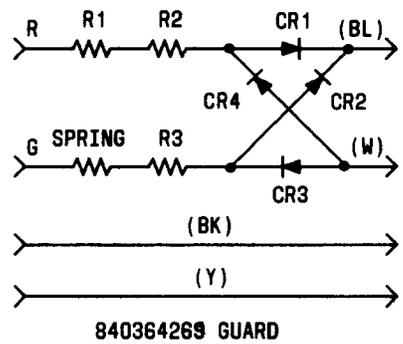
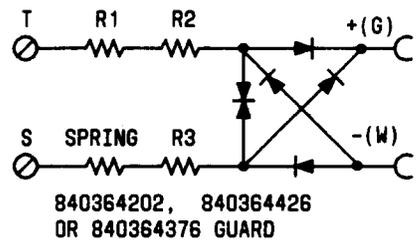
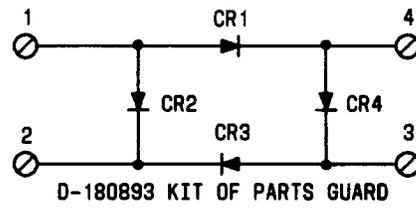


Fig. 2—Current Polarity Guard Schematics

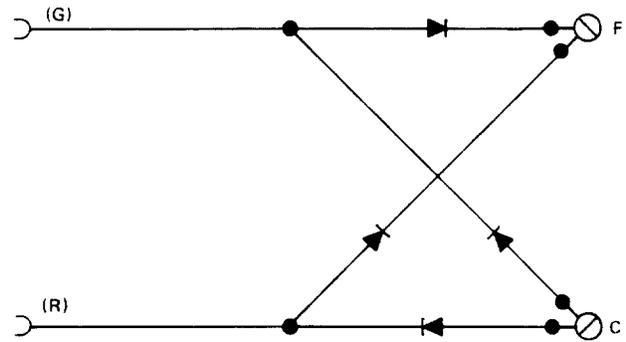
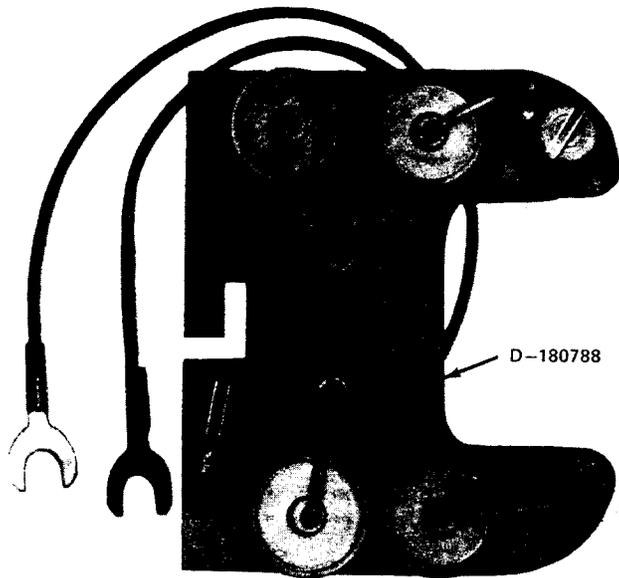


Fig. 3—D-180788 (MD) Kit of Parts and Schematic

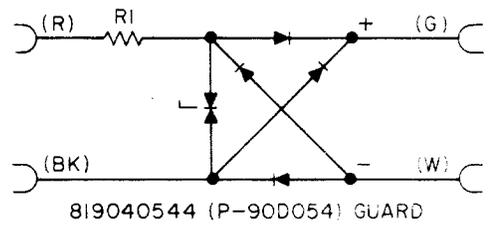
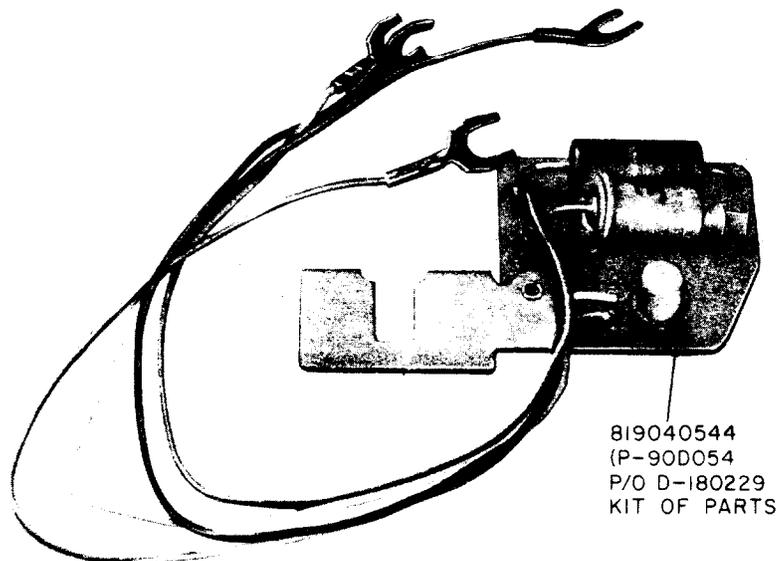


Fig. 4—D-180229 (MD) Kit of Parts and Schematic



Fig. 5—P-90D012 (MD) Guard Assembly and Schematic

TABLE A

CURRENTLY AVAILABLE POLARITY GUARDS FOR STATION SETS

ORDER BY	CONSISTING OF	INTENDED USE
D-181063 Kits of Parts	840364426 Polarity Guard Assy 840364434 Shouldered Screw (1)	PRINCESS® telephone sets with M-type ringer
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* 840364251 Instruction Sheet	All 0- and 1-button TOUCH-TONE® dialing equipped telephone sets except PRINCESS telephone sets with M-type ringers and panel telephone sets
D-180984 Kit of Parts	840364269 Polarity Guard Assy	2220B and 2220BM hand telephone set
D-181006 Kit of parts	840364376 Polarity Guard Assy (adhesive backed)* 840364368 Instruction Sheet	All TOUCH-TONE dialing equipped CALL DIRECTOR® telephone sets, panel, and 6-, 10-, and 20-button key telephone sets. Also 1690- and 2690-type subscriber sets

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

♦TABLE B♦

## MANUFACTURE DISCONTINUED POLARITY GUARDS

ORDER BY	CONSISTING OF	INTENDED USE
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 2660 A-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 dialing, 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*	AC and AD telephone bases equipped with 2220B-type hand telephone sets
819041708 (P-90D170) Guard Assy	819040122 (P-90D012) Guard Assy Metal Bracker (1)	2830-, 2831-, 2851-, and 2852-type telephone sets
D-180229 Kit of Parts	819040544 (P-90D054) Guard Assy Retainer (1) Screw (1) Terminal Board Assy (1)	PRINCESS telephone sets with M-type ringer (the D-181063 is the preferred kit of parts)
819040551 (P-90D055) Guard Assy	819040122 (P-90D012) Guard Assy Screw (2) Bracket (1) Washer (2)	2504-type telephone sets (the D-180896 is the preferred kit of parts)

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