

INCOMING INTERCEPT ANI TRUNK CIRCUIT SD-97571-01
TESTS USING PORTABLE TEST SET J94747A
NO. 1 TRUNK CONCENTRATOR

1. GENERAL

1.01 This section describes a method of testing automatic number identification trunk circuit (ANI) SD-97571-01, using trunk test set J94747A. The ANI trunk circuit interfaces the intercept trunks from the remote central office to the vertical selection controls of the trunk concentrator (TC).

1.02 The reasons for reissue of this section is to add the following steps to the tests listed:

- (a) Test A—Steps 21e through 27f
- (b) Test B—Steps 22e through 28f
- (c) Test C—Steps 22e through 28f
- (d) Test D—Steps 23e through 29f
- (e) Test E—Steps 22e through 28f
- (f) Test F—Steps 22e through 28f

This reissue does not affect the Equipment Test List.

1.03 The tests covered are:

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A. Operational Test: This test checks that the trunk can be seized forward to the Automatic Intercept System (AIS) and a signal is returned from the AIS; that a talking path is established; and release of the trunk is normal.

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B. Trunk Time-Out After Seizure: This test checks that when the ten-second timer in the trunk functions before an outgoing trunk (OGT) has been

connected, the incoming trunk will go off-hook to the central office and reorder tone will be returned to the customer.

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C. Concentrator Time-Out After Seizure: This test checks that when the concentrator fails to switch a call within the preset time period, the incoming trunk will go off-hook to the central office and reorder tone will be returned to the customer.

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D. OGT Time-Out: This test checks that when the OGT has timed out waiting for a wink signal from the automatic intercept center (AIC), the OGT will return a signal to the incoming trunk causing the incoming trunk to release the connection through the concentrator and return reorder tone to the customer.

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E. OGT Time-Out After Wink—AIC On-Hook: This test checks that when the OGT times out following a valid wink signal from the AIC, the OGT will send a signal to the incoming trunk causing it to release the connection through the concentrator. This test also checks that a permanent signal (PS) lamp will light.

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F. False Ground on ST Lead While Trunk is Idle: This test checks that when a false ground is detected on the ST lead, a trouble lamp will light and the trunk is locked out of service.

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1.04 **Lettered Steps:** A letter a, b, c, etc, added to a step number in Part 3 or 4 of

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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 TC portable trunk test set J94747A (SD-97576-01).
- 2.02 Head telephone set, 52M or equivalent.
- 2.03 Patching cords, P3E cord, 6 feet long, equipped with two 310 plugs (3P7A cord) in

the following quantities. All 2-wire trunk tests require 4 cords except Test A which requires 3 cords. All 4-wire trunk tests require 5 cords except Test A which requires 4 cords.

3. PREPARATION

3.01 Before performing each test, position the TTS switch on the test set as follows unless otherwise indicated.

SWITCH POSITION	TYPE OF SIGNALING
AOIL	2-Wire Loop
OFF	2-Wire E&M
4WT	4-Wire E&M

STEP	ACTION	VERIFICATION
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All Tests

- | | | |
|---|---|---|
| 1 | At test set—
Restore all keys to normal. | |
| 2 | At incoming trunk frame—
Operate MB key associated with trunk selected to be tested. | When trunk is idle—
MB lamp lighted. |

Caution: Do not proceed to patch trunk to test set until the MB lamp is lighted.

- | | | |
|---|---|--|
| 3 | Using 3P7A cord, connect -48V jack on incoming trunk frame to -48V jack on TC test set. | |
|---|---|--|

Caution: To avoid possible grounding of battery supply lead, connect cord to test set first and, when disconnecting, remove cord from test set last.

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|----|--|--|
| 4a | If testing 2-wire trunks—
At the trunk selected in Step 2—
Using 3P7A cord, connect TST line jack on the incoming trunk frame to 2W TST jack on TC test set. | |
| 5a | Using 3P7A cord, connect TRK jack on the incoming trunk frame to TRK jack on TC test set. | |

STEP	ACTION	VERIFICATION
6b	If testing 4-wire trunks— At the trunk selected in Step 2— Using 3P7A cord, connect TST-R jack on the incoming trunk frame to RCV 1 jack on TC test set.	
7b	Using 3P7A cord, connect TST2 jack on the incoming trunk frame to TRT2 jack on TC test set.	
8b	Using 3P7A cord, connect TRK jack on the incoming trunk frame to TRK jack on TC test set.	
9	At TC test set— Operate -48V key.	-48V lamp lighted.

Tests A Through D

10	At incoming trunk frame— Operate BCO key.	◆BCO lamp lighted.◆
11	Plug head telephone set into A-B jacks.	

4. METHOD

STEP	ACTION	VERIFICATION
A. Operational Test		
12c	If testing 2-wire trunk with loop signaling— At TC test set— Operate FT key.	FT lamp lighted.
13c	Momentarily operate TSZ key.	TSZ lamp lighted. WNK/ANS lamp momentarily lighted. At incoming trunk frame— ON_ CT_ lamps lighted.
14d	If testing 2-wire or 4-wire trunk with E&M signaling— At TC test set— Momentarily operate TSZ key.	TSZ lamp lighted.
15d	Operate FT key.	FT lamp lighted. WNK/ANS lamp momentarily lighted. At incoming trunk frame— ON_ CT_ lamps lighted.
16	At TC test set— Key the class mark digit first and then the seven digit number followed by the ST digit.	WNK/ANS lamp lighted.

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STEP	ACTION	VERIFICATION
17	Operate TALK key.	TALK lamp lighted. Machine intercept announcement heard or operator answers.
18c	If testing 2-wire trunk with loop signaling— Momentarily operate RL key.	TSZ, WNK/ANS lamps extinguished. At incoming trunk frame— ON_ CT_ lamps extinguished.
19d	If testing 2-wire or 4-wire trunk with E&M signaling— At TC test set— Restore FT key.	
20	Restore all keys to normal.	All lamps extinguished.
21e	◆If this test is to be performed on other trunks— Remove all patching cords between test set and incoming trunk frame.	
22e	At incoming trunk frame— Restore MB_ key to normal.	MB_ lamp extinguished.
23e	Operate MB_ key associated with next trunk to be tested.	
24e	Repeat Steps 4a through 11 in PREPARATION and 12c through 20 for next trunk to be tested.	
25e	Repeat Steps 21e through 24e for all other trunks which are to be tested.	
26f	If no other tests are to be performed on this trunk— Remove all patching cords between test set and incoming trunk frame.	
27f	At incoming trunk frame— Restore MB_ key to normal. ◆	MB_ lamp extinguished.

B. Trunk Time-Out After Seizure

12	At incoming trunk frame— Using 3P7A cord, connect TT jack to TT jack on TC test set.	
13c	If testing 2-wire trunk with loop signaling— At TC test set— Operate TT key.	TT lamp lighted.
14c	Momentarily operate TSZ key.	TSZ lamp lighted. At incoming trunk frame—

STEP	ACTION	VERIFICATION
		ON_ lamp lighted. Within approximately 10 seconds— TBL lamp lighted. At TC test set— OHI/OP lamp momentarily lighted.
15d	If testing 2-wire or 4-wire trunk with E&M signaling— At TC test set— Momentarily operate TSZ key.	TSZ lamp lighted.
16d	Operate TT key.	TT lamp lighted. At incoming trunk frame— ON_ lamp lighted. Within approximately 10 seconds— TBL_ lamp lighted. At TC test set— OHI/OP lamp momentarily lighted.
17	Operate TALK key.	TALK lamp lighted. 120 IPM tone heard in receiver.
18	Momentarily operate SIG-B key.	At incoming trunk frame— TBL_ lamp extinguished. CT_ lamp lighted.
19c	If testing 2-wire trunk with loop signaling— At TC test set— Momentarily operate RL key.	At incoming trunk frame— ON_ CT_ lamp extinguished.
20d	If testing 2-wire or 4-wire trunk with E&M signaling— At TC test set— Momentarily operate SIG-B key.	At incoming trunk frame— TBL_ lamp extinguished.
21	At TC test set— Restore all keys to normal.	All lamps extinguished.
22e	◆If this test is to be performed on other trunks— Remove all patching cords between test set and incoming trunk frame.	
23e	At incoming trunk frame— Restore MB_ key to normal.	MB_ lamp extinguished.
24e	Operate MB_ key associated with next trunk to be tested.	
25e	Repeat Steps 4a through 11 in PREPARATION and 12c through 21 for next trunk to be tested.	

STEP	ACTION	VERIFICATION
26e	Repeat Steps 22e through 25e for all other trunks which are to be tested.	
27f	If no other tests are to be performed on this trunk— Remove all patching cords between test set and incoming trunk frame.	
28f	At incoming trunk frame— Restore MB_ key to normal.‡	MB_ lamp extinguished.
C. Concentrator Time-Out After Seizure		
12	At incoming trunk frame— Using 3P7A cord, connect TT jack to TT jack on the TC test set.	
13c	If testing 2-wire trunk with loop signaling— At TC test set— Operate TT key.	TT lamp lighted.
14c	Momentarily operate TSZ key.	TSZ lamp lighted. At incoming trunk frame— ON_ lamp lighted.
15d	If testing 2-wire or 4-wire trunk with E&M signaling— At TC test set— Momentarily operate TSZ key.	TSZ lamp lighted.
16d	Operate TT key.	TT lamp lighted. At incoming trunk frame— ON_ lamp lighted.
17	At TC test set— Operate TO key within ten seconds after performing previous step.	TO lamp lighted. OHI/OP lamp momentarily lighted.
18	Operate TALK key.	TALK lamp lighted. 120 IPM tone heard in receiver.
19c	If testing 2-wire trunk with loop signaling— At TC test set— Momentarily operate RL key.	TSZ lamp extinguished. At incoming trunk frame— ON_ lamps extinguished.
20d	If testing 2-wire or 4-wire trunk with E&M signaling— At TC test set— Momentarily operate SIG-B key twice.	
21	Restore all keys to normal.	All lamps extinguished.

STEP	ACTION	VERIFICATION
22e	◆If this test is to be performed on other trunks— Remove all patching cords between test set and incoming trunk frame.	
23e	At incoming trunk frame— Restore MB_ key to normal.	MB_ lamp extinguished.
24e	Operate MB_ key associated with next trunk to be tested.	
25e	Repeat Steps 4a through 11 in PREPARATION and 12c through 21 for next trunk to be tested.	
26e	Repeat Steps 22e through 25e for all other trunks which are to be tested.	
27f	If no other tests are to be performed on this trunk— Remove all patching cords between test set and incoming trunk frame.	
28f	At incoming trunk frame— Restore MB_ key to normal.◆	MB_ lamp extinguished.
D. OGT Time-Out		
12	At the incoming trunk— Using 3P7A cord, connect TT jack to TT jack on TC test set.	
13c	If testing 2-wire trunk with loop signaling— At TC test set— Operate TT key.	TT lamp lighted.
14c	Momentarily operate TSZ key.	TSZ lamp lighted. At incoming trunk frame— ON_ lamp lighted.
15d	If testing 2-wire or 4-wire trunk with E&M signaling— At TC test set— Momentarily operate TSZ key.	TSZ lamp lighted.
16d	Operate TT key.	TT lamp lighted. At incoming trunk frame— ON_ lamp lighted.
17	Momentarily operate SIG-B key within ten seconds after performing previous step.	SIG lamp momentarily lighted. At incoming trunk frame— CT_ lamp lighted.

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STEP	ACTION	VERIFICATION
18	Momentarily operate SIG-B key.	SIG lamp momentarily lighted. OHI/OP lamp momentarily lighted.
19	Operate TALK key.	TALK lamp lighted. 120 IPM heard in receiver.
20c	If testing 2-wire trunk with loop signaling— At TC test set— Momentarily operate RL key.	TSZ lamp extinguished. At incoming trunk frame— ON_ CT_ lamps extinguished.
21d	If testing 2-wire or 4-wire trunk with E&M signaling— At TC test set— Restore TT key.	TSZ lamp extinguished.
22	At TC test set— Restore all keys to normal.	All lamps extinguished.
23e	◆If this test is to be performed on other trunks— Remove all patching cords between test set and incoming trunk frame.	
24e	At incoming trunk frame— Restore MB_ key to normal.	MB_ lamp extinguished.
25e	Operate MB_ key associated with next trunk to be tested.	
26e	Repeat Steps 4a through 11 in PREPARATION and 12c through 22 for next trunk to be tested.	
27e	Repeat Steps 23e through 26e for all other trunks which are to be tested.	
28f	If no other tests are to be performed on this trunk— Remove all patching cords between test set and incoming trunk frame.	
29f	At incoming trunk frame— Restore MB_ key to normal.◆	MB_ lamp extinguished.
E. OGT Time-Out After Wink—AIC On-Hook		
10	At incoming trunk frame— Using 3P7A cord, connect TT jack to TT jack on the TC test set.	
11c	If testing 2-wire trunk with loop signaling— At TC test set— Operate TT key.	TT lamp lighted.

STEP	ACTION	VERIFICATION
12c	Momentarily operate TSZ key.	TSZ lamp lighted. At incoming trunk frame— ON_ lamp lighted.
13d	If testing 2-wire or 4-wire trunk with E&M signaling— At TC test set— Momentarily operate TSZ key.	TSZ lamp lighted.
14d	Operate TT key.	TT lamp lighted. At incoming trunk frame— ON_ lamp lighted.
15	At TC test set— Momentarily operate SIG-B key within ten seconds after performing previous step.	SIG lamp momentarily lighted. At incoming trunk frame— CT_ lamp lighted.
16	At TC test set— Momentarily operate SIG-G key.	SIG, WNK/ANS, and OHI/OP lamps momentarily lighted.
17	At TC test set— Momentarily operate SIG-B key.	SIG, OHI/OP lamps momentarily lighted. At incoming trunk frame— PS lamp lighted.
18c	If testing 2-wire trunk with loop signaling— At TC test set— Momentarily operate RL key.	TSZ lamp extinguished.
19c	Restore all keys to normal.	All lamps extinguished.
20d	If testing 2-wire or 4-wire trunk with E&M signaling— At TC test set— Restore TT key and then all other keys to normal.	All lamps extinguished.
21e	♦If this test is to be performed on other trunks— Remove all patching cords between test set and incoming trunk frame.	
22e	At incoming trunk frame— Restore MB_ key to normal.	MB_ lamp extinguished.
23e	Operate MB_ key associated with next trunk to be tested.	
24e	Repeat Steps 4a through 9 in PREPARATION and 10 through 20d for next trunk to be tested.	

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STEP	ACTION	VERIFICATION
25e	Repeat Steps 21e through 24e for all other trunks which are to be tested.	
26f	If no other tests are to be performed on this trunk— Remove all patching cords between test set and incoming trunk frame.	
27f	At incoming trunk frame— Restore MB_ key to normal.♦	MB_ lamp extinguished.

F. False Ground on ST Lead While Trunk is Idle

Note: When performing this test, position the TTS switch in the OFF position for E&M trunks and in the AOIL position for loop trunks.

10	While trunk is idle— At incoming trunk frame— Using 3P7A cord, connect TT jack to TT jack on TC test set.	
11c	If testing 2-wire trunk with loop signaling— At TC test set— Operate TT key.	TT lamp lighted.
12c	Operate XST key.	XST, OHI/OP lamps lighted. At incoming trunk frame— TBL_ lamp lighted.
13c	At TC test set— Restore XST key.	XST lamp extinguished.
14c	At incoming trunk frame— Manually release XST relay in trunk.	At TC test set— OHI/OP lamp extinguished.
15c	At TC test set— Restore TT key and then all keys to normal.	All lamps extinguished.
16d	If testing 2-wire or 4-wire trunk with E&M signaling— At TC test set— Operate XST key.	XST lamp lighted.
17d	Operate TT key.	TT, OHI/OP lamps lighted. At incoming trunk frame— TBL_ lamp lighted.
18d	Manually release XST relay in trunk.	TBL_ lamp extinguished. At TC test set— XST lamp extinguished.

STEP	ACTION	VERIFICATION
19d	Momentarily operate SIG-B key twice.	
20d	Restore TT key and then all other keys to normal.	All lamps extinguished.
21e	<p>◆If this test is to be performed on other trunks— Remove all patching cords between test set and incoming trunk frame.</p>	
22e	At incoming trunk frame— Restore MB_ key to normal.	MB_ lamp extinguished.
23e	Operate MB_ key associated with trunk to be tested.	
24e	Repeat Steps 4a through 9 in PREPARATION and 10 through 20d for next trunk to be tested.	
25e	Repeat Steps 21e through 24e for all other trunks which are to be tested.	
26f	<p>If no other tests are to be performed on this trunk— Remove all patching cords between test set and incoming trunk frame.</p>	
27f	At incoming trunk frame— Restore MB_ key to normal.◆	MB_ lamp extinguished.