

**DATA AUXILIARY SET 828D**  
**DESCRIPTION AND INSTALLATION**

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**1. GENERAL**

**1.01** The 828D-L1 data auxiliary set (DAS) is used to provide the necessary lamp relays and interface wiring transpositions to interconnect referral telephones to a DS 407-type multiple data station. Telephone types 630DAM or 831CM (rotary dial) and 2630DAM or 2831CM (TOUCH-TONE® dial) may be used for the call referral arrangement, but they should not be intermixed within a station. KS-19252-L1 bridging adapters are used as necessary to add telephones.

**1.02** When this section is reissued, the reason for reissue will be presented in this paragraph.

**1.03** Following is a list of data sets with which the 828D-L1 DAS is used:

- DS 407A
- DS 407AR
- DS 407B
- DS 407BR
- DS 407C
- DS 407CR

**2. PHYSICAL DESCRIPTION**

**2.01** The DAS measures about 6.9 inches wide by 7.5 inches high by 4.6 inches deep, and weighs about 5-1/2 pounds (Fig. 1 and 2). For proper operation of the relays, the DAS must be mounted on a wall or other vertical surface with the attached cable coming out of the bottom.

**2.02** The DAS can be operated in an environment having a temperature range of 40 to 120°F and a relative humidity range of 20 to 95 percent.

**2.03** A 67B1 power unit and a 20B2 power unit are required to supply 10 volts ac and 24 volts dc, respectively to light the lamps and operate the relays. The power units are not supplied with the DAS and must be ordered separately. The ac power cords for the 67B1 and 20B2 power units must also be ordered separately. Following is a list of available power cords:

Length (Ft)	Part No.
1.5	P40J326
2.0	P40J327
4.0	P40J328
6.0	P40J329
12.0	P40J099

**2.04** The 67B1 power unit measures about 7.37 inches long by 5.75 inches wide by 5.25 inches deep and is designed for wall mounting. An input receptacle is provided to accept any of the above listed cords, which are provided with a 3-conductor molded female plug.

**2.05** The 20B2 power unit measures about 9.25 inches high by 8.75 inches wide by 5 inches deep and is designed for wall mounting.

**NOTICE**

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

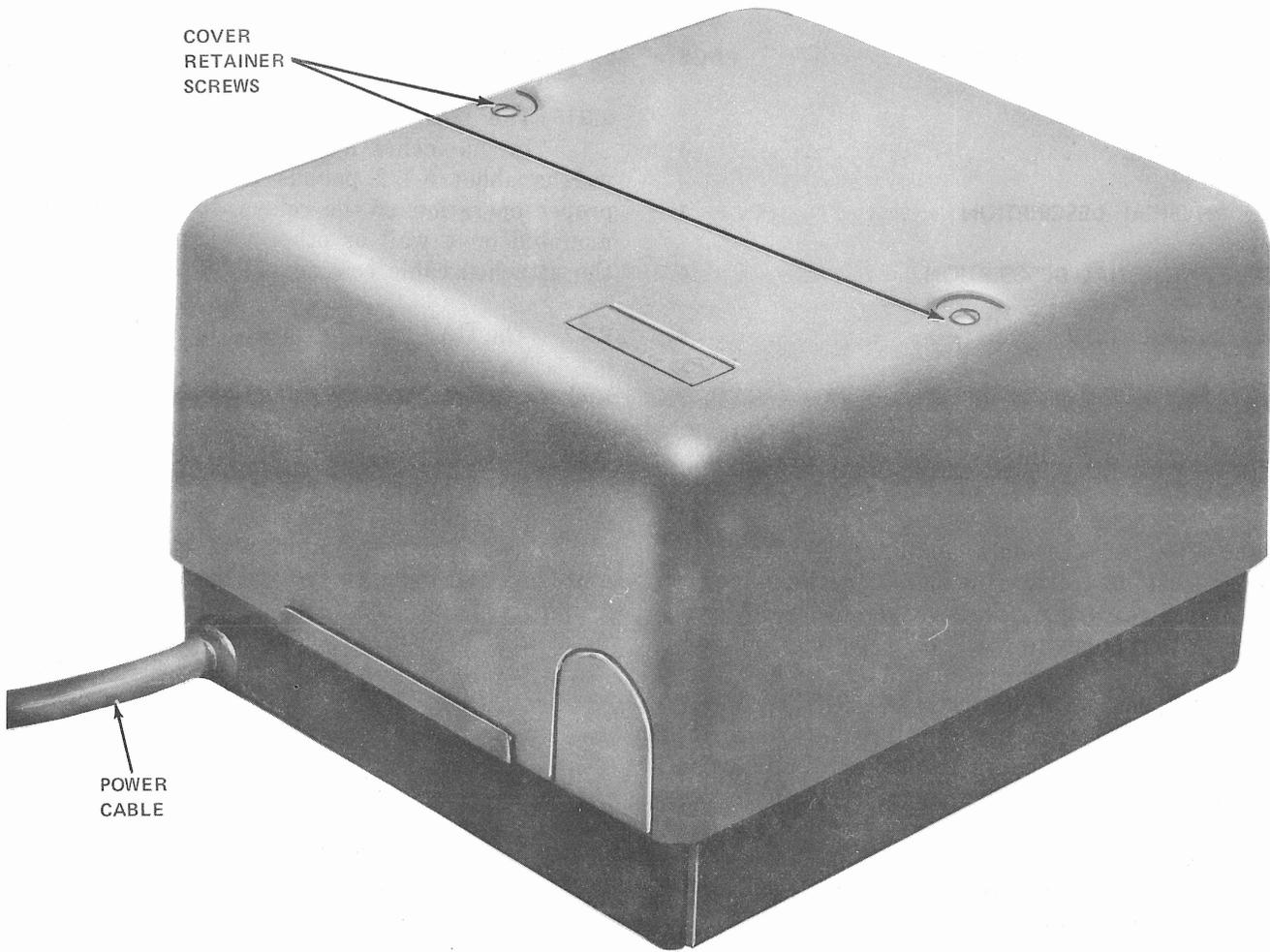


Fig. 1—828D Data Auxiliary Set With Cover

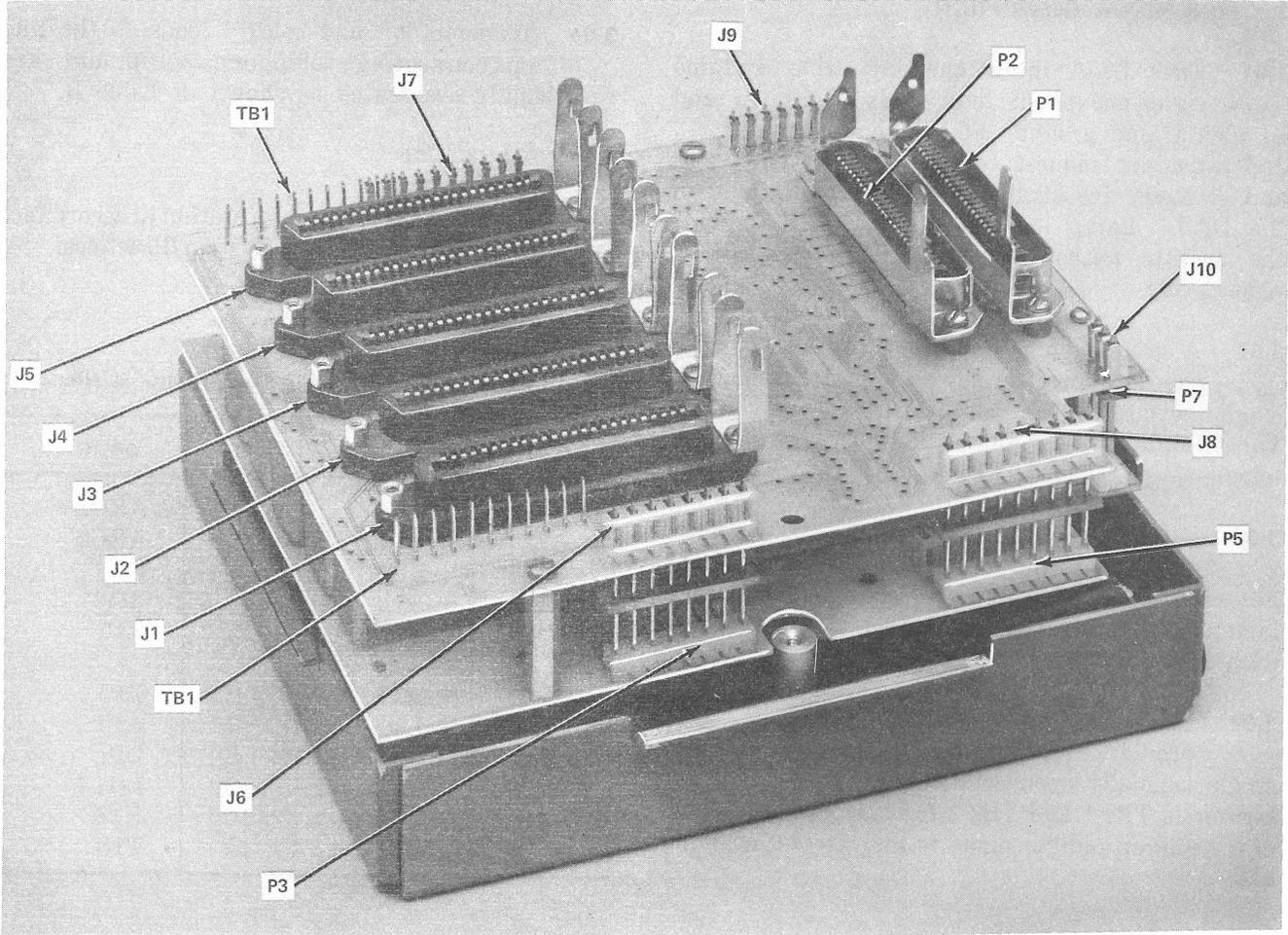


Fig. 2—828D Data Auxiliary Set With Cover Removed

**SECTION 598-089-100**

**2.06** Connections between the DAS, data mounting(s), and bridging adapters are made by using B25A cable. This cable should not exceed 1000 feet in length per branch.

**3. FUNCTIONAL DESCRIPTION**

**3.01** Each B25A interconnecting cable contains eight groups of four leads (T, R, A, and L) plus frame ground (FG), signal ground (SG), and attendant request control (ARC). The T, R, and A leads are straight-through connections in the DAS. Lamp leads L1 through L16 provide the operate paths for relays K1 through K16, respectively.

**3.02** A ground on any of the lamp leads causes the appropriate relay to operate, closing its single normally open contact, thus supplying 10 Vac to light the designated lamp on the referral telephone set.

**3.03** All relays in the DAS are WE 323A relays. Each relay contact is capable of passing the necessary current to light a maximum of sixteen lamps, if a referral telephone set is provided for each line.

**3.04** The attendant request control (ARC) lead provides the operate path for relay K17. A single normally open contact is available between terminals TB2-1 and TB2-2 for customer operation of a visual or audible signal to indicate an incoming call.

**3.05** Leads not used by the data station are brought out on terminals of TB1 and TB2 to provide access to the remaining telephone set connections. These connections are shown in Table A.

**3.06** Transmission and control leads to the line or connecting telephone equipment are functionally designated as shown in Table B.

**4. INSTALLATION**

**4.01** Install the 407-type data station in accordance with appropriate Bell System Practices.

**TABLE A**

**UNUSED TELEPHONE SET CONNECTIONS**

TB1	DESIG	TB2	DESIG
1	A18	1	ARC1
2	L18	2	ARC2
3	LG18	3	RG1
4	R19	4	RG2
5	T19	5	R17
6	A19	6	T17
7	L19	7	A17
8	LG19	8	L17
9	BZ	9	LG17
10	BZ1	10	R18
		11	T18

**TABLE B**

**TRANSMISSION AND CONTROL LEAD DESIGNATIONS**

DESIG	MEANING
T	Tip
R	Ring
A	"A" lead control from telephone set
L	Lamp control to telephone set
ARC	Attendant request control lead to telephone set
FG	Frame ground
SG	Signal ground
BZ	External buzzer
RG	External ringer

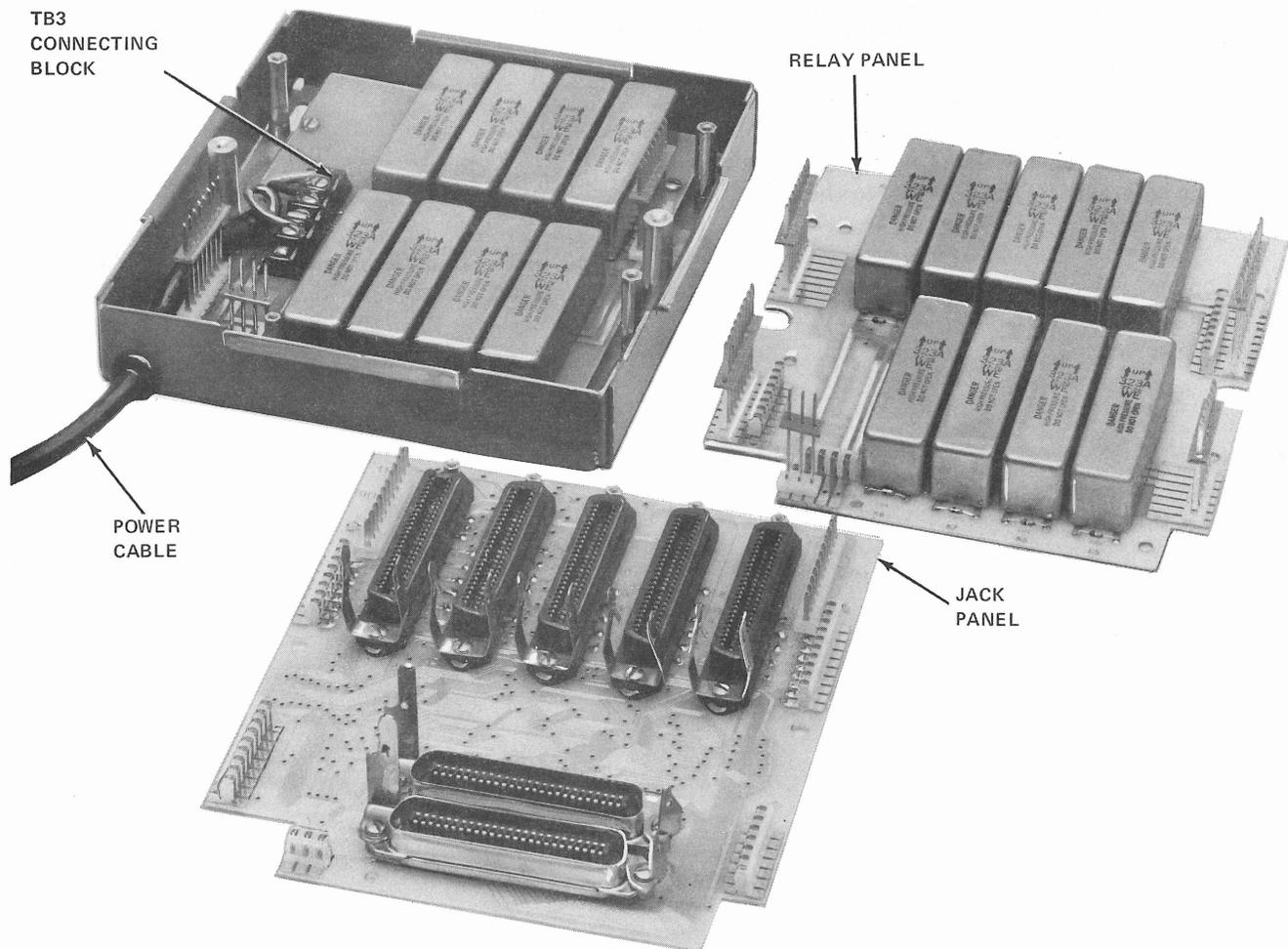
**4.02** Mount the 828D DAS vertically on a wall or other convenient location, keeping in mind the 1000 foot limitation of the B25A cable. The mounting location of the DAS should be chosen in proximity to a source of customer-supplied 117 Vac 60 Hz power that is not under control of a switch.

**4.03** Mount the 67B1 and 20B2 power units near the DAS and power source.

**4.04** Wire the power units to TB3 on the DAS as shown in Fig. 3 and 4. Do not connect the power units to the ac power source at this time.

**4.05** Follow installation instructions in one of the four following paragraphs that corresponds to the particular installation being made.

**4.06 Installation Using DS 407A, AR, B, or BR With 630DAM or 2630DAM Referral Telephone Set(s):** Interconnect the DAS to the data station as shown in Fig. 5 using B25A cable. Mount the KS-19252-L1 bridging adapters and interconnect with the DAS using B25A cable. Connect the referral telephone set(s) to the bridging adapters.



**Fig. 3—828D Data Auxiliary Set Showing Connecting Block**

**4.07 Installation Using DS 407A, AR, B, or BR With 831CM or 2831CM Referral Telephone Set(s):**

Interconnect the DAS to the data station as shown in Fig. 6 using B25A cable. Mount the KS-19252-L1 bridging adapters and interconnect with the DAS using B25A cable. Connect the referral telephone set(s) to the bridging adapters.

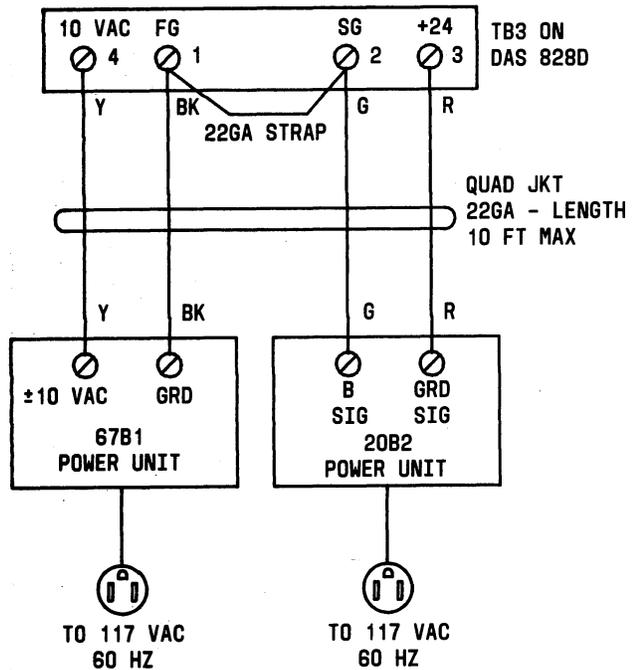
**4.08 Installation Using DS 407C or CR With 630DAM or 2630DAM Referral Telephone Set(s):**

Interconnect to the data station as shown in Fig. 7 using B25A cable. Mount the KS-19252-L1 bridging adapters and interconnect with the DAS using B25A cable. Connect the referral telephone set(s) to the bridging adapters.

**4.09 Installation Using DS 407C or CR With 831CM or 2831CM Referral Telephone Set(s):**

Interconnect the DAS to the data station as shown in Fig. 8 using B25A cable. Mount the KS-19252-L1 bridging adapters and interconnect with the DAS using B25A cable. Connect the referral telephone set(s) to the bridging adapters.

**4.10** Connect the power connectors from the 67B1 and 20B2 power units to a source of 117 Vac 60 Hz power.



**Fig. 4—Power Unit Connections to Data Auxiliary Set 828D**

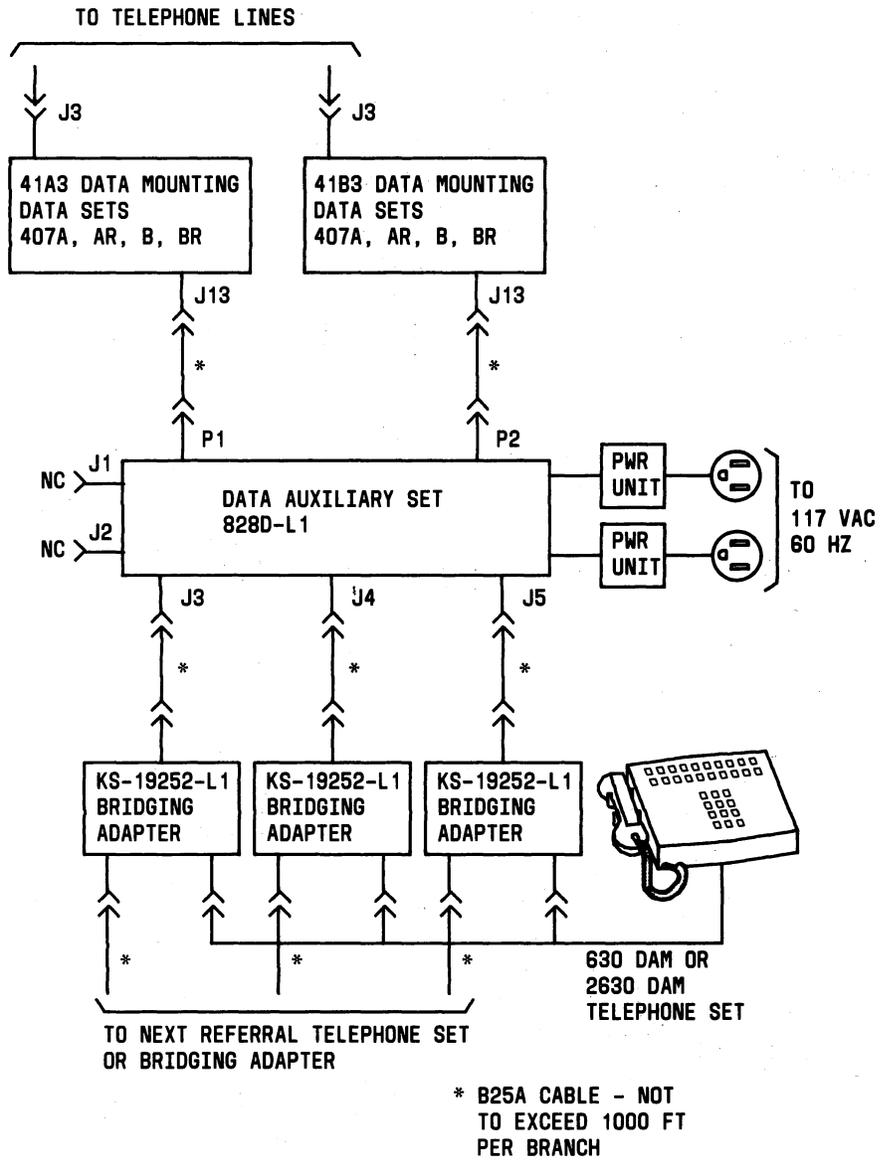


Fig. 5—407A, AR, B, or BR Data Station Arrangement Using 630DAM or 2630DAM Referral Telephone Set

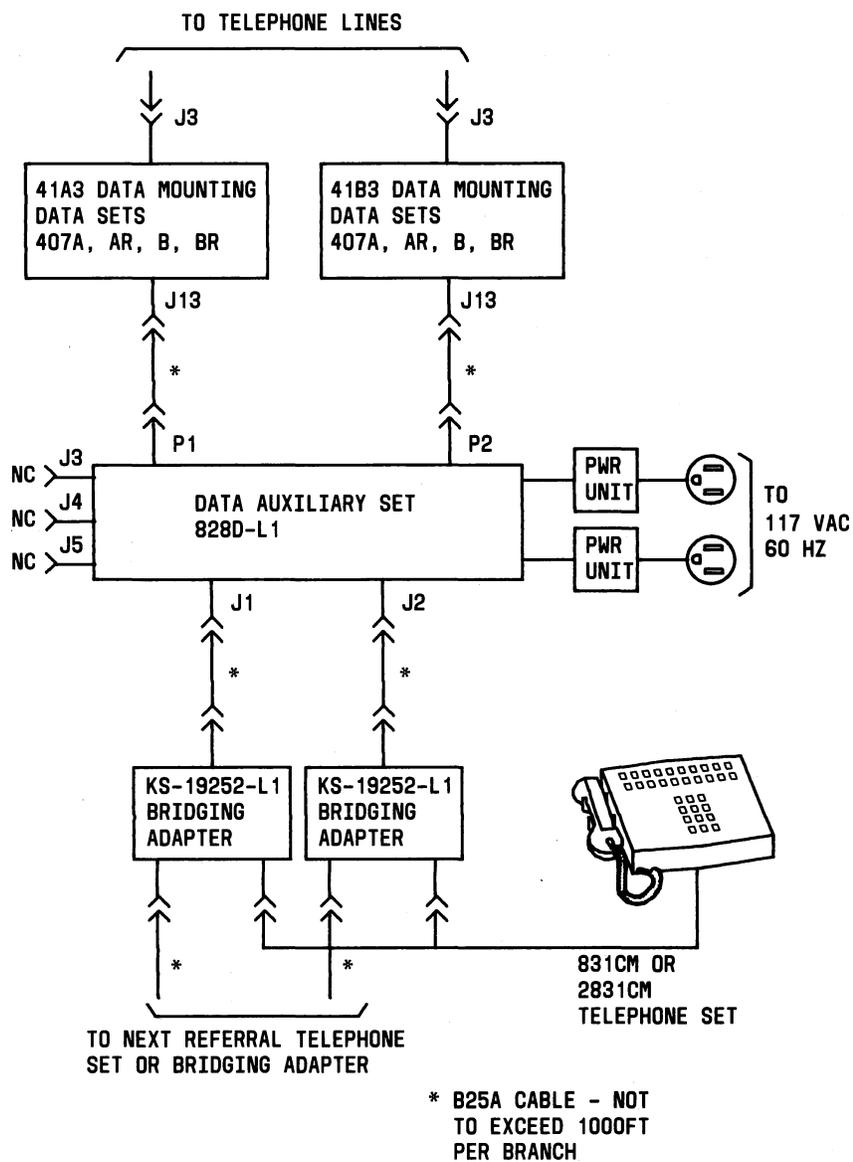


Fig. 6—407A, AR, B, or BR Data Station Arrangement Using 831CM or 2831CM Referral Telephone Set

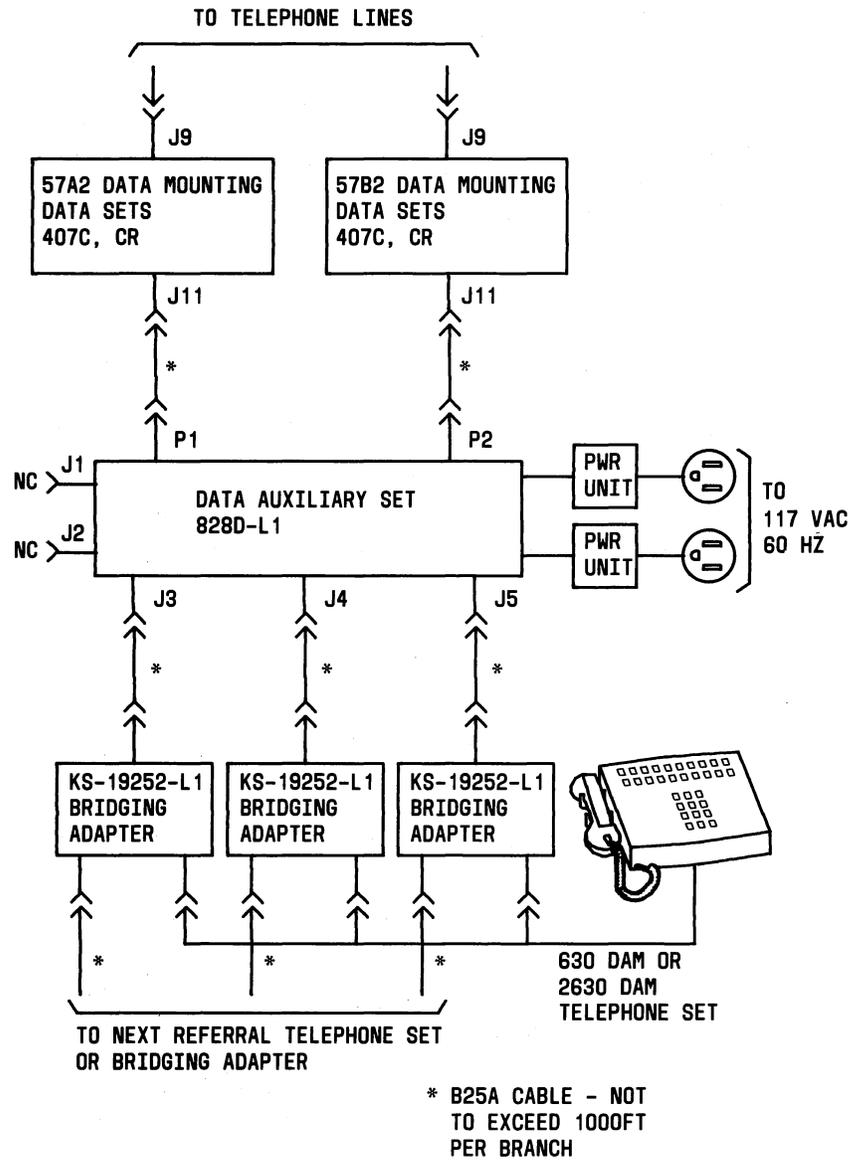


Fig. 7—407C or CR Data Station Arrangement Using 630DAM or 2630DAM Referral Telephone Set

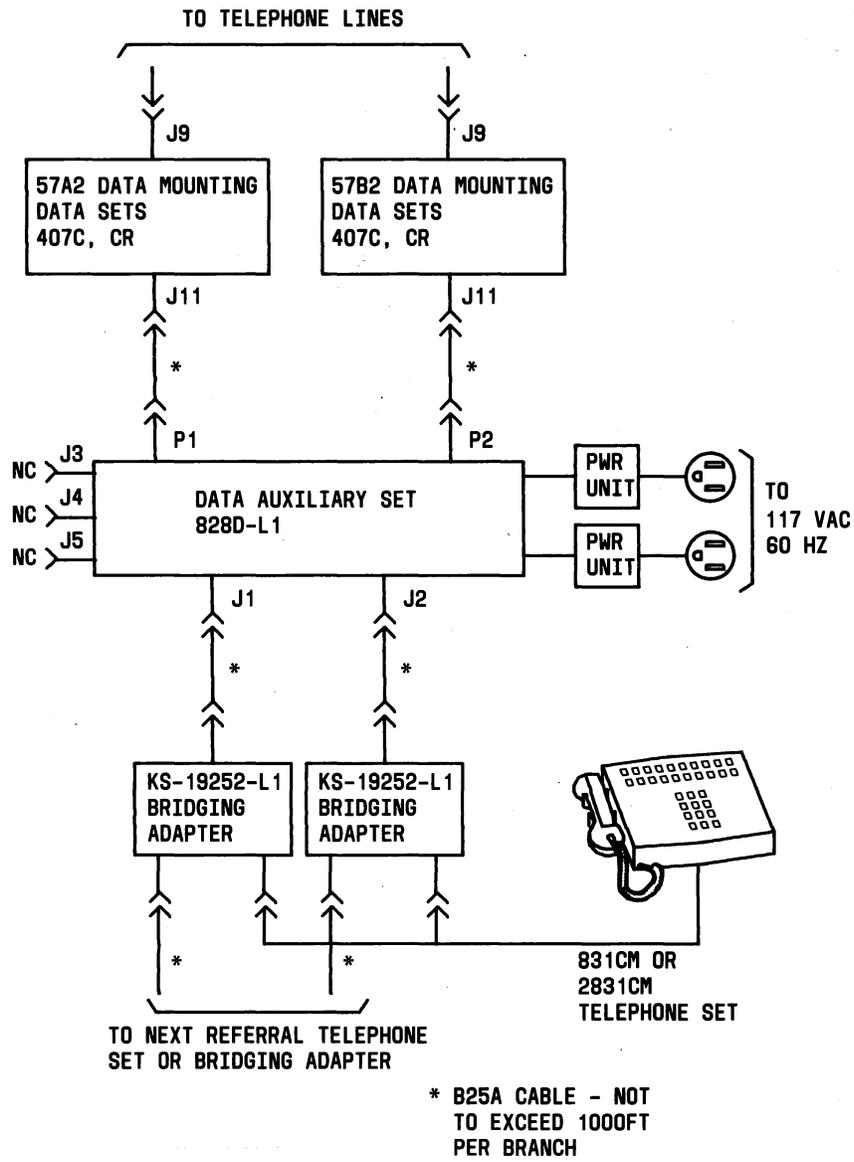


Fig. 8—407C or CR Data Station Arrangement Using 831CM or 2831CM Referral Telephone Set