

STATION CONTROLLERS

CATALOG



DATA TERMINAL ACCESSORY-STATION CONTROLLER

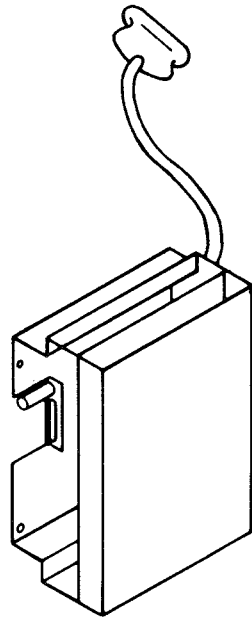
MARCH, 1972 EDITION

9100 STATION CONTROLLERS

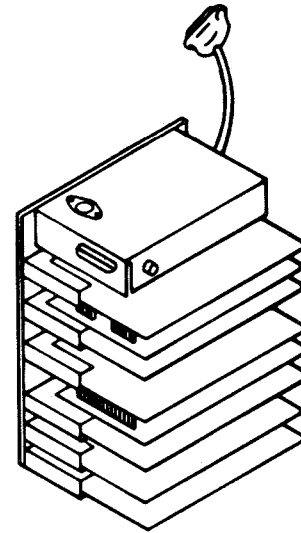
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INTRODUCTION



9130 Station Controllers



9140-9141 Station Controllers

Contemplating a multi-point private-line data communications system? Teletype has the station controllers for that system. These solid-state logic modules offer a truly practical way to establish efficient, economical and automatic control over each station location in your system.

Teletype station controllers are available in literally hundreds of arrangements, from economical minimum-option to sophisticated multi-option. They are compatible with a variety of ASCII systems including station-to-station and store-and-forward, half- and full-duplex, standard and medium speed, send-receive and receive-only, and accommodate a variety of communications procedures including Teletype® Corporation 8A1/8B1 and the American National Standards Institute (ANSI) procedures.

These compact electronic devices fit easily into Teletype® 2100 (Inktronic®) 33, 35, 37, 38, 4100 (paper tape), and 4210 (magnetic tape) ter-

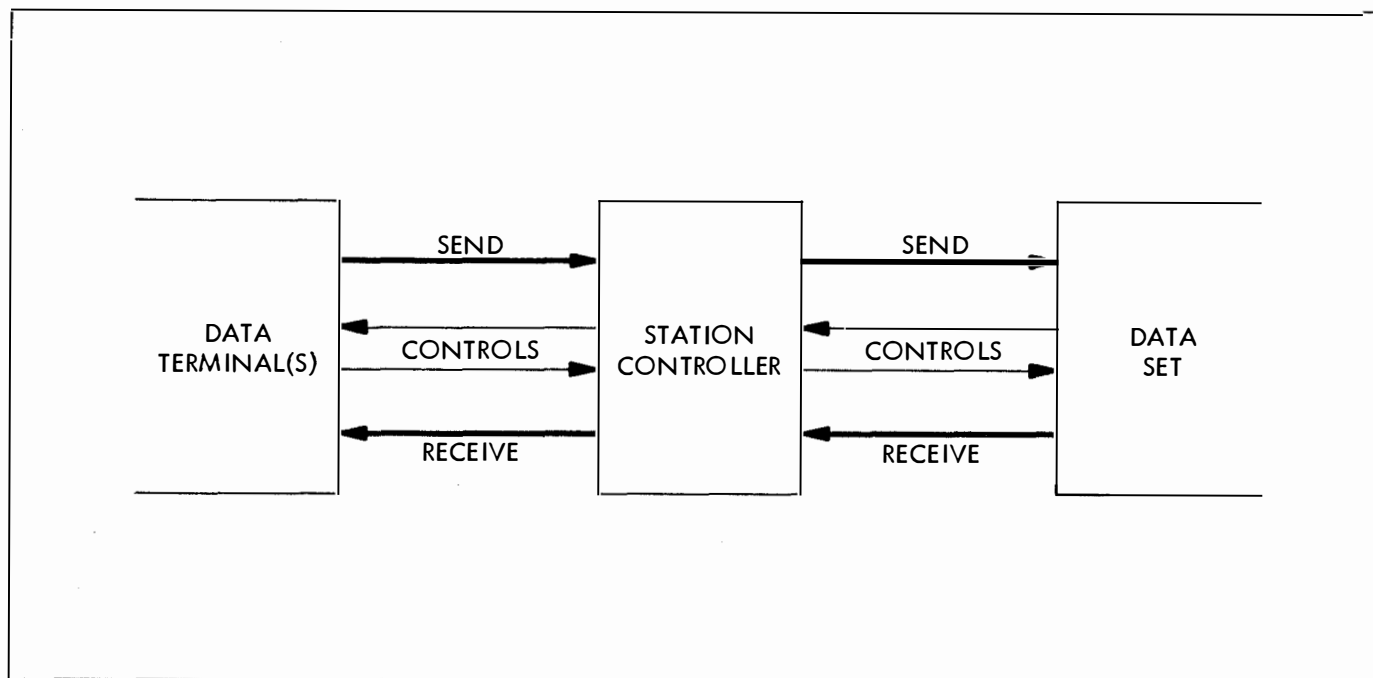
minals, and provide a wide range of station control functions to meet various system requirements: motor control; parity error detection and indication; station polling and address recognition and unique station response for individual stations, groups of stations or all stations.

Teletype station controllers are entirely electronic. They require virtually no maintenance. Their station control functions provide cool, quiet and economical terminal operation, and they require no additional floor space.

Review the catalog — it describes typical systems in which you can use the controllers, the Teletype product lines that will accommodate the controllers, and the many features of the controllers themselves. It also provides schematic option guides, pertinent technical facts, and selection guides where you can choose the specific station controllers to meet your specific system requirements.

9100 STATION CONTROLLERS

DESCRIPTION



A Teletype station controller is a solid-state device that provides station control functions for one station with one or more data terminals in multi-point private-line systems. When installed between the communications channel and the terminal(s) that constitute the station, the station controller recognizes receipt of polling and addressing character sequences unique to its station, and responds uniquely to the receipt of these sequences according to the sending and receiving status of the station.

It performs the basic control function required at each station location: Station identification recognition, response to recognition according to station status, station component control, and station control according to system procedures.

Teletype station controllers are available in three main series, 9130, 9140, and 9141 to match a variety of system configurations and procedures, and to offer a variety of programmable options while performing the basic station control functions.

9130 station controllers are a limited option series, for store-and-forward system configurations using ANSI (American National Standards Institute) 3.28-1971 communications procedures. They provide fixed 1-character responses to the receipt and recognition of a

single 2-character polling sequence and a single 1-character address.

9140 station controllers are a highly optioned series programmable for station-to-station half-duplex, store-and-forward half-duplex, or store-and-forward full-duplex system configurations; and programmable for Teletype Corporation 8A1/8B1 or a highly customized communications procedure. They provide programmable 2-character responses to a single 2 or 3-character programmable polling sequence; and to one, two, or three addresses, having 1, 2, or 3 programmable characters each.

9141 station controllers are a multi-option series programmable for station-to-station half-duplex, store-and-forward half-duplex, or store-and-forward full-duplex system configurations; using individualized communications procedures consistent with ANSI 3.28-1971. They provide fixed 1-character responses to a single 2 or 3-character programmable polling sequence; and up to 3 addresses, having 1, 2, or 3 programmable characters each.

With 9130 and 9141 controllers in them, stations can respond to up to four status conditions: Traffic-to-send, no-traffic-to-send, able-to-receive, and unable-to-receive-in alarm. With 9140s, stations can also respond unable-to-receive-preparing tape.

With 9140 controllers, stations can be programmed to respond uniquely, so that the system communications switcher knows that the station responding was the station polled or addressed.

With the multiple address and address character options available with 9140 and 9141 controllers, groups of stations or all stations can be addressed as well as individual stations; and auxiliary terminals in a station can be addressed as well as the prime station terminal.

All three station controller series are programmable for motor control, to permit station motors to be on continuously or to be turned on only when the station is required to perform.

All three station controller series regenerate received signal, and can be programmed to regenerate sent signal if also programmed for half-duplex operation.

9130 station controllers detect received vertical parity; 9140 and 9141 station controllers also indicate parity errors, via substitute character or timed break generation.

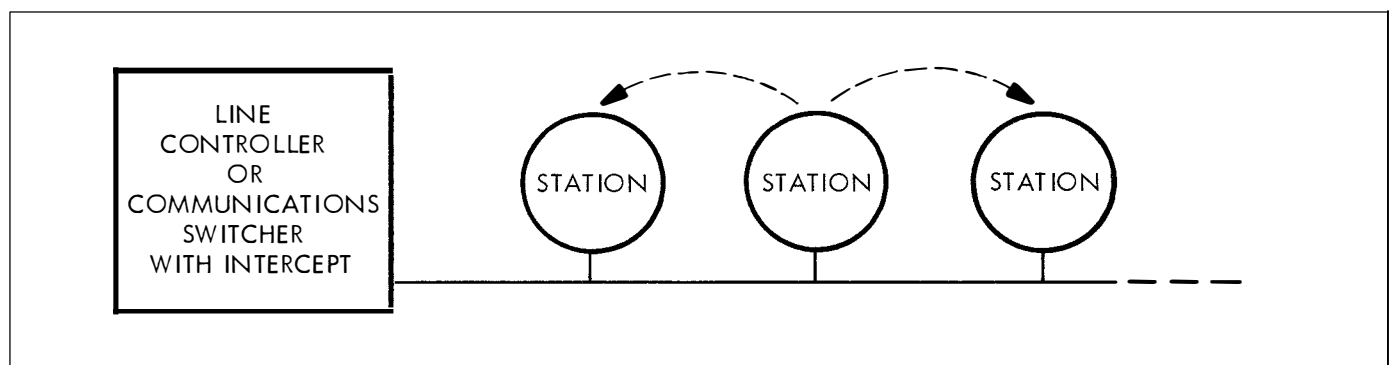
All Teletype® station controllers are available for installation in Teletype ASCII code multi-point private-line terminals: 2101 (Inktronic®) 33, 35, 37, 38, 4100 (paper tape), and 4210 (magnetic tape) terminals. They are also available for installation in suitably arranged data terminals and business machines operating in the same code and speed ranges.

CONFIGURATIONS

System Configurations

Teletype station controllers are available for controlled station-to-station, store-and-forward half-duplex, or store-and-forward full-duplex system configurations as depicted below. They are also available for semi-controlled (contention) station-to-station system configurations.

CONTROLLED STATION-TO-STATION HALF-DUPLEX

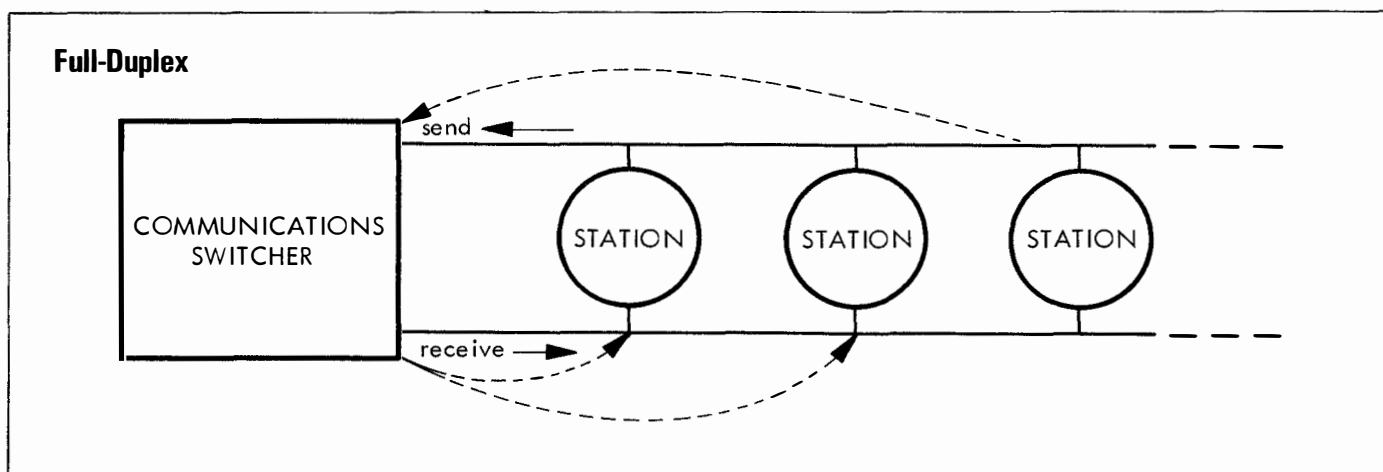
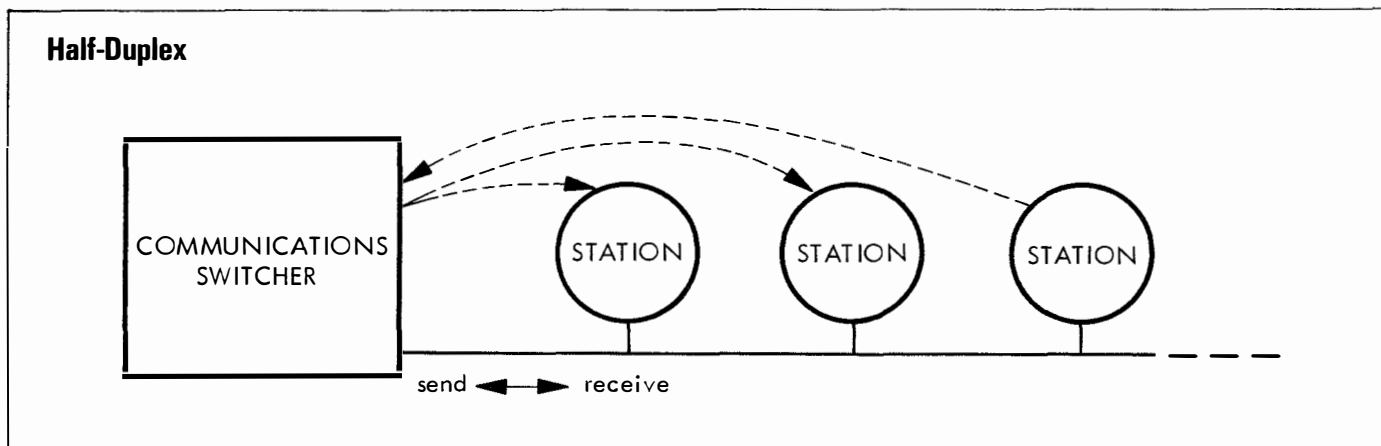


With station-to-station configurations transmissions proceed directly from the sending to the recipient stations, as illustrated by the dashed arrows. The line controller or communications switcher with intercept polls stations for traffic to send, but does not send or receive the transmissions unless a station is unable to receive. If the system employs a line controller, it can be a Teletype 8A1 line controller for 110 or 150 baud systems having up to 25 sending stations (up to 50 sending

stations by special arrangement) and any number of receiving stations. If the system employs a communications switcher, a Teletype 8A1 line controller can be used as a backup for the switcher. Also with station-to-station operation, the sending station must pause after sending each recipient station address and wait for an able-to-receive response from the recipient station (or intercept) before it can send its transmission in its entirety.

9100 STATION CONTROLLERS

CONTROLLED STORE-AND-FORWARD



With store-and-forward configurations all transmissions proceed from the sending station to the recipient stations via the communications switcher which stores and forwards the transmissions as illustrated by the dashed arrows. This permits the recipient station addresses to be long mnemonics. The shorter addressing character sequences required to actually address the recipient stations can be translated from the mnemonics as the transmissions pass through the communications switcher. It also permits such things as time, date, and message

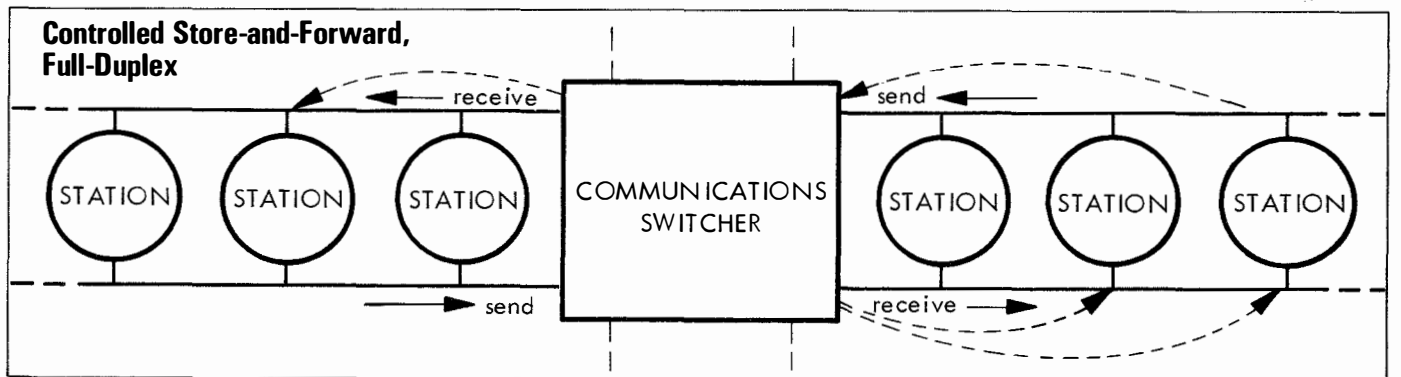
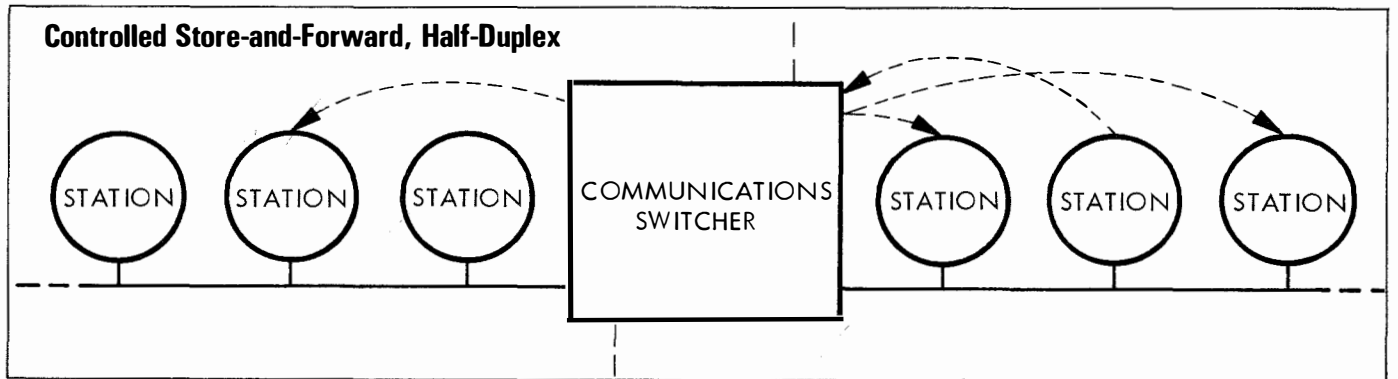
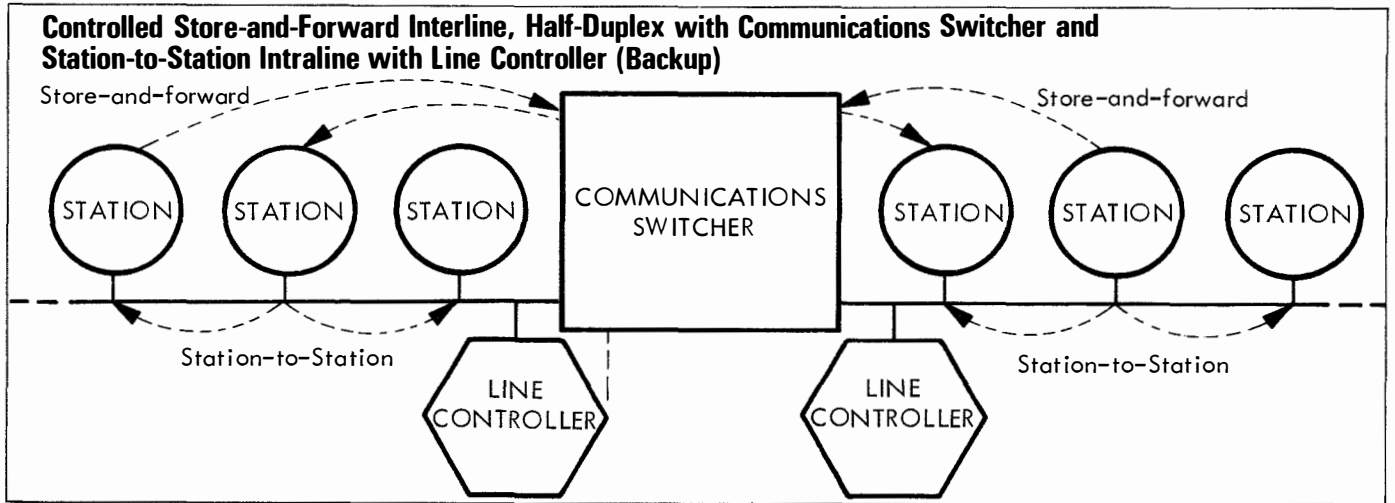
number to be inserted as the data passes through the switcher. Unlike station-to-station systems, the sending station does not have to wait for responses from the recipient stations. It can send continuously as soon as it is polled and is able to send.

With the full-duplex configuration, stations can send and receive at the same time, which could double the communications capability of the system compared to half-duplex.

OTHER CONFIGURATIONS

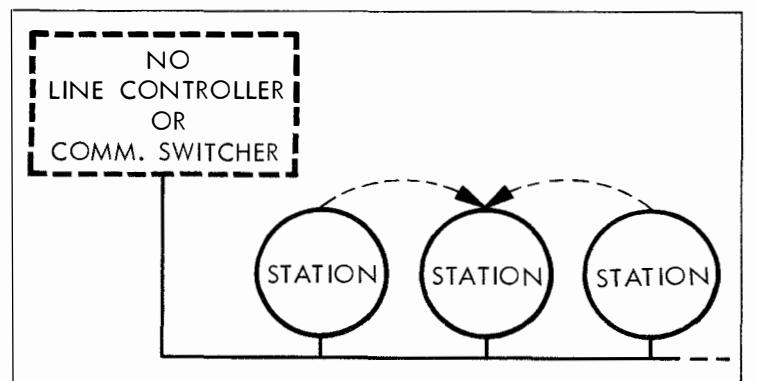
The above configurations depict the basic elements of actual system configurations. Typically, in actual systems, several communications channels radiate out from the system communications switcher; with stations grouped

on the different channels according to speed, code, community of interest, geographical location, traffic volume, and many many other considerations. The following diagrams only illustrate some of the possibilities.



Semi-Controlled (Contention) System

This system eliminates the full or part time need of a line controller or communication switcher to control a single circuit for station to station - half duplex operation. It permits an operator to manually poll her own station to send and receive, in the same manner as a controlled system. It also accommodates system interruption for priority messages, conversational mode between two or more similarly arranged stations, and remote unattended polling with manual intercept.

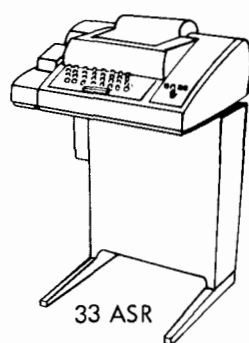
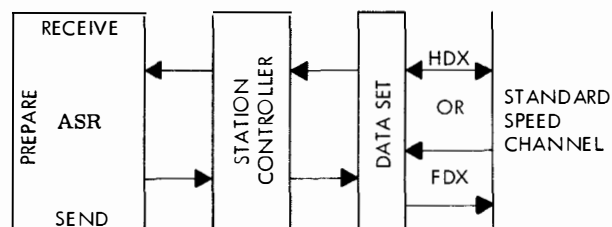


9100 STATION CONTROLLERS

Station Configurations

Teletype station controllers are available for installation in Teletype ASCII code terminals including 2101 (Inktronic), 33, 35, 37, 38, 4100 (paper tape) and 4210 (magnetic tape) terminals, as depicted below.

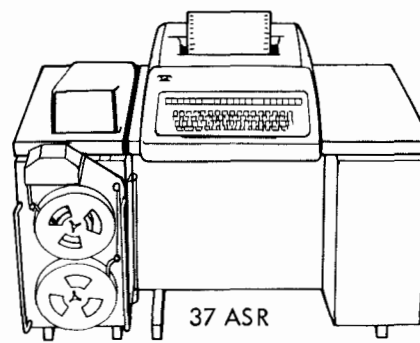
TELETYPE STATION CONTROLLERS IN ASR TERMINALS



33 ASR



35 ASR



37 ASR

100 WPM (10 char/sec)

150 WPM (15 char/sec)

Pin or friction fed page print-out, printing or non-printing punch

Teletype 33 ASR Terminals:

Send and receive data, half duplex (alternately) or full duplex (simultaneously); or prepare data. Send from punched tape or keyboard.

Receive and produce page print-out with or without punched tape.

Prepare data via keyboard and tape punch with page print-out as the keyboard monitor.

Teletype 35 and 37 ASR Terminals:

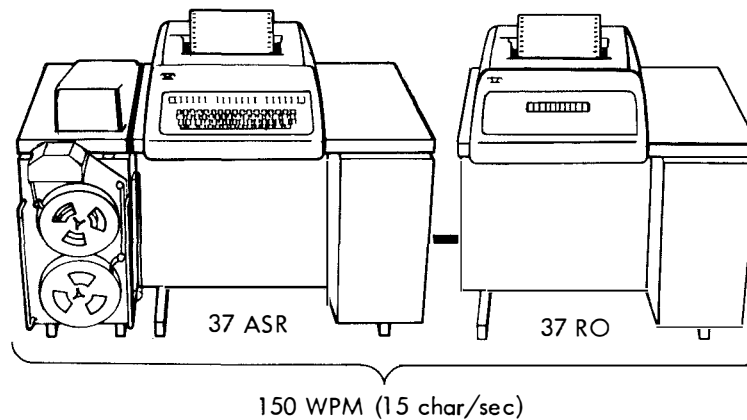
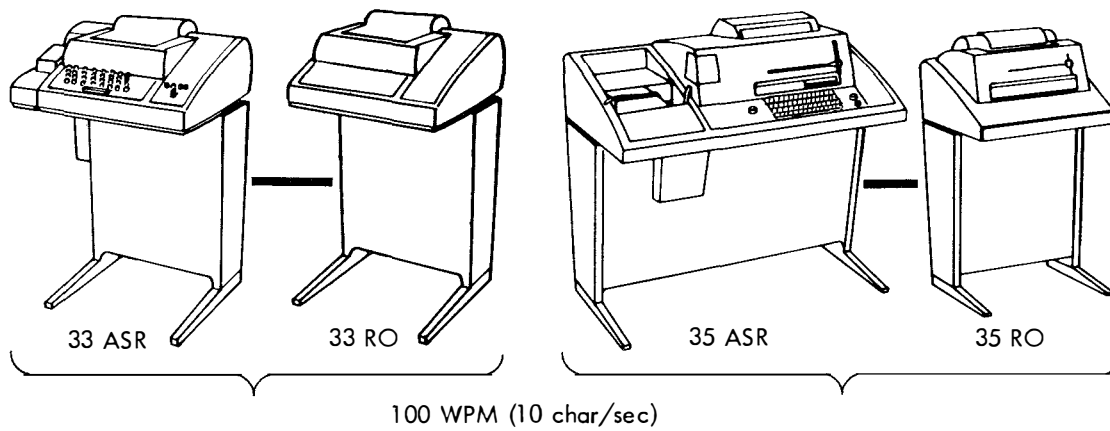
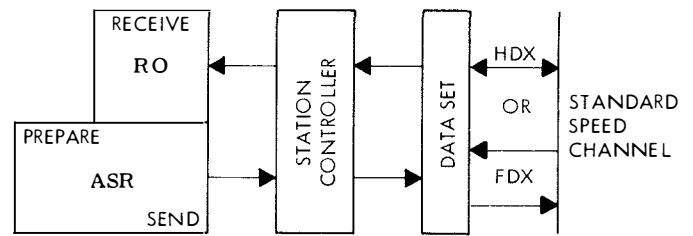
Send, receive, and prepare data, half duplex (alternately) or full duplex (simultaneously).

Send from punched tape or keyboard.

Receive and produce page print-out and/or punched and printed tape.

Prepare data via keyboard and tape punch with page print-out or tape print-out as keyboard monitor.

**TELETYPE STATION CONTROLLERS
 IN ASR-RO TERMINALS**



Pin or friction fed page print-out, printing or non-printing punch

Teletype 33 ASR-RO Terminals:

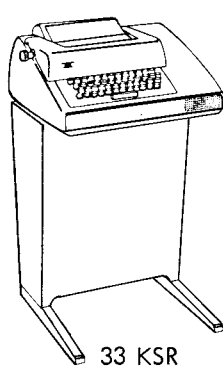
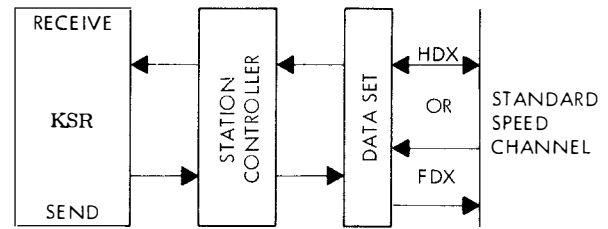
- Send and receive data, half duplex (alternately) or full duplex (simultaneously); or prepare and/or receive data.
- Send from punched tape or keyboard.
- Receive and produce page print-out.
- Prepare data via keyboard and tape punch with page print-out as the keyboard monitor.

Teletype 35 and 37 ASR-RO Terminals:

- Send, receive, and prepare data, half duplex (alternately) or full duplex (simultaneously)
- Send from punched tape or keyboard.
- Receive and produce page print-out and/or punched tape.
- Prepare data via keyboard and tape punch with page print-out as keyboard monitor.

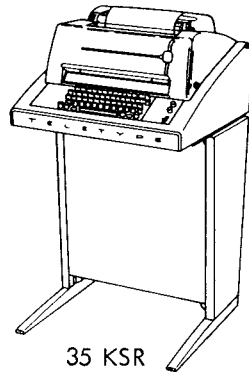
9100 STATION CONTROLLERS

TELETYPE STATION CONTROLLERS IN KSR TERMINALS

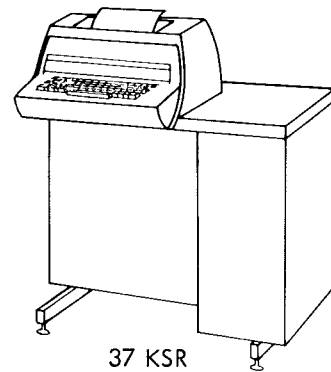


33 KSR

100 WPM (10 char/sec)



35 KSR

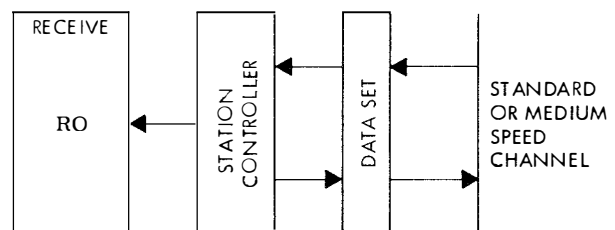


37 KSR

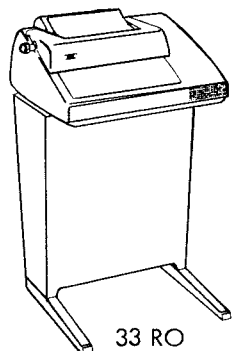
150 WPM (15 char/sec)

Send and receive data, half duplex (alternately) or full duplex (simultaneously).
Send from keyboard.
Receive and produce page print-out.

TELETYPE STATION CONTROLLERS IN RO TERMINALS

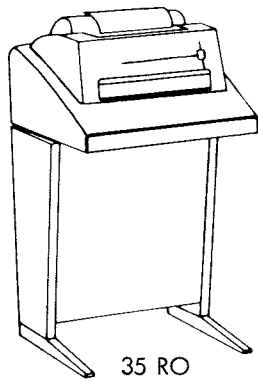


Receive data and produce a page print-out.



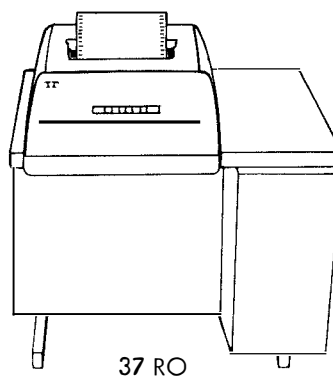
33 RO

100 WPM (10 char/sec)



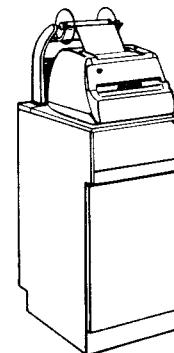
35 RO

Pin or friction fed page print-out



37 RO

150 WPM (15 char/sec)

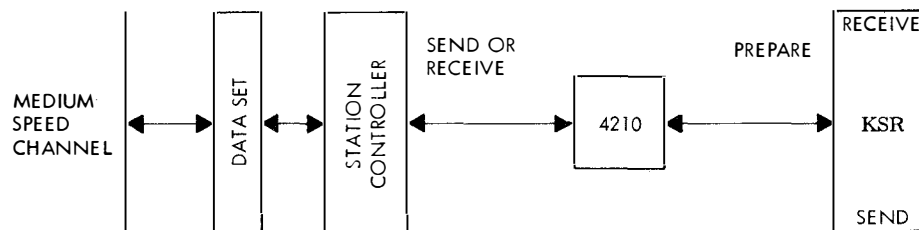
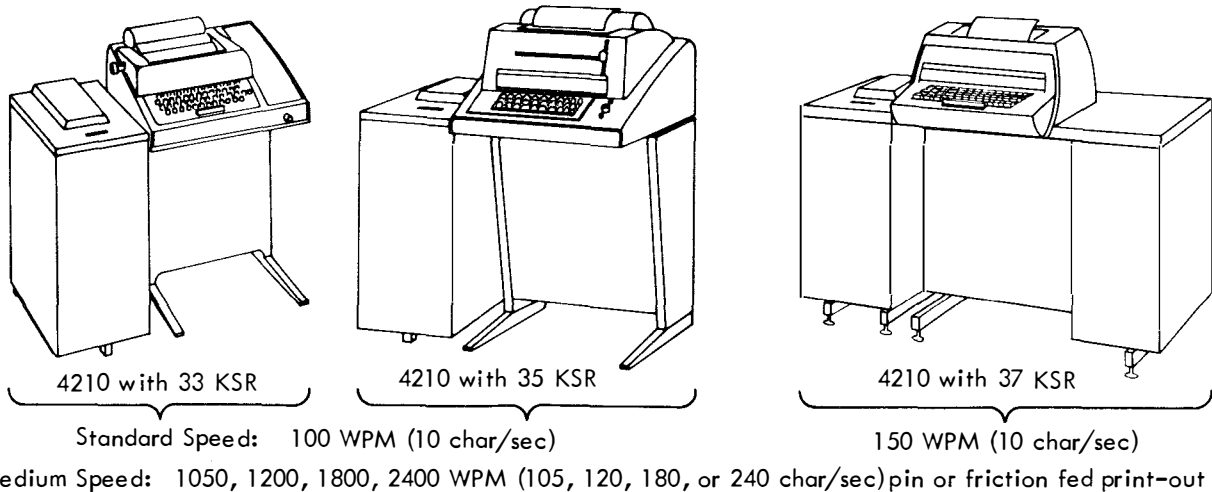


Inktronic RO

1050 or 1200 WPM
(105 or 120 char/sec)

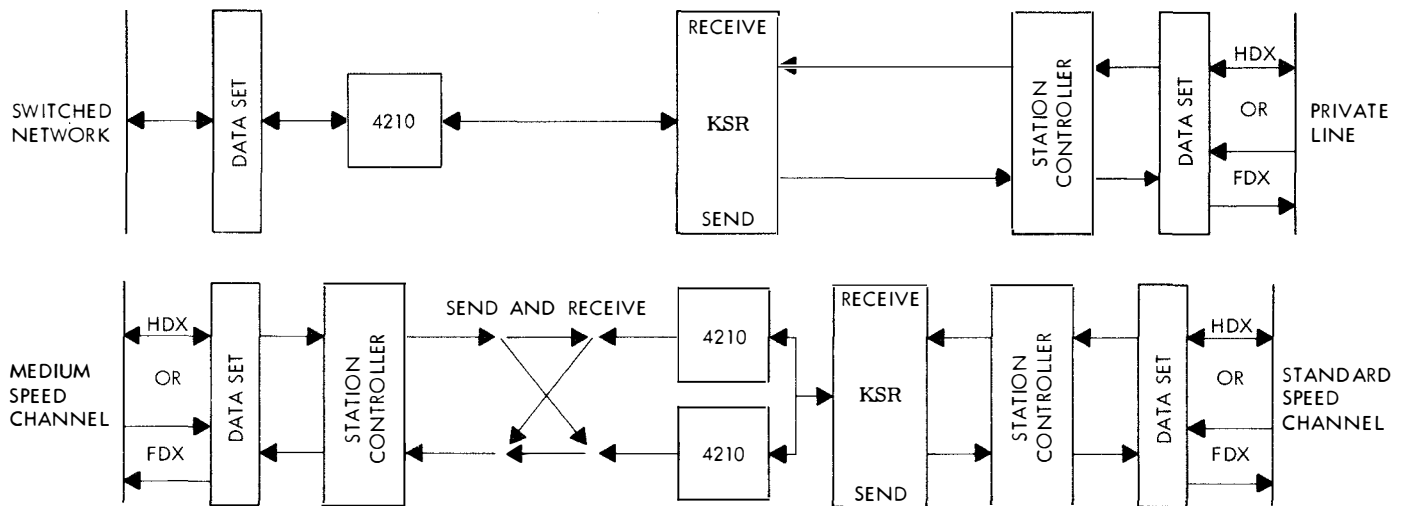
Friction fed page print-out

TELETYPE STATION CONTROLLERS IN KSR-4210 TERMINALS



Send or receive at medium speed; or prepare data.
 Send from magnetic tape at medium speed.

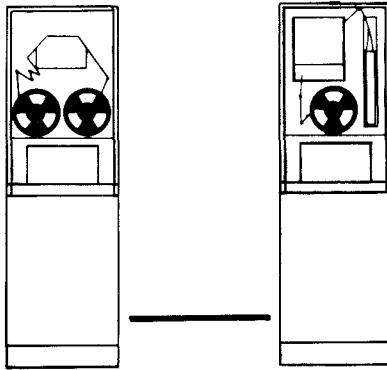
Receive and record on magnetic tape at medium speed, produce page print-out at standard speed.
 Prepare data via keyboard and tape recorder with page print-out as keyboard monitor.



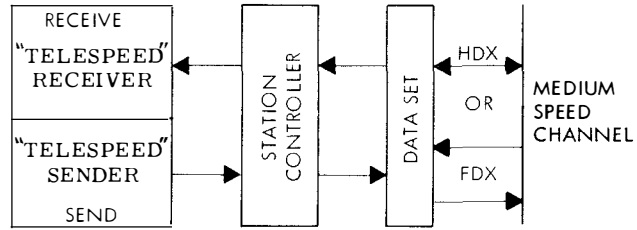
Send and receive, half duplex (alternately) or full duplex (simultaneously), at standard and/or medium speed, or prepare data.
 Send from magnetic tape at medium speed, keyboard at standard speed.
 Receive and record on magnetic tape at medium speed, produce page print-out at standard speed.
 Prepare data via keyboard and tape recorder with page print-out as keyboard monitor.

9100 STATION CONTROLLERS

TELETYPE STATION CONTROLLERS IN 4100 (TELESPEED™) TERMINALS



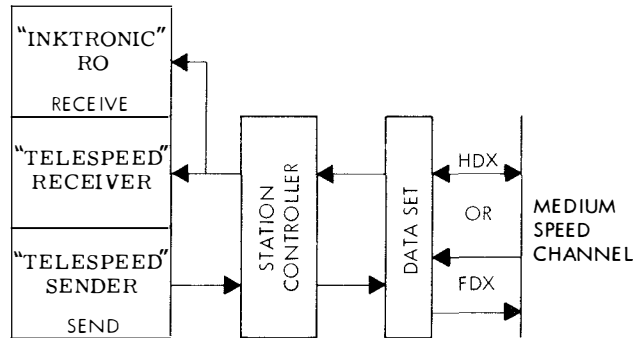
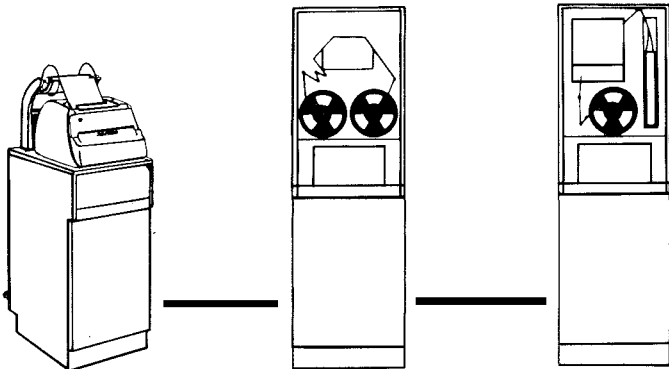
1050, 1200, 1800, or
2400 WPM (105, 120,
180, 240 char/sec)



"TELESPEED" SENDER "TELESPEED" RECEIVER

Send and receive, half duplex (alternately) or full duplex (simultaneously).
Send from punched tape.
Receive and produce punched tape.

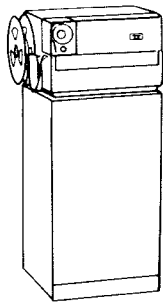
TELETYPE STATION CONTROLLERS IN 4100-2101 TERMINALS



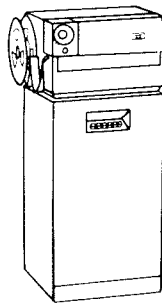
"INKTRONIC" RO "TELESPEED" SENDER "TELESPEED" RECEIVER

Send and receive, half duplex (alternately) or full duplex (simultaneously).
Send from punched tape.
Receive and produce punched tape with or without page print-out.

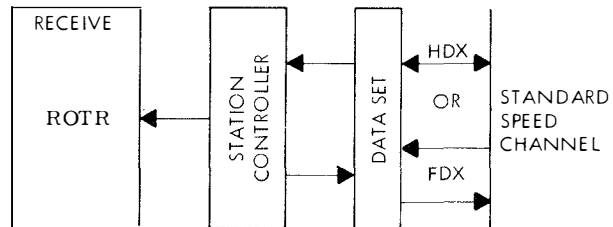
TELETYPE STATION CONTROLLERS IN ROTR TERMINALS



35 ROTR
100 WPM (10 char/sec)





37 ROTR
150 WPM (15 char/sec)





Receive data and produce punched and printed tape.

FEATURES

Teletype station controllers are available with a multiplicity of options and variations to meet the varied requirements of multi-point private-line systems.

In the illustrations that follow, the symbol  is used to denote alternatives obtained by selecting from among the variety of available station controllers listed in the Selection Guide (pg 33). The symbol  is used to denote alternatives obtained by strap option. Dashed lines are used to denote alternatives obtained by

selecting from the add-on options listed under Accessories (pg 38).

Also in the illustrations that follow, the symbol  is used to denote a programmable character, programmed by cutting wires on a circuit card according to the bit permutation for the character. If the symbol is filled in, for example , it means that the character has been programmed, and cannot be re-programmed for some other character.

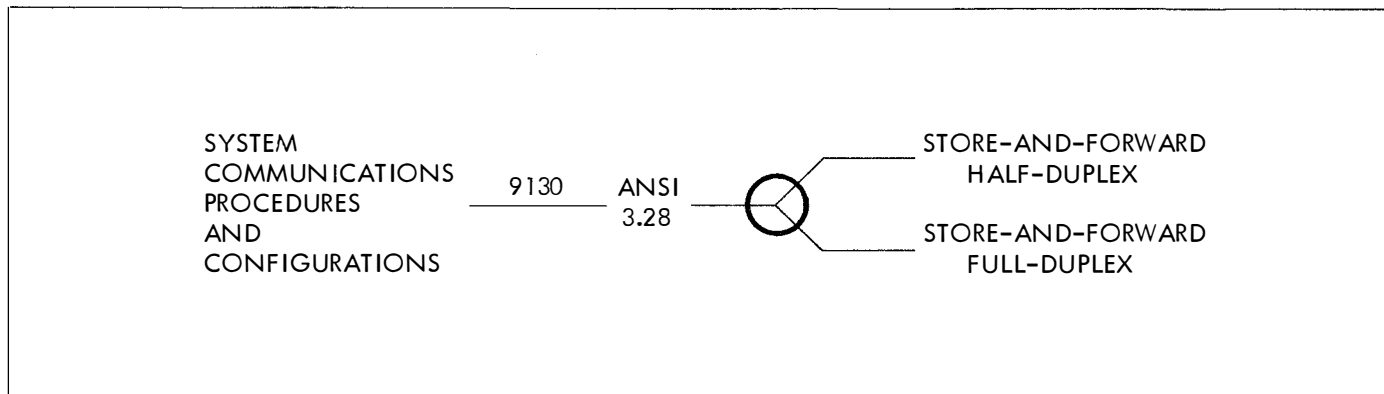
System Compatibility

Teletype station controllers are available for station-to-station half-duplex, store-and-forward half-duplex, and store-and-forward full-duplex system configurations.

Consistent with these configurations, Teletype station controllers are available to accommodate a variety of system communications procedures,

including ANSI (American National Standards Institute) 3.28-1971 and 8A1/8B1.

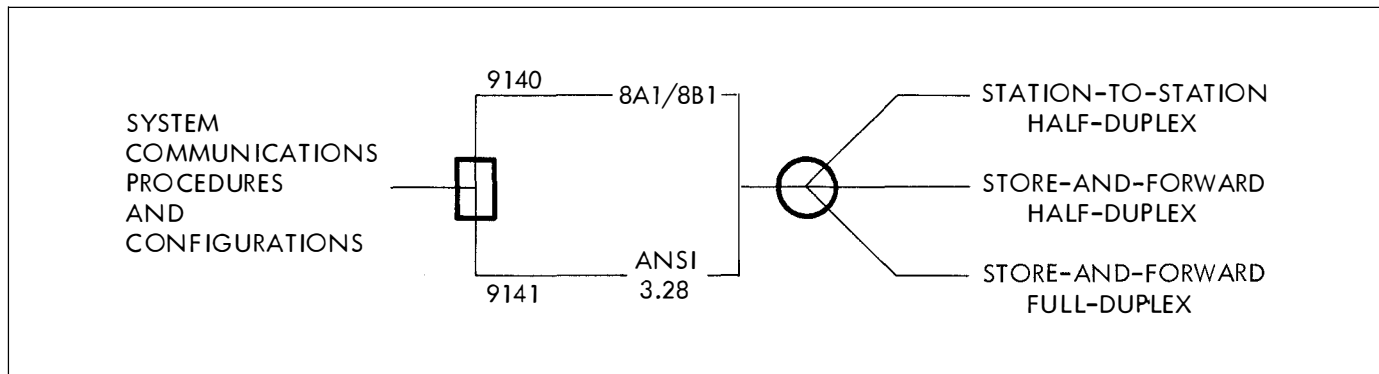
As depicted in the diagram below, 9130 station controllers accommodate ANSI 3.28 communications procedures and are programmable for store-and-forward half-duplex or store-and-forward full-duplex configurations.



9100 STATION CONTROLLERS

As depicted below, 9140 station controllers accommodate 8A1/8B1 procedures, 9141 station controllers accommodate ANSI 3.28 procedures; and both can be programmed for station-to-

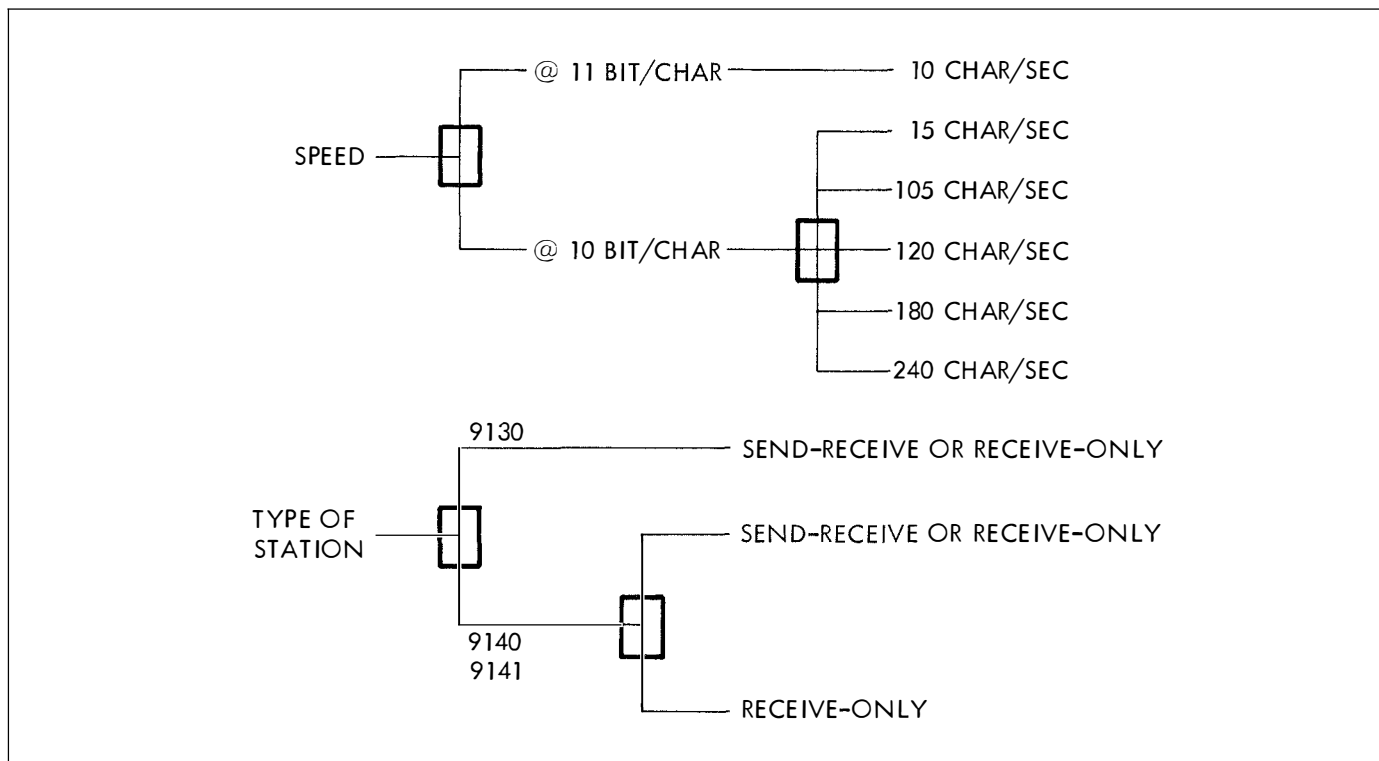
station half-duplex, store-and-forward half-duplex, or store-and-forward full-duplex configurations.



Terminal Compatibility

Teletype station controllers are available for installation in Teletype multi-point private-line ASCII Code terminals: 2101 (Inktronic), 33, 35, 37, 38, 4100 (paper tape), and 4210 (magnetic tape) terminals as shown under Station Configurations (pg 8). They are also available for installation in suitably arranged

receive-only and send-receive data terminals and business machines operating at 10 char/sec @ 11 bit/char or 15, 105, 120, 180, or 240 char/sec @ 10 bit/char, and having an EIA (Electronic Industries Association) RS-232B interface.

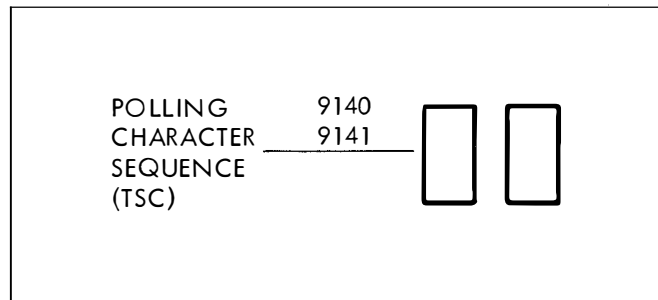
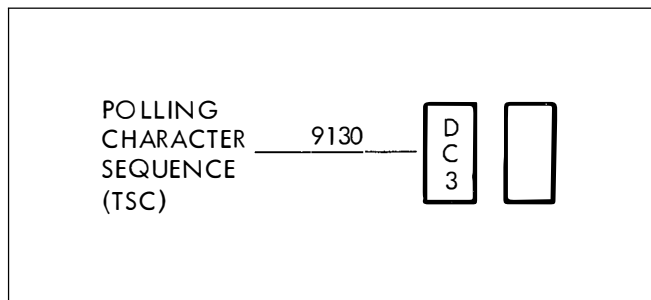


Polling

A station is selected to send when it recognizes receipt of its polling sequence, sometimes called transmitter start code or TSC. Teletype station controllers are available with a choice of polling sequences. 9130 station controllers have a polling sequence consisting of the ASCII

control DC3 (Device Control 3) followed by one programmable character.

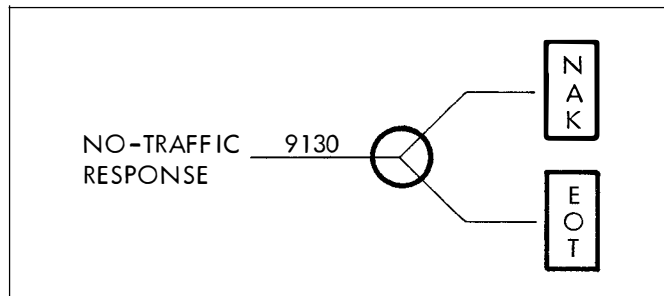
9140 and 9141 station controllers can be programmed for a polling sequence consisting of 2 programmable characters.



Polling Responses

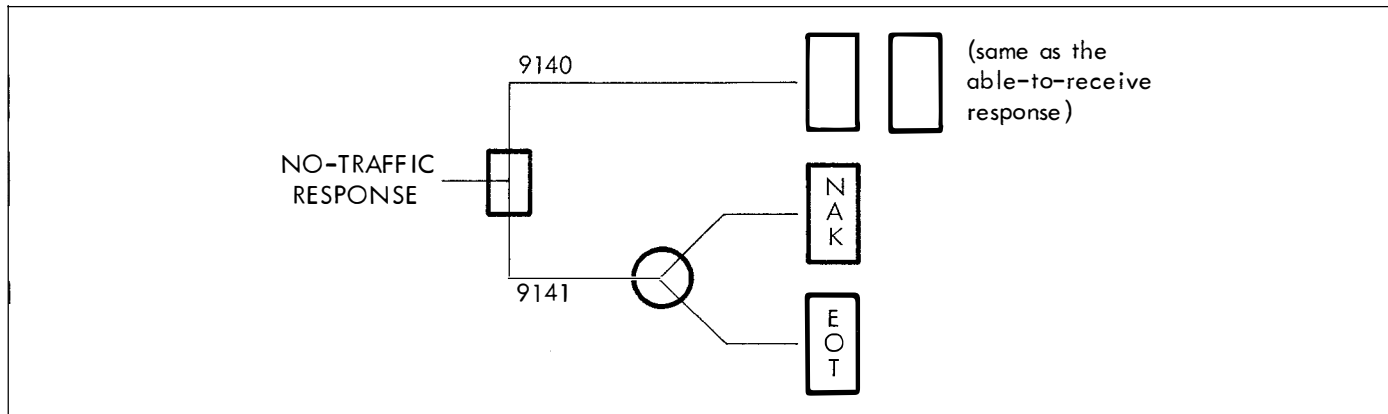
When a station is polled and has traffic to send, it sends its transmission according to the system's communications procedure. When a station is polled but has nothing to send, it sends a no-traffic response. Stations equipped with 9130 station controllers can be programmed to send the ASCII control NAK (Negative Acknowledge) or the ASCII control EOT (End of Transmission) for this purpose; either of which conforms to ANSI 3.28 procedures.

Stations equipped with 9140 station controllers send a programmable 2-character response (the same 2 characters used to send the able-to-receive response, described below under addressing responses). This permits all stations to be programmed for the same response characters, including the characters that conform to 8A1/8B1 procedures, or each



station to be programmed for unique response characters, to permit the communications switcher to identify each response as coming from the station it polled.

Stations equipped with 9141 station controllers can be programmed to send the ASCII control NAK (Negative Acknowledge) or the ASCII control EOT (End of Transmission), either of which conforms to ANSI 3.28.

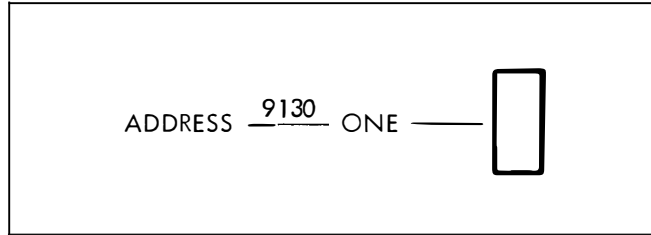


9100 STATION CONTROLLERS

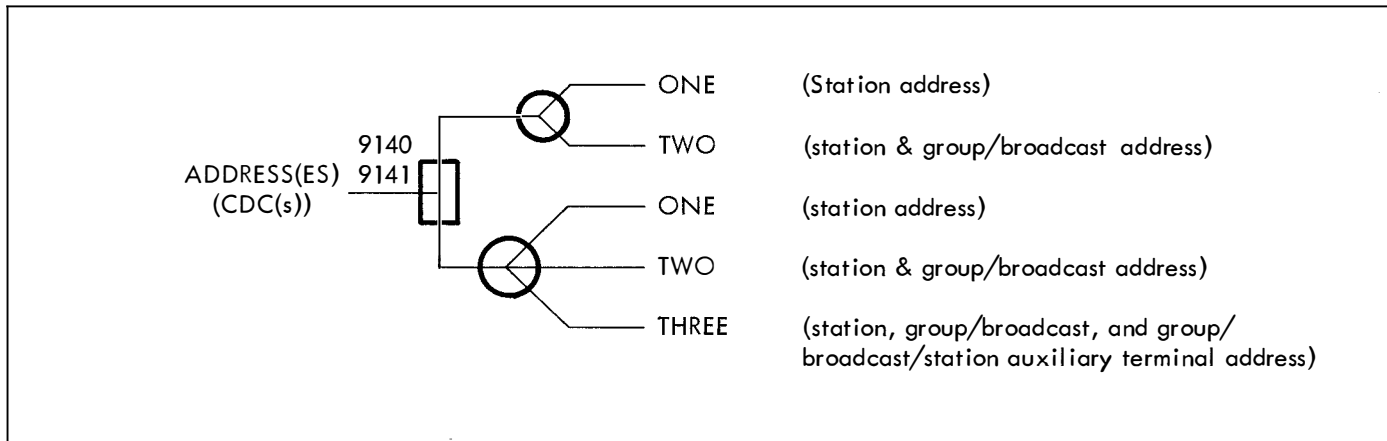
Addressing

A station is selected to receive when it recognizes receipt of (one of) its address(es), sometimes called call directing code(s) or CDC(s). Equipped with 9130 controllers, stations have a single address, programmable for one character.

9140 and 9141 station controllers are available with up to 2 or up to 3 different addresses; each programmable for any 1 character,

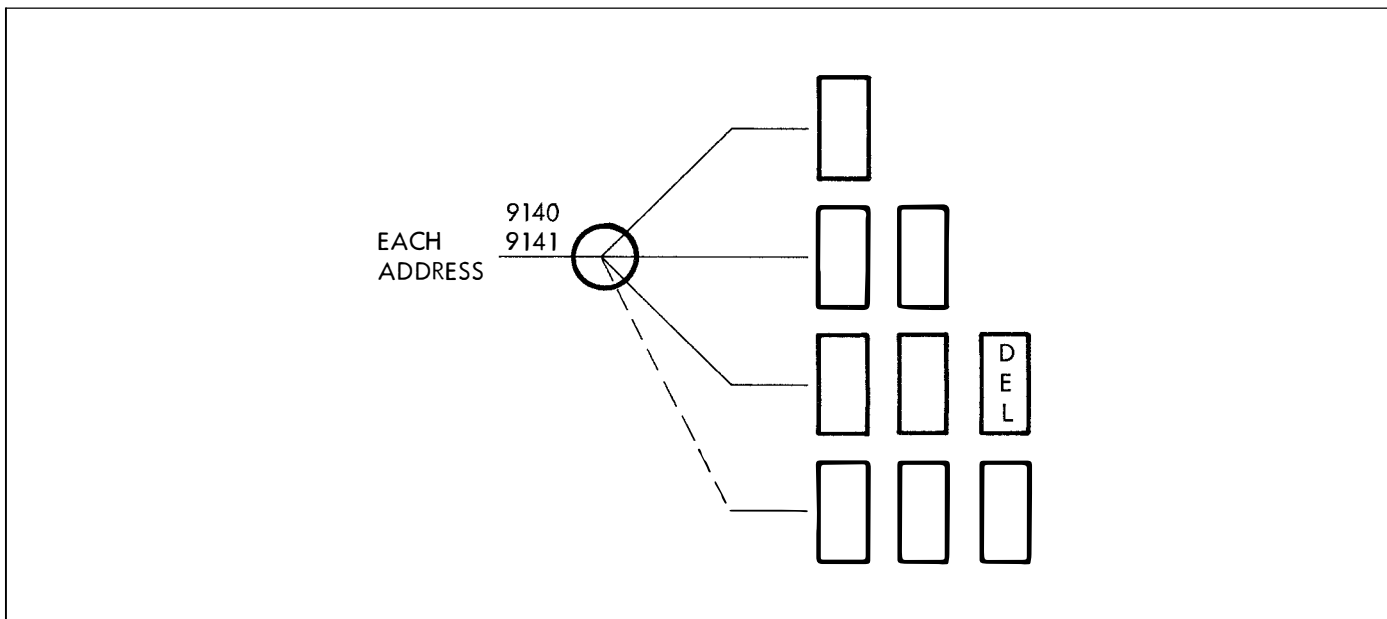


characters, any 2 characters plus the ASCII character DEL (Delete), or any 3 characters.



The multiple address alternatives permit individual stations to be addressed, the prime terminal with or without the auxiliary terminal in a station to be addressed, and/or groups of

stations or all stations to be simultaneously addressed. The multiple character-per-address alternatives permit stations to have more mnemonic addresses.

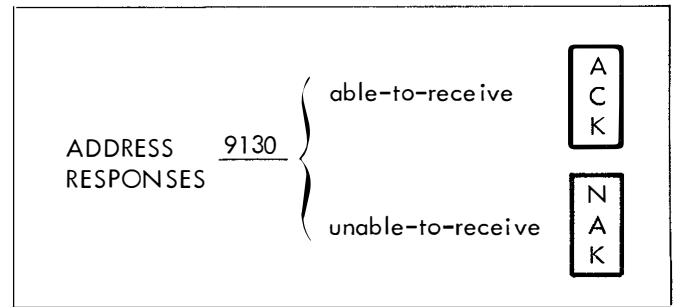


Addressing Responses

When a station is addressed and is able to receive, it normally sends an able-to-receive response. If it is addressed but is not able to receive, it sends an unable-to-receive response. 9130 equipped stations provide these responses. For both conditions, 9140 and 9141 equipped stations can be programmed to give no response to any or all of its addresses. This permits 9140 and 9141 equipped stations to respond to their individual addresses but not their group or broadcast address, to prevent the garble that would be caused by a simultaneous group or broadcast response. (Normally one station in the group is programmed to respond, in effect, for the group.) These same alternatives can also be used to save the time required for responses in systems where no response is desired.

9130 station controllers respond able-to-receive by sending the ASCII control ACK (Acknowledge); and unable-to-receive by sending the ASCII control NAK (Negative Acknowledge).

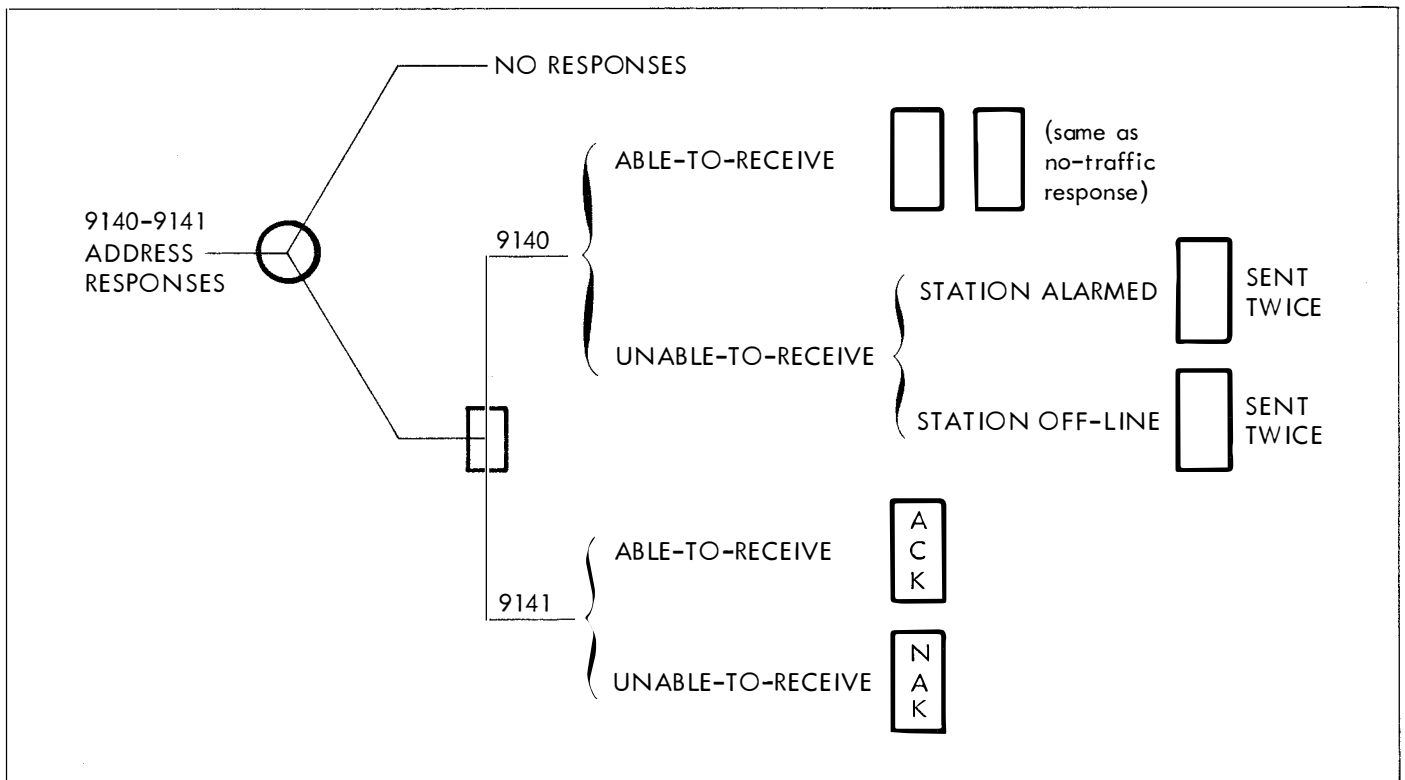
9140 station controllers respond able-to-receive by sending a programmable 2-character response (the same two characters used for the no-traffic response, as described above under Polling); and respond unable-to-receive by sending one programmable character twice in



succession when reception is prevented by a station alarm condition, and another programmable character twice in succession when reception is prevented by the station being in the off-line tape preparation mode.

9141 station controllers respond able-to-receive by sending the ASCII control ACK (Acknowledge); and unable-to-receive by sending the ASCII control NAK (Negative Acknowledge).

9140 equipped stations can all be programmed for the same responses, including the responses that conform to 8A1/8B1 procedures, or each station to be programmed for unique responses, to permit the system line controller or communications switcher to identify each response as coming from the station addressed.



9100 STATION CONTROLLERS

Automatic Motor Control

Teletype station controllers can be programmed with or without motor control. With it, station motors turn on only when the station is selected to send, or selected to receive. This reduces unnecessary wear and noise, thereby extending maintenance intervals and gaining better acceptance in office environments.

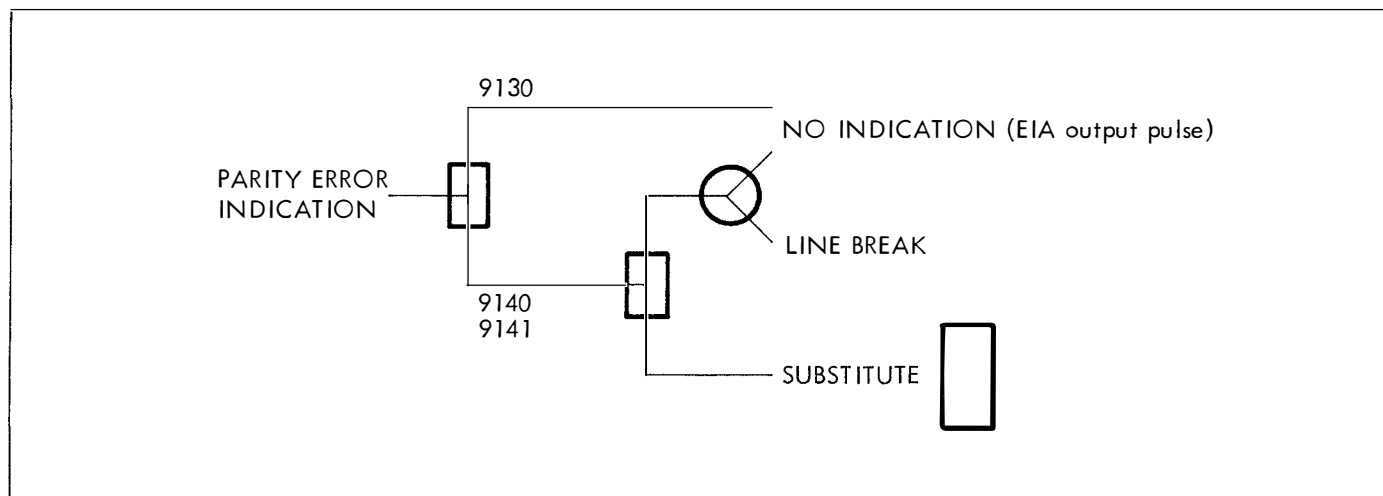
Without motor control, station motors are left on continuously. This shortens station start up time from 2 to 0.2 seconds, a decided advantage at high traffic stations.

Signal Regeneration

All station controllers regenerate received signal to remove up to 45% possible transmission distortion. They can be programmed to regenerate sent as well as received signal, if programmed for half-duplex operation.

Parity Error Detection

All station controllers are programmable to detect even vertical parity in received characters. 9140 and 9141 station controllers are available to indicate parity errors by substituting a programmable character for each character received with erroneous parity, or by generating a timed break signal, or to give no indication.



Line Break

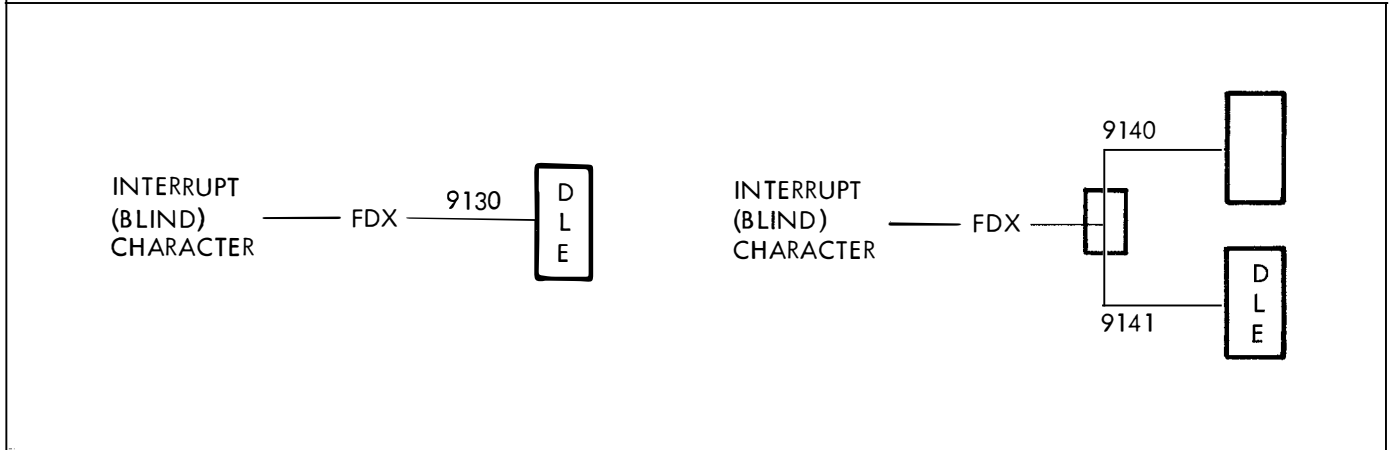
All station controllers are programmable to either detect received line break and deselect the station so that it must be re-pollled or re-addressed.

Recording

Stations programmed for half-duplex operation can be programmed to record or not record the data that they are sending. Station controllers programmed for station-to-station half-duplex can also be programmed to record the address portion of the data and the responses to the addresses.

Interrupt

Station controllers programmed for store-and-forward full-duplex operation are interrupted (blinded) by receipt of an interrupt character and restarted (unblinded) by receipt of the control STX, as described for this type of system under Technical Information (pg 28). Interrupt character for 9130 station controllers is DLE. Interrupt for 9140 is programmable for any character. Interrupt for 9141 is DLE.

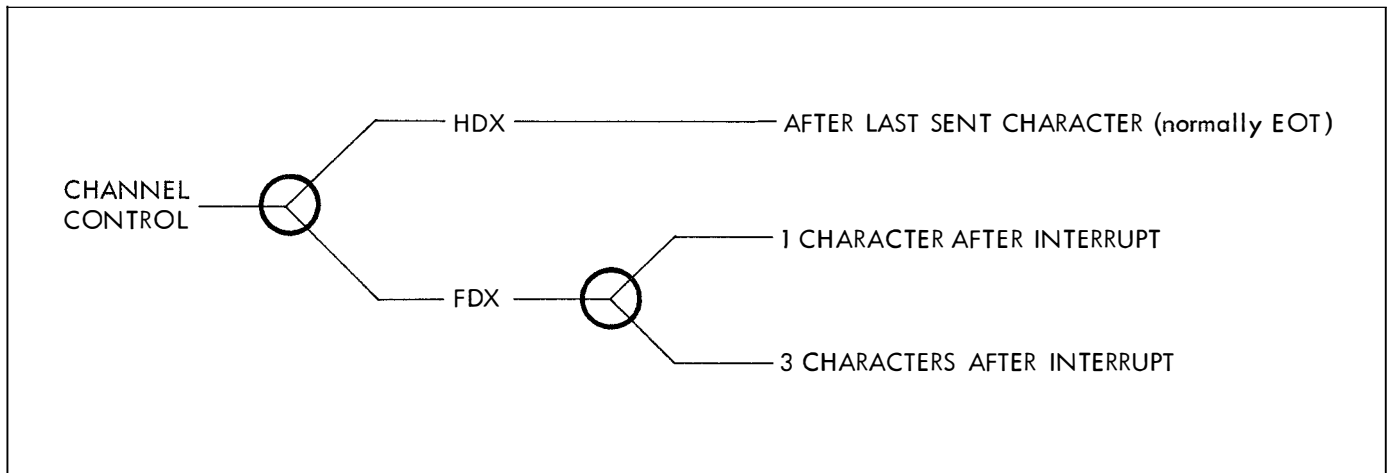


Station Deselect

Station Controllers programmed for half-duplex deselect on EOT (sent or received). Station controllers programmed for full-duplex deselect as a receiver on receipt of EOT and deselect as a sender on receipt of DC3.

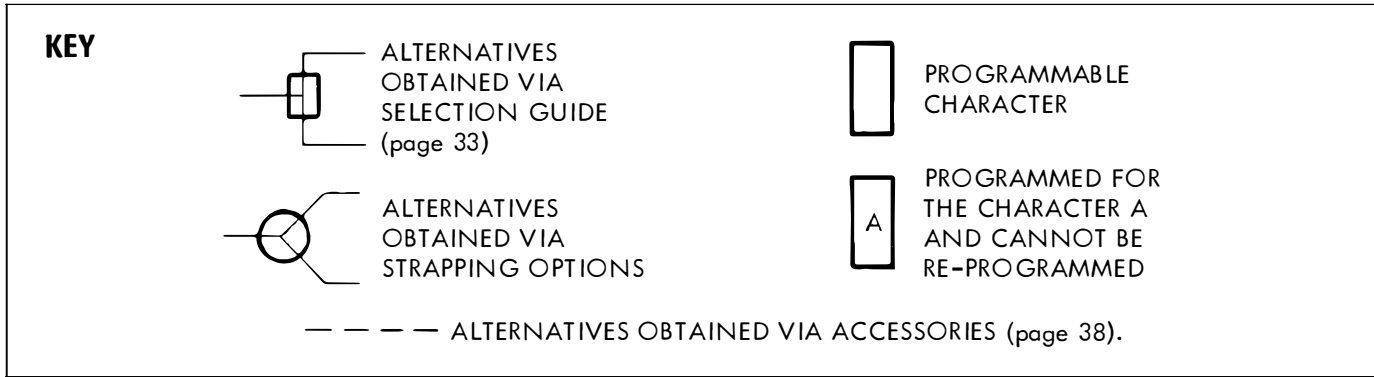
Channel Control

With channel control, the station controller turns the data set carrier on and off each time it sends.

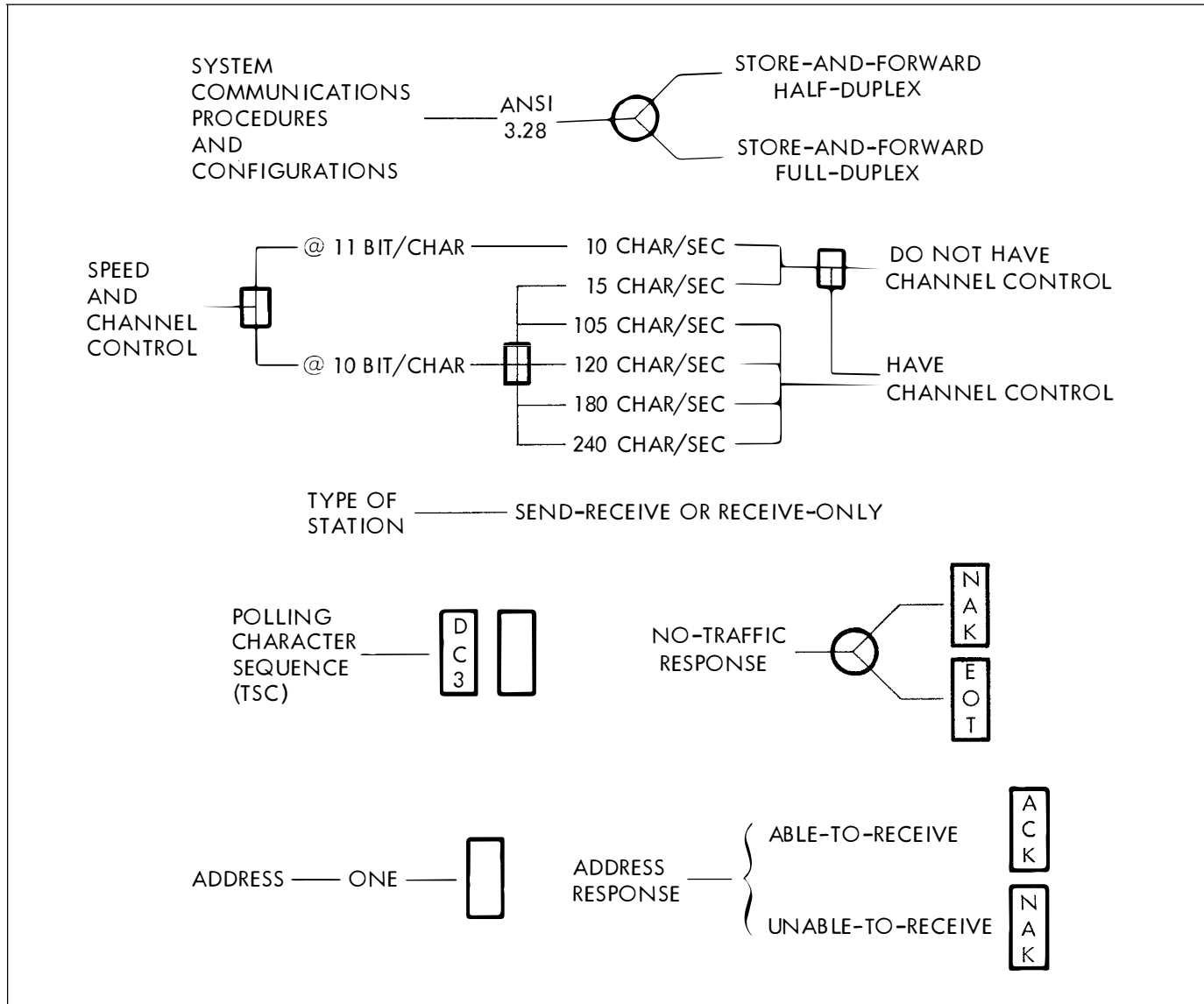


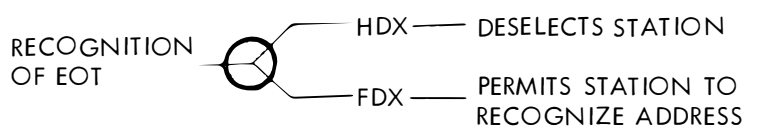
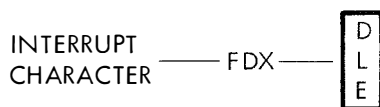
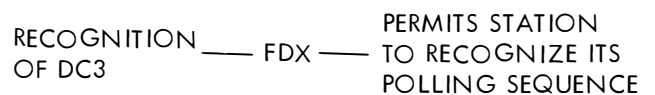
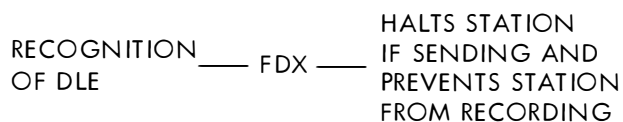
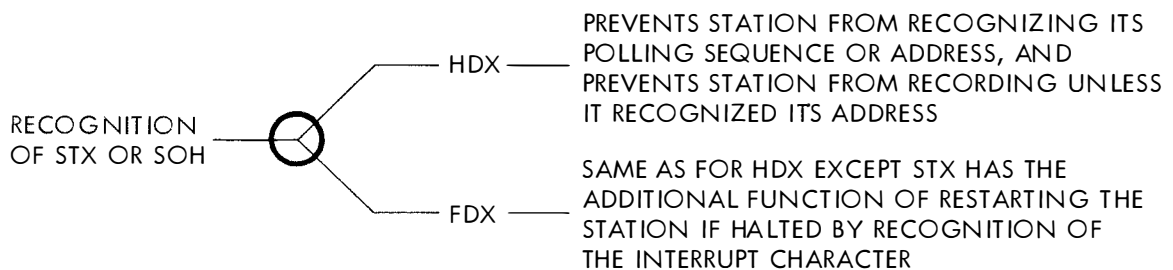
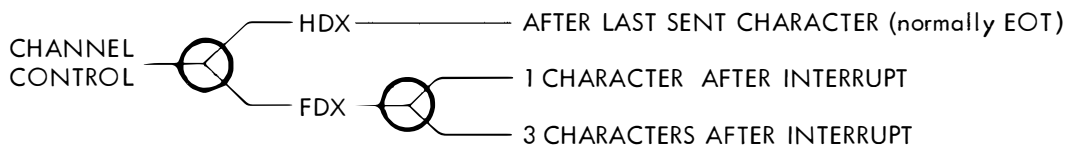
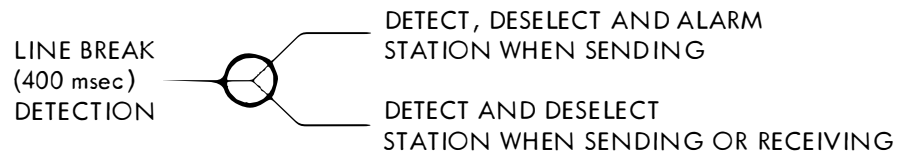
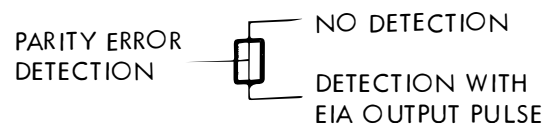
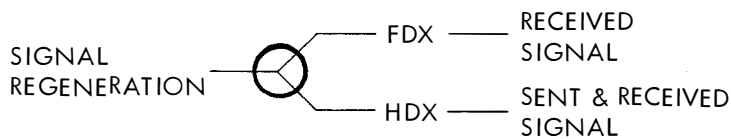
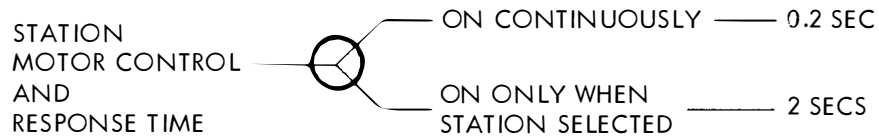
9100 STATION CONTROLLERS

OPTIONS GUIDE



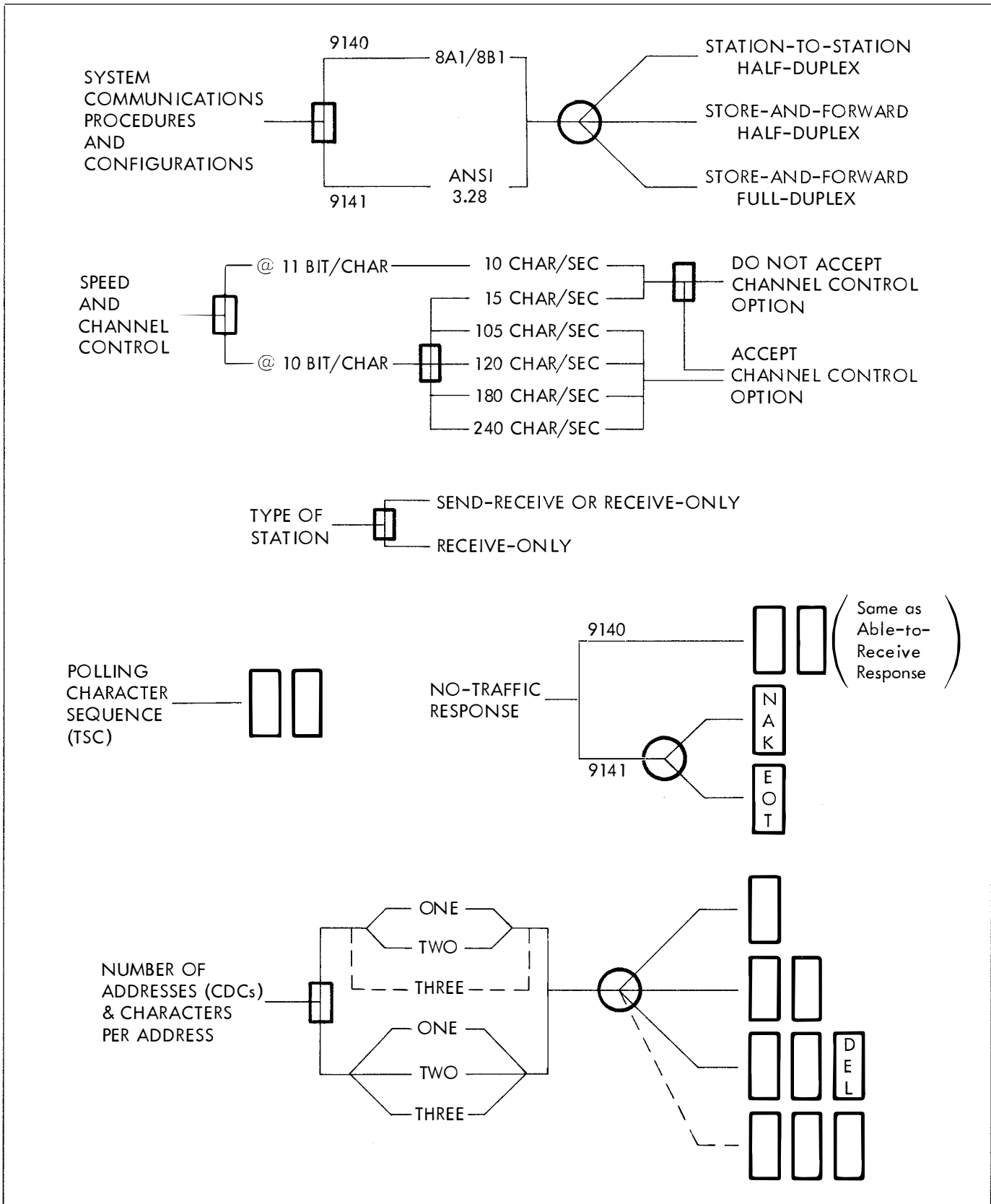
9130 Station Controllers

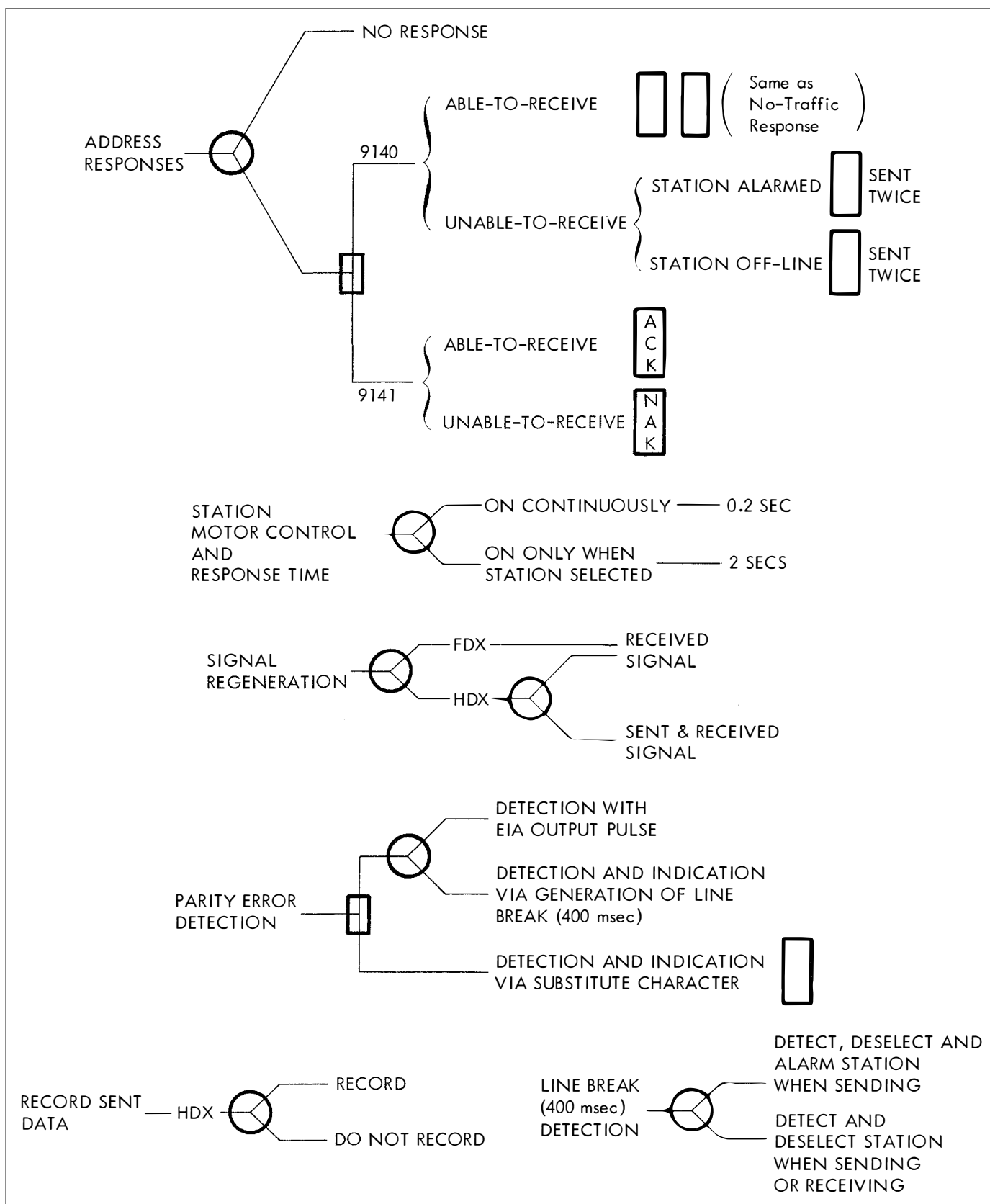




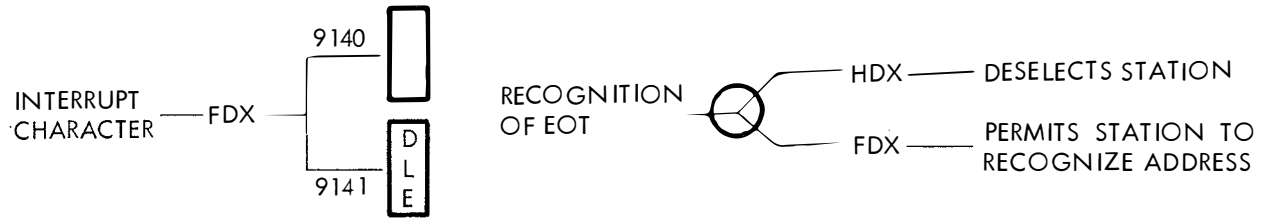
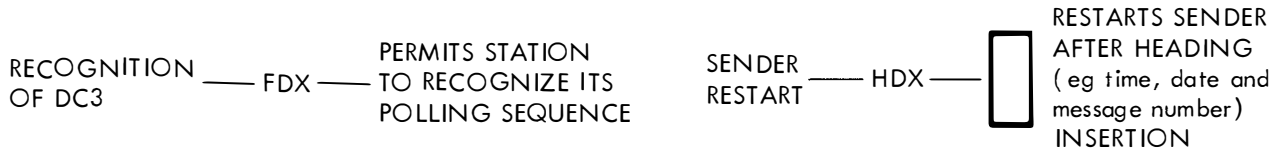
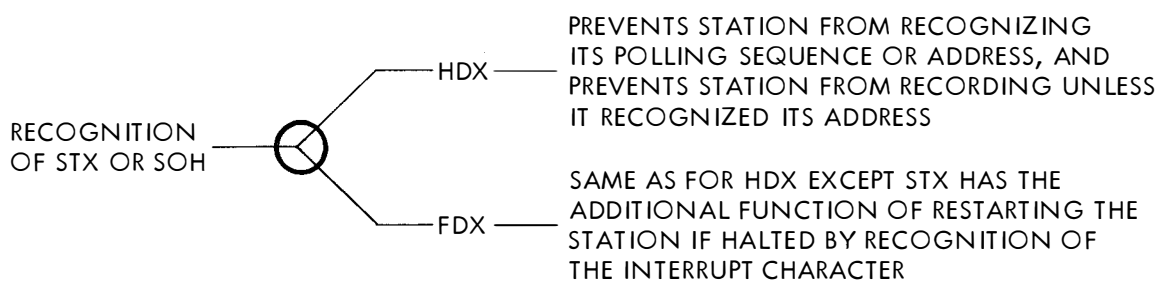
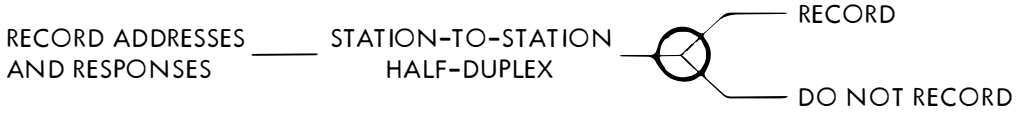
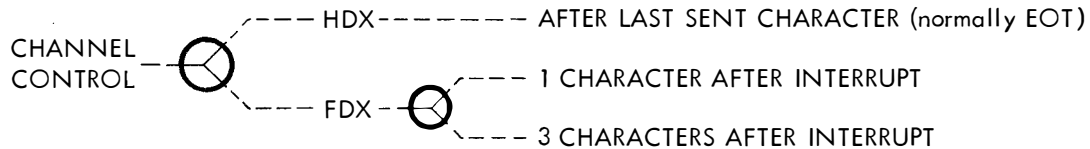
9100 STATION CONTROLLERS

9140 and 9141 Station Controllers





9100 STATION CONTROLLERS

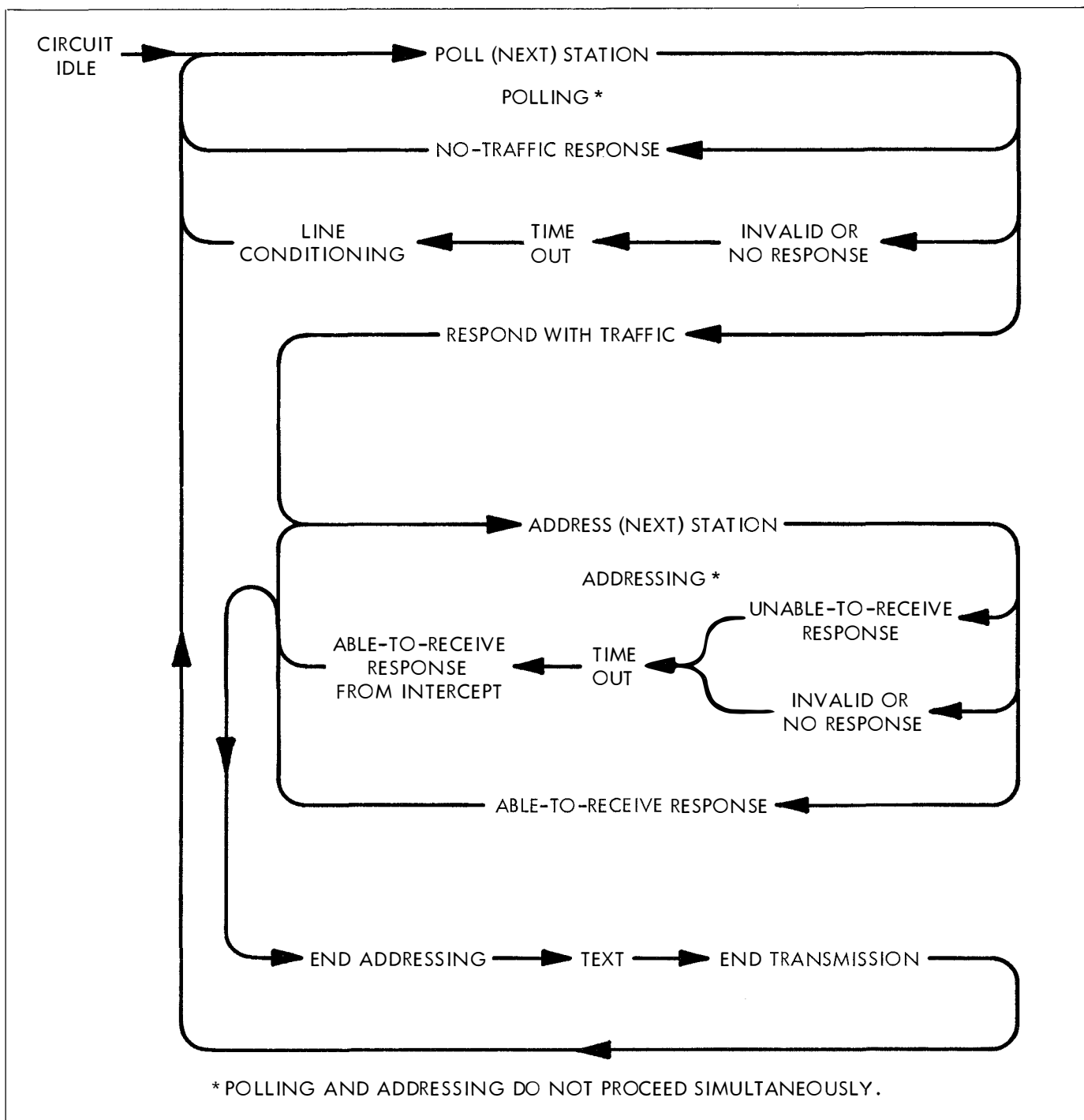


TECHNICAL INFORMATION

Basic System Operation

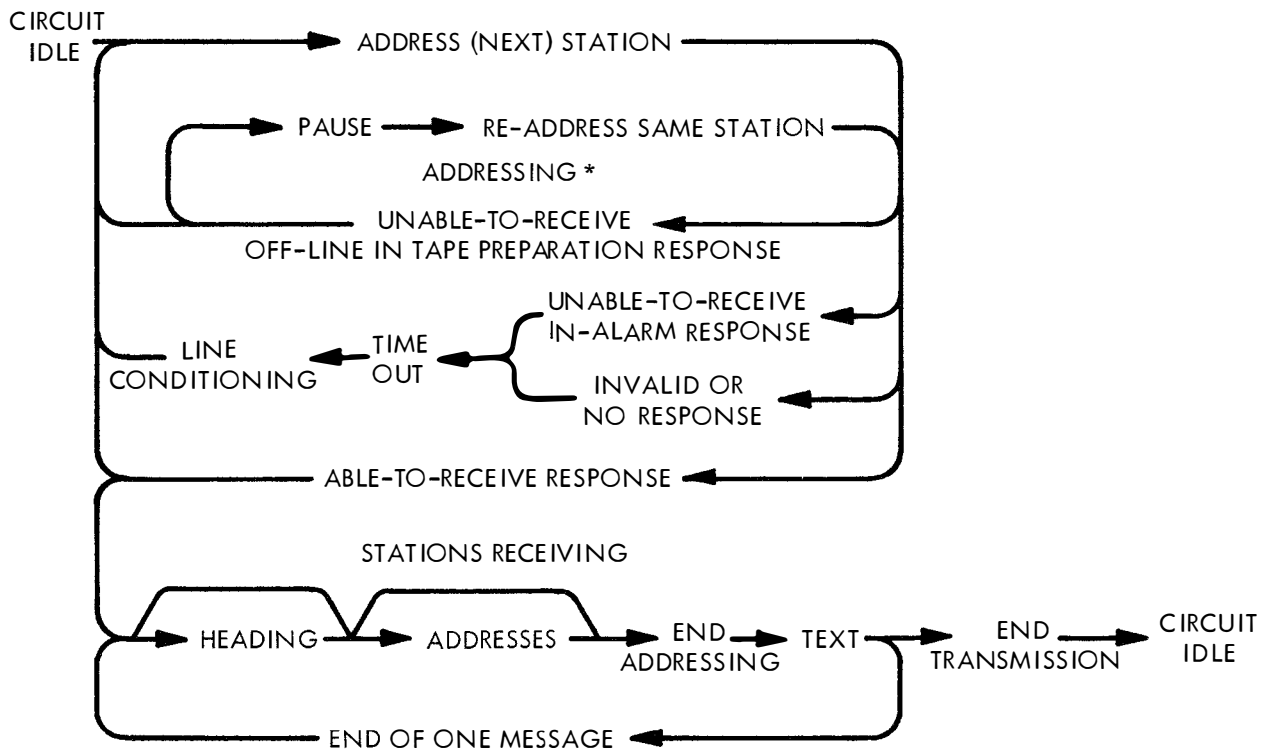
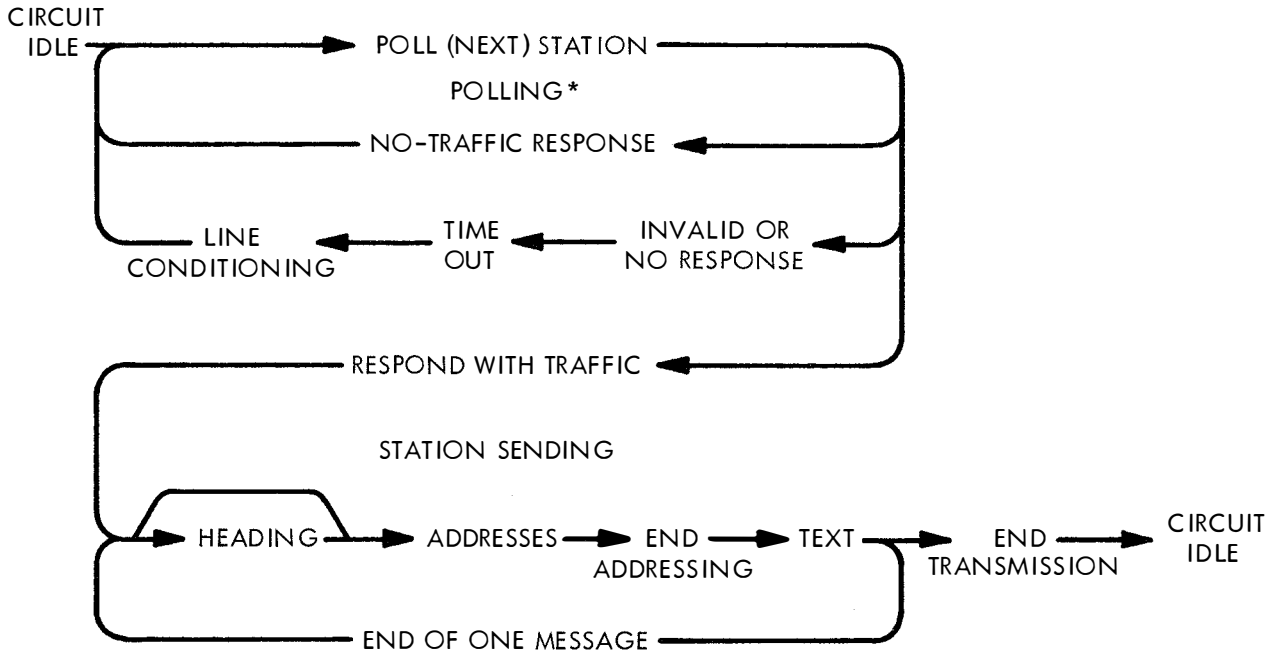
Refer to Teletype bulletin 333B for detailed description of station-to-station and store-and-forward systems using Teletype 8A1/8B1 communications procedures. Refer to Teletype bulletin 340B for detailed description of store-and-forward systems using ANSI-3.28-1971 communications procedures.

STATION-TO-STATION HALF-DUPLEX (Non-Simultaneous) OPERATION



9100 STATION CONTROLLERS

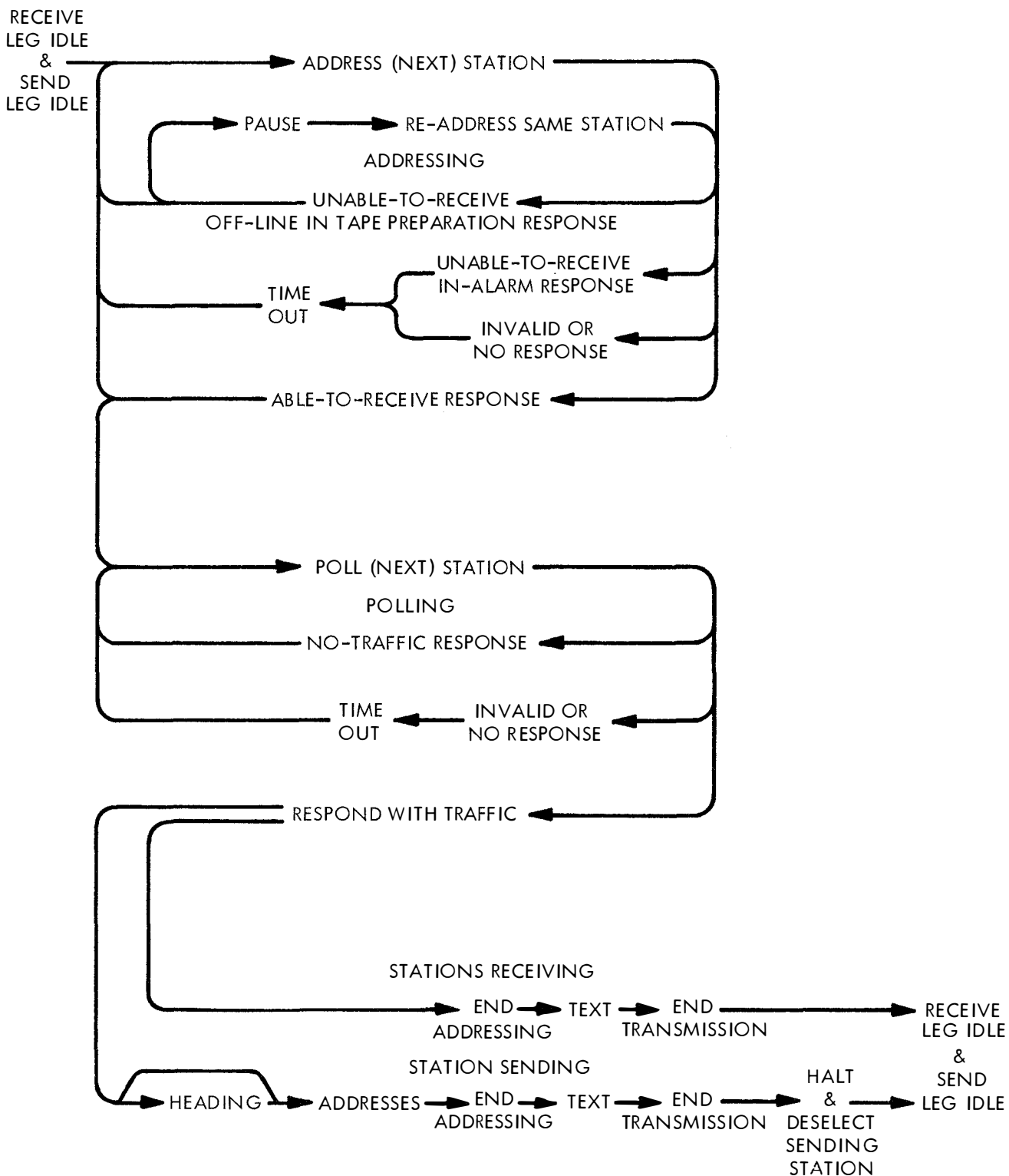
STORE-AND-FORWARD HALF-DUPLEX (Non-simultaneous) OPERATION



* POLLING AND ADDRESSING DO NOT PROCEED SIMULTANEOUSLY

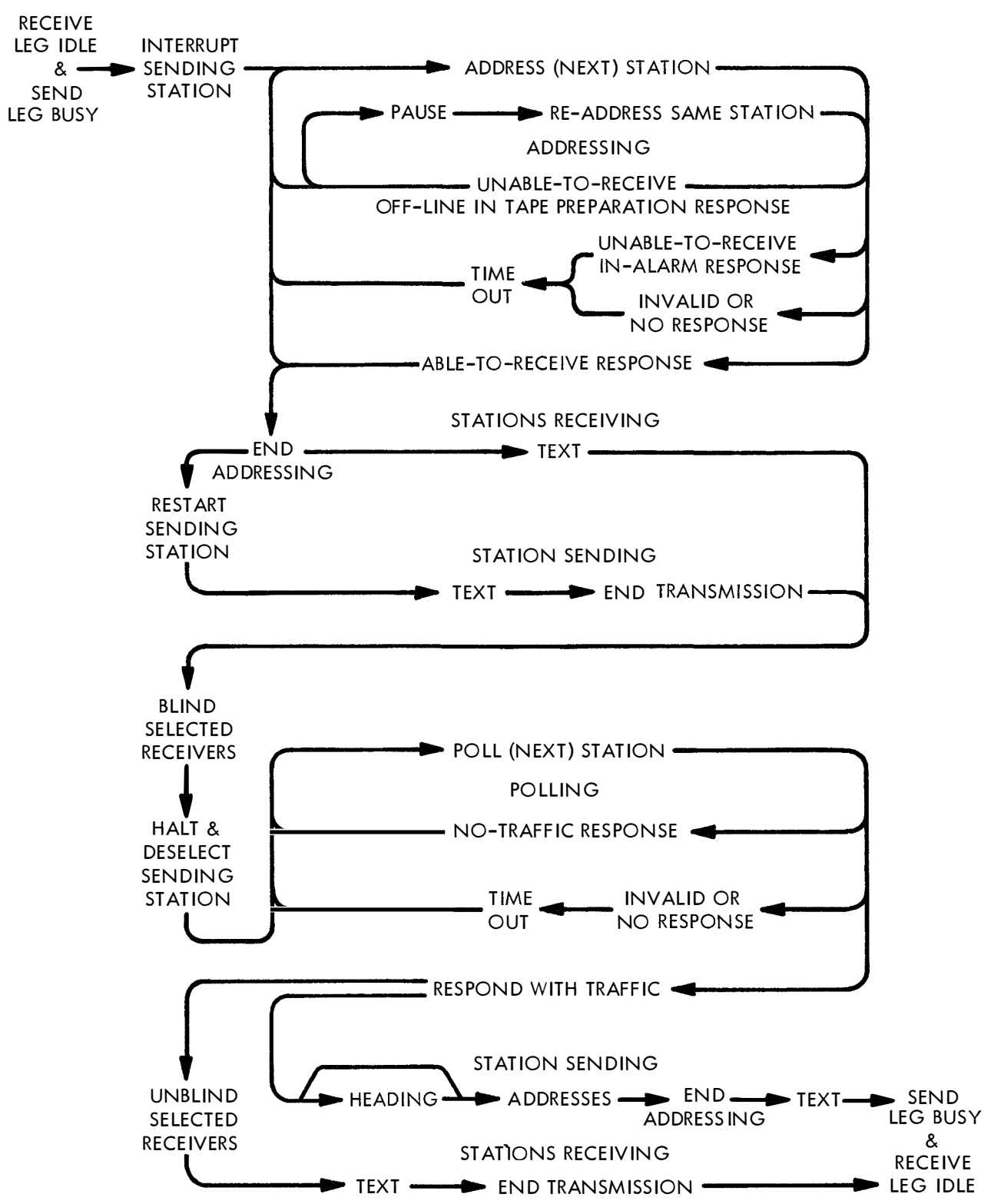
STORE-AND-FORWARD FULL-DUPLEX (Simultaneous) OPERATION

Basic Operation



9100 STATION CONTROLLERS

Interrupt Operation



Programmable Characters

Programmable polling and addressing character sequences and responses to the receipt of these sequences should be programmed for different characters unless required, or desired, otherwise.

Characters and controls having significance to the functional control of the terminal(s) in the station should be avoided if possible. Also characters should be chosen whose bit patterns differ by as

much as possible, to prevent simple communications channel distortions from causing undesired actions. In this regard, certain characters and controls should be avoided altogether because they have a bit pattern that is too easily changed by distortion to another character or control whose interpretation is significant to the entire system, such as NUL, @, p, |, and DEL.

Timing Considerations

Time should be allowed by the system controller for station controllers programmed for automatic motor control to start their station when there is traffic concerning it. Station controllers programmed for motor control require 2 seconds to respond to their polling and address-

ing character sequences; without motor control require 0.2 seconds.

Line Break = binary state 0 (spacing) signal for 400 msec.

Power and Environmental Requirements

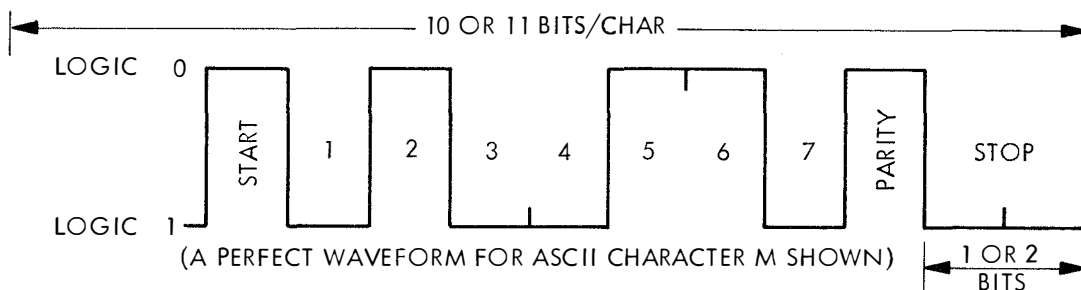
Nominal Voltage	Voltage Range	Ripple Voltage (stop)	Current Range (amps)
+12	+11.0 min +19.0 max	0.60	0.3 min 1.5 max
-12	-11.0 min -19.0 max	0.60	0.06 min 0.15 max

POWER CONSUMPTION: 25 W max

HEAT GENERATION: 7 BTU/hr max

ENVIRONMENTAL REQUIREMENTS: 40⁰ to 110⁰F @ 90% r.h. max

Serial Signal



EIA: LOGIC 0 = +3 TO +25 VDC

LOGIC 1 = -3 TO -25 VDC

9100 STATION CONTROLLERS

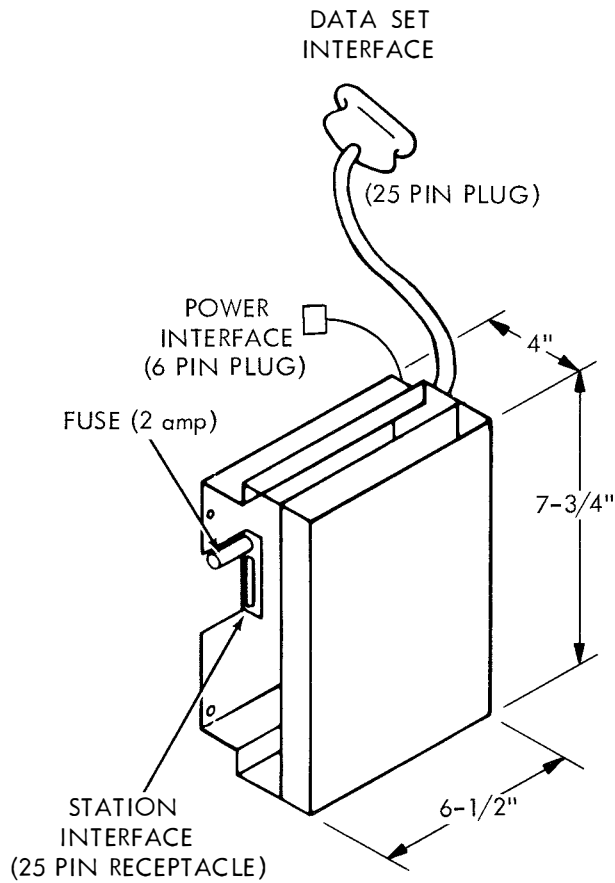
ASCII Code

BITS				7	0				1			
				6	0		1		0		1	
				5	0	1	0	1	0	1	0	1
4	3	2	1									
0	0	0	0	NUL	DLE	SP	0	@	P	'	p	
		0	1	SOH	DC1	!	1	A	Q	a	q	
		1	0	STX	DC2	"	2	B	R	b	r	
		1	1	ETX	DC3	#	3	C	S	c	s	
	1	0	0	EOT	DC4	\$	4	D	T	d	t	
		0	1	ENQ	NAK	%	5	E	U	e	u	
		1	0	ACK	SYN	&	6	F	V	f	v	
		1	1	BEL	ETB	'	7	G	W	g	w	
1	0	0	0	BS	CAN	(	8	H	X	h	x
		0	1	HT	EM	)	9	I	Y	i	y
		1	0	LF	SUB	*	:	J	Z	j	z	
		1	1	VT	ESC	+	;	K	[	k	{
	1	0	0	FF	FS	,	<	L	\	l	| ACK	
		0	1	CR	GS	-	=	M	]	m	} ALT MODE
		1	0	SO	RS	.	>	N	^	n	~ ESC	
		1	1	SI	US	/	?	O	_	o	DEL	

1967 ASCII Code With 1963 Version Shown on Right

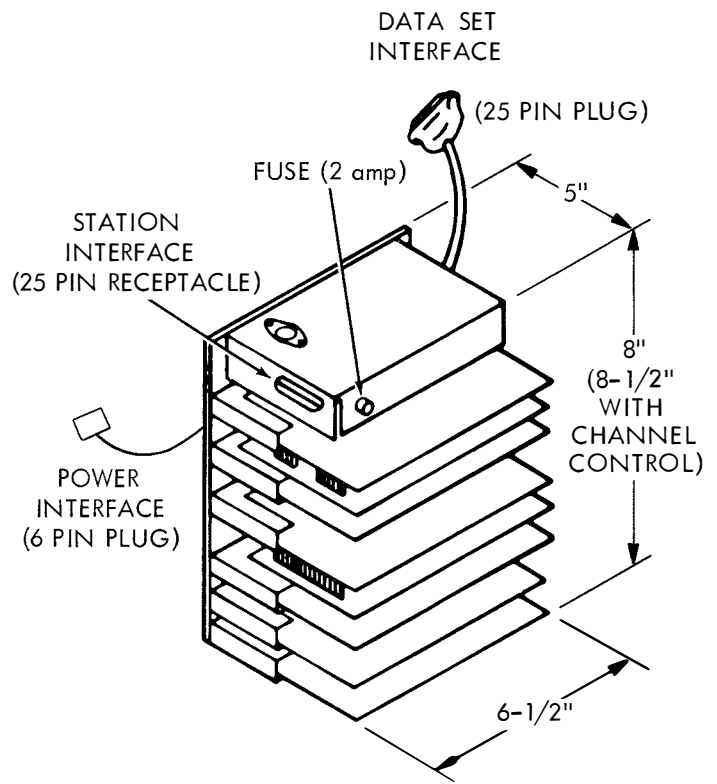
- | | | |
|----------------------------------|-----------------------------------|---|
| NUL(L)=Null | HT =Horizontal Tabulation | SYN(C) =Synchronous Idle |
| SOH =Start of Heading | LF =Line Feed | ETB =End of Transmission Block |
| SOM =Start of Message | VT =Vertical Tabulation | LEM =Logical End of Media |
| STX =Start of Text | FF =Form Feed | CAN =Cancel |
| EOA =End of Address | CR =Carriage Return | S ₀ through S ₇ =Separators |
| ETX =End of Text | SO =Shift Out | EM =End of Medium |
| EOM =End of Message | SI =Shift In | SUB =Substitute |
| EOT =End of Transmission | DLE=Data Link Escape | ESC =Escape |
| ENQ =Enquiry | DC ₀ =Device Control 0 | FS =File Separator |
| WRU =Who Are You | DC ₁ =Device Control 1 | GS =Group Separator |
| ACK =Acknowledge | DC ₂ =Device Control 2 | RS =Record Separator |
| RU =Are You | DC ₃ =Device Control 3 | US =Unit Separator |
| BEL(L)=Bell | DC ₄ =Device Control 4 | SP =Space |
| BS =Backspace | NAK=Negative Acknowledge | ALT MODE=Alternate Mode |
| FE ₀ =Format Effector | ERR=Error | DEL =Delete |

Physical



WEIGHT: 1 LB

9130 Station Controllers



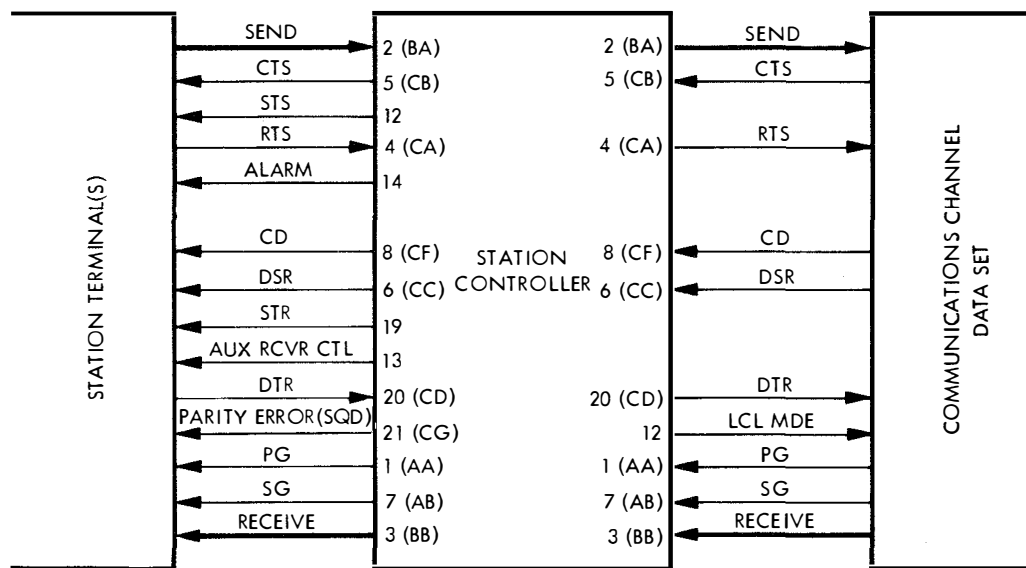
WEIGHT: 2 LBS

9140-9141 Station Controllers

9100 STATION CONTROLLERS

Interfaces

9130, 9140, and 9141 station controllers are installed between the communications channel data set and the terminal(s) that constitute the station. They provide an EIA RS-232B interface to the data set, and an extended EIA RS-232B interface to the station.



STATION INTERFACE

- SEND - Serial Signal sent.
- CTS (Clear To Send) - On when station permitted to send.
- STS (Selected To Send) - On when station selected to send.
- RTS (Request To Send) - On when station has traffic to send.
- *Alarm - On for 0.2 msec when a line break has been received while the station is sending.
- Parity Error (not on 9130s) - Off for 1/2 bit when vertical parity error received.
- CD (Carrier Detect) - Not Used.
- DSR (Data Set Ready) - On turns on station motors.
- STR (Selected To Receive) - On when station selected to receive.
- *AUX RCVR CTL (Auxiliary Receiver Control) (not on 9130s) - On when the station has been selected to receive and the 3rd address has been recognized.
- DTR (Data Terminal Ready) - On when station ready to receive.
- PG - Protective Ground
- SG - Signal Ground
- RECEIVE - Serial signal, received.

DATA SET INTERFACE

- SEND - Serial Signal sent.
- CTS (Clear To Send) (not on 9130s) - On to permit station controller to send. May be strapped out if not needed.
- RTS (Request To Send) - On when DSR is on if no channel control in controller. On when SEND is on if there is channel control in the station controller.
- CD (Carrier Detect) - Not used.
- DSR (Data Set Ready) (not on 9130s) - On permits RTS to be on. May be strapped out if not needed.
- DTR (Data Terminal Ready) - On whenever power applied to station controller.
- LCL MDE (Local Mode) - Off whenever power applied to station controller.
- PG - Protective Ground
- SG - Signal Ground
- RECEIVE - Serial signal received.

*Does not meet RS-232B; On is \approx 12vdc and Off is ground.

SELECTION GUIDE

9130 Station Controllers

STANDARD FEATURES	OPTIONAL FEATURES			
<p>Programmable for Store-and-Forward, Half or Full-Duplex Configurations.</p> <p>Accommodates ANSI 3.28-1971 Communications Procedures.</p> <p>Programmed for a single 2 character Polling Character Sequence; 1st character programmed for DLE, 2nd programmable.</p> <p>No-Traffic Response Programmable for EOT or NAK.</p> <p>Programmed for a single 1 character address, programmable for any character.</p> <p>Responds Able-to-Receive by Sending ACK.</p> <p>Responds Unable-to-Receive by Sending NAK.</p> <p>Programmable with or without motor control, to automatically turn off station motors during idle times or to leave motors on continuously.</p> <p>Interrupt is DLE, restart is STX, deselect is DC3.</p> <p>Regenerates Sent as well as Received Signal, if Programmed for HDX.</p> <p>Performs End of Transmission on receipt of timed break signal as well as on receipt of EOT</p>	Speed	Channel Control	Parity Error Detection	Catalog Number
	10 char/sec @ 11 bit/char			9130 AA
			•	9130 BA
		•		9130 AD
		•	•	9130 BD
				9130 AB
	15 char/sec @ 10 bit/char		•	9130 BB
		•		9130 AE
		•	•	9130 BE
	105 char/sec @ 10 bit/char	•		9130 AG
		•	•	9130 BG
	120 char/sec @ 10 bit/char	•		9130 AH
		•	•	9130 BH
	180 char/sec @ 10 bit/char	•		9130 AJ
		•	•	9130 BJ
	240 char/sec @ 10 bit/char	•		9130 AK
	•	•	9130 BK	

9100 STATION CONTROLLERS

9140 Station Controllers

STANDARD SPEED

STANDARD FEATURES	OPTIONAL FEATURES							
<p>Programmable for Station-to-Station, or Store-and-Forward Half or Full Duplex Configurations.</p> <p>Accommodates TELETYPE 8A1/8B1 Communications Procedures.</p> <p>Programmed for 1 Polling Character Sequence; programmable for any 2 characters.</p> <p>No-Traffic Response Programmable for any 2 characters.</p>	Speed	Accepts Channel Control Option	RO-For Receive-Only Terminals SR-For Send-Receive Terminals	Programmable for Timed Break or Parity Error Indication or No Indication	Substitute Character Parity Error Indication	Programmable for 1 or 2 Addresses	Programmable for 1, 2, or 3 Addresses	Catalog Number
<p>Each Address (there can be up to 3) is programmable for any 1 character, any 2 characters, or any 2 characters plus the character DEL.</p> <p>Programmable to respond or not respond to each of its addresses.</p> <p>Programmable to respond to address for station prime or prime plus auxiliary terminal.</p> <p>Responds Able-to-Receive by Sending the same character used to send the No-Traffic Response.</p>	10 char/sec @ 11 bit/char	• • • • • • • • • •	RO SR	• • • • • • • • • •	• • • • • • • • • •	• • • • • • • • • •	• • • • • • • • • •	9140 BA 9140 BB 9140 BC 9140 BD 9140 BE 9140 BF 9140 BG 9140 BH 9140 EA 9140 EB 9140 EC 9140 ED 9140 EE 9140 EF 9140 EG 9140 EH
	15 char/sec @ 10 bit/char	• • • • • • • • • •	RO SR	• • • • • • • • • •	• • • • • • • • • •	• • • • • • • • • •	• • • • • • • • • •	9140 CA 9140 CB 9140 CC 9140 CD 9140 CE 9140 CF 9140 CG 9140 CH 9140 FA 9140 FB 9140 FC 9140 FD 9140 FE 9140 FF 9140 FG 9140 FH

MEDIUM SPEED

STANDARD FEATURES (Cont'd)	OPTIONAL FEATURES							
<p>Responds Unable-to-Receive by Sending 1 programmable character when station in alarm, and another programmable character when off-line.</p> <p>Programmable to permit station to record addresses and responses, if programmed for Station-to-Station, Half-Duplex</p> <p>Programmable with or without motor control, to automatically turn off station motors during idle times or to leave motors on continuously.</p> <p>Interrupt is programmable for any 1 character, restart is STX and sending station deselected on DC3; when programmed for Store-and-Forward Full-Duplex.</p> <p>Programmable to regenerate sent signal as well as received, if programmed for half-duplex.</p> <p>Programmable to perform End of Transmission on receipt of timed break signal as well as on receipt of EOT.</p>	Speed	Accepts Channel Control Option	RO-For Receive-Only Terminals SR-For Send-Receive Terminals	Programmable for Timed Break or Parity Error Indication or No Indication	Substitute Character Parity Error Indication	Programmable for 1 or 2 Addresses	Programmable for 1, 2, or 3 Addresses	Catalog Number
	105 char/sec @ 10 bit/char	•••••	RO	•	•	•	•	9140 GA 9140 GB 9140 GC 9140 GD
	120 char/sec @ 10 bit/char	•••••	SR	•	•	•	•	9140 GE 9140 GF 9140 GG 9140 GH
	180 char/sec @ 10 bit/char	•••••	RO	•	•	•	•	9140 HA 9140 HB 9140 HC 9140 HD
	240 char/sec @ 10 bit/char	•••••	SR	•	•	•	•	9140 HE 9140 HF 9140 HG 9140 HH
		•••••	RO	•	•	•	•	9140 JA 9140 JB 9140 JC 9140 JD
		•••••	SR	•	•	•	•	9140 JE 9140 JF 9140 JG 9140 JH
		•••••	RO	•	•	•	•	9140 KA 9140 KB 9140 KC 9140 KD
		•••••	SR	•	•	•	•	9140 KE 9140 KF 9140 KG 9140 KH

9100 STATION CONTROLLERS

9141 Station Controllers

STANDARD SPEED

STANDARD FEATURES	OPTIONAL FEATURES						
<p>Programmable for Station-to-Station or Store-and-Forward Half or Full Duplex Configurations.</p> <p>Accommodates ANSI 3.28-1971 Communications Procedures.</p> <p>Programmed for 1 Polling Character Sequence; programmable for any 2 characters.</p> <p>No-Traffic Response Programmable for EOT or NAK.</p> <p>Each Address (there can be up to 3) is programmable for any 1 character, any 2 characters, or any 2 characters plus the character DEL.</p> <p>Programmable to respond or not respond to each of its addresses.</p> <p>Programmable to respond to address for station prime or prime plus auxiliary terminal.</p>	Speed	Accepts Channel Control Option	RO-For Receive-Only Terminals SR-For Send-Receive Terminals	Programmable for Timed Break or Parity Error Indication or No Indication	Substitute Character Parity Error Indication	Programmable for 1 or 2 Addresses	Programmable for 1, 2, or 3 Addresses Catalog Number
10 char/sec @ 11 bit/char	•	RO	•	•	•	9141 BA	
						9141 BB	
						9141 BC	
						9141 BD	
						9141 BE	
						9141 BF	
						9141 BG	
						9141 BH	
						9141 EA	
						9141 EB	
						9141 EC	
						9141 ED	
						9141 EE	
						9141 EF	
						9141 EG	
						9141 EH	
						9141 CA	
						9141 CB	
						9141 CC	
						9141 CD	
						9141 CE	
						9141 CF	
						9141 CG	
						9141 CH	
						9141 FA	
						9141 FB	
						9141 FC	
						9141 FD	
						9141 FE	
						9141 FF	
						9141 FG	
						9141 FH	
15 char/sec @ 10 bit/char	•	RO	•	•	•	9141 CA	
						9141 CB	
						9141 CC	
						9141 CD	
						9141 CE	
						9141 CF	
						9141 CG	
						9141 CH	
						9141 FA	
						9141 FB	
						9141 FC	
						9141 FD	
						9141 FE	
						9141 FF	
						9141 FG	
						9141 FH	

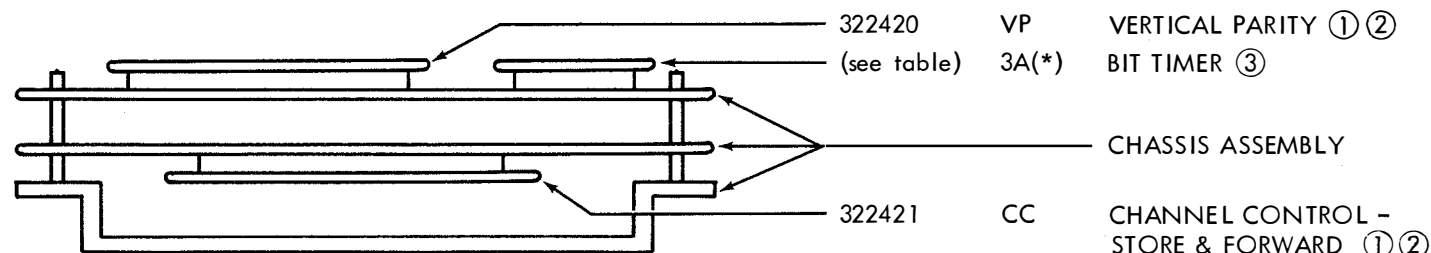
MEDIUM SPEED

STANDARD FEATURES (Cont'd)	OPTIONAL FEATURES							
<p>Responds Able-to-Receive by Sending ACK.</p> <p>Responds Unable-to-Receive by Sending NAK.</p> <p>Programmable to permit station to record address and responses, if programmed for Station-to-Station Half-Duplex.</p> <p>Programmable with or without motor control, to automatically turn off station motors during idle times or to leave motors on continuously.</p> <p>Interrupt is DLE, restart is STX and sending station deselects on DC3; when programmed for Store-and-Forward Full-Duplex.</p> <p>Programmable to regenerate sent signal as well as received, if programmed for half-duplex.</p> <p>Programmable to perform End Of Transmission on receipt of timed break signal as well as on receipt of EOT.</p>	Speed	Accepts Channel Control Option	RO-For Receive-Only Terminals SR-For Send-Receive Terminals	Programmable for Timed Break or Parity Error Indication or No Indication	Substitute Character Parity Error Indication	Programmable for 1 or 2 Addresses	Programmable for 1, 2, or 3 Addresses	Catalog Number
	105 char/sec @ 10 bit/char	●	RO	●	●	●	●	9141 GA 9141 GB 9141 GC 9141 GD 9141 GE
	120 char/sec @ 10 bit/char	●	RO	●	●	●	●	9141 GF 9141 GG 9141 GH 9141 HA 9141 HB 9141 HC 9141 HD
	180 char/sec @ 10 bit/char	●	RO	●	●	●	●	9141 HE 9141 HF 9141 HG 9141 HH 9141 JA 9141 JB 9141 JC 9141 JD
	240 char/sec @ 10 bit/char	●	RO	●	●	●	●	9141 JE 9141 JF 9141 JG 9141 JH 9141 KA 9141 KB 9141 KC 9141 KD
								9141 KE 9141 KF 9141 KG 9141 KH

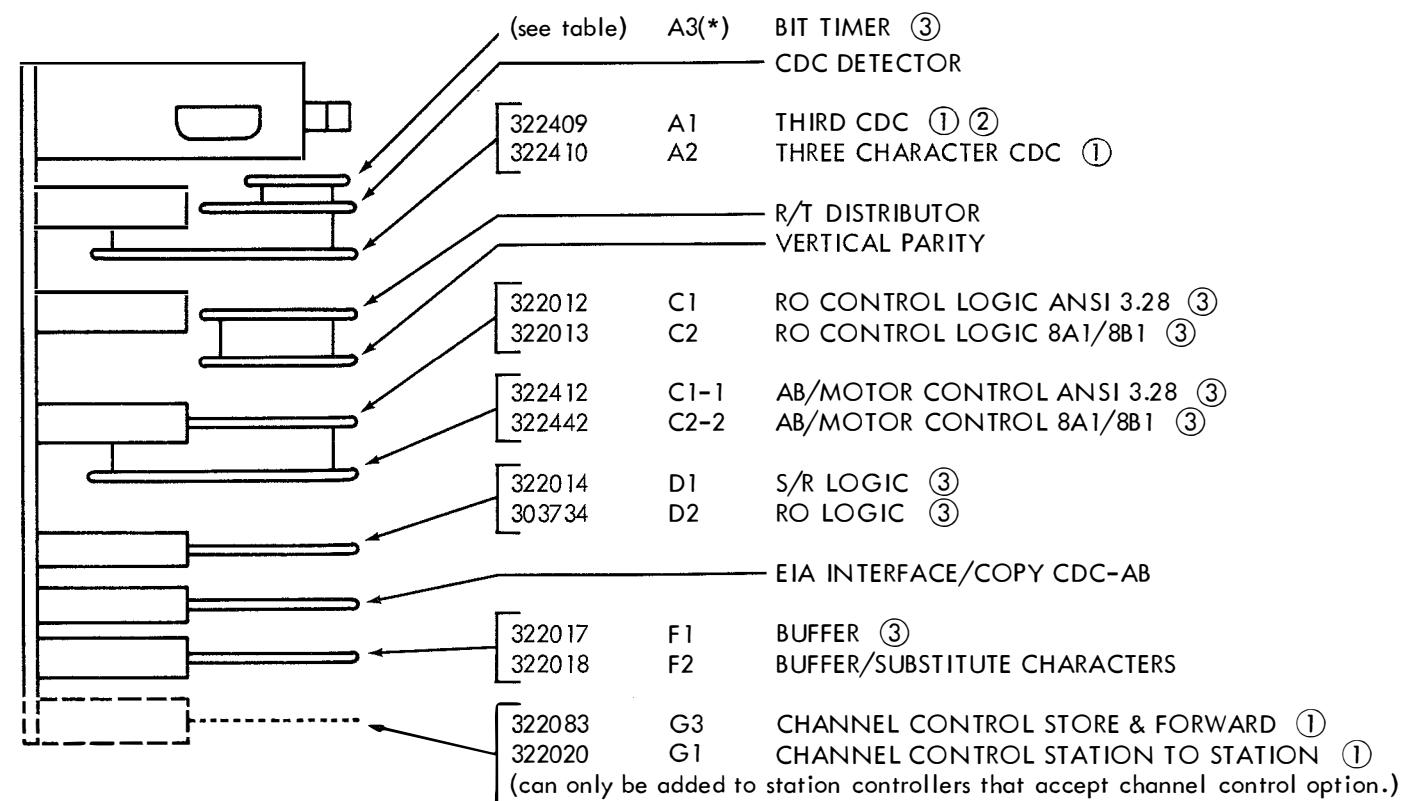
9100 STATION CONTROLLERS

ACCESSORIES AND OPTIONS

9130 Station Controllers



9140 and 9141 Station Controllers



BIT TIMERS		
#	A3*	
303803	A3A	100 WPM
303804	A3B	68 WPM
303805	A3C	1050 WPM
303806	A3D	150 WPM

- ① Available as a field installed option; order by part number.
- ② Available as a factory installed option; order as part of station controller via selection guide catalog number.
- ③ Available as a field installed exchange option; order by part number.



For further information on any Teletype Corporation product lines, or for the location of your nearest sales or product service representative, please contact:

Sales headquarters—
5555 W. Touhy Ave.
Skokie, Illinois 60076

Product Service headquarters—
9930 Derby Lane
Westchester, Illinois 60153

or call TERMINAL CENTRAL—312 982-2500

TELETYPE CORPORATION

GENERAL OFFICES: 5555 Touhy Avenue, Skokie, Illinois 60076 Telephone: (312) 982-2000—TWX: 910-223-3611
and TELEX: 25-4051 (both have 24 hour automatic answering service)

