

DIGITAL DATA SYSTEM  
500B-TYPE DATA SERVICE UNIT  
INSTALLATION AND CONNECTIONS

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1.	<b>GENERAL</b>	
1.01	This section contains instructions for installing and connecting a 500B-type data service unit (DSU). Installation methods for the associated customer-provided equipment (CPE) are not included.	
1.02	Whenever this section is reissued, the reason(s) for reissue will be given in this paragraph.	
1.03	The 500B-type DSU is designed to be operated in an ambient temperature range from 40° to +120°F, with a relative humidity of less than 95 percent.	
1.04	The 82C power unit, which is contained inside the DSU, supplies operating voltages of +5, +12, and -12 Vdc. An input of 105 to 129 Vac at a frequency of 57 to 63 Hz is required by the DSU. Each	

DSU is supplied with a 10-foot power cord for connection to the customer-provided ac source.

**2. OPTION INSTALLATION**

**A. General**

**2.01** The 500B-type DSU is provided with five customer options and one TELCO option. The options should be specified on the service order or circuit layout record card (CLRC). Refer to 500B-Type Data Service Unit—Description and Operation--Digital Data System, Section 595-200-101, for a description of these options.

**B. Option Installation Procedure**

**2.02** Circuit pack HP1 contains a right angle header H1 and HN-type CPs contain switch S1. The switch and header locations are shown in Fig. 1. To gain access to the header, the front and rear faceplates must be removed. Both faceplates are removed by depressing the two tabs located on the bottom edge and simultaneously pulling outward. To replace the faceplates, hook the tabs on the aluminum housing into the slots on top and gently snap the bottom edge of the faceplates into position.

**2.03** Figure 2 is a representation of H1 showing the ten positions and the shunts. To install options listed in Table A, the shunts are slipped over the two pins which make up one position. Four shunts are provided with the header. One shunt is a spare and should be stored in position 10.

**NOTICE**

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

### 3. INSTALLATION AND CONNECTION PROCEDURES

#### A. Single Installation

**3.01** The DSU must be installed within 100 feet of its associated CSU. Care must be used in placement to avoid stray fields from electromechanical equipment. For subrate services, the 500B-type DSU must be located from 1 to 50 feet from the CPE, while the 500B-L1/5 DSU operating at 56 kb/s may be located from 1 to 100 feet from the CPE.

**3.02** The DSU must be located within 10 feet of a customer-provided ac outlet which is not under control of a switch. A power cord is supplied with the DSU and requires an outlet which accepts a plug with two parallel blades and a round grounding pin.

**3.03** A 25-pin connector is provided at the rear of subrate DSUs for connection to CPE. This connector is designed to mate with a customer-provided Cinch or Cannon DB-19604-432 plug equipped with a DB-51226-1 hood, or equivalent. DSUs operating at 56 kb/s have a 34-pin connector at the rear for connection to the CPE. This connector is designed to mate with a customer-provided Winchester MRA-34P-JTC6-H8 plug, or equivalent.

**3.04** The 15-pin connector is provided at the rear of all 500B DSUs (regardless of the data speed) for connection to the 550 CSU. A 7-foot M6BA cord which has a male plug on each end of the cord connects to the 15-pin female connector of the DSU and to the female connector on the CSU. This cord can be ordered in 25, 50, 75, and 100 foot lengths.

**3.05** In DSU installations where access to the front faceplate is limited or where the customer interface connector is facing forward on a shelf or in a cabinet, the switch and light-emitting diode (LED) assembly may be removed from the front faceplate and mounted on the rear faceplate. To relocate the switch and LED assembly, proceed as follows:

- (1) Remove both faceplates per paragraph 2.03.
- (2) If the cover must be removed, loosen the two cover retaining screws located on the bottom of the DSU and slide the cover forward or backward.
- (3) Disconnect the interconnecting cable harness from HP1 CP.

(4) Release the spring clip retaining HP1 CP and slide the CP out of the DSU.

(5) Remove the switch and LED assembly from the front faceplate by using gentle outward pressure on the plastic mounting tabs retaining the assembly.

(6) Install the switch and LED assembly on the rear faceplate by gently depressing the assembly into the appropriate position.

(7) Replace the HP1 CP into the DSU and connect the interconnecting cable harness to HP1.

(8) If the cover was removed, replace the cover by reversing the procedure in Step (2).

(9) Replace both faceplates per paragraph 2.03.

**3.06** If the DSU is being used on multipoint lines, the spring clip supplied with the DSU should be positioned over the switch (on the switch and LED assembly) to prevent it from being placed in the LL position.

#### B. Multiple Installation

**3.07** For multiple installations, three DSUs may be stacked without exceeding the maximum internal operating temperature. The four clips supplied with each DSU are used to support the center and top DSUs. They are inserted into the slots provided on the dovetail feet as shown in Fig. 3. When the sets are stacked, the tabs drop into holes provided in the top of the plastic faceplates and provide a secure, stacked arrangement.

**3.08** Multiple installations requiring more than three DSUs are handled by means of the 48A-L1/2 data mounting. (See Section 590-102-139 for a detailed description of the 48A data mounting.) The 500B DSU and its associated CSU are mounted in separate 48A data mountings and are located within 100 feet of each other.

**3.09** The 500B DSUs must be adapted for mounting in the 48A-L1/2. The L1/2 designation provides bearing plates which are required for mounting the DSU in the data mounting. Figures 4 through 8 depict a 500B DSU being adapted for mounting into the 48A-L1/2 data mounting. The mounting procedure is as follows:

- (1) Remove front and rear faceplates per paragraph 2.03.
  - (2) Remove switch and LED assembly per paragraph 3.05(5).
  - (3) Remove outer cover from DSU. (The front faceplate, outer cover, and power cord are not used in a multiple arrangement.)
  - (4) Position switch and LED assembly to rear (connector side) of DSU.
  - (5) Slide the two bearing plates into the slot on the dovetail feet of the DSU and secure with mounting screws (Fig. 7). A bracket is supplied to fill the space between the bearing plate and the DSU chassis and to provide rigidity to the DSU assembly.
  - (6) Insert the DSU (connector side first) into the rear of the data mounting by sliding the bearing plates into the slots in the upper and lower metal strips (Fig. 9 and 10). Make sure the switch and LED assembly clear the opening as the DSU is inserted.
  - (7) Secure the DSU by moving the lock strip to its leftmost position and tightening the lock-strip screw.
  - (8) Install the switch and LED assembly on the rear faceplate per paragraph 3.05(6).
  - (9) Install the rear faceplate into the 48A data mounting cover plate by engaging the three tabs at the left side of the opening and the two tabs on the faceplate.
  - (10) Attach the customer interface connector to the DSU and dress the cord with the cable ties located below each DSU (Fig. 10).
  - (11) Attach the multiple plug power cord, supplied with the 48A-L1/2, to each DSU power supply connector (Fig. 8).
- 3.10** The DSU is now connected for multiple operation.
- #### 4. TEST REQUIREMENTS
- 4.01** Perform the following installation tests in the order given and as instructed in Digital Data System--500B-type Data Service Unit--Test Procedures, Section 595-200-501:
- Local test
  - DSU functional test
  - Straightaway test.
- 4.02** Blank labels are shipped attached to the inside of the front faceplate. List codes, customer option information, and other information may be recorded on these labels.
- 4.03** When DSUs are multiple mounted, the circuit number (CKT No.) and trouble number (TBL No.) for each DSU are written on the label attached to the bottom of each DSU.

TABLE A

DSU OPTIONS

HN-TYPE CP CIRCUIT OPTION (SWITCH S1)	OPTION	TELCO/CUSTOMER REQUESTED	FEATURE	POSITION
	YK	CUSTOMER	Signal ground connected to frame ground	IN
	YL		Signal ground disconnected from frame ground	OUT
HN-TYPE CP PHYSICAL OPTIONS	XM	CUSTOMER	Switch led assembly installed to rear	
	XN		Switch led assembly installed to front	
	XO	TELCO	LL spring clip installed	
	XP		LL spring clip not installed	
HPI CP CIRCUIT OPTIONS (HEADER H1)	YS	CUSTOMER	Continuous request to send	2
	YT		Switched request to send	3
	YQ	CUSTOMER	Circuit assurance installed	6
	YR		Circuit assurance removed	5
	XK	CUSTOMER	System status installed	9
	XL		System status removed	8

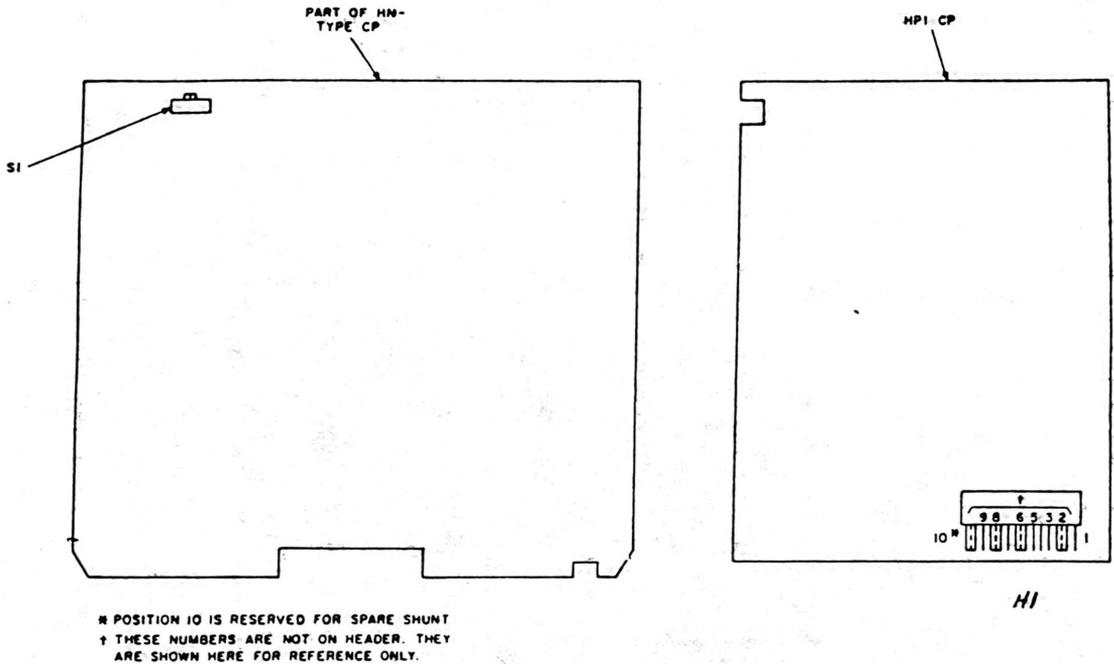


Fig. 1— DSU Option Switch and Headers

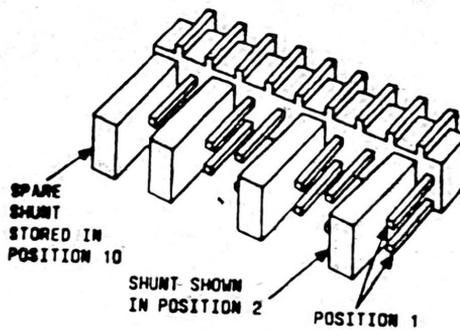


Fig. 2— Detail of Right Angle Header for Installing Options

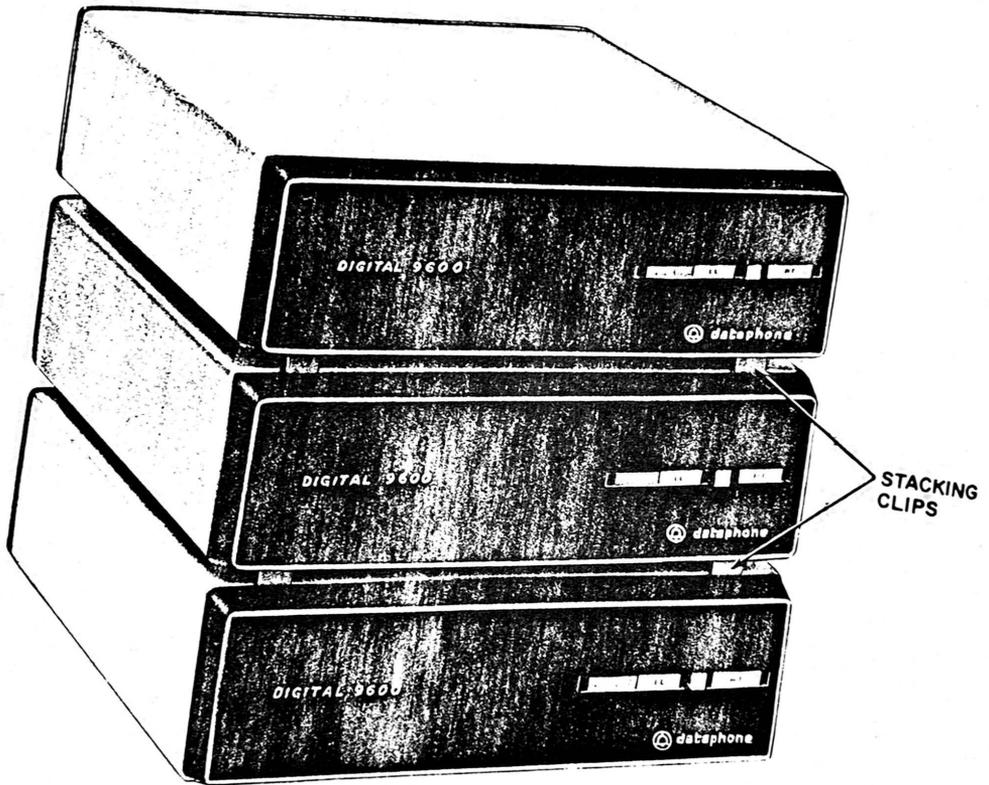


Fig. 3--Multiple Installation--Stacked Arrangement Using Clips for a Maximum of Three DSUs

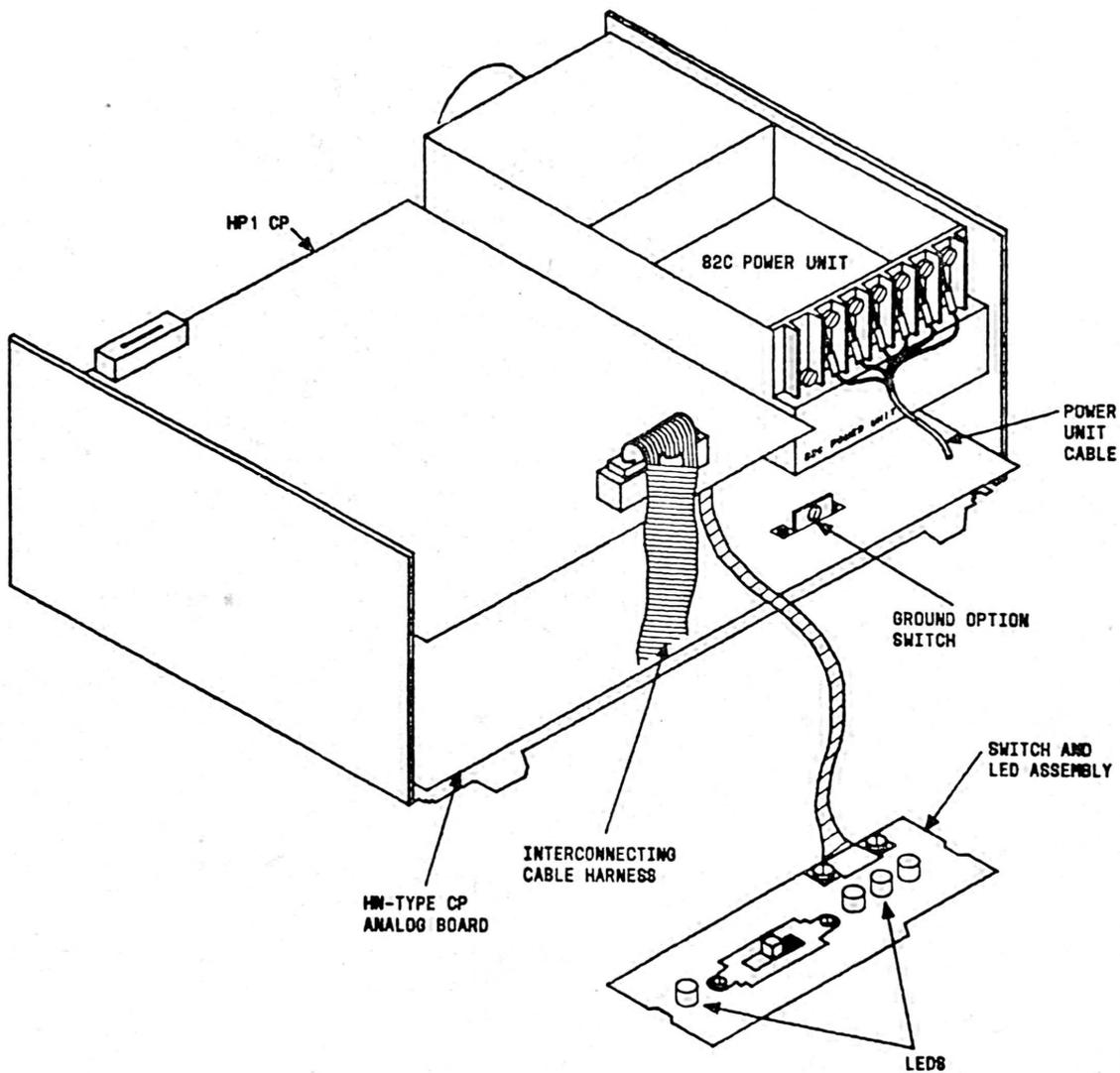


Fig. 4--500B-Type Data Service Unit--Front Internal View

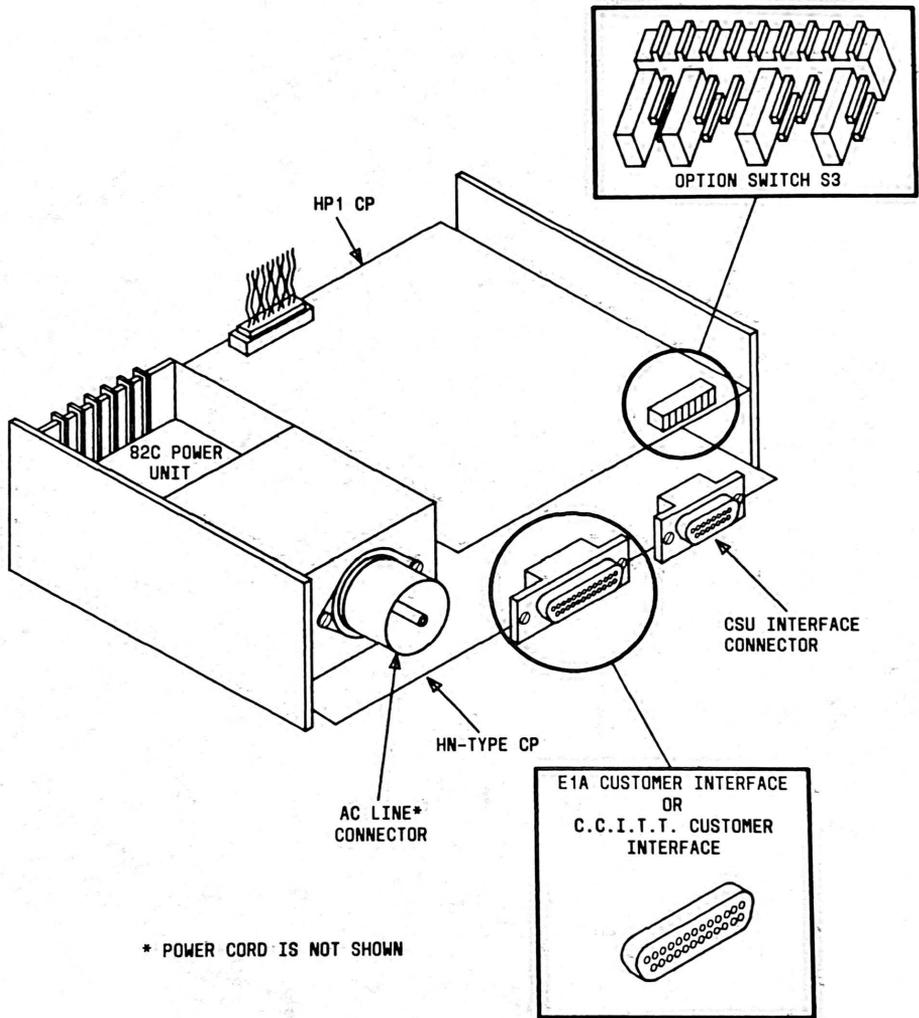


Fig. 5--500B-Type Data Service Unit--Rear Internal View

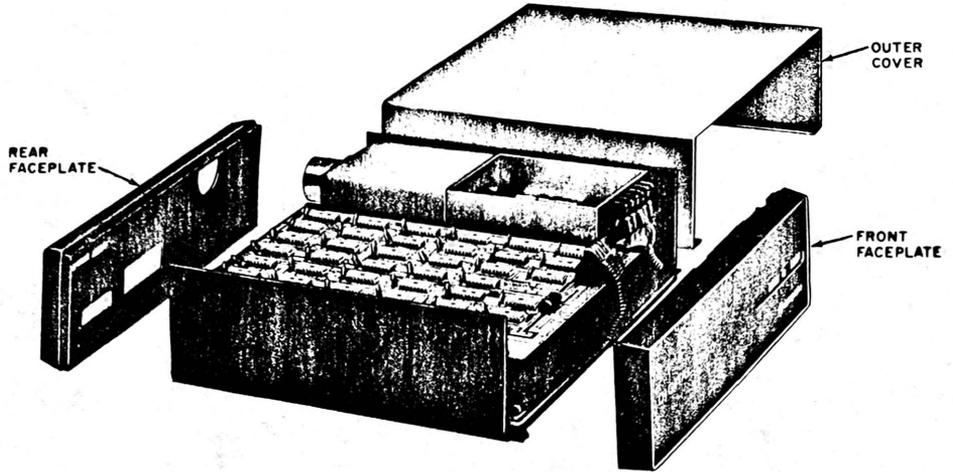


Fig. 6--500B-Type Data Service Unit--Exploded View

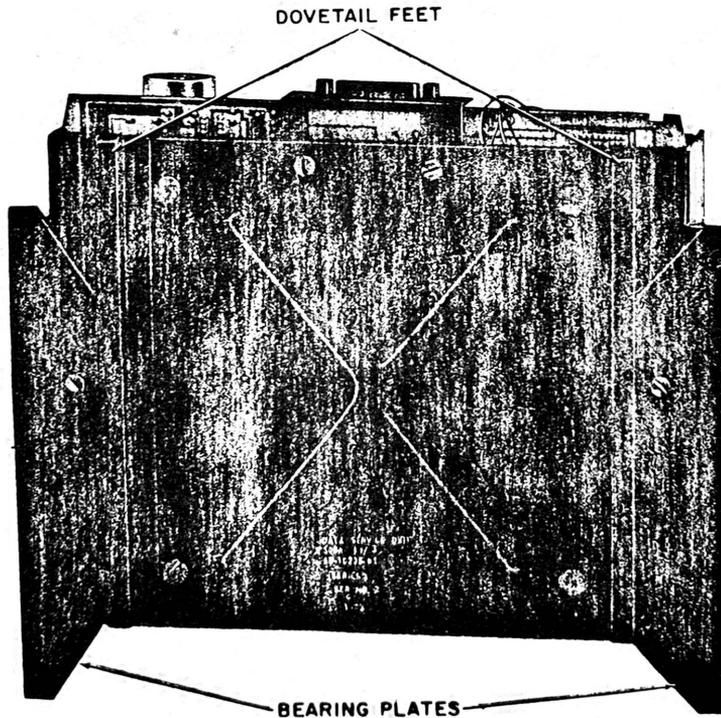
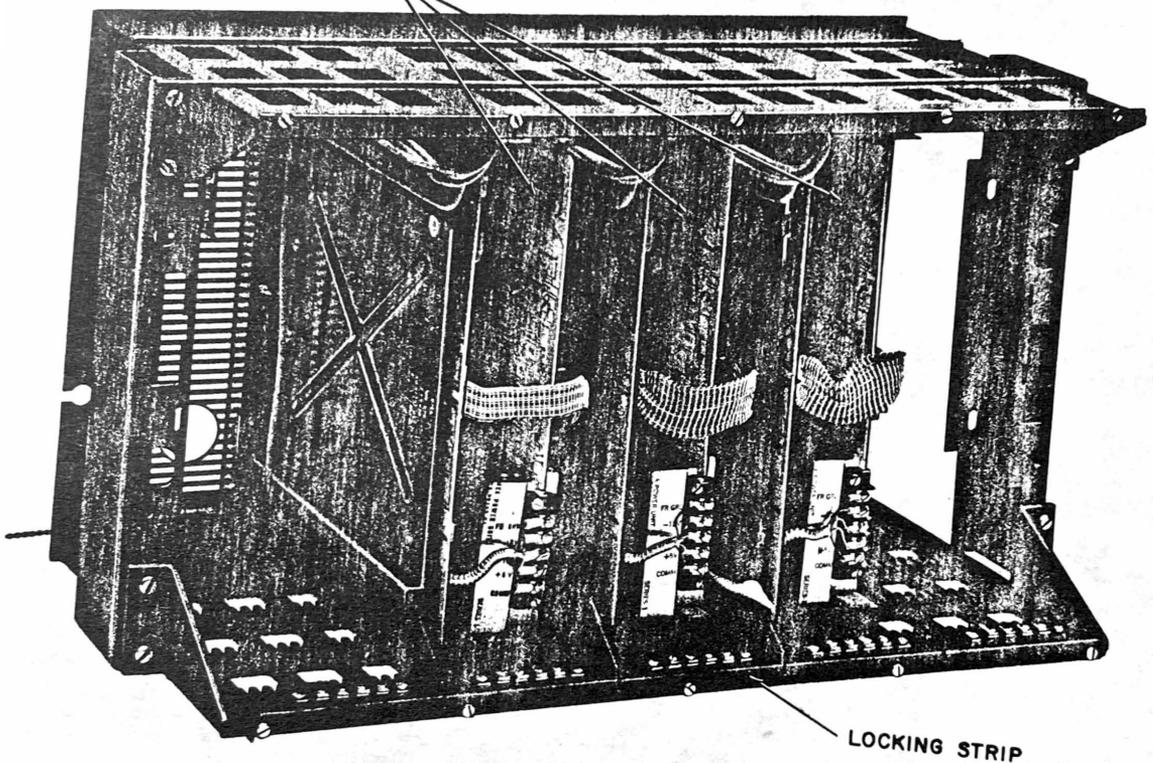


Fig. 7--500B-Type Data Service Unit--Under View Showing Bearing Plates

500B DSUs, 3 UNITS  
OF A POSSIBLE 5



LOCKING STRIP

Fig. 8--48A-Type Data Mounting--Rear View Showing Three 500B-Type DSUs Installed

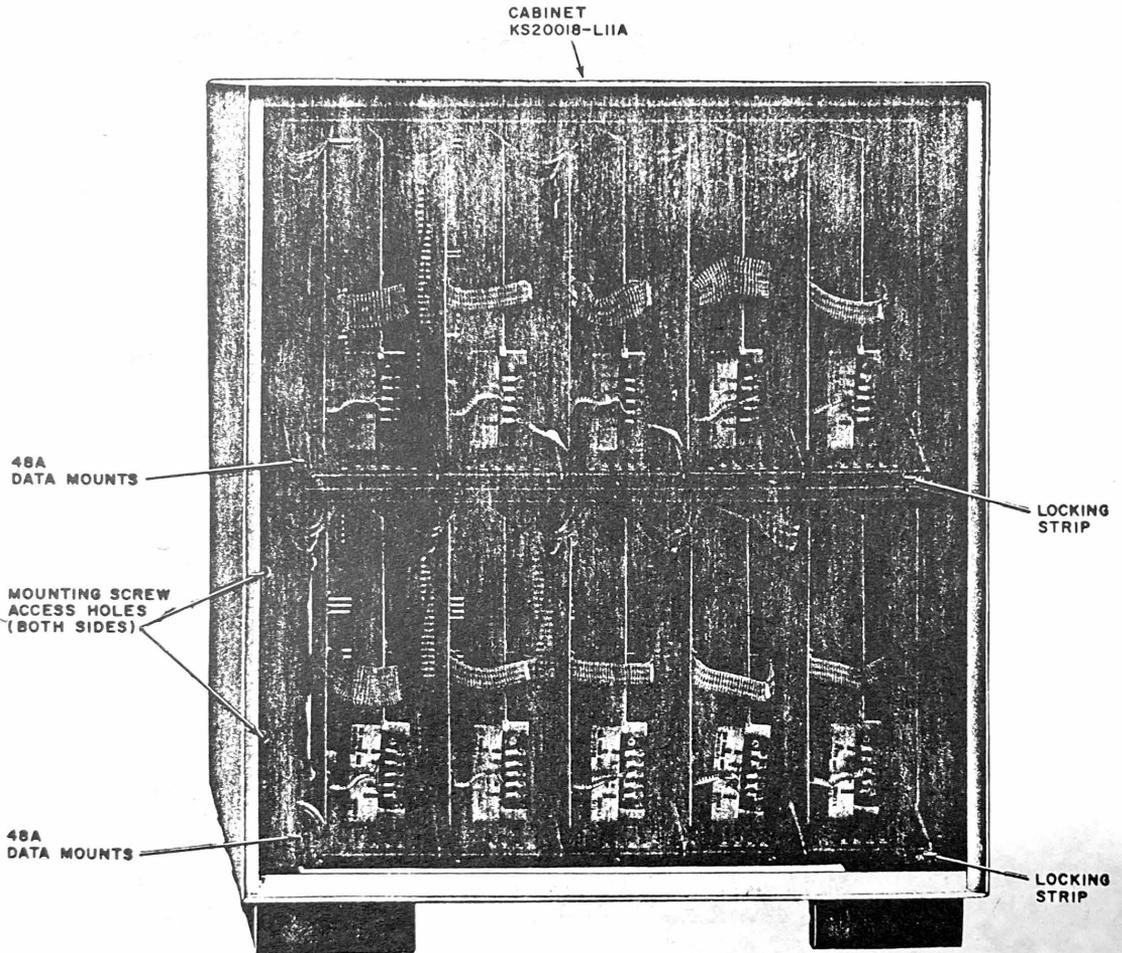


Fig. 9--Rear View--KS-20018-L11A Cabinet

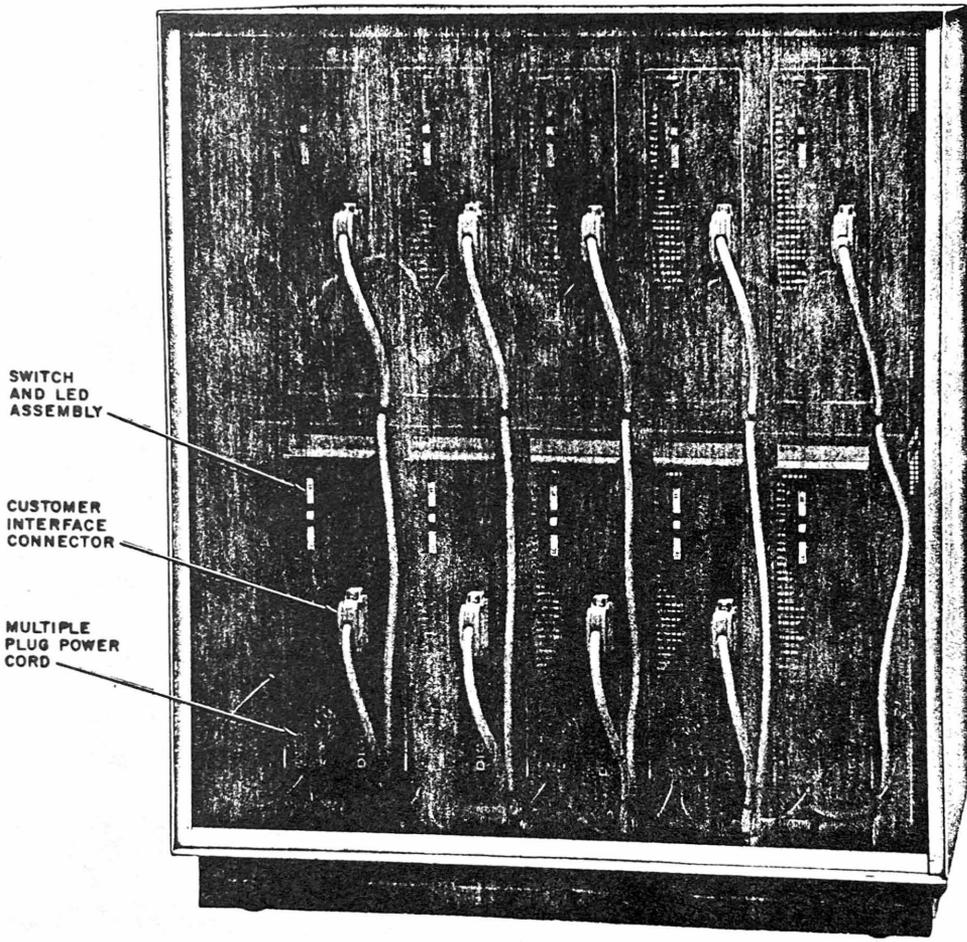


Fig. 10--Front View--KS-20018-111A Cabinet