NO. 3 ESS
SYSTEM VERIFICATION
PERIPHERAL PULSE DISTRIBUTOR CONTROLLERS

CONTENTS

1. GENERAL INFORMATION

1.1 Description

1.11 The No. 3 ESS generic Peripheral Pulse Distributor (PPD) diagnostic program is used to verify the office distributor controller hardware. Operator actions are made on the maintenance TTY which trigger the PPD diagnostic. The diagnostic programs, generally nonresident, are called into a paging area, from the generic tape cartridge mounted on the minirecorder, reserved in the main store for execution. This section will also verify the system's ability to operate Distributor Point Applique relays.

1.2 Sequence

1.21 The diagnostic testing of the PPD (Section 520.08) should follow the completion of Handbook 269, Section 520.04.

1.3 Test Prerequisites

1.31 The appropriate prerequisite manual checks and tests should have already been successfully completed.

1.32 These tests are run in the generic environment using nonresident programs paged from the generic tape cartridge. For this reason, they require a "normal system", i.e., the processors should be fault-free, and prior to beginning these tests, the System Normal Lamp should be lighted on the System Status Panel.

1.4 References

SD/CD-3H110-01	Peripheral Controller
SD/CD3H911-01	Distribute Point Applique Circuit
CPS-FA993	FIOC Sequence Controller
CPS-FA994	FIOC Register Board
CPS-FA995	PPD Sequencer
CPS-FA996	PPD Vertical Translator
CPS-FB351	FIOC Receiver Transmitter
CPS<FC204	PPD Horizontal
CPS-FC205	PPD Vertical Driver
CPS-FC206	PPD Matrix Board
CPS-FC207	PPD Level Control
TLM-3H102-01	PPD TLM
→ IM/OM-3H300-01	No. 3 ESS Input/Output Message Manuals
T-XXXX-XX-462	Office Records
T-XXXX-XXXX-464	Office Records

2. RECORDS AND REQUIREMENTS

2.1 Records - This section's test results should be recorded on forms SD-97-1313 and SD-97-1315. Handbook 3, Section 6B may be referenced for detailed information on test record completion.

2.2 Requirements - This section's testing is intended to satisfy BSP 820-650-180; Performance Requirements, No. 3 ESS, General Equipment Requirements, Electronic Switching Systems.

3. TEST EQUIPMENT

3.1 Required - (None)

3.2 Troubleshooting - As required. Refer to ITE-5653 Specification for Test Accessory Set, No. 3 ESS; and Handbook 250, Section 2.26, Test Set Planning and Scheduling Information, No. 3 ESS.

4. TEST PROCEDURE

4.1 General

4.11 The PPD diagnostic tests are conducted via the "standby" CU under control of the "active" CU.

4.12 If an automatic CU switch occurs while conducting PPD diagnostics, the diagnostics will be terminated automatically. The REPEAT or STEP mode should then be requested on the failing test(s) (phase) to isolate and find the trouble. Normally, a trouble should be eliminated before again requesting the diagnostic in the NORMAL mode.

4.13 Using the Office Records T-XXXX-XX-462 and T-XXXX-XX-464, determine the Distributor Triplet Addresses (DTA) for all Distributor Point Applique Circuits assigned in the office.

4.2 Test Procedure

4.21 Perform the steps presented in Table A in the order found. All detected troubles should be cleared before proceeding with the tests in this section. Table A procedure should be conducted at least one time completely with no detected faults or deviations in the procedure.

4.22 "SN" indicates procedure number and "Y" indicates the standby CU in Table A.

4.23 Each CU has either 1 or 2 sets of PPDs associated with it. Diagnostics are conducted on only one set at a time and that set must be indicated. Table A directs that diagnostics on the lower numbered set (0) be conducted first from one CU and then from the alternate CU. The diagnostics are then conducted on the higher numbered set (1), if available, from one CU and then the alternate CU.

4.3 Test Requirements

4.31 All input requests for PPD diagnostics must receive an associated "All Tests Pass" (ATP) output message before the PPDs can be considered as having passed verification requirements. Refer to the IM/OM for PPD message descriptions and formats.

TABLE A

NO. 3 ESS PPD SYSTEM VERIFICATION TEST PROCEDURE

SN	OPERATOR ACTION	SYSTEM RESPONSE	OPERATOR RESPONSE	NOTE
1	RMV:PPD 0(Y)!	M tt RMV PPD 0(Y) 0000 Any other	Go to SN2. Go to paragraph 5.	1,5 7
2	DGN:PPD 0(Y)!	tt DGN PPD 0(Y) ATP Any other	Go to SN3 Go to paragraph 5.	 7
3	RST:PPD 0(Y);UCL!	M tt RST PPD 0(Y) COMPL Any other	Go to SN4. Go to paragraph 5.	3,6 7
4	SW:SYC;UCL!)!	OK Any other	Go to SN5. Go to paragraph 5.	3,8 7
5	RMV:PPD 0(Y)!	M tt RMV PPD 0(Y) 0000 Any other	Go to SN6. Go to paragraph 5.	1 7
6	DGN:PPD 0(Y)!	tt DGN PPD 0(Y) ATP Any other	Go to SN7. Go to paragraph 5.	 7
7	RST:PPD 0(Y);UCL!	M tt RST PPD 0(Y) COMPL Any other	(Refer to Notes) Go to paragraph 5.	3,9 7

TABLE A (Cont.)

SN	OPERATOR ACTION	SYSTEM RESPONSE	OPERATOR RESPONSE	NOTE
8	RMV:PPD 1(Y)!	M tt RMV PPD 1(Y) 0000 Any other	Go to SN9. Go to paragraph 5.	1 7
9	DGN:PPD 1(Y)!	tt DGN:PPD 1(Y) ATP Any other	Go to SN10 Go to paragraph 5.	 7
10	RST:PPD 1(Y);UCL!	M tt RST PPD 1(Y) COMPL Any other	Go to SN11 Go to paragraph 5.	3 7
11	SW:SYC;UCL!	OK Any other	Go to SN12 Go to paragraph 5.	3,8 7
12	RMV:PPD 1(Y)!	M tt RMV PPD 1(Y) 0000 Any other	Go to SN13 Go to paragraph 5.	1 7
13	DGN:PPD 1(Y)!	tt DGN:PPD 1(Y) ATP Any other	Go to SN14 Go to paragraph 5.	 7
14	RST:PPD 1(Y);UCL!	M tt RST PPD 1(Y) COMPL Any other	(Refer to Notes) Go to paragraph 5.	2,4 7
→ 15	ORD:PPD X,X,X,X:X!	IP Any other	Visually verify that the relay associated with the circuit under test is successively operating and releasing. Go to paragraph 5.	
16	STOP:UTIL!	OK	Repeat SN15 & SN16 until all Distributor Point Appliques in the office have been tested.	

NOTES:

1. A controller must be removed from service before it can be diagnosed.
2. PPD controller system verification has been successfully completed.
3. A controller must be restored to service before a "switch" can be performed.
4. All equipment should normally be left "in-service."
5. RMV:PPD ms! where m = member s = side (off-line CU)
6. An "UCL" restoral puts the unit "in-service" without running the diagnostics. In this case it would be the second time or a repeat of the diagnostic on the same controller, which is not required, if "UCL" were not designated.
7. Go to paragraph 5. of this section or "Troubleshooting Procedures."
8. → The off-line SYC must be in standby, otherwise a "SW:SYC;UCL!" must be requested and an update of the off-line store is initiated. The switch should occur upon store update completion. An alternation would be to place an off-line and out-of-service SYC in the standby state with a → "RST:SYC;UCL!" before switching but is <u>not</u> recommended.
9. PD controller system verification has been successfully completed on set "0". If set "1" is not equipped PD controller system verification has been successfully completed. If set "1" is present continue testing by going to PN8.
10. Distributor Point Applique Tests may be run with either SYC active and need not be repeated with the other SYC active.

5. TROUBLESHOOTING PROCEDURE

5.1 First, refer to pertinent documentation to determine unexpected system response. In some cases, the IM/OM may adequately explain such a response; such as improper condition states or an unexpected sequence of system input events.

5.2 When certain that a trouble does exist, the TLM printout should give an indication of what the trouble is. When this is otherwise, the tester must then carry out basic troubleshooting procedures to isolate the fault.

→ Arrows indicate new or changed information.

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