

TRUNK CIRCUITS

USING AUTOMATIC INCOMING TEST CIRCUIT SD-25161-01

NO. 1 CROSSBAR OFFICES

1. GENERAL

1.01 This section describes a method of testing trunks that appear on the office multiple, using the automatic incoming test circuit Section SD-25161-01.

1.02 This section is reissued to omit Crossbar Tandem from the title and to add the following:

- (a) Reference to L key in monitor receiver circuit.
- (b) Replacement of REP-2-SXS key with REP-2 key.
- (c) Restriction on test of trunks employing E1E signaling units.

Since this is a general revision, arrows ordinarily used to indicate changes have been omitted.

1.03 The tests covered are:

A. **Test Line Test:** The following features are checked. (1) Signaling and supervision of the trunk being tested. (2) Ringing, rering, or ring forward for the trunks so equipped. (3) An operate test of the A relay is made on revertive pulse trunks except those working over carrier. (4) An operate and nonoperate test is made of the L relay on panel trunks except those working over carrier. (5) A check for momentary opens of the tip and ring during supervisory relay test is made by operating the MO key. (6) A check is made of the three types of start pulsing signals on multifrequency and dial pulse trunks. (7) A test of the ability of a two-way trunk to lock in the off-hook signal until an originating sender is attached is made by operating the CCT key. (8) A timing check is made for slow sequence switches and elevator rods on panel incoming selectors, and a release test of the A relay on

revertive pulse trunks is made by operating the REP-2 key. (9) A timing check is made on step-by-step incoming selectors on dial pulse trunks by operating the REP-2-SXS key (or the REP-2 key where the REP-2-SXS key is not furnished).

B. **Busy Line Test:** This test, made to a busy line in offices arranged to return flashes or tone and flashes, checks the following features. (1) A nonoperate test of the A relay is made on all revertive pulse trunks except 48V panel trunks and trunks working over carrier. (2) A timing check is made for slow sequence switches and elevator rods on panel incoming selectors, and a release test of the A relay on revertive pulse trunks is made by operating the REP-2 key. (3) A timing check is made on step-by-step incoming selectors on dial pulse trunks by operating the REP-2-SXS key (or the REP-2 key where the REP-2-SXS key is not furnished). (4) Multifrequency and dial pulse trunks requiring three-digit outpulsing are passed by on this test.

Note: This test should not be made over trunks employing E1E signaling units.

✓ C. **Brush Continuity Test:** This test checks the continuity of the brushes of panel incoming selectors only, to any chosen group. When provided, the added operation of the BCR key will cause the test circuit to make a single recycle in the event of trouble and so avoid blocking on panel incoming selectors seized in an off-normal position with no actual trouble. All other type trunks are passed by on this test.

D. **Continuity and Polarity Test:** This test checks the continuity and polarity of all trunks except those straightforward types that have battery on the ring and ground on the tip when normal.

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1.04 Audible ringing or other supervisory signals may be monitored by means of a 716E receiver (see 2.02) connected to the T jack. If the test frame is provided with an L key, this key must be held operated while monitoring. If the test frame is not provided with an L key, observe the caution below:

Caution: It is not intended that the test receiver be left connected to the T jack during normal progress of the tests as false ringing test failures may result. In addition, the test receiver may attenuate multifrequency pulses sent from the test circuit resulting in possible failures when testing high loss trunks.

1.05 Lettered Steps: A letter a, b, c, etc, added to a step number in Parts 3 and 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** Automatic incoming test circuit, Section SD-25161-01.
- 2.02** Test Receiver — 716E receiver (or equivalent) attached to an R2DB cord, 6 feet long, equipped with a 347A plug (2W32A cord). See 1.04.

Test C

- 2.03** Two 322A (make-busy) plugs.

3. PREPARATION

STEP	ACTION	VERIFICATION
All Tests		
1	Restore all operated test circuit keys.	
2	Operate RN key.	Test circuit restores to normal. N lamp lights.
3a	If test circuit does not restore to normal — Operate CA key momentarily.	Test circuit restores to normal. N lamp lights.
4	Restore RN key.	N lamp extinguished.
5b	If it is desired to pass all busy trunks — Operate APB key.	
6c	If automatic repeat test is desired with test frame advance on successful completion of second trial and test frame blocking with failure to complete second trial — Operate AR key.	
Tests A and B		
7d	If testing revertive pulse trunks, except those working over carrier or employing E1E signaling units, and it is desired to make release test of A relay, or timing check for slow sequence switches and elevator rods on panel incoming selectors — Operate REP-2 key.	

STEP	ACTION	VERIFICATION
8e	If testing dial pulse trunks, and it is desired to make a timing check for release of step-by-step incoming selectors — Operate REP-2-SXS key (or REP-2 key where REP-2-SXS key is not provided).	

4. METHOD

STEP	ACTION	VERIFICATION
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A. Test Line Test

9f	If provided, and momentary open check is desired — Operate MO key.	
10g	If it is desired to test the ability of a two-way trunk to lock in the original off-hook signal until an originating sender is attached — Operate CCT key.	
11	Operate ST key.	Progress lamps light momentarily to show progress of test. If REP-2 or REP-2-SXS key is not operated — Test circuit proceeds to test each trunk automatically. If REP-2 or REP-2-SXS key is operated — Test circuit proceeds to test and make a single repeat test on each trunk automatically. When all trunks have been tested — EC lamp lights. Minor alarm sounds.
12	Restore ST key.	
13	Restore all operated keys to normal.	
14	Operate RN key.	Test circuit restores to normal. EC lamp extinguished. N lamp lights. Minor alarm silenced.
15	Restore RN key.	N lamp extinguished.

B. Busy Line Test

9	Operate BL key.	
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STEP	ACTION	VERIFICATION
10	Operate ST key.	Progress lamps light momentarily to show progress of test. If REP-2 or REP-2-SXS key is not operated — Test circuit proceeds to test each trunk automatically. If REP-2 or REP-2-SXS key is operated — Test circuit proceeds to test and make a single repeat test on each trunk automatically. When all trunks have been tested — EC lamp lights. Minor alarm sounds.
11	Restore ST key.	
12	Restore all operated keys to normal.	
13	Operate RN key.	Test circuit restores to normal. EC lamp extinguished. N lamp lights. Minor alarm silenced.
14	Restore RN key.	N lamp extinguished.

C. Brush Continuity Test

7	Insert 322A plugs into IB and IG jacks of brush and group to be tested.	
8	Operate BC key.	
9d	If provided, and a recycle on first test trouble is desired — Operate BCR key.	
10	Operate ST key.	Progress lamps light momentarily to show progress of test. Test circuit proceeds to test each trunk automatically. When all trunks have been tested — EC lamp lights. Minor alarm sounds.
11	Restore ST key.	
12	Restore all operated keys to normal.	
13	Operate RN key.	Test circuit restores to normal. EC lamp extinguished. N lamp lights. Minor alarm silenced.
14	Restore RN key.	N lamp extinguished.
15	Remove No. 322A plugs.	

STEP	ACTION	VERIFICATION
D. Continuity and Polarity Test		
7	Operate CP key.	
8	Operate ST key.	Progress lamps light momentarily to show progress of test. Test circuit proceeds to test each trunk automatically. When all trunks have been tested — EC lamp lights. Minor alarm sounds.
9	Restore ST key.	
10	Restore all operated keys to normal.	
11	Operate RN key.	Test circuit restores to normal. EC lamp extinguished. N lamp lights. Minor alarm silenced.
12	Restore RN key.	N lamp extinguished.

