DIMENSION ® 2000 AND CUSTOM PBX

DISPLAY TERMINAL TEST

(PROC 527)

CONTENTS

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1. GENERAL

1.1 This section provides a method of locating display terminals (102D-Calling Number Display and 102F (or 102G) - Force Administration Data System "FADS") failure via MAAP PROC 527.

1.2 Procedure 527 should be used when PROC 515 displays PROC 527 as another alarm cause.

1.3 Procedure 527 is used to:

1.31 Display 102D Calling Number Display to Station Terminal, 102F (102G) Force Administration Data System (FADS) Terminal, and related input/output (I/O) data channel failures.

1.3.2 Perform a short data test on each terminal (102D, 102F, or 102G) and a loop test on each associated data channel (LC 34B or LC 366).

1.3.3 Retire the alarm when all circuits pass test 2.

1.4 Three tests are available:

Test 1--Failure History.

Test 2--Test each terminal and corresponding I/O Channel

Test 3--Test an individual terminal continously.

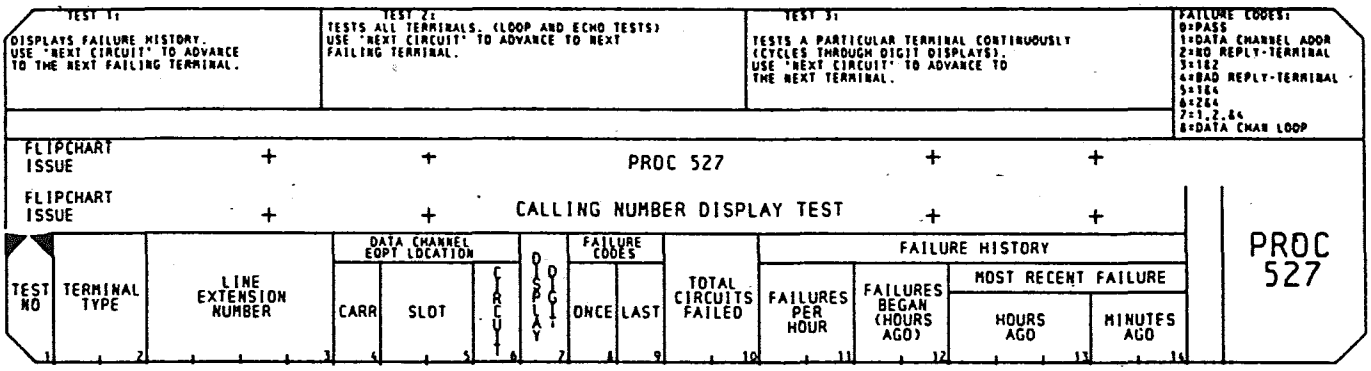
2. RECORD

2.1 Form SD-97-1313 is required for recording the result of these tests.

3. TEST EQUIPMENT

3.1 1-ITE 5654 Logic Probe
1-ITE 5632 Digital Voltmeter or equivalent
or
ITE 5250
or
ITE 5356

4. MAAP DISPLAY FIELD



Field	Code	Definition
1	1-3	Test number.
2	1	102D terminal.
	13	102F, (102G) terminal.
3	Any 2-, 3-, or 4-digit number	Directory number of the called station associated with the selected terminal type.
4	0	Basic Control Carrier (J58882AC)
	1	Basic Control Carrier (J58882AH) or Growth Control Carrier (J58882AD)
	2	Second Growth Control Carrier (J58882AG) or I/O Growth Control Carrier (J58882AJ).
5	30-38	Slot numbers on J58882AC and AH
	20-27	Slot number on J58882AH
	20-33	Slot numbers on J58882AD, AG, and AJ.
6	0,1	Circuit number.
7 (Test 3 only)	0-9, ⊟, dash	Characters sequenced 0 through 9, ⊟, and dash are alternated with blanks. They will correspond to all digits displayed on the terminal under test.

Field	Code	Definition
8		Failure code representing the ORed collection of all failures since the test started:
	0	Pass loop test.
	1	Data channel address not acknowledged.
	2	No data replay (echo) from terminal.
	3	Failures 1 and 2.
	4	Bad reply from terminal - echo data non zero, but not data transmitted.
	5	Failures 1 and 4.
	6	Failures 2 and 4.
	7	Failures 1, 2 and 4.
	8	Data channel loop around test failure. This failure overrides other failures and is active in Test 2 only.
9	0-8	Failure code from the last transmission to a terminal before the test was terminated. Updated in real time for test 3 showing current latest failure while test is running: refer to field 8 for encode descriptions.
10 (Test 1 and 2 only)	0-99	Total number of failed circuits .
11 (Test 1 only)	0-99	Failure Summary: Sum of approximate number of failures per hour for all failing circuits. Failure History: Approximate number of failures per hour for circuit being displayed.
12 (Test 1 Only)	0-17	Failure Summary: Number of hours since the oldest individual failure started (to the nearest hour). Individual Failure History: Number of hours since failures started in the displayed circuit.

Field	Code	Definition
13 (Test 1 only)	0-136	Hours.
14 (Test 1 only)	0-59	Minutes.

5. LEGAL MAAP KEY OPERATION

5.1 PROC. NO. 5, 2, 7, ENTER--Causes program for PROC 527 to be loaded into memory from tape for execution. When the program has been fully loaded into memory, the wait lamp will be extinguished.

5.2 CLEAR DATA, EXECUTE -- Clear the failure history (Test 1)

5.3 EXECUTE -- Display failure summary data of Test 1. Initiate Tests 2 and 3.

5.4 NEXT CIRCUIT--For test 1, advance to the next failed circuit of the failure history and failure summary. For test 2, advance to next terminal and resume test. For test 3 advance to the next extension number and I/O equipment number.

5.5 NEXT UNIT-- Advance to next terminal type (Test 3).

5.6 NEXT TEST--Advance to next test number

5.7 STOP-- Terminates current test.

6. TEST PROCEDURES

6.1 A list of terminal and related I/O data channel failure, tests, what each one does, and how each is run:

6.2 Call in Procedure 527:

PROC NO., 5,2,7, ENTER

Test 1 is automatically selected.

Depressing the NEXT TEST key repeatedly advances the procedure to the desired test.

Test selection may result in the display of a "default" circuit. A default circuit is the last failing ciruit detected. The location of this circuit is automatically displayed on entry to a test that requires an equipment location entry before it can be run (Test 3).

The identity of the default circuit is redefined when a failing circuit is displayed from the failure tables used in Test 1 or 2, or when a failure is detected by Test 3.

6.3 TEST 1:

Test 1 displays a failure history of terminal failures. The failure history is generated by the on-line maintenance software.

To start the test, select Test 1 and depress the EXECUTE key. EXECUTE takes a "snapshot" of the failure summary and displays it on the MAAP. If one or more failures have occurred, the following is displayed:

Field	Contents
10	Total circuits that have failed.
11-14	Failure Summary

The failure summary displays all the circuit failures that have occured.

Depressing the NEXT CIRCUIT key displays the first failing circuit in the failure history. The display includes the following:

Field	Contents
3	Terminal extension number.
4-6	I/O equipment location.
11-14	Failure history.

After the first failing circuit is diaplayed, depressing the NEXT CIRCUIT key repeatedly displays the failure histories of the remaining failing circuits. Depressing NEXT CIRCUIT after all failure histories have been displayed, dashes fields 2 through 14. Depressing NEXT CIRCUIT again causes Test 1 to be executed, starting the sequence over with an updated failure summary. (use CLEAR DATA, EXECUTE to clear failure history.)

6.4 Test 2:

Test 2 tests all terminals and related I/O data channels. To start the test, select test 2 and depress the EXECUTE key. The WAIT indicator on the MAAP turns on and Test 2 starts from the lowest terminal.

If a failure is detected, the test stops, (WAIT turns off) and the NETWORK OTHER-515 and MINOR alarm indicators are turned on. The terminal with the lowest data channel equipment location that failed is displayed as follows:

Field	Contents
2	Terminal type.
3	Terminal extension number.
4-6	I/O equipment location.
8-9	Failure codes associated with first failure.
10	Circuit count of 1.

To resume testing, the NEXT CIRCUIT key can be depressed. Depressing NEXT CIRCUIT, after all circuits have been displayed, dashes all fields (2 through 14).

Depressing NEXT CIRCUIT again causes Test 2 to be executed as described previously.

The calling number display alarm is automatically retired if all terminals pass Test 2. The NETWORK OTHER - 515 and MINOR alarm indicators are turned off when the calling number display alarm and all other alarm sources affecting these indicators are cleared.

6.5 Test 3:

Test 3 is used to continuously test any terminal suspected of having intermittant termial failures or to help trace wiring problems, and to verify display of all digits at all display positions.

Test 3 can be initialized in two ways:

A. If no failures have occurred (default circuit does not exist), the terminal with the lowest terminal type is displayed first. Depress the NEXT CIRCUIT key and the lowest data channel equipment location will be displayed first.

   To select another circuit, use the NEXT CIRCUIT keys to locate the desired circuit. Depress the NEXT UNIT key repeatedly until the desired terminal type is displayed in field 2. Then depress the NEXT CIRCUIT key repeatedly to advance the display to the desired terminal location. Dashes are displayed after the last terminal is displayed. Depressing NEXT CIRCUIT again displays the first terminal.

B. If a failure has occurred, a default circuit is displayed. The default circuit is the failed data channel circuit with the lowest equipment location. Either the default circuit can be tested or another circuit can be selected using the NEXT UNIT and/or NEXT CIRCUIT keys.

To start the test,depress EXECUTE. A display digit displayed in field 7 of the MAAP, corresponds with the character displayed at the terminal being tested. (0 to 9, ⊟, and -).

If a failure is detected, the NETWORK OTHER -515 and MINOR alarm indicators are turned on.

When it is desired to test another circuit, stop the test, select another terminal, and restart the test; e.g.:

STOP; (Select new terminal): EXECUTE

The failure codes detected are recorded and displayed in field 8.

7. REPAIR GUIDE

When a display terminal test failure is indicated, the following steps should be performed in the order shown to repair the faulty unit:

Step	Isolation procedure
1.	Execute Test 1 and record the failure history.
2.	Execute Test 2 and record the results.
3.	Based on test results, take the corrective action indicated, in the order listed, in Table A.
4.	If an intermittent fault is suspected, execute Test 3 to continuously test the suspect terminal.

TABLE A

Failure Code	Corrective Action
0	Pass loop test, but for incorrect diplay data on 102D, 102F or 102G terminal: Replace the 102D, 102F, or 102G terminal.
1	1. Check option switch onLC34B or LC366 (low speed). 2. Replace LC34B or LC 366. 3. Replace LC132 or LC134. 4. Check I0EX* lead between LC 34B (or LC 366) and LC132 (or LC 134).
2	1. Check option switch on LC 34B or LC 366 (low speed). 2. Replace LC34B or LC 366. 3. Replace the 102D, 102F or 102G terminal. 4. Check data pair connection between 201 and display terminal: 201 — 102D, F or G IORA- — TT IORB- — TR IOXA- — RT IOXB- — RR Note: Before making continuity test between IORA- and IORB-, or IOXA- and IOXB, it is required to remove the LC 34B or LC 366 circuit pack from the carrier and turn off the power from the 211A power unit. 5. Check the 211A Power Unit for the display terminal. Readings are: Terminal No. (KS-19252,67 Adapter) — Voltage Reading 5 (-S) — ground 6(+S) — +5V 7(-V) — ground 8(+V) — +5V
3,5,7	Same as Failure codes 1 and2.
4, 6	Same as Failure code 2.

TABLE A (CONTINUED)

Failure Code	Corrective action
8	1. Same as failure code 1. 2. Check BLPTST* (Board Loop Test Enable) lead between LC132 (or LC134) and LC366 (or LC34B).

Reason for issue :

New section

Manager: Denver PBX PECC