Western Electric Co., Incorporated,
Engineering Dept.,
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See T 512618

METHOD OF OPERATION
HOLDING LINE CIRCUIT

To Permanent Signal - Sender Monitor Operator- Trouble Desk - Full Mechanical Power Driven System.

GENERAL DESCRIPTION

1. This circuit is used with howler cord circuits at the trouble desk in a full mechanical office. The sleeves of the howler cords are connected to battery through a maximum resistance of 241 ohms. When a permanent signal is displayed at the sender monitor's desk, the operator inserts the plug of the test cord in the "sender test jack" and challenges. If no response is received, the operator withdraws the test cord and inserts it in the "make busy jack" of the sender, which causes the district or office selectors to select one of these holding lines. When the holding line is seized a slow flashing lamp is displayed. When the operator inserts the plug of the howler cord in the holding line jack, the lamp burns steadily. If the receiver is replaced on the switchhook, the plug of the howler cord is withdrawn from the line jack causing the lamp to flash rapidly, the disconnect key is then momentarily operated, extinguishing the lamp and restoring the circuit to normal. If the receiver is not replaced on the switchhook after a specified interval of time the plug is withdrawn from the jack and the lamp burns steadily until the subscriber's line is disconnected by the wire chief whereupon the lamp flashes rapidly. The disconnect key is then operated and the lamp is extinguished.

DETAILED DESCRIPTION

2. When the plug of a test cord is inserted in the "make busy jack" of the sender circuit associated with the permanent signal, the associated district selector circuit selects one of these holding lines, causing the L relay to operate. The L relay operates in a circuit from battery through its winding, break contact of the CO relay, over the ringside of the line, through the district to the sender circuit, back over the tip side of the line to ground on the break contact of the CO relay. The sender is thus satisfied and advances the district to the "awaiting operator's answer" position. The operating circuit for the L relay is now closed through the district polarized relay. The district polarized relay operates and advances the district to its "talking to operator" position. The L relay is now connected through to the subscriber's line. The L relay operated; (a) Closes a circuit from ground through the lamp, its make contact, break contact of the MB relay, to battery through the contacts of the slow interrupter, causing the lamp to flash. (b) Closes a circuit from ground through the break contact of the MB relay, make contact of the L relay, to battery in the auxiliary signal circuit. (c) Closes a circuit from ground on the armature and break contact of the MB relay. Make contact of the L relay, to the sleeve terminal in the district or office selector to hold the line relay in the district operated preventing the district from advancing out of the "talking to operator" position and holds the district busy to other hunting selectors.

3.- When the plug of the howler cord is inserted in the answering jack, the CO relay operates from battery on the sleeve of the cord. The CO relay operated; (a) Connects the tip and ring of the cord circuit through to the subscriber's line, (b) Closes a circuit from ground through its make contact to hold the L relay operated, (c) Closes a circuit from ground through its make contact to battery through the winding of the MB relay, which operates. The MB relay operated; (a) Disconnects interrupted battery from the lamp and connects battery through its make contact and the make contact of the L relay to the lamp, causing it to burn steadily, (b) Disconnects ground from the auxiliary signal circuit (c) Connects ground to the sleeve of the district or office selector circuit and (d) locks to ground through its make contact under control of the disconnect key. When the receiver is replaced on the switchhook at the subscriber's station, and the plug is withdrawn, the L and CO relays release. The L relay released, causes the lamp to flash rapidly from ground through the interrupter and the make contact of the MB relay. The auxiliary circuit is also closed at this time. The operation of the disconnect key, disconnects ground from the MB relay which releases. The MB relay released, extinguishes the lamp and disconnected ground from the S lead restoring the circuit to normal.

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CIRCUIT REQUIREMENTS

	OPERATE	NON-OPERATE	RELEASE
E1065 (MB)	Test .051 amp. Readj. .045 amp.		Test .0057 amp. Readj. .006 amp.
E1198 (CO)	Test .026 amp. Readj. .024 amp.		Test .0038 amp. Readj. .004 amp.
E1661 (L)	Test .013 amp. Readj. .012 amp.		Test .0019 amp. Readj. .002 amp.

For requirements see
BT.502814

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CHK'D.--CHW.-CWP.

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