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METHOD OF OPERATION
TRUNK CIRCUIT

Miscellaneous - Local Test Desk - Small Capacity - Power Driven Machine Switching System.

GENERAL DESCRIPTION

1. These circuits provide a means of communication between the local test desk, local stations, operator's and other desks. On incoming calls, the signal lamp is caused to flash until the call is answered. When a steady lamp signal is established as a busy signal.

DETAILED DESCRIPTION

FIGURE 1.

2. When the plug of an "A" cord circuit is inserted in the jack associated with the other end of this circuit, battery is connected to the L relay, operating it. The L relay operated, flashes the lamp. The operation of the key to either position operates the B relay. The B relay operated: (a) operates the CO relay, (b) bridges the 54-B retardation coil across the tip and ring of the trunk for supervisory purposes, and (c) changes the lamp from a flashing to a steady signal. The operation of the CO relay opens the circuit of the L relay, releasing it. When the plug is withdrawn and the trunk key is restored to normal the B and CO relays release, restoring the circuit to normal.

FIGURE 2.

3. When the tip, ring and sleeve terminals of this circuit are seized by a final selector, or when the plug of a calling cord is inserted in the jack associated with the other end of this circuit, the SLV relay operates but performs no useful function at this time. The L relay operates on ringing current supplied from the mechanical office or the manual cord circuit. The L relay operated, locks in a circuit from battery on the break contact of the CO relay, through its outer winding and make contact to ground in the auxiliary signal circuit. The operation of the L relay closes a circuit through the 149 interrupter, make contact of the L relay, break contact of the CO relay, to ground through the lamp causing it to flash. The call is answered by operating the trunk thereby closing a circuit from ground, through the B relay and the inner winding of the CO relay to battery, operating both relays. The operation of the B relay short circuits the one M.F. condenser in this circuit tripping the machine ringing. The operation of the CO relay releases the L relay and changes the signal lamp from a flashing signal to a steady signal to indicate a busy condition. The CO relay operated, locks over a circuit from ground on the make contact of the SLV relay, through the 500 ohm winding of the CO relay to battery on its make contact.

When the terminals of this circuit are released by the mechanical apparatus, or the plug of the calling cord is withdrawn from the jack, and the key is restored to normal, the SLV relay releases in turn releasing the CO relay. The release of the CO relay extinguishes the busy lamp in the test desk.

FIGURE 3.

4. This circuit is used with ringdown trunk circuits and the operation is similar to that of Figure 2.

FIGURE 4.

5. This circuit operates in a similar manner as Figure 1.

FIGURES 5, 6, AND 7.

6. When the receiver is removed from the switchhook, talking battery is supplied to the subscriber's set through the winding of the L relay which operates. The L relay operates in turn operating the L-1 relay from ground on its make contact, break contact of the CO relay to battery through the L-1 relay. The L-1 relay operated, closes a circuit from ground on its make contact to the auxiliary signal circuit, and also closes a circuit from the interrupter, make contact of the L-1 relay, break contact of the CO relay, (X wiring), causing the A lamp to flash until the call is answered. The operation of the associated trunk key connects ground to the CO relay, operating it. The operation of the CO relay, releases the L-1 relay and locks to ground on the make contact of the L relay. The CO relay operated, closes the circuit changing the signal lamp at the test desk from a flashing to a steady signal. When the "Y" wiring is used, the operation of the CO relay lights a lamp at the trouble desk as a busy signal and the flashing lamp is not used. When the receiver is replaced on the switchhook, the L relay releases. The release of the L relay opens one of the holding circuits of the CO relay but it does not release at this time due to the trunk key still being operated. When the trunk key is released, the CO relay releases, restoring the circuit to normal.

CIRCUIT REQUIREMENTS

	OPERATE	NON-OPERATE	RELEASE
B124 SLV	Test .102 amp. Readj. .078 amp.		Test .023 amp. Readj. .047 amp.
B139 SLV	Test .0015 amp. Readj. .0007 amp.		Test .0001 amp. Readj. .0002 amp.
E31 (L-1)	Test .026 amp. Readj. .012 amp.		Test .0012 amp. Readj. .0024 amp.
E157 (Fig.2) (CO) Inner Wdg. (350 ohms)	Test .036 amp. Readj. .024 amp.	Test .015 amp. Readj. .016 amp.	
Outer Wdg. (500 ohms)	Hold Test .040 amp.		
E157 (Fig.3) (CO) Inner Wdg. (350 ohms)	Test .040 amp. Readj. .024 amp.	Test .015 amp. Readj. .016 amp.	
E163 (Fig.2) (B)	Test .039 amp. Readj. .029 amp.	Test .019 amp. Readj. .020 amp.	
E206 (L)	Test .017 amp. Readj. .016 amp.		Test .0015 amp. Readj. .005 amp.

CIRCUIT REQUIREMENTS

	OPERATE	NON-OPERATE	RELEASE
E250 (CO)	Test .031 amp. Readj. .028 amp.	Test .017 amp. Readj. .018 amp.	
E540 (CO) (Figs. 1 & 4) Inner Wdg. (500 ohms)	Test .021 amp. Readj. .017 amp.	Test .010 amp. Readj. .011 amp.	
E549 (L) Wdgs. in series.	Test .033 amp. Readj. .027 amp.		Test .0047 amp. Readj. .005 amp.
E919 (B)	Test .040 amp. Readj. .038 amp.		Test .0066 amp. Readj. .007 amp.
G18 (L) Inner Wdg. (450 ohms)	Test .019 amp. Readj. .018 amp.		Test .005 amp. Readj. .010 amp.
Outer Wdg. (450 ohms)	Test .020 amp.		

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