

TEST OF LINE MESSAGE REGISTER CROSS-CONNECTIONS

1. GENERAL INFORMATION

1.1 Description of Test: This test is made from the secondary line switch horizontal through the primary line switch crosspoints to the message register rack. Test conditions are applied to detect crosses and false potentials on the leads. Circuit numbers are SD-25003-01 and SD-25553-01. These tests are to be applied only to cross-connections made by the Western Electric Company.

1.2 Manload: Two men are recommended to perform these tests.

2. RECORDS AND REQUIREMENTS

2.1 Records

Forms ID-1313 and ID-1315 are required for recording the results of these tests. For further information see Section 3 of Handbook 50.

2.2 Requirements

Section 0.3 lists all the tests to be made on line message register cross-connections together with the associated performance requirements.

3. TEST EQUIPMENT

3.1 Test Sets and Accessories

Amt	ITE	Description	Furnished With
1	4033	Link Frame Test Set	
2	2260	Call Wire Jack	ITE-4023
As Req.	349A	Make Busy Plug	ITE-4023

3.2 Cords

Amt	ITE	Description	Furnished With
1	9729	2-Cond. Cord Equipped with 110 Plug and 5 ITE-4047 fixture	4023
2	9650	Operators' Telephone Set	4023

4. TEST OPERATIONS

4.1 If the frame talking line is not available, set up a talking line between the line switch frames and the message register rack, using the call wire jacks.

4.2 When performing the following tests make busy the secondary switch to which the fixture is attached by inserting a plug in the SS jack. Also make busy other switches to which this switch is multipled.

4.3 Strap together all non-cross-connected M1 leads for each line link frame at the H.L.D.F. Run temporary cross-connection from this strap to a non-working message register. On two party frames strap the M2 terminals in the same manner, connecting to a second register.

4.4 Set up the testing equipment as shown in Figure 1. Attach the fixture of cord ITE-9729 to the horizontal multiple of secondary switch #0.

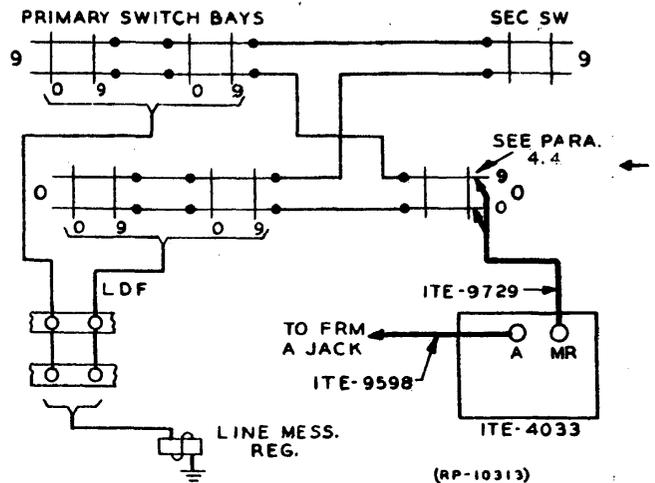


FIG. 1 SETUP FOR TEST

4.5 Operate the MR and IB keys. If an audible signal is desired operate X key. Operate the C2 key to close the Message Register lead when testing single party circuits. When testing two party circuits the (C) 1 key is operated to close through the M1 lead or (C) 2 for the M2 lead. Both keys may not be operated at the same time as this will short-circuit the M1 and M2 leads.

4.6 Manually close the #0 crosspoints of each line on the primary switches in sequence and have the tester at the message register rack observe that the associated register flashes. The X lamp flashes indicating continuity to ground. Also if X key is operated the buzzer sounds. On non-cross-connected lines the temporary registers will flash as an OK test.

4.7 When above tests are completed and before removing the temporary strapping placed in Paragraph 4.3 make a voltmeter test of all non-cross-connected M1 and M2 leads per Handbook 50, Section 2, Paragraphs 6. First remove temporary connection to message register.

4.8 Trouble Indications

(a) Continuity through non-closed crosspoints on the secondary switch will connect ground to the test lead flashing the X lamp before the primary crosspoints are closed.

(b) Continuity through non-closed primary switch crosspoints will also cause the X lamp to flash before manually closing the crosspoints to the message register lead under test. Since all of the ten O links are tied together by the horizontal multiple fixture false continuity of the O crosspoint associated with each cross-connected vertical on each primary switch will be detected at this time.

(c) Crosses between cross-connected M leads will connect two registers in parallel which will be a non-operated condition on the registers. Lamp X will flash indicating continuity to ground.

→ Arrowed lines indicate new or changed information.

5. CHECK OF GROUNDS AND FALSE CONTINUITY ON REMAINING SWITCHES AND LINKS

5.1 Move the horizontal fixture to the #1 secondary switch. Operate (C) 1 and (C) 2 keys. Ground on a link or false continuity to any cross-connected register will cause the X lamp to flash.

5.2 In order to insure that contact is made to each link, connect ground through a test receiver to the M1 and M2 leads of each link of the switch and note that X lamp flashes as each lead is grounded.

5.3 Repeat the test on switches #2 to #9.

6. CHECK OF SLEEVE LEADS

6.1 Check the uncross-connected sleeve leads by having the tester at the H.L.D.F. ground each S terminal through a receiver. Observe that the correct H (HOLD) magnet operates on the primary switches.

J. P. Kelly,

Engineer of Installation.