

METHOD OF OPERATION
MAKE BUSY CIRCUIT

Relay Call Indicator Trunk - Full Mechanical Power Driven System.

GENERAL DESCRIPTION

1. This circuit is used in full mechanical power driven offices to "make busy", "make idle" and "group" relay call indicator trunks outgoing to manual offices.

2. When an R. C. I. position in a manual office is to be vacated, it is necessary that all trunks which terminate at this position be made to test busy at the district or office frame from which they are outgoing, or, if a position is to be occupied, it is necessary that the busy test condition at the district or office frames be removed from the trunks which terminate at this position. In the first case, the "make busy" and "group" numbers are dialed, or the numbers are set up on the key indicator in the manual office. When these numbers are selected in the full mechanical office, the make busy circuit functions to make busy all the trunks included in the group. In order to remove the busy condition, the "make idle" and "group" numbers are dialed, or set up on a key indicator in the manual office, thereby selecting these numbers and causing the make busy circuit to remove the busy condition from the trunks included in the group.

3. There is one "make busy" number and one "make idle" number on the final frame of mechanical offices for each manual office to which the mechanical office has outgoing R.C.I. trunks. There is one "group" number on the final frame for each group of the R.C.I. trunks to a manual office.

4. The circuit is arranged so that tones are transmitted from the group number to the manual office, thus giving an audible indication as to the proper functioning of the make busy circuit. A high tone is connected when the group tests busy; and a low tone when the group tests idle, and during the time that the make busy circuit is changing to the busy condition on a trunk group.

DETAILED DESCRIPTION

5. When the "make busy" and "group" numbers on a final frame have been selected, the MB and G relays operate in a circuit from battery over the sleeve of the final circuit, to ground through the windings of these relays. With both relays operated, a circuit is closed from battery through the R magnet, upper outer contact of cam B, make contacts of the G and MB relays to ground energizing the R magnet. The R magnet energized advance the switch to position 2, (assuming the switch is in position 1) the A cam advancing it to position 6.

6. In position 1 and until the switch has advance beyond position 5 1/4, a circuit is closed from the low tone lead, through the upper outer and lower inner contacts of cam C, make contact of the G relay, over the R lead of the group number, to the manual office, indicating that the group of trunks has not been made to test busy, or that the operation of making then test busy has not been completed. In position 6, a circuit is closed from the high tone lead, through the lower contacts of

cam C make contact of the G relay, over the R lead of the group number to the manual office, indicating that the whole group of trunks have been made to test busy. The MB and G relays release when the connection is released at the manual office.

7. When the "make idle" and "group" numbers on the final frame have been selected, the MI and G relays operate in a circuit from battery on the sleeve of the final circuit to ground through the windings of these relays. With both relays operated, a circuit is closed from battery through the R magnet, upper inner contact of cam B, make contact of the G and MI relays, to ground energizing the R magnet advancing the switch to position 7. In position 7, the low tone is again transmitted to the manual office as described in paragraph 5. The MI and G relays release when the connection is released at the manual office.

8. In position 6, 12, and 18 the trunks in the group are made to test busy. In positions 1, 7, and 13 the busy condition is removed from all of the trunks in the group. In advancing from a "group idle" to a "group busy" position, the various cams of the switch are so cut that all of the trunks are not made to test busy at once, but part of the load is added in each intermediate position.

CIRCUIT REQUIREMENTS

OPERATE

NON-OPERATE

RELEASE

E-727
(MB)
(MI)

Test .021 amp.
Readj. .007 amp.

Test .0004 amp.
Readj. .0008 amp.

E-791
(G)

Test .025 amp.
Readj. .014 amp.

Test .001 amp.
Readj. .002 amp.