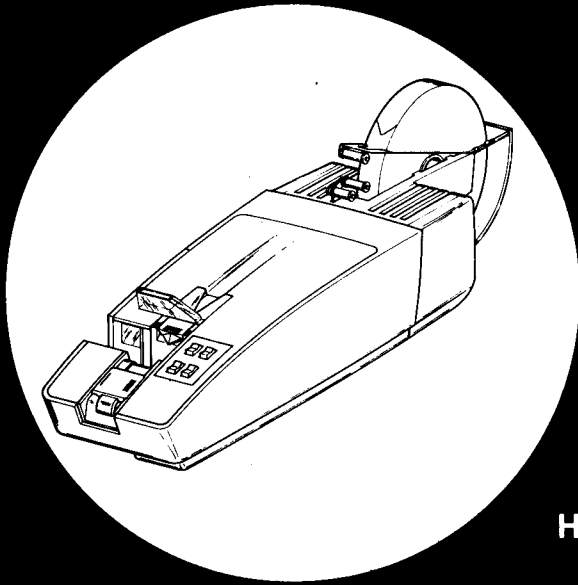




TELETYPE
CORPORATION



HOW TO OPERATE

the **42/43 Paper Tape Unit**

Paper Tape Punch and Reader
for ASR Teleprinter

“Warning: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. As temporarily permitted by regulation it has not been tested for compliance with the limits for Class A computing devices pursuant to Subpart J of Part 15 of the FCC Rules, which are designed to provide reasonable protection against such interference. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.”

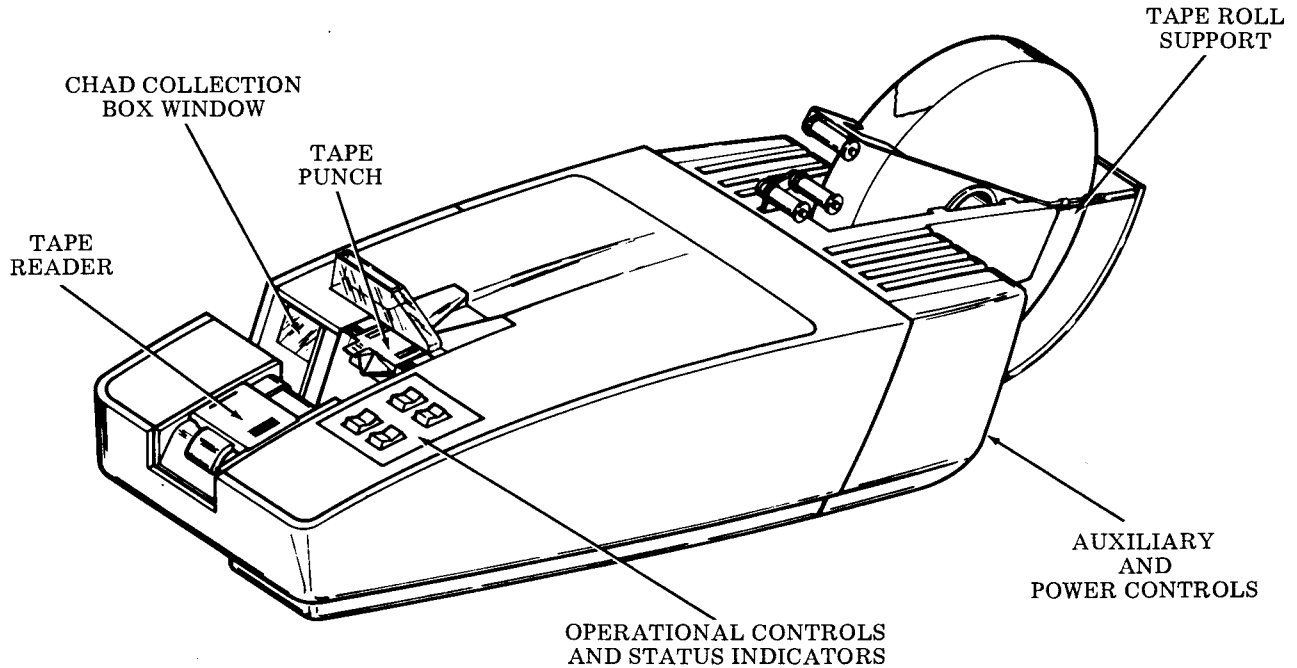
IL101

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Model 42 (5-level)/43 (8-level) Paper Tape Punch and Reader Unit

INTRODUCTION

The 42/43 Paper Tape (PT) punch and reader five-level unit or eight-level unit provides for the preparation, reception, permanent storage and transmission of data in the form of eight-level or five-level fully perforated tape. Five-level tape is 11/16 inches wide and eight-level is 1 inch wide.

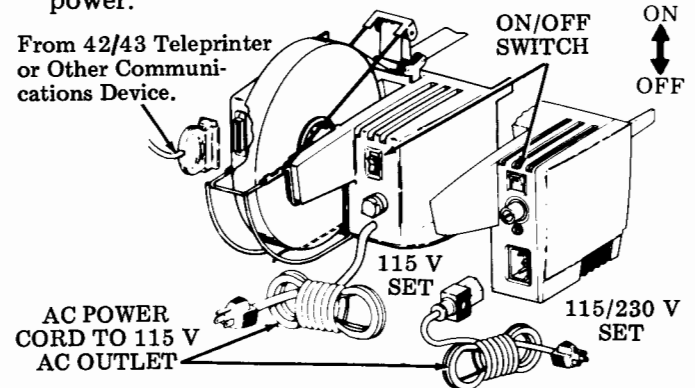
The PT unit may be located on a table top, shelf, or pedestal and attached to an associated 42 or 43 KSR Teleprinter (in an ASR arrangement), or it may be separately located up to 50 cable feet from the teleprinter.

The PT unit operates directly with the associated teleprinter or other communications device sending and receiving signals at 30 characters per second (CPS) (300 wpm) or 10 characters per second (CPS) (100 wpm). Speed is normally selected at the M43 keyboard. When other associated equipment does not supply a control signal the auxiliary switch on the back of the PT unit controls the speed. (See AUXILIARY CONTROLS.)

The chad resulting from punching approximately one-half roll of randomly punched tape will fill the small chad collection box associated with table top versions. The large box on pedestal versions will hold the chad from approximately one and one-half rolls of tape.

CONNECTIONS AND POWER TURN ON

- Make sure ac power cord and cable to associated Teleprinter Auxiliary Port or other communications device are connected as shown before turning on power.

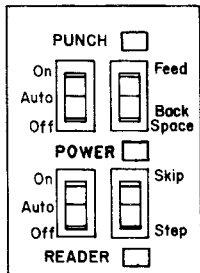


- Turn on power to PT unit by depressing upper half on ON/OFF switch.
- Power should normally be left on for automatic punch and reader operation on sets so equipped.
- A 42/43 Teleprinter ASR arrangement will revert to normal KSR operation when the PT unit power is turned off or the cable is disconnected.

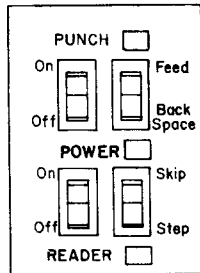
Note: Each time power is turned on the motor starts. It continues to run for a minimum of 30 seconds. If no data is sent or received during that interval, the motor will stop.

CONTROL PANEL ARRANGEMENTS

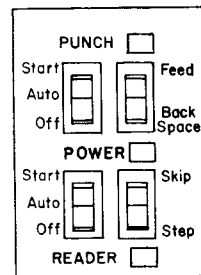
One of the arrangements shown below will be present on your PT unit. The purpose and operation of all controls and indicators is described on subsequent pages under INDICATORS — Page 3, TAPE HANDLING CONTROLS — Page 4, AUXILIARY CONTROLS — Page 5, PUNCH OPERATIONAL CONTROLS — Page 6, and READER OPERATIONAL CONTROLS — Page 9.



Manual & Automatic



Manual Only



Automatic Only
(Momentary Start)

Each time a control switch position is changed to other than off, including feed, backspace, step and skip, the motor starts. It continues to run for a minimum of 30 seconds if no data is sent or received during that interval.

INDICATORS

ASSOCIATED CONTROLS

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

PUNCH SWITCH

On
 Auto
 Off



Indicator turns ON, OFF or Blinks
 Indicator OFF

On
 Off



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

Start
 Auto
 Off



READER SWITCH

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

On
 Auto
 Off



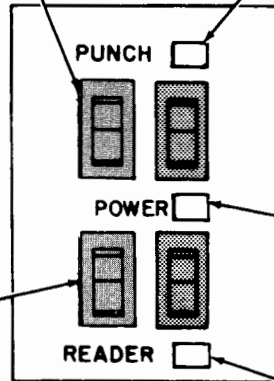
Indicator turns ON or Blinks
 Indicator OFF or Blinks

On
 Off



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

Start
 Auto
 Off

PUNCH INDICATOR

- 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.

POWER INDICATOR

- Lights steadily when power to the PT unit is turned on.

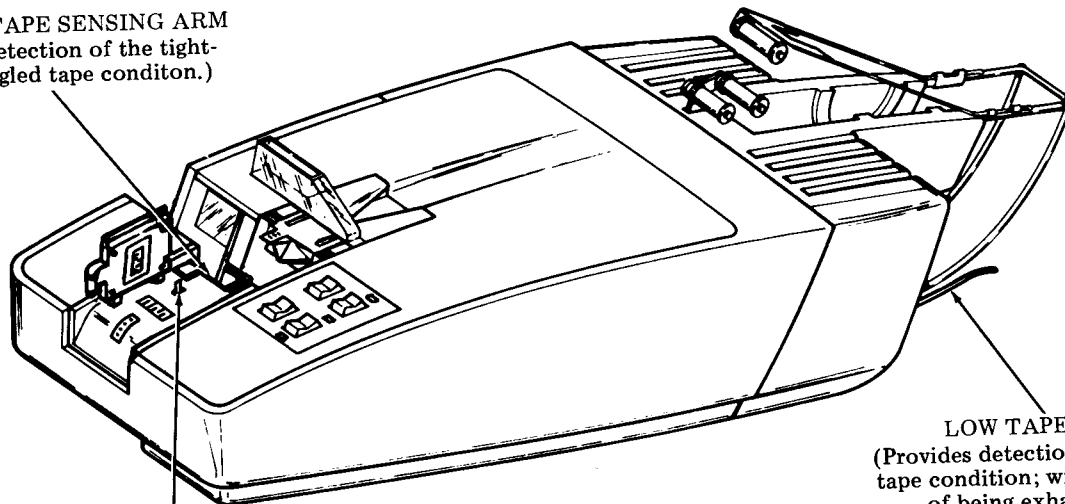
READER INDICATOR

- 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 condition.

TAPE HANDLING CONTROLS

READER TAPE SENSING ARM
(Provides detection of the tight-tape or tangled tape conditon.)



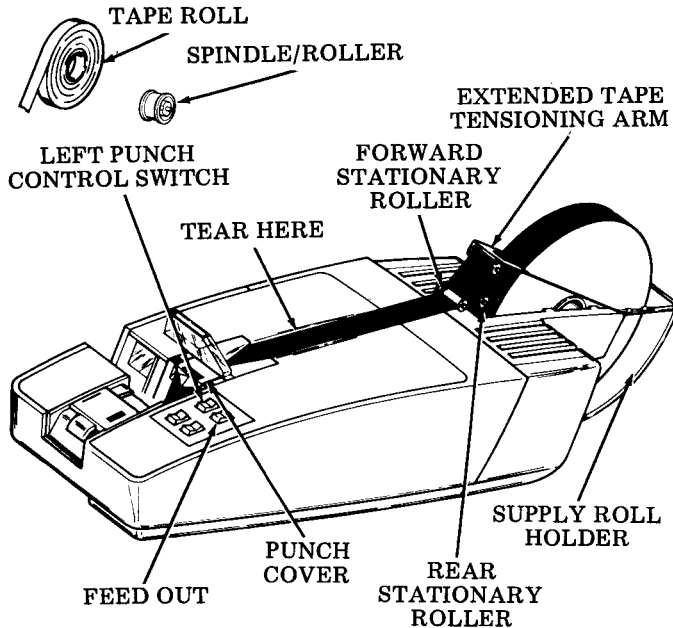
READER TAPE SENSING PIN
(Provides detection of the tape-out or open tape-lid condition.)

LOW TAPE ARM
(Provides detection of the low tape condition; within 25 feet of being exhausted.)

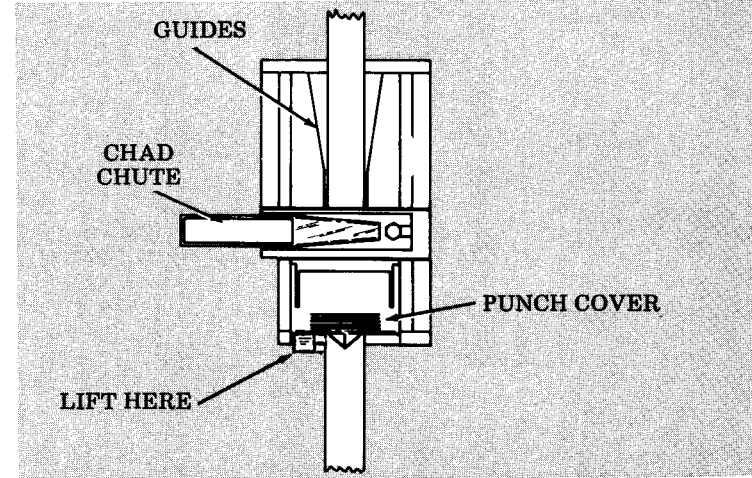
PUNCH TAPE REPLACEMENT

When the tape is low the PUNCH indicator will flash and some types of paper tape will change color.

- Operate left punch control switch to OFF position.
- Tear off old tape (if present) at entrance to punch.
- Feed out tape (if present) in punch by operating and holding right punch control switch to FEED position.

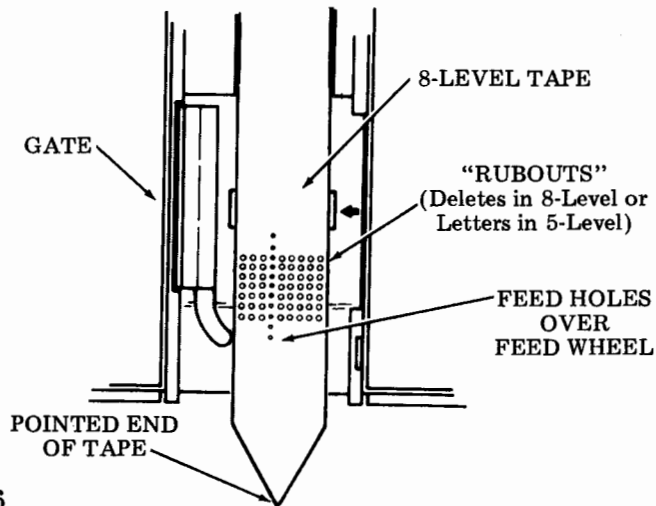
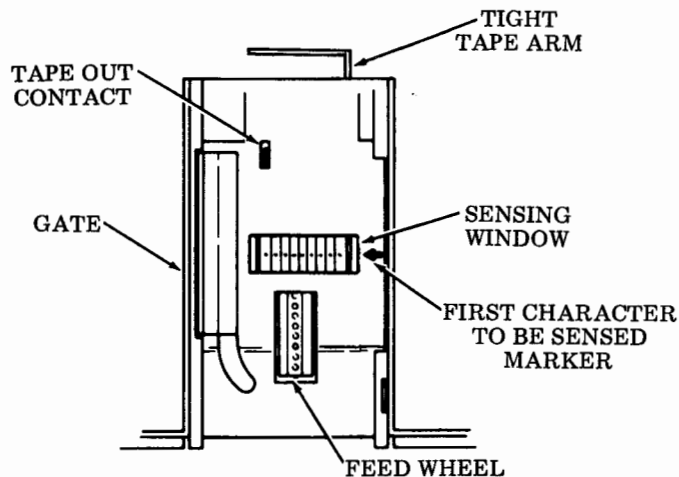


- Lift used roll out of supply roll holder. Remove but do not discard spindle from core of old roll.



- Insert tape roller in new roll of tape and place roll in holder so that tape feeds from top of roll toward the front of set.
- Insert tape under the rear stationary roller over the extended tape tensioning arm, and under the forward stationary roller.
- Lift up the front of the punch cover and push the paper tape between the guides and through the punch. Close the cover.
- For punch operation, go to punch operational controls.

PLACING TAPE IN TAPE READER



To place prepared message tape in the tape reader for transmission, proceed as follows:

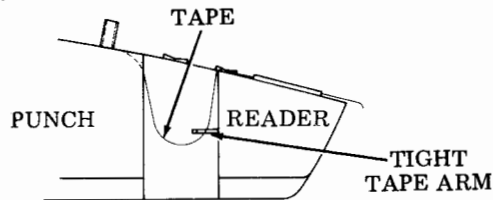
- Operate reader switch to off.
- Open tape gate by lifting up on right side.
- Hold tape so pointed end faces you and two large punches (5-level) or three large punches (8-level) are to the left of small feed holes.
- Place tape so that feed holes are over teeth of feed wheel, and so the tape leader (rubouts or blanks) or the first character of message is over sensing window.

Note: It is possible to insert the tape upside down and wrong end out. This would cause a completely garbled message.

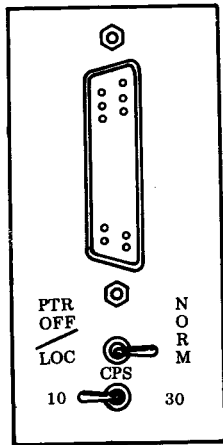
- Align tape and close gate. Make certain that tape is free to feed into gate without tangling. If tape is tight, transmission will not be possible.

Note: When feeding tape directly from punch to reader, tape must be routed under tight tape arm and enough slack must be left in tape to prevent lever from closing tight tape contact.

- For reader operations, go to reader operational controls.

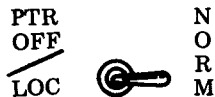


AUXILIARY CONTROLS (At Rear of Set)



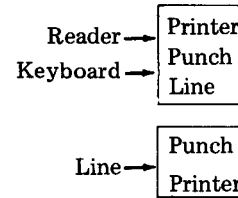
10  30

Controls the signalling speed in characters-per-second when the PT Unit is associated with other than a 43 KSR Teleprinter. When used with a 43 KSR Teleprinter, the switch should be left in the 30 CPS position and the 30/10 CPS key on the 43 Teleprinter keyboard provides the feature.



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:



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

Check One Provided	Option	Mode of Operation	Data Flow
	453a	Printer Off	Reader → Punch Line Keyboard → Punch Printer Line Line → Punch
	453b or 453c	Local	Reader → Punch Keyboard → Printer
	453d	Normal	Same as for normal above.

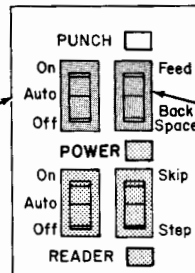
PUNCH OPERATIONAL CONTROLS

Manual and Automatic

PUNCH



On — if top down
Auto — if neither down
Off — if bottom down



PUNCH



Feed — if top held down
Back — if bottom pushed down
Space & released

On

Operation to the ON position causes the punch to respond to all received signals by perforating the tape according to the data.

Auto

Operation to the AUTO position places the punch under control of received line signals, responding to a DC2 which causes punch turn-on, and a DC4 that turns it off. If punch on is manually selected first, the punch will immediately begin to operate, and will continue until DC4 is received or the switch is operated to off.

Note: If previously off, the punch will not perforate the DC2 character. It will perforate the DC4 character before going off.

Off

Operation to the OFF position stops the punch, if it is operating. Any data received while the switch is off will be lost.

Feed

With the punch control switch in the ON or OFF position, 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.

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

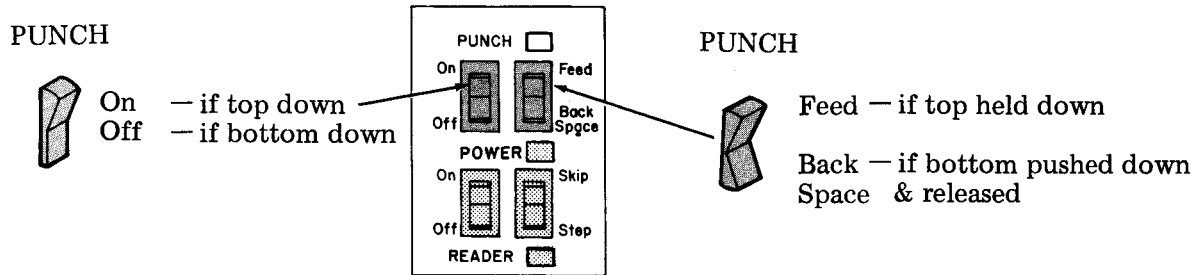
Back Space

With the punch control switch in the ON or OFF position, 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.

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.

PUNCH OPERATIONAL CONTROL (Cont)

Manual Only



On

Operation to the ON position causes the punch to respond to all received signals by perforating the tape according to the data.

Off

Operation to the OFF position stops the punch, if it is operating. Any data received while the switch is off will be lost.

Feed

With the punch control switch in the ON or OFF position, 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.

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

Back Space

With the punch control switch in the ON or OFF position, 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.

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.

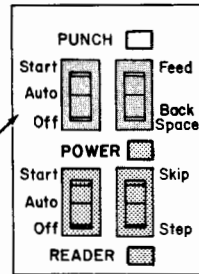
PUNCH OPERATIONAL CONTROLS (Cont)

Automatic Only (Momentary Start)

PUNCH



Start — if top pushed down and released
Auto — if neither down
Off — if bottom down



PUNCH



Feed — if top held down

Back — if bottom pushed down Space & released

Start

Operation to the START position causes the punch to respond to all received signals and perforate the tape according to the data, even though the switch has been released and gone back to the center AUTO position. This is the same as receiving a DC2 in AUTO.

Auto

Operation to the AUTO position places the punch under control of received line signals, responding to a DC2 which causes punch turn on, and a DC4 that turns it off. If punch ON is manually selected first, the punch will immediately begin to operate, and will continue until DC4 is received or the switch is operated to off.

Note: If previously off, the punch will not perforate the DC2 character. It will perforate the DC4 character before going off.

Off

Operation to the OFF position stops the punch, if it is operating. Any data received while the switch is off will be lost.

Feed

With the punch control switch in the ON or OFF position, 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.

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

Back Space

With the punch control switch in the ON or OFF position, 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.

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.

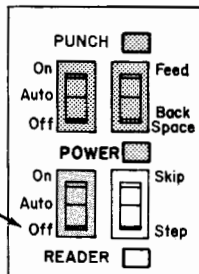
READER OPERATIONAL CONTROLS

Manual and Automatic

READER



On — if top down
Auto — if neither down
Off — if bottom down



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

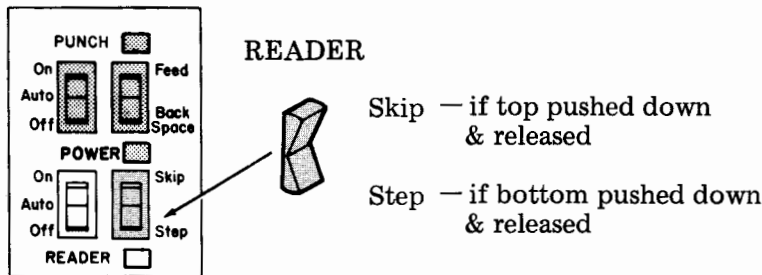
Operation to the AUTO position places the reader under control of received line signals, responding to a DC1 which causes reader turn on, and a DC3, ENQ or EOT that turns it off. The DC3, ENQ or EOT may be in the tape being sensed by the reader, if sent signals are being returned to the received data input. Two additional characters will be sent following the stopping character before the detection and stopping can occur. These should be preplanned "fill" or "trailer" characters.

If reader on is detected first, the reader will start immediately and then stop on DC3, ENQ, or EOT. 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. Opening the tape lid and correction of the condition and a restart are needed to cause reader turn on.

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 gate is not opened.

Manual and Automatic



Skip

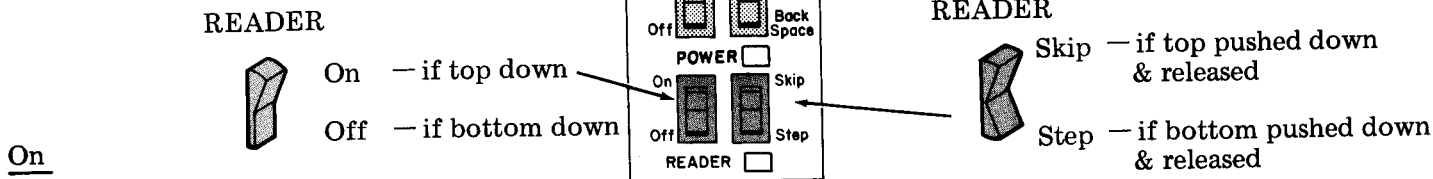
Operation to the SKIP position with the reader control switch off, causes the tape to advance one character space, but the character will not be transmitted.

Step

Operation to the STEP position with the reader control switch off, causes the reader feed mechanism to advance one character space. If tape is present and has moved, the character in the gate will be transmitted. No action will occur if the reader gate is open, no tape is present in the gate, or tight or tangled tape is present. If tape is in the gate but does not move, due to torn feed holes or improper insertion, the feed mechanism will operate once, but no character will be transmitted.

READER OPERATIONAL CONTROLS (Cont)

Manual Only



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.

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 gate is not opened.

Skip

Operation to the SKIP position with the reader control switch off, causes the tape to advance one character space, but the character will not be transmitted.

Step

Operation to the STEP position with the reader control switch off, causes the reader feed mechanism to advance one character space. If tape is present and has moved, the character in the gate will be transmitted. No action will occur if the reader gate is open, no tape is present in the gate, or tight or tangled tape is present. If tape is in the gate but does not move, due to torn feed holes or improper insertion, the feed mechanism will operate once, but no character will be transmitted.

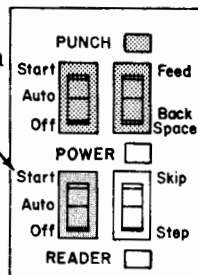
READER OPERATIONAL CONTROL (Cont)

Automatic Only (Momentary Start)

READER



Start — if top pushed down
& released
Auto — if neither down
Off — if bottom down



If reader on is detected first, the reader will start immediately and then stop on DC3, ENQ, or EOT. 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. Opening the tape lid and correction of the condition and a restart is needed to cause reader turn on.

Start

Momentary operation to the START position causes the reader to start immediately, stepping and sensing tape placed in the reader gate even though the switch has been released and gone back to the center AUTO position. This is the same as receiving a DC1 in Auto.

Auto

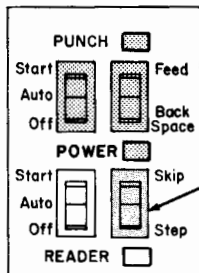
Operation to the AUTO position places the reader under control of received line signals, responding to a DC1 which causes reader turn on, and a DC3, ENQ or EOT that turns it off. The DC3, ENQ or EOT may be in the tape being sensed by the reader, if sent signals are being returned to the received data input. Two additional characters will be sent following the stopping character before the detection and stopping can occur. These should be preplanned "fill" or "trailer" characters.

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 gate is not opened.

READER OPERATIONAL CONTROLS

Automatic Only (Momentary Start)



READER

Skip — if top pushed down
& released

Step — if bottom pushed down
& released

Skip

Operation to the SKIP position with the reader control switch off, causes the tape to advance one character space, but the character will not be transmitted.

Step

Operation to the STEP position with the reader control switch off, causes the reader feed mechanism to advance one character space. If tape is present and has moved, the character in the gate will be transmitted. No action will occur if the reader gate is open, no tape is present in the gate, or tight or tangled tape is present. If tape is in the gate but does not move, due to torn feed holes or improper insertion, the feed mechanism will operate once, but no character will be transmitted.

SUPPLIES MAINTENANCE

It is your responsibility to keep the PT Unit equipped with sufficient paper tape. In addition an adequate supply should be ordered and kept in storage.

Paper Tape

Paper tape for the PT Unit must be 1 inch wide (8-level) or 11/16-inch wide (5-level) oiled paper tape furnished in 8 inch maximum diameter rolls with 2 inch diameter spindle hole and must conform to ANSI Standard X3.29 — 1971. This 0.004 inch thick, 50 pound basic paper tape may be obtained from suppliers listed below or other suppliers:

Eastern Specialties Co.
287 Northfield Road
P.O. Box 181
Northfield, Ill. 60093
Phone 312-446-8780

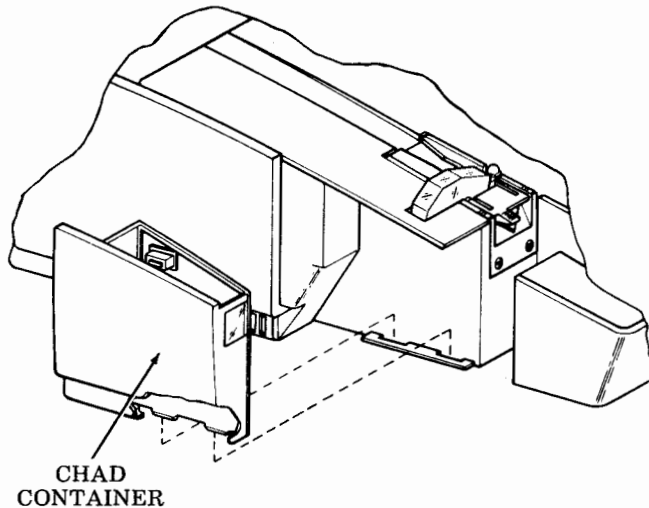
Catalog No. 5-level — 14001
8-level — 14071

Moore Business Forms
36 S. Wabash Ave.
Chicago, Ill. 60603
Phone 312-346-4214

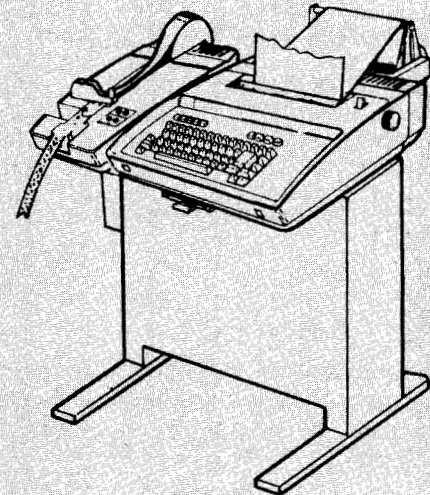
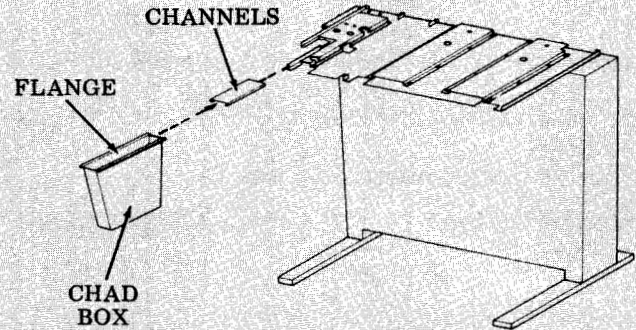
Catalog No. 5-level — 60016
8-level — 60046

CHAD CONTAINER REMOVAL

- A plastic chad container is located under and to the left of the punch. It catches the chad (paper particles) punched out of the tape as the message tape is prepared.
- Periodically, remove the chad container by pulling the top of the container to the left and lifting up. Empty out the chad and replace the container. The tabs on the bottom of the container fit into the slots of the cabinet.



On pedestal versions slide the chad container forward until it clears the channels of the pedestal. To replace the chad container, insert the flanges into the pedestal channels and slide fully rearward.



SET OPERATION

To Prepare Punched Tape:

On (Start)
(Auto)
Off

PUNCH



- Operate switch to ON or START position.
- Enter at least 10 DELETE or BLANK CHARACTERS.
- Enter desired message or data.
- Enter at least 10 DELETE or BLANK CHARACTERS.

On (Start)
(Auto)
Off

PUNCH



- Operate switch to OFF position.
- Tear the tape from the punch — pull straight up to create a “ V ”. This will prevent confusion as to which end of the tape goes into the tape reader first.

To Delete an Error in Message Tape:

PUNCH

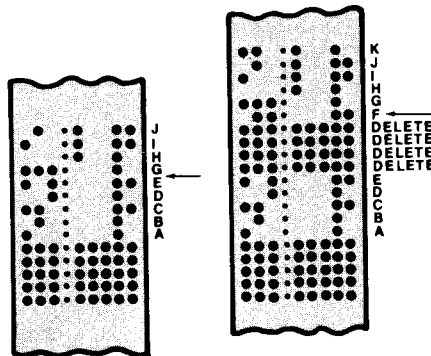


Feed

Back Space

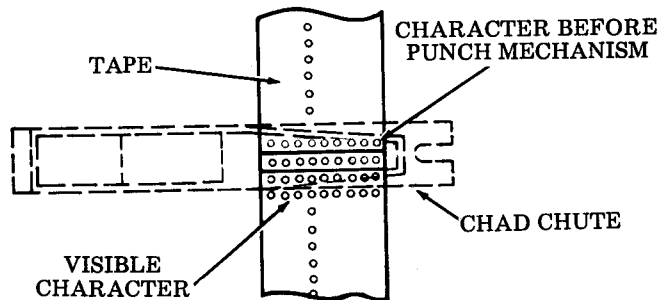
- Operate switch to BACKSPACE repetitively until the errored code is one character before the punch mechanism (3 characters positions from visible character).

- Enter DELETE characters to erase the errored code and any other code(s) following.
- Reenter the correct character and erased code(s).
- Proceed with tape preparation.



Error made by omitting F in this sequence.

Tape corrected by erasing G, H, I, J, with DELETE re-entering F, etc.



To Change Data Previously Prepared:

PUNCH

On (Start)
(Auto)
Off



- Operate switch to ON or START position.

READER

On (Start)
(Auto)
Off



- Operate switch to OFF position.
- Insert beginning of previously prepared punched tape into tape reader.

READER

On (Start)
(Auto)
Off



- Operate switch to ON or START position.

READER

On (Start)
(Auto)
Off



- Operate switch to OFF position several characters before data to be changed is sensed by reader.

READER

Skip



Step

- Operate switch to STEP repetitively until character ahead of data to be changed is sensed by reader.

- To remove an unwanted character or sequence of characters:

READER

Skip



Step

- ▲ Operate switch to SKIP once for each character to be removed.

- To add a missing character or sequence of characters:

Enter missing character or sequence.

- To replace one character or sequence of characters with another.

READER

Skip



Step

- ▲ Operate switch to SKIP once for each character to be replaced.

- ▲ Enter replacement character or sequence of characters.

WHEN TROUBLE OCCURS

Trouble that is encountered with the PT Unit should be reported as locally specified.

If PT Unit is Turned on But Not Operating

- Make certain that plug on power cord is properly seated in power outlet.
- Check power supply option (115/220 V Sets).
- Check source of power (wall switch, other equipment ok, circuit breaker, etc.)
- Report as local trouble in equipment.

Tape Reader Troubles

If tape reader does not operate properly, check for the following conditions:

- Is tape properly threaded into reader according to instructions?
- Is tape tangled or snagged preventing free entry into reader?
- Is tape torn, wrinkled, or of incorrect width?
- Report as local trouble in tape reader.

Tape Punch Troubles

If tape punch does not operate properly, check for the following conditions:

- Is the chad box completely filled so that chad cannot leave chad chute?
- Is tape piled up and jammed at tape punch exit?
- Is tape feeding properly into punch guides without getting jammed at entry point?
- Is tape routed properly through tape supply rollers?
- Has the roller been left out of the tape supply roll causing roll to drag or bind?
- Report as local trouble in tape punch.



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