

DATA SET 202SR
INSTALLATION AND CONNECTIONS
TRANSMITTER-RECEIVER
SINGLE SET

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1. GENERAL

1.01 This section contains the information needed to install and connect data set (DS) 202SR (Fig. 1). The data set should be installed in conformance with the general instructions given in Section 590-010-200. The information in this section covers installation of data sets in individual mountings. Refer to Section 590-011-202 for a description of registered multiset installations in 40A3 and 40A4 data mountings and Bell System provided cabinets.

1.02 This section is reissued for the reasons listed below. Revision arrows are used to emphasize significant changes.

- (1) Add USOC information pertaining to DS 202SR-L1C options, Table A.

- (2) Add information on KS-21253-L10 adapter, M15K, and M16N cord.
- (3) Show KS-21253-L3 adapter, M10G, M15H, and M16E cords rated MD.
- (4) Add information on connecting direct current power sources to certain DS 202SR-types.

1.03 Data set 202S has been replaced by DS 202SR which is the registered version of the data set. Data set 202SR meets the requirements of the Federal Communications Commission (FCC) registration program. The registration number for DS 202SR is AS593M-62935-MD-E.

1.04 General information concerning registered data sets and arrangements follows:

- Registered versions of data sets are coded with an "R" in the data set code.
- All Bell System switched network data sets not coded with an "R" in the data set code are grandfathered.
- Grandfathered DS 202S may be connected in registered arrangements provided the interface with the network is made with the appropriate jack and cord as shown in the connection diagrams in this section.
- Data set 202SR may be connected in grandfathered arrangements provided the interface with the network is made using the appropriate cords as shown in the connection diagrams in this section.
- Connections to the telephone lines must be made via the proper cords to the data jack as

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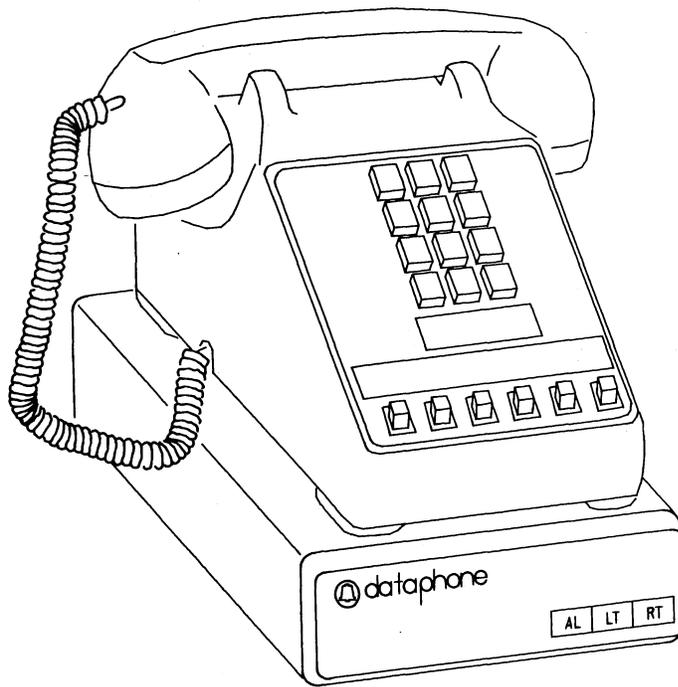


Fig. 1—DS 202SR With 2565HKM Telephone Set

shown in the connection diagrams in this section.

- In the one-to-five data set arrangements a mixture of new-family data sets (103JR, 113CR, 113DR, 201CR, 202SR, and 212AR) may be used as shown in the connection diagrams in this section.

1.05 Data set 202SR operates on a DATAPHONE® service access line terminated in a data jack as described in Section 314-205-501, over an ambient temperature range of 40 to 120°F with a relative humidity range of 20 to 95 percent at 70°F or 20 to 40 percent at 120°F.

Note: These environmental conditions are valid only if no condensation occurs.

1.06 Data set 202SR should be located near the Bell System terminal or customer-provided equipment (CPE), since the customer-provided interface

cord should not exceed 50 feet in length to conform to Electronic Industries Association (EIA) recommended standards. In order to minimize inductive interference with data signals, the telephone line should not be carried in the same cable run as cable between the data set and CPE or lines connected to teletypewriter services. If this condition cannot be met, it will be necessary to run the telephone line in type-SK (shielded) station wire from the building entrance. The shield should be grounded at one end only, preferably the distribution terminal end.

1.07 Low voltage alternating current is supplied to the data set by wall transformer KS-21239-L5 which is shipped loose. The customer must provide a standard 3-wire, grounded 105 to 129V at 57 to 63 Hz power outlet accessible to the data set. The outlet should not be under control of a switch. The power required per set is approximately 9 watts. Approximately 1.7 watts of this is dissipated in the wall transformer.

Caution 1: *If the outlet has a metal cover, do not remove the center screw to mount the transformer. When this screw is removed, it is possible for the metal cover to fall across the prongs of the transformer.*

Caution 2: *Remove and discard the protective covering from the data set housing. If not removed before operation, excessive heating of the data set will result.*

1.08 ♦The DS 202SR-L1C/4 and DS 202SR-L1C/4/3B may be powered from two customer furnished dc sources, one +15 ±1.5 volts and one -15 ± 1.5 volts. These supplies connect to the data mounting by the power transformer cord. The transformer is not furnished with these data sets.♦

1.09 A 25-pin KS-19087-L6 connector is provided at the rear of the data set for connection to the

CPE (Fig. 2). This connector is designed to connect to a customer-provided Cinch or Cannon DB-19604-432 plug equipped with a DB-51226-1 hood, or equivalent. The connection between DS 202SR and the key telephone set is made with an M13F cord. This connection can be extended by using B25A cables as needed. Refer to the connection diagrams for the maximum length of the extension. A key telephone set is required if manual calling and/or answer is needed.

2. CIRCUIT PACK REMOVAL AND REPLACEMENT

2.01 The circuit packs (CPs) comprising the basic DS 202SR and reverse channel must be removed from the mounting to be accessible.

Warning: *When the CPs are removed from the mounting, an approved wrist strap should be used or handle only by faceplate, edges, or brackets to prevent static discharge damage to the intergrated circuits (ICs).*

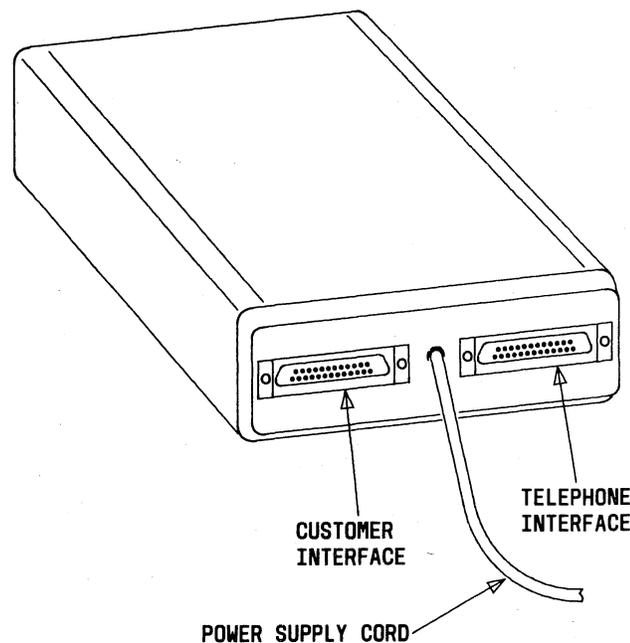


Fig. 2—DS 202SR—Rear View

The CPs should be removed from the mounting as follows:

Warning: *When removing front and rear covers use finger pressure only. No special tools are required. Excessive force may crack the data set cover.*

- (1) Remove the front cover by gently squeezing it at the top, then push down and out of the housing.
- (2) If provided, remove the retaining screw under the left front side of the housing.
- (3) Remove the CPs from the housing by gently rotating outward and pulling the wire handle.

2.02 The CPs should be placed on a clean, dry, nonconductive surface. To reassemble, proceed as follows:

Warning: *An approved wrist strap should be used or handle only by faceplate, edges, or brackets to prevent static discharge damage to the ICs.*

- (1) Slide the data set into the mounting, ensuring that the contacts at the rear of the CP are firmly seated in the connector at the rear of the mounting.
- (2) If provided, align and tighten the retaining screw.
- (3) Hook the tabs on the bottom of the front cover into the detents in the bottom of the mounting.
- (4) Gently press the top of the front cover into the mounting until it snaps into place.

3. OPTIONS

3.01 Disassemble the data set as required to verify that the options specified on the service order are installed in the data set prior to placing the set in service.

3.02 An option label (orderable by specifying E-10077) is shipped affixed to the bottom of the housing.

3.03 Options are installed and removed by means of switches (similar to the one illustrated in

Fig. 3), by a strap on the reverse channel circuit pack (when provided), and by a screw switch on the backplane (frame ground to signal ground option). Refer to Fig. 4 and 5 for the location of some of these devices. A summary of the options is given in Table A and the recommended customer options are given in Table B. A description of the options follows.

- **Transmit Line Signal Level:** This option allows adjustment of the data set transmitted power output level and receiver sensitivity in order to compensate for line losses introduced by the local loop to the serving central office. Options ZO through ZW provide a power output level of -4 through -12 dBm in 1 dB steps. Option ZO (-4 dBm) should be used for all installations to provide optimum fixed loss loop performance.
- **Reverse Channel:** This option may be used to keep echo suppressors disabled, to provide a break feature, to provide circuit assurance, or as a feedback signal for error detection and retransmission systems. Reverse channel circuit pack JY3B provides this option (Fig. 5).

Note: The reverse channel CP must not be installed if option ZD is installed (reverse channel OUT).

- **Transmit Only:** This option makes it possible to operate the data set as a transmit-only set. When this option is IN, the local copy on primary channel option may be installed in the OUT position to disable the receiver. With the transmitter enabled and the receiver disabled, the data set provides the same service as DS 202E-type [except 202E1 and -E10 (MD)].

Note: The contact closed position (option YG) will cause the data set to become transmit only. The data set will still pass the local and remote tests specified in Section 592-037-500.

- **Soft Turnoff and Squelch Intervals:** These two options are implemented in tandem via S2 switch contact settings.

- (1) The soft turnoff signal is a 900-Hz tone which is transmitted after the request-to-send lead is turned **off** (at the end of a

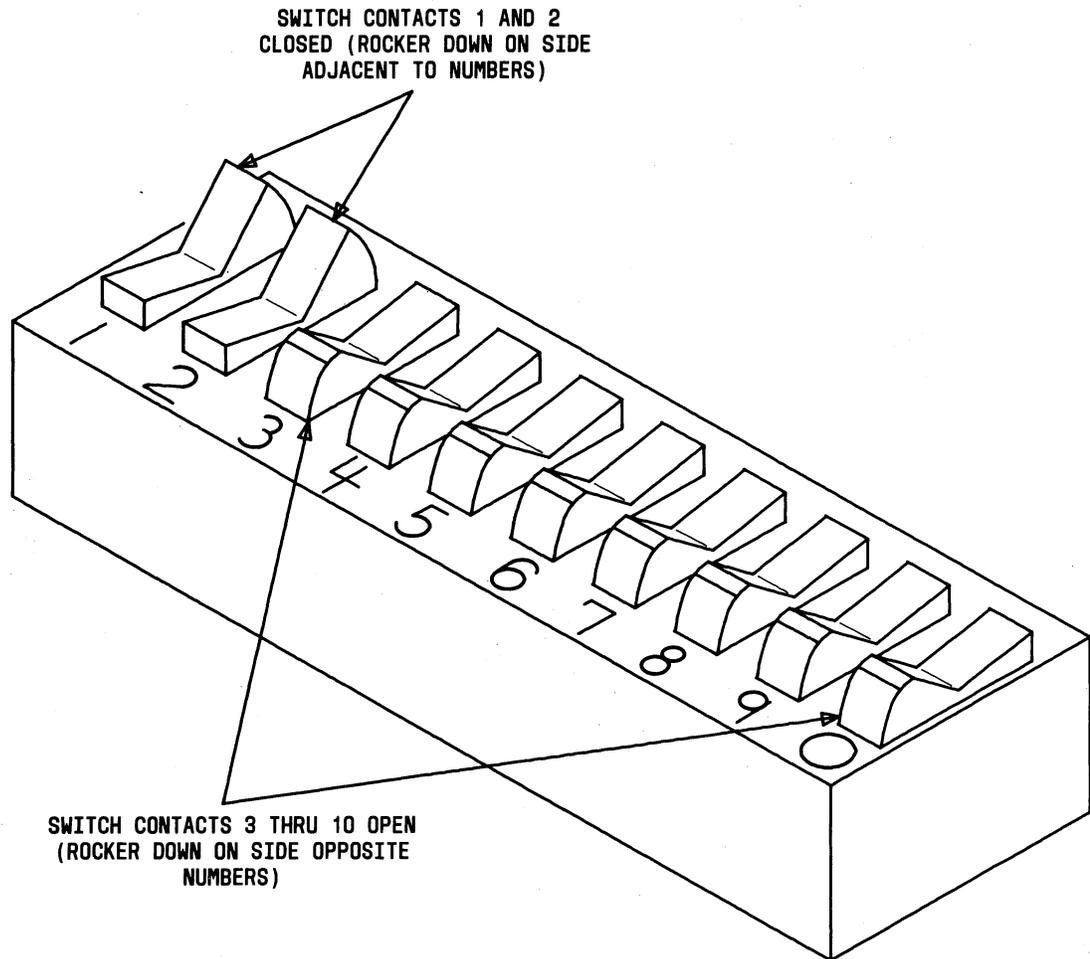


Fig. 3—Option Switch

message). This signal prevents transients from causing spurious spacing signals at the distant station. The interval during which this signal is transmitted is optional for either 0, 8, or 24 ms. Use the 24-ms option for all standard switched network installations. The 0- and 8-ms options are provided for some customer-engineered systems where spurious spacing signals will not cause a problem.

(2) The squelch feature clamps the received line signal detection circuit, which also clamps the received data circuit, to prevent reception of spurious spacing signals due to echoes after the request-to-send lead is turned **off**. The data set may be optioned for a squelch interval of 0, 9, or 156 ms. Use the

156-ms interval for all standard switched network installations. The 0- and 9-ms options are provided for use under the same conditions as the 0- and 8-ms soft turnoff intervals.

- **Fast Carrier Detection:** With this option OUT, the received line signal detection circuit turns **on** in approximately 23 ms and turns **off** in approximately 11 ms. With this option IN, the turnon and turnoff times are approximately 7 and 6 ms, respectively. Set this option for the OUT position for all standard switched network installations. The IN position is provided for use under the same conditions as the shorter soft turnoff and squelch intervals previously explained. This feature is the same as carrier acquisition

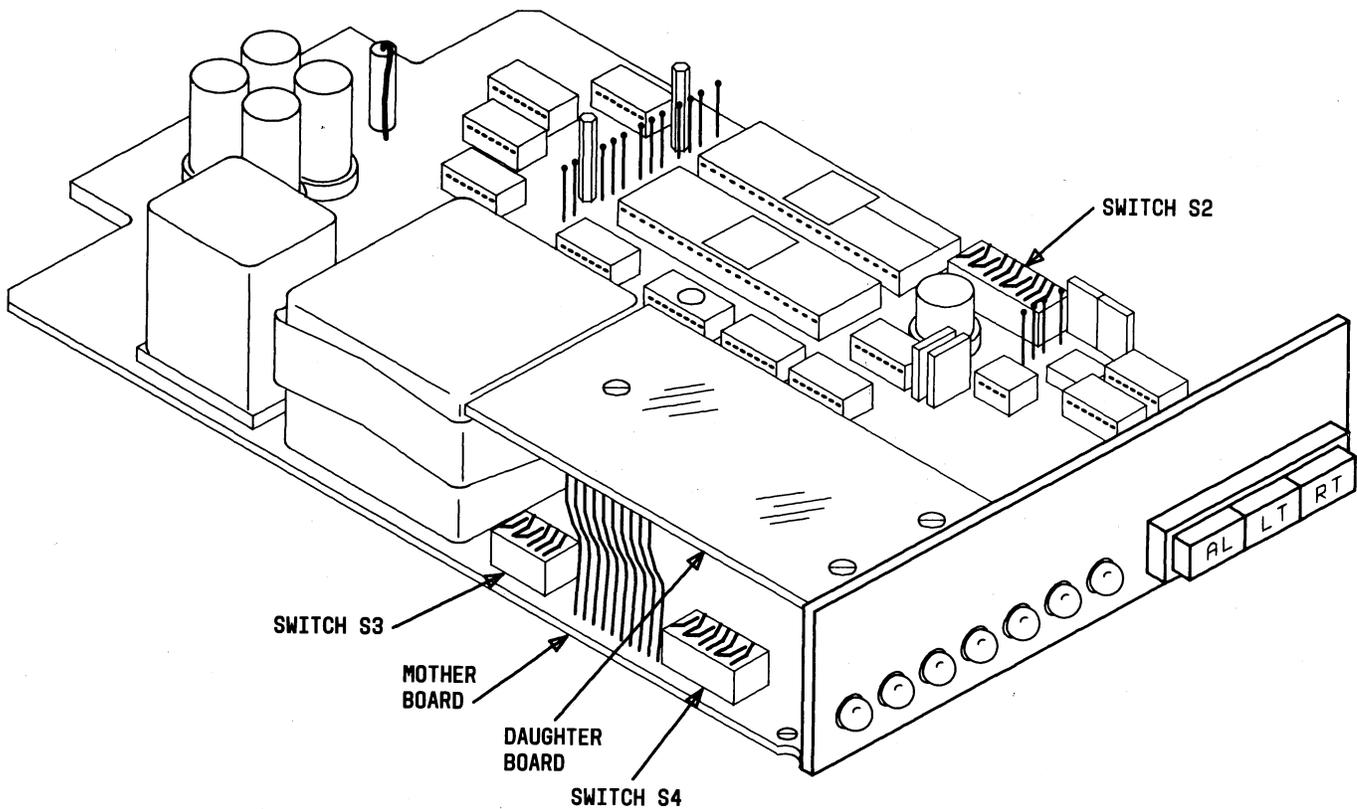


Fig. 4—DS 202SR-L1C

timing and/or receive line signal detector timing in earlier model DS 202-types.

- **Clear-to-Send Interval:** This feature is provided to delay the turnaround time from reception to transmission of data until echo suppressors are turned around or until echoes have decayed to sufficiently low levels. The data set may be optioned for 8-, 30-, 60-, or 180-ms clear-to-send intervals. Use the 180-ms interval for all standard switched network installations. The shorter intervals are provided for use under the same conditions as the soft turnoff and squelch intervals.
- **Automatic Answer:** This feature permits the data set to detect and answer incoming calls automatically.
- **Local Copy on Primary Channel:** With this option IN, the receiver continuously

monitors the transmitted line signal while in the data mode and provides a local copy on the received data circuit.

- **Condition of CC Data Set Ready (DSR) During Analog Loopback:** With the ON setting, the data set ready circuit turns **on** during the analog loopback test mode when the data terminal ready circuit is turned **on**. This permits testing with the customer terminal. With the OFF setting, the data set ready circuit is clamped **off** during the analog loopback mode.
- **Local Copy on Reverse Channel:** With option IN, the local reverse channel receiver monitors the reverse channel transmitted signal. The option is installed (IN or OUT) via a strapping plug (Fig. 5) on the reverse channel CP.
- **Grounding Option:** Signal ground (AB) is normally connected to frame ground (AA)

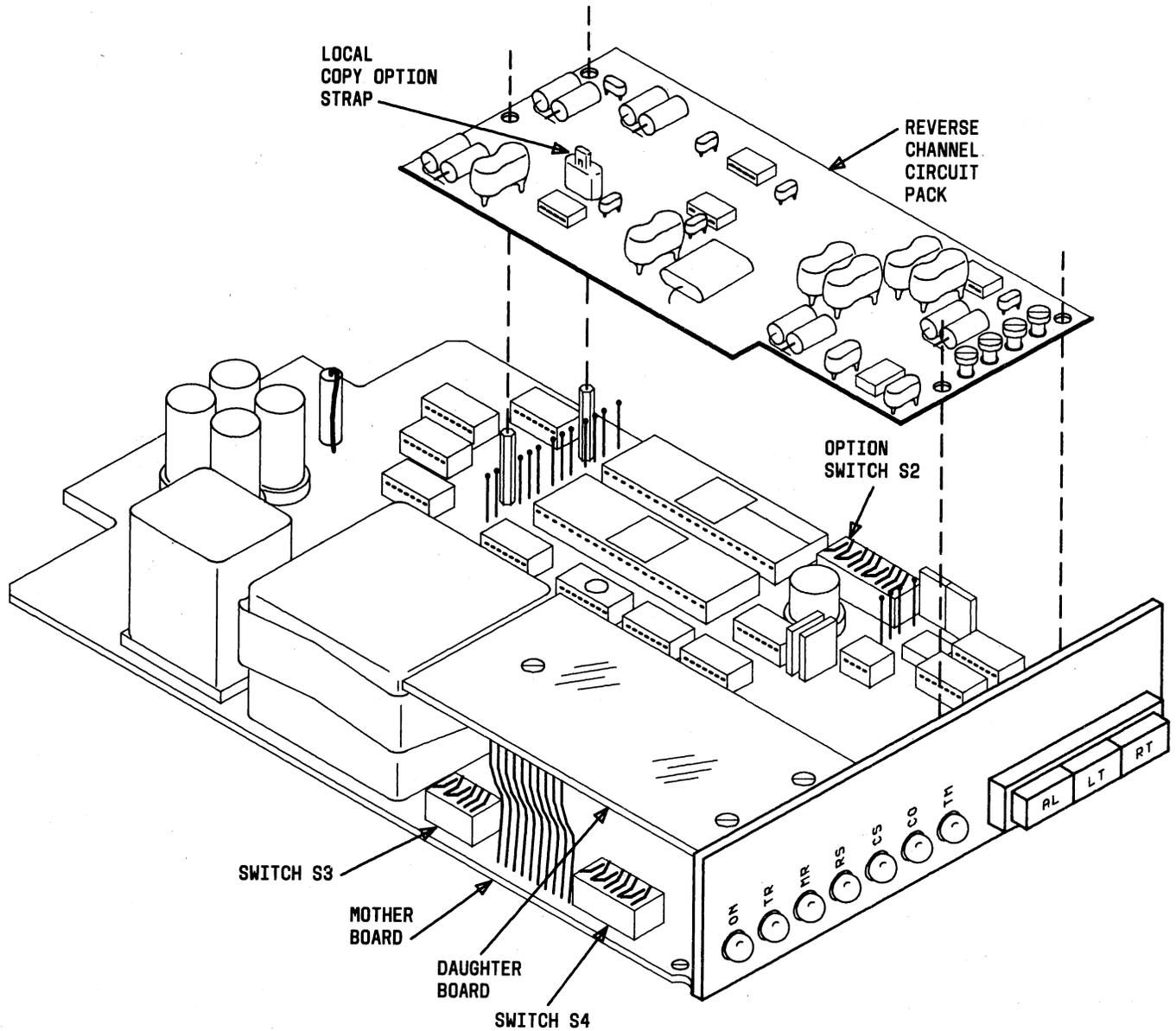


Fig. 5—DS 202SR-L1C/3B

(factory-furnished) to minimize the introduction of longitudinal power line noise into the data circuits. Local procedures or conditions may require that signal ground *not* be connected to frame or protective ground. The grounding option is accomplished via a screw switch setting on the interface assembly located at the inside rear of the data mounting.



A long screwdriver (8-inch blade) is needed to operate the screw switch that controls the grounding option. If the appropriate screwdriver is not available, the backplane may be taken out of the mounting by removing the two screws on the bottom of the mounting.

- **Echo Suppressor Enable Option:** This option eliminates echo problems that may be

◆ TABLE A ◆
DATA SET 202SR-L1C OPTIONS

OPTION		OUTPUT LEVEL dBm	S4 SWITCH CONTACT SETTING ON TRANSMITTER-RECEIVER														PROVIDE	USOC DECSN	
			WITHOUT REVERSE CHANNEL							WITH REVERSE CHANNEL									
DESCRIPTION	DESIG		1	2	3	4	5	6	7	1	2	3	4	5	6	7			
Transmit Line Signal Level	ZO*	-4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	One Per Set	
	ZP	-5	0	X	X	X	X	X	X	0	X	X	X	X	X	X			
	ZQ	-6	X	0	X	X	X	X	X	0	0	X	X	X	X	X			
	ZR	-7	0	0	X	X	X	X	0	X	X	0	X	X	X	0			
	ZS	-8	X	X	0	X	X	X	0	X	0	0	X	X	X	0			
	ZT	-9	X	0	0	X	X	X	0	X	0	X	0	X	X	0			
	ZU	-10	X	X	X	0	X	X	0	0	0	0	0	0	X	X			
	ZV	-11	0	0	X	0	X	X	0	0	0	0	0	0	0	X			
	ZW	-12	0	0	0	0	X	X	0	0	0	0	0	0	0	0			
Soft Turnoff and Squelch Intervals		SOFT TURNOFF	SQUELCH				S2 SWITCH CONTACT SETTING ON TRANSMITTER-RECEIVER												
							1	2	3	4	5	6	7	8	9	0			
	Z	0	0	-	0	0	-	-	-	-	-	-	X	-	X	One Per Set	C6		
	Y	8 ms	0	-	0	0	-	-	-	-	-	-	0	-	X		C6		
	X	24 ms	0	-	X	0	-	-	-	-	-	-	0	-	X		C6		
	W	0	9 ms	-	0	0	-	-	-	-	-	-	X	-	0		C6		
	V	0	156 ms	-	0	X	-	-	-	-	-	-	X	-	0		C6		
	T	8 ms	9 ms	-	0	0	-	-	-	-	-	-	0	-	0		C6		
S	8 ms	156 ms	-	0	X	-	-	-	-	-	-	0	-	0	C6				
R*	24 ms	156 ms	-	X	X	-	-	-	-	-	-	0	-	0	C5, C6				
Fast Carrier Detection	Q	In (7 ms)				-	-	-	-	-	-	0	-	-	-	One Per Set	C6		
	N*	Out (23 ms)				-	-	-	-	-	-	X	-	-	-		C5, C6		
Clear to Send Interval	M	8 ms				-	-	-	0	0	-	-	-	-	-	One Per Set	C6		
	K	30 ms				-	-	-	0	X	-	-	-	-	-		C6		
	J	60 ms				-	-	-	X	0	-	-	-	-	-		C6		
	G*	180 ms				-	-	-	X	X	-	-	-	-	-		C5, C6		
Automatic Answer	B*	In				X	-	-	-	-	-	-	-	-	-	One Per Set	E9		
	A	Out				0	-	-	-	-	-	-	-	-	-		E10		
Local Copy on Primary Channel	ZA	In				-	-	-	-	-	0	-	-	-	-	One Per Set	A1		
	ZB*	Out				-	-	-	-	-	X	-	-	-	-		A2		
Condition of CC (DSR) During Analog Loopback	YI	On				-	-	-	-	-	-	-	-	X	-	One Per Set	D7		
	YJ*	Off				-	-	-	-	-	-	-	-	0	-		D8		
OPTION		S3 SWITCH CONTACT SETTING ON TRANSMITTER-RECEIVER														PROVIDE	USOC DECSN		
DESCRIPTION	DESIG	1	2	3	4	5	6												
Reverse Channel	ZC†	In				0	0	-	-	-	-						One Per Set		
	ZD*	Out				X	X	-	-	-	-								
Transmit Only	YG	In				-	-	X	-	-	-						One Per Set		
	YH*	Out				-	-	0	-	-	-								

◆ TABLE A ◆ (Contd)
DATA SET 202SR-LIC OPTIONS

OPTION			S3 SWITCH CONTACT SETTING ON TRANSMITTER-RECEIVER						PROVIDE	USOC DECSN
DESCRIPTION	DESIG		1	2	3	4	5	6		
Echo Suppressor Enable	YQ	In	-	-	-	0	-	-	One Per Set	
	YR*	Out	-	-	-	X	-	-		
Carrier Controlled Turnaround	YS*	In	-	-	-	-	-	0		One Per Set
	YT	Out	-	-	-	-	-	X		
Early CC (DSR) Indication	YU	In	-	-	-	-	0	-	One Per Set	
	YV*	Out	-	-	-	-	X	-		
			STRAPPING ON REVERSE CHANNEL							
Local Copy on Reverse Channel	ZE	In	Install E21-E22						One Per JY3B CP	B3
	ZF*	Out	Install E21-E23							B4
			SCREW SWITCH SETTING ON INTERFACE CIRCUIT							
Grounding Option	ZG*	Signal Ground Connected to Frame Ground	Screw Switch S1 Closed						One Per 47A1 Data Mounting	F11
	ZH	Signal Ground Not Connected to Frame Ground	Screw Switch S1 Open							F12

X Contact closed

- Contact not applicable

0 Contact open

* Factory furnished

† Factory furnished instead of option ZD when reverse channel board is installed

encountered during startup over satellite transmission circuits. ***This option cannot be used with reverse channel installed.***

- **Carrier Controlled Turnaround:** This option delays turnon of the clear-to-send circuit until the remote data set has entered the received mode.

- **Early Data Set Ready Indication:** With this option installed, the DSR circuit turns **on** at the beginning of the answer tone sequence in the called data set. This option installed causes DSR to operate as it does on DS 202C.

4. INTERFACE DATA

4.01 Data set 202SR provides the customer with the interface leads listed in Table C. These leads conform to EIA Standard RS-232-C.

4.02 The telephone interface leads are listed in Table D and described as they are used in DS 202SR installations.

4.03 Figure 6 shows a simplified diagram of the telephone set, interface, and data set.

5. CONNECTIONS

5.01 Data set 202SR is designed to be connected to access line having parameters specified in Section 314-205-501.

CARD DIALER

5.02 The 2662A1M telephone set is equipped with a card dialer and may be substituted for the 2565HKM telephone set shown in the arrangements in this section. If the telephone line is to be connected to the telephone set, connect the M4AU cord as follows:

M4AU	2662A1M
CORD	TERMINAL
BL	Telephone network A
O	TB1-7
BK	Insulate and store
Y	Insulate and store

TABLE B

RECOMMENDED CUSTOMER OPTIONS

OPTION	202SR
Squelch Interval	156 ms
Clear-to-Send Interval	180 ms
Fast Carrier Detection	Out (normal)
Soft Turnoff Interval	24 ms
Clamp	In
Reverse Channel	Optional
Automatic Calling Unit	Optional
Automatic Answer	Optional
Local Copy	Optional

5.03 Data sets 202SR-L1C/4 and 202SR-L1C/4/3B are powered by two customer-furnished dc power sources. To supply power to these data sets, make the following backplane connections using power transformer cord:

+15v ±1.5v dc source to AC1

-15v ±1.5v dc source to AC2

Common to GRD.

Note: Common can be either grounded or floating depending on whether or not it is desired to have circuit ground of the data set connected to frame ground.

6. STATION ARRANGEMENTS

6.01 The station arrangements described in this part comply with the FCC registration program and apply only to DS 202SR-L1C/2 or DS 202SR-L1C/2/3B. Section 590-011-202 describes station arrangements using DS 202SR-L1C or DS 202SR-L1C/3B and 40A3 and 40A4 data mountings. Refer to Fig. 7 for detail drawings of key telephone set, 107B loudspeaker set, KS-21239-L5 transformer, and 153A adapter connections. Refer to Fig. 8 through 15 for connection diagrams of the arrangements. Figure 16, 17, and 18 are provided to aid troubleshooting of the arrangements.

6.02 **Single Data Set:** Connect cables as shown in Fig. 8.

The following parts are required:

DS 202SR-L1C/2 or DS 202SR-L1C/2/3B

153A adapter

B25A cables, as needed, length as shown in Fig. 8

Note: An M4AU cord, up to 25 feet long, must be used for the connection to a data jack (USOC RJ41S). A 7-foot cord is shipped with DS 202SR-L1C/2 or DS 202SR-L1C/2/3B.

6.03 **Single Data Set With Telephone Set:** Connect cables as shown in Fig. 9.

The following parts are required:

DS 202SR-L1C/2 or DS 202SR-L1C/2/3B

565HKM, 2565HKM, or 2662A1M telephone set

B25A cables, as needed, length as shown in Fig. 9

Note: An M4AU cord, up to 25 feet long, must be used for the connection to a data jack (USOC RJ41S). A 7-foot cord is shipped with DS 202SR-L1C/2 or DS 202SR-L1C/2/3B.

6.04 **Single Data Set With Telephone Set (Alternate Method):** Connect cables as shown in Fig. 10.

The following parts are required:

DS 202SR-L1C/2 or DS 202SR-L1C/2/3B

565HKM, 2565HKM, or 2662A1M telephone set

KS-19252-L1 adapter

153A adapter

B25A cables, as needed, length as shown in Fig. 10

Note: An M4AU cord, up to 25 feet long, must be used for the connection to a data jack (USOC RJ41S). A 7-foot cord is shipped with DS 202SR-L1C/2 or DS 202SR-L1C/2/3B.

6.05 **Single Data Set With ACU:** Connect cables as shown in Fig. 11.

TABLE C
CUSTOMER INTERFACE

LEAD NO.	FUNCTION	EIA DESIGNATION (RS-232-C)
2	Transmitted Data	BA
3	Received Data	BB
4	Request-to-Send	CA
5	Clear-to-Send	CB
6	Data Set Ready	CC
7	Signal Ground	AB
8	Received Line Signal Detector	CF
9	Positive 14 Volts	—
10	Negative 14 Volts	—
11 & 19	Secondary Request-to-Send	SCA
12	Secondary Received Line Signal Detector	SCF
20	Data Terminal Ready	CD
22	Ring Indicator	CE

The following parts are required:

DS 202SR-L1C/2 or DS 202SR-L1C/2/3B

DAS 801CR-L1/2

153A adapter

107B loudspeaker set
Two D4BT cords
2012D transformer } optional

B25A cables, as needed, length as shown in Fig. 11

Note: An M4AU cord, up to 25 feet long, must be used for the connection to a data jack (USOC

RJ41S). A 7-foot cord is shipped with DS 202SR-L1C/2 or DS 202SR-L1C/2/3B.

6.06 Single Data Set With ACU and Telephone Set: Connect cables as shown in Fig. 12.

The following parts are required:

DS 202SR-L1C/2 or DS 202SR-L1C/2/3B

565HKM, 2565HKM, or 2662A1M telephone set

DAS 801CR-L1/2

107B loudspeaker set
Two D4BT cords
2012D Transformer } optional

TABLE D
TELEPHONE INTERFACE

LEAD NO.	DESIGNATION	DESCRIPTION
1	L	Telephone set line lamp control from data set
4	LG	Telephone set line lamp ground from data set
5	TD	Talk/data control from telephone set
7	T	Telephone line tip lead
8	R	Telephone line ring lead
12	RD	Common ringer control contact to ground
14	C	Data mode contact closure to ground from data set to ACU
16	D1	Data mode contact closure to ground from ACU to data set
21	T1	Telephone set tip lead
22	R1	Telephone set ring lead
23	A	A lead control: Used to provide an indication to ACU or KTU when the line is in use
24	A1	
25	TDG	Talk/data control ground lead

B25A cables, as needed, length as shown in Fig. 12

Note: An M4AU cord, up to 25 feet long, must be used for the connection to a data jack (USOC RJ41S). A 7-foot cord is shipped with DS 202SR-L1C/2 or DS 202SR-L1C/2/3B.

6.07 Single Data Set With ACU and Telephone Set (Alternate Method): Connect cables as shown in Fig. 13.

The following parts are required:

DS 202SR-L1C/2 or DS 202SR-L1C/2/3B

565HKM, 2565HKM, or 2662A1M telephone set

DAS 801CR-L1/2

KS-19252-L1 adapter

153A adapter

107B loudspeaker set
Two D4BT cords
2012D transformer } optional

B25A cables, as needed, length as shown in Fig. 13

Note: An M4AU cord, up to 25 feet long, must be used for the connection to a data jack (USOC RJ41S). A 7-foot cord is shipped with DS 202SR-L1C/2 or DS 202SR-L1C/2/3B.

6.08 One to Five Single Data Sets With Optional Shared Telephone Set: Connect cables as shown in Fig. 14.

The following parts are required:

DS 202SR-L1C/2 or DS 202SR-L1C/2/3B (one to five)

◆KS-21253-L3 (MD) or KS-21253-L10 adapter

M10G (MD) or M16N cord for connection to data jack (USOC RJ26X)◆

B25A cables, as needed, length as shown in Fig. 14

565HKM, 2565HKM, or 2662A1M telephone set (optional)

M4AS cord } optional
248A adapter }
2012C transformer }

6.09 One to Five Single Data Sets With ACUs and Optional Shared Telephone Set:

Connect cables as shown in Fig. 15.

The following parts are required:

DS 202SR-L1C/2 or DS 202SR-L1C/2/3B (one to five)

DAS 801CR-L1/2 (one per data set requiring an ACU)

◆KS-21253-L3 (MD) or KS-21253-10 adapter

M10G (MD) or M16N cord for connection to data jack (USOC RJ26X)◆

B25A cables, as needed, length as shown in Fig. 15

565HKM, 2565HKM, or 2662A1M telephone set (optional)

M4AS cord } optional
248A adapter }
2012C transformer }

107B loudspeaker set } optional
Two D4BT cords }
2012D transformer }

6.10 Multiple Power Outlets: To eliminate the need for several 110 Vac outlets, the individual KS-21239-L5, 2012C, and 2012D transformers can be plugged into a multiple power outlet strip. A 602-15 Waber Electric power outlet strip accommodates three transformers. A 1A2 power panel accommodates eight transformers. If there is interference, the spade lugs must be bent upward. A KS-14532-L20 or equivalent cord is required with the 1A2 power panel.

6.11 KS-21253-L3 (MD) or KS-21253-L10 Five Set Adapter—Alternate Line Connections:

When one to three data sets are used with the KS-21253-type five set adapter, the following line connections may be used in place of the M10- or M16-type cord. Connect the appropriate M4A-type cord to one of the terminal pairs T1-R1, T2-R2, or T3-R3 of the adapter, as described below.

Connections for 100-Type Data Sets

Connect the green and red leads of an M4AS cord to the T and R terminals, respectively, of one terminal pair. Plug the cord into a voice jack USOC RJ11C, a data jack USOC RJ41S, with the switch set to the PROG position, or a data jack USOC RJ45S. Tape and store the unused leads of the cord.

Connections for 200-Type Data Sets

Connect the orange and blue leads of an M4AU cord to the T and R terminals, respectively, of one terminal pair. Plug the cord into a data jack USOC RJ41S, with the switch set to the FLL position. Tape and store the unused leads of the cord.

7. INSTALLATION TEST

7.01 After installation is completed, the data set should be tested to determine if it is operating properly. Refer to Section 592-037-500.

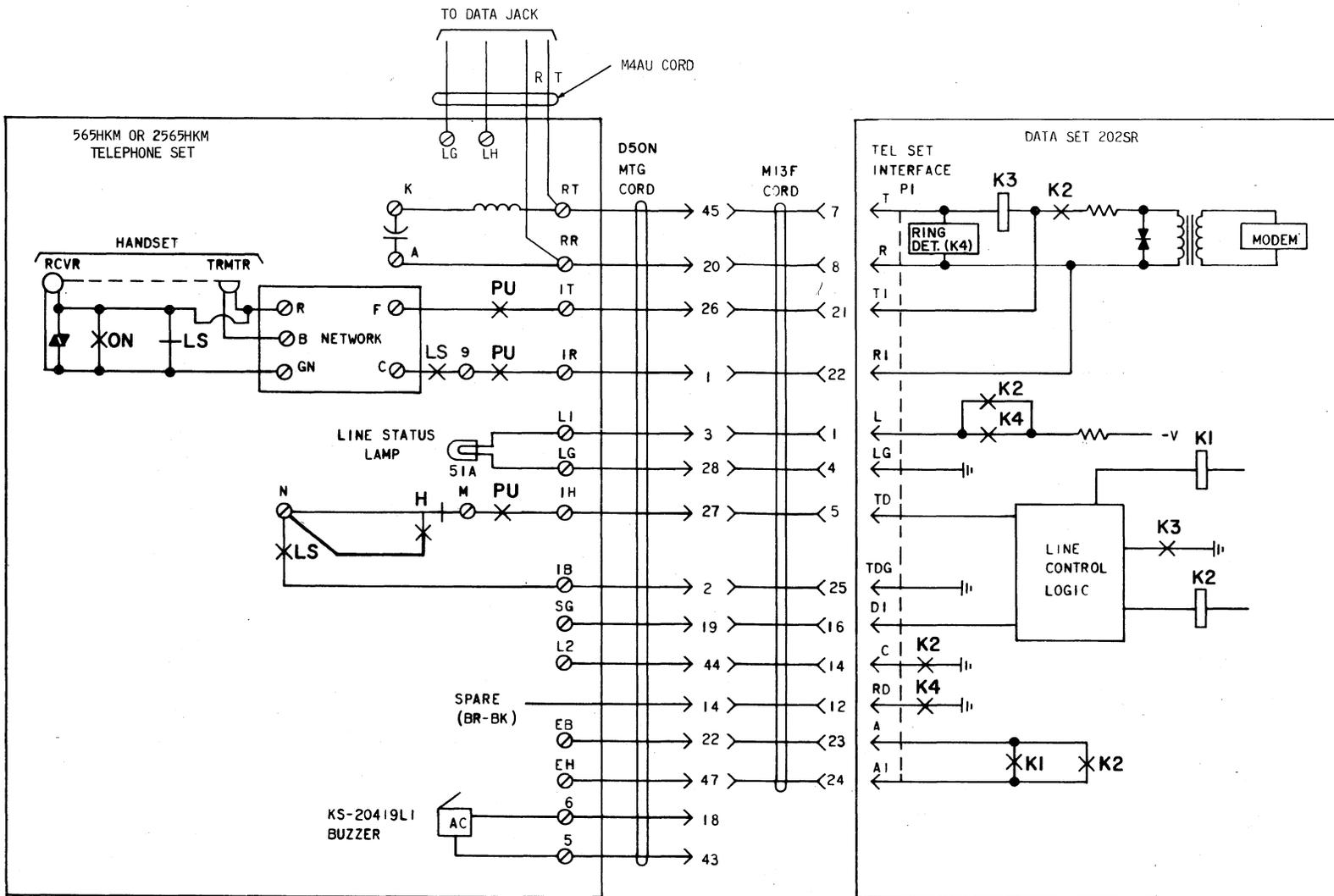


Fig. 6—Interface Between Telephone Set and Data Set

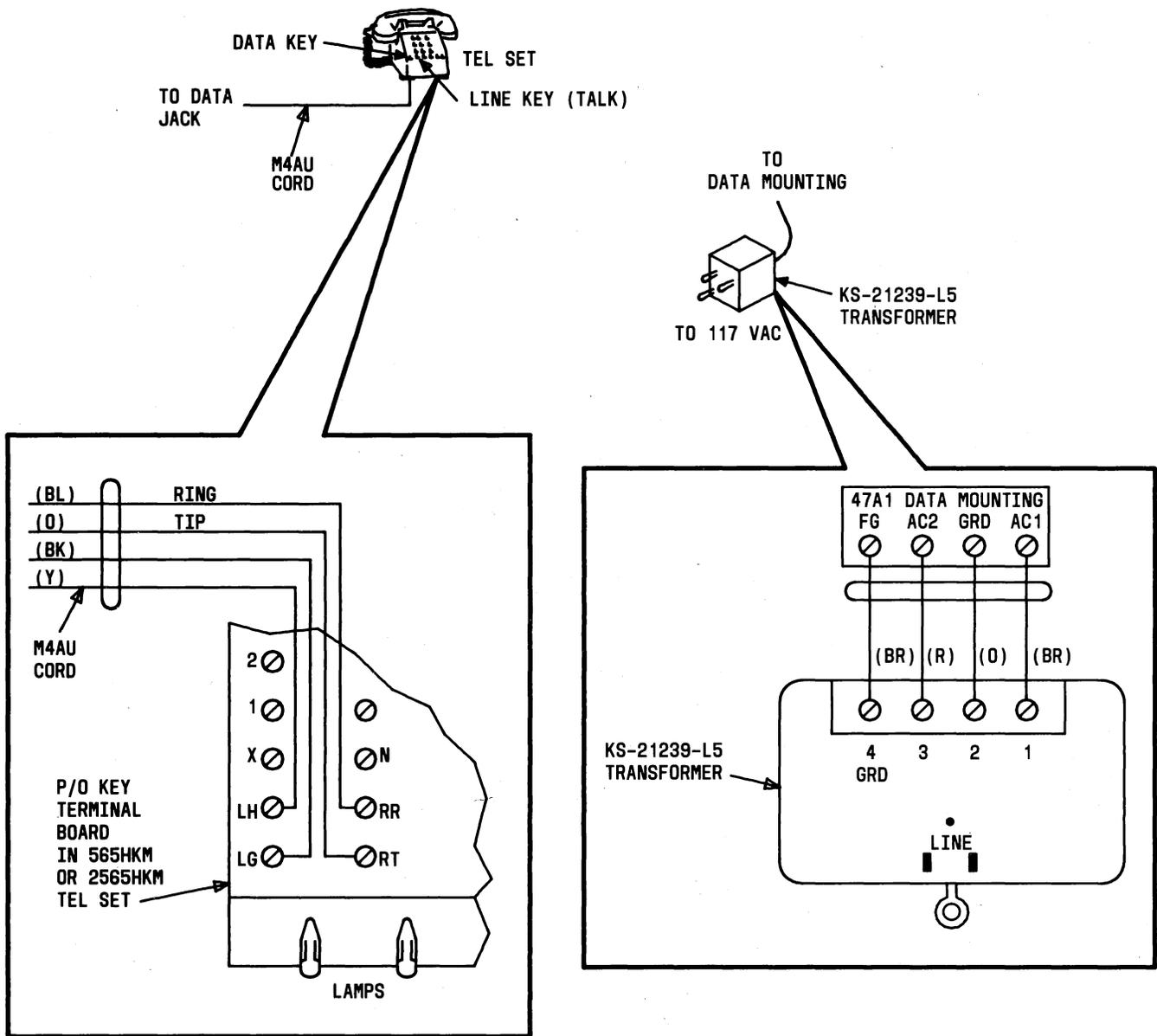


Fig. 7—Details of Key Telephone Set, 107B Loudspeaker Set, KS-21239-L5 Transformer, and 153A Adapter Connections (Sheet 1 of 2)

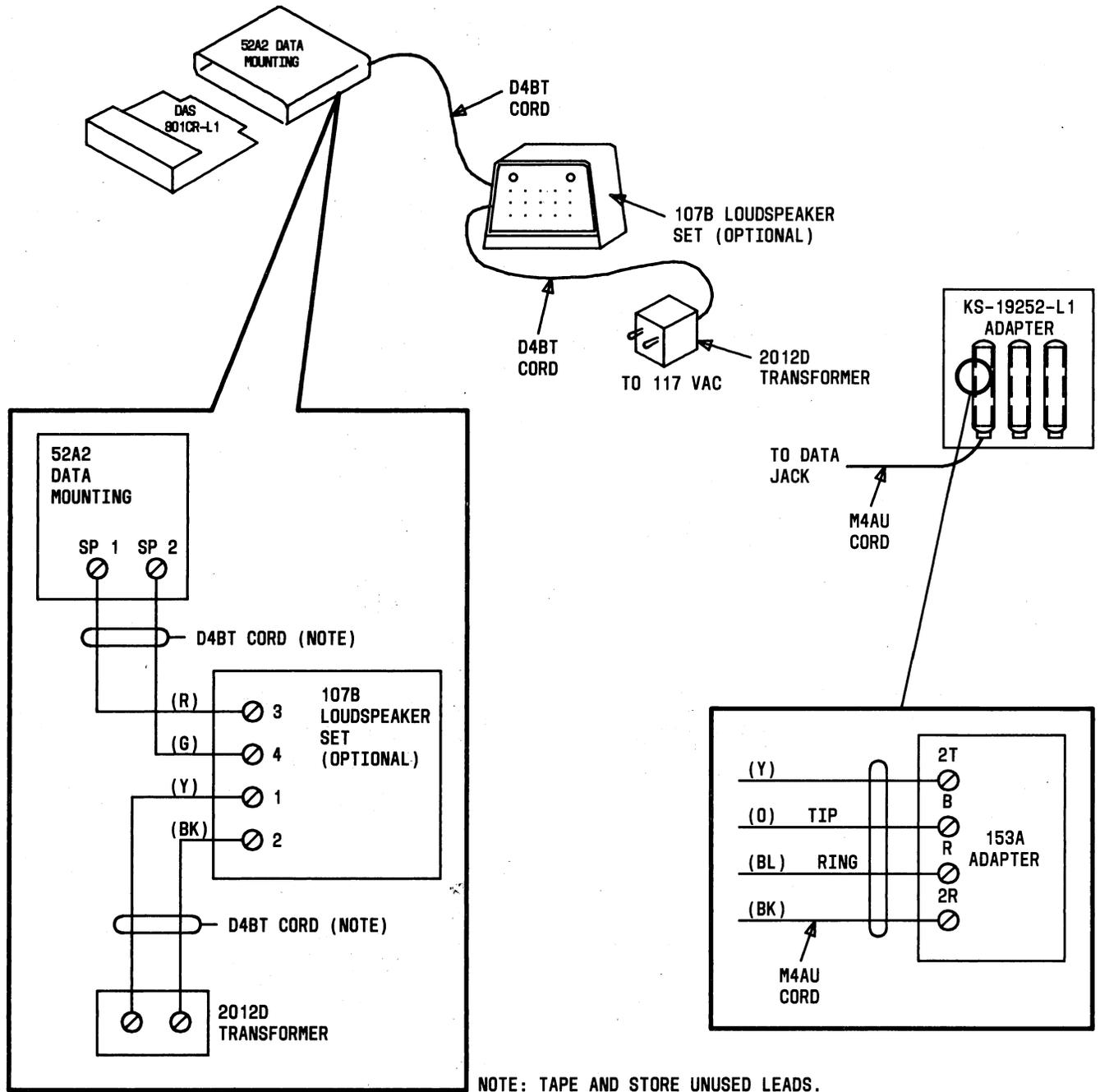
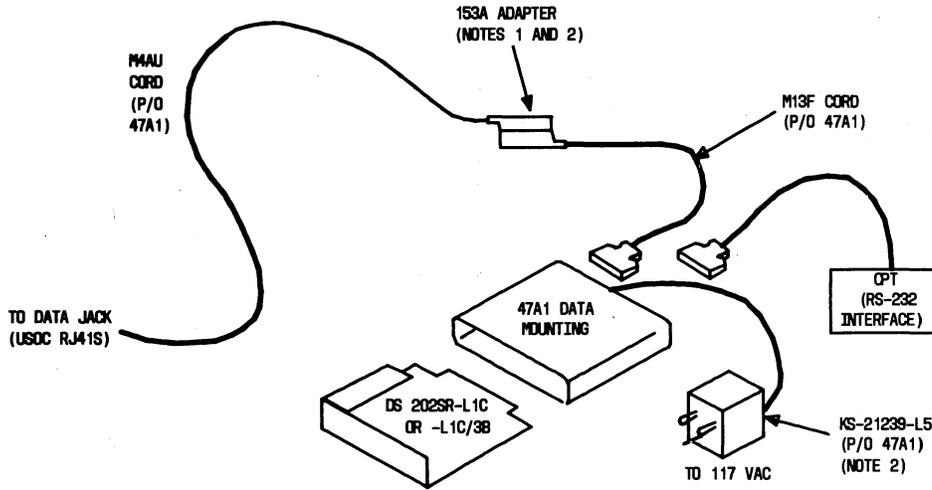
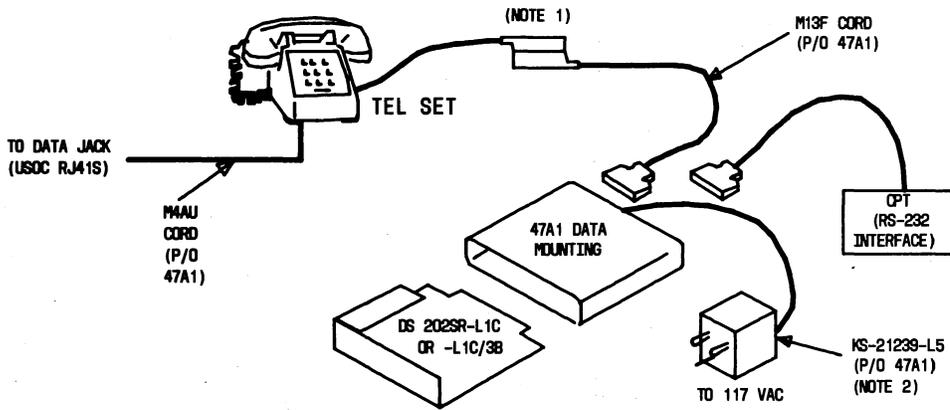


Fig. 7—Details of Key Telephone Set, 107B Loudspeaker Set, KS-21239-L5 Transformer, and 153A Adapter Connections (Sheet 2 of 2)



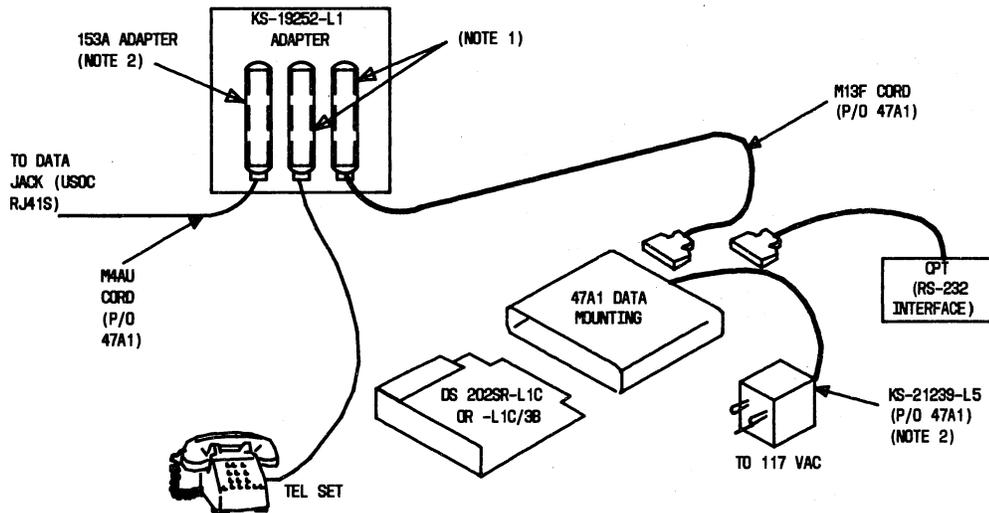
- NOTES:
1. THIS CONNECTION MAY BE EXTENDED WITH B25A CABLES UP TO 60 FEET.
 2. FOR CONNECTIONS TO 153A ADAPTER AND KS-21239-L5 TRANSFORMER, REFER TO FIG. 7.

Fig. 8—Single Data Set—Connection Diagram



- NOTES:
1. THIS CONNECTION MAY BE EXTENDED WITH B25A CABLES UP TO 60 FEET.
 2. FOR CONNECTIONS TO 153A ADAPTER AND KS-21239-L5 TRANSFORMER, REFER TO FIG. 7.

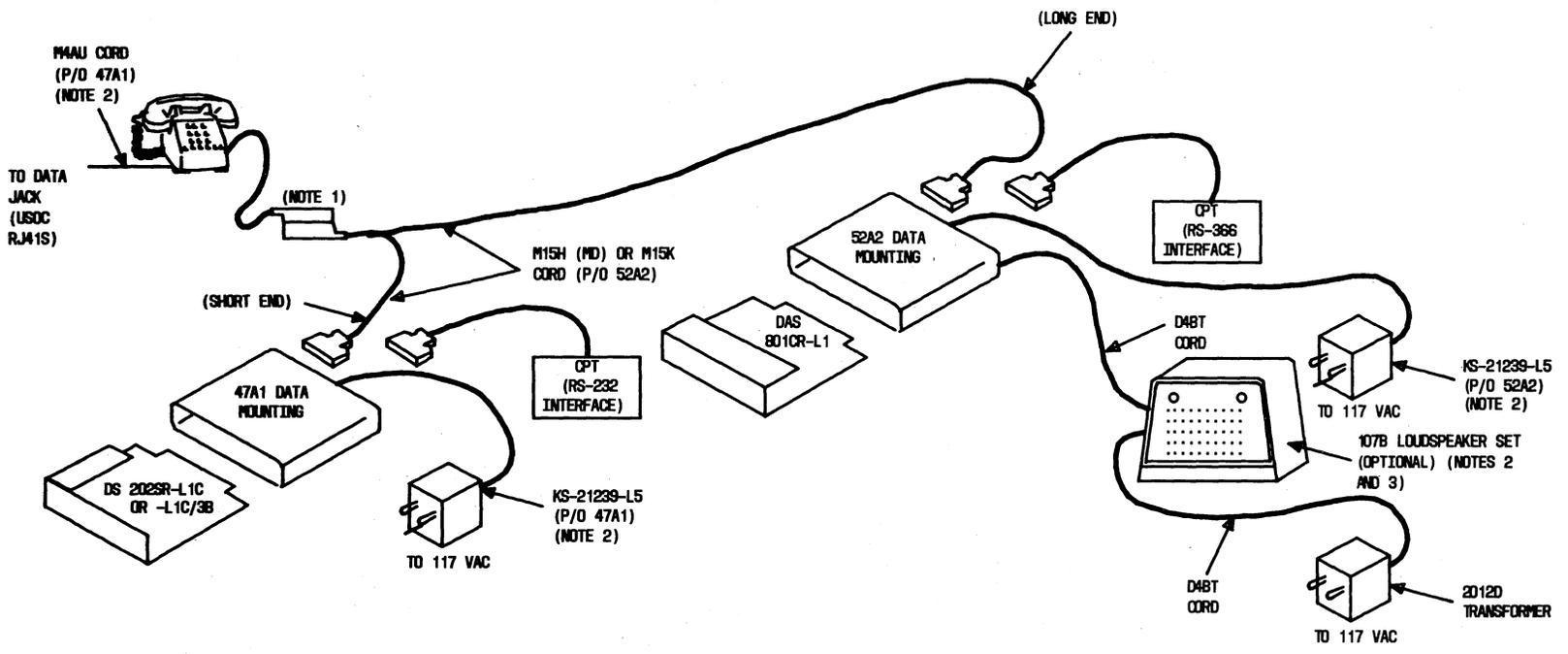
Fig. 9—Single Data Set With Telephone Set—Connection Diagram



NOTES:

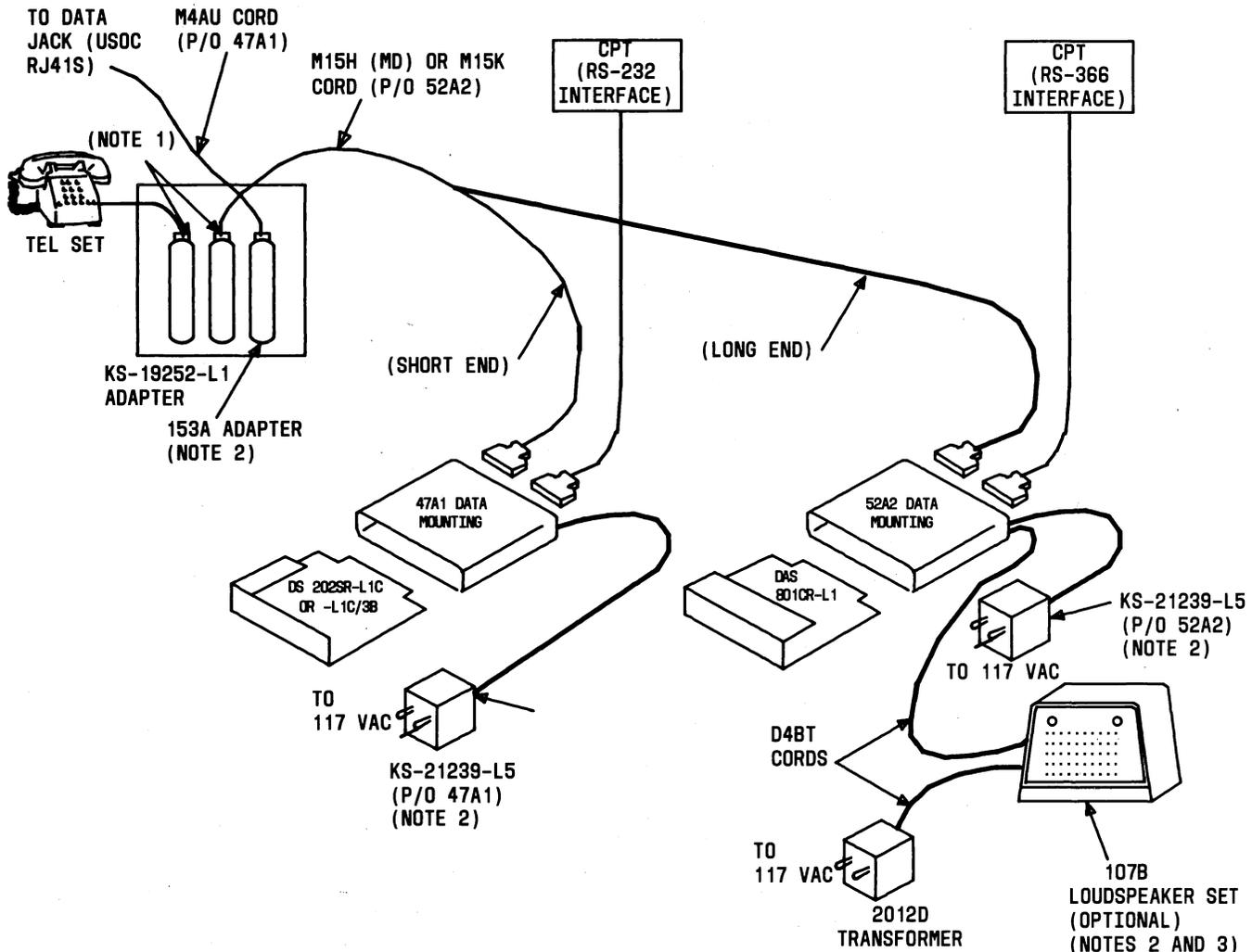
1. THESE CONNECTIONS MAY BE EXTENDED WITH B25A CABLES. THE TOTAL EXTENSION PROVIDED BY B25A CABLES BETWEEN TELEPHONE AND DATA SET MAY NOT EXCEED 60 FEET.
2. FOR CONNECTIONS TO 153A ADAPTER AND KS-21239-L5 TRANSFORMER, REFER TO FIG. 7.

Fig. 10—Single Data Set With Telephone Set (Alternate Method)—Connection Diagram



- NOTES:
1. THIS CONNECTION MAY BE EXTENDED WITH B25A CABLES UP TO 60 FEET.
 2. FOR CONNECTIONS TO KEY TELEPHONE SET, 107B LOUDSPEAKER SET, AND KS-21239-L5 TRANSFORMERS, REFER TO FIG. 7.
 3. DISCONNECT D5AR MOUNTING CORD SUPPLIED WITH 107B LOUDSPEAKER SET AND RETURN CORD TO STOCK.

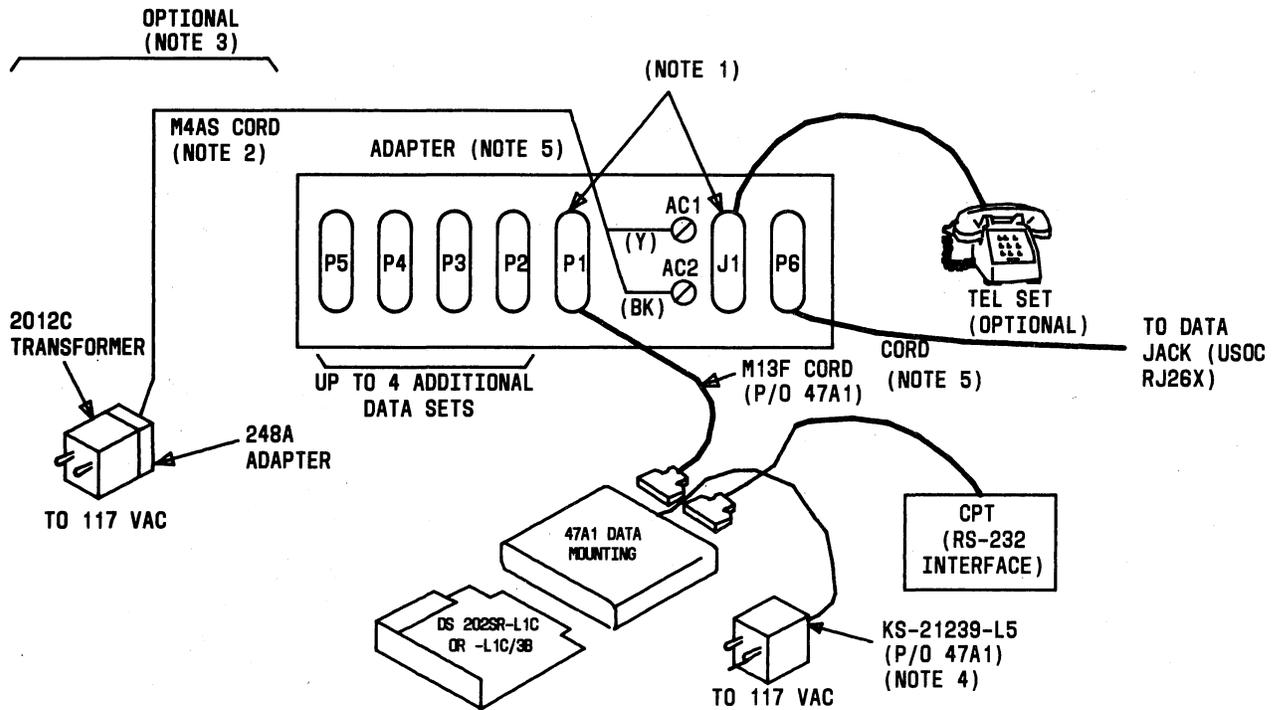
Fig. 12—Single Data Set With ACU and Telephone Set—Connection Diagram



NOTES:

1. THESE CONNECTIONS MAY BE EXTENDED WITH B25A CABLES. THE TOTAL EXTENSION PROVIDED BETWEEN TELEPHONE AND DATA SET MAY NOT EXCEED 60 FEET.
2. FOR CONNECTIONS TO 153A ADAPTER, 107B LOUDSPEAKER SET, AND KS-21239-L5 TRANSFORMERS, REFER TO FIG. 7.
3. DISCONNECT D6AR MOUNTING CORD SUPPLIED WITH 107B LOUDSPEAKER SET AND RETURN CORD TO STOCK.

Fig. 13—Single Data Set With ACU and Telephone Set (Alternate Method)—Connection Diagram



NOTES:

1. THESE CONNECTIONS MAY BE EXTENDED WITH B25A CABLES. THE TOTAL EXTENSION PROVIDED BY B25A CABLES BETWEEN TELEPHONE SET AND ANY DATA SET MAY NOT EXCEED 60 FEET.
2. TAPE AND STORE UNUSED LEADS.
3. PROVIDE WHEN COMMON RINGER IS REQUIRED.
4. FOR CONNECTIONS TO KS-21239-L5 TRANSFORMER, REFER TO FIG. 7.
5. USE M10G(MD) CORD WHEN KS-21253-L3 (MD) ADAPTER IS PROVIDED. USE M16E (MD) OR M16N CORD WHEN KS-21253-L10 ADAPTER IS PROVIDED.

Fig. 14—One to Five Single Data Sets With Optional Shared Telephone Set—Connection Diagram

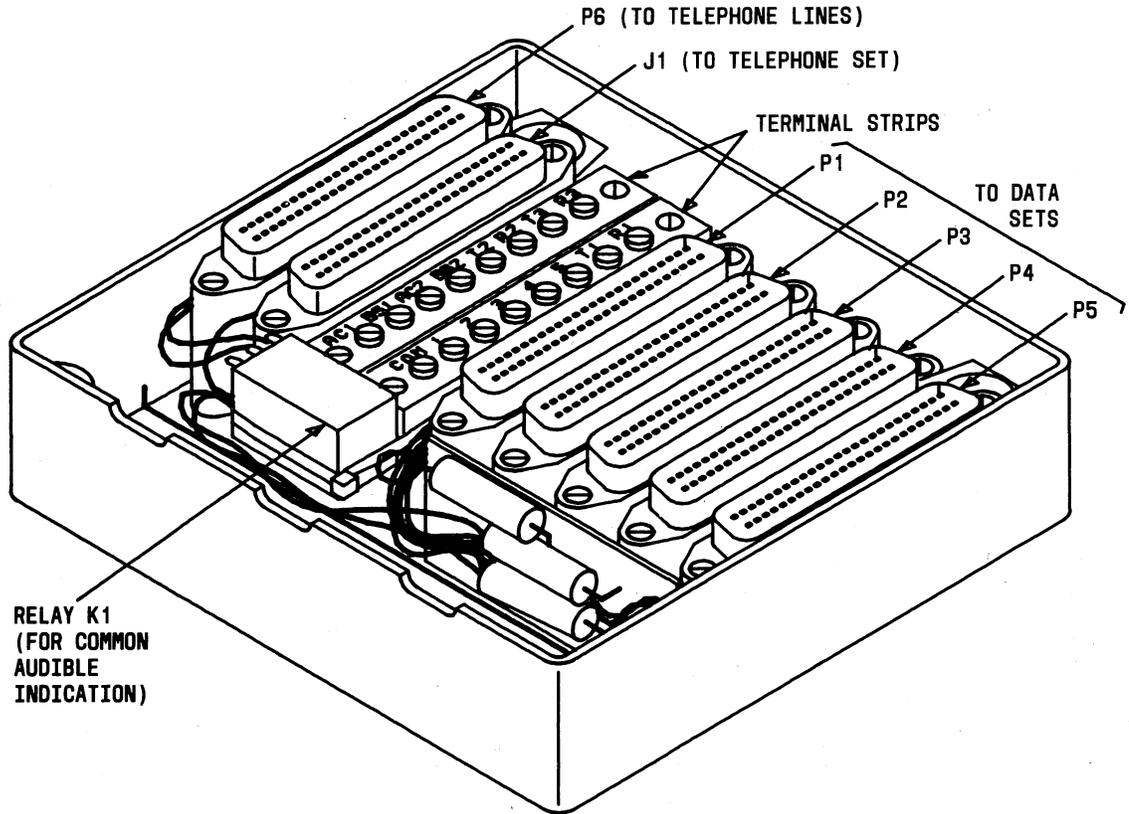


Fig. 16—KS-21253-L3 (MD) or KS-21253-L10 Adapter With Cover Removed

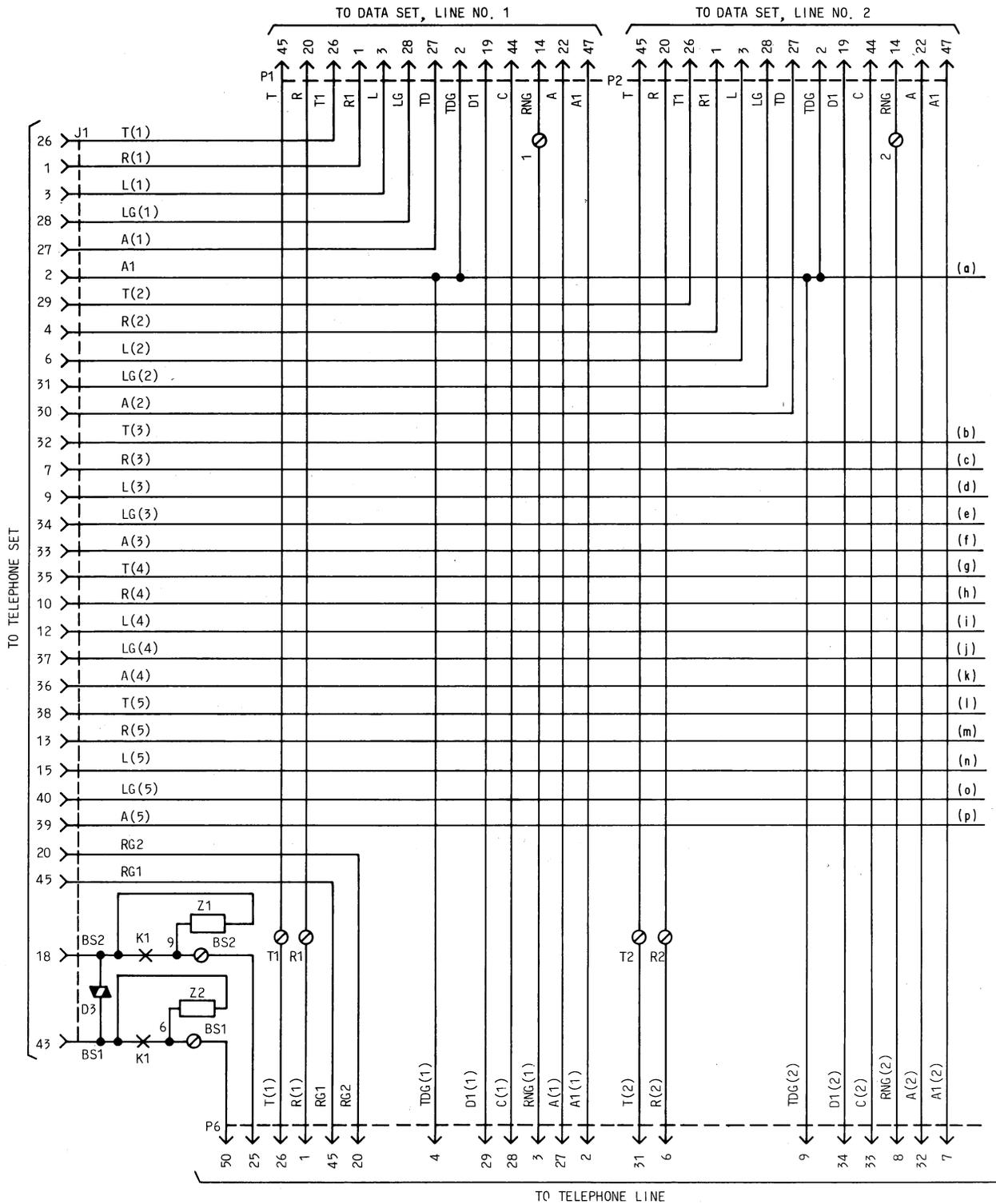


Fig. 17—KS-21253-L3 (MD) Adapter—Wiring Diagram (Sheet 1 of 2)

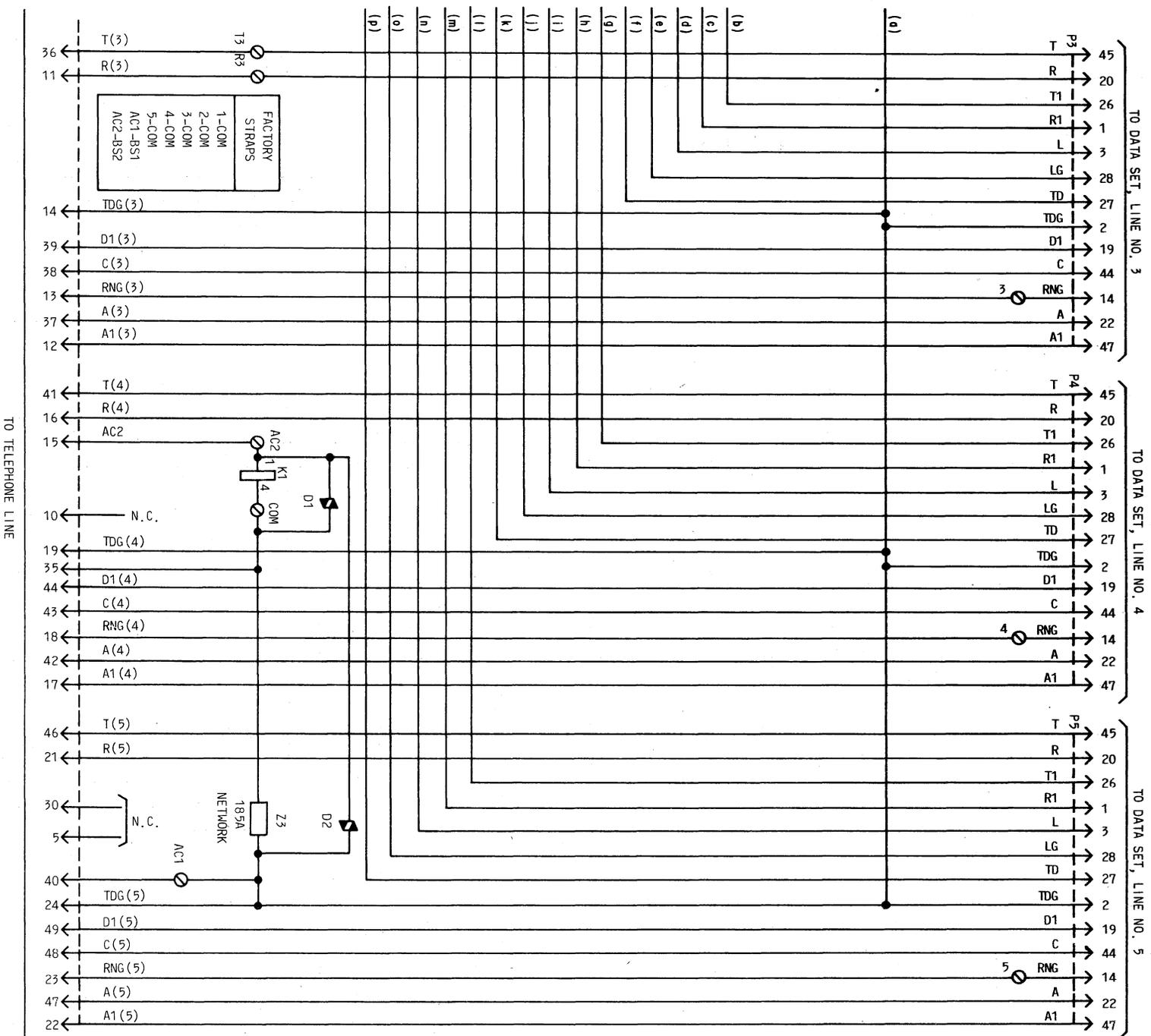


Fig. 17—KS-21253-13 (MD) Adapter—Wiring Diagram (Sheet 2 of 2)

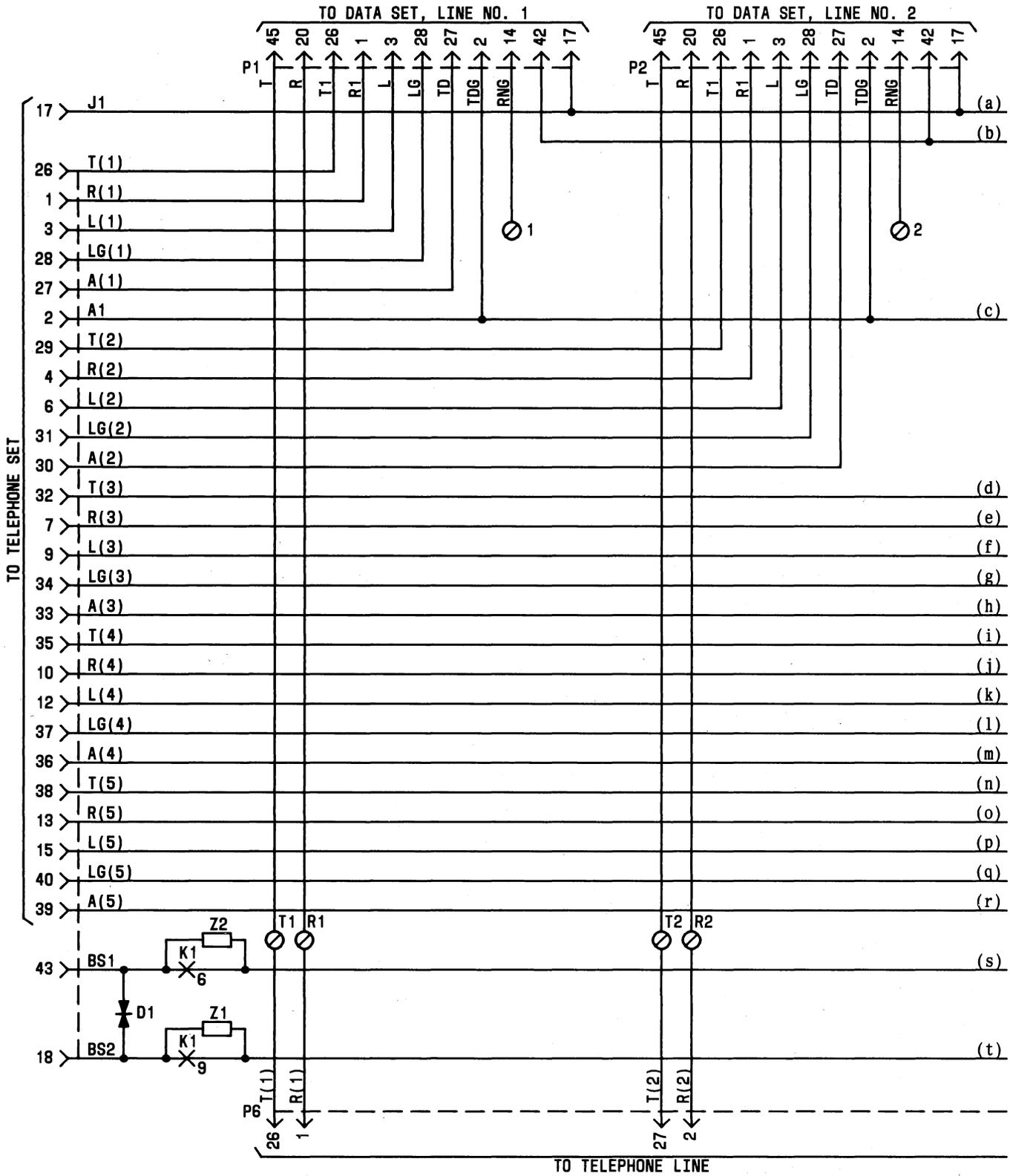


Fig. 18—KS-21253-L10 Adapter—Wiring Diagram (Sheet 1 of 2)

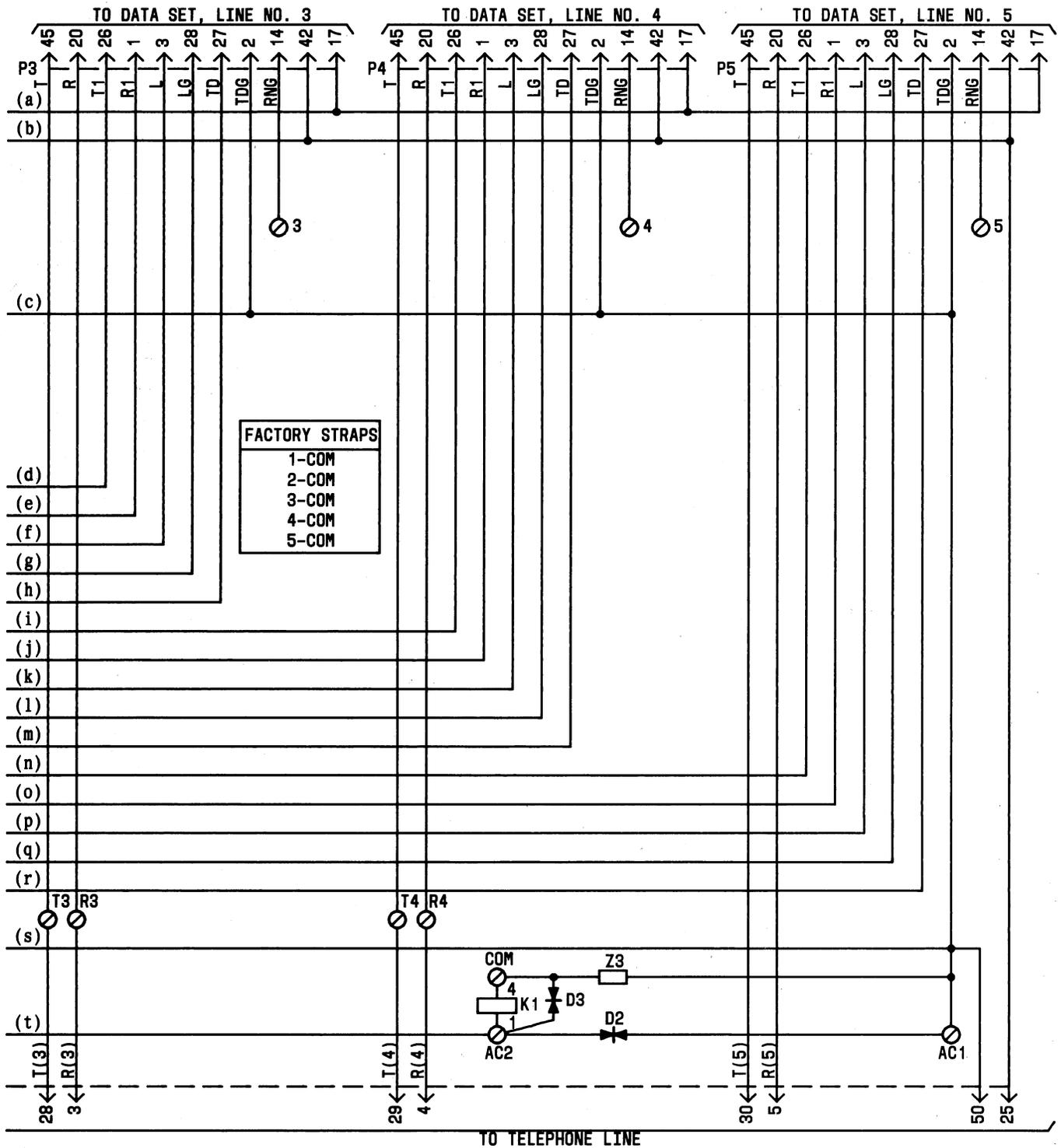


Fig. 18—KS-21253-L10 Adapter—Wiring Diagram (Sheet 2 of 2)

SECTION 592-037-200

8. REFERENCES

8.01 The following BSPs provide additional information:

SECTION	TITLE	SECTION	TITLE
		590-101-103	Jacks for Registered Data Equipment—Single and Multiline Installations
314-205-501	Data Systems—DATAPHONE® Service and Other Data Service on the Direct Distance Dialing Network—Test Limits for Subscriber, Foreign Exchange, PBX and WATS Lines	592-037-100	Data Set 202SR—Transmitter-Receiver—Single Set—Description and Operation
590-010-200	Data Sets and Data Access Arrangements—General Installation and Connection Information	592-037-500	Data Set 202SR—Transmitter-Receiver—Single Set—Test Procedures and Maintenance
590-011-202	Data Sets Registered—Arrangements for Data Sets in 40A3 Data Mountings	598-088-200	Data Auxiliary Set 801CR-L1/2—Installation and Connections