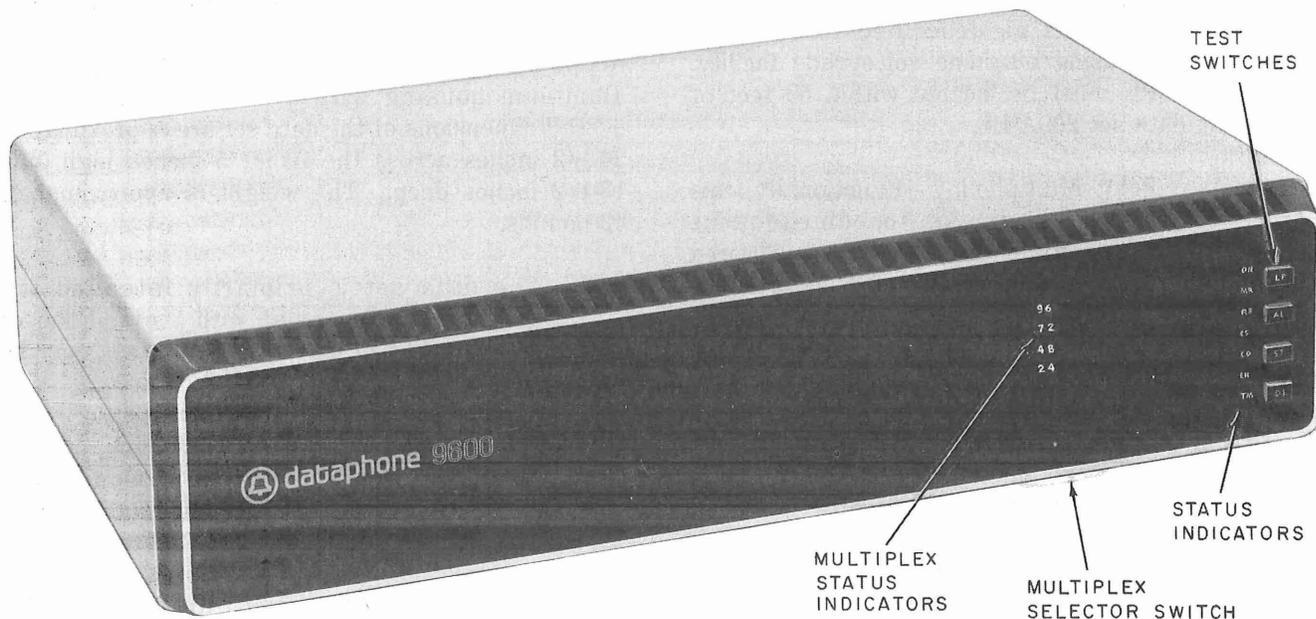


**9600-BITS PER SECOND (BPS)  
SERVICE USING DATA SET 209A-L1  
REFERENCE GUIDE**



**Fig. 1—Data Set 209A-L1—Front View**

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**1. GENERAL**

**1.01** Data set 209A-L1 (Fig. 1) is a synchronous, binary, serial 9600-bps data set for use on basic 3002-type, 4-wire private line telephone channels with high performance data conditioning

type D1. The data set contains a multiplexing function which provides data channels in multiples of 2400 bps up to 9600 bps as follows:

- One 9600-bps channel
- One 7200-bps and one 2400-bps channel
- Two 4800-bps channels
- One 4800-bps and two 2400-bps channels
- Four 2400-bps channels.

These channels can interface with CPE or data sets 201C or 208A-type. The only acceptable Bell System data set operating at 7200 bps which may be used on an extension channel is another 209A-L1.

**1.02** Due to the multiplexing feature provided by data set 209A-L1, many different system applications are possible. Some typical applications are as follows:

- Point-to-Point—Data is exchanged between two points at the rate of 9600 bps.
- Point-to-Point Multiplexing—Independent data channels as described in 1.01 are provided using only one voicegrade facility. The CPE must be located within 50 feet of the data set 209A-L1.
- Many-Point Multiplexing—Functionally, this arrangement is similar to point-to-point multiplexing, except the CPE may be located an arbitrary distance from the data set 209A-L1. Data sets 201C and 208A-type are used to provide the extended service from CPE to data set 209A-L1.
- One-to-Many Multiplexing—This arrangement provides operation with a single CPE port at one location and multiple CPE ports at the remote location. For example, one CPE port may be software-controlled to provide two 4800-bps data streams that are time-division-multiplexed to a data set 209A-L1 for transmission to a remote data set 209A-L1. The remote data set 209A-L1 will demultiplex the received 9600-bps data into two channels of 4800 bps or four 2400-bps channels. Other mixed rate modes are not recommended because of their inherent multiplexing complexity.
- Digital Data Systems (DDS) Outlier Service—Access to the synchronous DDS is provided in remote areas not served directly by the DDS. Data set 209A-L1 can be used to connect the customer to the nearest DDS end office.

**1.03** Data set 209A-L1 is recommended for use with data auxiliary set (DAS) 828A-type or 829-type. These data auxiliary sets provide standard, prewired, tested station arrangements for terminating 4-wire private line voiceband channels. Two models of DAS 828A-type are available as follows:

- DAS 828A-L1 (rack mount) or -L1A (wall mount) provides data-only service.

- DAS 828A-L1/2 (rack mount) or -L1A/2 (wall mount) provides data service with alternate voice.

## **2. PHYSICAL AND ELECTRICAL CHARACTERISTICS**

**2.01** Data set 209A-L1 consists of a transmitter, receiver, and control circuits mounted on 19 KD-type plug-in circuit packs. The exterior of the data set consists of front and rear molded black plastic covers mounted on an extruded aluminum housing with a brushed finish. The overall dimensions of the data set are approximately 20-1/2 inches across the front, 5 inches high, and 13-1/2 inches deep. The weight is approximately 42 pounds.

**2.02** The data set is primarily intended for desk-top mounting but with the addition of D-180556 mounting brackets, the data set may be mounted in a 23-inch rack.

**2.03** The data set will operate in an environment of 20 to 95 percent relative humidity up to 75°F and 20 to 40 percent relative humidity up to 120°F.

**2.04** The data set is provided with four customer interface connectors, a telephone line interface connector, and a power cord connector located at the rear of the set. Interface connectors 1, 2, 3, and 4 are KS-19087-L2 and provide the digital interface leads for interface with CPE. The CPE must be equipped with a cable terminated in a Cinch or Cannon DB-19604-432 plug. The telephone line interface connector is a KS-19088-L2 and provides the interface for connection to the private line channel. The power cord connector is a twist-lock type to accept the KS-14532-L24 cord provided with the data set.

**2.05** Data set power is provided by the internally mounted 112A power unit which provides +12, -12, and +5 volts. The power unit requires an input of 105 to 130 volts ac power at 57 to 63 Hz. Power consumption is approximately 100 watts.

**2.06** The data set power supply is protected by a circuit breaker mounted on the rear of the power supply inside the rear faceplate. The data set cooling fan is protected by a fuse which is also mounted on the rear of the power supply. A self-resetting thermal cutoff switch is contained in the power supply to protect against fan failure.

### 3. SERVICE ORDER INFORMATION

**3.01** Service orders for data services should describe the desired service by USOC (Uniform Service Order Code). Service orders *should not* specify data set codes. The *encoding* procedure to determine the appropriate USOC is described in Section 590-000-100. Customer option decisions which must be made to determine the USOC suffixes are listed in 3.03 for data set 209A-L1. An explanation of features and options common to most data sets is given in Section 590-000-101. A rapid cross reference between USOC data sets and reference guides is presented in Section 590-000-102. Intercity Service Manual (ISM) Section 87 gives customer billing nomenclature, shows tariff listings for data services, and provides general reference information.

**3.02** The USOC *decoding* procedures are described in Section 590-000-100. Engineering or Plant Department personnel responsible for selecting data sets are not compelled to use any particular data set codes specified or suggested on the service order. To achieve maximum reuse of data set apparatus, the use of telephone company stocks (field and class C) and Central Records surplus is preferred over the purchase of a new set. Refer to Table A for a list of service offerings provided by data set 209A-L1.

**3.03** Refer to Table B for the options which require a customer decision. The following subparagraphs provide detailed information on customer options. To provide the features desired

by the customer, one of the two options under each of the following decisions must be selected.

(a) **Decision A—Transmitter Timing:**

1. **Transmit Timing by Data Set:** With this option, the set provides a transmit clock signal to the customer on the DB lead to allow the terminal to properly time signals on the BA lead.
2. **Transmit Timing by Data Terminal:** With external timing, the customer provides serial clock to the data set on the DA lead of connector 1 only. This clock signal must be 2400, 4800, 7200, or 9600 Hz, ( $\pm 25$  ppm) depending upon the multiplexing arrangement, and must conform to the distortion and frequency accuracy of EIA Standard RS-334. On data sets with external timing, the DB signal is present and is phase-locked to the clock from the customer on the DA lead. This option cannot be used in data sets 209A-L1 when multiplexed channels are extended by data sets 208A-type or 201C.

(b) **Decision B—Data Set Ready (CC) ON or OFF in Analog Loop-Back Mode:**

3. **CC ON in Analog Loop-Back Mode:** When the data set is in the analog loop-back test mode, the CC interface lead is normally OFF. Enabling this option permits the CC lead to remain ON when the AL switch is depressed. This enables a duplex CPEs to

TABLE A  
SERVICE OFFERINGS

USOC	FEATURE	USABLE DATA SET	REMARKS
96T++	Combined sending and receiving arrangement capable of transmitting and receiving customer signals in any multiple of 2400 bps and not exceeding 9600 bps	209A-L1	May be used only in connection with high performance data conditioning type D1 (USOC-QHA)
96X++	Arrangement for connecting each 2400-bps or 4800-bps Dataphone data set at either the remote location or the 9600-bps Dataphone data set location		

**TABLE B**  
**CUSTOMER OPTIONS**

DECISION	OPTION	DESIGNATION	NOTE
A	1. Transmit Timing by Data Set (Transmitter Internally Timed)	YC	1
	2. Transmit Timing by Data Terminal (Transmitter Externally Timed)	YD	
B	3. Data Set Ready (CC) Interface Lead ON in Analog Loop-Back Mode (DSR ON in Analog Loop Mode)	YM	
	4. Data Set Ready (CC) Interface Lead OFF in Analog Loop-Back Mode (DSR OFF in Analog Loop Mode)	YN	
C	5. Transmit Timing Slaved to Receive Timing (Slave IN)	WI	2
	6. Transmit Timing Not Slaved to Receive Timing (Slave OUT)	WJ	
D	7. Elastic Stores IN (Elastic Store Enable 1 In, 2 In, 3 In, and/or 4 In)	WA, WC, WE & WG	3
	8. Elastic Stores OUT (Elastic Store Enable 1 Out, 2 Out, 3 Out and/or 4 Out)	WB, WD, WF & WH	
E	9. Continuous Carrier (Decision F Required)	Determined by Decision F (XG or XI) Telco option determines installation of XH or XF	4
	10. Switched Carrier (Decision F Not Required)		
F	11. Switched Request-to-Send (4-Wire Cont Carrier & Auto Retrain)	XG	
	12. Continuous Request-to-Send (4-Wire Cont RS & Auto Retrain)	XI	

*Note 1:* This option cannot be used at both data sets 209A-L1 when multiplexed channels are extended by data sets 208A-type or 201C.

*Note 2:* Transmit timing is slaved to receive timing in one data set 209A-L1 when using the many-point multiplexing or DDS outlier service applications.

*Note 3:* Elastic stores are provided for extension service. The specific connectors optioned for elastic stores must be specified in the REMARKS section of the service order. There are 4 separate options, one for each connector.

*Note 4:* Recommended in all applications where possible.

**GENERAL NOTES**

1. Signal ground is normally connected to protective ground. If the customer does not desire this connection, it should be specified in the REMARKS section of the service order.
2. Table and rack mounting arrangements are available. The table mounting arrangement is provided unless rack mounting (requiring brackets) is specified in the REMARKS section of the service order.

perform a loop-back test through the data set interface.

4. **CC OFF in Analog Loop-Back Mode:** This option provides an OFF indication on the CC lead when the set is in the analog loop-back mode. This option does not prohibit the use of external test equipment to make an analog loop-back test through the data set interface.

(c) **Decision C—Slaved Timing:**

5. **Transmit Timing Slaved to Receive Timing:** The slave option internally connects the receiver's recovered symbol clock to DA, causing the data set transmitter to be timed from the receiver. This option is used in one 209A-L1 in many-point multiplex systems or in one 209A-L1 in DDS outlier service.
6. **Transmit Timing Not Slaved to Receive Timing:** With this option installed, the transmitter timing is not dependent on the receiver.

(d) **Decision D—Elastic Stores:**

7. **Elastic Stores IN:** There are four options, one associated with each of the four multiplex connectors. When the elastic stores are enabled, they compensate for timing phase differences between the BA and DB leads of data set 209A-L1 and the BB and DD leads of data sets 208A-type and 201C, when these sets are used in a many-point multiplexing system.
8. **Elastic Stores OUT:** Removes the individual elastic stores from the four multiplex connectors.

(e) **Decision E—Carrier Control:**

9. **Continuous Carrier:** If this option is selected, decision F must be made. With the continuous carrier option, request-to-send is held ON internally and the transmitter will remain ON continuously to maintain synchronization. The CB circuit is held ON in all active connectors.

10. **Switched Carrier:** If the switched carrier option is selected, the control of request-to-send is automatically selected, thereby eliminating the need for making decision F. With this option, the data set provides a 147-ms CA-CB delay and data can be transmitted only when the CB lead is ON. The data set transmitter will turn OFF within 3.5 ms after request-to-send goes OFF.

(f) **Decision F—Control of Request-to-Send:**

11. **Switched Request-to-Send:** If this option is selected, the customer may continue to control the CB lead. Each connector will have an 8-ms CA-CB delay, and BA will be clamped to mark-hold when CB is OFF.
12. **Continuous Request-to-Send:** This option is used when it is desired to keep both the transmitter and the clear-to-send lead ON continuously. The customer request-to-send lead has no control on any connector.

**3.04** Telephone company options for data set 209A-L1 are listed in Table C and described in the following paragraphs.

**3.05 DAS 828-Type or 829-Type Used:** This option is installed when a DAS is provided. Control of the CC lead is by the DAS and 209A-L1 test switches. With this option, data set ready (CC) is always ON except in the analog, digital loop-back, or self-test modes. It is recommended that a DAS be used with data set 209A-L1.

**3.06 1-Second Holdover:** When this option is enabled, the CF lead remains high for 1 second after loss of signal on the line. The adaptive equalizer, AGC, and timing recovery are inhibited from changing during this time so the receiver can bridge signal dropouts for up to 1 second in duration.

**3.07 Autoretrain:** This option is to be used on all data sets. It allows the data set to automatically resynchronize and reinitialize the automatic equalizer when the received signal quality degrades to the point where the bit error rate is approximately 1 in 100 bits. The retrain sequence will cause CB, CF, and QM (connector 1 only) to go OFF on the data set which requires reequalization, while only CB goes OFF on the remote data set. During retrain, the OFF state on any one of these

TABLE C  
TELCO ENGINEERING OPTIONS

OPTION	DESIGNATION	NOTES
Data Set Ready Controlled from Telephone Interface (DAS Used)	YI	1
Data Set Ready Not Controlled from Interface (DAS Not Used)	YJ	
One Second Holdover IN	YX	2
One Second Holdover OUT	YW	
Switched Carrier and Auto Retrain (4-Wire Switch Carrier & Auto Retrain)	XF	3
Switched Carrier and No Auto Retrain (4-Wire Switched Carrier, No Auto Retrain)	XH	
Compromise Equalizer		4

- Note 1:** It is recommended that DAS 828- or 829-type always be used with data set 209A-L1.
- Note 2:** It is recommended that 1-second holdover be used in all data sets 209A-L1 receiving from a data set 209A-L1 optioned for continuous carrier (option XH or XI). However, the 1-second holdover option should not be used when switched carrier is employed at the distant data set.
- Note 3:** Decision is required only when switched carrier is used by customer. It is recommended that option XF always be used.
- Note 4:** Two of five settings for both transmit and receive compromise equalizers determined at time of installation.

leads is maintained for not more than 200 ms (for QM it is 240 ms plus the round-trip channel delay). The total time for autoretrain is less than 240 ms, excluding channel propagation delay time.

**3.08 Compromise Equalizer:** There are five transmitter equalizer settings and five receiver equalizer settings. Fixed amplitude and delay equalization are selected by these settings. The proper equalizer setting will depend on the characteristics of the transmission facility and will be determined for each installation by minimizing a voltage at two signal quality test points during installation.

**3.09** Refer to Fig. 2 through 5 for typical system arrangements and options.

#### 4. MAINTENANCE SPARE GUIDELINES

**4.01** Data set 209A-L1 should not be stocked for maintenance purposes. Maintenance of data set 209A-L1 service is to be accomplished on a circuit pack replacement basis. The recommended

maintenance strategy is to stock spare circuit packs in maintenance territories as determined by the Maintenance Inventory Control System (MICS). The MICS will determine the number and type of circuit packs to be stocked in a maintenance kit. However, until MICS is implemented, the recommended procedure is to stock maintenance kits, coded D-180555-L1, as outlined in Table D.

**4.02** It is imperative that defective circuit packs be promptly returned to the Western Electric Company for analysis and repair. Circuit packs which fail within one year from the date of manufacture will be replaced free of charge under General Engineering Complaint 9400. See the section entitled General Engineering Complaint GEC 9400—Procedure for Expedited Handling of Certain Initially-Defective Apparatus and Equipment (010-700-020).

#### 5. REFERENCES

**5.01** The following documents provide additional information pertaining to data set 209A-L1.

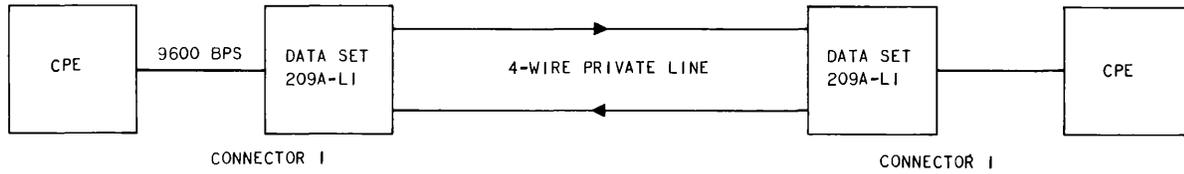
**TABLE D**  
**MAINTENANCE SPARE GUIDELINES**

NUMBER OF DS 209A-L1 IN SERVICE IN MAINTENANCE TERRITORY	RECOMMENDED NUMBER OF MAINTENANCE KITS
1 to 9	1
10 to 35	2
36 to 55	3
56 to 80	4
Over 80	Not more than 5% of number of sets in service

SECTION	TITLE	SECTION	TITLE
590-000-100	Implementation of Data Services— Interdepartmental Coordination	592-032-501	Data Systems—9600 Bits-per- Second Multiplex System Using Data Set 209A-L1—Test Procedures
590-000-101	Reference Guide—Description of Data Set Features and Options	598-080-100	Data Auxiliary Set 828A— Description and Operation
590-000-102	Data Service—Reference Guides— Cross Reference Information	598-080-101	Data Auxiliary Set 828C — Description and Operation
592-032-100	Data Set 209A-L1—Transmitter- Receiver—Description and Operation	598-082-100	Data Auxiliary Set 829-Type— Channel Interface Units—Voiceband Private Line Channels Data Only— Description
592-032-101	Data Systems—9600 Bits-Per- Second Multiplex System Using Data Set 209A-L1—Description	598-082-101	Data Auxiliary Set 829-Type— Supplementary Functions for Voiceband and Private Line Channels (Alternate Voice and Switched Network Backup)— Description
592-032-180	Data Set 209A-L1—Transmitter- Receiver—Summarizing Specification	999-100-143	Data Set 209A-L1—How to Operate Manual
592-032-200	Data Set 209A-L1—Transmitter- Receiver—Installation and Connec- tions	TI-388	Test of Point-to-Point Data Service Provided By Data Set 209A-L1 From a Private Line Test Room
592-032-201	Data Systems—9600 Bits-Per- Second Multiplex System Using Data Set 209A-L1—Installation and Connections	TI-405	Tests of 9600 Bits Per Second (BPS) Multiplexing Data System Provided By Data Set 209A-L1 From a Private Line Test Room
592-032-300	Data Set 209A-L1—Transmitter- Receiver—Maintenance		
592-032-301	Data Systems—9600 Bits-Per- Second Multiplex System Using Data Set 209A-L1—Maintenance		
592-032-500	Data Set 209A-L1—Transmitter- Receiver—Test Procedures		

**SECTION 590-002-115**

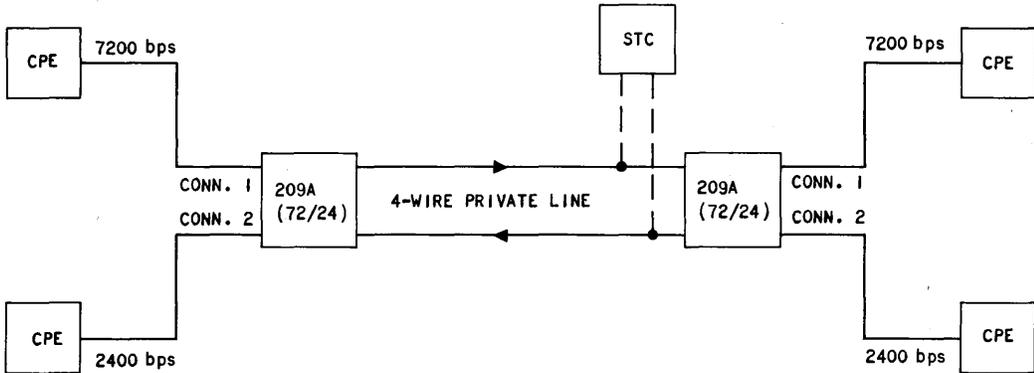
**5.02** Detailed information pertaining to data set 209A-L1 is contained in CD- and SD-1D249-01.



SELECT	DATA SET 209A-L1 OPTIONS	SELECT
96	MULTIPLEX SELECTOR SWITCH	96
INTERNAL	TRANSMITTER TIMING	INTERNAL
CONTINUOUS	CARRIER CONTROL	CONTINUOUS
PER CPE	REQUEST-TO-SEND CONTROL	PER CPE
ALL OUT*	ELASTIC STORES	ALL OUT*
NOT SLAVED*	SLAVED TIMING	NOT SLAVED*
PER CPE	DATA SET READY CONDITION IN AL MODE	PER CPE
PER CPE OR LOCAL PRACTICES	GROUNDING	PER CPE OR LOCAL PRACTICES

\* REQUIRED

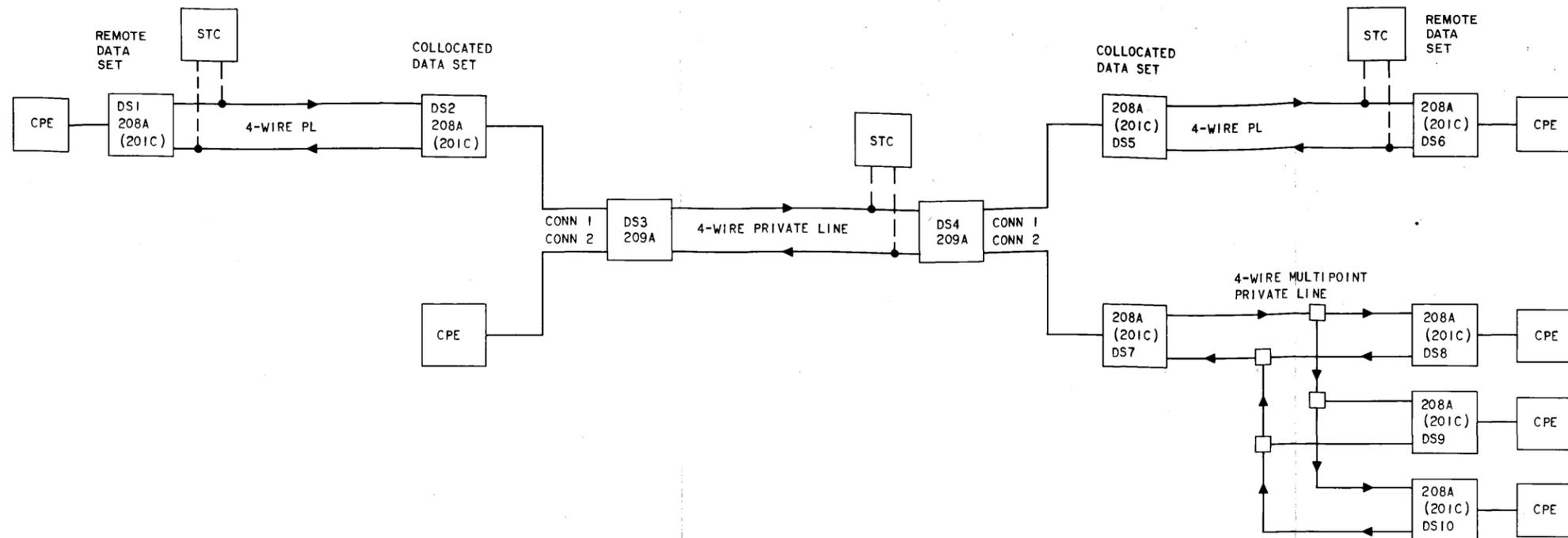
**Fig. 2—Typical Customer Options, Point-to-Point Service**



SELECT	DATA SET 209A OPTIONS	SELECT
* 72/24, 48/48, 48/24/24, OR 4-24	MULTIPLEX OPTION	* 72/24, 48/48, 48/24/24, OR 4-24
INTERNAL	TRANSMITTER TIMING	INTERNAL
CONTINUOUS	CARRIER CONTROL	CONTINUOUS
PER CPEs	REQUEST-TO-SEND CONTROL	PER CPEs
ALL DISABLED †	ELASTIC STORES	ALL DISABLED †
NOT PROVIDED †	SLAVED TIMING	NOT PROVIDED †
PER CPEs	DATA SET READY CONDITION IN AL MODE	PER CPEs
PER CPEs OR LOCAL PRACTICE	GROUNDING	PER CPEs OR LOCAL PRACTICE
IN	1- SECOND HOLDOVER	IN

\* THE MULTIPLEX OPTION MUST BE THE SAME FOR BOTH DATA SETS.  
 † REQUIRED OPTION.

**Fig. 3—Typical Customer Options, Point-to-Point Multiplexing**



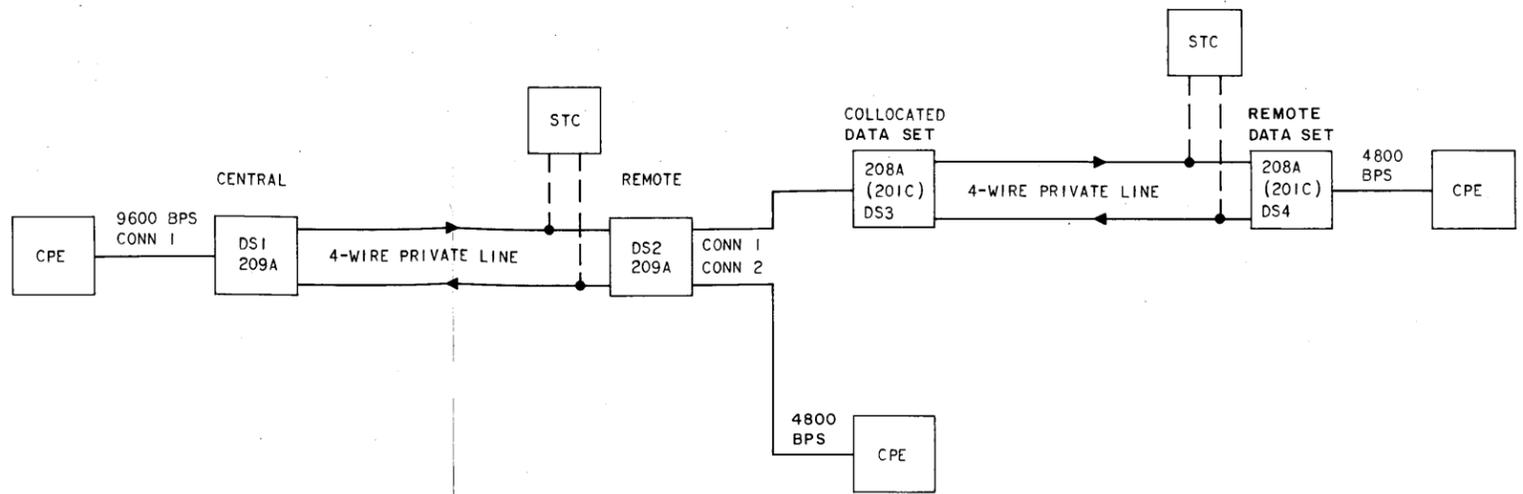
(REMOTE) SELECT	DATA SET 208A OPTIONS ON PT-TO-PT EXTENSION CHANNEL	(COLLOCATED) SELECT
EXTERNAL *	TRANSMISSION TIMING	EXTERNAL *
CONTINUOUS	CARRIER CONTROL	SWITCHED *
0 OR 8 MS PER CPE	REQUEST TO SEND OPERATION	NOT APPLICABLE
IN	1-SECOND HOLDOVER	IN
NOT USED *	NEW SYNC	NOT USED *
CC ON OR CC OFF PER CPE	DATA SET READY CONDITION IN AL TEST MODE	CC OFF IN AL TEST MODE *
PER CPE OR LOCAL PRACTICE	GROUNDING	AA CONNECTED TO AB *
(REMOTE) SELECT	DATA SET 201C OPTIONS ON PT-TO-PT EXTENSION CHANNEL	(COLLOCATED) SELECT
EXTERNAL *	TRANSMITTER TIMING	EXTERNAL *
CONTINUOUS	CARRIER CONTROL	SWITCHED *
0 OR 7 MS PER CPE	REQUEST-TO-SEND/CLEAR-TO-SEND DELAY	7 MS *
NOT USED *	NEW SYNC	NOT USED *
PER CPE OR LOCAL PRACTICE	GROUNDING	AA CONNECTED TO AB *

SELECT	DATA SET 209A OPTIONS	SELECT
ANY BUT 96 (48/48 FOR EXAMPLE SHOWN)	MULTIPLEX OPTION	ANY BUT 96 (48/48 FOR EXAMPLE SHOWN)
INTERNAL *	TRANSMITTER TIMING	INTERNAL *
CONTINUOUS *	CARRIER CONTROL	CONTINUOUS *
CONTINUOUS †	REQUEST-TO-SEND CONTROL	CONTINUOUS
1 IN 2-4 OUT (FOR EXAMPLE SHOWN)	ELASTIC STORES *	1 & 2 IN 3 & 4 OUT (FOR EXAMPLE SHOWN)
OUT IN	SLAVED TIMING ‡ *	IN OUT
PER CPE AT POLLING CENTRAL (FOR EXAMPLE SHOWN)	DATA SET READY CONDITION IN AL TEST MODE	CC OFF IN AL TEST MODE *
AA CONNECTED TO AB *	GROUNDING	AA CONNECTED TO AB *
IN	1-SECOND HOLDOVER	IN

† NOT REQUIRED EXCEPT FOR MULTIPOINT  
 ‡ SLAVE TIMING IS USED IN ONE 209A OR THE OTHER, BUT NOT BOTH.  
 \* REQUIRED

(COLLOCATED) SELECT	DATA SET 208A OPTIONS ON MULTIPOINT EXTENSION CHANNEL	(REMOTE) SELECT
EXTERNAL *	TRANSMITTER TIMING	EXTERNAL *
SWITCHED *	CARRIER CONTROL	SWITCHED *
NOT APPLICABLE	REQUEST TO SEND OPERATION	NOT APPLICABLE
OUT *	1-SECOND HOLDOVER	IN *
NOT USED *	NEW SYNC	NOT USED *
CC OFF IN AL TEST MODE *	DATA SET READY (CC) CONDITION IN AL TEST MODE	CC ON OR CC OFF PER CPE
AA CONNECTED TO AB *	GROUNDING	PER CPE OR LOCAL PRACTICE
(COLLOCATED) SELECT	DATA SET 201C OPTIONS ON MULTIPOINT EXTENSION CHANNEL	(REMOTE) SELECT
EXTERNAL *	TRANSMITTER TIMING	EXTERNAL *
SWITCHED *	CARRIER CONTROL	SWITCHED *
7 MS *	REQUEST-TO-SEND/CLEAR-TO-SEND DELAY	7 MS *
NOT USED *	NEW SYNC	NOT USED *
AA CONNECTED TO AB *	GROUNDING	PER CPE OR LOCAL PRACTICE

Fig. 4—Typical Customer Options, Many-Point Multiplexing



WHEN AN EXTENSION CHANNEL IS USED, OPTIONS MUST BE SELECTED IN THE COLLOCATED AND REMOTE DATA SETS (EITHER 208A OR 201C).

(CENTRAL) SELECT	DATA SET 209A OPTIONS	(REMOTE) SELECT
96*	MULTIPLEX OPTION	ANY MULTIPLEX OPTION
INTERNAL *	TRANSMITTER TIMING	INTERNAL *
CONTINUOUS	CARRIER CONTROL	CONTINUOUS *
PER CPE	REQUEST TO SEND CONTROL	CONTINUOUS WITH EXTEN CHANNEL (CONT OR SWITCHED W/O EXTEN CHANNEL)
ALL OUT *	ELASTIC STORES	1 IN * 2-4 OUT * (FOR EXAMPLE SHOWN)
OUT	SLAVED TIMING † ‡	1N (WITH EXTENSION CHANNEL) OUT (WITHOUT EXTENSION CHANNEL)
PER CPE	DATA SET READY CONDITION IN AL TEST MODE	CC OFF IN AL TEST MODE
PER CPE OR LOCAL PRACTICE	GROUNDING	AA CONNECTED TO AB * (ONLY IF USED WITH EXTENSION)
IN WHEN EXTENSION IS NOT USED	1-SECOND HOLDOVER	IN

(COLLOCATED) SELECT	DATA SET 208A OPTIONS ON PT-TO-PT EXTENSION CHANNEL	(REMOTE) SELECT
EXTERNAL *	TRANSMITTER TIMING	EXTERNAL *
SWITCHED *	CARRIER CONTROL	CONTINUOUS
NOT APPLICABLE	REQUEST-TO-SEND OPERATION	0 OR 8 MS PER CPE
IN	1-SECOND HOLDOVER	IN
NOT USED *	NEW SYNC	NOT USED *
CC OFF IN AL TEST MODE *	DATA SET READY (CC) CONDITION IN AL TEST MODE	CC ON OR CC OFF PER CPE
AA CONNECTED TO AB *	GROUNDING	PER CPE OR LOCAL PRACTICE

(COLLOCATED) SELECT	DATA SET 201C OPTIONS ON PT-TO-PT EXTENSION CHANNEL	(REMOTE) SELECT
EXTERNAL *	TRANSMITTER TIMING	EXTERNAL *
SWITCHED *	CARRIER CONTROL	CONTINUOUS
7 MS *	REQUEST-TO-SEND/CLEAR-TO-SEND DELAY	0 OR 7 MS PER CPE
NOT USED *	NEW SYNC	NOT USED *
AA CONNECTED TO AB *	GROUNDING	PER CPE OR LOCAL PRACTICE

\* REQUIRED  
 † REQUIRED WHEN AT LEAST ONE EXTENSION IS USED  
 ‡ SLAVE TIMING IS USED IN ONE 209A OR THE OTHER, BUT NOT BOTH

Fig. 5—Typical Customer Options, One-to-Many Multiplexing