COMPANY PRIVATE

Installation Engineering Handbook 59
Western Electric Company, Incorporated
Columbus Works

Section 111
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NO. 1 CROSSBAR OUTGOING TRUNKS
MF AND PCI

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(SD-95821-01)

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1. GENERAL INFORMATION

1.1 This section describes the supplementary and operation tests to be made on the following ANI Outgoing Trunks associated with No. 1 Crossbar Office equipment.

SD-26209-01 MF Pulsing
SD-26210-01 PC1 Pulsing
SD-27554-01 MF Noncoin
SD-27555-01 MF Coin
SD-27813-01 MF Noncoin
SD-27814-01 MF Coin

1.2 This section also describes the tests to be made on the common systems miscellaneous circuit per SD-95821-01.

1.3 Operation tests of the trunks are to be performed using the Automatic Trunk Test Frame per SD-95889-01.

2. TEST EQUIPMENT

Amt.	Code	Description
1	R-3314	Stop Watch
1	R-9572	Test Receiver

3. RECORDS AND REQUIREMENTS

3.1 Records

3.11 Forms SD-4-1313 and SD-4-1315 are required for recording the results of these tests.

3.2 Requirements

3.21 Tests of this section agree with performance requirements contained in BSP-816-200-180.

4. FREQUENCY VERIFICATION

NOTE: Tests of the oscillator circuits per Section 113 should be completed prior to the tests of this paragraph.

4.1 Connect one end of a test receiver to ground.

4.2 Block operated the OSC relay of one of the oscillator circuits that serve the frame.

4.3 Touch the test probe of the test receiver to terminal 8/42 of the B terminal strip of the trunk unit.

4.4 Verify that high tone (5800 cycles) is present on this terminal.

4.5 Repeat test on each trunk of the frame.

4.6 Remove blocks from OSC relay in the oscillator.

5. MISCELLANEOUS CIRCUIT TESTS
(SD-95821-01)

5.1 Fuse Alarms

5.11 Using a test receiver, short the fuse alarm terminal of the associated 20A fuse with the feeder terminal. Lamp FA lights and the floor alarm functions.

5.12 Check that the alarm will function with the FA lamp removed.

5.13 Using a test receiver, short the fuse alarm terminal of one of the 1-1/3 ampere fuses with the feeder terminal. Lamp FA lights and the floor alarm functions.

5.14 Check that the alarm functions with the FA lamp removed.

5.2 Timeout Control Relays

5.21 At the trunk under test, block relay ON operated.

5.22 Connect ground to terminal strip punchings as follows:

SD	T.S.	PUNCHING
26209	A	30
26210	A	30
27554	A	28
27555	A	28
27813	C	15
27814	C	15

5.23 Observe that relay TM operates when B- of the miscellaneous circuit operates. Using the stop watch, verify that within a 2 to 5 second interval relays operate as follows:

SD	RELAY
26209	SP
26210	SP
27554	TK
27555	TK
27813 (App. Fig. 3)	TK
27814 (App. Fig. 3)	TK

5.24 Remove ground from terminal strip and manually release relay ON.

5.25 Repeat test on each trunk on the trunk frame.

5.3 Talking Battery Filter

NOTE: Do not insert these fuses until the 48V power plant is maintained on a 24 hour basis. (1 filter per 2 adjacent frames)

5.31 Before inserting the 20 ampere fuses of the filter circuit, check the fuse for absence of crosses and ground.

5.32 Connect a 25 or 60 watt, 110 volt lamp across the FC1 fuse posts associated with the FC1 lamp.

5.33 When the lamp dims appreciably, disconnect the lamp and install the 20 ampere fuse.

5.34 Repeat Paragraphs 5.32 and 5.33 for the FC 2 fuse posts and lamp.

5.35 Using a test receiver, short the fuse alarm terminal of the FC 1 lamp circuit with the feeder terminal. Lamp FC 1 lights and floor alarm functions.

5.36 Check that the alarm functions with the FC 1 lamp removed.

5.37 Repeat Paragraphs 5.35 and 5.36 on the circuit associated with the FC 2 lamp.

5.4 Test Battery Jack and Supply

5.41 Check 48V test battery terminals and tip of the A jack for presence of 48 Volts.

5.42 Check the G test terminals for direct ground.

5.43 Check the HRG test terminals for high resistance ground (12000 ohms).

5.4 Check for direct ground on the A jack sleeve.

5.5 Miscellaneous Jacks

5.51 Spare B Jack

5.511 Make a continuity test of the B jack to all associated outgoing trunk frames and also to the MDF.

5.52 Remote Control RC Jack

5.521 Check for ground on the sleeve of the RC jack. Make a continuity test of the tip and ring of the RC jack to all associated RC jacks and to the Outpulser-Identifier-Trunk Test Circuit.

5.53 Frame Line Jacks

5.531 Make a continuity and cross test of the tip and sleeve leads of the TEL (A1 and B1) jacks to all associated TEL jack appearances and to the MDF.

5.6 Trunk Make Busy

5.61 At the OGT test frame, insert a make busy plug into the MB jack of the test and make busy jack circuit associated with the trunk under test.

5.62 Verify that ground is present on terminal 30 (SD-26209 and 26210) or 28 (all others) of the trunk Unit B terminal strip.

5.63   Remove make busy plug from the MB jack, and verify that ground is removed from terminal of the trunk Unit B terminal strip.

5.64   Repeat test for each trunk on frame.

6.   TRUNK LOCK-UP LEAD

NOTE: Not equipped on coin trunks.

6.1   At the trunk circuit under test, block operated relay SP. At the Trouble Ticketer Miscellaneous Circuit, operate key TKL. Observe that TKL lamp lights. Momentarily operate relay TM of the trunk circuit and check that it locks operated to the grounded LU leade to the miscellaneous circuit.

6.2   Since the LU lead is common to all trunks on a frame, tests may be performed on all the trunks at once, or one at a time, depending on trouble indications. To test remaining trunks on the frame, block operated SP relay and momentarily operate the TM relay in each trunk circuit on the frame. All TM relays should lock operated.

6.3   Release TKL key at the Trouble Ticketer Miscellaneous Circuit. Observe that all TM relays release. Then remove blocks from all SP relays.

6.4   If trouble is encountered in testing the trunk lock-up lead, make the following check.

6.41   Operate the TKL key in the Trouble Ticketer Miscellaneous Circuit.

6.42   Momentarily operate the LUO relay. Verify relay LUO and LU- relays as furnished, lock operated.

6.43   Release key TKL and verify LU- relays release.

7.   OPERATION TESTS

7.1   Test Frame Operation

7.11   Operation tests of the No. 1 crossbar outgoing trunks are made using the Automatic Trunk Test Circuit (SD-95889-01).

7.12   To select the desired trunk to be tested, operate key MS of the test circuit and then operate and release keys S-PCS, H-CPS and XC-PCS until the position of the desired trunk is reached. Operate key REP. Set up a regular test call.

7.13   Operate keys as indicated in Table A.

7.14   The Automatic Trunk Test circuit will test all ring party functions of the trunk and when test has been completed, will repeat test on the trunk until the ST key is returned to the normal position.

7.15   Make a minimum of 2 tests on each trunk.

7.2   Timed Release Test

7.21   The function of this test is to check the ability of the trunk to function correctly on a call on which the called party disconnects and the calling line holds.

7.22   Prior to the start of test, operate the TMD key on the Outpulser-Identifier test circuit.

7.23   Operate the TT and ST keys on the Outpulser-Identifier test circuit.

7.24   Call should proceed in the normal manner until the release of the CS relay in the trunk.

7.25   Trunk should time out, and test circuit *restore to normal. Restore keys ST and TMD.*

7.3   Tip Party Test

7.31   Operate key TP on the test frame.

7.32   Operate key ST.

7.33   Test circuit will test all tip party functions of the trunk and return to *normal. Restore keys ST and TP.*

7.4   Coin Test

7.41   Operate CC (coin collect) key.

7.42   Operate ST key.

7.43   Test circuit will check trunk for correct application of coin battery and advance to next position.

7.44   Repeat using CR (coin return) key. *Restore keys ST and CR.*

7.5   Abandoned Call Test

7.51   *Operate keys AB2 (abondoned call crossbar) and CR.*

7.52   Operate ST key.

TABLE A

TEST CALL	OPERATE KEYS											
	TT	OFF O	THO O	HO O	TO O	UO O	TP	TMD	AB2	CR	CC	ARID
RING PARTY	X	X	X	X	X	X	-	-	-	-	-	-
TIP PARTY	X	X	X	X	X	X	X	-	-	-	-	-
TIMED RELEASE	X	X	X	X	X	X	-	X	-	-	-	-
ABANDONED CALL	X	X	X	X	X	X	-	-	X	X	-	-
COIN RETURN	X	X	X	X	X	X	-	-	-	X	-	-
COIN COLLECT	X	X	X	X	X	X	-	-	-	-	X	-
AUTO. RETURN INITIAL DEP.	X	X	X	X	X	X	-	-	-	X	-	X

7.53 Test circuit checks that the trunk holds busy, applies coin return and restores to normal. Restore keys ST, AB2, and CR.

7.6 Automatic Return of Initial Deposit

7.61 Operate keys CR and ARID if provided. (The ARID key, option YN, is not furnished if all of the coin trunks in the office are arranged for Automatic Return of Initial Deposit.)

7.62 Operate key ST.

7.63 The test circuit checks the trunk application of coin return potential for the Automatic Return of Initial Deposit feature and restore to normal. Restore keys ST, CR and AIRD.

Lines presented in Script indicate new or changed information.

Manager, Product Engineering
Control Center

Reason for Reissue:
  To add Test of Automatic Return of Initial
  Deposit.