

NO. 1 AND 1B ANNOUNCEMENT SYSTEMS
TIME OF DAY SERVICE
ANNOUNCEMENT TRUNK CIRCUITS
TESTS

1. GENERAL

1.01 This section describes the tests to be made on the announcement trunk circuits used with No. 1 type announcement desks for manual, panel, step-by-step, panel tandem, No. 1 crossbar, No. 5 crossbar, crossbar tandem, and manual tandem systems.

1.02 This section is reissued to include trunks from panel tandem, manual tandem, No. 1 and No. 5 crossbar, and crossbar tandem systems, to include reference to the digit absorbing feature in step-by-step offices and to make miscellaneous changes in testing procedure. Since this is a general revision, the arrows ordinarily used to indicate changes have been omitted.

1.03 The tests covered are:

(A) Operation Test - Manual and Manual Tandem Offices: This test checks the operation of announcement trunk circuits from the outgoing trunk multiple.

(B) Operate Test of BG or A Relay - Panel, Panel Tandem, No. 1 Crossbar and Crossbar Tandem Offices (PCI Trunks) Using Outgoing Trunk Test Frame SD-25177-01: This test checks the operate value of the BG relay (SD-21152-01) or A relay (SD-21734-01) in announcement trunk circuits where the outgoing trunk test frame SD-25177-01 is provided.

(C) Operation and Release Test - Panel, Panel Tandem, No. 1 Crossbar and Crossbar Tandem Offices (PCI Trunks): This test checks the operation and return to normal of announcement trunk circuits using PCI pulsing where outgoing trunk test frame SD-21610-01, SD-21154-01, SD-20015-01, ES-226467, ES-226358, or SD-25177-01 is provided.

(D) Operation Test - Panel and No. 1 Crossbar Offices (Operator Class Trunks): This test checks the operation of announcement trunk circuits not requiring PCI pulsing where

outgoing trunk test frame, SD-21610-01, SD-21154-01, SD-20015-01, ES-226467, ES-226358, or SD-25177-01 is provided.

(E) Operation Test - Step-by-Step Offices: This test checks the operation of announcement trunk circuits from the relay rack, using the outgoing trunk test set SD-90469-02 and trunk circuits similar to SD-31362-01. Where the digit absorbing feature is provided, it also checks that one to five digits will be absorbed.

(F) Operation Test - No. 5 Crossbar Offices: This test checks the operation of announcement trunk circuits using the trunk test portion of the master test frame.

1.04 In manual and manual tandem offices, different positions and cord circuits should be used each time the test is made so that eventually all trunks will be tested from all trunk multiple appearances.

1.05 When tests are conducted on a routine basis, they should preferably be made during periods of light traffic to avoid interference with service.

1.06 Any register operation resulting from these tests should be entered on the proper form in accordance with local instructions.

1.07 The letters a, b, c, etc., are added to a step number to indicate that the steps cover an action which may or may not be required depending on local conditions. The conditions under which a lettered step or series of steps should be made are given in the action column, and all steps governed by the same condition are designated by the same letter. Where a condition does not apply, the associated steps should be omitted.

1.08 When performing Test (C), complete only those steps indicated by the type of test frame provided in the office from which the test is being made.

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2. APPARATUS

2.01 The apparatus required for each test is shown in the following list. The details for each item are covered in the indicated paragraphs.

- 2.02 No. 52A Operator's Telephone Set (or equivalent).
- 2.03 Outgoing Trunk Test Frame or Testboard SD-21610-01, SD-21154-01, SD-20015-01, ES-226467, ES-226358, or SD-25177-01.
- 2.04 P3F Cord, 6 feet long, equipped with one No. 309 and one No. 310 Plug (3P12B Cord).
- 2.05 Trunk Test Set SD-90469-02. (J94710A)
- 2.06 P2J Cord, 6 feet long, equipped with two No. 310 Plugs (2P9A Cord). For use where battery supply jack is available.
- 2.07 W2M Cord, 9 feet long, equipped with one No. 310 Plug and two No. 62 Cord Tips (2W12A Cord). For use where battery supply jack is not available.
- 2.08 P3E Cord, 6 feet long, equipped with two No. 310 Plugs (3P7A Cord).

2.09 No. 322A (make-busy) Plug.

2.10 Master Test Control Circuit SD-25800-01.
Trunk Test Circuit SD-25918-01.
Master Test Frame Telephone, Key and Lamp Circuit SD-25574-01.

Apparatus	No. Required for Test					
	A	B	C	D	E	F
Operator's Tel. Set (2.02)	1		1	1	1	
O.G.T. Test Cct. (2.03)		1	1	1		
Test Cord (2.04)		1	1	1		
Test Set (2.05)						1
Test Cord (2.06)						1
Test Cord (2.07)						1
Test Cord (2.08)						1
Plug (2.09)						1
O.G.T. Test Cct. (2.10)						1

3. PREPARATION

PREPARATION FOR ALL TESTS

STEP	ACTION	VERIFICATION
1	Restore all operated keys to normal on test position or frame or test set.	

PREPARATION FOR TESTS (A), (C), (D), AND (E)

2	Insert plug of operator's telephone set into telephone jacks of position, test frame, or test set.	
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4. METHOD

STEP	ACTION	VERIFICATION
<u>(A) Operation Test - Manual and Manual Tandem Offices</u>		
3	Operate talking key of calling cord to be used for test.	
4	Touch tip of calling cord to jack sleeve of trunk to be tested.	No click heard in receiver.

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
5	Insert cord plug into jack of trunk to be tested.	Calling cord supervisory lamp lights. Audible ringing signal heard. <u>Note:</u> Lighting of lamp and ringing signal may be of short duration. When audible ringing signal stops, supervisory lamp extinguished. Complete time announcement and tone signal heard.
6	Listen for second announcement.	Supervisory lamp remains extinguished.
7	When second tone is heard, immediately remove and reinsert plug.	Supervisory lamp relights. Audible ringing signal heard.
8	When announcement starts, remove and reinsert plug.	Announcement cut off. Audible ringing signal heard.
9	Remove plug from jack of trunk under test.	
10	Repeat Steps 3 through 8 for remaining trunks.	
11	Disconnect operator's telephone set from position.	

(B) Operate Test of BG or A Relay - Panel, Panel Tandem,
No. 1 Crossbar and Crossbar Tandem Offices (PCI
Trunks) Using Outgoing Trunk Test Frame SD-25177-01

2	Patch T1 jack of test frame to T jack of trunk to be tested.	If trunk is idle - ON1 and BY1 lamps do not light. If trunk is in use - ON1 and BY1 lamps light. When trunk becomes idle - ON1 lamp remains lighted. BY1 lamp extinguished.
3a	If ON1 lamp is lighted prior to start of test - Momentarily operate DISC1 key.	ON1 lamp extinguished.
4b	If trunk is made busy (with make-busy plug) - Operate NT1 key.	
5	Operate A OPR COMP keys totaling 12,000 ohms.	
6	Operate TST1 and NO SDR1 keys.	BY1 and SUP1 lamps light momentarily. ON1 and MO lamps light. <u>Note:</u> Lighting of MO lamp does not indicate trouble due to momentary open.
7	Restore TST1 and NO SDR1 keys.	MO lamp extinguished.
8	Momentarily operate DISC1 key.	ON1 lamp extinguished.

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STEP

ACTION

VERIFICATION

(C) Operation and Release Test - Panel, Panel Tandem,
No. 1 Crossbar, and Crossbar Tandem Offices (PCI
Trunks)

When Test Circuit SD-21610-01 Is Provided

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|----|---|---|
| 3 | Patch T1 jack of test frame to test jack of trunk to be tested. | If trunk is idle -
BY1 lamp does not light.
If trunk is busy -
BY1 lamp lights. |
| | | <u>Note:</u> If trunk is busy, remove plug from trunk jack and proceed with testing another circuit. |
| 4 | Operate SDR, RCI, and T keys. | |
| 5 | Operate NT key. | |
| | <u>Note:</u> BY1 lamp must be extinguished, indicating an idle trunk. | |
| 6 | Operate 900-ohm COMP and, if provided, UNIV keys. | |
| 7 | Operate numerical keys for time of day service. | |
| 8 | Operate ST key. | SDR lamp flashes during PCI pulsing.
S1 lamp may light and ringing may be heard momentarily.
Complete time announcement and tone signal heard.
S1 lamp lights at end of announcement interval. |
| 9 | Restore ST key. | |
| 10 | Momentarily operate DISC key. | S1 lamp extinguished. |
| 11 | Operate REV, FEMF, and VM keys. | Voltmeter indicates approximately 48 volts. |
| 12 | Restore VM, REV, and FEMF keys. | |
| 13 | Disconnect patching cord and, when all trunks have been tested, operator's telephone set. | |

When Test Circuit SD-21154-01 Is Provided

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| 14 | Insert plug of TST1 cord into test jack of trunk to be tested. | If trunk is idle -
BUSY lamp does not light.
If trunk is busy -
BUSY lamp lights. |
| | | <u>Note:</u> If trunk is busy, remove plug from trunk jack and proceed with testing another circuit. |

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
15	Operate NT and SDR keys.	
16	Operate VM-DISC key in both directions.	
17	Operate OPR key.	
	<u>Note:</u> BUSY lamp must be extinguished indicating an idle trunk.	
18	Operate 900-ohm COMP and, if required, numerical keys for time of day service.	
19	Operate ST key.	SDR lamp flashes during PCI pulsing. S1 lamp lights when SDR lamp is extinguished.
20	When S1 lamp lights, operate SDR key to T position.	S1 lamp extinguished when announcement starts. Complete time announcement and tone signal heard. When tone is heard, S1 lamp relights.
21	Restore T key and operate DISC key.	S1 lamp extinguished.
22	Proceed as in Steps 11 through 13.	
<u>When Test Circuit SD-20015-01 Is Provided</u>		
23	Insert plug of test cord arranged for sending numbers into test jack of trunk to be tested.	If trunk is idle - BY1 (or BUSY) lamp does not light. If trunk is busy - BY1 (or BUSY) lamp lights. <u>Note:</u> If trunk is busy, remove plug from trunk jack and proceed with testing another circuit.
24	Operate RCI (or TAN) and SDR keys.	
25	Operate NT, 900-ohm COMP, and proper numerical keys for time of day service.	
	<u>Note:</u> BY1 (or BUSY) lamp must be extinguished, indicating an idle trunk.	
26	Operate ST key.	SDR lamp flashes during PCI pulsing. SDR and S1 lamps light when pulsing is completed.
27	When SDR lamp is steadily lighted (or extinguished), operate SDR key to T position.	Audible ring heard for full or partial period. S1 lamp extinguished. Complete time announcement and tone signal heard. When tone is heard, S1 lamp relights.
28	Restore T and operate DISC key.	S1 lamp extinguished.
29	Proceed as in Steps 11 through 13.	

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<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
<u>When Test Circuit ES-226467 Is Provided</u>		
30	Insert plug of voltmeter test cord into test jack of trunk to be tested.	
31	Operate MB key.	If trunk is idle - BUSY lamp does not light. If trunk is busy - BUSY lamp lights. <u>Note:</u> If trunk is busy, remove plug from trunk jack and proceed with testing another circuit.
32	Remove plug of voltmeter test cord and insert plug of test cord arranged for sending numbers into test jack of trunk to be tested. <u>Note:</u> BUSY lamp must be extinguished, indicating an idle trunk.	
33	Operate RCI (or TAN), TALK, NT, 900-ohm COMP, and proper numerical keys for time of day service.	
34	Operate ST key.	SENDER lamp flashes during PCI pulsing and then lights steadily. Audible ring heard for full or partial period. Complete time announcement and tone signal heard. When tone signal is heard, SUP lamp lights.
35	Operate DISC key.	SUP lamp extinguished.
36	Proceed as in Steps 11 through 13.	
<u>When Test Circuit ES-226358 Is Provided</u>		
37	Insert plug of voltmeter test cord into test jack of trunk to be tested.	
38	Operate MB key.	If trunk is idle - BUSY lamp does not light. If trunk is busy - BUSY lamp lights. <u>Note:</u> If trunk is busy, remove plug from trunk jack and proceed with testing another circuit.
39	Remove plug of voltmeter test cord and insert plug of test cord arranged for sending numbers into test jack of trunk to be tested. <u>Note:</u> BUSY lamp must be extinguished, indicating an idle trunk.	

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
40	Operate RCI (or TAN), TALK, NT, 900-ohm COMP, and proper numerical keys for time of day service.	
41	Operate MB, NO T, TVM, and generator keys.	
42	Operate ST key.	SENDER lamp flashes during PCI pulsing and then lights steadily. Audible ring heard for full or partial period. SUP lamp extinguished. Complete time announcement and tone signal heard. When tone is heard, SUP lamp lights.
43	Operate DISC key.	SUP lamp extinguished.
44	Proceed as in Steps 11 through 13.	
<u>When Test Circuit SD-25177-01 Is Provided</u>		
45	Patch T1 jack of test frame to T jack of trunk to be tested.	If trunk is idle - ON1 and BY1 lamps do not light. If trunk is in use - ON1 and BY1 lamps light. When trunk becomes idle - ON1 lamp remains lighted. BY1 lamp extinguished.
46a	If ON1 lamp is lighted prior to start of test - Momentarily operate DISC 1 key.	ON1 lamp extinguished.
47b	If trunk is made busy (with make-busy plug) - Operate NT1 key.	
48	Operate 900-ohm A OPR COMP, TLK1, CI, and proper numerical keys for time of day service.	
49	Operate SDR1 key.	SDR lamp flashes during PCI pulsing. ON1 lamp lights. Audible ring may be heard and SUP1 lamp may light momentarily. Complete time announcement and tone signal heard. When tone is heard, SUP1 lamp lights.
50	Listen for second announcement.	SUP1 lamp remains lighted.
51	Restore SDR1 and operate DISC1 keys.	SUP1 and ON1 lamps extinguished.
52	Operate REV, FEMF, and VML keys.	ON1 lamp lights. Voltmeter indicates approximately 48 volts.
53	Restore VML, REV, and FEMF keys.	

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<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
54	Operate DISC1 key.	ON1 lamp extinguished.
55	Disconnect patching cord and, when all trunks have been tested, operator's telephone set.	

(D) Operation Test - Panel and No. 1 Crossbar Offices
(Operator Class Trunks)

When Test Circuit SD-21610-01 Is Provided

3	Patch T1 jack of test frame to test jack of trunk to be tested.	If trunk is idle - BY1 lamp does not light. If trunk is busy - BY1 lamp lights. Note: If trunk is busy, remove plug from trunk jack and proceed with testing another circuit.
4	Operate 900-ohm COMP and T keys.	SI lamp may light and ringing may be heard momentarily. Full time announcements heard for approximately one or two minutes depending on trunk arrangement. SI lamp lights when announcements end.
5	Restore T and operate DISC key.	SI lamp extinguished.
6	Disconnect patching cord and, when all trunks have been tested, operator's telephone set.	

When Test Circuit SD-21154-01 Is Provided

7	Insert plug of TST1 cord into test jack of trunk to be tested.	If trunk is idle - BUSY lamp does not light. If trunk is busy - BUSY lamp lights. Note: If trunk is busy, remove plug from trunk jack and proceed with testing another circuit.
8	Operate 900-ohm COMP and OPR keys.	SI lamp may light and ringing may be heard momentarily. Full time announcements heard for approximately one or two minutes depending on trunk arrangement. SI lamp lights when announcements end.
9	Restore OPR and operate DISC key.	SI lamp extinguished.
10	Disconnect test cord and, when all trunks have been tested, operator's telephone set.	

When Test Circuit SD-20015-01 Is Provided

11	Insert plug of test cord into test jack of trunk to be tested.	If trunk is idle - BY1 (or BUSY) lamp does not light. If trunk is busy - BY1 (or BUSY) lamp lights.
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<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
		<u>Note:</u> If trunk is busy, remove plug from trunk jack and proceed with testing another circuit.
12	Operate 900-ohm COMP and T keys.	SI lamp may light and ringing may be heard momentarily. Full time announcements heard for approximately one or two minutes depending on trunk arrangement. SI lamp lights when announcements end.
13	Restore T and operate DISC key.	SI lamp extinguished.
14	Disconnect test cord and, when all trunks have been tested, operator's telephone set.	
<u>When Test Circuit ES-226467 or ES-226358 Is Provided</u>		
15	Insert plug of voltmeter test cord into test jack of trunk to be tested.	
16	Operate MB key.	If trunk is idle - BUSY lamp does not light. If trunk is busy - BUSY lamp lights. <u>Note:</u> If trunk is busy, remove plug from trunk jack and proceed with testing another circuit.
17	Remove plug of voltmeter test cord and insert plug of test cord into test jack of trunk to be tested. <u>Note:</u> BUSY lamp must be extinguished, indicating an idle trunk.	
18	Operate 900-ohm COMP and TALK keys.	SUP lamp may light and ringing may be heard momentarily. Full time announcements heard for approximately one or two minutes depending on trunk arrangement. SUP lamp lights when announcements end.
19	Restore TALK and operate DISC key.	SUP lamp extinguished.
20	Disconnect test cord and, when all trunks have been tested, operator's telephone set.	
<u>When Test Circuit SD-25177-01 Is Provided</u>		
21	Patch T1 jack of test frame to test jack of trunk.	If trunk is idle - ON1 and BY1 lamps do not light. If trunk is in use - ON1 and BY1 lamps light. When trunk becomes idle - ON1 lamp remains lighted. BY1 lamp extinguished.

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<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
22a	If ON1 lamp is lighted prior to start of test - Momentarily operate DISC1 key.	ON1 lamp extinguished.
23b	If trunk is made busy (with make-busy plug) - Operate NT1 key.	
24	Operate NO SDR1 and TLK1 keys.	SUP1 lamp may light and ringing may be heard momentarily. Full time announcements heard for approximately one or two minutes depending on trunk arrangement. SUP1 lamp lights when announcements end.
25	Restore TALK 1 and operate DISC1 key.	SUP1 lamp extinguished.
26	Disconnect patching cord and, when all trunks have been tested, operator's telephone set.	

(E) Operation Test - Step-by-Step Offices

3	At trunk relay rack, patch test set BAT-G jack to 48-volt battery supply jack. (2P9A cord) <u>Note:</u> If 48-volt battery supply jack is not provided, patch BAT-G jack of test set to ground and a battery fuse using a 2W12A cord.	
4	Patch T jack of test set to TST jack of trunk to be tested.	If trunk is idle - BSY lamp does not light. If trunk is busy - BSY lamp lights. When trunk becomes idle - BSY lamp extinguished.
5	Operate keys 300 and 600.	
6a	If digit absorbing is not provided - When trunk is idle - Operate and restore DL ST key.	SL lamp lights.
7a	Dial any digit.	Audible ring may be heard momentarily. REV lamp lights at start of announcement. Full time announcements heard for period determined by trunk arrangement. REV lamp extinguished.
8b	If digit absorbing is provided - When trunk is idle - Operate and restore DL ST key.	SL lamp lights.
9b	Dial one to five digits as required locally to satisfy absorbing feature.	Audible ring may be heard momentarily. REV lamp lights at start of announcement. Full time announcements heard for period determined by trunk arrangement. REV lamp extinguished.

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
10	Momentarily operate FL key.	SL lamp extinguished.
11	Disconnect patching cords and, when all trunks have been tested, operator's telephone set.	
<u>(F) Operation Test - No. 5 Crossbar Offices</u>		
2	At master test frame jack bay - Insert make-busy plug into MB jack of trunk to be tested.	
3	From local locating chart, determine class of service and location of trunks used for time of day service.	
4	Operate proper keys at master test frame to select trunk to be tested.	
5	Operate TLK and TR keys.	
6	Operate ST key.	AS and MISC lamps light. Audible ring may be heard momentarily. Full time announcements heard for approximately one or two minutes depending on trunk arrangement.
7	Restore TLK key.	AS lamp extinguished.
8	Operate RL key.	All lamps extinguished.
9	Remove plug from MB jack.	
10	Repeat test for remaining trunks.	