"DATASPEED*" TAPE-TO-TAPE SYSTEM

TAPE RECEIVER 5B

INSTALLATION AND CHECKOUT

CONTENTS PAGE

1. GENERAL

1.01 This section provides the installation and checkout procedure for the DATA-SPEED 5B, 5B-1, 5B-2, and 5B-3 Tape Receivers. It is reissued to add information on unpacking, send-receive terminal installation, and unit options. No TCNs have been issued for or added to this section, since its last issue. Since there are many changes, marginal arrows ordinarily used to indicate changes and additions are omitted. This section was formerly 592-808-200.

1.02 Description, troubleshooting, adjustments, and lubrication, as well as information on apparatus unit options, can be found in the appropriate sections.

1.03 The 5B-1, 5B-2, and 5B-3 Receiver Terminals differ from the 5B Receiver in that they have the following apparatus unit options.

The 5B-1 has a TP199784 identifier.

The 5B-2 has a TP199788 unattended send-receive unit.

The 5B-3 has a TP199788 unattended send-receive unit and a TP199784 identifier.

1.04 Tables A, B, and C indicate the various types of operation available with the receiver as well as providing information on equipment required, wiring options, and strapping plugs. The 5A-1 and 5C-1 Senders of Table C are the same as the basic 5A and 5C Senders except that they have a TP198002 recognizer apparatus unit option. Figure 1 provides interconnecting information.

2. INSTALLATION

LOCATION

2.01 In choosing a site for the tape receiver terminal, consider the following:

(a) The cabinet is 16 inches wide, 24-3/8 inches deep, and 54-1/4 inches high. Sufficient space should be provided at the front of the cabinet to permit the door covering the lower half of the cabinet to be swung open. Allow 3 inches ventilation and access space at the rear of the cabinet. The receiver set weighs 196 pounds.

(b) The cabinet should be placed near a 3-wire grounding, 120 volt ac (±10%) receptacle. The receptacle should be separately fused to preclude unnecessary interruptions in service, and must be capable of supplying a peak current of 10 amps.

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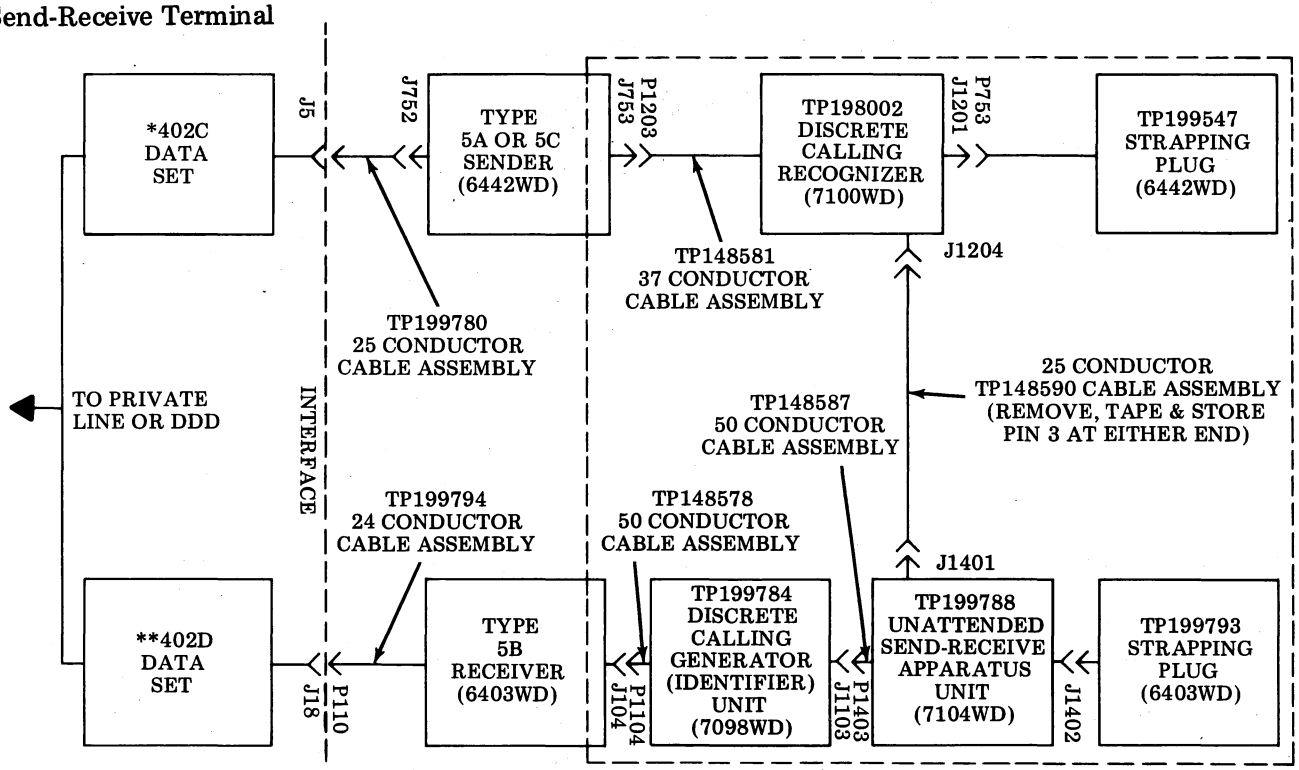
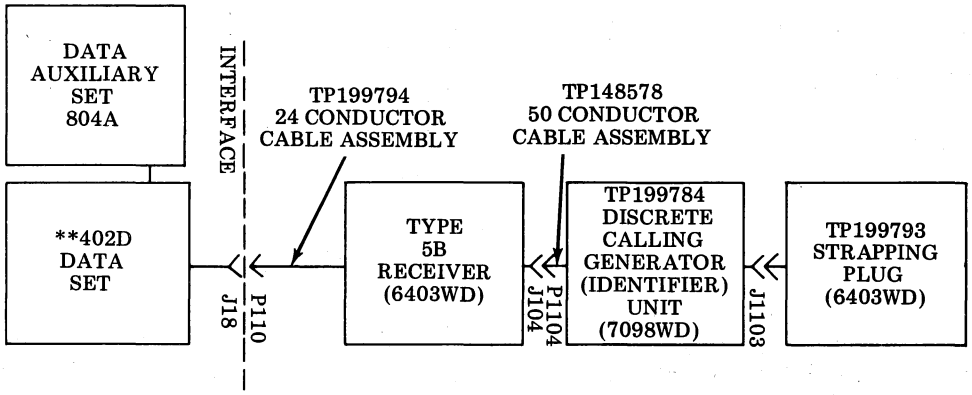
Send-Receive Terminal



Receive-Only Terminal



LEGEND:

J = Connector attached to equipment.
P = Strapping plug or connector attached to a cable.
→⟩— Represents multiple connector in above drawing.
— — — Area pertinent to the TP199788 unattended send-receive option unit is outlined by the broken line. The identifier (TP199784) may be omitted with P1403 connected to J104.
* 402C1 - Without reverse channel receiver.
402C2 - With reverse channel receiver.
** 402D1 - Without reverse channel transmitter.
402D2 - With reverse channel transmitter.

Figure 1 - Receive Terminal Interconnecting Diagram

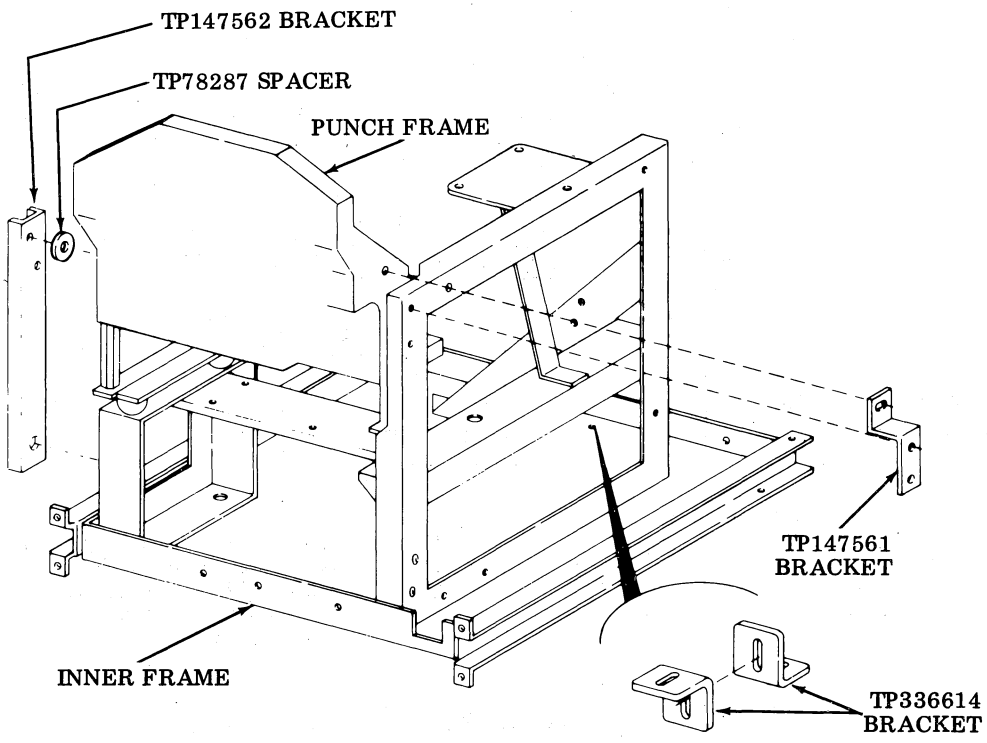


Figure 2 - 5B Tape Receiver Shipping Fastenings

UNPACKING INFORMATION

2.02 The receiver terminal is packed in a reinforced cardboard box. To uncrate the terminal, remove the front and rear wood cleats which are nailed to the top of the skid. Detach the cover panel from the box by removing the nails at the top, bottom, and two sides. The nails that fasten the side and rear panels at the bottom can now be removed. Carefully lift the box assembly from the base and remove it from the cabinet.

2.03 Remove the three screws from the rear, top, and bottom of the module trays that secure the electronic modules. Remove the cardboard box from the auxiliary data set shelf, open along the sealed edges at top, remove the two plastic tape reels, and install on the front panel.

2.04 With captive screw loosened, remove the rear panel from the cabinet. Disassemble and remove the two TP336614 immobilizing brackets and all hardware that secure the inner frame to the cross rail at the rear of the cabinet (Figure 2). Slide the inner frame assembly forward. The TP147562 immobilizing bracket and TP78287 spacer that secure the punch to the left side of the inner frame, and the TP147561 immobilizing bracket at the right side of the punch are now removed. Remove the shipping tape from the punch cover and tape sensing arm.

INSTALLING DATA SET

A. Receive-Only Station

2.05 A shelf located near the center of the cabinet accommodates the 804A Data Auxiliary Set. The companion 402D Data Set is to be mounted at the bottom of the cabinet. The installation procedure is given in the paragraphs following. Refer also to Table C and Figure 3 or the cabling diagram 6448WD (schematic and actual Wiring Diagrams section), and to the instruction material supplied with the data set.

(1) Place the unit in an area allowing clear access to the front and rear. Remove the rear panel if not already removed.

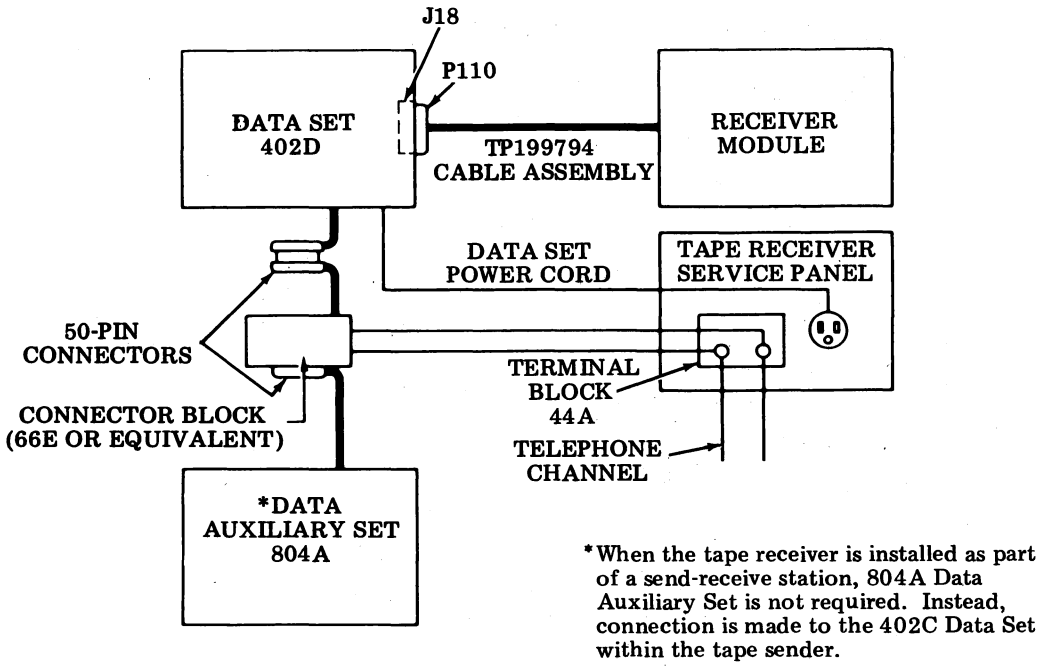


Figure 3 - Data Set Connections (Receive Only)

(2) Open the cabinet door by pulling on the upper left-hand corner and pull the receiver module forward as far as it will go. Lift the front of the module to clear the cabinet stop, remove the module and place it on the floor. It is not necessary to disconnect the cables. Similarly remove the accessories mounting frame.

(3) Loosen the four captive screws which secure the shelf at the bottom of the cabinet, and remove the shelf.

(4) Place the data set in the bottom of the cabinet. Tilt the 402D Data Set slightly and make connections between the data set, electrical service panel, and receiver module. Replace the bottom shelf, the receiver module, and the accessories frame.

(5) Mount a 44A telephone terminal block backboard and terminal board on the electrical service panel at the rear of the cabinet, if required (Figure 4). Two mounting holes on the left side of the cabinet (looking from the rear) are provided. (Refer to the data set instruction material for the type of terminal block required.)

(6) Remove the three screws that secure the panel at the center of the cabinet, remove the panel and place the 804A Data Auxiliary Set on the shelf provided. Replace the panel and the three screws.

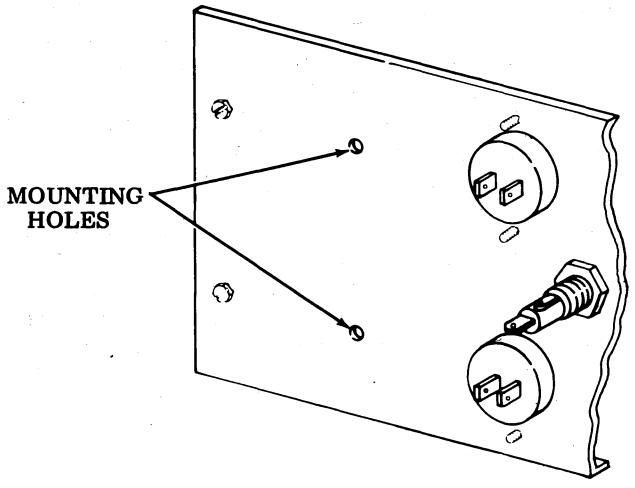


Figure 4 - 44A Terminal Block Mounting Holes

(7) Make connections between the data set, data auxiliary set, and telephone terminal block and connector block as shown in Figure 3. Refer to the instruction material supplied with the data set when choosing or wiring the connector block.

(8) Connect the auxiliary signal and its power source. Replace rear cabinet cover and connect the power cord to the ac outlet.

B. Send-Receive Station

2.06 When installing a tape receiver as part of a send-receive station (ie, a sender and receiver at the same site sharing a common telephone line) the 804A Data Auxiliary Set is not required. An optional TP199633 blank panel is available to replace the two panels (TP149782 control panel and TP149783 cover panel) which normally mount the data auxiliary set (Figure 5).

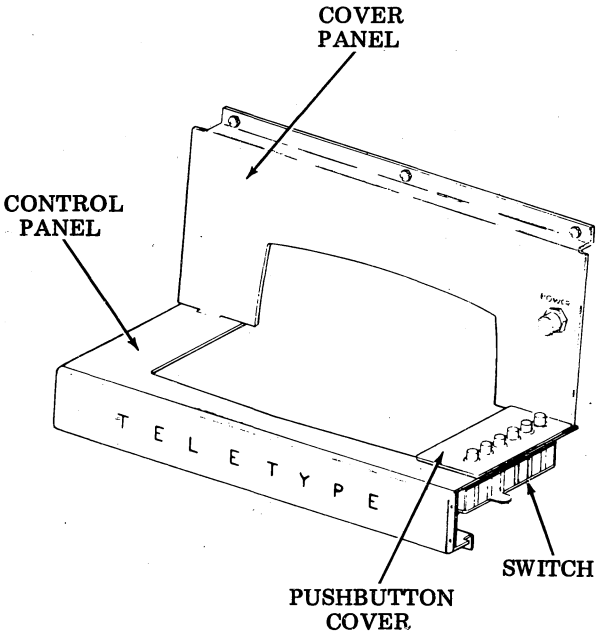


Figure 5 - Cover and Control Panels

2.07 To install the TP199633 panel, first be certain the ac outlet is unplugged. Remove all four TP98612 screws holding the TP149728 pushbutton cover to the TP149782 control panel. Remove the two TP98612 screws that hold the pushbutton cover to the switch. Remove all six TP107634 screws that mount the two panels; leave the six speed nuts in place. Remove the power switch from cover panel. Remove the six TP153017 screws holding the nameplate. Remount the nameplate, the switch cover, the 6-button switch, and the power switch to the TP199633 panel. Fit panel into place and secure with its six screws.

2.08 When a tape receiver is installed as part of a send-receive station, 804A Data Auxiliary Set is not required. Instead, a connection is made to the 402C Data Set within the tape sender. Figure 1 reflects wiring changes for a send-receive station installation.

OPTIONS (Tables A, B, and C)

2.09 Early design 5B Receivers are wired for 8-level operation. These receivers require the addition of straps for 5-, 6- or 7-level operation. Late design receivers have three switches on the front panel to select or omit levels numbered 8, 7, and 1 (from left to right) respectively. Add straps or position switches for the various levels as indicated below.

(a) 8-Level — No straps or all switches positioned in PUNCH LEVEL SELECTION position.

(b) 7-Level — Add strap between pins 1 and 24 on XZ111 (see 6403WD and 6404WD in Wiring Diagram section) or position 8-level switch down to OMIT position.

(c) 6-Level — Add straps between pins 1 and 24 on XZ111 and on XZ110 or position 8- and 7-level switches down to OMIT positions (6403WD and 6404WD).

(d) 5-Level — Add straps between pins 1 and 24 on XZ111, XZ110 and XZ104 or position level switches 8, 7, and 1 down to OMIT positions (6403WD and 6404WD).

2.10 Locate the accessory strapping plug connected to J104 on the receiver module. Withdraw the plug and remove the plug cover. If the station is <u>not</u> to be used on a receive-only rotary hunting line, grasp pin 23 of the plug with a long-nose pliers and pull it out of the connector body. Tape the bare pin. Similarly pull out, and tape pin 15 if automatic answering is to be permanently disabled. Replace the accessory plug.

2.11 A set of contacts is provided on the receiver module (TB104) which can be connected to an external signaling device to advise the operator of an incoming call.

2.12 For installation and checkout of the TP199784 discrete calling generator, refer to Section 582-102-121.

2.13 For installation and checkout of the TP199788 unattended send-receive apparatus unit, refer to Section 582-102-122.

3. CHECKOUT

PRELIMINARY INSPECTION

Note: The following tests do not require operation of the equipment on line.

3.01 Connect the receiver power cord to the ac outlet. Press the power switch to turn the power on. The power switch should be illuminated and should flash on and off, indicating a low-tape condition.

3.02 Load and thread tape through the punch as explained in Section 582-102-120. The power switch should now be continously illuminated.

3.03 Press the BLANKS FEED OUT button and observe that the tape is fed out unperforated (except for feed holes). Press the LETTERS FEED OUT button and observe that the tape is perforated at all levels.

3.04 Check the perforation spacing with a tape gauge. Perforations should be spaced correctly and form a straight line parallel to the edges of the tape. (Refer to Section 582-101-705 on DRPE type "High Speed Tape Punch Units — Adjustments."

3.05 Remove the tape supply spool if necessary, to allow the tape sensing arm to drop. Observe that the LOW TAPE lamp lights as the arm swings toward the hub. The LOW TAPE switch is factory adjusted to indicate a low-tape condition when the tape supply drops below about 150 feet. The switch may be readily adjusted (refer to related adjustments, lubrication, and disassembly section) to suit the requirements of the customer.

SIGNAL LINE HOOKUP

3.06 Make connection between the data set and telephone line in accordance with the instructions supplied with the data set. The terminal board mounted on the electrical service panel at the rear of receiver (2.05) is provided expressly for this purpose. Perform whatever tests are called for in the data set literature.

TEST CENTER TESTS

3.07 Make use of the system test centers (where available) to test the system on-line.

FINAL TESTING

3.08 Test the customer's data transmission network to insure that the receiver can receive properly from all senders on the network.

TABLE A

SERVICE ARRANGEMENTS

The following table summarizes the apparatus required for various types of service arrangements. The use of suffixes in the coding scheme permits initial ordering of the arrangements needed. The addition of apparatus unit options to existing standard equipments can provide the same arrangements.

SERVICE	SENDER APPARATUS STATION 1	RECEIVER APPARATUS STATION 2
Attended at both stations	5A or 5C Sender data set 402C or 402A	5B Receiver data set 402D and data auxiliary set 804A
Sender attended Receiver unattended	5A or 5C Sender data set 402C or 402A	5B Receiver - use auto answer feature in data set 402D and data auxiliary set 804A
Sender unattended Receiver attended	5A-1 or 5C-1 Sender - use auto answer feature in data set 402C	5B-1 Receiver data set 402D and data auxiliary set 804A
Unattended send-receive stations	5A-1 or 5C-1 Sender - use auto answer feature in data set 402C	5B-2 Receiver - use auto answer and send-receive features in data set 402D
Unattended send-receive stations Receiver in manual condition and capable of calling unattended Sender	5A-1 or 5C-1 Sender - use auto answer feature in data set 402C	5B-3 Receiver - use auto answer and send-receive features in data set 402D

For the table-mounted sender, the TP198002 recognizer option for discrete calling and unattended service mounts beside the other apparatus units in the wall mounted apparatus box. For the floor mounted Sender, this unattended service apparatus unit option is mounted in a space provided in the equipment cabinet.

Unattended Send/Receive Station

This station consists of a Sender arranged for unattended service and a Receiver containing an unattended send/receive apparatus unit option (TP199788). The send/receive station will automatically arrange itself to send or receive as appropriate to the type of calling station. A send/receive station used in placing a call can be manually switched to function as a sender or as a receiver; and a remote unattended send/receive station will follow these switching operations.

Note: Refer to text paragraphs covering options.

TABLE B

RECEIVER ONLY TERMINAL

TYPE OF OPERATION		EQUIPMENT REQUIRED	WIRING OPTIONS REQUIRED	STRAPPING PLUG AND LOCATION
1.	Manual service	5B Receiver	None (Standard factory wiring)	TP199793 in 5B Receiver J104
2.	Unattended service	5B Receiver	None	TP199793 in 5B Receiver J104
3.	Manual service capable of calling an unattended Sender	5B-1 Receiver (TP199784 identifier included)	None	TP199793 in TP199784 identifier J1103
4.	Unattended service with an out-of-service feature when low tape condition exists	5B Receiver	In TP199793 strapping plug, remove ZA wiring: Remove and tape either pin 23 or pin 39.	TP199793 in 5B Receiver J104
5.	Manual service with automatic answering permanently disabled	5B Receiver	In TP199793 strapping plug, remove ZB wiring: Remove and tape either pin 15 or pin 28.	TP199793 in 5B Receiver J104
Equipment Descriptions 5B Floor mounted Receiver without options			5B-1 Floor mounted Receiver with TP199784 identifier apparatus unit option	

Note: Refer to the text paragraphs covering options.

TABLE C

UNATTENDED SEND-RECEIVE TERMINAL

ADDITIONAL TYPES OF OPERATION		EQUIPMENT REQUIRED	WIRING OPTIONS	STRAPPING PLUG AND LOCATION
PERTAINING ONLY TO UNATTENDED SEND-RECEIVE TERMINAL.			Note: Always remove and tape pin 3 at one end of cable between unattended send-receive and recognizer.	
1.	Unattended send-receive service using all 3 answer-backs; to indicate no tape, low tape and both (Answer-backs: A = low tape in Receiver. B = no tape in Sender. AB = both conditions). Station will answer automatically with a low tape-no tape condition.	5A-1 or 5C-1 Sender	In recognizer: remove SO wiring: On connector card pin H, remove and tape wire to 1U of K1202-U relay.	TP199547 in TP198002 recognizer J1201
		5B-2 Receiver	In unattended send-receive unit, remove R wiring: (retain ZC-ZD wiring) remove and tape one end of jumper between 9 and 9M on K1405-U relay.	TP199793 in TP199788 unattended send-receive unit J1402
2.	Unattended send-receive service using 2 answer-backs (A or B) to indicate low tape in Receiver or no tape in Sender. Station will not answer automatically with a low tape-no tape condition.	5A-1 or 5C-1 Sender	In recognizer: Remove ZC wiring; remove, twist together and tape two wires on 12M of K1203 relay and remove and tape wire on 3B of 1201-L relay. Remove SO wiring (same as 1 sender above)	TP199547 in TP198002 unit J1201
		5-B2 Receiver	In unattended send-receive unit: Remove R wiring (same as 1 receiver above)	TP199793 in unattended send-receive unit J1402
3.	Unattended send-receive service using answer-back A to indicate low tape in the Receiver. Station will not answer automatically with a low tape-no tape condition.	5A-1 or 5C-1 Sender	In recognizer: Remove ZC wiring and SO wiring (same as 2 sender above)	TP199547 in TP198002 recognizer unit J1201
		5B-2 Receiver	In unattended send-receive unit, remove ZD wiring: Remove and tape wire on 10B of K1405-U relay. (Retain R wiring).	TP199793 in TP199788 unattended send-receive unit J1402
4.	Unattended send-receive service, with Receiver in manual condition, capable of calling unattended Sender.	5A-1 or 5C-1 Sender	In recognizer: Remove SO wiring (same as 1 send above). Either remove or retain ZC wiring (see 2 sender above)	TP199547 in TP198002 recognizer unit J1201
		5B-3 Receiver	In unattended send-receive unit: Remove either R or ZD wiring (same as either 1 or 3 receiver above).	TP199793 in TP199788 unattended send-receive unit J1402

TABLE C

UNATTENDED SEND-RECEIVE TERMINAL (Continued)

Note: In addition to the types of operation in this table, any send or receive type of operation listed under the Sender only and Receiver only terminals, or a combination of any send and receive type so listed, may also be used at a send-receive terminal. See following list for descriptions of equipment required. Refer to appropriate section for detailed description of any set or apparatus unit option.

5A-1	Table mounted Sender with TP198002 recognizer apparatus unit option.
5C-1	Floor mounted Sender with TP198002 recognizer apparatus unit option.
5B	Floor mounted Receiver without options.
5B-1	Floor mounted Receiver with TP199784 identifier apparatus unit option.
5B-2	Floor mounted Receiver with TP199788 unattended send-receive apparatus unit option.
5B-3	Floor mounted Receiver with TP199784 identifier and TP199788 unattended send-receive apparatus unit options.

Note: Refer to text paragraphs covering options.