

## 72-TYPE STATION DIALS

### IDENTIFICATION, CONNECTIONS, AND MAINTENANCE

#### 1. GENERAL

**1.01** This section contains information on the 72C3A manufacture discontinued (MD), 72D3A (MD), and 72E3A (MD), 72H3A, 72J3A, and 72K3A dials (Fig. 1, 2, 3, and 4).

**1.02** The reasons for reissuing this section are listed below. Revision arrows are used to emphasize the more significant changes.

- Add information on 72H3A, 72J3A, and 72K3A dials
- Show 72C3A, 72D3A, and 72E3A dials MD.

**1.03** The 72C3A (MD) dial replaces the 35A3A, 35Y3A, and 35Y3D dials used in 2500- and 2554-type telephone sets. The 72D3A (MD) dial replaces the 35AH3D dial used in some DESIGN LINE\* decorator telephones. The 72E3A (MD) dial replaces the 35BB3D dial used in TELSTAR\* telephone (DESIGN LINE decorator telephone).



**Before replacing a 35-type dial with a 72-type dial, determine if a polarity guard has been installed in conjunction with the 35-type dial. Where no polarity guard exists, remove the 35-type dial and refer to Table A for 72-type dial connections and handset cord jack lead connections. If a polarity guard exists, it must be removed and the telephone set wiring arranged to agree with the factory wiring before a polarity guard was installed. Refer to appropriate telephone set connection section in Division 502 for 2500- and 2554-type telephone sets and Division 503 for DESIGN LINE decorator telephone.**

\*Registered Trademark of American Telephone and Telegraph Company.

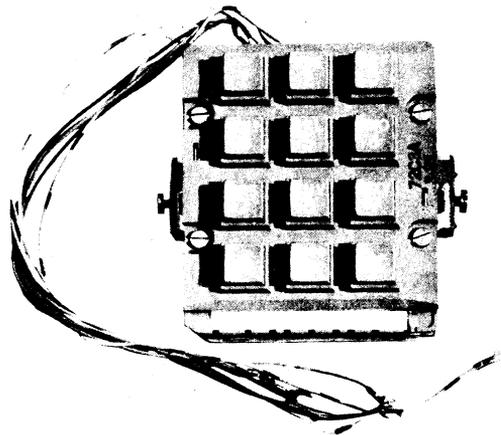


Fig. 1—72C3A (MD) Dial, Front View

**1.04** The 72H3A, 72J3A, and 72K3A dials replace the 72C3A (MD), 72D3A (MD), and 72E3A (MD) dials, respectively. These dials are similar except for the mounting brackets, switch plate, and printed circuit board materials used in manufacture.

#### 2. IDENTIFICATION

##### A. Purpose

**2.01** The 72-type dial is an electronically switched 12-button TOUCH-TONE† telephone dial. Ten of the pushbuttons are used for number or number and letter calling and two pushbuttons designated \* and # are for special services.

##### B. Ordering Guide

**2.02** Order dial as follows:

†Trademark of American Telephone and Telegraph Company.

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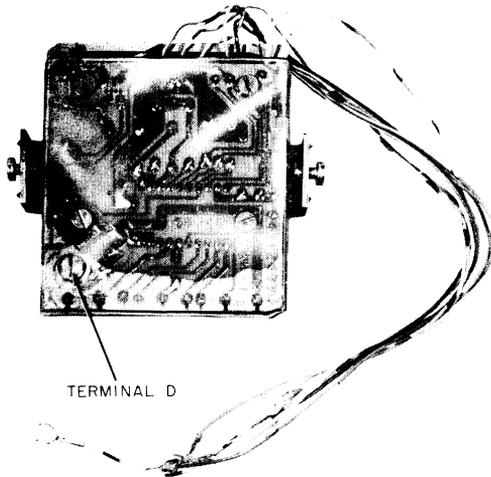


Fig. 2—72C3A (MD) Dial, Rear View

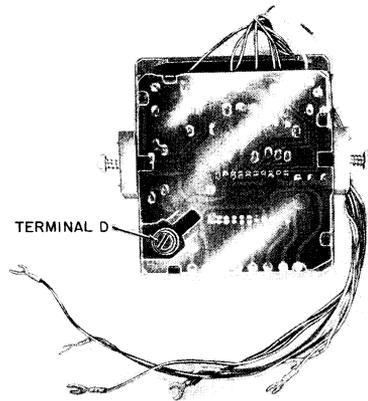


Fig. 4—72H3A Dial, Rear View

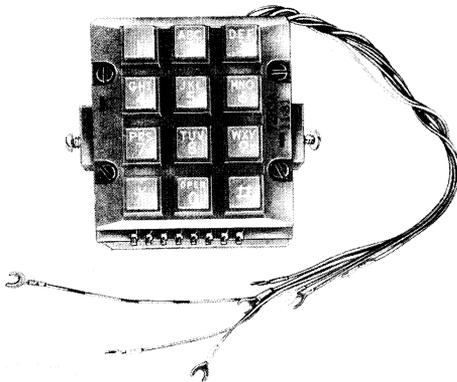


Fig. 3—72H3A Dial, Front View

- Dial, 72H3A (buttons and coverplate are gray, button graphics are white)
- Dial, 72J3A (buttons and coverplate are white, button graphics are black)
- Dial, 72K3A (buttons and coverplate are black, button graphics are white).

C. Design Features

2.03 Each of the pushbuttons, when operated, generates a dual tone multifrequency signal distinctive to that button. Figure 5 indicates the frequencies for each button. Both the signaling and common switch functions are provided by the 677F (Fig. 6) hybrid integrated circuit (HIC).



*A feature that is recognizable to the user of this dial is the “feel” of the short travel button which operates a click disc switch similar to that used on many calculators.*

2.04 The 72-type dial contains a polarity guard eliminating the possibility of improper operation due to line reversals.

2.05 Each dial has eight spade-tipped leads (Fig. 6) for connections to the telephone set network and one screw terminal (D) located on the back side

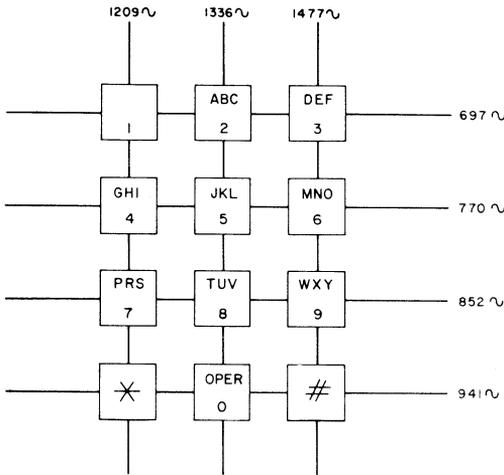


Fig. 5—72-Type Dial Frequencies

of the dial (Fig. 2) where a line switch lead terminates.

### 3. CONNECTIONS

**3.01** Connect the 72-type dial and make the necessary telephone set wiring connections in accordance with Table A.

**Note:** Refer to READ in paragraph 1.03 before attempting to connect the 72-type dial.

### 4. MAINTENANCE



**There are no field adjustments for the 72-type dial. Maintenance consists only of determining if the dial is defective.**

**4.01** To determine if a dial is defective, proceed as follows.

- (1) Verify wiring for secure and correct connections.
- (2) Check for presence of dial tone. If no dial tone is heard, make test with 1013A or equivalent hand test set across incoming CO line to telephone set. If dial tone is heard, make normal tests of telephone set components as described in appropriate sections.
- (3) Break dial tone by dialing a digit as prescribed by local instructions. If unable to break dial tone, replace the dial.
- (4) Check all buttons for tone feedback to the receiver. If feedback tones are not present, replace dial.

**4.02** To test dial frequency and amplitude outputs, perform the following.

- (1) Dial local number for testing TOUCH-TONE telephone dials, or dial local test desk and request access to the dial-test circuit.
- (2) When second dial tone is heard, dial appropriate code for testing 12-button dials, dial digits 1 through 9, and then \*, 0, and #.

**4.03** Replace dial if it fails to meet the tests.

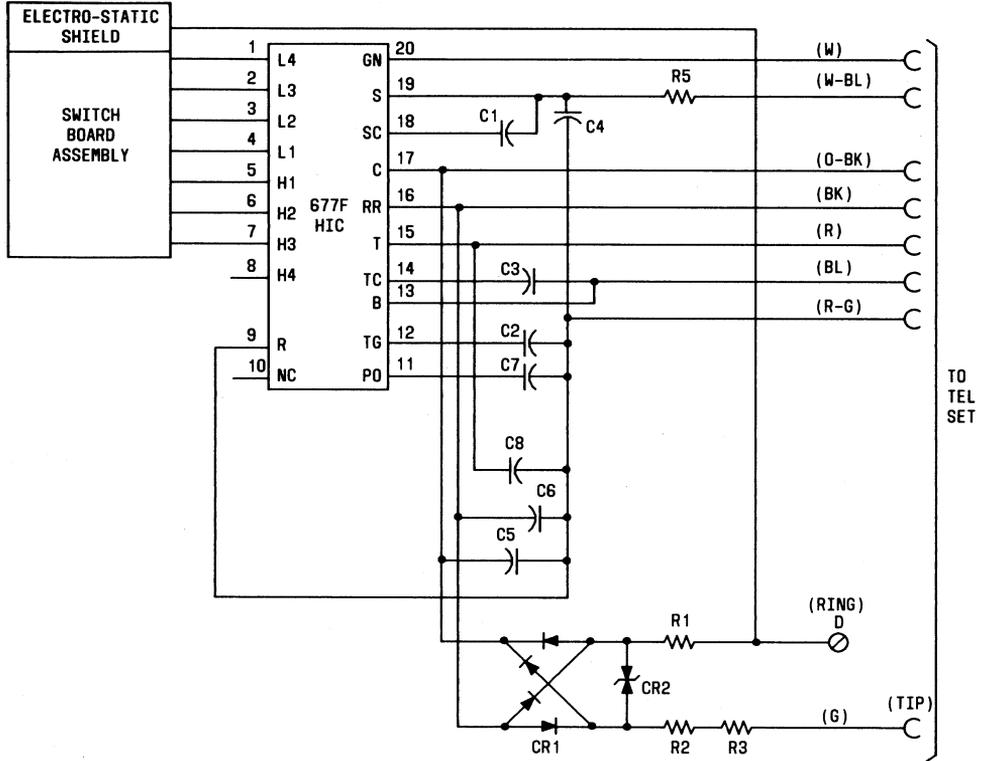


Fig. 6—72-Type Dial, Schematic

TABLE A

## 72-TYPE DIAL CONNECTIONS

WIRE OR LEAD	COLOR	REMOVE FROM NET. TERM.	CONNECT TO NET. TERM.
72-Type Dial	(W)	—	GN
	(W-BL)	—	S
	(O-BK)	—	C
	(BK)	—	RR
	(R)	—	T
	(BL)	—	B
	(R-G)	—	R
	(G)	—	F
Line Switch*	(BR)	C	D†
616-Type Handset Cord Jack	(R)	T	R
	(BK)	B	T

\* In some telephone sets where this dial is used, this line switch lead may be a different color.

† Dial terminal.