

43 TELEPRINTER 5-LEVEL BUFFERED SELECTIVE CALLING (BSC) STATION
INSTALLATION AND REMOVAL

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1. GENERAL	1	1.01 This section provides installation and removal information for fully assembled, friction feed or tractor feed, 43 Teleprinter 5-Level Buffered Selective Calling (BSC) Stations. The feature group and keytop kit, which determines the operating characteristics of the teleprinter, may be furnished separately for terminals without a feature group. Specification 51055S is furnished with these partially assembled terminals to provide instructions necessary to configure and assemble the teleprinter in accordance with USOC arrangements.
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1.07 Reference in the procedures to left or right, up or down, and top or bottom, etc, refer to the teleprinter in its normal operating position as viewed by the operator.

1.08 When ordering replaceable components, unless otherwise specified, prefix each part number with the letters "TP" (ie, TP430202).

2. TOOLS REQUIRED

2.01 A 100982 screwdriver, 1/4 inch, 6 inch blade, is required to secure the data set cable to the data set and, if present, connect the EIA cable to the auxiliary printer.

3. INSTALLATION PROCEDURE

A. Unpacking (unless already done as part of pre-installation assembly at the installation site).

3.01 Select an area to unpack the carton so that damage to the terminal will not occur.

3.02 When unpacking, be sure to wear approved safety glasses.

Caution: To avoid condensation on the electrical components, the terminal should be allowed to assume room temperature before unpacking, for example, when brought into a warm humid room from outside subzero temperatures.

3.03 The 43 BSC teleprinter, tractor or friction, is furnished in a single carton.

3.04 Unpack the carton referring to instructions on the container. Remove tape securing the cover and paper separator to the housing (Fig. 1). If tractor feed, remove tape from tractor mechanism and roller bail.

Note: Observe all "Caution" notes printed on the carton.

3.05 Depress the cover locking tabs on the lower front of the cabinet and lift the cover. Remove the packing detail securing the print head and the ribbon in place (Fig. 1).

3.06 The containers and other packing details should be retained and reused by field location to facilitate movement of stations.

3.07 Verify that the following items are included in the box:

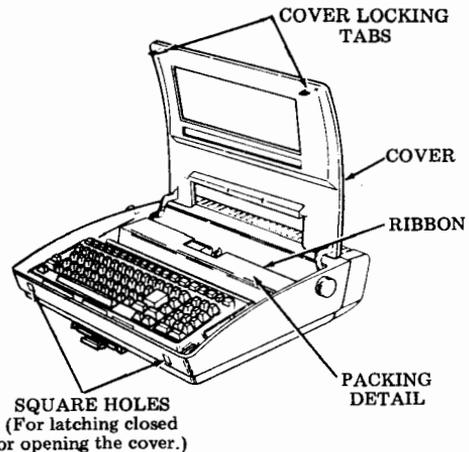
- 1 - Teleprinter Set, 5-Level BSC
- 1 - Ribbon
- 1 - Practice, Installation and Removal (Section 574-500-203)
- 1 - Practice, Troubleshooting (Section 574-500-304)
- 1 - Practice, Testing (Section 574-500-504)
- 1 - Manual, How To Operate 999-300-136
- 1 - Manual, Optioning 999-302-136
- 1 - Paper Supply assembly (Friction Feed) or Paper Holder (Tractor Feed)

B. Assembly

3.08 Position the terminal on a table, suitable stand or pedestal, in the location specified by the customer. A minimum of 6 inches of space behind the terminal is required when the paper holder (tractor or friction) is required when sprocket feed paper is fed from a box behind the terminal on the floor. Additional space is required if paper with folded form lengths greater than 8-1/2 inches is used.



Tractor Feed



Friction Feed

Fig. 1—Packing Detail

3.09 Assemble the paper holder or paper supply assembly as shown in Fig. 2.

- (a) **Tractor Feed:** Attach the paper holder to the bustle cover by sliding down over the bushings.
- (b) **Friction Feed:** Pull the latches straight up and slide the paper supply assembly fully onto the mounting posts located at the rear of the bustle cover. Push down on the latches until they are secured over the mounting posts.

3.10 With ac power to the data set turned off, connect the EIA data set cable to the terminal as shown in Fig. 3. Secure by using two

captive screws on plug. To accommodate distances up to 50 feet, the following shielded EIA cables are available from Teletype Corporation:

- 3 Ft. Length — 430569 (Not used with isochronous data sets.)
- 7 Ft. Length — 408065
- 12 Ft. Length — 408066
- 25 Ft. Length — 408067
- 50 Ft. Length — 408068

Note: Data set must be located within 50 cable feet from the terminal.

See Page 4 for EIA interface leads and descriptions for the line port.

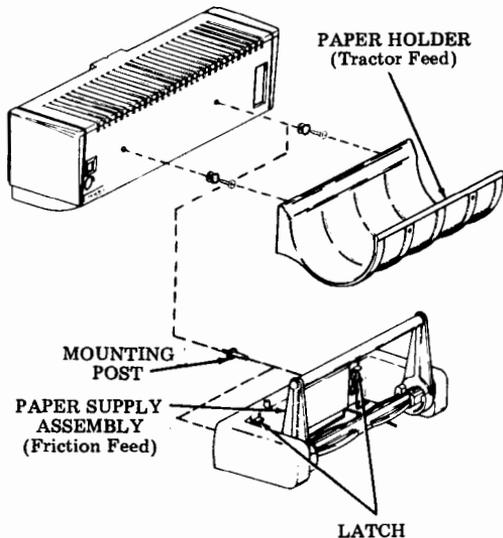


Fig. 2

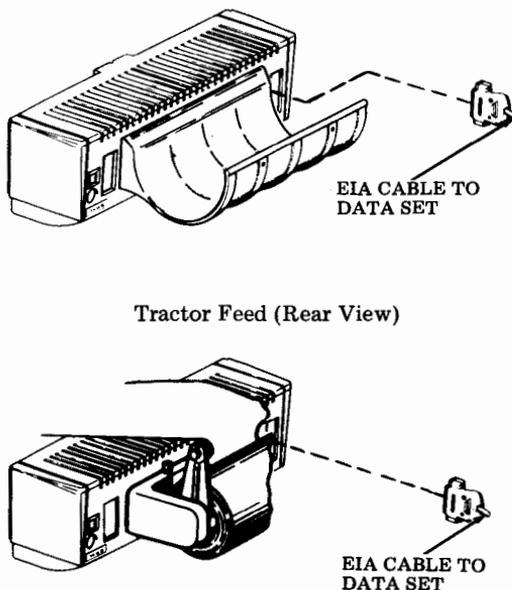
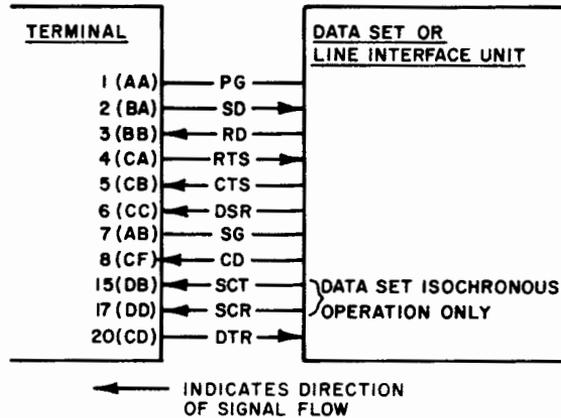


Fig. 3

EIA INTERFACE SIGNALS

LINE PORT



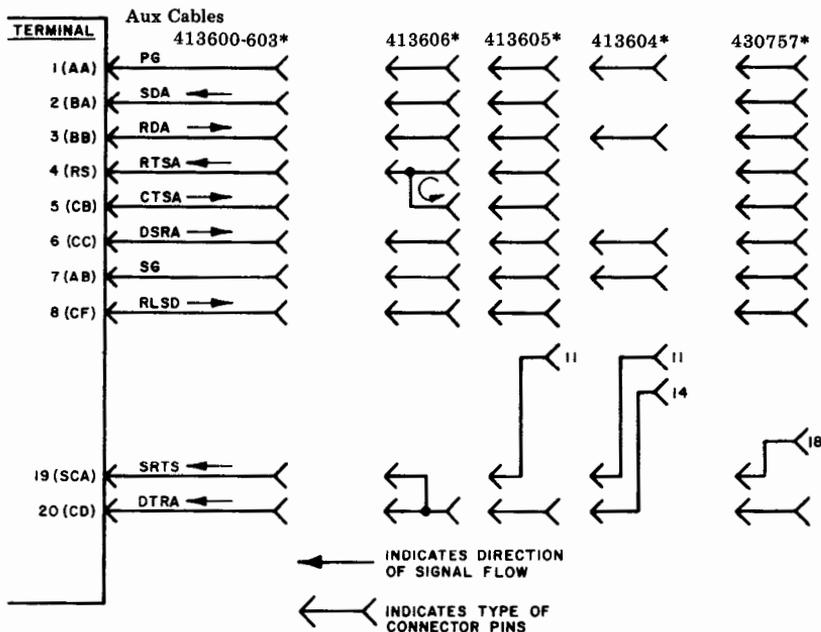
Electrical Characteristics

EIA (RS232) Interface	Electrical Characteristics	
	From 43	To 43
ON (Space)	+3 to +25 Vdc	+3 to +25 Vdc
OFF (Mark)	-3 to -25 Vdc	-3 to -25 Vdc

Note: A lead not connected appears as an OFF or Mark to the 43 BSC Teleprinter.

- PG --- Protective Ground.
- SD --- Send Data --- Mark in all modes varies when on-line and sending data.
- RD --- Receive Data --- In state supplied by data set or line interface unit.
- RTS --- Request to Send --- On when terminal is sending response or messages.
- CTS --- Clear to Send --- On allows teleprinter to send and receive, off allows teleprinter to receive but not send.
- DSR --- Data Set Ready --- On puts terminal in on-line mode. Off causes TERM ON LINE lamp to flash (unless in term local mode) and terminal cannot send or receive.
- SG --- Signal Ground.
- CD --- Carrier Detect --- On allows teleprinter to send or receive if DSR and CTS are on. If off while sending, data continues to be sent.
- SCT --- Serial Clock Transmitter --- Clock signal used for send data synchronization.
- SCR --- Serial Clock Receiver --- Clock signal used for receive data synchronization.
- SRTS --- Present in Cable --- Not used on-line port.
- DTR --- Data Terminal Ready --- On whenever power to the terminal is on and not in TERM LOCAL.

AUXILIARY PORT



*See Page 6 for devices associated with cables.

Electrical Characteristics

EIA (RS232) Interface	Electrical Characteristics	
	From 43	To 43
ON (Space)	+3 to +25 Vdc	+3 to +25 Vdc
OFF (Mark)	-3 to -25 Vdc	-3 to -25 Vdc

Note: A lead not connected appears as an OFF or Mark to the 43 BSC Teleprinter.

- PG --- Protective Ground.
- SDA --- Send Data Aux -- In state provided by auxiliary device.
- RDA --- Receive Data Aux -- Sends data to auxiliary device. Mark hold until varied when sending.
- RTSA --- Request To Send Aux -- On required for CTS to turn on if Aux Read key is on.
- CTSA --- Clear To Send Aux -- OFF if Aux Read key is OFF, ON if Aux Read key is ON and RTS is ON.
- DSRA --- Data Set Ready Aux -- Off after power on reset. Turns on just prior to sending first character out pin 3. Turns off after message ending character for 250 milliseconds. If SRTS and DTR on, it turns back on, otherwise pulses on and off every 250 milliseconds.
- SG --- Signal Ground.
- RLSD --- Receive Line Signal Detector -- Turns on just prior to sending first character out on pin 3. Turns off after message ending character.
- SRTS --- Secondary Request To Send -- If off, will not send data on pin 3 to auxiliary printer. If on and DTRA on data can be sent to auxiliary printer on pin 3. If a 43 5-Level PTU is interfaced to the auxiliary port, SRTS on will not send data on pin 3 to 43 5-Level PTU. SRTS off and DTR on data can be sent to 43 5-Level PTU.
- DTRA --- Data Terminal Ready Aux -- If off, will not send data on pin 3 to auxiliary device. If on and SRTS on, data can be sent to auxiliary device on pin 3.

SECTION 574-500-203

3.11 If an optional auxiliary device is to be installed, turn off power to the auxiliary device. See below for recommended cables available from Teletype Corporation. Other devices may operate properly as an auxiliary device, however, it may be necessary to locally provide an interface cable. Connect the recommended cable to the auxiliary port of the 43 BSC and the EIA port of the auxiliary device. Secure using two captive screws on each plug.

See Page 5 for EIA interface leads and descriptions for the auxiliary port.

<u>CODE</u>	<u>USOC</u>	<u>CABLE</u>	<u>CABLE PART NO.</u>	
4310AAC or AAG	43LYS	7 foot length	413606	
4310AAD or AAH	43LYF	7 foot length	413606	
* {	4010 BD/001/AR	40O (4, 5 or 6) (A or F)	7 foot length	413605
	4010 CJ/002/AM	40P (4, 5 or 6) (A or F)	7 foot length	413605
	4010 CQ/003/AP	40EQ (4, 5 or 6) (A or F)	7 foot length	413605
	4010 CP/002/AN	40R (4, 5 or 6) (A or P)	7 foot length	413605
* {	40 P102/ZZ† and 40CAB371/AC	4QCJ (A or F)	7 foot length	413604
	40P154/ZZ and 40CAB351/AD	4RCJ (A or F)	7 foot length	413604
	40P253/ZZ and 40CAB302/AC	4EJJ (A or F)	7 foot length	413604
	40P202/ZZ and 40CAB353/AC	4STJ (A or F)	7 foot length	413604
	43 5-Level BSCs Friction	4BE plus 4BKXF	{ 7 foot length 12 foot length 25 foot length 50 foot length	413600
		413601		
		413602		
		413603		
43 5-Level BSC s Tractor	4BG plus 4BKXT			
43 5-Level PTU	4BP	3 foot length	430757	

†346745 Kit (Baud Card) also required.

*Do not include type carriers.

§ Optioned as an auxiliary terminal.

3.12 The length of cables 413604, 413605, 413606 and 430757 can be effectively increased by connecting to one of the cables 413600, 413601, 413602 or 413603. In station arrangements which require such a provision, the 413600 through 413603 cable should be connected to the 43 BSC teleprinter and the 413604 through 413606 or 413757 cable should be connected to the auxiliary device. Do not exceed 50 feet from the 43 BSC Teleprinter to the auxiliary device.

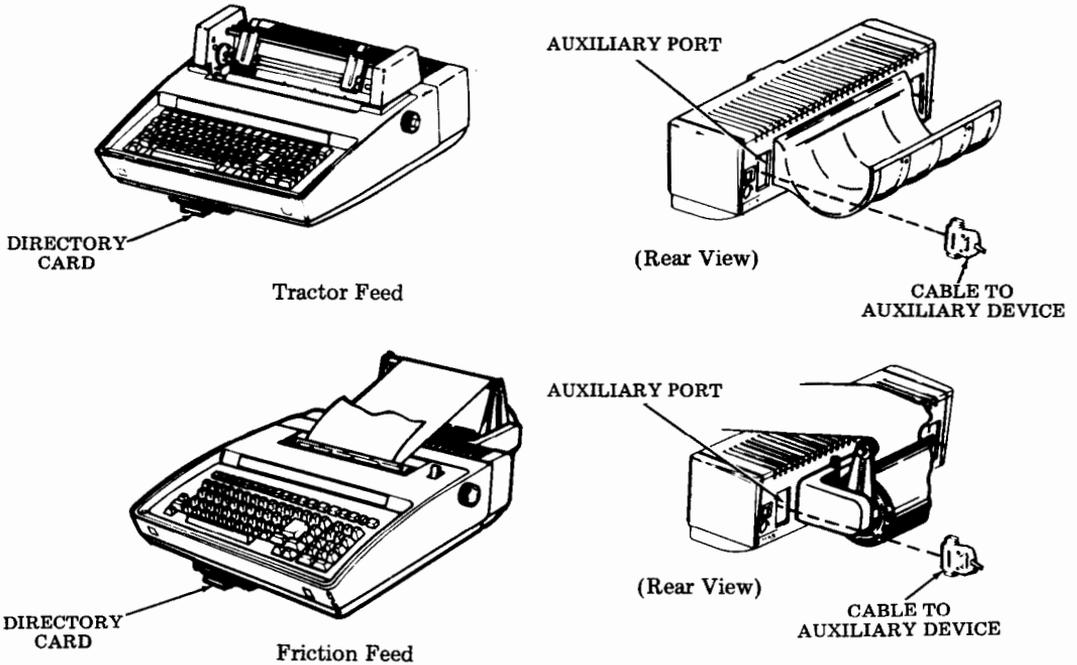
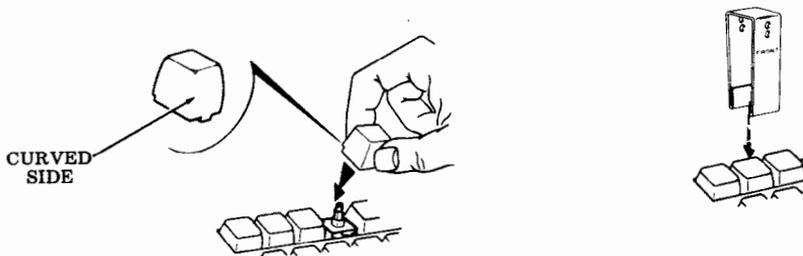


Fig. 4

3.13 If any 43 teleprinter is to be installed as an optional auxiliary device, it is necessary to block the AUX READ function on the primary teleprinter.

- (a) Place the 346260 keytop removal tool over the AUX READ keytop and pull up to remove.
- (b) Place control blocking keytop, provided with the terminal, over the keyswitch (curved side of blocking keytop towards front).
- (c) Push on the top of the blocking keytop until it snaps into place.



F. Accessories

3.19 The following tabletop 43 5-Level BSC accessories are available to the customer.

<u>Accessory</u>	<u>Part No.</u>	<u>Specification No.</u>
Copyholder	430310 Modification Kit	50994S
Paper Winder (Friction Feed)	430400	51035S

The above parts may be installed following the instruction furnished with each accessory.

G. Checkout Procedure

3.20 Connect the data set, 43 BSC teleprinter and auxiliary device (if present) power cords to a properly polarized and grounded source of 115 Vac power (50 or 60 hertz). Normally the power cords should be connected to unswitched outlets to avoid loss of stored data. Fuse protection should be time delayed and provide for a running current of 0.8 amp for the teleprinter plus the running current of the data set and auxiliary device, if present.

3.21 Perform the teleprinter installation checkout procedures found in Section 574-500-504, 43 Teleprinter 5-Level Buffered Selective Calling, Testing.

3.22 Clean up the unpacking area. Wipe off any fingerprints or smudges on the teleprinter.

H. Initiate Service

3.23 Turn the 43 BSC teleprinter over to the subscriber.

3.24 Fill out the operator affecting options page in the How To Operate Manual.

If this information is not available, ask the station manager to fill out that page.

3.25 Inform the station manager that ordinarily the programmable options in the 43 BSC terminals are system dependent and after installation do not require any changes. However, if changes are anticipated the Bell Telephone Company service advisor will provide the necessary training.

3.26 Provide the customer with the How To Operate Manual 999-300-136 and the Optioning Manual 999-302-136. Advise the customer to order spare ribbons and paper as soon as possible (quantities depending on expected usage).

3.27 Advise the customer that the power to the 43 BSC should remain on for at least 10 hours. This will charge the controller battery used to retain the programmable options when power to the teleprinter is turned off.

3.28 Advise the customer of the "trouble number" location on the directory card.

3.29 Properly dispose of the shipping container according to local practices.

4. PROGRAMMABLE OPTIONS

4.01 The programmable options in this terminal are not programmable by the user unless Option 468.a. was requested. See Engineering Options, Section 574-500-210.

4.02 To change these options place controller switch pack SPA7-2 (switch 2) in the ON position (factory furnished ON). See Engineering Options, Section 574-200-210 for location of switch pack.

4.03 There are two ways to load programmable options into the terminal:

- (a) To receive the options on-line as a message and load the options.
- (b) To manually enter the value for the options and then load the options.

If the options are to be received as a message and loaded, go to A. Options Program Received On-Line.

If the options are to be manually programmed to go to B. Manual Programming of Options (From Keyboard).

Note: If power to the terminal has been off for several days (ie, during shipping, unopened on customer premise, etc.) leave power to the terminal on for at least 10 hours. This will fully charge the internal battery used to retain the programmable options for at least 17 days when power is turned off.

A. Options Program Received On-Line

4.04 Some options may have to be manually programmed in order for the terminal to be able to receive the options program on-line (ie, LinSpd (Line Speed), PAddr1 (Primary Address 1), AuxTrm (Auxiliary Terminal), etc). If this is the case, go to B. Manual Programming of Options (From Keyboard) to enable the necessary options, then return to this paragraph.

- Depress  key if not lit. Lamp lights. If lamp flashes, data set ready is not being provided by the data set or line interface unit to the terminal.
- Depress  key if not lit. Lamp lights.

When the options list is sent to the terminal it will print on the printer. The list is a series of

hexadecimal codes (numbers 0 through 9 and letters A through F).

Note: The entire list of options must be received not just the desired changes.

- After the list has printed, depress  key. Lamp lights and  goes out.
- Depress  key. Lamp lights and  goes out.
- Depress  key, several times if necessary until bell rings.
- Depress  key. Lamp lights.
- Type the first five characters of the option list as printed when received. Must include figures and letters shift. Example: First five characters are FCCA8. Enter letters, ( and  keys operated simultaneously) F, C, C, A, figures ( and  keys operated simultaneously) 8.
- Depress  key. Option list is now in the edit buffer.
- If desired depress  key. Options print out.
- Hold  key depressed and depress  (options load) key. The terminal is now optioned with all the programmable options.

Note: If the bell rings when attempting to load the options, make sure the  and the  keys are lit. If the bell still rings when attempting to load options, data to be printed is in the receive ( key lit) or auxiliary receive buffers. If the  lamp is lit, depress  key to print data in the receive buffer. Otherwise, depress  key if not lit and place the auxiliary device in the ready mode (see How to Operate Manual

associated with auxiliary device) to print or punch data in the auxiliary buffer. If an error message prints out, one or more of the hexadecimal values is incorrect.

Example, ERR:

ENTRY 18H

prints out. The 18 is a hexadecimal value that must be converted to a decimal value to determine which pair of entries is incorrect. Refer to Table B (Decimal To Hexadecimal Number Conversion). Find the number 18 in the hex column. It is equal to decimal value 24. Therefore, the 24th pair of entries in the options list is invalid. If the error is in the second pair of digits defining line speed or auxiliary speed, the error indication will be for the first pair. Also, if the sum of options Sum Length, Prime Receive Buffer Size and Auxiliary Receive Buffer Size exceeds 14430 the error indication will be for the Sum Length pair.

Place controller switch pack SPA7-2 (switch 2) in the OFF position unless Option 468.a. was

requested. Depress  key. Lamp lights.

Terminal is now optioned and functional on line.

B. Manual Programming of Options (From Keyboard)

4.05 To Manually program the options from the keyboard:

- Depress  key if not lit. Lamp lights.
- Depress  key. Lamp lights.
- Depress  key, several times if necessary until bell rings.
- Depress  key. Lamp lights and  goes out.
- Hold  key depressed and depress  key (options prep).

OPTIONS

IN Prints on printer and  lamp lights.
EDIT
BUFFER

- Depress  key. Option list (in hexadecimal values) initially prints out in a column of ten. This list corresponds to I. Option Map, Page 22.

To change the value of these options, refer to C. Alphabetical Listing of Options, Page 12. This listing will refer you to the appropriate section for calculating the hexadecimal value of the options that require changes. Once the values are calculated, the options list must be modified with these new values.

- To modify the options list, depress  key.
- Depress  key. Options start to print.

When the list approaches the value to be changed, depress the  key again and printing will stop.

- Position the print head marker over the value to be changed using the edit controls (ie ←, → etc) and type the new value. If an error is made in typing, just back space the print head using the  key and retype the new value. Once all

the new values have been entered into the option list, it is necessary to load the new option list.

- Hold  key depressed and depress  (options load) key. The terminal is now optioned with all the programmable options.

Note: If the bell rings when attempting to load

the options, make sure the  and the  keys are lit. If the bell still rings when attempting to load options, data to be printed is in the receive ( key lit) or auxiliary receive buffers. If the  lamp is lit, depress  key to print data in the receive buffer. Otherwise, depress  key if not lit and place the auxiliary device

in the ready mode (see How To Operate Manual associated with auxiliary device) to print or punch data in the auxiliary buffer. If an error message prints out, one or more of the hexadecimal values is incorrect.

Example, ERR:

ENTRY 18H

prints out. The 18 is a hexadecimal value that must be converted to a decimal value to determine which pair of entries is incorrect. Refer to Table B (Deci-

mal to Hexadecimal Number Conversion). Find the number 18 in the hex column. It is equal to decimal value 24. Therefore, the 24th pair of entries in the options list is invalid. If the error is in the second pair of digits defining line speed or auxiliary speed, the error indication will be for the first pair. Also, if the sum of options Sum Length, Prime Receive Buffer Size and Auxiliary Receive Buffer Size exceeds 14430 the error indication will be for the Sum Length pair.

Place controller switch pack SPA7-2 (switch 2) in the OFF position unless Option 468.a. was requested.

Depress  key. Lamp lights. Terminal is now optioned and functional on-line.

C. Alphabetical Listing of Options

4.06 Find the options that require value changes in the alphabetical listing of options below. Read the note associated with the options and proceed to the page referenced for the calculation of the value of the option to be entered in the option list.

OPTION/MAP NAME/ORDER	NOTE	OPTION/MAP NAME/ORDER	NOTE	OPTION/MAP NAME/ORDER	NOTE
AAddr1	(64) 3	Dbl_LF	(20) 2	P3Rply	(6) 2
AAddr2	(66) 3	DelErr	(18) 2	P4Rply	(7) 2
AAddr3	(68) 3	EditLw	(33) 4	P_NRdy	(75) 3
AAddr4	(70) 3	1stSnt	(62) 3	P*_Rdy	(71) 3
ACBRdy	(74) 3	FmOut1	(42) 3	RBfOff	(56) 3
AChBfs	(12) 2	FmOut2	(43) 3	RBf_On	(55) 3
AENRdy	(82) 3	FormLg	(37) 4	ReRcv1	(47) 3
AE_Rdy	(80) 3	IdleLn	(36) 5	ReRcv2	(48) 3
ANNRdy	(78) 3	LfBdry	(26) 4	Resend	(41) 3
A_NRdy	(76) 3	LinSpd	(1) 1	RRDsl__	(54) 3
Append	(44) 3	LrgKey	(38) 3	RRInt__	(60) 3
ARcvLw	(32) 4	NTNRdy	(51) 3	RRDsl__	(53) 3
ARcvSz	(30) 4	NT_Rdy	(50) 3	RSInt__	(61) 3
AudAlm	(21) 2	PAddr1	(63) 3	RtBdry	(27) 4
AuxSpd	(2) 1	PAddr2	(65) 3	RTSDly	(35) 5
AuxTrm	(14) 2	PAddr3	(67) 3	SmlKey	(39) 3
AxApnd	(15) 2	PAddr4	(69) 3	SndBrk	(23) 2
Ax42RT	(16) 2	PCBRdy	(73) 3	SSDsl__	(52) 3
A2Rply	(8) 2	PChBfs	(11) 2	SSInt__	(59) 3
A3Rply	(9) 2	PENRdy	(81) 3	Start1	(57) 3
A4Rply	(10) 2	PE_Rdy	(79) 3	Start2	(58) 3
A*_Rdy	(72) 3	PNNRdy	(77) 3	Store1	(45) 3
BIFigJ	(25) 2	Poll__	(49) 3	Store2	(46) 3
BROSta	(13) 2	Ptr_NL	(19) 2	StSend	(40) 3
Conten	(22) 2	PRcvLw	(31) 4	SumLgt	(28) 4
CpyRes	(24) 2	PRcvSz	(29) 4	System	(4) 2
CpySnt	(17) 2	P2Rply	(5) 2	Trans__	(3) 1
CTSDly	(34) 5				

Note 1: Go to D. Options Requiring Specific Entries, Page 13.

Note 2: Go to E. Options Requiring y (yes) or n (no) Values, Page 14.

Note 3: Go to F. Options Requiring ASCII Character Values, Page 15.

Note 4: Go to G. Options Requiring Numeric (Decimal) Values, Page 18.

Note 5: Go to H. Timer Options, Page 19.

D. Options Requiring Specific Entries

4.07 These options require specific predetermined values. The options and allowable values are listed below. The values shown are hexadecimal values equivalent to the desired option description. Example, desired line speed is 1200 baud, 10 bit code, asynchronous transmission. The value for that option is the hexadecimal value 158D. A 158D is the value to be entered for line speed option. Refer to the option list printout to determine the current value of the option. Refer to I. Option Map, Page 22, to determine the location within the options list to make the entry.

<u>OPTION NAME</u>	<u>MAP ORDER</u>	<u>CHOICES</u>	<u>ENTRIES REQUIRED</u>
LinSpd (Line Port Speed)	①	CPS Unit baud 6.0 7.5 45.55 6.6 7.5 50 7.6 7.5 56.85 10.0 7.5 75 13.3 7.5 100 26.7 7.5 200 30.0 7.5 225 120.0 7.0 840 120.0 10.0 1200 240.0 7.0 1680 240.0 10.0 2400 isoch 7.0 up to 2400	Code 5F8A FCCA DECA A8CA 7ECA 3FCA 38CA 0FC6 158D 0F86 154D 150D
AuxSpd (Auxiliary Port Speed)	②	NO DEVICE All speeds for LinSpd are valid plus 30.0 10.0 300 (special framing for Model 42 R/T)	8080 2ACD
		and for 8-level operation 10.0 11.0 110 30.0 10.0 300 60.0 10.0 600 120.0 10.0 1200 109.1 11.0 1200 180.0 10.0 1800 240.0 10.0 2400	E58C 2AC4 15C4 1584 158C 07C4 1544
Trans_(Asynchronous/ Isochronous Transmission)	③	Asynchronous Isochronous	0C 08

E. Options Requiring y (yes) or n (no) Values

4.08 The options listed below require y(yes) or n(no) values. Refer to the option list printout to determine the current values. If a different value is required enter a 79 for a yes or a 6E for a no. Refer to I. Option Map, Page 22, to determine the location within the options list to make the entry.

<u>MAP ORDER</u>	<u>OPTION NAME</u>
System (4)	(Half-Duplex)
P2Rply (5)	(Prime Address 2 Reply)
P3Rply (6)	(Prime Address 3 Reply)
P4Rply (7)	(Prime Address 4 Reply)
A2Rply (8)	(Aux Address 2 Reply)
A3Rply (9)	(Aux Address 3 Reply)
A4Rply (10)	(Aux Address 4 Reply)
PChBfs (11)	(Prime Receiver Remains Terminated Following Reply, Character In Buffer)
AChBfs (12)	(Aux Receiver Remains Terminated Following Reply, Character in Buffer)
BROSta (13)	(Buffered Receive Only Station)
AuxTrm (14)	(Auxiliary Terminal)
AxApnd (15)	(Characters Automatically Appended After Aux Write Message)
Ax42RT (16)	(Aux Model 42 Reperforator/Transmitter)
CpySnt (17)	(Copy Sent Data)
DelErr (18)	(Delete Errored Messages)
Ptr_NL (19)	(Printer New Line For Line Feed)
Dbl_LF (20)	(Double Line Feed)
AudAlm (21)	(Audible Alarm For Message Waiting)
Conten (22)	(Non-Centralized Contention Operation)
SndBrk (23)	(Send Break While Receiving And Buffer Becomes Low)
CpyRes (24)	(Copy Host Response In Send Interrupt State)
BlFigJ (25)	(Bell on Figs. J)

F. Options Requiring ASCII Character Values

4.09 The options listed below require ASCII character values. All ASCII character values have to be converted and entered as hexadecimal digits. See Table A, Baudot to ASCII Hexadecimal Number Conversion. Example, if the option requires the character A, refer to Table A. An A is hexadecimal 41. A 41 would be entered for that option. Unused ASCII values must have the hexadecimal value 80. Options that allow for more than one ASCII character (2 hexadecimal digits) must have the desired values positioned in front of any unused positions. Example, value for LrgKey 0D 80 80. The desired value is 0D which precedes the unused positions of 80 80. Refer to the option list printout to determine the current value of the option. Refer to I. Option Map, Page 22, to determine the location within the options list to make the entry.

<u>MAP ORDER</u>	<u>OPTION NAME</u>
LrgKey (38)	(Large Key Character Sequence – Return)
SmlKey (39)	(Small Key Character – Line Feed)
StSend (40)	(Received Start Send Character Sequence)
Resend (41)	(Received Resend Character Sequence)
FmOut1 (42)	(Form Out Character Sequence #1)
FmOut2 (43)	(Form Out Character Sequence #2)
Append (44)	(First Character Sequence Appended For Storing)
Store1 (45)	(Message Store Ending Character Sequence # 1)
Store2 (46)	(Message Store Ending Character Sequence # 2)
ReRcv1 (47)	(Retrieve Receive Message Ending Character Sequence # 1)
ReRcv2 (48)	(Retrieve Receive Message Ending Character Sequence # 2)
Poll __ (49)	(Polling Sequence)
NT_Rdy (50)	(No Traffic to Send and Ready to Receive Reply Sequence)
NTNRdy (51)	(No Traffic to Send and Not Ready to Receive Reply Sequence)
SSDsl__ (52)	(Sent Sender Deselect Character Sequence)
RSDsl__ (53)	(Received Sender Deselect Character Sequence)
RRDsl_ (54)	(Received Receiver Deselect Character Sequence)
RBf_On (55)	(Primary or Aux Receive Buffer Turn-On Character Sequence)
RBfOff (56)	(Primary or Aux Receive Buffer Turn-Off Character Sequence)
Start1 (57)	(Received Start Sending or Receiving Character Sequence # 1)
Start2 (58)	(Received Start Sending or Receiving Character Sequence # 2)
SSInt_ (59)	(Sent Sender Interrupt Character Sequence)
RRInt_ (60)	(Received Receiver Interrupt Character Sequence)
RSInt_ (61)	(Received Sender Interrupt Character Sequence)
1stSnt (62)	(Character Sequence Automatically Sent Before Text)
PAddr1 (63)	(Primary Receive Address Sequence # 1)
AAddr1 (64)	(Auxiliary Receive Address Sequence # 1)
PAddr1 (65)	(Primary Receive Address Sequence #2)
AAddr2 (66)	(Auxiliary Receive Address Sequence # 2)

MAP
ORDER

OPTION NAME (Contd)

PAddr3	(67)	(Primary Receive Address Sequence #3)
AAddr3	(68)	(Auxiliary Receive Address Sequence # 3)
PAddr4	(69)	(Primary Receive Address Sequence # 4)
AAddr4	(70)	(Auxiliary Receive Address Sequence # 4)
P*_Rdy	(71)	(Primary Receiver Ready No Errors Reply Sequence)
A*_Rdy	(72)	(Auxiliary Receiver Ready No Errors Reply Sequence)
PCBRdy	(73)	(Primary Receiver Ready, Character in Buffer Reply Sequence)
ACBRdy	(74)	(Auxiliary Receiver Ready, Character in Buffer Reply Sequence)
P_NRdy	(75)	(Primary Receiver Not Ready Reply Sequence)
A_NRdy	(76)	(Auxiliary Receiver Not Ready Reply Sequence)
PNNRdy	(77)	(Primary Received No Error, Not Ready Response)
ANNRdy	(78)	(Auxiliary Received No Error, Not Ready Response)
PE_Rdy	(79)	(Primary Received Error, Ready Response)
AE_Rdy	(80)	(Auxiliary Received Error, Ready Response)
PENRdy	(81)	(Primary Received Error, Not Ready Response)
AENRdy	(82)	(Auxiliary Received Error, Not Ready Response)

TABLE A
 BAUDOT TO ASCII HEXADEcimal NUMBER CONVERSION

BAUDOT CHARACTER LTRS MODE	CONVERSION TO ASCII HEX	BAUDOT CHARACTER FIGS MODE	CONVERSION TO ASCII HEX
A	41	—	2D
B	42	?	3F
C	43	:	3A
D	44	\$	24
E	45	3	33
F	46	!	21
G	47	&	26
H	48	#	23
I	49	8	38
J	4A	BELL ¶	07 ¶
K	4B	(28
L	4C)	29
M	4D	.	2E
N	4E	,	2C
O	4F	9	39
P	50	0	30
Q	51	1	31
R	52	4	34
S	53	' ¶	27 ¶
T	54	5	35
U	55	7	37
V	56	:	3B
W	57	2	32
X	58	/	2F
Y	59	6	36
Z	5A	"	22
LTRS	0F	LTRS	0F
FIGS	0E	FIGS	0E
SPACE	20	SPACE	20
CR	0D	CR	0D
LF	0A	LF	0A
BLANK	00	BLANK	00

¶ Figs J and Figs S are reversed if BIFig J (25) = 'n'.

EXAMPLE: Desired RRDsl __ = Figs H LTRS H
 Hex entry for RRDsl __ = 0E 23 0F 48

G. Options Requiring Numeric (Decimal) Values

4.10 The options listed below require numeric (decimal) values. All decimal values have to be converted and entered in the options list as hexadecimal digits. See Table B Decimal to Hexadecimal Number Conversion. Example, if the option requires the decimal number 132, refer to Table B. The decimal number 132 is hexadecimal 84. An 84 would be entered for that option. In numeric options the least significant number is located to the right. Thus, if an option allowed for more than one pair of hexadecimal digits and the value entered had only one pair of hexadecimal digits the value would be entered into the right pair. Example, the option has a current value of 00 00 Hex. The desired value is 84 Hex (132 decimal). Enter the value into the right pair of hex numbers. This would result in the option having the value 00 84. Refer to the option list printout to determine the current value of the option. Refer to I. Option Map, Page 22, to determine the location within the options list to make the entry.

<u>MAP ORDER</u>	<u>OPTION NAME</u>
LfBdry (26)	(Left Boundary Setting) — Must be less than RtBdry.
RtBdry (27)	(Right Boundary Setting) — Must be greater than LfBdry and equal to or less than the width of the paper being used (80 or 100).
** SumLgt (28)	(String Buffer Length)
** PRcvSz (29)	(Prime Receive Buffer Size)
** ARcvSz (30)	(Auxiliary Receive Buffer Size)
PRcvLw (31)	(Prime Receive Buffer Low Setting) — Must be less than PRcvSz.
ARcvLw (32)	(Auxiliary Receive Buffer Low Setting) — Must be less than ARcvSz.
** EditLw (33)	(Edit Buffer Low Setting)
FormLg (37)	(Form Length In Lines) — Must be equal to or less than 132 decimal.

**The size of the edit buffer is approximately 15,000 characters (Total Buffer Available) minus the sum of PRcvSz, ARcvSz and SumLgt equals the size of the edit buffer. The edit buffer must be at least 554 positions. EditLw must be less than edit buffer size, PRcvLw must be less than PRcvSz, and ARcvLw must be less than ARcvSz.

H. Timer Options

4.11 The options listed below are timer options expressed in milliseconds using hexadecimal equivalent of the decimal value. An entry of all zeros disables the particular timer. The timer consists of 16 millisecond steps (ie, 16, 32, 48 etc). The timer can be equal to or less than the value set by up to 16 milliseconds depending on when the timer is activated. Thus, a timer set for 32 milliseconds can vary from 17 through 32 milliseconds. To insure a minimum of 32 milliseconds for a timer it is necessary to enter a value one increment (16 milliseconds) greater than the required value. Example, enter a value of 48 milliseconds. Now the timer can vary 33 through 48 milliseconds. Remember the timer is based on 16 milliseconds steps. Therefore, entering a value anywhere between 16 through 31 milliseconds makes no difference to the timer. It views that entry as one step (16 milliseconds). Once the time in milliseconds has been established, refer to Table B to convert from a decimal value (time in milliseconds) to the hexadecimal value to be entered in the option list. Refer to the option list printout to determine the current value of the option. Refer to I. Option Map, Page 22, to determine the location within the option list to make an entry.

<u>MAP ORDER</u>	<u>OPTION NAME</u>
CTSDly (34)	(Clear to Send Recognition Delay)
RTSDly (35)	(Request to Send Turn-Off Delay)
IdleLn (36)	(Idle Line Time Out and Deselect)

Note: The time in milliseconds for the RESDly option must be the desired value plus the time for two characters at the optioned LinSpd.

Example: Desired value 300 milliseconds
 $\text{LinSpd} = 1200 \text{ Baud} = 8.3 \text{ ms/character}$
 $\text{Two Characters} = 8.3 \times 2 = 16.6 \text{ ms}$
 Value to be used = $300 + 16.6 = 317 \text{ ms}$ (Rounded up)

<u>SPEED (Baud)</u>	<u>TIME PER ONE CHARACTER</u>
45.55	166.6 ms
50	151.5 ms
56.85	131.6 ms
75	100.0 ms
100	75.2 ms
200	37.6 ms
225	33.3 ms
840	8.3 ms
1200	8.3 ms
1680	4.2 ms
2400 Async	4.2 ms

TABLE B
DECIMAL TO HEXADECIMAL NUMBER CONVERSION

Dec- imal	Hex	Dec- imal	Hex	Dec- imal	Hex	Dec- imal	Hex
00	00	32	20	64	40	96	60
01	01	33	21	65	41	97	61
02	02	34	22	66	42	98	62
03	03	35	23	67	43	99	63
04	04	36	24	68	44	100	64
05	05	37	25	69	45	101	65
06	06	38	26	70	46	102	66
07	07	39	27	71	47	103	67
08	08	40	28	72	48	104	68
09	09	41	29	73	49	105	69
10	0A	42	2A	74	4A	106	6A
11	0B	43	2B	75	4B	107	6B
12	0C	44	2C	76	4C	108	6C
13	0D	45	2D	77	4D	109	6D
14	0E	46	2E	78	4E	110	6E
15	0F	47	2F	79	4F	111	6F
16	10	48	30	80	50	112	70
17	11	49	31	81	51	113	71
18	12	50	32	82	52	114	72
19	13	51	33	83	53	115	73
20	14	52	34	84	54	116	74
21	15	53	35	85	55	117	75
22	16	54	36	86	56	118	76
23	17	55	37	87	57	119	77
24	18	56	38	88	58	120	78
25	19	57	39	89	59	121	79
26	1A	58	3A	90	5A	122	7A
27	1B	59	3B	91	5B	123	7B
28	1C	60	3C	92	5C	124	7C
29	1D	61	3D	93	5D	125	7D
30	1E	62	3E	94	5E	126	7E
31	1F	63	3F	95	5F	127	7F

Dec- imal	Hex	Dec- imal	Hex	Dec- imal	Hex	Dec- imal	Hex
128	80	160	A0	192	C0	224	E0
129	81	161	A1	193	C1	225	E1
130	82	162	A2	194	C2	226	E2
131	83	163	A3	195	C3	227	E3
132	84	164	A4	196	C4	228	E4
133	85	165	A5	197	C5	229	E5
134	86	166	A6	198	C6	230	E6
135	87	167	A7	199	C7	231	E7
136	88	168	A8	200	C8	232	E8
137	89	169	A9	201	C9	233	E9
138	8A	170	AA	202	CA	234	EA
139	8B	171	AB	203	CB	235	EB
140	8C	172	AC	204	CC	236	EC
141	8D	173	AD	205	CD	237	ED
142	8E	174	AE	206	CE	238	EE
143	8F	175	AF	207	CF	239	EF
144	90	176	B0	208	D0	240	F0
145	91	177	B1	209	D1	241	F1
146	92	178	B2	210	D2	242	F2
147	93	179	B3	211	D3	243	F3
148	94	180	B4	212	D4	244	F4
149	95	181	B5	213	D5	245	F5
150	96	182	B6	214	D6	246	F6
151	97	183	B7	215	D7	247	F7
152	98	184	B8	216	D8	248	F8
153	99	185	B9	217	D9	249	F9
154	9A	186	BA	218	DA	250	FA
155	9B	187	BB	219	DB	251	FB
156	9C	188	BC	220	DC	252	FC
157	9D	189	BD	221	DD	253	FD
158	9E	190	BE	222	DE	254	FE
159	9F	191	BF	223	DF	255	FF

Note: For a decimal number equal to or greater than 256, divide the number by 256. The quotient becomes the first decimal number requiring conversion to hex and the remainder becomes the second number requiring conversion to hex. Example, value to be entered is 500 (decimal). $500 \div 256 = 1$ (quotient) with a remainder of 244. Look up number 1 on this table and convert to hex 01. This hex number becomes the first pair in the hex entry value. Look up number 244 on this table and convert to hex F4. This hex number becomes the second pair in the hex entry value. Thus a decimal number 500 is equal to hex value 01 F4.

I. Option Map

When printed out in columns of 10 these are line numbers.

1	LinSpd 50 Baud (1)				AuxSpd (Nothing) (2)				Trans_ Async (3)	
	F	C	C	A	8	0	8	0	0	C
2	System (4) Yes		P2Rply (5) No		P3Rply (6) No		P4Rply (7) No		A2Rply (8) No	
	7	9	6	E	6	E	6	E	6	E
3	A3Rply (9) No		A4Rply (10) No		PChBfs (11) No		AChBfs (12) No		BROSta (13) No	
	6	E	6	E	6	E	6	E	6	E
4	AuxTrm (14) No		AxApnd (15) No		Ax42RT (16) No		CpySnt (17) No		DelErr (18) No	
	6	E	6	E	6	E	6	E	6	E
5	Ptr_NL (19) No		Dbl_LF (20) No		AudAlm (21) No		Conten (22) No		SndBrk (23) No	
	6	E	6	E	6	E	6	E	6	E
6	CpyRes (24) No		BlFigJ (25) Yes		LfBdry (26) Column 0		RtBdry (27) Column 10		SumLgt (28) 16 Positions	
	6	E	7	9	0	0	0	A	1	0
7	PRcvSz (29) 1024 Positions				ARcvSz (30) 0 Positions				PRcvLw 0 Positions	
	0	4	0	0	0	0	0	0	0	0
8	PRcvLw (31) 0 Positions		ARcvLw (32) 0 Positions				EditLw (33) 0 Positions			
	0	0	0	0	0	0	0	0	0	0
9	CTSDly (34) 16 Milliseconds				RTSDly (35) 0 Seconds				IdleLn 1 Second	
	0	0	2	0	0	0	0	0	0	4
10	IdleLn (36) 1 Second		FormLg (37) 0 Lines		LrgKey (38) Carriage Return					
	0	0	0	0	0	D	8	0	8	0

Yes 94
21
2000

RIGIT
BUMPY

Legend

Option Name	
Default Value	(Factory Furnished Value)
Default Entry	

MAP ORDER NUMBER

When printed out in columns of 10 these are line numbers.

11	SmlKey Line Feed	(39)	StSend (Nothing)							(40)	
	0	A	8	0	8	0	8	0	8	0	
12	Resend (Nothing)									(41)	
	8	0	8	0	8	0	8	0	8	0	
13	FmOut1 (Nothing)						(42)	FmOut2 (Nothing)			
	8	0	8	0	8	0	8	0	8	0	
14	FmOut2 (Nothing)					(43)	Append (Nothing)				
	8	0	8	0	8	0	8	0	8	0	
15	Append (Nothing)										
	8	0	8	0	8	0	8	0	8	0	
16	Append (Nothing)		(44)	Store1 (Nothing)						(45)	
	8	0	8	0	8	0	8	0	8	0	
17	Store2 (Nothing)							(46)	ReRcv1 (Nothing)		
	8	0	8	0	8	0	8	0	8	0	
18	ReRcv1 (Nothing)					(47)	ReRcv2 (Nothing)				
	8	0	8	0	8	0	8	0	8	0	
19	ReRcv2 (Nothing)			(48)	Poll__ (Nothing)						
	8	0	8	0	8	0	8	0	8	0	
20	Poll__ (Nothing)		(49)	NT__Rdy (Nothing)			(50)	NTNRdy (Nothing)			(51)
	8	0	8	0	8	0	8	0	8	0	

Legend

Option Name	
Default Value	(Factory Furnished Value)
Default Entry	

MAP ORDER NUMBER

When printed out in columns of 10 these are line numbers.

21	SSDsl_ (Nothing) ⁽⁵²⁾								RSDsl_ (Nothing)	
	8	0	8	0	8	0	8	0	8	0
22	RSDsl_ (Nothing) ⁽⁵³⁾						RRDsl_ (Nothing)			
	8	0	8	0	8	0	B	B	8	0
23	RRDsl_ (Nothing) ⁽⁵⁴⁾				RBf_On (Nothing)					
	8	0	8	0	8	0	8	0	8	0
24	RBf_On ⁽⁵⁵⁾ (Nothing)		RBfOff ⁽⁵⁶⁾ (Nothing)							
	8	0	8	0	8	0	8	0	8	0
25	Start1 (Nothing) ⁽⁵⁷⁾								Start2 (Nothing)	
	8	0	8	0	8	0	8	0	8	0
26	Start2 (Nothing) ⁽⁵⁸⁾						SSInt_ (Nothing)			
	8	0	8	0	8	0	8	0	8	0
27	SSInt_ (Nothing) ⁽⁵⁹⁾				RRInt_ (Nothing)					
	8	0	8	0	8	0	8	0	8	0
28	RRInt_ (Nothing) ⁽⁶⁰⁾		RSInt_ (Nothing) ⁽⁶¹⁾							
	8	0	8	0	8	0	8	0	8	0
29	1stSnt (Nothing)									
	8	0	8	0	8	0	8	0	8	0
30	1stSnt									
	8	0	8	0	8	0	8	0	8	0

Legend

Option Name		
Default Value	(Factory Furnished Value)	
Default Entry		

MAP ORDER NUMBER

When printed out in columns of 10 these are line numbers.

31	1stSnt (62)				PAddr1 (Nothing)					
	8	0	8	0	8	0	8	0	8	0
32	PAddr1 (63) (Nothing)		AAddr1 (64) (Nothing)							
	8	0	8	0	8	0	8	0	8	0
33	PAddr2 (65) (Nothing)							AAddr2 (Nothing)		
	8	0	8	0	8	0	8	0	8	0
34	AAddr2 (66) (Nothing)					PAddr3 (Nothing)				
	8	0	8	0	8	0	8	0	8	0
35	PAddr3 (67) (Nothing)			AAddr3 (Nothing)						
	8	0	8	0	8	0	8	0	8	0
36	AAddr3 (68) (Nothing)		PAddr4 (69) (Nothing)							
	8	0	A	A	8	0	8	0	8	0
37	AAddr4 (70) (Nothing)							P*_Rdy (Nothing)		
	8	0	8	0	8	0	8	0	8	0
38	P*_Rdy (71) (Nothing)		A*_Rdy (72) (Nothing)			PCBRdy (73) (Nothing)				
	8	0	8	0	8	0	8	0	8	0
39	ACBRdy (74) (Nothing)			P_NRdy (75) (Nothing)				A_NRdy (Nothing)		
	8	0	8	0	8	0	8	0	8	0
40	A_NRdy (76) (Nothing)		PNNRdy (77) (Nothing)			ANNRdy (78) (Nothing)				
	8	0	8	0	8	0	8	0	8	0

Legend

Option Name	
Default Value	(Factory Furnished Value)
Default Entry	

MAP ORDER NUMBER

5. STATION REMOVAL

5.01 Reverse the procedures in 3. INSTALLATION PROCEDURE to remove the teleprinter from service.

5.02 Before repacking the teleprinter, move the print head to the center of the printer and insert the packing detail and new ribbon removed in 3.05.

5.03 Tape the units as shown in Fig. 5.

5.04 Using the proper containers and packing detail, pack the 43 teleprinter as shown in Fig. 5.

5.05 Close and seal the carton flaps with three strips of tape, apply one strip to each of the seam ends and one strip the length of the carton.

5.06 Mark the outside of the carton with the teleprinter description (ie, 43 Teleprinter 5-Level Buffered Selective Calling (BSC) Station).

5.07 If the station qualifies as a "Working Station" candidate, mark the return material ticket in the appropriate block.

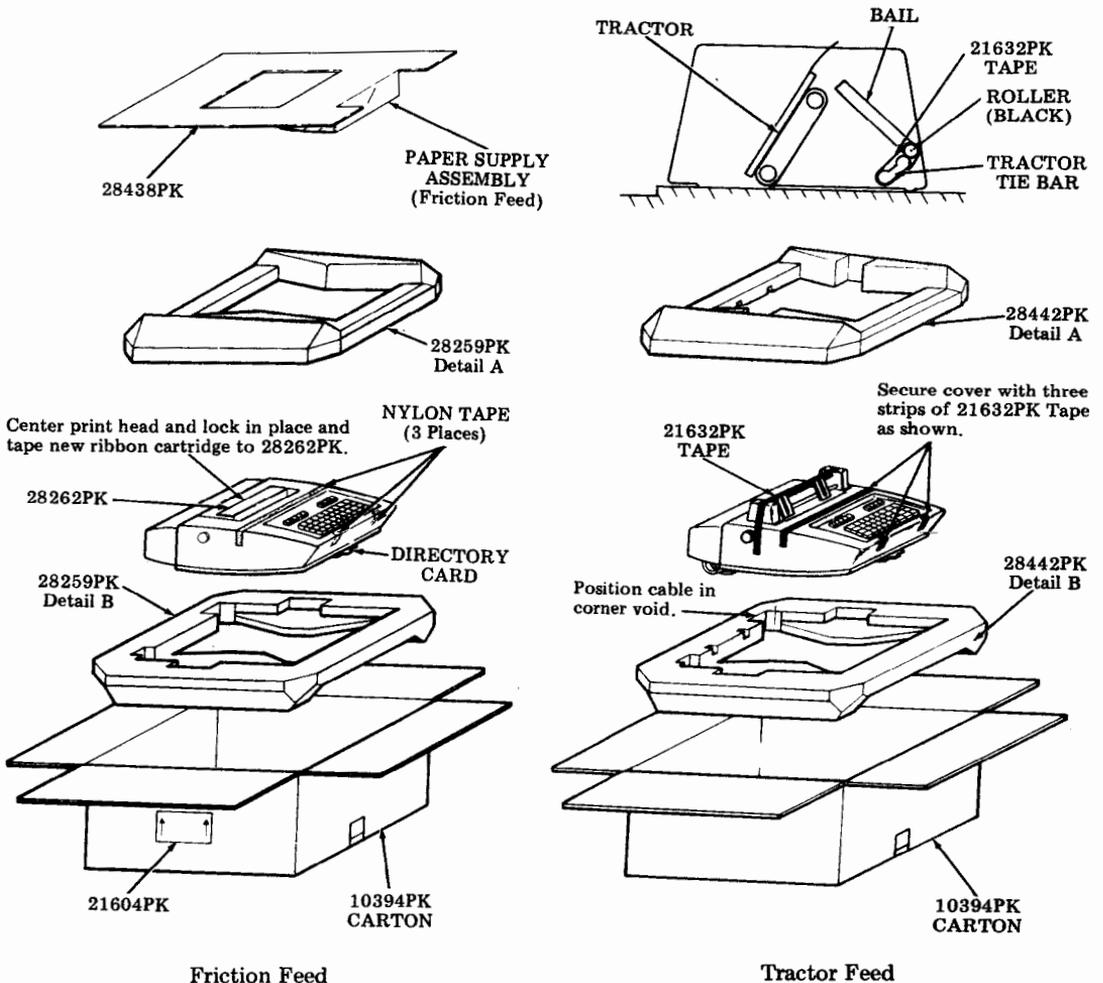


Fig. 5