

## 2A1 MATRIX BLOCK

### IDENTIFICATION, INSTALLATION, CONNECTION, AND MAINTENANCE

#### 1. GENERAL

1.01 This section contains information on the 2A1 matrix block (Fig. 1) which provides polarity guard circuits for use with key telephones arranged for multiline conferencing.

1.02 When this section is reissued, the reason for reissue will be listed in this paragraph.

#### 2. IDENTIFICATION

2.01 The 2A1 matrix block consists of a molded plastic block equipped with 3-clip terminals, KS-21765 L2 diodes, and insulated straps connected to provide eight polarity guard circuits. One circuit is required for each conferenceable line at the associated key telephone sets.

2.02 The block is similar to the 66B3-50 type connecting block except that the 3-clip terminals are inserted only where required for holding the diodes and straps. It is 13.40 inches long, 2.80 inches wide, and 1.20 inches deep. Lead designations (T, R) are stamped on the fanning strips on both sides of the block.

2.03 The purpose of the polarity guard circuit is to isolate the associated station from battery reversals on the T and R line leads (Fig. 2). Normally, ground is on the input T lead and battery on the input R lead, and current flows through diode D1, the station circuit, and D3 in the direction of the diode arrows. A battery reversal would place ground on the input R lead and battery on

the input T lead. However, the arrangement of diodes D2 and D4 forces the line current to continue flowing through the station circuit in the same direction when this occurs.

#### 3. INSTALLATION AND CONNECTIONS

3.01 Mount the 2A1 matrix block on a flat, vertical surface in a location where leads from the associated line circuits and the station cut-down field can be conveniently connected to it. Use D inside wiring cable to connect the station (right) side of the block to the cut-down field. Terminate the leads from the line circuit on the left side of the block.



*If a station requires line ringing on a particular line, connect the ringing leads from the key telephone set to the appropriate terminals on the line side of the matrix block, not to the station side.*

3.02 Use a 714B tool to make terminations on the clip terminals of the matrix block. Refer to Section 461-604-100 for detailed instructions on the use of the 714B tool and other information on the 66-type connecting blocks.

#### 4. MAINTENANCE

4.01 Maintenance of 2A1 matrix block is limited to replacement of defective diodes and adjustment and alignment of clip terminals.

#### NOTICE

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

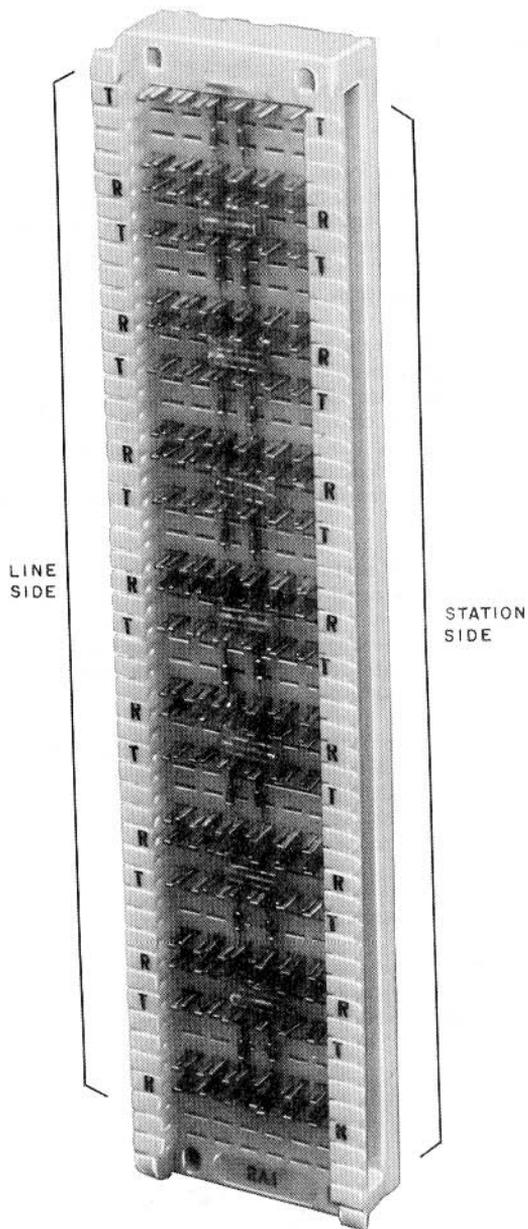


Fig. 1—2A1 Matrix Block

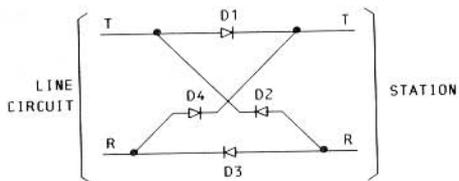


Fig. 2—Schematic of Polarity Guard Circuit