

43 5-LEVEL PAPER TAPE UNIT

GENERAL DESCRIPTION

CONTENTS	PAGE
1. GENERAL	1
2. DESCRIPTION	1
3. REFERENCES	6
1. GENERAL	
1.01 This section provides a general description of the 43 Paper Tape Unit, hereafter known as the PTU.	
1.02 Whenever this section is reissued, the reason for reissue will be listed in this paragraph.	
1.03 When ordering replaceable components, unless otherwise specified, prefix each part number with the letters "TP" (ie, TP410711).	

2. DESCRIPTION
- 2.01 The PTU consists of a five-level fully perforating punch, a five-level photo-electric sensing tape reader, signal processing and control electronics, a power supply, tape supply and chad collecting facilities, all housed within a 43 styled cover.
- 2.02 The PTU provides for the preparation, reception, permanent storage and transmission of data in the form of five-level fully perforated tape.
- 2.03 Operating speed of the PTU is up to 30 characters-per-second (300 wpm). Speed on-line is controlled by the associated Buffered 43 Five-Level Teleprinter and off-line speed is at a full 30 CPS.
- 2.04 The PTU operates on 115V ac \pm 10 percent at 50 or 60 hertz and power is controlled by an ON-OFF rocker switch located at the left rear of unit.
- 2.05 The PTU interface is EIA-type RS-232-C and TTL voltage levels.
- EIA — Electronics Industries Association (Specification RS-232-C) +25V dc to -25V dc (ON-OFF range).
- TTL — Transistor Logic 0V dc to +5V dc (ON-OFF range).
- 2.06 The PTU does not generate or check parity.

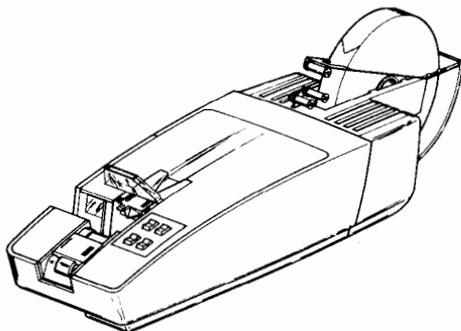
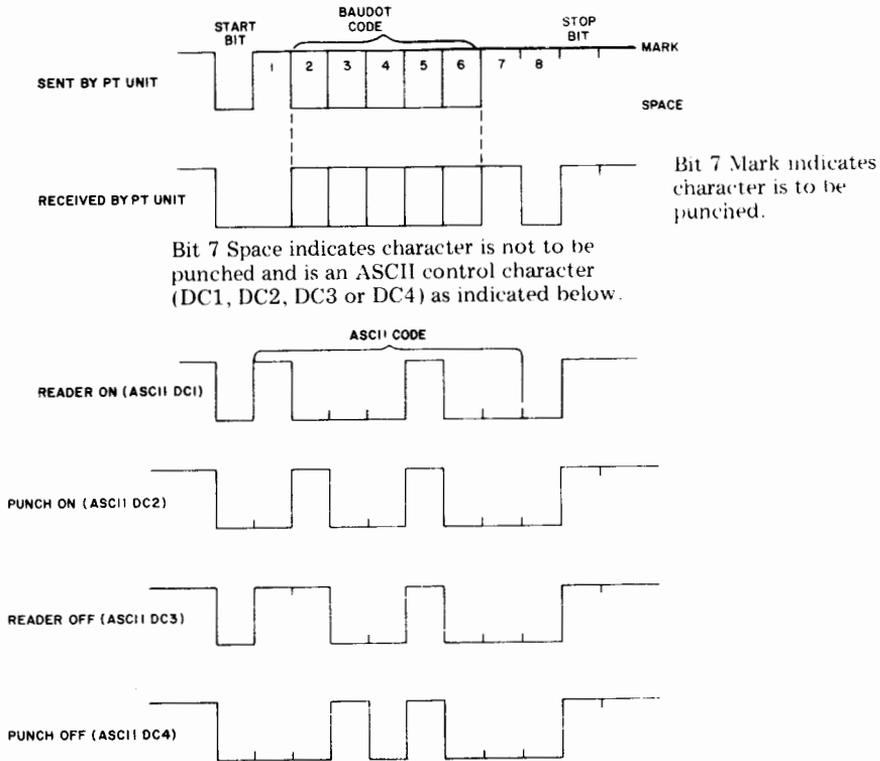


Fig. 1 — 43 Paper Tape Punch and Reader Unit

SECTION 574-504-100

2.07 The PTU operates as part of a set with a controller that signals across the interface is via a special 10 unit code (eight code bits, plus START-STOP) at 300 baud. The special 10 unit code configuration is described in the following table.

TABLE A
10 UNIT CODE



2.08 Paper tape for the PTU must be 11/16 inch wide oiled paper tape furnished in 8 inch maximum diameter rolls with 2 inch wide diameter spindle hole and must conform to ANSI Standard x 3:29 - 1971. This 0.004 inch thick, 50 pound paper tape may be obtained from local suppliers.

2.09 The PTU's physical characteristics are as follows:

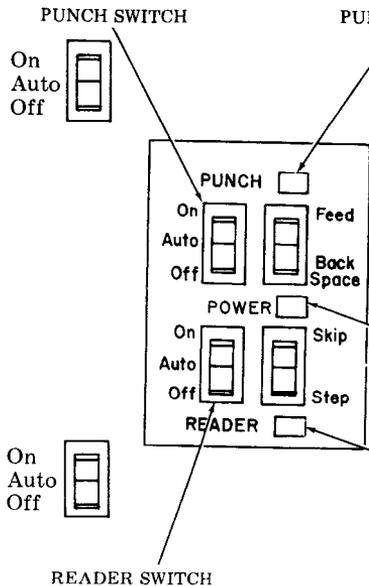
- Length - 27-1/2 inches
- Width - 7-1/4 inches
- Height (without tape roll) - 5-9/16 inches
- Weight (without tape roll) - 20 pounds
- The housing is gloss charcoal gray. The cover and bustle are off-white.

2.10 The Status Indicators and Associated Controls for the PTU are briefly described in Fig. 2.

INDICATORS
ASSOCIATED CONTROLS

Indicator turns ON, OFF or Blinks
Indicator turns ON, OFF or Blinks
Indicator OFF.

Indicator turns ON or Blinks
Indicator turns ON, OFF or Blinks
Indicator OFF or Blinks



INDICATORS

- Lights steadily indicating punch can perforate tape.
- Blinks indicating tape supply is low and punch may not be able to perforate tape.
- When not lit tape cannot be perforated.
- Lights steadily when Power to the PT Unit is turned on.
- Lights steadily when the reader is conditioned to read tape.
- Blinks indicating tape gate is opened, tape becomes tight or tangled, or runs out or fails to advance. (See Note.)
- When not lit reader cannot read tape.

Note: Operating READER switch to Off and opening tape reader lid, allowing tape out contact to rise, will reset blinking indicator, except for tight or tangled tape.

Fig. 2 -- Indicators

2.11 Controls

PUNCH OPERATIONAL CONTROLS

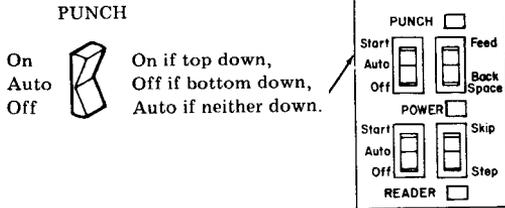


Fig. 3

● On

The punch functions as an extension of the associated printer. In the On position, the punch responds (perforates tape) to all data outputted by the associated teleprinter whether on-line or local.

● Auto

In the Auto position, the punch will automatically start upon receipt of the punch start code (CCCC or ::::). In the term on-line mode, the punch will start on receipt of the punch start code received from the keyboard, or the send buffer of the associated teleprinter or from the line, if the associated teleprinter is not in LOCAL PREP. If in LOCAL PREP (terminal on-line or off-line), the keyboard or reader can start the punch (punch start code).

If, while operating on-line, the punch receives a stop code (FFFF or \$\$\$\$) from the line, keyboard, reader, or send buffer, the punch will stop punching. If the associated teleprinter is operating in a local mode the punch will stop on receipt of a punch stop code from the keyboard or reader.

Note: The punch will not respond to these sequences when printed by the PRINT EDBUF key.

● Off

Operation to the Off position stops the punch if it is operating. Any data received while the switch is off will not be punched. Punch will not respond to punch start code.

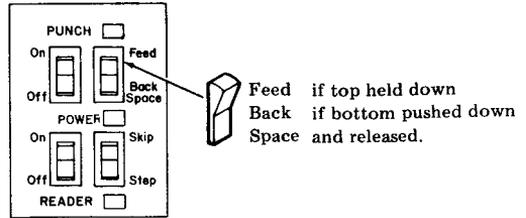


Fig. 4

● Feed

Operation to the Feed position causes the punch mechanism to continuously perforate only the sprocket hole and to advance the blank tape as long as the switch is held operated. This operation may be used to prepare "leaders" for separating messages in the tape, or for initiating tape feed when a new supply of tape is entered into the punch. Cannot be operated with punch in Auto position.

Note: Data may be lost if the switch is operated to feed while data is being received and punched.

● Back Space

Operation to the Back Space position causes the tape to be reverse fed one space position for each operation. No code holes are punched. More than ten successive operations are not recommended. Cannot be operated with punch in Auto position.

Note: The tape may be damaged and/or data lost if the switch is operated to Back Space while data is being received and punched.

READER OPERATIONAL CONTROLS

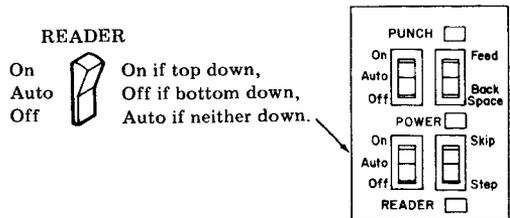


Fig. 5

● On

Operation to the On position causes the reader to continuously step and sense tape (provided tape has been properly placed in reader). When running, the reader will stop wherever and as long as a tight or tangled tape condition occurs, and will restart upon correction of the condition. It will stop completely if the tape lid is opened or the tape runs out or fails to advance. To restart, see Note below.

Note: Operate switch to the Off position before opening tape lid to correct condition.

Opening of the reader tape lid while transmission is temporarily interrupted may cause loss of characters so the tape should be backed up and restarted at the beginning, the tape lid should be closed and switch operated to the On position.

● Auto

In the Auto position, the reader will automatically start upon receipt of the reader start code (SSSS or """). In the term on-line mode, the reader will start on receipt of the reader start code received from the line or, if the associated teleprinter is in the send receive mode, from the keyboard.

If the associated teleprinter is in the local mode (terminal on-line or off line) the keyboard can start the reader (reader start code). The reader will transmit locally.

When running, the reader will stop on a tight tape or tangled tape condition and will restart upon removal of the condition. The reader will stop upon sensing the reader stop code (AAAA or - - -) in its tape. Up to six additional characters may be read after the reader stop code, therefore six blank characters should be placed on the tape following the reader stop code. The reader will also stop when tape runs out or tape lid is opened. If tape lid is opened while reader is running, loss of characters may occur.

● Off

Operation to the Off position stops the reader if it is operating, and prevents further response to control signals. Restarting is possible in the middle of a message, without loss of data, if the reader lid is not opened.

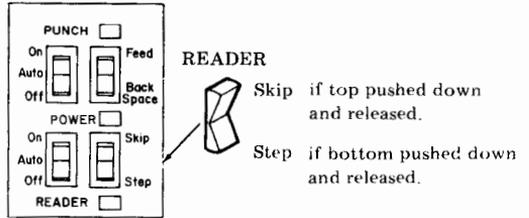


Fig. 6

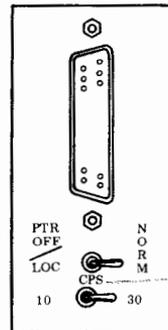
● Skip

With the reader control switch off, operation to the Skip position causes the tape to advance one character space, but the character will not be transmitted.

● Step

With the reader control switch off, operation to the Step position causes the reader feed mechanism to advance one character space, and if tape is present and has moved, causes the transmission of the character locally or on-line. No action will occur if the reader lid is open, no tape is present in the gate, or tight or tangled tape is present. If tape is in the reader but does not move, due to torn feed holes or improper insertion, the feed mechanism will operate once, but no character will be transmitted.

2.12 Auxiliary Controls (At Rear of Set)



CHAP. 2.12 PTR SEC.



Fig. 7

SECTION 574-504-100

- Controls the signaling speed in characters-per-second of the unit but is to be always positioned to the 30 CPS position. (For present application.)

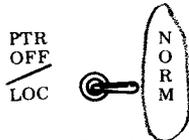


Fig. 8

- The "copy" switch located above the CPS switch can be operated to either the NORM position or to the PTR OFF/LOC position.
- When operated to the NORM position, data flow is always normal as shown:

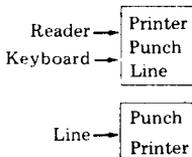


Fig. 9

- When operated to the PTR OFF/LOC position, one of the two following modes, depending on the installer option, is provided:

✓ Check One Provided	Option	Mode of Operation	Data Flow
	453a	Normal	Same as for Normal Above. *
	453c	Local	Reader → Punch Keyboard → Printer Line

*Factory Furnished State

Fig. 10

2.13 Connections and Power Turn On

- The ac power cord and cable to associated teleprinter auxiliary port should be connected as shown before turning on power.

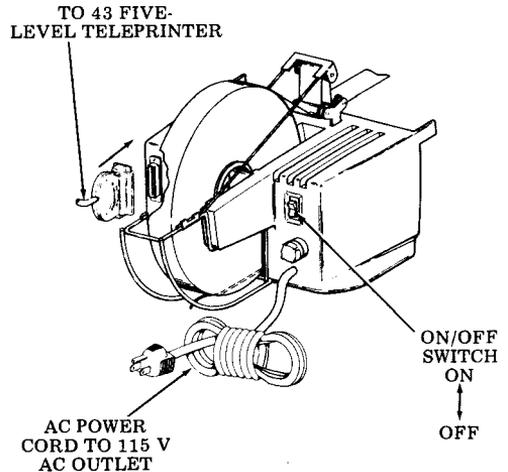


Fig. 11

- Power to the PTU is applied by depressing upper half of ON/OFF switch.
- Power should normally be left on for automatic punch and reader operation on sets so equipped.
- An Associated 43 Five-Level Buffered Teleprinter will revert to normal operation when the PTU power is turned off or the cable is disconnected.

3. REFERENCES

- 3.01 The 999-300-136, How To Operate Manual provides information for the 43 PTU used with a 43 Five-Level Buffered Selective Calling Teleprinter.