

STATION SYSTEMS
KEY TELEPHONE SYSTEM NO. 1A
AUTOMATIC EXCLUSION CIRCUIT

CHANGES

B. CHANGES IN APPARATUS

B.1 Added

634CF Subset
584DE Subset
1149B Condenser

D. DESCRIPTION OF CIRCUIT CHANGES

D.1 To provide separate ringers at excluded stations.

All other headings under "Changes", no change.

1. PURPOSE OF CIRCUIT

1.1 This circuit provides means for automatically excluding subordinate stations in the 1A key telephone system when the line is used by a principal station.

2. WORKING LIMITS

2.1 See range chart.

3. FUNCTIONS

3.1 On central office or P.B.X. lines, opens the ring, tip, balance and hold leads to exclude stations on calls made by stations not excluded.

4. CONNECTING CIRCUITS

- 4.1 Standard central office subscriber's line circuit.
- 4.2 Standard P.B.X. station line circuit.
- 4.3 Standard P.B.X. long line circuit.
- 4.4 Power rectifier circuit source of 18 volt battery.

- 4.5 Standard key and telephone circuits of the No. 1A key telephone system.
- 4.6 Standard line and signaling circuit of the No. 1A key telephone system.

DESCRIPTION OF OPERATION

5. CALLS INCOMING AND OUTGOING TO STATIONS NOT EXCLUDED

When a station not arranged for exclusion removes the hand set from its mounting, current flowing over the line operates the (E) relay. The (E) relay operates the (El) relay which opens the ring, tip, balance and hold leads to the stations to be excluded. Under these conditions the excluded stations cannot make or receive calls on this line nor can listening in take place.

6. CALLS INCOMING AND OUTGOING TO EXCLUDED STATIONS

When a station subject to exclusion makes or receives a call there are no relay operations in this circuit. The (E) relay is not in series with the loop to the excluded stations. In case an excluded station is making a call when the principal station removes the hand set from its mounting the (E) and (El) relays operate excluding the subordinate station.

7. INCOMING RINGING SIGNALS TO EXCLUDED STATIONS

The ringers at excluded stations must be connected directly across the tip and ring of the central office or PBX line and not across the tip and ring leads associated with the back contacts of the (El) relay. When ringing is applied to the line the (E) relay may operate on ringing current. The (E) relay operates the (El) relay which opens the tip and ring of the talking circuit of the excluded stations. This would silence the ringer at the excluded station if it were connected across these tip and ring leads. In the case of stations equipped with key telephone sets, a separate subscriber set to mount the ringer will be required. Stations with hang up telephones may employ the ringer normally provided in the 634CF subscriber set.

BELL TELEPHONE LABORATORIES, INC.