

43 5-LEVEL PAPER TAPE UNIT

TESTING

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1. GENERAL

- 1.01 This section provides station testing information of the 43 Paper Tape Punch and Reader.
- 1.02 Whenever this section is reissued, the reason for reissue will be listed in this paragraph.
- 1.03 An installation checkout should be performed after installation to make sure the station is operable.
- 1.04 On trouble calls an installation checkout should be performed after trouble correction to make sure the PTU is operable and a trouble verification test should be performed under the direction of a test station (if available) to isolate specific troubles not covered in the installation test. After correction of a trouble the test may be confined to the specific area that was failing.
- 1.05 Following routine maintenance calls at a location, an installation checkout should be performed.
- 1.06 The checkout routines are present in chart form with test conditions arranged in a

specific sequence. A response is given to verify the test condition has passed.

1.07 Refer to Section 574-504-300 for PTU Troubleshooting information.

1.08 If the indicated response is not obtained in any step of a test procedure, repeat the step to make sure that the procedure has been performed properly. If the results are still unsatisfactory refer to PTU Troubleshooting Section 574-504-300.

*Note:* The local test specified in this section simulate most on-line tests for the PTU.

1.09 Always perform the tests in the order given. The Tests Steps are based on satisfactory results of all previous steps.

PRELIMINARY CHECK

1.10 Before proceeding with the checkout procedure check the following:

- (a) Is PT Unit connected to a properly grounded and polarized ac service?
- (b) Are all cable connectors fully seated?
- (c) Is Paper Tape properly installed?
- (d) Are any option exceptions present?  
Refer to Section 574-504-200.

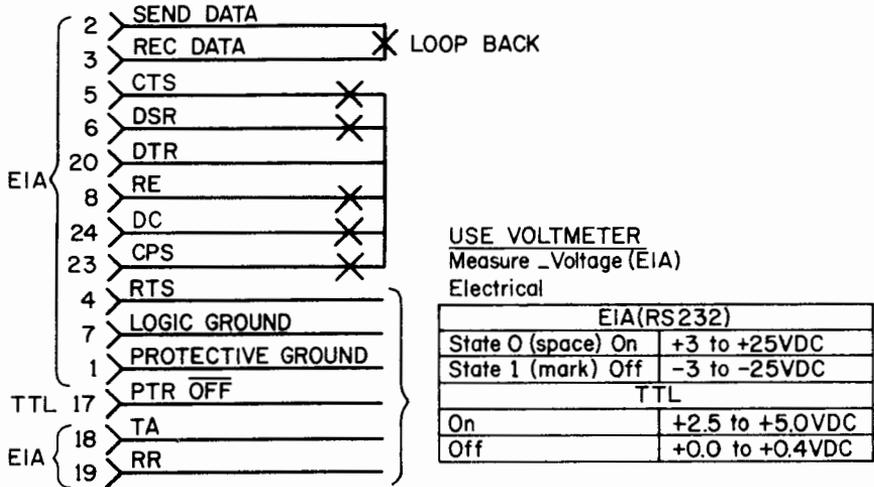
1.11 The 43 Paper Tape Unit must be used in conjunction with a 43 Teleprinter 5-Level Buffered Selective Calling Station, or similar controller. On-line tests are covered in How to Operate Manual 999-300-136.

1.12 On-line tests for the 43 Paper Tape Unit can be simulated using the test arrangement shown in 2. TEST EQUIPMENT.

1.13 When ordering replaceable parts, unless otherwise specified prefix each part number with the letters "TP" (ie, TP430047).

2. TEST EQUIPMENT

2.01 To simulate on-line tests, the following test arrangement should be made locally.

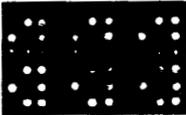


3. TESTING PROCEDURES

3.01 The following off-line tests will check the basic operability of the Paper Tape-Unit without the use of a test device or external communications device. All features of the PT Unit except the EIA interface and response to start and stop control codes can be checked with these procedures. The response to start and stop control codes can be checked with an associated Buffered 43 Five-Level Teleprinter.

## OFF-LINE TESTS (Installation and Trouble Call Checkout)

Manual — Automatic

TEST	STEP	PROCEDURE	RESPONSE
		A. Insert tape roll in unit. B. Thread tape through punch block. C. CPS switch in 30 CPS position.	
Power On	1	With PUNCH and READER switches Off. Plug ac cord into 110 Vac. Turn on power switch.	GREEN Power indicator lamp lights and motor starts.
	2	Operate the Feed switch.	Punch will perforate feed holes and advance tape as long as switch is held operated.
SPA1-3 Self-Test Message	3	Place "Copy" switch in LOCAL position. Enable SPA1-3 to on. Operate PUNCH switch to On.	Punch will perforate self-test message: 
		Return PUNCH switch to Off.	Punch stops perforating tape. Motor shuts off after approx. 30 seconds.
Low Tape Alarm	4	Operate SPA1-3 to OFF. Enable SPA1-4 to ON. Operate PUNCH control switch to On. Lift out tape roll.	Punch lamp will blink.
Punch Backspace	5	Replace tape roll. Operate Back Space switch.	Tape will reverse feed one character space for each operation. Punch lamp will turn off each time the switch is operated.

## SECTION 574-504-500

## OFF-LINE TESTS (Installation and Trouble Call Checkout) (Contd)

## Manual — Automatic (Contd)

TEST	STEP	PROCEDURE	RESPONSE
Tape Out	6	Operate PUNCH and READER switches Off. Place perforated tape in reader. (Tape obtained from self-test or pre-punched message .)	Reader lamp does not light. Reader does not sense tape.
		Operate READER switch from Off to Auto.	Reader lamp lights. Reader steps and reads tape.
		Operate READER switch to On.	Reader stops. Reader lamp blinks.
Tight Tape	7	Operate READER switch to Off. Place tape in Reader. Operate READER switch from Off to On and back to Auto.	Reader lamp lights. Reader steps and reads tape.
		Lift tight tape arm.	Reader stops. Reader lamp will blink.
		Release tight tape arm.	Reader resumes reading tape. Reader lamp remains ON.
		Operate READER switch to Off.	Reader lamp turns OFF. Reader stops reading tape.
Reader Step	8	Operate PUNCH switch to On. Operate READER switch to Off. Place message tape in Reader. Operate Step switch.	Reader will advance one character space. Punch will perforate transmitted character.
Reader Skip	9	Operate Skip switch.	Reader advances one character space. Punch does not perforate character or move one character space.

- 3.02 Turn off power to the PTU and connect the test arrangement shown in paragraph 2 to the Interface Connector at rear of PTU.

## SIMULATED ON-LINE TESTS (Loopback)

TEST	STEP	PROCEDURE	RESPONSE
Option 453A Receiver Ready Off Request to Send Off Tape Alarm Off	1	Place tape in punch and reader. Place "Copy" switch in NORM position. Place PT POWER switch Off. Place PUNCH and READER switch Off. Place CPS switch in 30 CPS position. Place all switches on test arrangement closed.  Turn on PT POWER switch.	Motor starts. Power indicator lamp lights. -12V will be present on interface pins 4, 18, 19.  +5V will be present on interface pin 17.
Receive Reader On	2	Operate PUNCH switch to On position.	Punch lamp lights. +12V will be present on interface pin 19.
Request to Send On Characters Per Sec. On Send and Receive Data	3	Operate Reader switch to On position.	Reader lamp lights. Reader starts transmitting at 10 CPS. (Approx. 2 ft of tape in 24 seconds). Punch receives data from reader and perforates tape. +12V will be present on interface pin 4.
Data Set Ready Off	4	Open Lead 6 (DSR).	Punch and reader stop. Lamps OFF. -12V will be present on interface pins 4 and 19.
Character per Sec. Off	5	Close Lead 6 (DSR). Open Lead 23 (CPS). Operate PUNCH and READER switches to On (if not already on).	Punch and reader start. Lamps on. Data is transmitted at 30 CPS (approx. 2 ft of tape in 8 seconds).

## SIMULATED ON-LINE TESTS (Loopback) (Contd)

TEST	STEP	PROCEDURE	RESPONSE
Receiver Enable Off	6	Open Lead 8 (RE).	Punch stops perforating (Punch Lamp OFF). Reader continues to send.
Clear to Send and Device Control	7	Open Lead 5 (CTS).	Reader continues to send.
	7a	Close Lead 5 (CTS). Open Lead 24 (DC).	Reader continues to send.
	7b	Open Lead 5 (CTS).	Reader stops transmitting. Punch and reader lamps remain ON.
Tape Alarm	8	Remove tape from tape supply.	+12V will be present on interface pin 18. -12V will be present on interface pin 19.
Printer Off	9	Operate "Copy" switch to PTR OFF/LOCAL position.	0V will be present on interface pin 17.