

**85A1/85A2 DATA SELECTIVE CALLING SERVICE
STATIONS USING DATA AUXILIARY SETS
820J AND 820L CONTROLLERS
INSTALLATION**

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35 ASR TTY	3	1.01 This section describes the procedures to be followed when installing an 85A1 or 85A2 station consisting of a Model 33, 35, or 37 teletypewriter (TTY) equipped with a data auxiliary set (DAS) 820J- or 820L-type controller.	
35 RO TTY	3	1.02 This section is reissued to add reference to AR751 circuit pack (CP), and to clarify options in Table B. AR751 CP replaces data sets (DS) 108- or 109-type to provide Electronic Industries Association (EIA) interface leads BA, BB, AA, and AB for use with a 1A data station single channel arrangement (SCA) for interconnecting low speed data communications equipment (DCE) using EIA leads BA, BB, AA, and AB. AR751 CP also provides a means for station testing at the customer location using a 911P EIA test adapter and a 911NA data test set.	
35 ROTR TTY	3	1.03 It is intended that the 85A1 and 85A2 stations be completely assembled and tested at the distribution house prior to installation on customer premises. The completely assembled station (comprising a 33, 35, or 37 TTY and a DAS 820J- or 820L-type controller with appropriate data set and attendant set) is a self-contained unit that should be assembled and tested before delivery. The following installation procedures are to be used	
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NOTICE

Not for use or disclosure outside the
Bell System except under written agreement

SECTION 581-131-202

in the event the station is not assembled prior to delivery to the customer's location.

1.04 The customer must furnish a standard 3-wire, grounding-type power receptacle designed to accept a plug equipped with two parallel blades and a round-shaped grounding pin. ***In order to avoid service interruptions, this receptacle shall not be under control of a switch.***

1.05 The station requires a customer-furnished source of power as follows:

60 \pm 0.45 Hz at 117.5 \pm 11.5 Vac.

1.06 Verify with the serving test center (STC) that the overall facilities meet the transmission requirements specified in the section entitled Private Line Data Circuits—Voice Bandwidth Circuits for Miscellaneous Data—Overall Test Requirement (314-410-500).

1.07 Reference directions (left, right, front, or rear) are in respect to facing the keyboard which is located at the front of the TTY.

1.08 Data sets 108E and 109E are the current models being produced for use in data selective calling service. New installations will be equipped with these data sets; however, older models (data sets 108A and 109A) currently in the field need not be replaced unless they are inoperative. In order to avoid confusion, the data sets in this BSP will be referred to as data set 108- and 109-type unless a specific model is being discussed.

2. INSTALLATION

GENERAL

2.01 A portable station test set TTS-28, or equivalent, is required for data set 108-type signal level adjustment.

2.02 Verify that the location and space selected by the customer for the TTY data station is adequate for maintenance and installation purposes. The following TTY measurements should be exceeded to allow room for repair or disassembly of the station, if required.

- 33 ASR—22 inches wide, 34 inches high, and 19 inches deep

- 33 RO—19 inches wide, 34 inches high, and 19 inches deep

- 35 ASR—40 inches wide, 35 inches high, and 24 inches deep

- 35 RO—26 inches wide, 35 inches high, and 24 inches deep

- 35 ROTR—13-5/16 inches wide, 34 inches high, and 14 inches deep

- 37 ASR—44-1/2 inches wide, 36-1/4 inches high, and 27-1/2 inches deep (33-1/2 inches with form box), and weighs approximately 360 pounds

- 37 RO—32-1/2 inches wide (22-1/2 inches wide for auxiliary RO TTY), 36-1/4 inches high, and 24-1/2 inches deep (30-1/2 inches with form box), and weighs approximately 204 pounds

- 37 ROTR—20 inches wide, 35 inches high, 15 inches deep, and weighs approximately 75 pounds

- KS-20018-L1, -L2, -L3, or -L4 cabinet:

L1—24 inches wide, 12 inches high, and 12 inches deep

L2—24 inches wide, 17 inches high, and 12 inches deep

L3—24 inches wide, 24 inches high, and 12 inches deep

L4—24 inches wide, 30 inches high, and 12 inches deep.

2.03 Verify that a customer-provided ac power receptacle is within 7 feet of the selected location.



Do not connect power to the TTY data station until instructed to do so.

2.04 Before installing the 85A1 or 85A2 station, the TTY must have the shipping screws removed from the typing unit. Also, any other protective packing or covers must be removed at this time. If leg extenders are provided for this

installation (supplied for sprocket feed machines only), they should be installed at this time.

Note: The shipping screws can be distinguished from the other screws by the large hexagonal bushings used under each of these screws.

2.05 To gain access to the DAS 820J- and 820L-type and data set 108- or 109-type or AR751 CP, proceed as indicated in the following text.

33 ASR OR RO TTY

- (1) Remove the two mounting screws located at the top rear of the stand.
- (2) Grasp the top of the rear panel and lift it up to disengage the panel from the stand.

35 ASR TTY

- (1) Remove the chad container by sliding it to the left, raising the right side, and sliding it to the right.
- (2) Operate the two pushbutton fasteners located at the top of the lower compartment panel.
- (3) Depress the spring clip underneath the keyboard and pivot the lower compartment panel to the floor.
- (4) Disengage the panel from pivot screws and remove the panel.

35 RO TTY

- (1) The procedure is the same as that for the 35 ASR TTY with the exception that only one pushbutton fastener is used to hold the lower compartment panel and no chad container is provided.

35 ROTR TTY

Note: The data set and DAS 820J- and 820L-types are *not* mounted in the 35 ROTR TTY stand (due to space limitation) when a 35 ROTR TTY is used as a primary data station. A KS-20018-type cabinet is required. In addition, DAS 804R7 and a 212A adapter are mounted on the door of the stand.

- (1) Apply outward pressure at the top rear of the KS-20018-L1, -L2, -L3, or -L4 cabinet panel until the catches disengage.

- (2) Lift the panel up to remove it from framework.

37 ASR OR 37 RO TTY

- (1) Open the door on the right-hand front side of the TTY pedestal.
- (2) Raise the plunger on front of the 93A mounting bracket and slide the controller and 93A bracket forward.
- (3) Carefully place the controller and 93A bracket on the floor in front of the TTY.

37 ROTR TTY

Note: DAS 820J-type is *not* mounted in the 37 ROTR TTY stand (due to space limitation) when a 37 ROTR TTY is used as a primary data station. A KS-20018-type cabinet is required. In addition, DAS 804R7 and a 212A adapter are mounted on the door of the stand.

- (1) Apply outward pressure at the top rear of the KS-20018-L1, -L2, -L3, or -L4 cabinet panel until the catches disengage.

- (2) Lift the panel up to remove it from framework.

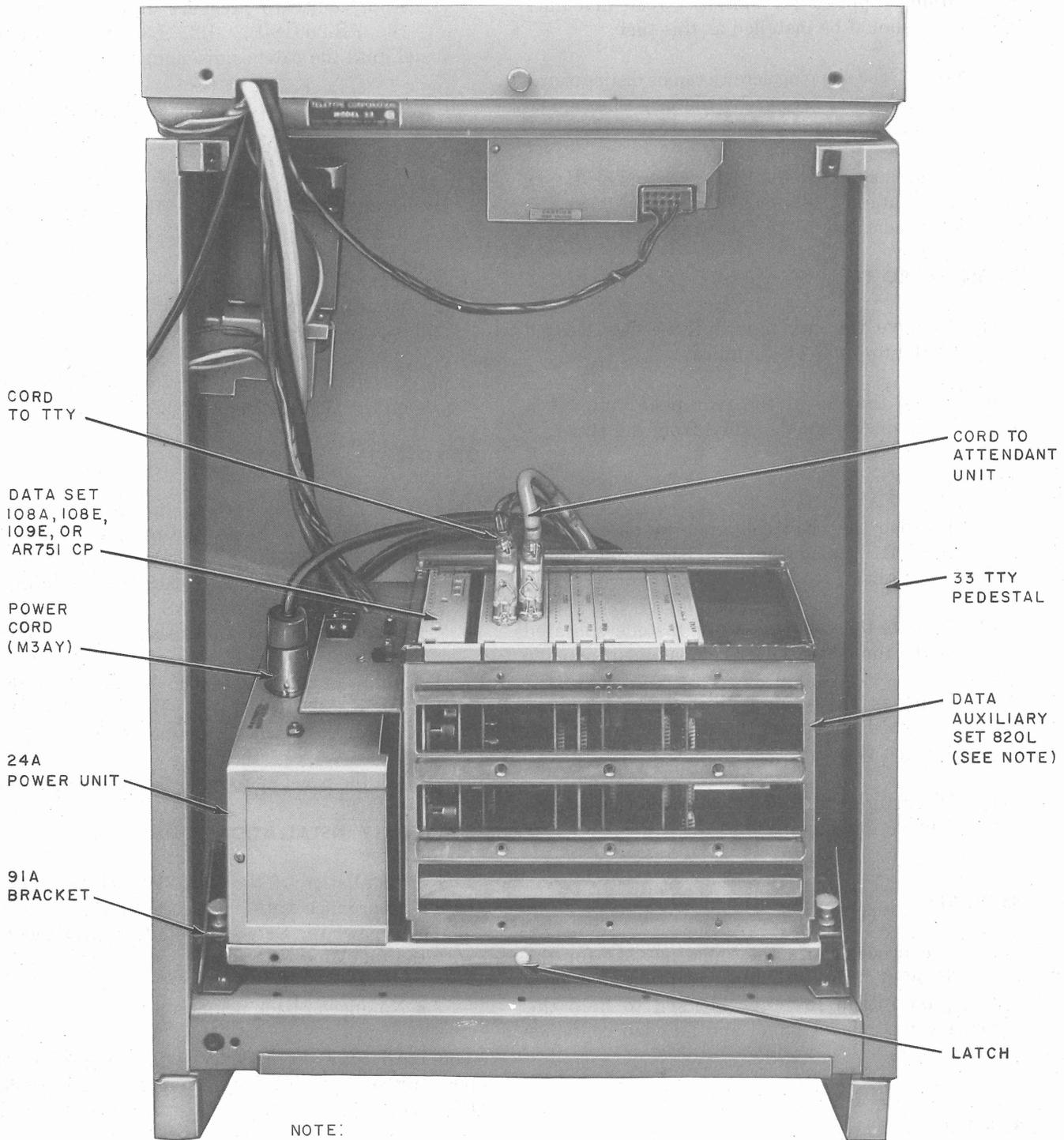
33-TYPE TTY INSTALLATION

2.06 Installation of the 33 TTY shall be made in accordance with the section entitled 32 and 33 Teletypewriter Sets—Installation (574-100-201) with the following exception:

- No answer-back drum is used.

The DAS 820J- or 820L-type is mounted in the pedestal of a 33 TTY by using the 91A bracket (Fig. 1).

2.07 The interconnection of station components for a 33 RO TTY station using a DAS 820J-type controller is shown by Fig. 2. The interconnections for a 33 ASR are indicated by Fig. 3. All plugs and connectors shall be installed as indicated by the applicable figure. The line connections are made to the T and R terminals on the data auxiliary set.



NOTE:
DAS 820J TYPE USES 91A BRACKET ALSO
WHEN USED IN RO TTY CONFIGURATION

Fig. 1—DAS 820L-Type Mounted in a TTY Using a 91A Bracket

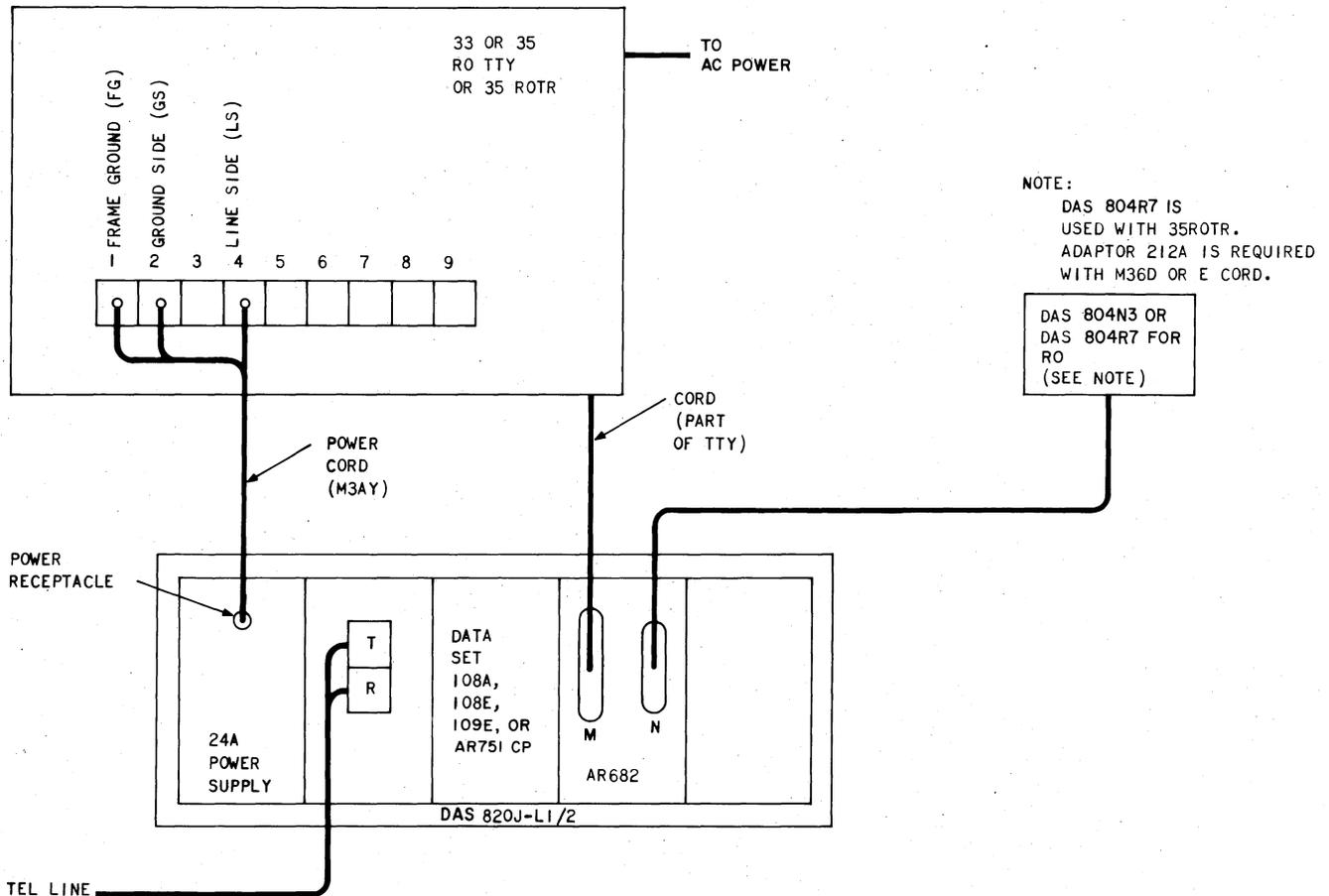


Fig. 2—33/35 RO TTY or 35 ROTR—Interconnection of Station Components

35-TYPE TTY INSTALLATION

2.08 Installation of a 35 RO TTY station shall be made in accordance with the section entitled 35 Receive Only Page Printer Set—Installation (574-200-200). The interconnection of station components for a 35 RO or ROTR TTY using a DAS 820J-type controller is shown in Fig. 2. All plugs and connectors shall be installed in accordance with Fig. 2. The line connections are made to the T and R terminals on the data auxiliary set. The DAS 820J-type controller is physically mounted in a 35 RO TTY using a 92A bracket. If a DAS 820G-type is being replaced, the 92A mounting bracket must be moved to the left and the 820J mounted at the top as shown in Fig. 4.

Note: The DAS 820J-type controller is provided with spacers and the associated hardware to facilitate mounting the controller.

The spacers are used between the 92A mounting bracket and the frame of the TTY (Fig. 5). The DAS 820J-type controller must be mounted in the second and third mounting holes from the bottom of the 92A mounting bracket. This provides more space for mounting the controller and prevents interference between the controller plugs and the TTY door.

2.09 The interconnections of the station components for a 35 ASR TTY using a DAS 820L-type controller is shown in Fig. 3. All plugs and connectors shall be installed as indicated by Fig. 3. The DAS 820L-type controller is physically mounted using 92A brackets in the position shown in Fig. 6. The upper left portion of the TTY is used to mount the 820L controller to prevent interference between the controller plugs and the TTY door.

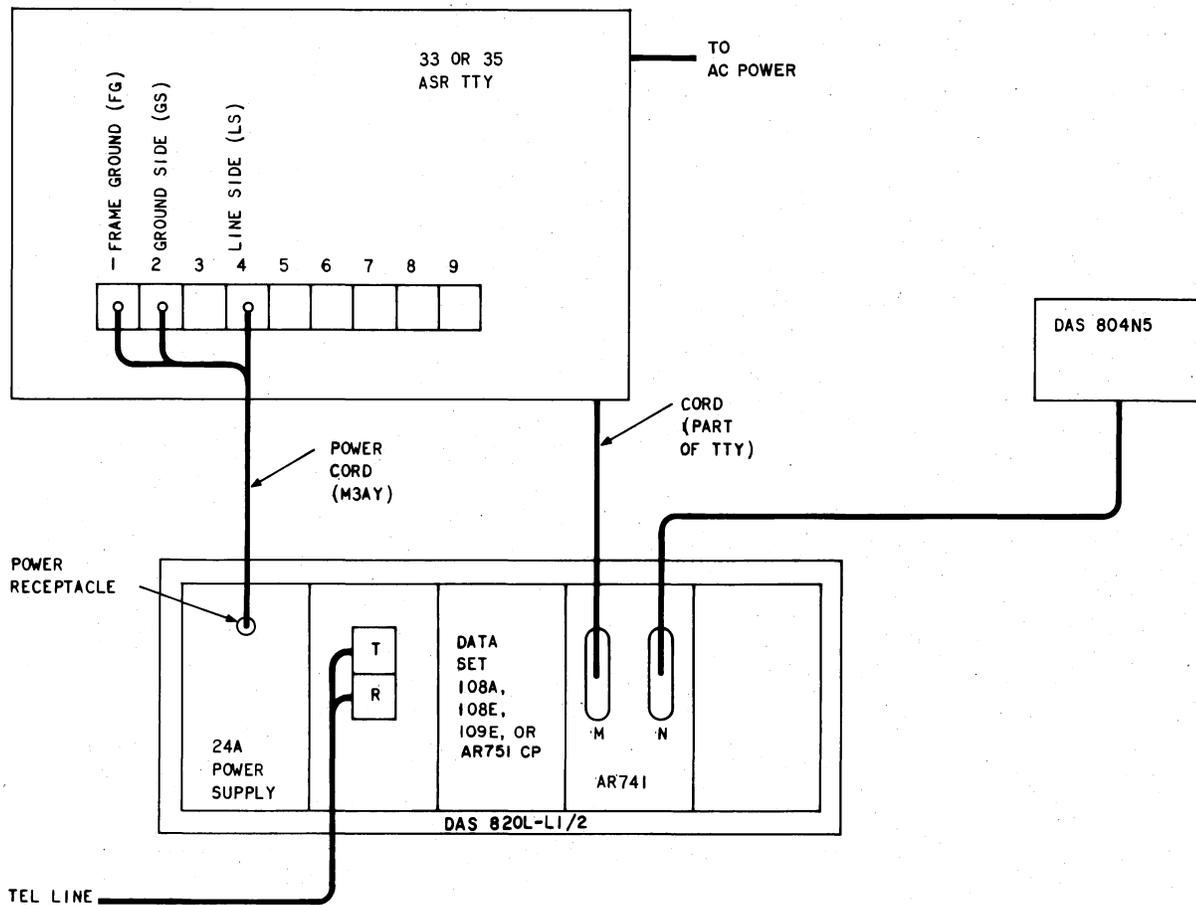


Fig. 3—33/35 ASR TTY—Interconnection of Station Components

2.10 Installation of a 35 ROTR TTY shall be made in accordance with the section entitled 35 Receive Only Typing Reperforator (ROTR) Sets—Installation (574-203-200). Due to space limitations, the DAS 820J-L1/2 is housed in a KS-20018-L1, -L2, -L3, or -L4 cabinet, using a 95A bracket (Fig. 7). The interconnection of station components for 35 ROTR stations is shown in Fig. 2. Check that all plugs and connectors are installed as shown in Fig. 2 and that the line wire is correctly connected to the T and R terminals. The spacers provided with DAS 820J will be required in order to mount the controller.

Note: The spacers are installed between the cabinet frame and the 95A mounting bracket that holds the data auxiliary set. This positions the 95A mounting bracket deeper in the cabinet and allows more room for the data auxiliary set.

37-TYPE TTY INSTALLATION

2.11 Installation of a 37 ASR TTY shall be made in accordance with the applicable parts of the 574-division for the 37 TTY. The interconnection of station components is shown in Fig. 8. The DAS 820L-L1/3 type controller is mounted in the 37 ASR using 93A brackets as shown in Fig. 9. Check that all plugs and connectors are installed as indicated and the line is connected to the tip (T) and ring (R) terminals (see Fig. 8).

2.12 Installation of a 37 RO TTY station shall be made in accordance with the section entitled 37 Receive Only Page Printer Set—Installation (574-YYY-ZZZ). The interconnection of station components for a 37 RO TTY is shown in Fig. 10. Check that all plugs and connectors are installed as indicated by the appropriate figure and that the line is connected to the T and R terminals.

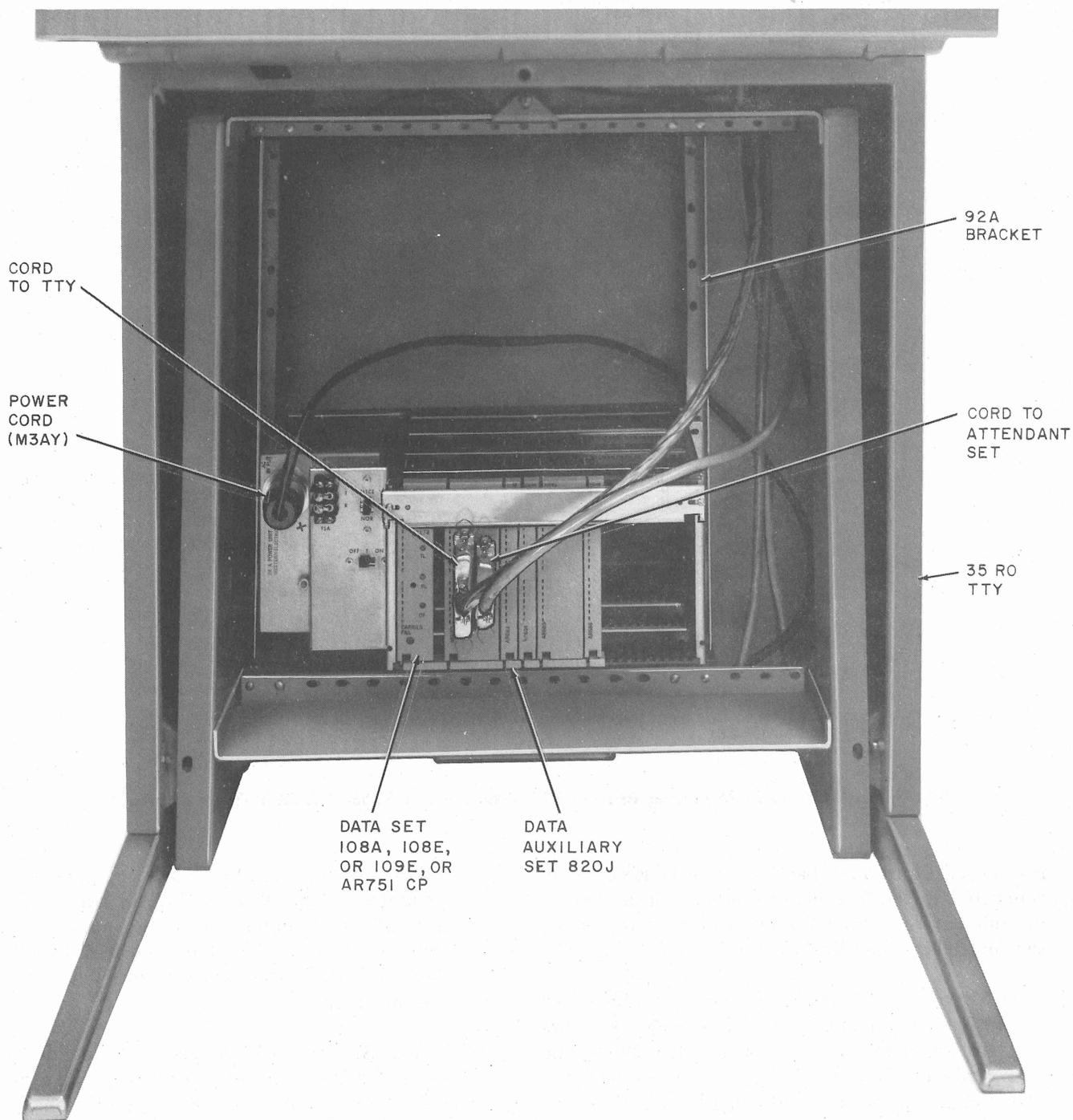
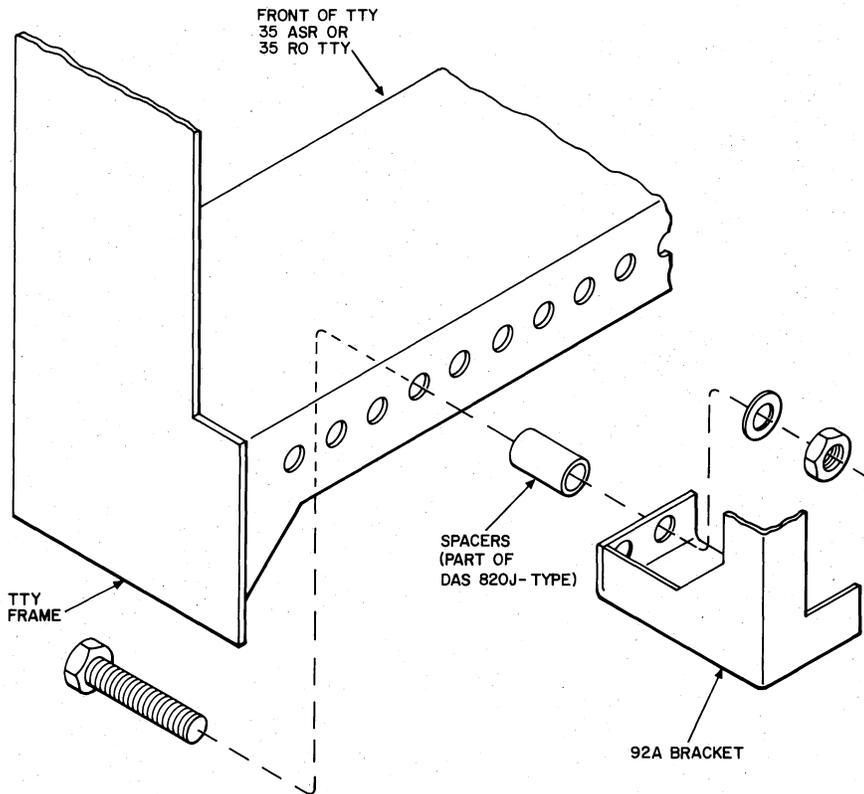


Fig. 4—DAS 820J-Type Mounted in a 35 RO TTY Using a 92A Bracket

2.13 Installation of a 37 RO TR TTY shall be made in accordance with the section entitled 37 Receive Only Typing Reperforator (ROTR) Sets—Installation (574-YYY-ZZZ). Due to space limitations, the DAS 820J-L1/3 is housed in a

KS-20018-L1, -L2, -L3, or -L4 cabinet, using a 95A bracket as shown in Fig. 7. The interconnection of station components for 37 RO TR stations is shown in Fig. 10. Check that all plugs and connectors are installed as indicated by the previously



NOTE:
EIGHT SPACERS ARE FURNISHED WITH THE DAS 820J-TYPE CONTROLLER. BOLTS, NUTS AND ASSOCIATED HARDWARE FOR USE WITH THE SPACERS ARE ALSO PROVIDED. SPACERS ARE USED BOTH TOP AND BOTTOM OF 92A BRACKET.

Fig. 5—Installation of Mounting Bracket 92A Provided for 820J- and 820L-Type Controllers

referenced figure and that the line wire is correctly connected to the T and R terminals. The spacers provided with DAS 820J are required to mount the controller in the KS-20018-type cabinet (Fig. 11).

Note: The DAS 820J-type controllers are provided with spacers and associated hardware to facilitate mounting in the KS-20018-type cabinet. The spacers are used between the cabinet and the 95A mounting bracket (Fig. 11). This arrangement provides more space for mounting the controllers and prevents interference between the controller plugs and cabinet front.

PREINSTALLATION CHECK OF DAS 820J- or 820L-TYPE

2.14 Verify that the proper circuit packs (CPs) are installed in the data auxiliary sets (Fig. 12 and 13). Refer to Table A for the CP designation and location.

Note: When the DAS 820J- or 820L-type is mounted in the 33-type TTY, it can be tilted out of the kneewell into the maintenance position by pivoting it on the 91A bracket. This allows better access for checking or removing the CPs.

2.15 The SIC or ACK response is encoded on the 820J- or 820L-type controller by setting the SC switch on AR686 CP. The station code character (SCC) is set using SA and SB switches on AR686 CP. To check the encoding, proceed as follows:

- (1) Remove the power cord from the power receptacle.
- (2) Remove the card lock strip by loosening the screws holding it in place.

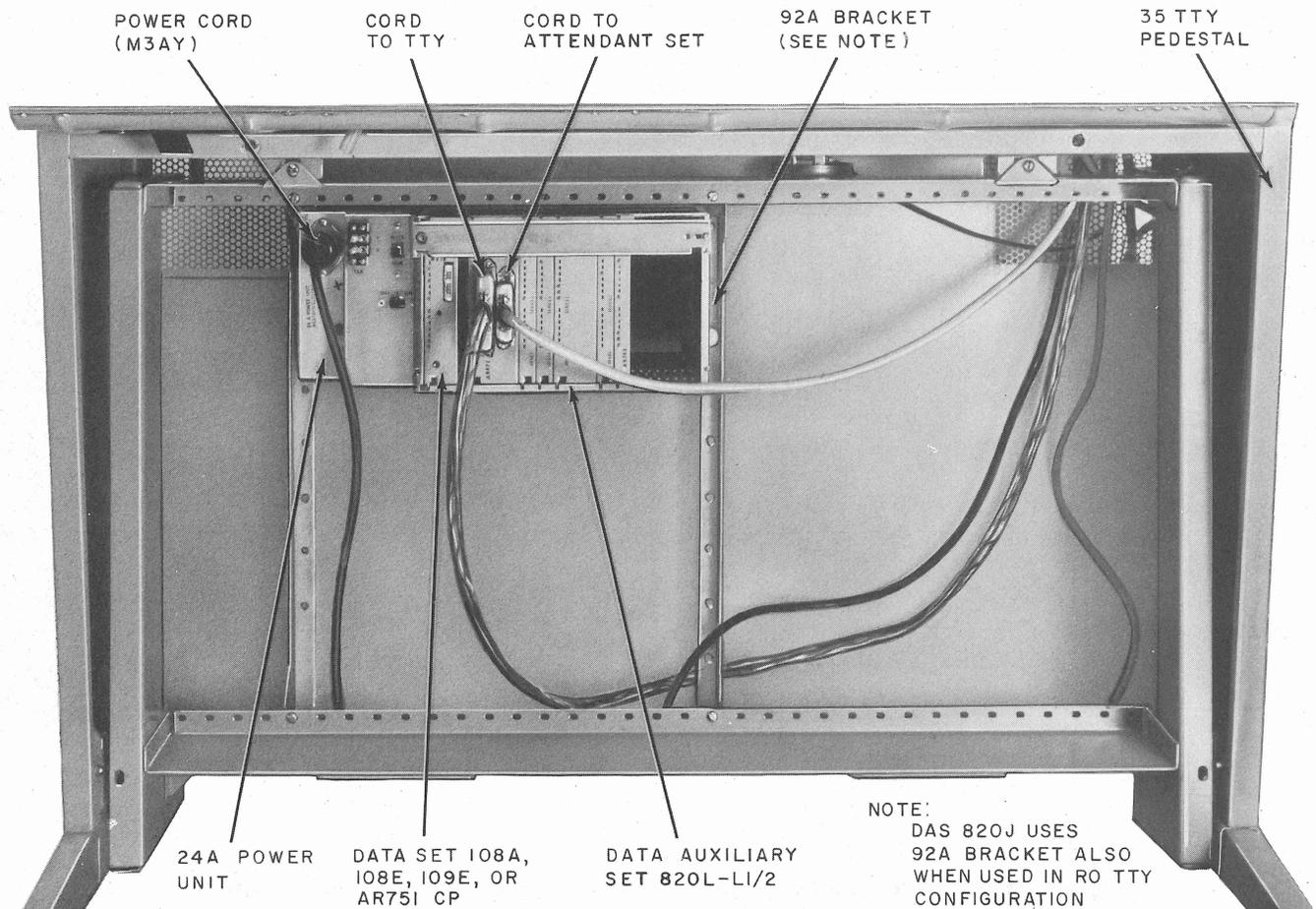


Fig. 6—DAS 820L-Type Mounted in a TTY Using a 92A Bracket

- (3) Use the notched end of the lock strip to extract the AR686 CP. (See Fig. 12 and 13.)
- (4) Check the switch positions for SA, SB, and SC switches. To determine the required switch settings and encoding procedure, refer to the section entitled 85A1 and 85A2 Data Selective Calling Service Stations Using DAS 820J and 820L Controllers—Maintenance (581-131-302).
- (5) Replace AR686 CP in the DAS and replace the lock strip.
- (6) Reconnect the power cord to the power receptacle.

3. OPTIONS

- 3.01 Options to be used at a station are provided by setting switches on DAS 820J- or 820L-type

CPs. The CPs are shown in Fig. 14 through 22. AR751 CP has no options, but is illustrated in Fig. 22 for completeness. CP designations are given in Table A. Switch settings for DAS 820J- and 820L-type options are shown in Table B. Additional settings for DAS 820-L type are shown in Table C. Condition the station for the desired service by removing the CPs indicated in Table B or C and set the switches to obtain the desired function. Refer to the section entitled 85A1 and 85A2 Data Selective Calling Service Stations Using DAS 820J and 820L Controllers—Maintenance (581-131-302).

4. PREOPERATIVE ADJUSTMENTS AND TESTS—DATA SET 108-TYPE

- 4.01 Screw switch D (Fig. 23 for data set 108A-type, or Fig. 24 for data set 108E-type) may have been set to provide maximum data set sensitivity during manufacturing tests. The gain may be

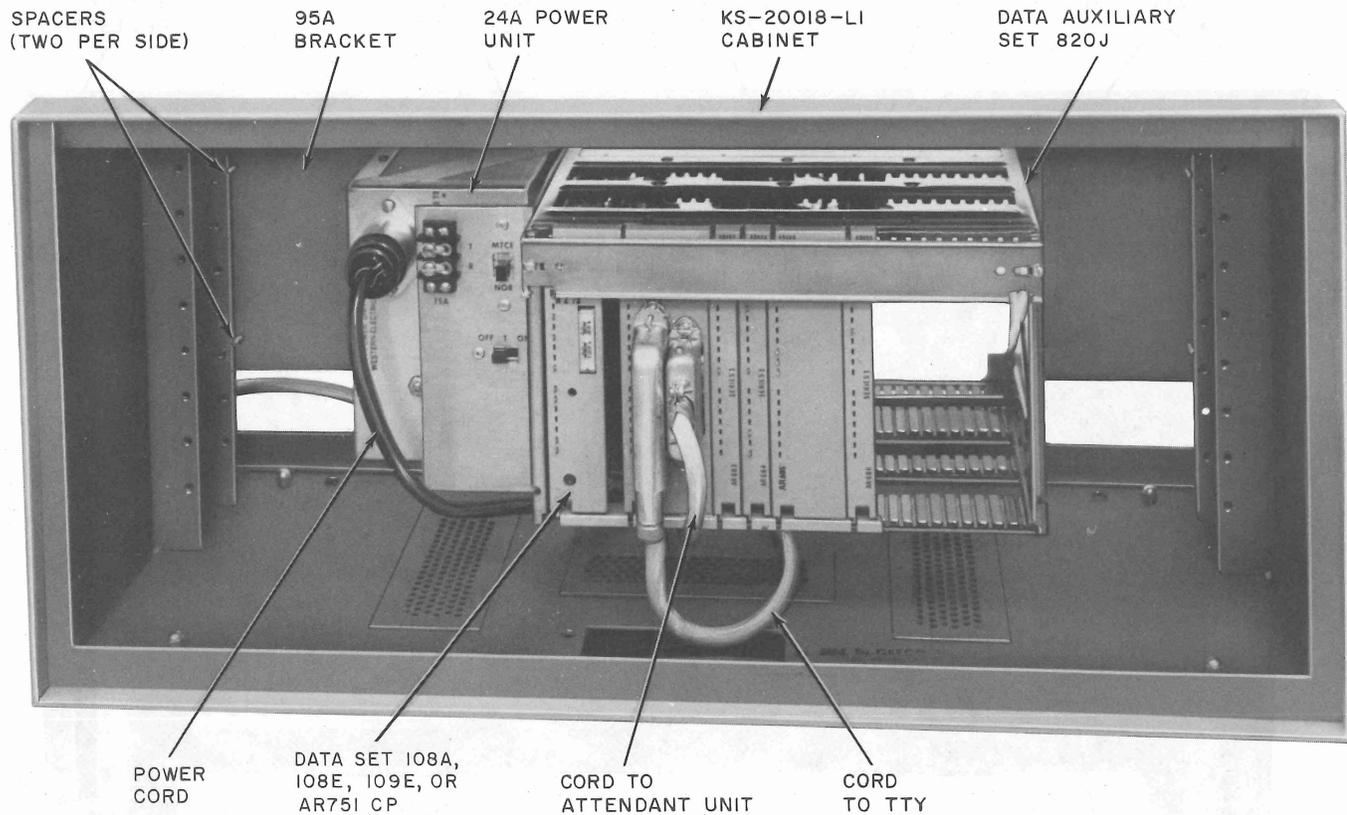


Fig. 7—DAS 820J-Type Mounted in a KS-20018 Cabinet Using a 95A Bracket

reduced in steps as indicated in Table D. The gain must be adjusted to meet the requirements of each installation by setting the D screw switch as indicated on the service order and Table D.

Note: When data set 108-type is provided, a series 4 or later model must be used. The data set options should be specified on the service order or line record card. When data set 108E-type is used, options S, U, X, and Y are required. For information on providing the required options, refer to the section entitled Data Sets 108D- and 108E-Type Used in Station Applications—Description (581-028-100).

HYBRID NETWORK STRAPPING

4.02 Strapping of the hybrid network is determined by the loop impedance of the facility. The loop impedance should be shown on the service order and/or circuit layout record card. Table E shows the typical loop impedance that can be used when the cable makeup is known. Select the

proper facility makeup from the TYPICAL LOOP FACILITY column or find the measured loop impedance in Table E. The screw-switch settings and strapping required for optimum trans-hybrid balance is given in Table E. Refer to Fig. 23 for the location of the screw switches and straps for data set 108A-type. Refer to Fig. 24 for the location of data set 108E screw switches.

4.03 Upon completion of the hybrid network strapping and installation of the required data set options, plug the data set 108-type into the DAS 820J- or 820L-type controller.

ADJUSTMENT OF DATA SET 108-TYPE TRANSMIT LEVEL



Verify that proper options are installed in the replacement data set 108-type.

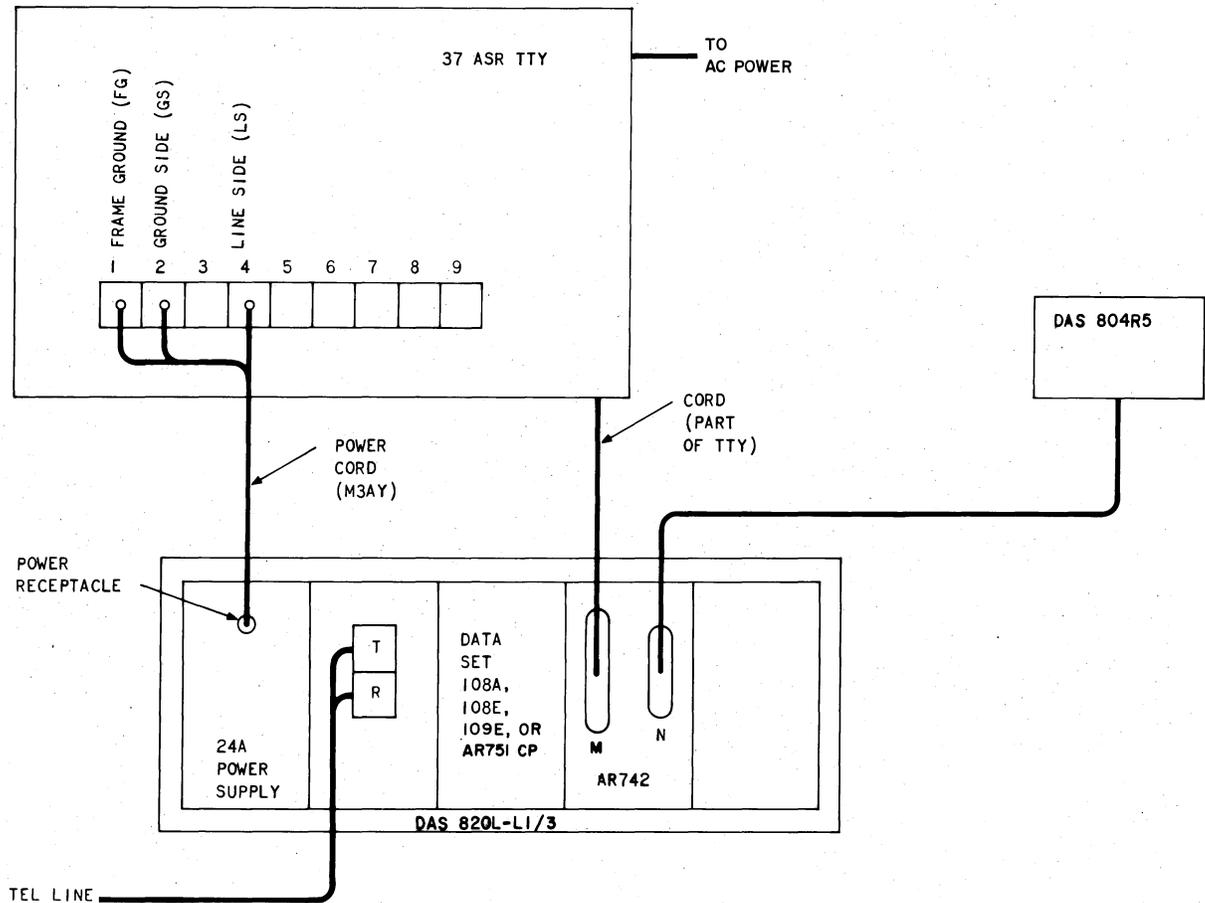


Fig. 8—37 ASR TTY—Interconnection of Station Components

- 4.04** Disconnect incoming data line from the T and R terminals on the controller. switch after adjustment of R11 or R18 and remove TTS-28.
- 4.05** Connect terminals + and - of portable station test set TTS-28 to TP1 and TP2 of the data set (Fig. 24). Set FUNCTION switch of TTS-28 to DBM 900Ω TERM O position.
- 4.06** Connect TTY power cord to the customer-provided ac receptacle.
- 4.07** Adjust R11 on data set 108A or R18 on data set 108E for the output level specified on service order and/or circuit layout record card (Fig. 23 and 24, respectively).
- 4.08** Connect the incoming data line removed in 4.04 to the T and R terminals on TS A of the controller.
- 4.09** Complete the installation of the station by performing the test outlined in the section entitled 85A1/85A2 Data Selective Calling Service Station—Test Procedures (581-131-502). Successful completion of the previously referenced test procedures verifies that the installation is operative.

5. PREOPERATIVE ADJUSTMENTS AND TESTS—DATA SET 109E

Note: If no output level is measured, operate carrier squelch (S1) switch on the interface card provided to OFF [AR681, AR682 (Fig. 14); AR741 (Fig. 19); AR742 (Fig. 20)]. Restore

- 5.01** When data set 109E-type is used, the correct options must be installed and the line resistance pad set. The line pad screw switches

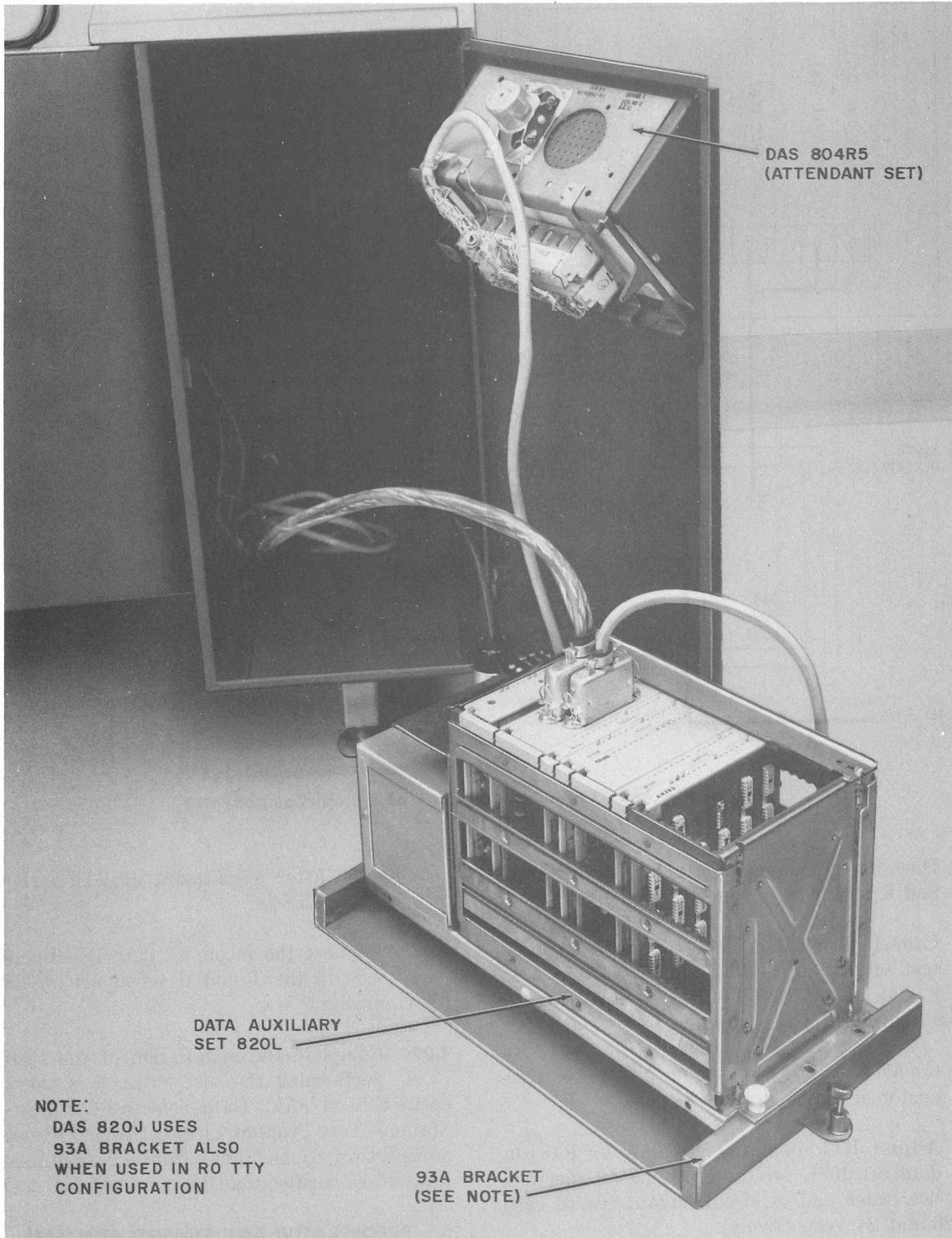


Fig. 9—DAS 820L-Type Mounted in a TTY Using a 93A Bracket

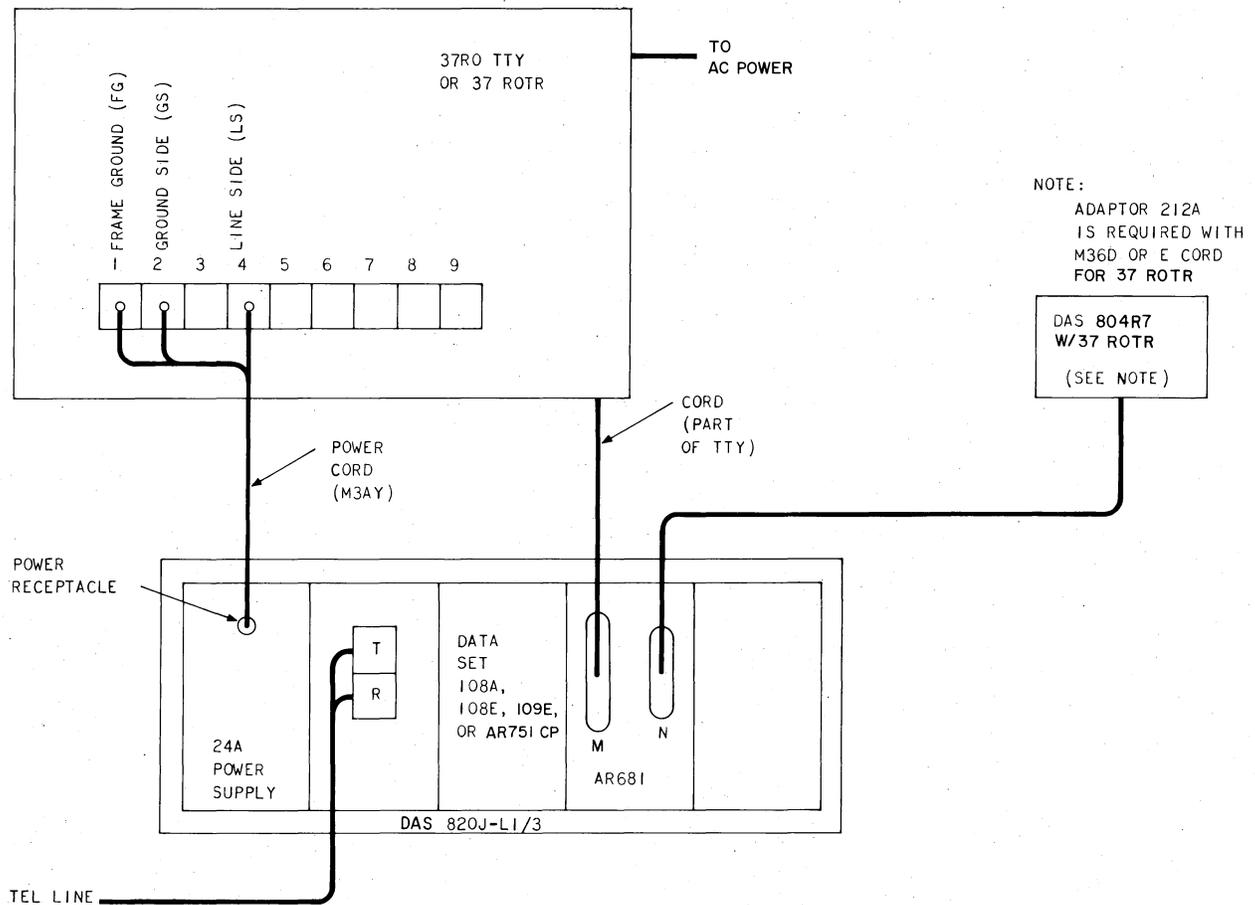


Fig. 10—37 RO TTY and 37 ROTR—Interconnection of Station Components

are set to obtain a total loop resistance of approximately 2000 ohms.

5.02 Three adjustable screw switches (S1, S2, and S3) are used to select options on data set 109E (Fig. 25). Screw switch S1 is subdivided into two sections (S1A and S1B); screw switch S3 is further subdivided into twelve sections. Two of these sections (S3-1 and S3-2) are used for options; eight of the remaining sections (S3-4 through S3-7, and S3-9 through S3-12) are used in selecting the proper line pad resistance (Table F). Sections S3-3 and S3-8 are not used and should not be equipped with screws.

5.03 Install the required options and line padding in the replacement data set in accordance with Table F, the service order, and the data set 109E-type being replaced.

5.04 Connect the incoming data line to the T and R terminals of the DAS 820J- or 820L-type.



The data line must be connected to DAS 820J- or 820L-type correctly, ie, tip to T terminal and ring to R terminal, due to the polar signals used by this data set. The tip lead can be identified by the positive potential from the STC when the STC data set is in the marking mode.

5.05 Connection of the data line completes the installation of the data set 109E. To verify that this unit is operating properly, the entire station can be tested as outlined in the BSP entitled 85A1/85A2 Data Selective Calling Service Stations—Test Procedures (581-131-502).

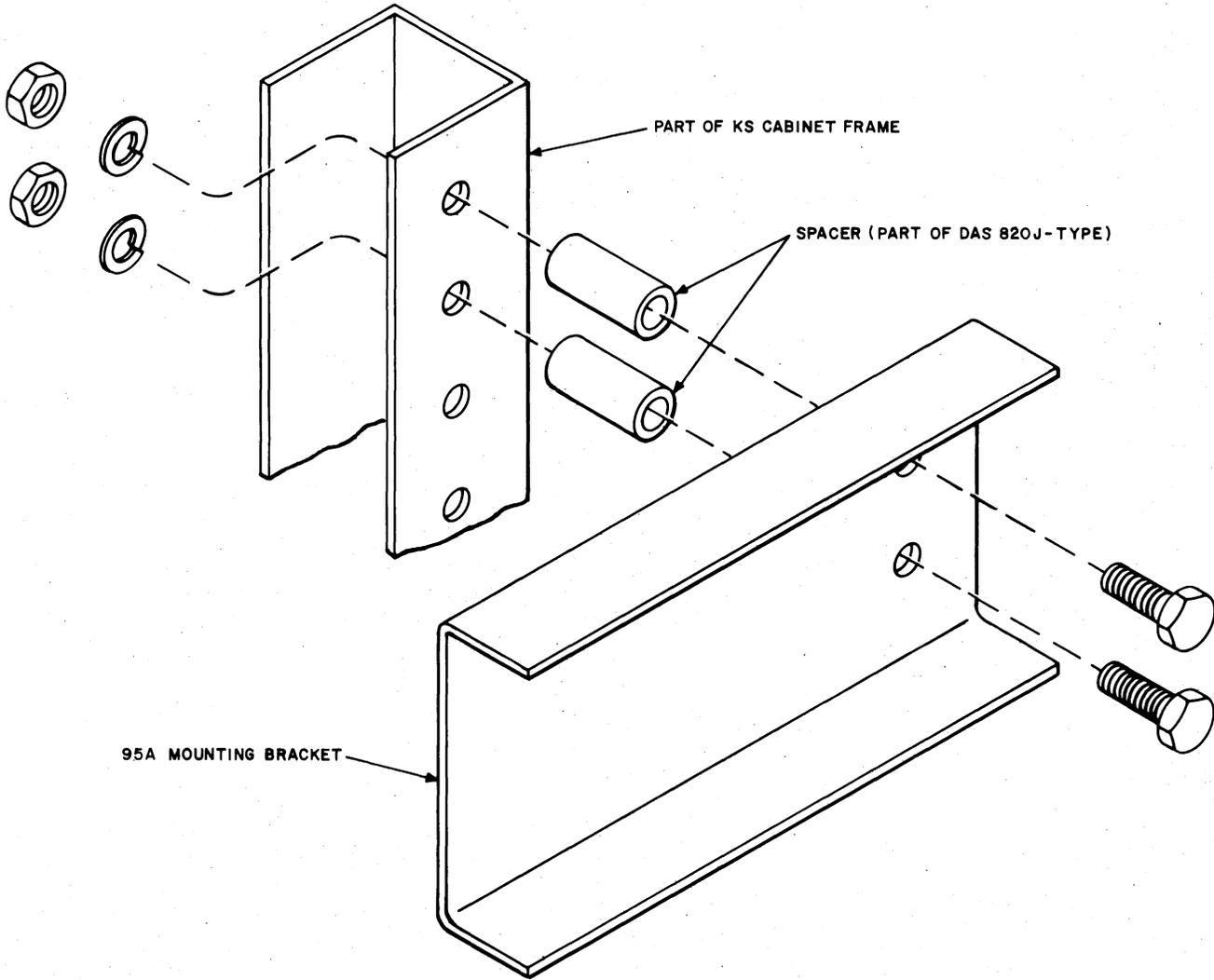
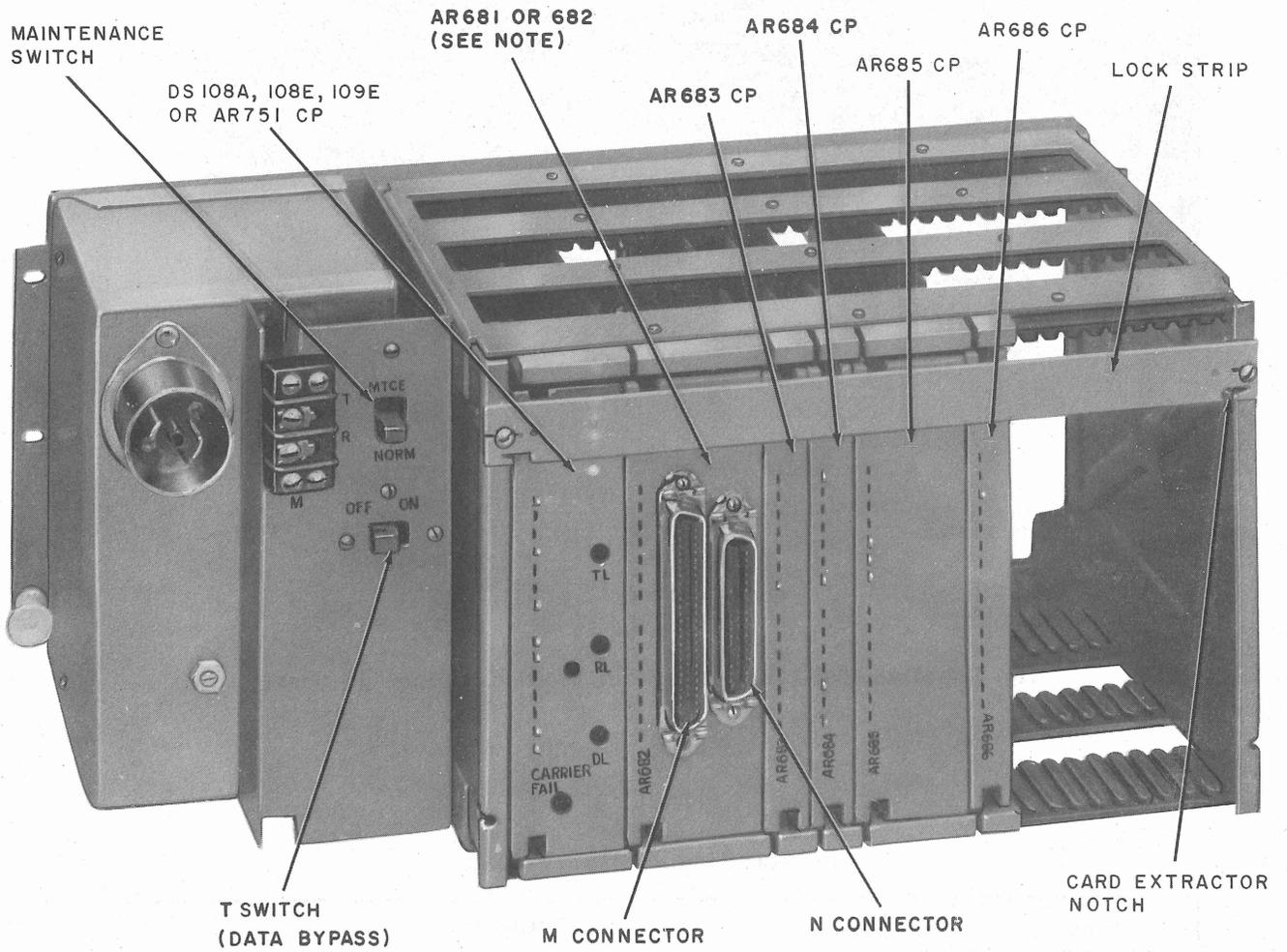
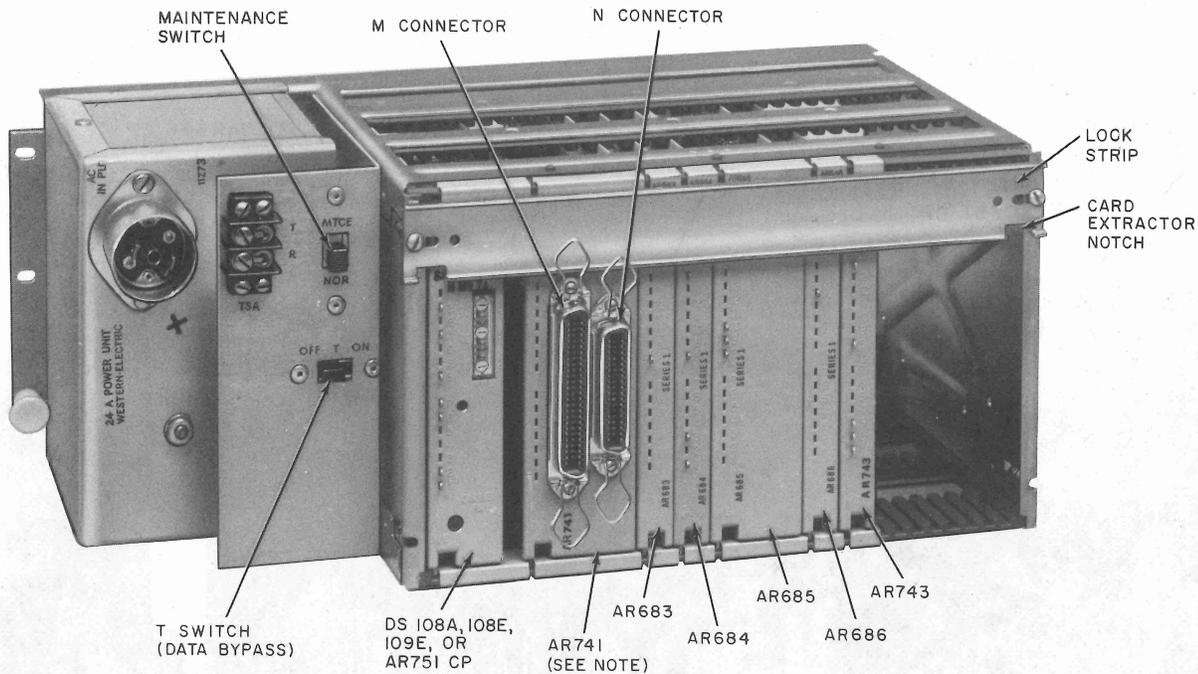


Fig. 11—Installation of Mounting Bracket 95A Provided for 820J- and 820L-Type Controller Installations



NOTE:
 DAS 820J-LI/2 USES AR682 CP
 DAS 820J-LI/3 USES AR681 CP

Fig. 12—DAS 820J-Type—Circuit Pack Locations and Designations



NOTE:
DAS 820L-L1/2 USES AR741, DAS 820L-L1/3 USES AR742.

Fig. 13 → DAS 820L-Type—Circuit Pack Locations and Designations ←

→TABLE A←

CIRCUIT PACK DESIGNATIONS

SLOT NUMBER	CONTROLLER			
	820J-L1/2	820J-L1/3	820L-L1/2	820L-L1/3
1	DS or CP	DS or CP	DS or CP	DS or CP
6	AR682	AR681	AR741	AR742
12	AR683	AR683	AR683	AR683
14	AR684	AR684	AR684	AR684
16	AR685	AR685	AR685	AR685
21	AR686	AR686	AR686	AR686
23	—	—	AR743	AR743

Note: Data sets 108E and 109E are the current models being produced for use in data selective calling service. New installations will be equipped with these sets; however, older models (data sets 108A) currently in the field need not be replaced unless they are inoperative. In order to avoid confusion, the data sets in this BSP will be referred to as data sets 108-type and 109E unless a specific model is being discussed. The data set 108-type must be series 4 or later. Slot 1 will be occupied by an AR751 CP when the station is used as a 1A SCA.

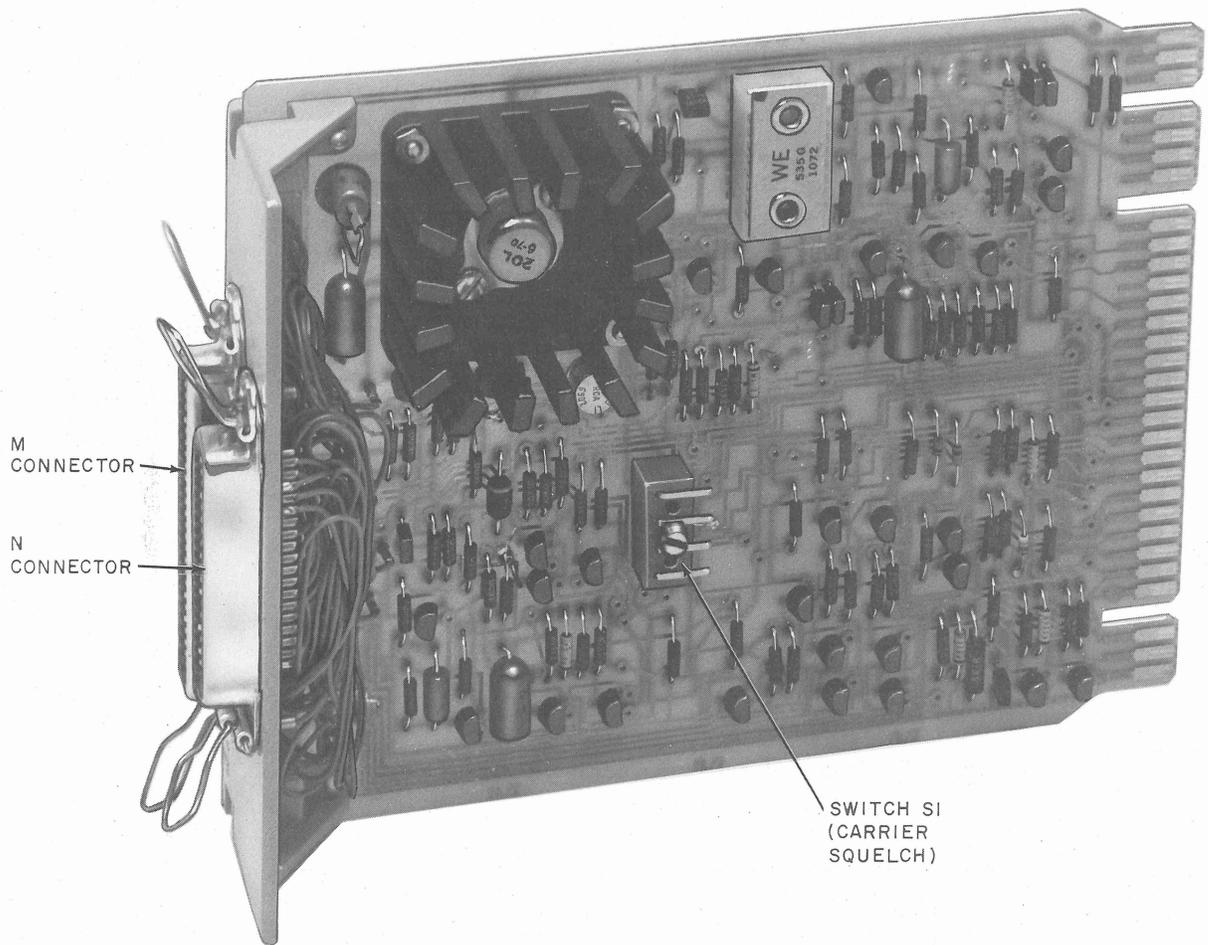


Fig. 14—AR681 and AR682 Circuit Pack Switch Location and Designation

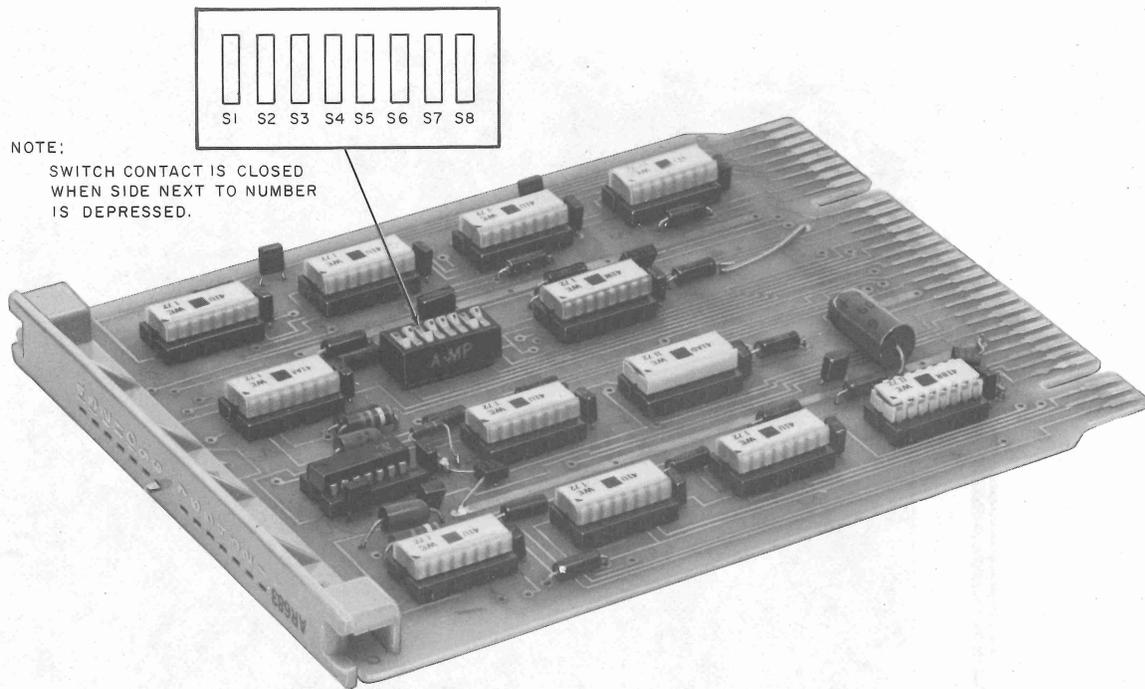


Fig. 15—AR683 Circuit Pack Switch Locations and Designations

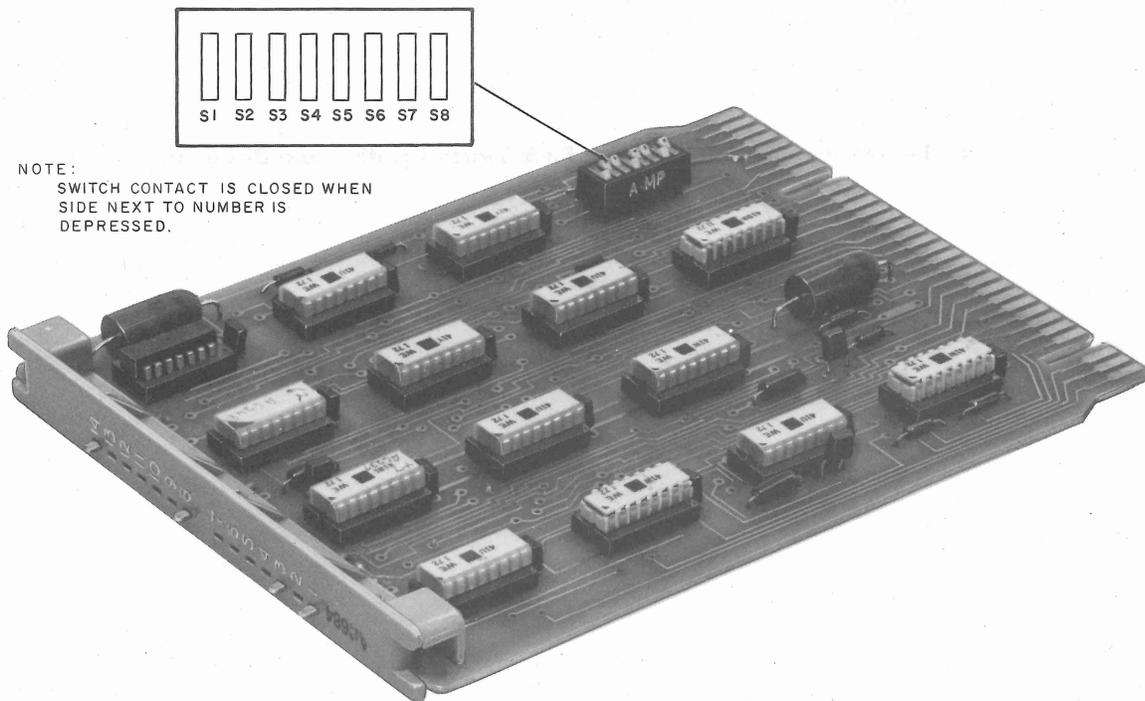


Fig. 16—AR684 Circuit Pack Switch Locations and Designations

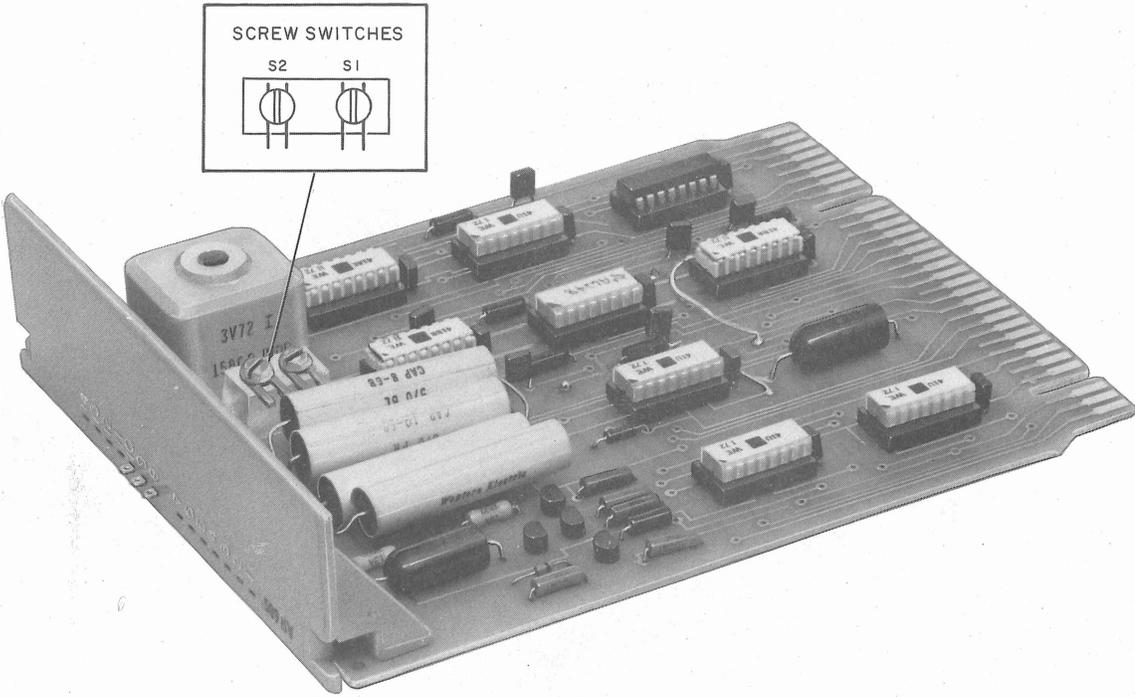


Fig. 17—AR685 Circuit Pack Switch Locations and Designations

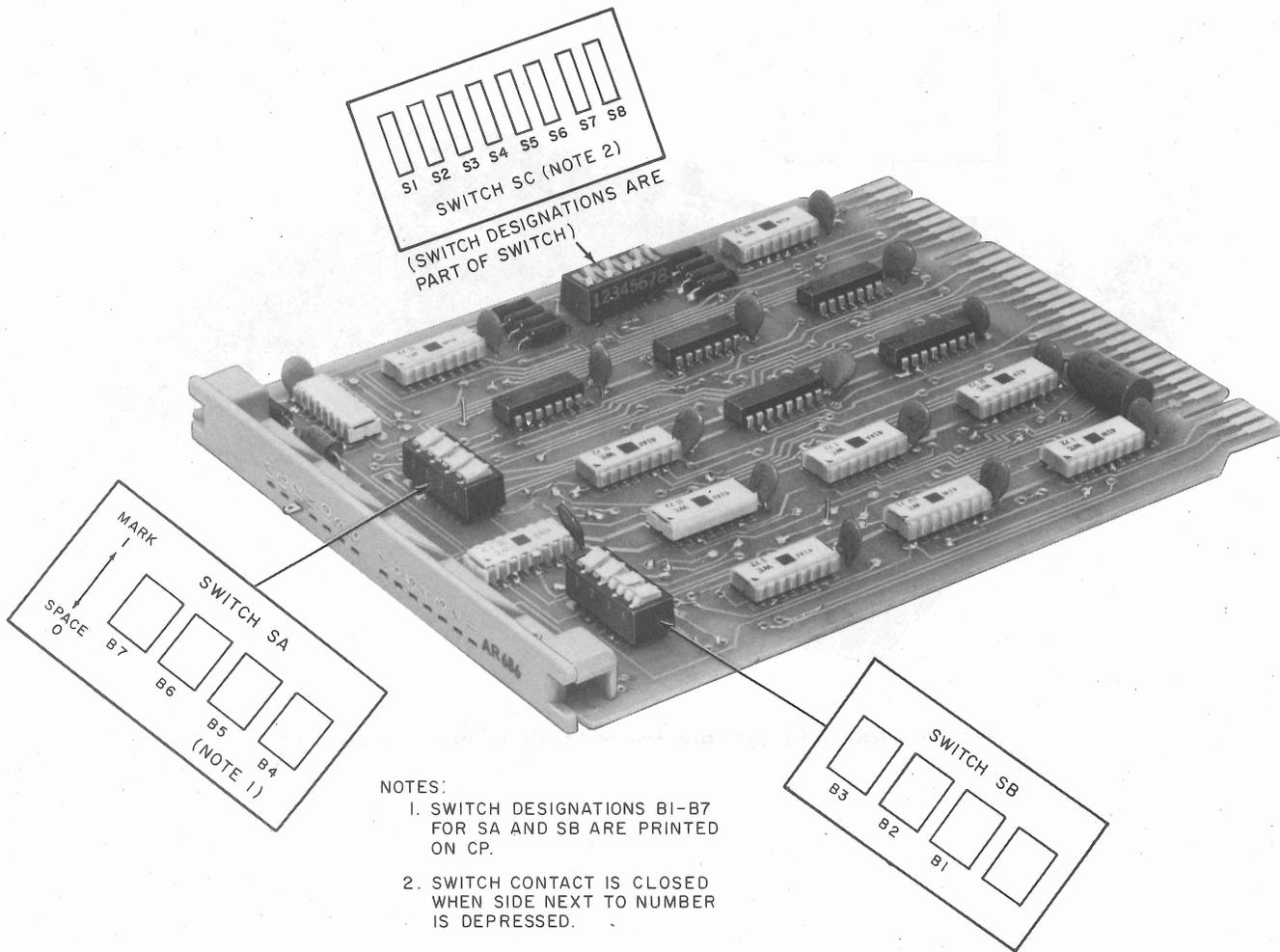


Fig. 18—AR686 Circuit Pack Switch Locations and Designations

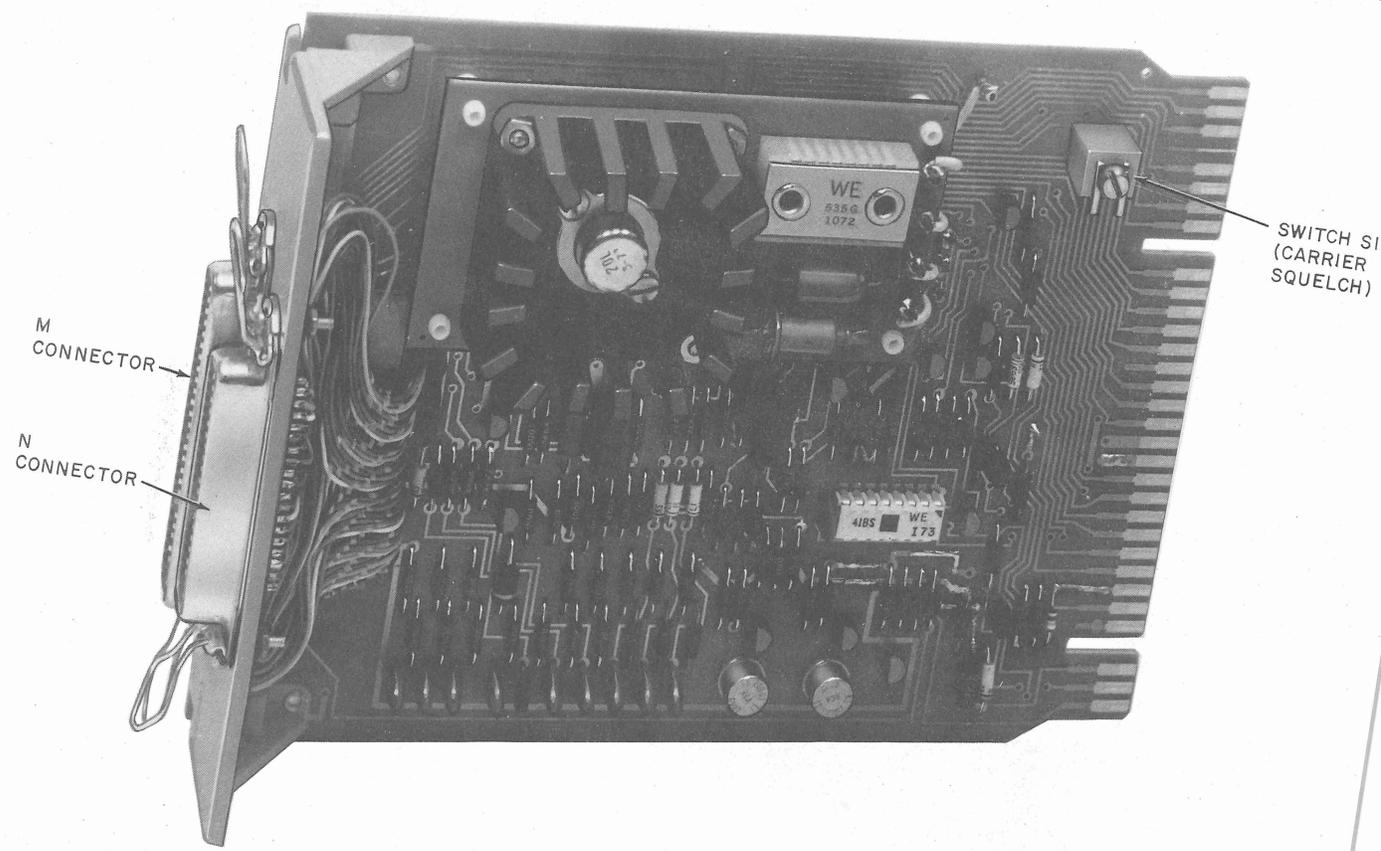


Fig. 19—AR741 Circuit Pack Switch Location and Designation

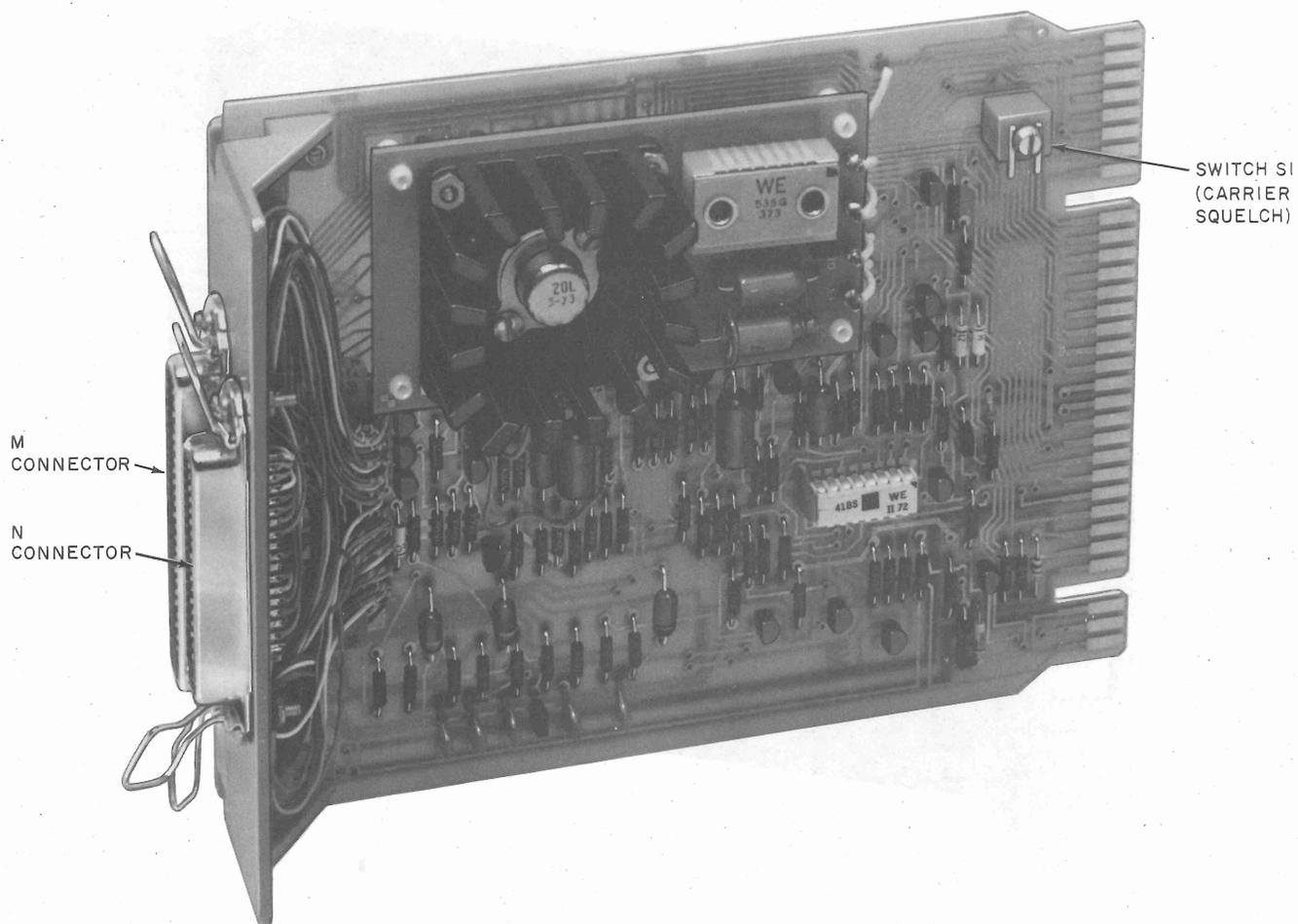
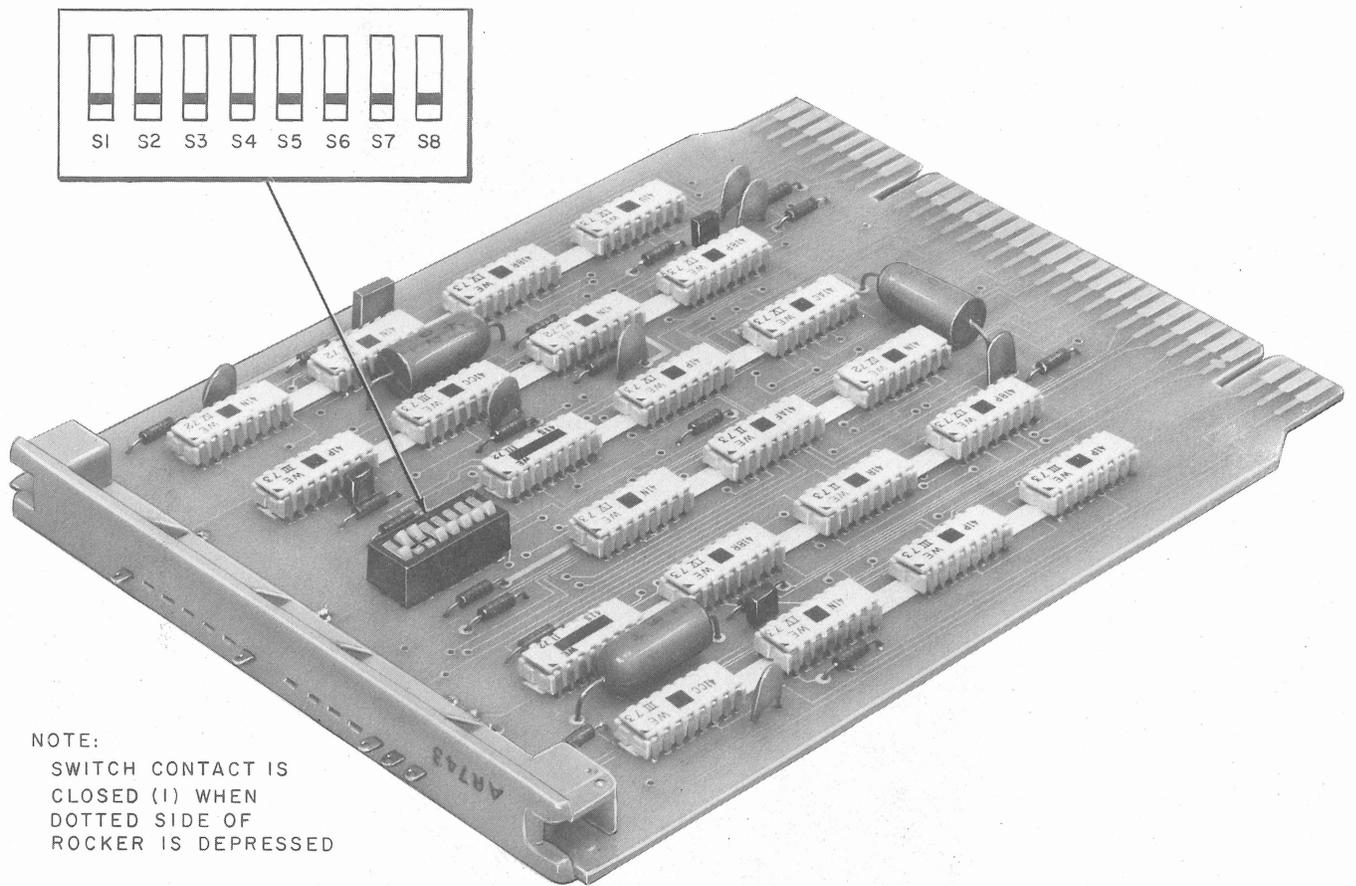


Fig. 20—AR742 Circuit Pack Switch Location and Designation



NOTE:
SWITCH CONTACT IS
CLOSED (I) WHEN
DOTTED SIDE OF
ROCKER IS DEPRESSED

Fig. 21—AR743 Circuit Pack Switch Locations and Designations

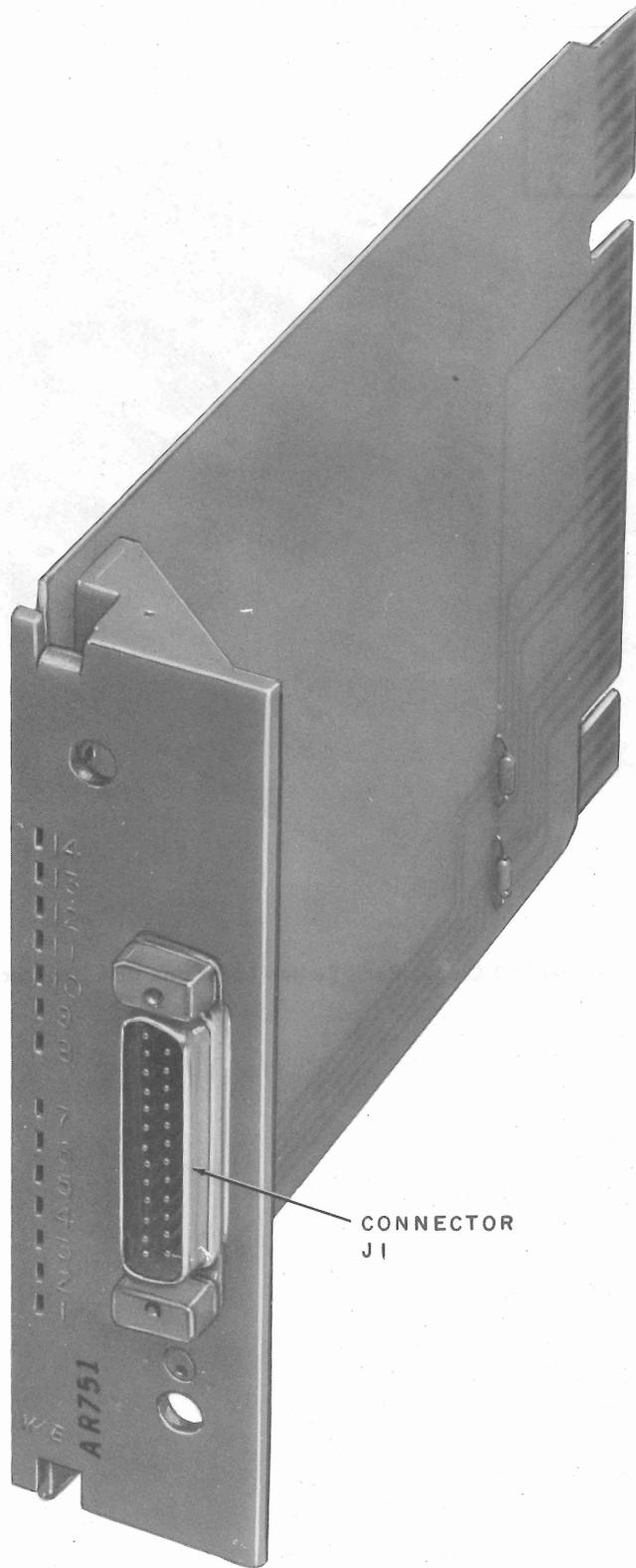


Fig. 22—AR751 Circuit Pack

→ TABLE B←

STATION OPTIONS AVAILABLE WITH 820J- OR L-TYPE CONTROLLER

SWITCH OPTIONS		CIRCUIT PACK	SWITCH	
			OPEN	CLOSE
Detection of Parity Error	Causes a CAN response.	AR683		S7
	Does not cause a CAN response.	AR683	S7	
Audible Alarm on Message Error	Activated when MSG ERROR lamp is lighted.	AR683		S3
	Is not activated when MSG ERROR lamp is lighted.	AR683	S3	
Paper Alarm indication	When paper is low (friction feed machine) or the tape is low (ROTR machine).	AR683		S6
	When paper is out (sprocket feed machine).	AR683	S6	
Shift out EOT	Outlying station returned to idle mode on receipt of EOT.	AR684	S8	
	EOT passed to terminal by pushing charac- ter before station assumes idle mode.	AR684		S8
Response to test poll and regular poll	Single CAN response indicates last message improperly received. Must be specified for 820G1 operation.	AR684	S1 S4 S7	S2 S3 S5 S6
	CAN response indicates no traffic; receiver ready. Must be specified for 820G-L1 operation.	AR684	S2,S3 S5,S6	S1,S4 S7
		AR683	S8	
Response to test poll	ACK/SIC indicates receiver ready. Specify if required in 820G1 operation only.	AR683		S8
	NAK indicates no traffic. Specify if required in 820G1 operation only.	AR683	S8	
Response to call-in, while form or tape is feeding	ACK/SIC	AR683	S1	S2
	NAK	AR683	S2	S1
Response to call-in, roll call, test poll	ACK SIC	AR686	Depends on code (SC switch)	
Auto tape feed out (ROTR) (Note)	Roll call or when station unselects.	AR683		S4
	Only when station unselects.	AR683	S4	

→ TABLE B (Cont)←

STATION OPTIONS AVAILABLE WITH 820J- OR L-TYPE CONTROLLER

SWITCH OPTIONS		CIRCUIT PACK	SWITCH	
			OPEN	CLOSE
Baud	110 baud	AR685		S1,S2
	150 baud	AR685	S1,S2	
Carrier squelch on carrier fail	Yes	AR681/682 or AR741/742		S1
	No		S1	

Note: Does not apply to 820L and switch S4 should be open.

TABLE C

ADDITIONAL 820L-TYPE CONTROLLER OPTIONS

SWITCH OPTIONS		CIRCUIT PACK	SWITCH	
			OPEN	CLOSE
Blind or Unblind on SOH	Station copies heading	AR743	S2	
	Station does not copy heading			S2
Stop on SOH	Station stops on SOH	AR743	S6	
	Station does not stop on SOH			S6
Stop on STX	Station stops on STX	AR743		S3
	Station does not stop on STX		S3	
Delete trailer	Alarm on delete trailer	AR743	S5	
	No alarm on delete trailer			S5
Polling response for having traffic to send	Starts to send when polled	AR743		S7
	Gives SIC or ACK		S7	
Stop on ETX	Station stops on ETX	AR743		S8
	Station does not stop on ETX		S8	

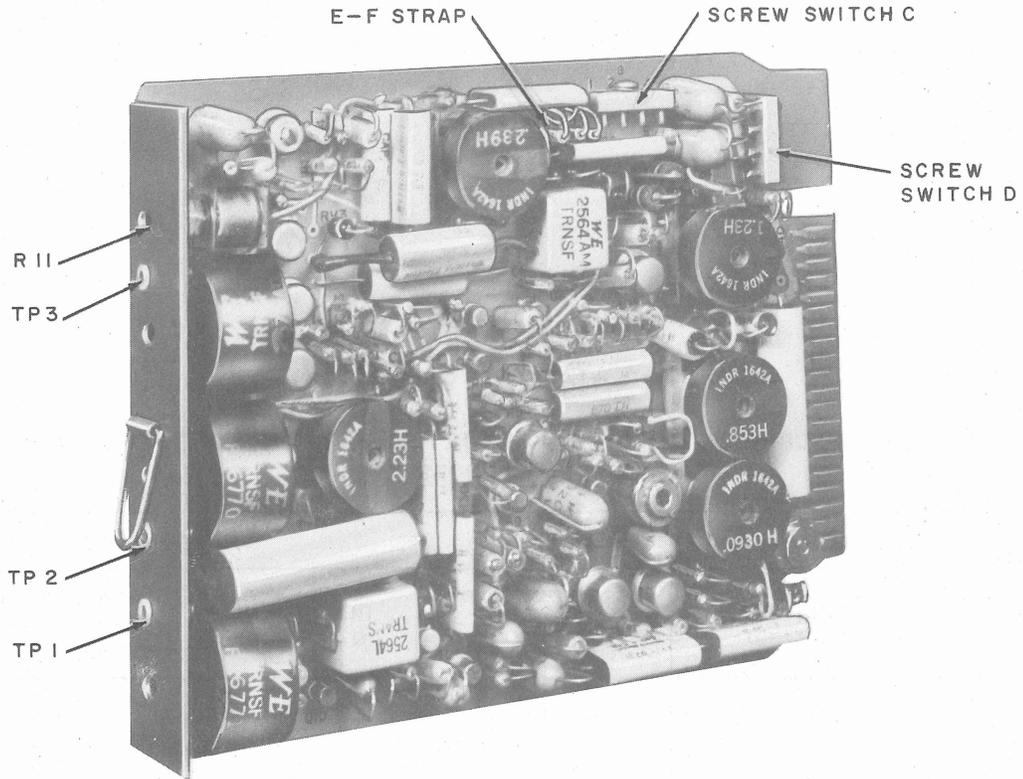


Fig. 23—Data Set 108A-Type—Location of Test Points and Screw Switches

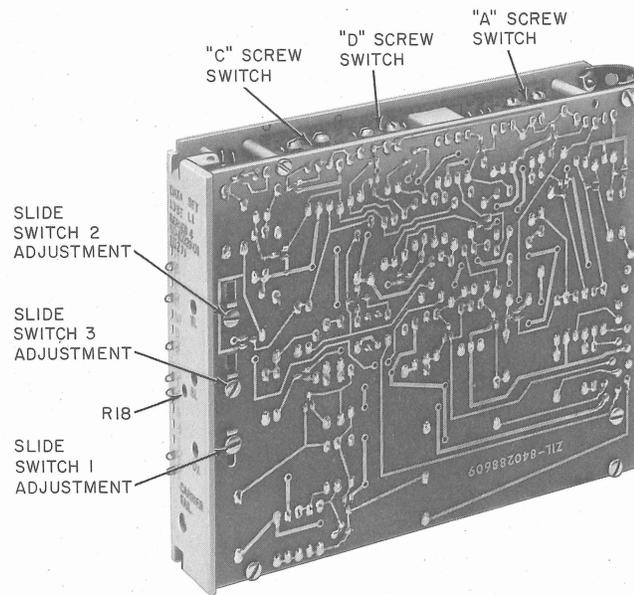


Fig. 24—Data Set 108E-Type—Location of Test Points and Screw Switches

TABLE D

DATA SET 108-TYPE SCREW SWITCH D SETTING FOR REDUCING GAIN OF THE RECEIVE BUFFER AMPLIFIER

LOOP FACILITY WITH 2300-HZ LOSSES (DB)	DATA SET 108A			DATA SET 108E		
	REDUCTION IN GAIN (DB)	SCREW SWITCH D		REDUCTION IN GAIN (DB)	SCREW SWITCH D	
		CLOSE	OPEN		CLOSE	OPEN
0 to 3	8		1-2, 3-4	6		1-2
3.1 to 7	4	1-2	3-4			
7.1 and Greater	0	3-4	1-2	0	1-2	

TABLE E

DATA SET 108-TYPE HYBRID NETWORK

TYPICAL LOOP FACILITY	TYPICAL 2-WIRE LOOP IMPEDANCE MEASURED AT 2125 HZ	DATA SET 108E				DATA SET 108A		
		SCREW SWITCH C		SCREW SWITCH D		SCREW SWITCH C		E-F CONNECTION
		OPEN	CLOSE	OPEN	CLOSE	OPEN	CLOSE	
—	900*	1-2,3-4	2-3		3-4	1-2,3-4	2-3	STRAPPED
—	850	2-3,3-4	1-2	3-4		2-3,3-4	1-2	CUT
—	750	1-2,2-3	3-4	3-4		1-2,2-3	3-4	CUT
26 NL (HC)	650	2-3	1-2,3-4	3-4		2-3	1-2,3-4	CUT
24 NL (HC)	500	2-3,3-4	1-2		3-4	2-3,3-4	1-2	STRAPPED
22 NL (HC)	400	1-2,2-3	3-4		3-4	1-2,2-3	3-4	STRAPPED
19 NL (HC)	280	2-3	1-2,3-4		3-4	2-3	1-2,3-4	STRAPPED
16 NL (HC)	200	2-3	1-2,3-4		3-4	2-3	1-2,3-4	STRAPPED
26 H88 (HC)	1300	1-2,3-4	2-3	3-4		1-2,3-4	2-3	CUT
24 H88 (HC)	1260	1-2,3-4	2-3	3-4		1-2,3-4	2-3	CUT
22 H88 (HC)	1250	1-2,3-4	2-3	3-4		1-2,3-4	2-3	CUT
19 H88 (HC)	1240	1-2,3-4	2-3	3-4		1-2,3-4	2-3	CUT
16 H88 (HC)	1340	1-2,3-4	2-3	3-4		1-2,3-4	2-3	CUT

NL — Nonloaded (HC) — High Capacity

* Compromise hybrid network switching

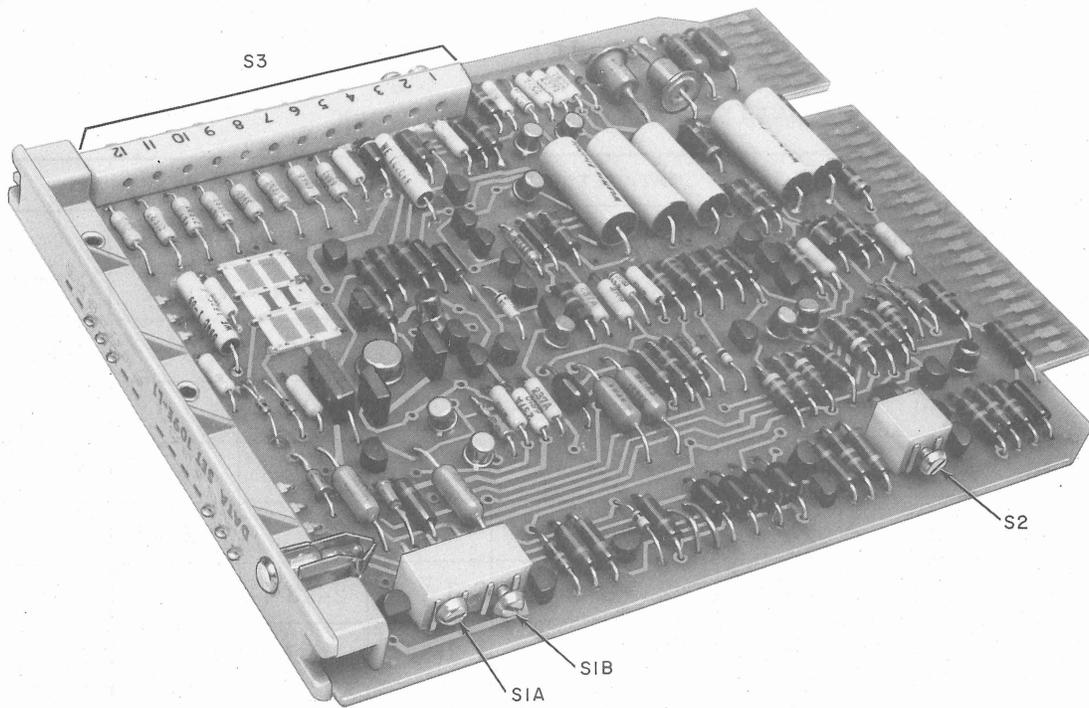


Fig. 25—Data Set 109E-Type—Location of Screw Switches

TABLE F
DATA SET 109E
LINE PAD ADJUSTMENTS

LINE PAD RESISTANCE (OHMS)	SCREW SWITCH S3 SETTINGS	
	CLOSE S3-	OPEN S3-
00.0	4,5,6,7,9,10,11,12	
136.2	4,5,6,10,11,12	7,9
266.0	4,5,7,9,11,12	6,10
402.2	4,5,11,12	6,7,9,10
522.0	4,6,7,9,10,12	5,11
658.2	4,6,10,12	5,7,9,11
788.0	4,7,9,12	5,6,10,11
924.2	4,12	5,6,7,9,10,11
1022.0	5,6,7,9,10,11	4,12
1158.2	5,6,10,11	4,7,9,12
1288.0	5,7,9,11	4,6,10,12
1424.2	5,11	4,6,7,9,10,12
1544.0	6,7,9,10	4,5,11,12
1680.2	6,10	4,5,7,9,11,12
1810.0	7,9	4,5,6,10,11,12
1946.2		4,5,6,7,9,10,11,12

6. REFERENCES

6.01 The following schematic drawings, circuit descriptions, and Bell System Practices pertain to the 85A1 DSCS stations:

NUMBER	TITLE	SECTION	TITLE
		103-813-110	◆911NA Data Test Set— Description and Operation◆
		103-813-111	◆911P EIA Test Adapter— Description and Operation◆
SD- & CD-1D198-01	Data Set 109E	581-131-102	85A1 and 85A2 Data Selective Calling Service Stations Using Data Auxiliary Sets 820J and 820L Controllers—Description and Operation
SD- & CD-1D229-01	Data Set 108E		
SD- & CD-1D244-01	820J-Type and 820L-Type Controller	581-131-302	85A1 and 85A2 Data Selective Calling Service Stations Using Data Auxiliary Sets 820J and 820L Controllers—Maintenance
SD- & CD-1D258-01	◆EIA Interface Coupler (AR751 CP)◆	581-131-502	85A1 and 85A2 Data Selective Calling Service Stations Using Data Auxiliary Sets 820J and 820L Controllers—Test Proce- dures
SD- & CD-3D024-01	Data Set 108A		
SD- & CD-3D041-01	Data Systems Station		
SD- & CD-73092-01	◆Data Test Set 911NA◆		
SD- & CD-73112-01	◆EIA Test Adapter 911P◆		