

LONG LINE CIRCUITS ASSOCIATED WITH 520-TYPE PBX TESTS EMERGENCY REPORTING SYSTEM

1. GENERAL

1.01 This section describes methods of testing the supervisory and transmission features of emergency reporting system long line circuits at the equipment location of the circuit units.

1.02 The tests covered are:

A. Over-all Operation and Loop Open (LO) Test — When Associated With Station Line Circuit (Direct Line): This test checks the supervisory, ringback, selective routing, transmission, and loop open features of the long line circuit when associated with a station line circuit at the headquarters switchboard.

B. Over-all Operation Test — When Associated With Line and Switch Circuit (Concentrator Line): This test checks the supervisory, selective routing, and transmission features of the long line circuit when associated with a line and switch circuit of the concentrator system.

C. Loop Open Test — When Associated With Line and Switch Circuit (Concentrator Line): This test checks the loop open (LO) feature of the long line circuit when associated with a line and switch circuit of the concentrator system.

1.03 The circuits on which these tests are performed are part of a fire and police reporting system and precautions must be taken that service calls are not affected.

1.04 These tests involve completing connections to the headquarters switchboard and shall be terminated temporarily at the request of headquarters operator when they might interfere with the efficient handling of service calls and dispatch duties at the headquarters switchboard.

1.05 The performance of Test C requires actions and verifications at the long line equipment and the concentrator location. The coordination of individual line tests from the concentrator as covered in Section 067-302-501 (Test of an Individually Selected Line Through an Individually Selected Outgoing Trunk Line Switch Appearance) is required.

1.06 Test C requires a talking circuit between the long line circuit relay frame and test circuit frame in the associated concentrator office. This may be established by connecting together the frame line talking circuits in each office by means of an interoffice tie line or by establishing a call from the test frame telephone set to the long line circuit office and completing it to the frame line talking circuit.

1.07 In applying Test A, the long line circuit is provided as a single circuit unit if arranged for rering (R relay, condenser, and varistor). The station loop tip terminal is 58 and ring terminal 57. In applying Tests B and C and Test A if not arranged for rering, the long line circuit is provided as a 3-circuit unit. The station loop terminals for the three circuits on a unit are tip terminals 58, 48, and 38, and ring terminals 57, 47, and 37, respectively. The terminal strip ground terminal on all units is terminal 11.

1.08 **Lettered Steps:** A letter a, b, c, etc, added to a step number in Part 4 of this section, indicates an action which may or may not be required depending on local conditions. The condition under which a lettered step or a series of lettered steps should be made is given in the ACTION column, and all steps governed by the same condition are designated by the same letter within a test. Where a condition does not apply, all steps designated by that letter should be omitted.

2. APPARATUS

All Tests

2.01 One No. 554A wall-type telephone set, two 750-ohm, 1-watt resistors, one No. 12E connecting block, and one No. 238A jack or equivalent assembled as shown in Fig. 1 and mounted on a board convenient for locating at the relay rack.

2.02 Testing cord, W3M cord, 6 feet long, equipped with a No. 310 plug and three No. 360 tools (No. 3W4A cord) and three No. 419A (test connector) tools (for use in connecting test station to long line circuits).

Tests A and C

2.03 Blocking tools, as required. Use tools and apply, as covered in Section 069-020-801.

Test C

2.04 Operators headset at long line circuit relay frame and concentrator test circuit frame if required (see 1.06) for establishing talking connection.

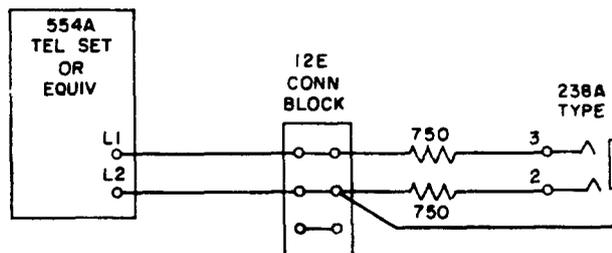


Fig. 1 - Test Station

3. PREPARATION

STEP	ACTION	VERIFICATION
All Tests		
1	Connect plug of No. 3W4A cord to No. 238A jack.	

Test C

2	Establish talking connection between long line circuit frame and test circuit frame at concentrator office.	
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4. METHOD

STEP	ACTION	VERIFICATION
A. Over-all Operation and Loop Open (LO) Test — When Associated With Station Line Circuit (Direct Line)		
2	At long line unit — Connect tip and ring of No. 3W4A cord to station tip and ring terminals of an idle long line circuit. <i>Note:</i> Busy long line circuit is indicated by operated L relay.	
Call to Fire Headquarters		
3	At test station — Remove handset from switchhook. When attendant answers, tester should announce, "this is a test call," inform attendant that LO test is to be made, and request attendant to disconnect when release signal is received.	At fire headquarters — Attendant answers. Transmission satisfactory.

STEP	ACTION	VERIFICATION
4	At test station — Replace handset on switchboard.	At fire headquarters — Release signal received.
5	At long line unit — Block LO relay released for approximately 3 seconds.	For time LO relay in released — LO1 relay operates. At fire headquarters — LO alarm received.
6	At test station — Remove handset from switchhook.	At fire headquarters — Attendant answers. Transmission satisfactory.
7a	If rering feature is provided — At test station — Request attendant to ring on line for ap- proximately 2 seconds when release signal is received and then replace handset on switchhook.	At fire headquarters — Release signal received. At test station — Test telephone ringer operates.
8a	Remove handset from switchhook.	At fire headquarters — Release signal off. Transmission satisfactory.
9	At test station — Announce completion of test to fire head- quarters and then replace handset on switchhook.	At fire headquarters — Release signal received.
Call to Police Headquarters		
10b	If selective routing feature is provided — At long line unit — Touch sleeve of No. 3W4A cord to ground terminal 11, remove test station handset from switchhook, and then remove the ground.	At police headquarters — Attendant answers. Transmission satisfactory.
11b	At test station — When attendant answers, tester should an- nounce "this is a test call," and request at- tendant to disconnect when release signal is received and then replace handset on switchhook.	At police headquarters — Release signal received.
12	At long line unit — Remove test cord connections from tip and ring terminals of circuit tested.	
13	Repeat Steps 2 through 12 for all long line circuits.	

STEP	ACTION	VERIFICATION
B. Over-all Operation Test — When Associated With Line and Switch Circuit (Concentrator Line)		
2	<p>At long line unit — Connect tip and ring of No. 3W4A cord to tip and ring terminals of an idle long line circuit.</p> <p><i>Note:</i> Busy long line circuit is indicated by operated L relay.</p>	
Call to Fire Headquarters		
3	<p>At test station — Remove handset from switchhook.</p> <p>When attendant answers, tester should announce "this is a test call," and request attendant to disconnect when release signal is received.</p>	<p>At fire headquarters — Attendant answers. Transmission satisfactory.</p>
4	<p>At test station — Replace handset on switchhook.</p>	<p>At headquarters — Release signal received.</p>
Call to Police Headquarters		
5a	<p>If selective routing feature is provided — At long line unit — Touch sleeve of No. 3W4A cord to ground, remove test station handset from switchhook, and then remove ground.</p> <p>When attendant answers, tester should announce "this is a test call," and request attendant to disconnect when release signal is received.</p>	<p>At police headquarters — Attendant answers. Transmission satisfactory.</p>
6a	<p>At test station — Replace handset on switchhook.</p>	<p>At police headquarters — Release signal received.</p>
7	<p>Remove test cord connections from tip and ring terminals of circuit tested.</p>	
8	<p>Repeat Steps 2 through 7 for all long line circuits.</p>	
C. Loop Open Test — When Associated With Line and Switch Circuit (Concentrator Line)		
3	<p>At long line unit — Connect tip and ring of No. 3W4A cord to tip and ring terminals of an idle long line circuit.</p> <p><i>Note:</i> Busy long line circuit is indicated by operated L relay.</p>	

STEP	ACTION	VERIFICATION
4	<p>At test station — Remove handset from switchhook.</p> <p>When attendant answers, tester should announce "this is a test call," inform attendant that "line open" (LO) alarm test is to be made, and request to disconnect when release signal is received.</p>	<p>At fire headquarters — Attendant answers. Transmission satisfactory.</p>
5	<p>At test station — Replace handset on switchhook.</p>	<p>At fire headquarters — Release signal received.</p>
6	<p>At test location — Over established talking circuit — Request assistant at concentrator test frame to begin individual line test, as covered in Section 067-302-501, on line circuit with which long line circuit under test is associated.</p>	
7	<p>At concentrator test frame — Begin line test of line circuit associated with long line circuit being tested and inform testman at long line circuit location that line test is being made.</p>	<p>Line test made repeatedly by test circuit.</p>
8	<p>At long line unit — Block LO relay released.</p>	<p>LO1 relay operates. At test frame — Line test stops. LPF lamp lights. Line number sent to headquarters. At headquarters — Trouble ticket printed. AL bell sounds. TBL TKT lamp lights.</p>
9	<p>At headquarters — Operate ALM CO key momentarily. Check printing of trouble ticket.</p>	<p>AL bell silent. TBL TKT lamp dark.</p>
10	<p>At concentrator test frame — Operate RN key momentarily, restore REP and LINE TST keys to normal, and inform testman at long line circuit location that test circuit is normal.</p>	
11	<p>At long line unit — Remove block from LO relay.</p>	<p>LO relay operates. LO1 relay releases.</p>
12	<p>At test station — Remove handset from switchhook.</p>	<p>At fire headquarters — Attendant answers. Transmission satisfactory. Announce receipt of trouble ticket and alarm.</p>

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STEP	ACTION	VERIFICATION
13	At test station — Announce completion of test. Request attendant to disconnect when re- lease signal is received and then replace handset on switchhook.	At fire headquarters — Release signal received.
14	Remove test cord connections from tip and ring terminals of circuit tested.	
15	Repeat Steps 3 through 14 for all long line circuits.	