DATA STATION USING DATA SET 202T
INSTALLATION AND CONNECTIONS

CONTENTS PAGE

1. GENERAL

1.01 This section contains instructions to be followed when installing and connecting a multiple arrangement of data sets 202T in a 39A1 (Fig. 1) or 40B1 (Fig. 2) data mounting. Refer to the section entitled Data Station Using Data Set 202T—Description and Operation (592-861-100) for a physical and functional description of these arrangements.

1.02 This section is reissued to:

- Correct Fig. 7
- Correct Table C
- Add Part 6—References.

1.03 The typical arrangements which can be installed and connected using this section are as follows:

(a) Up to 16 data sets in a 39A1 data mounting or 40B1 data mounting

(b) Up to 32 data sets in two 40B1 data mountings in a KS-20018-L12A cabinet

(c) Up to 48 data sets in three 40B1 data mountings in a KS-20018-L11A cabinet.

1.04 These arrangements require a standard 3-wire grounding-type power receptacle. The power furnished must be 105 to 129 volts, 57 to 63-Hz ac. The outlet must not be under control of a switch.

1.05 To minimize the possibility of data errors due to potential differences between the data sets and data terminal grounds, the power receptacle to the data mounting should be served from the same distribution panel as the receptacle for the data terminal.

1.06 Verify with the plant service center that the overall facilities meet transmission requirements specified in the section entitled Voice Bandwidth Private Line Data Circuits—Tests and Requirements (314-410-500).

1.07 Verify that the location selected by the customer for the KS-20018-L11A or -L12A cabinets is adequate for maintenance, with sufficient room provided for ventilation and to remove the covers and install and remove data sets and connector cords. In addition, locate the cabinet near enough to the business machine so that the customer-provided interface cord will not exceed 50 feet in length [to reduce stray capacitance and to conform to Electronic Industries Association (EIA) standards].

1.08 In order to minimize inductive interference with data signals, the telephone (data) line should not be carried in the same cable run as cable between the data set and business machine or lines connected to teletypewriter services. If this condition cannot be met, it will be necessary to run the telephone (data) line in type SK (shielded) station wire between the data station and cable distribution terminal or building entrance. Ground the shield at one end only, preferably at the distribution terminal end.

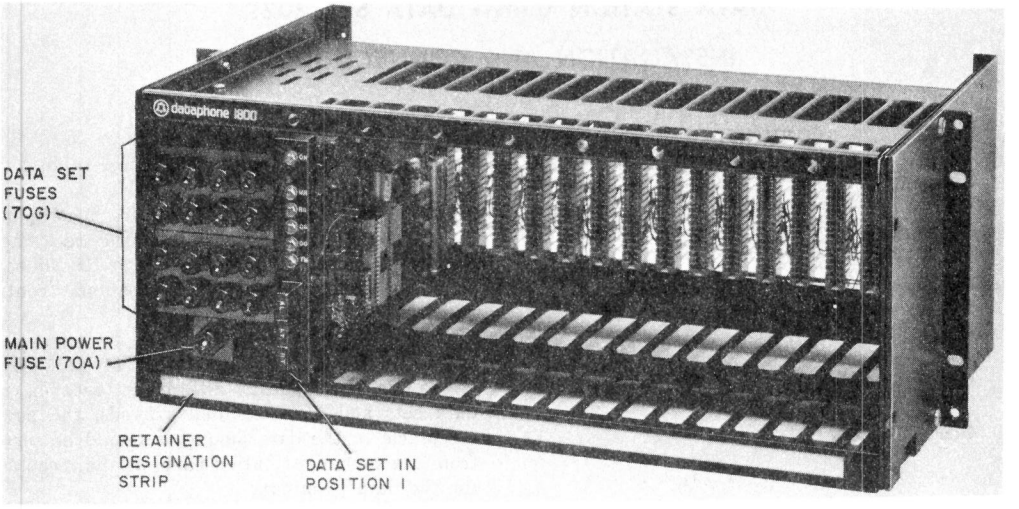

Fig. 1—Front View of 39A1 Data Mounting

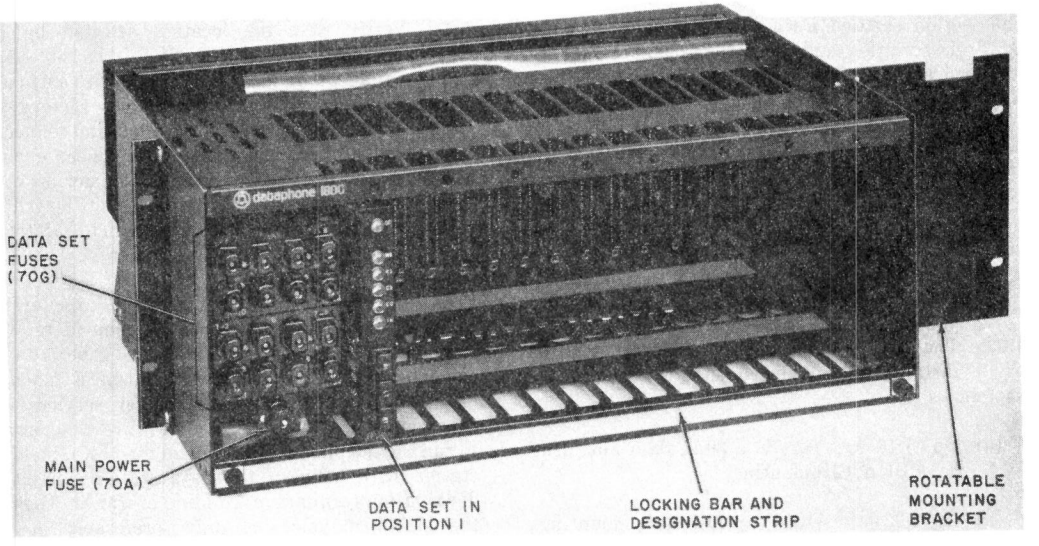

Fig. 2—Front View of 40B1 Data Mounting

1.09 The data station will operate in an ambient temperature between 40 and 120°F, and it is recommended that the temperature be kept between these limits if possible. The relative humidity should be 20 to 95 percent at 70°F or 20 to 40 percent at 120°F.

Caution: Under no condition shall condensation occur on the data set.

1.10 A KS-20018-L7 cabinet may be substituted for a KS-20018-L11A cabinet, provided that there is no requirement to see the indicators on the front of the data sets and the ambient temperature does not exceed 100°F. If higher ambient temperatures are expected, remove the rear panel of the KS-20018-L7 cabinet.

1.11 The data mounting is equipped with a main power fuse between the 117-Vac line and the power supply, and 16 fuses between the power supply and the data sets. Prior to installing the 39A1 or 40B1 data mounting, verify that the proper fuses are in place and are not blown. A blown fuse is indicated by the colored center pin protruding from the holder. Spare fuses are stored beneath the main power fuse.

1.12 Two data sets share each fuse. Each side of the low voltage, ac output is separately fused and is labeled "A" for one side and "B" for the other. For example, the fuses for data sets 1 and 2 are the fuses designated 1-2 on fuse block A and fuse block B. Remove the appropriate data sets from the data mounting if a fuse must be replaced.

1.13 The main power fuse is a 70A (1-1/3 amp—white). The data set fuses are 70G (1/2 amp—red).

2. OPTIONS

2.01 Data set options are described in the section entitled Data Set 202T Transmitter-Receiver —Description and Operation (591-031-100). Refer to the section entitled Data Set 202T Transmitter-Receiver—Installation and Connections (592-031-200) for information on installing and removing data set options.

2.02 The only option provided in the 39A1 or 40B1 data mounting is the frame ground connection to signal ground. This option is a strap near the power cord at the rear of the data mounting and should be installed unless requested otherwise by the user.

2.03 To access the frame ground option in the 40B1 data mounting, it will be necessary to loosen the EIA interface connector bracket on the backplane. Remove the two screws holding the bracket and swing it down from the top.

3. INSTALLATION PROCEDURES

3.01 This part contains information on assembling a data station consisting of data sets, data mountings and associated connecting blocks and cords.

A. 39A1 Data Mounting

3.02 The 39A1 data mounting can be installed in 19-inch or 23-inch uprights. Use four 12-24 by 1/2-inch (801743972) mounting screws (supplied) with the data mounting) to attach the mounting to the uprights. Make connections to the 39A1 data mounting according to Table A.

3.03 The width of the data mounting is approximately 19 inches. Therefore, to install the data mounting in a 23-inch relay rack, remove, rotate and fasten one mounting bracket to the data mounting (with the short side of the mounting bracket against the data mounting).

B. KS-20018 Cabinet

3.04 Position the cabinet in its permanent location and adjust the four leveling bolts until the cabinet is level. Tighten the locking nuts on the bolts. If the cabinet must be secured to the floor, remove the leveling bolts. Insert four 1/4-inch bolts through the 3/8-inch holes in the base of the cabinet, through the leveling bolt holes, and into the floor.

C. 79 Backboard

3.05 The KS-20018-L12A cabinet may be equipped with one 79 backboard, while a KS-20018-L11A may be equipped with two. The backboard is used to mount the power outlet strip (if used) and as a fastening point for the various cables. Drill the 79 backboard in accordance with dimensions given in Fig. 3.

TABLE A

908C CONNECTOR PIN ASSIGNMENT
ON 39A1 DATA MOUNTING

PIN	LEAD	NOTE	PIN	LEAD	NOTE
1	—	3	21	SCA	1
2	BA	1	22	—	3
3	BB	1	23	—	3
4	CA	1	24	SCF	1
5	CB	1	25	CR	1
6	CC	1	26	—P	3
7	AB	1	27	+P	3
8	CF	1	28	—	3
9	—	3	29	—	3
10	—	3	30	AC1	2
11	—	3	31	GRD	2
12	—	3	32	AC2	2
13	—	3	33	DR	4
14	—	3	34	DT	4
15	—	3	35	—	3
16	—	3	36	—	3
17	—	3	37	TEK6	4
18	—	3	38	TEK5	4
19	DR1	4	39	—	3
20	DT1	4	40	—	3

Note 1: To data terminal equipment.

Note 2: From power supply in 39A1 data mounting. These leads are already connected.

Note 3: No connection.

Note 4: To telephone channel.

3.06 Fasten the 79 backboard(s) to the rear flange of the right-hand upright in the cabinet with three No. 12-24 by 1-1/4 inch long screws (furnished with the data mounting).

D. 40B1 Data Mounting

3.07 The 40B1 data mounting can be installed in 19-inch or 23-inch uprights. KS-20018-L11A or -L12A cabinets are available to permit a stand-alone data station. Use four 12-24 by 1/2-inch (801743972) mounting screws (supplied with the data mounting) to attach the mounting to the upright columns in the cabinet. The width of the data mounting is approximately 23 inches. Therefore, if it is necessary to install the data mounting in a 19-inch space, remove, rotate, and fasten one mounting bracket to the data mounting (long side of mounting bracket against data mounting). Refer to Fig. 3 and 4 for a typical installation of 40B1 data mountings in a KS-20018 cabinet.

E. Data Sets

3.08 Prior to inserting data sets in the data mounting, install options called for on the service order. To insert the data sets into the mounting, first remove the designation/retainer strip by pulling out on the black knob at each end. After the strip is moved out of the way, the data sets can be inserted into appropriate slots and pressed firmly into place. Replace the designation/retainer strip.

4. CONNECTIONS

4.01 This part contains connector information for the data station consisting of data sets 202T in a 39A1 or 40B1 data mounting. For all connections to the 39A1 data mounting, refer to Table A. Figure 5 shows pins locations on the 908C connector which is used with the 39A1 data mounting.

4.02 Refer to Fig. 6 for a connection diagram of the data station used with data auxiliary set (DAS) 828A. Table B provides pin and lead assignments for the cables shown in Fig. 6.

4.03 Refer to Fig. 7 for a connecting diagram of the data station used with DAS 829-type. Table C provides pin and lead assignments for the cables shown in Fig. 7.

Note: This is a plug-together installation. The information contained in Table B or C will not be required in a standard installation.

5. INSTALLATION TESTS

5.01 When the data sets have been installed in the data station, they should be tested as directed in the section entitled Data Set 202T Transmitter-Receiver — Test Procedures (592-031-500). The tests for an individually housed data set are the same as for the data station, with the following exceptions.

- The data sets in a 39A1 or 40B1 mounting have a common power supply. If more than

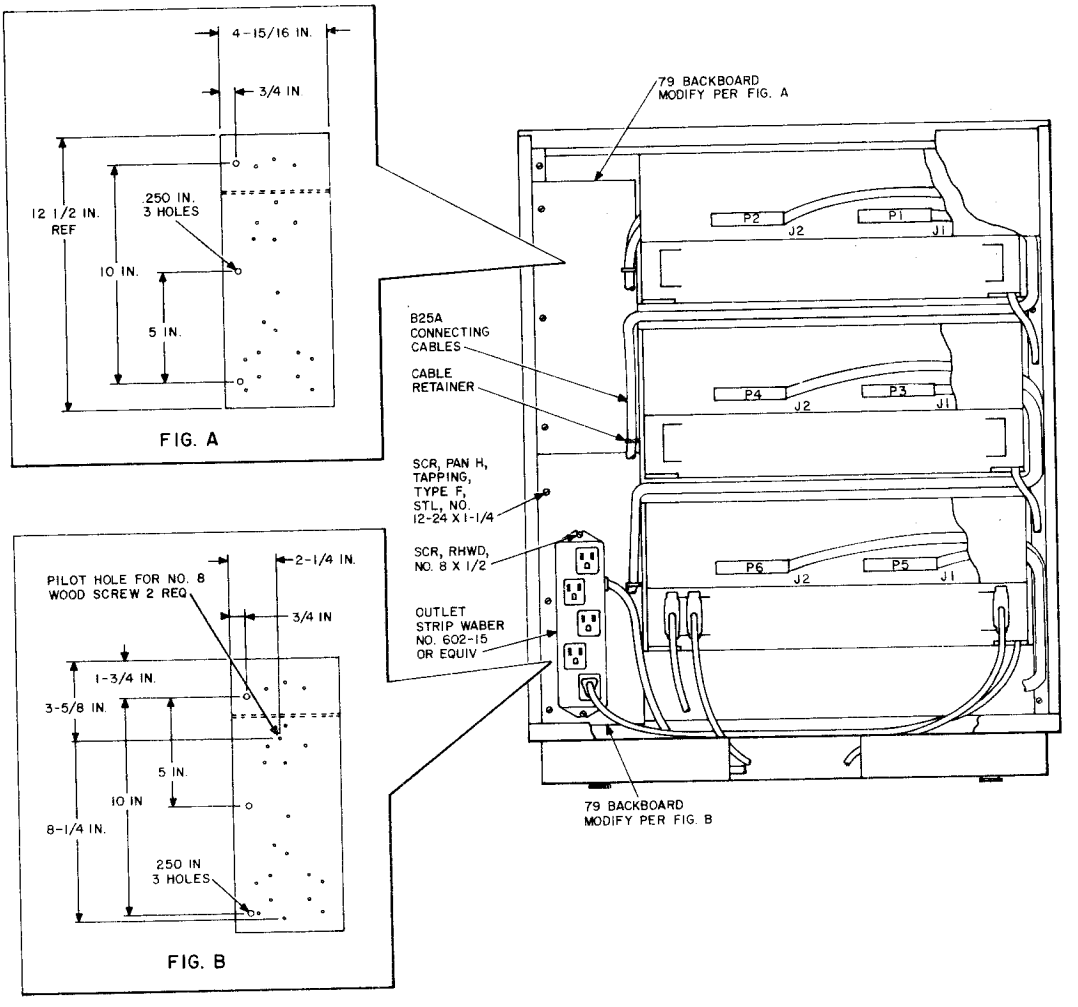

Fig. 3—Rear View of Data Station

one data set in a mounting has a power-related trouble, the power supply should be investigated.

- The frame ground (AA) lead is not brought out on customer interface pin 1 when a data set is plugged into the mounting. Therefore, a normal ground noise test cannot be made as directed in Section 592-031-500. If ground noise is suspected, the test should be performed between the actual frame of the data mounting and frame ground of the customer-provided equipment.

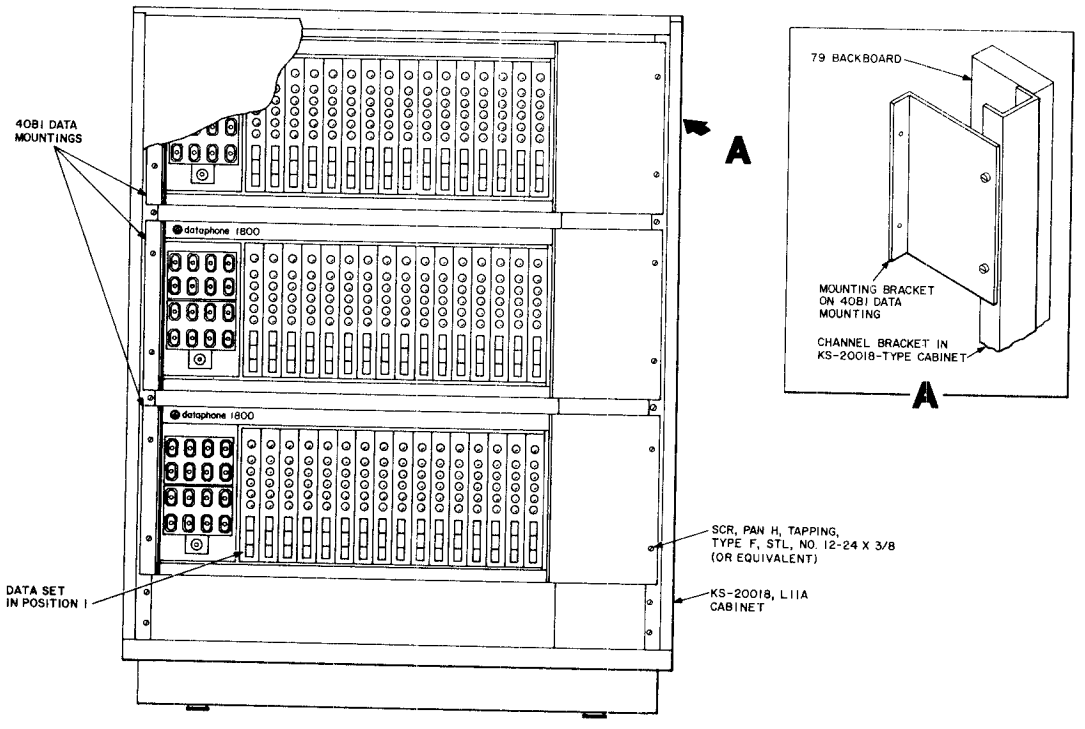

Fig. 4—Front View of Data Station

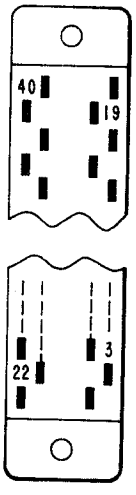

Fig. 5—Pin Location on 908C Connector

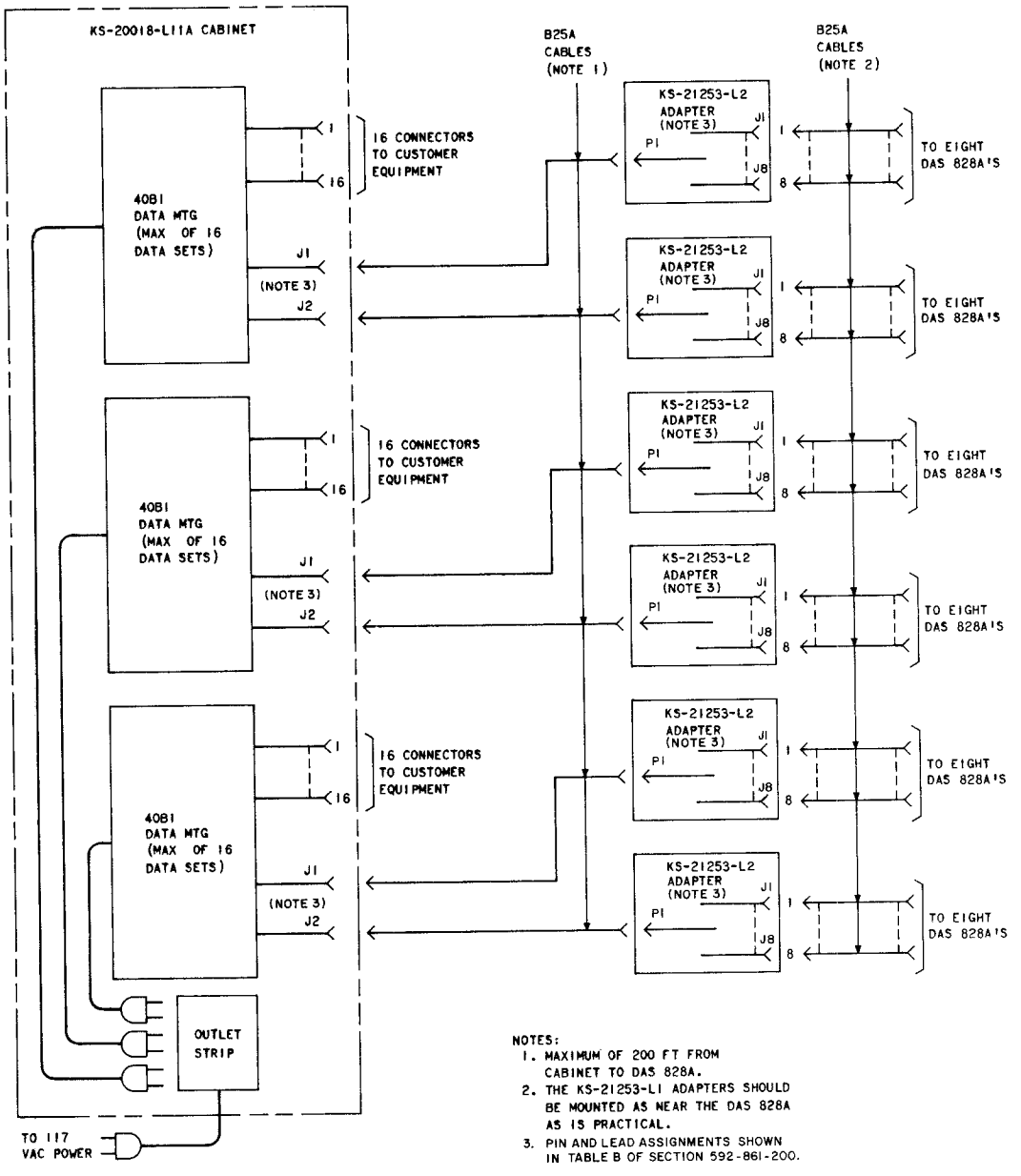

Fig. 6—Data Station Using DAS 828A

TABLE B

PIN AND LEAD ASSIGNMENTS FOR CONNECTORS
AND CABLES IN 202T DATA STATION
USING DAS 828-TYPE

B25A CABLE COLOR	40B1 J1 PIN NO.	PIN DESIG	KS-21253-L2 ADAPTER		40B1 J2 PIN NO.	PIN DESIG	KS-2153-L2 ADAPTER	
			P1 PIN NO.	J-CONN			P1 PIN NO.	J-CONN
BL-W	1	DR (1)	1	5-J1	1	DR (9)	1	5-J1
O-W	2	DR1 (1)	2	4-J1	2	DR1 (9)	2	4-J1
G-W	3	TEK5 (1)	3	3-J1	3	TEK5 (9)	3	3-J1
BR-W	4	DR (2)	4	5-J2	4	DR (10)	4	5-J2
S-W	5	DR1 (2)	5	4-J2	5	DR1 (10)	5	4-J2
BL-R	6	TEK5 (2)	6	3-J2	6	TEK5 (10)	6	3-J2
O-R	7	DR (3)	7	5-J3	7	DR (11)	7	5-J3
G-R	8	DR1 (3)	8	4-J3	8	DR1 (11)	8	4-J3
BR-R	9	TEK5 (3)	9	3-J3	9	TEK5 (11)	9	3-J3
S-R	10	DR (4)	10	5-J4	10	DR (12)	10	5-J4
BL-BK	11	DR1 (4)	11	4-J4	11	DR1 (12)	11	4-J4
O-BK	12	TEK5 (4)	12	3-J4	12	TEK5 (12)	12	3-J4
G-BK	13	DR (5)	13	5-J5	13	DR (13)	13	5-J5
BR-BK	14	DR1 (5)	14	4-J5	14	DR1 (13)	14	4-J5
S-BK	15	TEK5 (5)	15	3-J5	15	TEK5 (13)	15	3-J5
BL-Y	16	DR (6)	16	5-J6	16	DR (14)	16	5-J6
O-Y	17	DR1 (6)	17	4-J6	17	DR1 (14)	17	4-J6
G-Y	18	TEK5 (6)	18	3-J6	18	TEK5 (14)	18	3-J6
BR-Y	19	DR (7)	19	5-J7	19	DR (15)	19	5-J7
S-Y	20	DR1 (7)	20	4-J7	20	DR1 (15)	20	4-J7
BL-V	21	TEK5 (7)	21	3-J7	21	TEK5 (15)	21	3-J7
O-V	22	DR (8)	22	5-J8	22	DR (16)	22	5-J8
G-V	23	DR1 (8)	23	4-J8	23	DR1 (16)	23	4-J8
BR-V	24	TEK5 (8)	24	3-J8	24	TEK5 (16)	24	3-J8
S-V	25	—	25	—	25	—	25	—
W-B	26	DT (1)	26	30-J1	26	DT (9)	26	30-J1
W-O	27	DT1 (1)	27	29-J1	27	DT1 (9)	27	29-J1
W-G	28	TEK6 (1)	28	28-J1	28	TEK6 (9)	28	28-J1
W-BR	29	DT (2)	29	30-J2	29	DT (10)	29	30-J2
W-S	30	DT1 (2)	30	29-J2	30	DT1 (10)	30	29-J2
R-BL	31	TEK6 (2)	31	28-J2	31	TEK6 (10)	31	28-J2
R-O	32	DT (3)	32	30-J3	32	DT (11)	32	30-J3
R-G	33	DT1 (3)	33	29-J3	33	DT1 (11)	33	29-J3
R-BR	34	TEK6 (3)	34	28-J3	34	TEK6 (11)	34	28-J3
R-S	35	DT (4)	35	30-J4	35	DT (12)	35	30-J4

TABLE B (Cont)

PIN AND LEAD ASSIGNMENTS FOR CONNECTORS
AND CABLES IN 202T DATA STATION
USING DAS 828-TYPE

B25A CABLE COLOR	40B1 J1 PIN NO.	PIN DESIG	KS-21253-L2 ADAPTER		40B1 J2 PIN NO.	PIN DESIG	KS-21253-L2 ADAPTER	
			P1 PIN NO.	J-CONN			P1 PIN NO.	J-CONN
BK-BL	36	DT1 (4)	36	29-J4	36	DT1 (12)	36	29-J4
BK-O	37	TEK6 (4)	37	28-J4	37	TEK6 (12)	37	28-J4
BK-G	38	DT (5)	38	30-J5	38	DT (13)	38	30-J5
BK-BR	39	DT1 (5)	39	29-J5	39	DT1 (13)	39	29-J5
BK-S	40	TEK6 (5)	40	28-J5	40	TEK6 (13)	40	28-J5
Y-BL	41	DT (6)	41	30-J6	41	DT (14)	41	30-J6
Y-O	42	DT1 (6)	42	29-J6	42	DT1 (14)	42	29-J6
Y-G	43	TEK6 (6)	43	28-J6	43	TEK6 (14)	43	28-J6
Y-BR	44	DT (7)	44	30-J7	44	DT (15)	44	30-J7
Y-S	45	DT1 (7)	45	29-J7	45	DT1 (15)	45	29-J7
V-BL	46	TEK6 (7)	46	28-J7	46	TEK6 (15)	46	28-J7
V-O	47	DT (8)	47	30-J8	47	DT (16)	47	30-J8
V-G	48	DT1 (8)	48	29-J8	48	DT1 (16)	48	29-J8
V-BR	49	TEK6 (8)	49	28-J8	49	TEK6 (16)	49	28-J8
V-S	50	—	50	—	50	—	50	—

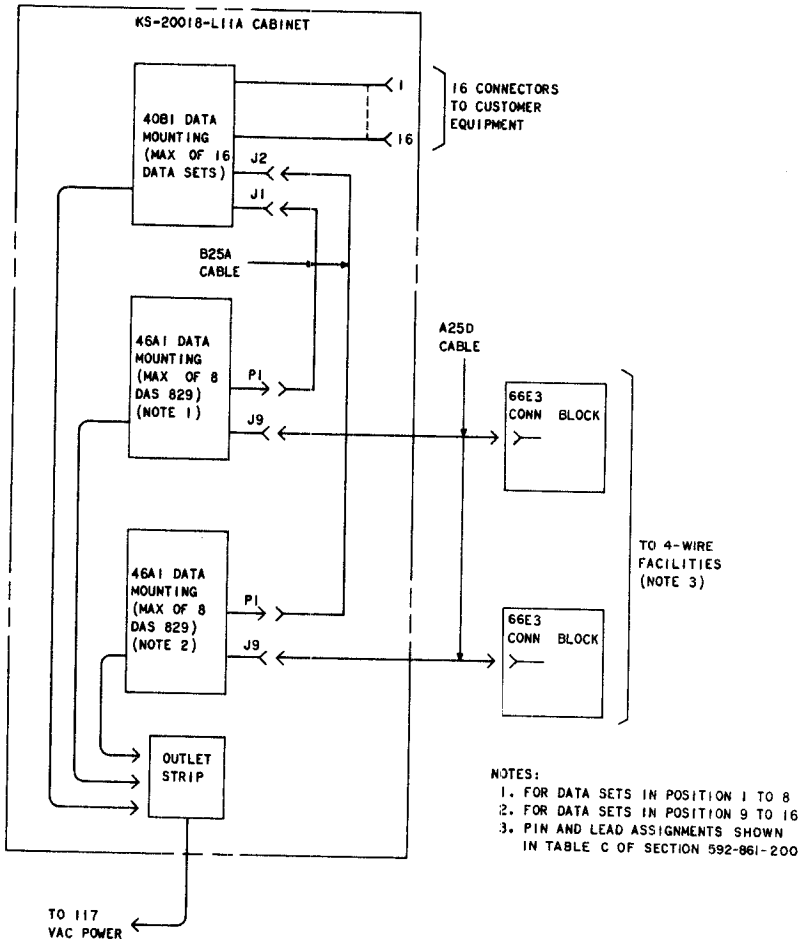

Fig. 7—Data Station Using DAS 829-Type

▶ TABLE C ◀

CONNECTION FROM CENTRAL OFFICE TO 66E3 CONNECTOR BLOCK

TELCO CONN ON 66E3 BLOCK	LEAD DESIGNATION	DAS 829 POSITION NUMBER
1	T	1
2	R	1
3	T1	1
4	R1	1
7	T	2
8	R	2
9	T1	2
10	R1	2
13	T	3
14	R	3
15	T1	3
16	R1	3
19	T	4
20	R	4
21	T1	4
22	R1	4
25	T	5
26	R	5
27	T1	5
28	R1	5
31	T	6
32	R	6
33	T1	6
34	R1	6
37	T	7
38	R	7
39	T1	7
40	R1	7
43	T	8
44	R	8
45	T1	8
46	R1	8

6. ▶REFERENCES◀

6.01 ▶The following Bell System Practices provide additional information concerning data set 202T and data stations using data set 202T.

SECTION	TITLE
590-010-201	Data Sets—Multiple Installation Information
590-102-114	Data Set 202T—Reference Guide
590-102-130	39A1 Data Mounting—Identification
590-102-131	40-Type Data Mounting—Identification
592-031-100	Data Set 202T Transmitter-Receiver — Description and Operation
592-031-180	Data Set 202T Transmitter-Receiver — Summarizing Specification
592-031-200	Data Set 202T Transmitter-Receiver — Installation and Connections
592-031-300	Data Set 202T Transmitter-Receiver — Maintenance
592-031-500	Data Set 202T Transmitter-Receiver — Test Procedures
592-861-100	Data Station Using Data Set 202T — Description and Operation
598-080-100	Data Auxiliary Set 828A — Description and Operation
598-080-101	Data Auxiliary Set 828C — Description and Operation
598-082-100	Data Auxiliary Set 829-Type Channel Interface Units — Voiceband Private Line Channels — Data Only — Description
598-082-101	Supplementary Functions for Voiceband Private Line Channels (Alternate Voice and Dial Backup)—Description
598-082-102	Multiple Channel Arrangements (Switched Dial Backup)—Description
666-511-502	Test of Data Services Provided by Data Set 202T From a Private Line Data Testroom◀