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METHOD OF OPERATION
TELEPHONE CIRCUIT
Arranged For Dialing - Machine Switching System - Repair Clerk's Desk #1 -

GENERAL DESCRIPTION

1. This circuit is used at the repair clerk's desk with incoming and outgoing trunks and tie lines. It is arranged for ringing and for dialing on outgoing connections. Keys are also provided for flashing and for transferring the lamp circuit to the "A" board.

2. In answer to a call incoming over a trunk or tie line, the trunk talking key associated with the flashing trunk lamp is operated, causing the lamp to burn steadily, and bridging the operators telephone set across the tip and ring of the trunk. The circuit may also be arranged to trip machine ringing on machine ringing trunks.

3. To make an outgoing call over a tie line, the proper trunk talking key is operated, lighting the associated trunk lamp as a busy signal, and flashing the trunk lamp at the distant end. The operator's telephone set is not bridged across the tie line until the call is answered at the distant end. If the outgoing call is made over a trunk, the operation of the proper trunk talking key bridges the operator's telephone set across the trunk and the dialing key or ringing key is then operated.

4. The circuit is designed to prevent clicks in the operator's receiver when connections are made to or broken from a trunk circuit or tie line, or when machine ringing is tripped.

DETAILED DESCRIPTION

OPERATION

5. In answer to a call over a tie line, the talking key associated with the flashing trunk lamp is operated, causing the lamp to burn steadily and placing ground on lead S operating the #162-M relay. The operation of this relay operates the E214 relay, which in turn releases the #162-M relay. The release of the #162-M relay operates the E34 relay which bridges the telephone set across the tip and ring of the trunk.

6. On an incoming call over a machine ringing trunk, the B6 relay is used in the circuit and operates from the ringing current when the talking key associated with the flashing trunk lamp is operated. The operation of the B6 relay places a short circuit across the tip and ring of the trunk, tripping the machine ringing. If superimposed ringing current is used, it is tripped when the operation of the talking key bridges the #54-D retardation coil in series with the B128 relay across the trunk. The B128 relay operates from battery and ground connected to the tip and ring of the trunk, in turn operating the #162-M relay. The operation of the #162-M relay operates the E214 relay, which by its operation releases the #162-M relay, in turn operating the E34 relay as described above. This series of operation is used to prevent clicks of various kinds. The #162-M relay is made slow in releas-

ing to prevent the operation of the E34 relay before the ringing current is tripped, thus preventing ringing in the receiver.

7. If the flashing key is operated, the #149-P relay operates, making it possible to omit the #162-M relay, thereby reducing the time interval between the release and re-operation of the E34 relay. The #149-P relay is made slow in releasing to prevent its release during the flashing period.

8. To make an outgoing call over a tie line, the proper trunk talking key is operated, closing a circuit which flashes the lamp at the distant end. When the trunk talking key associated with the flashing lamp is operated in answer to the call, ground on lead S operates the #162-M relay. From this point on the circuit functions in the same manner as previously described.

9. On an outgoing call over a trunk, the proper talking key is operated, connecting battery and ground to the T-1 and R-1 leads, operating the B128 relay in series with the #54-D retardation coil. The operation of the B128 relay, closes a circuit operating the #162-M relay, which finally operates the B34 relay, as previously described. The ringing key is then operated or the dial key is operated and the desired number dialed.

CIRCUIT REQUIREMENTS

	OPERATE	NON OPERATE	RELEASE
B6	Test .0014 amp. Readj. .0013 amp.		Test .0004 amp. Readj. .0004 amp.
B128	Test .034 amp. Readj. .032 amp.		Test .017 amp. Readj. .018 amp.
E34	Test .029 amp. Readj. .020 amp.	Test .015 amp. Readj. .016 amp.	
E214	Test .026 amp. Readj. .015 amp.	Test .010 amp. Readj. .011 amp.	
#149-P airgap .025"	On .0095 amp. middle spring shall touch top spring, but it shall not break contact of bottom and top springs. On .010 amp. relay shall completely operate.	On .009 amp. middle spring shall not touch top spring.	
#162-M	Test .030 amp. Readj. .028 amp.	Test .020 amp. Readj. .022 amp.	

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CHK'D.--WHL.

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