

**DIRECT ACCESS PRETRANSLATOR CONNECTOR CIRCUIT SD-27801-01**  
**TESTS USING MASTER TEST FRAME**  
**NO. 5 CROSSBAR OFFICES**

**1. GENERAL**

**1.01** This section describes a method of testing the direct access pretranslator connector (DAPC) circuit SD-27801-01 used for connecting a marker in the No. 5 crossbar office to the direct access pretranslators in the No. 101 Electronic Switching System (No. 101 ESS). This section utilizes a series of test numbers for which the No. 101 ESS has been programed to return responses which check various leads in the DAPC. Tests of alarms and timer recycle conditions are also included which do not require the use of the master test frame (MTF).

**1.02** Information covered in this section was formerly contained in section 218-722-501.

**1.03** This issue affects Equipment Test List.

**1.04** The tests covered are:

**A. *Lead Integrity:*** This test checks the integrity of the DAPC leads which connect the marker to one of two direct access pretranslators at the No. 101 ESS.

**B. *Alarm Conditions and Work Timer Recycle:*** This test checks the various alarm conditions in the DAPC and that a work timer recycle signal is sent to the marker should it seize the DAPC while a transfer of direct access pretranslators is in progress.

**1.05** Before performing Test B, notify maintenance personnel at No. 101 ESS that the No. 101 ESS control unit will be incapable of switching from one direct access pretranslator to the other for the duration of the test.

**1.06** Test B should be performed during periods of light traffic.

**1.07 *Lettered Steps:*** A letter a, b, c, etc, added to a step number in Part 3 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.

**1.08** The manner of selecting some circuits and test conditions at the MTF and its associated circuits varies depending on the apparatus options furnished with these circuits. Therefore, where variable means of selection are provided, precise instructions for the selection of circuits and test conditions are not given. Precise instructions for the use of these variable means are given in Section 218-106-301.

**1.09** The location statement, At MTF—, is used to refer to all apparatus located on the four basic bays of the MTF.

**2. APPARATUS**

**Test A**

**2.01** Master test control circuit SD-25800-01.

**Test B**

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

**2.03** 322A make-busy plug.

**SECTION 218-171-501**

**2.04** 67C test set or equivalent, equipped with one KS-6278 connecting clip (for use in checking the presence or absence of battery or ground).

**2.05** Testing cord, 893 cord, 3 feet long, equipped with two 360A tools (1W13A cord) and two KS-6278 connecting clips (for connecting between terminals).

**3. METHOD**

<b>STEP</b>	<b>ACTION</b>	<b>VERIFICATION</b>
-------------	---------------	---------------------

*Note 1:* Refer to 1.07 and 1.08.

**A. Lead Integrity**

- |     |   |                         |
|-----|---|-------------------------|
| 1   | At MTF—<br>Restore all keys and switches.   |                         |
| 2   | Momentarily operate RL key.   | All lamps extinguished. |
| 3   | Select MLV class of test.   |                         |
| 4a  | If TCLC key is provided—<br>Operate TCLC key.   |                         |
| 5b  | If marker group is arranged for tens block screening—<br>Set TERT switch to POTS, TBS switch as required.         |                         |
| 6c  | If trouble record is required—<br>Operate REC key.  |                         |
| 7   | Operate DAPA key.   |                         |
| 8   | Select office designation corresponding to class of call associated with directory number of line being verified. |                         |
| 9   | Select incoming class of call and translator indication as required for access to No. 101 ESS.                    |                         |
| 10  | Select ringing combination as required for access to No. 101 ESS.   |                         |
| 11  | Select lowest numbered marker in marker group associated with DAPC under test.                                    |                         |
| 12d | If line circuit is free service requiring FNA or FNB cross-connection—<br>Operate FNA or FNB key.                 |                         |
| 13  | Select line location in accordance with Table A, Test 1.  |                         |

TABLE A – LEAD INTEGRITY CHECK

TEST NO.	OFFICE CODE (FILL IN FOR LOCAL OFFICE)	TEST NUMERICALS					LINE LOCATIONS CHECKED					LEADS CHECKED					
		TH	H	T	U	FT	FU	VG	HG	VF	RC	TLK	TLT	PMO	FN, FNA, FNB	BNK	
1		X	0	0	0	0	0	0	0	0	✓	✓					
2		X	1	1	1	0	1	1	1	1	✓		✓				
3		X	2	2	2	0	2	2	2	2	✓	✓			✓		
4		X	3	3	3	0	3	3	3	3	✓	✓					
5		X	4	4	4	0	4	4	4	4	✓	✓					
6		X	5	5	5	0	5	5	5	0	✓	✓					
7		X	6	6	6	0	6	0	6	1	✓	✓					
8		X	7	7	7	0	7	0	7	2	✓	✓					
9		X	8	8	8	0	8	0	8	3	✓	✓					
10		X	9	9	9	0	9	0	9	4	✓	✓					
11		X	0	0	1	0	0	6	0	0	✓	✓					
12		X	0	0	2	0	0	7	0	0	✓	✓					
13		X	0	0	3	0	0	8	0	0	✓	✓					
14		X	0	0	4	0	0	9	0	0	✓	✓					
15		X	0	0	5	0	0	10	0	0	✓	✓					
16		X	0	0	6	0	0	11	0	0	✓	✓					
17		X	0	0	7	1	0	0	0	0	✓	✓					
18		X	0	0	8	2	0	0	0	0	✓	✓					
19		X	0	0	9	3	0	0	0	0	✓	✓					
20		X	0	1	0	4	0	0	0	0	✓	✓					
21		X	0	1	1	5	0	0	0	0	✓	✓					
22		X	0	1	2	—	—	—	—	—				✓			
23		X	0	1	33	—	—	—	—	—						✓	

*Notes:*

1. Tests 1 through 10, 22, and 23 check incoming translation and minimum outgoing equipment (ten frames, FU0-9; six vertical groups VG0-5).
2. Tests 11 through 16 are used to check additional VG- leads as provided.
3. Tests 17 through 21 are used to check additional FT- leads as provided.
4. Tests 22 and 23 require no selection of line location.
5. X-digit for proper number group.

SECTION 218-171-501

STEP	ACTION	VERIFICATION
14	Select A through G digits as required for office code plus thousands, hundreds, tens, and units digits of programmed test number as shown in Table A, Test 1.	
15	Momentarily operate ST key.	MLV, MLVM lamps lighted. CCSA or POTS lamp lighted. If REC key is operated— Trouble record taken.  A_, B_, C_, FTT_, FUT_, VGT_, HGT_, VFT_, CS_, RCT_, POTS, OA or OB, TER, TRK, DAC, PTK designations perforated.  TN, PTN, EN, or ETN designation perforated corresponding to cross-connections in direct access pretranslator of local office. If tens block screening is provided— TBS_ designation perforated. If Test 2 of Table A is being performed— TLT designation perforated. If Test 3 of Table A is being performed— FL lamp lighted. FNA or FNB designation perforated. If Test 22 of Table A is being performed— OFL lamp lighted. OFH, OV designations perforated. If Test 23 of Table A is being performed— BN lamp lighted. BN designation perforated.
16	Momentarily operate RL key.	All lamps extinguished.
17	Repeat Steps 12 through 16 for next higher numbered test in Table A until all tests have been performed.	
18	Operate DAPB key.	
19	Repeat Steps 12 through 17.	
20	Repeat Steps 11 through 19 for next higher numbered marker until all markers associated with DAPC have been selected.	
21	Restore all keys and switches not required in next test.	

**B. Alarm Conditions and Work Timer Recycle**

*Note:* The following test, once initiated, should be completed without delay because

STEP	ACTION	VERIFICATION
	the No. 101 ESS control unit will be incapable of switching from one direct access pretranslator to the other for the duration of this test. (Refer to 1.04.)	
1	At relay rack frame— Insulate 10M of RTR1, RTR2 relays.	
2	Insulate 6M, 6B of RTR2 relay.	
3	Insulate 6M, 6B of PS2 relay.	
4a	If PX1X, PS2X relays are provided— Insulate 6M, 6B of PS2X relay.	
5	Block operated ALR relay.	
6	At MTF— Insert make-busy plug into MMB_ jack of marker associated with connector under test.	
7b	If marker is non-wire spring type— At marker frame— Block nonoperated DAC relay.	
8c	If direct access pretranslator A is on the line (RTR1 relay operated)— At relay rack frame— Connect terminal 43 to terminal 45 of terminal strip A.	
9c	Insulate 12M of PS2 relay.	
10c	Block operated MCA-A relay.	
11c	Block nonoperated MCA-B relay.	
12d	If direct access pretranslator B is on the line (RTR2 relay operated)— At relay rack frame— Connect terminal 44 to terminal 54 of terminal strip A.	
13d	Insulate 12M of PS1 relay.	
14d	Block operated MCA-B relay.	
15d	Block nonoperated MCA-A relay.	
16	Block operated RTR1, RTR2 relays.	

**SECTION 218-171-501**

<b>STEP</b>	<b>ACTION</b>	<b>VERIFICATION</b>
17c	If direct access pretranslator A is on the line (RTR1 relay operated)— Remove insulator from 10M of RTR2 relay.	Major alarm sounds. ALS lamp lighted.
18c	Insulate 10M of RTR2 relay.	Major alarm silenced. ALS lamp extinguished.
19d	If direct access pretranslator B is on the line (RTR2 relay operated)— Remove insulator from 10M of RTR1 relay.	Major alarm sounds. ALS lamp lighted.
20d	Insulate 10M of RTR1 relay.	Major alarm silenced. ALS lamp extinguished.
21	Remove insulator from 6M of RTR2 relay.	Major alarm sounds. ALS lamp lighted.
22	Insulate 6M of RTR2 relay.	Major alarm silenced. ALS lamp extinguished.
23	Remove blocking tools from RTR1, RTR2 relays.	
24	Remove insulator from 6B of RTR2 relay.	
25c	If direct access pretranslator A is on the line (RTR1 relay operated)— Block nonoperated RTR1 relay.	Major alarm sounds. ALS lamp lighted.
26c	Remove blocking tool from RTR1 relay.	Major alarm silenced. ALS lamp extinguished.
27d	If direct access pretranslator B is on the line (RTR2 relay operated)— Block nonoperated RTR2 relay.	Major alarm sounds. ALS lamp lighted.
28d	Remove blocking tool from RTR2 relay.	Major alarm silenced. ALS lamp extinguished.
29	Insulate 6B of RTR2 relay.	
30	Block operated PS1, PS2 relays.	
31	Remove insulator from 6M of PS2 relay.	Major alarm sounds. ALS lamp lighted.
32	Insulate 6M of PS2 relay.	Major alarm silenced. ALS lamp extinguished.
33	Remove blocking tools from PS1, PS2 relays.	
34	Block nonoperated PS1, PS2 relays.	

STEP	ACTION	VERIFICATION
35	Remove insulator from 6B of PS2 relay.	Major alarm sounds. ALS lamp lighted.
36	Insulate 6B of PS2 relay.	Major alarm silenced. ALS lamp extinguished.
37	Removing blocking tools from PS1, PS2 relays.	
38a	If PS1X, PS2X relays are provided— Block operated PS1X, PS2X relays.	
39a	Remove insulator from 6M of PS2X relay.	Major alarm sounds. ALS lamp lighted.
40a	Insulate 6M of PS2X relay.	Major alarm silenced. ALS lamp extinguished.
41a	Remove blocking tools from PS1X, PS2X relays.	
42a	Block nonoperated PS1X, PS2X relays.	
43a	Remove insulator from 6B of PS2X relay.	Major alarm sounds. ALS lamp lighted.
44a	Insulate 6B of PS2X relay.	Major alarm silenced. ALS lamp extinguished.
45a	Remove blocking tools from PS1X, PS2X relays.	
46	Remove blocking tool from ALR relay.	
47	Block operated RTR1, RTR2 relays.	Major alarm sounds. ALS lamp lighted.
48	Remove blocking tools from RTR1, RTR2 relays.	Major alarm silenced. ALS lamp extinguished.
49c	If direct access pretranslator A is on line (RTR1 relay operated)— Block nonoperated RTR1 relay.	
50c	Momentarily release PC1 relay manually.	Major alarm sounds. ALS lamp lighted.
51c	Remove blocking tool from RTR1 relay.	Major alarm silenced. ALS lamp extinguished.
52d	If direct access pretranslator B is on line (RTR2 relay operated)— Block nonoperated RTR2 relay.	

**SECTION 218-171-501**

<b>STEP</b>	<b>ACTION</b>	<b>VERIFICATION</b>
53d	Momentarily release PC2 relay manually.	Major alarm sounds. ALS lamp lighted.
54d	Remove blocking tool from RTR2 relay.	Major alarm silenced.
55	Connect 67c test set from -48V battery to terminal 20 of terminal strip MCA0.	
56	Block operated ALR relay.	
57c	If direct access pretranslator A is on the line (RTR1 relay operated)— Block nonoperated RTR1 relay.	Two clicks heard in test set.
58c	Momentarily operate RTR2 relay manually.	Two clicks heard in test set when RTR2 relay released.
59c	Remove blocking tool from RTR1 relay.	
60d	If direct access pretranslator B is on the line (RTR2 relay operated)— Block nonoperated RTR2 relay.	Two clicks heard in test set.
61d	Momentarily operate RTR1 relay manually.	Two clicks heard in test set when RTR1 relay released.
62d	Remove blocking tool from RTR2 relay.	
63	Remove blocking tools and insulators from all relays.	
64	Disconnect test set from -48V battery and terminal 20.	
65	Remove test connection from terminals 43 and 45 or 44 and 54 of terminal strip A.	
66b	If marker is non-wire-spring type— At marker frame— Remove blocking tool from DAC relay.	
67	At MTF— Remove make-busy plug from MMB_ jack of marker associated with connector under test.	