DIMENSION® 2000 AND CUSTOM PBX

NETWORK FUSE FAILURES
(PROC 503)

CONTENTS

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1.   GENERAL

1.1   This section provides information for interrogating PROC 503 in
      the event that the craftsperson is directed to this procedure
      due to a NETWORK FUSE FAILURE alarm. Whenever this type of
      alarm occurs the alarm panel - MINOR and NETWORK FUSE led's will
      be lit.

2.   RECORDS

2.1   Form SD 97-1313 is required for recording the results of this
      test.

3.   MAAP DISPLAY FIELDS (PROC 503 FORMAT)

3.1   The following describes each of the display fields for the
      NETWORK FUSE failure (PROC 503) format:

      FIELD   DESCRIPTION
        1   TEST NO. - Displays active test number
                   (Maximum of 3) per the following encodes:

ENCODE	DESCRIPTION
1	Displays failure history.
2	Tests all circuits sequentially.
3	Tests a particular circuit (as displayed in fields 2 & 3).

2,3   EQUIPMENT LOCATION (MODULE/CAB) - (TESTS 1,2 and 3), for TESTS 1 & 2, displays fault location . For TEST 3, displays test location. Allowable encodes are as follows:

ENCODE	DESCRIPTION
00 - MM	Allowable module encodes for field 2. (MM = highest module number in system under test).
0 - C	Allowable cabinet encodes for field 3. (C = highest cabinet number in module under test).

4   FAILURE CODE - (Tests 1,2 & 3), displays failure code per the following encodes:

ENCODE	DESCRIPTION
0	Pass
1	Fuse Failure
9	Network order incomplete

5   TOTAL CABINETS - (TESTS 1,2 & 3), displays total number of network cabinets.

6   TOTAL CABINETS FAILED - (TESTS 1 & 2), displays total number of network cabinet failures.

7   FAILURE INDEX - (TESTS 1 & 2), displays an index number which either indicates: A) Locations with highest number of failures in desending order (TEST 1) or B) Locations in order of detected failures. Index number "0" in TEST 1, indicates a display of the failure history totals: In TEST 2, indicates that no failures were detected.

8   FAILURES PER HOUR - (TEST 1), displays a 2 hour average failure rate.

9   FAILURES BEGAN - HOURS AGO - (TEST 1), displays number of hours since failures started to nearest hour (17 hours maximum).

10,11   MOST RECENT FAILURE - Hours/minutes ago - (TEST 1), displays time since last failure to nearest minute (136 hours/31 minutes maximum)

4.   MAAP CONTROL KEY SEQUENCES

4.1   PROC NO. 5, 0, 3, ENTER - Causes program for proc 503 to
       be loaded into memory from tape for execution.

4.2   CLEAR DATA, EXECUTE - (TEST 1), Clears failure history
       records stored in memory.

4.3   EXECUTE - Starts executing test number displayed in field 1.

4.4   NEXT CIRCUIT - (TESTS 1 & 2), Displays next failure.
       (Test 3), advances test to next equipped cabinet when test
       is stopped.

4.5   NEXT TEST - Advances procedure to the next test.

4.6   RESET - Resets the procedure to the beginning of Test 1.

4.7   STOP - Stops TEST 3 from further testing. Note: This key
       must be operated before the NEXT CIRCUIT key can be operated
       if Test 3 is executing.

5.   REPAIR PROCEDURES

5.1   The following describes the repair procedures that should
       be used in the event of a NETWORK FUSE failure alarm.

5.11   Execute TEST 1 and record failure history generated by on -
       line maintenance.

5.12   Execute TEST 2 and record the results. If there are no
       failures, use Test 3 to continuously test each cabinet
       displayed in TEST 1 to check for intermittent faults. If
       faults occur either during test 2 or 3 use the following
       repair procedures:

       A) FAILURE CODE = 1, proceed as follows:
           AA) For cabinets that indicate failures locate and
               replace the blown fuses. For cabinets that
               have blown fuses, the "FUSE" led on the LC105
               should be lit. When the blown fuse is replaced,
               the "FUSE" led should go out.

           AB) For cabinets that indicate fuse failures and
               do not have a blown fuse, replace the LC105
               in that cabinet.

AC)   Re-execute TEST 2 and verify that the NETWORK
      FUSE alarm extinguishes. If not, recheck
      cabinets that indicate failures, also see
      paragraph 6 of this section. Important: When
      all fuse failures have been cleared, TEST 2
      will automatically clear the network fuse
      failure alarms, when executed.

AD)   When the NETWORK FUSE alarm has been cleared,
      execute TEST 1 and then operate MAAP - CLEAR
      DATA, EXECUTE keys to clear the on - line
      maintenance fault records.

B)   FAILURE CODE = 9, use PROC 505 to clear the fault.

5.15   After the trouble has been cleared, go to Test 1 and clear the
       on-line maintenance records (use CLEAR DATA, EXECUTE keys).

6.   TROUBLESHOOTING AIDS

6.1   GENERAL TEST INFORMATION

6.11   TEST 1 - Test 1 is the default test when the procedure is first
         read in from the tape or when the maap - RESET key is operated.
         When the MAAP - EXECUTE key is operated, data accumulated by on -
         line maintenance is displayed on the MAAP starting with the
         display of the total failures (FAILURE INDEX = 0). If failures
         were detected, field 6 displays the total number of cabinet with
         fuse failures and Fields 8 thru 11 displays the failure history. Also
         since failure index=0 (failure totals) fields 2 & 3 should be dashed.

         If failures were detected, operation of the NEXT CIRCUIT key will
         display the location of the cabinet with the most failures first
         (FAILURE INDEX = 1), and also the type of failure (field 4).
         Repeated operation of the NEXT CIRCUIT key should display the
         remaining failures detected by on - line maintenance, however
         only 6 total failures can be displayed. When all possible
         failures have been displayed, all fields except 1 and 5 will
         be dashed. Operating the NEXT CIRCUIT key again, should display
         the total failure history (FAILURE INDEX = 0).

         If no failures were detected, fields 6 thru 8 should display
         zero's. Fields 2 thru 4 should be dashed.

         Operation of the CLEAR DATA, EXECUTE keys should clear the on -
         line maintenance records for fuse failures.

6.12   TEST 2 - The purpose of this test, is to test all NETWORK
        FUSE failure detectors, to display the failed circuits
        and to control ALARM PANEL - NETWORK FUSE failure alarms.

        The test is initiated when the MAAP - EXECUTE key is
        operated, which turns on the MAAP - WAIT lamp and begins
        testing each of the network cabinet maintenance circuits
        (LC105'S). At the end of the test, the WAIT lamp is
        turned off and the appropriate alarms and data is displayed.

        If a failure is detected, the NETWORK-MINOR and FUSE alarm
        lamps are turned on. All failed circuit data is stored
        and at the end of the test, the first detected failure
        location will be displayed. Unlike Test 1, the total
        number of failures stored is not limited, and therefore
        repeated operation of the NEXT CIRCUIT key should display
        all detected failures.

        If no failures are detected, all the fuse failure related
        alarms will be turned off.

6.13   TEST 3 - The purpose of this test is to test a particular
        circuit continuously and to turn on the alarms if a failure
        exists. If a default circuit (last circuit failure detected)
        is not displayed, the craftsperson must enter a circuit
        location. If the displayed location is not the one desired,
        it can be changed by the CHANGE FIELD sequence or by
        repeatedly operating the NEXT CIRCUIT key until the desired
        one is obtained.

        The test is initiated by operating the EXECUTE key. The
        WAIT lamp is not turned on since the test is continuous,
        however, the failure code is flashed (60 IPM) in field 4
        to indicate that the test is running. If a failure is
        detected, the test continues to run and field 4 flashes
        the appropriate failure code. The test can be stopped by
        either operating the STOP key (which then allows the
        NEXT CIRCUIT key operation) or operating the NEXT TEST,
        RESET, or PROC NO keys.

6.2   GENERAL TROUBLESHOOTING INFORMATION

6.21   PROC 503 checks for NETWORK FUSE failures by addressing
        each of the network cabinet maintenance circuits (LC105)
        and checking the status of the ANMJ* and APMJ leads
        (inputs to LC105). To check the fuse alarm leads the

BBS15* lead must be activated (made low) and the status will
appear on the SSO* lead. That is, if either one of the APMJ
or ANMJ* leads are active when the BBS15* lead pulses low the
SSO* lead should also pulse low.

Also the LC105 - fuse lamp should light whenever the ANMJ* or
the APMJ lead is active.

6.22   Check MAAP circuit breaker (+5 CBM) in Module Control Cabinet.

TEST 1:	TEST 2:	TEST 3:
DISPLAYS FAILURE HISTORY. USE 'NEXT CIRCUIT' TO DISPLAY FAILURE HISTORY. USE 'CLEAR DATA,EXECUTE' TO CLEAR FAILURE HISTORY.	TESTS ALL CIRCUITS. USE 'NEXT CIRCUIT' TO DISPLAY NEXT FAILURE.	TESTS A PARTICULAR CIRCUIT CONTINUOUSLY. USE 'NEXT CIRCUIT' TO DISPLAY NEXT EQUIPMENT LOCATION. FAILURE CODES: 0= PASS 9= NETWORK ORDER 1= FAIL INCOMPLETE

ISSUE L7.8	PROC 503

ISSUE L7.8   NETWORK FUSE FAILURES

PROC 503

TEST NO	TEST 3 EQUIPMENT LOCATION		FAILURE CODE	TOTAL CABINETS	TOTAL CABINETS FAILED	FAILURE INDEX		FAILURE HISTORY				
	MODULE	CAB						FAILURES PER HOUR	FAILURES BEGAN- HOURS AGO	MOST RECENT FAILURE		
										HOURS AGO	MINUTES AGO	
1	2	3	4	5	6	7		8	9	10	11	

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