

METHOD OF OPERATION
- LINE CIRCUIT

Tests to Special "A" Switchboard Zero Position and Sender Monitor - Arranged For
Cross Connection in Rear of Section - Relays on Relay Rack.

LOCAL TEST DESK
FULL MECHANICAL POWER DRIVEN SYSTEM

GENERAL DESCRIPTION

1. This circuit is used for plugging up lines for testing purposes at either the special "A" board or the sender monitor's position. It terminates in jacks at the local test board. It is used at the plug end with jacks whose sleeves are grounded through a maximum resistance of 368 ohms and 1050 ohms respectively and at its jack end with the plug of a test cord whose sleeve is connected to 24 volt battery through a maximum resistance of 178 ohms.

2. If the sender monitor operator or the zero operator inserts the plug of the cord in a line jack, the red lamp flashes. The white lamp flashes as an indication of trouble on the line or that the receiver is removed from the switchhook. When the plug of the test cord is inserted in a test jack the white lamp, if lighted, is extinguished and the red lamp is changed from a flashing to a steady signal. Should the plug of the test cord be withdrawn from the test jack, the white lamp is again under control of the switchhook but the red lamp remains a steady signal. The disconnect key when operated, lights the disconnect lamp at the switchboard position. This lamp remains lighted until the plug of the cord is withdrawn from the line jack at the sender monitor or zero operator's position.

DETAILED DESCRIPTION

OPERATION

3. When the plug of a test cord at the sender monitor's position is inserted in the jack of a line to be tested, the S relay operates and connects battery to the red lamps through the flashing interrupter. If the line under test is crossed, or if the ring side is grounded, the L relay operates and connects battery to the white lamps through the flashing interrupter.

4. When the plug of the test cord is inserted in the test jack, the CO relay operates, thereby opening the circuit through the winding of the L relay, which if operated, releases, extinguishing the white lamp. The CO relay operated also operates the H relay which locks under control of the S relay, removing the ground from the auxiliary signal circuit, and changing the red lamp from a flashing to a steady signal. This steady signal is maintained until the line is released.

5. When the plug of the test cord is withdrawn from the test jack the CO re-

lay releases, re-connecting the winding of the L relay to the ring side of the line. The L relay is operated as before by a trouble condition or if the line is clear, is under control of the switchhook of a station on the line. The operation of the disconnect key at the test board operates the D relay which locks under control of the H and S relays and lights the disconnect lamp at the sender monitor's position. When the plug of the test line is removed from the line jack at the sender monitor's position, the S, H and D relays release restoring the circuit to normal.

6. Figure 3 is the same as figure 2 except that the cord terminates on the zero operator's position in place of the sender monitor's position and the winding of the S relay of greater resistance and is connected to 24 volt battery in place of 48 volt battery.

CIRCUIT REQUIREMENTS

	<u>OPERATE</u>	<u>NON-OPERATE</u>	<u>RELEASE</u>
B98 (L)	After a soak of approximately .015 amp. Test .0078 amp. Readj. .0038 amp.		After a soak of approx- imately .015 amp. Test .0022 amp. Readj. .0024 amp.
E31 (D)	Test .026 amp. Readj. .012 amp.		Test .0012 amp. Readj. .0024 amp.
E34 (H)	Test .030 amp. Readj. .020 amp.	Test .015 amp. Readj. .016 amp.	
E174 (CO)	Test .087 amp. Readj. .082 amp.	Test .057 amp. Readj. .061 amp.	
E259 (S)	Test .022 amp. Readj. .020 amp.		Test .0015 amp. Readj. .003 amp.
E653 (S)	Test .032 amp. Readj. .029 amp.	Test .018 amp. Readj. .019 amp.	

ENG.--RAF-VL.
7/20/21.

CHK'D.--ASP.

APPROVED - C.L.SLUYTER, G.M.L.