



OUTGOING DIAL PULSE SENDER SD-26050-01
TESTS USING OFFICE TEST FRAME TEST CIRCUIT SD-27633-01 (J23260)
NO. 5 CROSSBAR OFFICES

1. GENERAL

1.001 This addendum supplements Section 218-451-501, Issue 3. The attached pages must be inserted in the section in accordance with filing instructions above.

1.002 This addendum is issued to add Test S to provide testing procedures to charge for directory assistance calls and to make minor changes as required. This addendum affects Equipment Test Lists.

The following change applies to Part 1 of this section:

Test S—added.

3. PREPARATION

The following change applies to Part 3 of this section:

Step 10c—revised.

4. METHOD

The following change applies to Part 4 of this section:

Test S—added.

5. PREPARATION OF TEST CHART

The following changes apply to Part 5 of this section:

(a) 5.01—revised

(b) 5.20—added

(c) Test Chart Test S—added.

Attached:

Page 1 dated September 1974, reissued
Page 2 dated September 1974, revised
Page 3 dated September 1974, reissued
Page 4 dated September 1974, revised
Page 15 dated September 1974, reissued
Page 16 dated September 1974, revised
Page 16.1 dated September 1974, added
Page 17 dated September 1974, reissued
Page 18 dated September 1974, revised
Page 21 dated September 1974, revised

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TESTS USING OFFICE TEST FRAME TEST CIRCUIT SD-27633-01 (J23260)
NO. 5 CROSSBAR OFFICES

1. GENERAL

PAGE

1.01 This section describes a method of testing outgoing dial pulse senders using the office test frame test circuit (OTF) SD-27633-01 (J23260) and the trouble indicator and connector circuit (TIC) SD-27634-01 in No. 5 crossbar offices.

1.02 This section is reissued for the following reasons:

- (a) To revise all tests for MBG lamp verification of make-busy condition and release of sender under test.
- (b) To add Test M.1 for testing TM timer recycle.
- (c) To add immediate reorder on stop dial signal to Test K.
- (d) To make minor changes, as required.

This reissue affects Equipment Test Lists.

1.03 The tests covered are:

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- A. Regular Call:** This test checks that the sender (1) records information from a marker and (2) outpulses interoffice calls on an AMA or non-AMA basis. The transmitting of information to the transverter is checked on AMA class calls. **4**
- B. Trunk Test—Open Trunk:** This test checks that the sender detects an open trunk during trunk test and causes a trouble indication during light traffic. **5**
- C. Abandoned Call—AMA:** This test checks that the sender waits until the initial AMA entry has been made before releasing. **6**

D. Abandoned Call—Non-AMA: This test checks that the sender releases at any stage of a call. **6**

E. Transverter Trouble Release: This test checks that the sender operates its RO relay, sets the trunk to overflow, and releases when the transverter fails on both first and second trials on a detail-billed call. **7**

F. Delay Pulsing of Last Digit—AMA: This test checks that the sender delays sending the last digit until AMA functions are completed. **7**

G. No-Digits Call—AMA: This test checks that the sender releases without pulsing on a no-digit AMA call. It also checks that when the sender is set to reorder it does not release on an abandoned intraoffice call until the transverter releases. **8**

H. Trunk Reversed—Off-Hook to On-Hook: This test checks that the sender recognizes a change in trunk supervision from on-hook to off-hook after the start pulse signal as a reversed trunk. The sender then sets the trunk to overflow. **8**

I. Trunk Reversed—Initial Off-Hook: This test checks that the sender recognizes an off-hook condition on initial closure of a trunk to a step-by-step office as a reversed trunk. The sender then sets the trunk to overflow. **9**

J. Stop Dial Signal: This test checks that the sender recognizes an off-hook condition as a stop dial signal after the first digit has been pulsed. **9**

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K. Distant Trunk Reversed or Busy: This test checks that the sender recognizes an off-hook condition as an all-paths-busy condition after a stop dial signal has been received on a call to a step-by-step office. The sender will then set the trunk to overflow.	9	P. Intersender Timing: This test checks that, when start pulsing signal from sender or incoming register in distant crossbar office is not returned within 4 to 8 seconds and the marker finds that all the senders of the group are busy, the trunk is set to overflow and the sender is released.	14
L. Battery and Ground Pulsing: This test checks that the sender supplies battery and ground pulsing.	10	Q. Sender Busy: This test checks that the sender appears busy when it is in service or when it is made busy at the associated MB jack.	14
M. Timing Test: This test checks that the sender releases and sets the trunk to overflow in 20 to 32 seconds, if it cannot complete its functions. It also checks, when the sender is arranged for reduced timing for transverter operations, that the sender releases if the transverter has not completed its functions in 7 to 11 seconds.	10	R. Line Link Pulsing: This test checks the ability of the sender to connect and to outpulse over line link pulsing circuits.	15
M.1 TM Timer Recycle: This test checks that the TM timer will recycle on a stop dial signal when option ZS is provided.	11	S. ♦Directory Assistance Charging: This test checks the ability of the sender to record the called number structure and called number class of directory assistance calls.♦	16
N. Cancel Timed Release and Alarm Test: This test checks that with the associated CTR_ key operated the sender will not release when it times out and that it will operate the stuck sender alarm. It also checks that, if the call is abandoned at this time, the sender will not release. When the alarm sending circuit is provided, this test checks that when the alarms are transferred the sender cancel timed release feature is disabled.	12	1.04 Test Q requires making all senders within a subgroup busy.	
O. Antiglare Test: This test checks that, when connected to a CX 2-way trunk or to a CX intertoll trunk (CL2 and CL6 relays operated in sender) with customer access, the sender will time properly for changes in supervision before pulsing and during interdigital timing. It also checks that when supervision changes a second time the sender will set the trunk to overflow and release.	13	1.05 Test Charts are provided which show key and switch information required for each test. Spaces are provided on the charts for listing specific keys and switches depending on local conditions. These charts should be filled out from local records in accordance with the instructions provided in Part 5, Preparation of Test Chart.	
		1.06 During Test P, the traffic register associated with the STR lead will operate. Local instructions should be followed for recording and reporting operations caused by performing this test.	
		1.07 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 Except M.1, Q

2.01 Office test frame test circuit (OTF) J23260 (SD-27633-01).

Tests M.1, Q

2.02 Blocking and insulating tools as required. Use tools and apply as covered in Section 069-020-801.

Tests C, D, F, G, M, P

2.03 32A test set.

Tests C, K, M, M.1, N

2.04 KS-3008 stopwatch or equivalent.

Tests M.1, Q

2.05 322A (make-busy) plugs as required.

2.06 67C test set or equivalent, equipped with one KS-6278 connecting clip (for use in checking for the presence or absence of battery or ground).

Test R

2.07 Patching cord, P3E cord, 8 feet long, equipped with two 310 plugs (3P6E cord).

3. PREPARATION

STEP	ACTION	VERIFICATION
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All Tests Except M.1 Q

1	At OTF— Restore all keys and switches.	All lamps extinguished.
2	At TIC— Momentarily operate RLS key.	All lamps extinguished.
3	At OTF— Set RSG, RSS switches to select sender under test.	MBG lamp lighted.
4	Operate MCB, MKR_ keys to select completing marker.	
5	Set PS switch to 66/10.	
6	Set L-L switch to 0.	
7a	If trunk or line link pulsing circuit used in test requires wink signal— Operate WK key.	
8b	If trunk or line link pulsing circuit used in test requires immediate closure of pulsing loop— Operate CL2S key.	

All Tests Except M.1, Q, R

9 Operate OTL key.

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STEP	ACTION	VERIFICATION
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10c	♦If 2-way trunk is used for selected outgoing route— Make trunk busy. (Refer to 5.01.)♦	
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11c	Operate NT key.	
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All Tests Except M.1, N, Q, R

12	At jack, lamp, and key circuit— Release (push-in) CTR_ key associated with sender under test.	
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4. METHOD

STEP	ACTION	VERIFICATION
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A. Regular Call

13	At OTF— Operate keys and set switches in accordance with Test Chart.	
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14d	If flat rate service is used— Operate NCH key.	
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15	Operate ST key.	OS lamp lighted. ED lamp lighted. At completion of sender outpulsing— EP, CS lamps lighted. High tone heard. TOK lamp lighted.
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16	Restore ST key.	All lamps extinguished. High tone silenced.
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17e	If AMA class of service is being used and transverter transmitting leads are to be tested— Operate TV_, ♦TVR♦ keys.	
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18e	Operate ST key.	At TIC— FU_, VG_, HG_, VF_, TH_, HN_, T_, U_, OFF_, DR_, RP or TP, MB_, RN_, A_ through K_, ♦CIIT_, CIU_♦ lamps lighted identifying originating test line, transverter, message billing index, and trunk used.
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Note: Disregard XP1 lamp if it lights.

19e	At OTF— Restore ST key.	Ground not present on terminals A16, A26, B17 on sender control unit terminal strip.
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STEP	ACTION	VERIFICATION
	with all other senders in same subgroup as sender under test.	
3	Insert make-busy plug into MB ₋ jack of sender under test.	
4	At sender under test— Remove blocking tool from SB relay.	Ground <i>not</i> present on terminals A16, A26, B17 on sender control unit terminal strip.
5	At jack, lamp, and key circuit— Remove make-busy plug from MB ₋ jack of sender under test.	Ground present on terminals A16, A26, B17 on sender control unit terminal strip.
6	At jack, lamp, and key circuit— Remove make-busy plugs from MB- jacks of all other senders in same subgroup as sender under test.	
R. Line Link Pulsing		
9	Operate keys and set switches in accordance with Test Chart.	
10	Select and make busy in approved manner the incoming trunk to be used in this test.	
11	At relay rack location of selected incoming trunk— Patch T jack of trunk to ITT jack of relay rack.	
12c	If selected trunk is DP— At OTF— Operate ITT, ITT1, DPS keys.	
13d	If selected trunk is MF pulsing— Operate MF key.	
14d	Set MF switch to MIN.	
15	Set TRT ₋ , TBU ₋ switches as required to complete to selected LLP number.	
16	Operate S ₋ key for LLP line selected.	
17	Set LLS switch to select line link frame on which LLP line under test appears.	
18	Operate RS1 or RS2 key for ringing selection.	

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STEP	ACTION	VERIFICATION
19e	If LLP line to be tested is to be seized on a no-test basis— Operate NTL5 key.	
20f	If LLP line to be tested is arranged for E and M supervision— Operate E-M, ITT, ITT2 keys.	
21	Momentarily operate ST key.	EP, CS, LLP, TOK lamps lighted. High tone heard.
22	Momentarily operate RL key.	All lamps extinguished. High tone silenced.
23	Restore all keys and switches.	MBG lamp extinguished.
24	At relay rack location of selected incoming trunk— Remove patching cord.	
25	Restore incoming trunk to service.	
S. Directory Assistance Charging		
13	At OTF— Operate keys and set switches in accordance with Test Chart.	
14	Operate TV_, TR keys.	
15	Operate ST key.	OS, ED lamps lighted. At completion of sender outpulsing— EP, CS lamps lighted. High tone heard. TOK lamp lighted. At TIC— DR_, CN_, S_, FU_, VG_, HG_, VF_ lamps lighted identifying transverter, transverter connector, sender, and originating test line. OFF_, RN_, CIIT_, CIU_ lamps lighted identifying originating office group, recorder number, and call identity index trunk number. If test is for 411 or 555-1212 2-line entry— A_, B_, C_, or A_ through G_, MB6, CI1, CI2 lamps lighted identifying called number, message billing index, and cut-in perforator leads.

STEP	ACTION	VERIFICATION
		If test is for 555-1212 4-line entry— A_ through G_, MB9, CI1, CI2, CI3, CI4 lamps lighted identifying called number, message billing index, and cut-in perforator leads.
		Note: Disregard XP1 lamp if it lights.
16	At OTF— Restore ST key.	All lamps extinguished. High tone silenced.
17	At TIC— Momentarily operate RLS key.	All lamps extinguished.
18d	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk restored to service.	
19	At OTF— Restore all keys and switches not required in next test.⬇	

5. PREPARATION OF TEST CHART

5.01 The Test Chart is used as a particular number chart and provides the OTF keys and switches to be operated for each test. Information obtained from local office records should be used to fill out the Test Chart in the following manner.

- (a) ⬆Selection of a Particular Trunk: When it is desired to use a particular trunk for test, select the trunk as follows.

Note: When 2-way trunks are required to be used for the selected outgoing route, a particular trunk must always be selected.⬇

- (1) Consult local office records for location of desired trunk. Whenever possible, avoid the use of 2-way or intertoll trunks.
 - (2) Record FS_, ODD or EVEN, GPA/GPB keys and TS_ switch position in the respective columns to select the trunk used in test.
- (b) Record CST_ and CSU_ switch positions as required to select the class of service.
- (c) In the DIAL SWITCHES columns, record A_ through H_ digits as required for area and/or office code or record C_ through F_

digits as required for X of 11X access code and office code.

- (d) Record number of digits required in the _D column. If a 13- digit call is desired, do not operate any _D key.
- (e) Record number of digits to be outpulsed by sender in _SD column. If 12 digits are to be outpulsed, do not operate any _SD key.
- (f) Record digits to be outpulsed by sender in the A_ through K_ columns.

5.02 Test A

- (1) Apply (a), (b), (d), (e), and (f) of 5.01.

5.03 Test B

- (1) Do not use 2-way or intertoll trunks.
- (2) Apply (a), (b), (c), and (d) of 5.01.

5.04 Test C

- (1) Apply (c) of 5.01 to select an AMA office code and a particular trunk.
- (2) Apply (a), (b), and (d) of 5.01.

5.05 Test D

- (1) Apply (c) of 5.01 to select a non-AMA office code and a particular trunk.
- (2) Apply (a), (b), and (d) of 5.01.

5.06 Test E

- (1) Select an AMA office code which requires an MB-9 charge and any test line number.
- (2) Do not use 2-way or intertoll trunks.
- (3) Apply (a), (b), and (d) of 5.01.

5.07 Test F

- (1) Apply (c) of 5.01 to select an AMA office code.
- (2) Do not use 2-way or intertoll trunks.
- (3) Apply (a), (b), and (d) of 5.01.

5.08 Test G

- (1) Select an AMA office code and a test line number.
- (2) Do not use 2-way or intertoll trunks.
- (3) Apply (a), (b), and (d) of 5.01.

5.09 Test H

- (1) Apply (c) of 5.01 to select an office code which will operate sender class relay CL3.
- (2) Apply (a) through (f) of 5.01.

5.10 Test I

- (1) Apply (c) of 5.01 to select an office code which will not operate sender class relays CL2, CL3, and CL6.
- (2) Apply (a) through (f) of 5.01.

5.11 Test J

- (1) Apply (c) of 5.01 to select an office code that will not operate sender class relays CL2, CL3, and CL6 unless a 2-way trunk is used.

If a 2-way trunk is used, sender class relay CL2 or CL2 and CL6 must be operated.

- (2) Apply (a) through (f) of 5.01.

5.12 Test K

- (1) Apply (c) of 5.01 to select an office code that will not operate sender class relay CL2 unless a 2-way trunk is used. If a 2-way trunk is used, sender class relays CL2 and CL6 must be operated (ZN option). If option ZO is provided, make a test using a 2-way trunk with sender class relay CL2 only.

- (2) Apply (a) through (f) of 5.01.

5.13 Test L

- (1) Apply (c) of 5.01 to select an office code that will operate sender class relay CL5.

- (2) Apply (a) through (f) of 5.01.

5.14 Test M

- (1) Apply (c) of 5.01 to select an interoffice code.

- (2) Apply (a), (b), and (d) of 5.01.

5.15 Test N

- (1) Apply (c) of 5.01 to select an interoffice code.

- (2) Apply (a), (b), and (d) of 5.01.

5.16 Test O

- (1) Apply (c) of 5.01 to select an office code that will operate sender class relays CL2 and CL6.

- (2) Apply (a) through (f) of 5.01.

5.17 Test P

- (1) Apply (a), (b), (c), and (d) of 5.01.

5.18 Test Q

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Test Chart not required.

5.19 Test R

- (1) Set A_ through K_ DIAL switches to select listed directory number of associated LLP circuit.
- (2) Apply (b), (d), (e), and (f) of 5.01.

5.20 Test S

- (1) Apply (a), (b), (d), and (e) of 5.01.♦

