

DIMENSION® 600/2000 PBX
SUPPLEMENTAL PERIODIC PEG COUNTS TEST
(PROC 539)

1. GENERAL

- 1.1 This section is issued in order to make available the information contained in the Administration and Maintenance Manual, 500-497, PROC 539.
- 1.2 The attachment provides a failure summary for the equipment tested in PROC 530 thru PROC 538.

ATTACHMENT

PROC 539 (6 pages)

Reason for Issue:
New Section

Manager, Denver PBX PECC

PRIVATE

THE INFORMATION CONTAINED HEREIN SHOULD NOT BE DISCLOSED TO UNAUTHORIZED PERSONS. IT IS MEANT SOLELY FOR USE BY AUTHORIZED BELL SYSTEM EMPLOYEES.

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PROCEDURE 539 - SUPPLEMENTAL PERIODIC PEG COUNTS

PROC 539

A. DESCRIPTION

Periodic tests are performed on the units listed in Table 539-1 by the on-line maintenance software. Failures to these tests are peg counted.

Procedure 539 is used to display an approximate failure rate and the number of hours since the failures began for each unit (17-hour maximum) and the time since the last failure (to the nearest minute).

Three tests are available:

- Test 1 - Failure history by greatest number of failures per hour.
- Test 2 - Failure history by most-recent failure.
- Test 3 - Displays unit types in numerical order.

TEST 1: DISPLAYS UNIT TYPES ORDERED BY HIGHEST FAILURES PER HOUR.	TEST 2: DISPLAYS UNIT TYPES ORDERED BY MOST RECENT FAILURE.	TEST 3: DISPLAYS UNIT TYPES IN NUMERICAL ORDER.	UNIT TYPES (FLD 2): 0-TOTAL OF ALL UNITS 1-PERIPHERAL INTERFACE CIRCUIT (530) 2-TIME OF DAY SYNCHRONIZER (532) 3-STATION MESSAGE WAITING (533)	4-EC SIGNALLING UNIT (534) 5-STATION MESSAGE REGISTER (535) 6-AUTOMATIC WAKEUP (538) 7-POWER METER (538)	CARRIER TYPE (FLD 14) 1-LINE 2-TRUNK 3-LINK 4-CONTROL	NOTE 1: REFER TO PROC 532 FLIP CHART FOR DESCRIPTION OF FAIL CODES FOR UNIT 2
USE 'NEXT UNIT' TO ADVANCE TO NEXT UNIT TYPE. USE 'NEXT CXT' TO ADV TO NEXT FAIL FOR THE DISPL UNIT TYPE. USE 'CLEAR DATA', 'EXECUTE' TO CLEAR FAILURE HISTORY OF DISPLAYED UNIT TYPE.						
ISSUE 5 FLIPCHART		PROC 539				

FLIPCHART ISSUE 5		SUPPLEMENTAL PERIODIC PEG COUNTS										PROC 539		
TEST NO	UNIT TYPE	FAILURE HISTORY						EQUIPMENT LOCATION						REFER TO PROCEDURE 539
		TEST 3	FAILURES PER HOUR	FAILURES BEGAN-(HOURS AGO)	MOST RECENT FAILURE		MODULE OR FAIL CODE -UNIT 2 (SEE NOTE 1)	CABINET	CARRIER	SLOT	CIRCUIT	TYPE		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

1. 6.0.1. 54. 5. 0. 0. 1.2.0. 6.0.2.07. 539

B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-3	Test number.
2	0-7	Unit type (Table 539-1).
3	0-6	Number of failures for displayed unit type.
4	0 1-6	Failure index: Failure summary. Individual failures.
5	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 circuits being displayed.
6	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 (to the nearest hour).
Number of hours plus minutes since: Failure Summary: most-recent failure of any circuit. Failure History: most-recent failure of the displayed circuit.		

Field	Code	Definition
7 (Test 1 only)	0-136	Hours.
8 (Test 1 only)	0-59	Minutes.
9	0-24 Table 539-2	Other than Unit Type 2: Module number. Unit Type 2: Failure code.
10	0-4	Cabinet number.
11	0-4	Carrier number.
12	0-41	Slot number.
13	0-3	Circuit number.
14	1 2 3 4 5	Carrier type: Line. Trunk. Link. Control. External equipment circuit alarm.
15	30-38	Last two digits of associated test procedure number (530 through 538).

C. TEST PROCEDURES

A list of supplemental periodic peg count tests, what each one does, and how each is run follows:

Call in Procedure 539:

PROC NO.; 539; ENTER

Test 1 is automatically selected.

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

Test 1:

Test 1 displays a failure history of supplemental periodic tests performed on various units listed by the on-line maintenance software. The failure history is in order by highest number of failures per hour; the unit with the highest number of failures per hour being displayed first.

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
2	0, indicating total of the supplemental periodic peg counts.

Field	Contents
5	Total supplemental periodic peg count.
6-8	Failure summary information.

The failure summary displays the total supplemental periodic peg count of all units.

Depressing the NEXT UNIT key advances the display to the failure history of the unit type with the highest failures per hour. The display includes the following:

Field	Contents
2	Unit type.
3-8	Failure history.
9	Other than unit type 2: Failing circuits module number.
	Unit type 2: Failure code.
10-13	Equipment location of failing circuit.
14	Carrier type.
15	Last two digits of the associated maintenance procedure (5--).

Depressing the NEXT UNIT key advances the display to the unit with the next highest number of failures per hour and displays its failure history.

C. TEST PROCEDURES (Contd)

Depressing the NEXT CIRCUIT key repeatedly displays the failure histories of the remaining failing circuits for the displayed unit type. Depressing NEXT CIRCUIT after all failure histories have been displayed dashes all fields except 1, 2 and 14. Depressing NEXT CIRCUIT again causes Test 1 to be executed, starting the sequence over with an updated failure summary.

Depressing the NEXT UNIT key advances the display to the next unit type, at which time the NEXT CIRCUIT sequence can be repeated.

Refer to paragraph 2C in Section 4 for information on clearing the failure history.

To clear the failure records for the displayed unit type, depress CLEAR DATA; EXECUTE. If the CLEAR DATA; EXECUTE sequence is performed for unit type 0, the failure records for all units are cleared.

Test 2:

Test 2 displays a failure history in order by most-recent failure.

To start the test, depress the EXECUTE key. Test 2 operates the same as Test 1, except unit types are displayed in order from the most-recent failure to the last.

Test 3:

Test 3 displays the failure histories of the unit types in numerical sequence or permits a specific unit type to be displayed. When Test 3 is selected, unit type 0 is automatically displayed. Field 2 contains a flashing 0, indicating an optional entry field, and fields 5 through 8 contain the total supplemental periodic peg count for all unit types. Either unit type 1 can be selected for display or another unit type can be entered in field 2.

Depressing the NEXT UNIT key displays the failure history for unit type 1 (refer to Test 1 description).

To select another unit type, use the NEXT UNIT key or enter the unit type number in field 2; eg:

(Unit Type); ENTER

To start the test, depress the EXECUTE key. From this point, Test 3 operates the same as Test 1, except unit types are displayed in sequence by unit type number.

D. REPAIR GUIDE

Procedure 539 can be an early warning indication, since it includes failures that may or may not affect service. When a supplemental periodic peg count

D. REPAIR GUIDE (Contd)

failure that may affect service is indicated, the following steps should be performed in the order shown to isolate and repair the faulty unit:

- | Step | Isolation Procedure |
|------|---|
| 1. | Run Test 1 to check the general health of the machine. |
| 2. | Run Test 2 to determine whether the unit type with the greatest number of failures per hour also has the most-recent failure. |
| 3. | Run Test 3 to check the failure history for a specific unit type. |

NOTE

If an invalid equipment location is loaded into the failure records, the equipment location will be dashed and error code 73 displayed when NEXT CIRCUIT is depressed to display the location.

If error code 73 is displayed, and the equipment location fields are dashed, the display is indicating there is either no physical equipment or there is a software problem.

- | Step | Isolation Procedure |
|------|---|
| 4. | If a particular unit has a high enough failure rate to be of interest, use the associated procedures, indicated in Table 539-1, for further information. |
| 5. | If the failures are truly transient, the associated procedures may not provide any additional information. If that is the case, wait a while or return the next day to see if the failure rate has increased for that unit. |
| 6. | If the failure rate has increased or remained high, a circuit pack is probably marginal and should be replaced. |

D. REPAIR GUIDE (Contd)

Table 539-1. Unit Type and Associated Procedure

Unit	Description	Associated Procedure
0	Total of all individual units.	. .
1	Peripheral interface circuit device.	530
2	Real-time hardware clock.	532
3	Station message waiting.	533
4	Energy control-heating ventilating and air conditioning.	534
5	Station message registers - local billing.	535
6	Automatic wake-up.	536
7	Power meter.	538

Table 539-2. Supplemental Periodic Peg Counts Repair Procedure

Failure Code	Failure Type (for Unit Type 2)
1	No response has been received from the hardware clock.
2	A battery failure has occurred on the clock hardware.
3	Battery status is stuck at good.
4	No change has occurred since the last read.
5	A software update has occurred after initialization.
6	There is a small clock difference (less than 30 seconds).
7	There is a large clock difference (greater than 30 seconds).
8	Bad values have been received from the hardware.
9	Bad values have been received from the software.