27-TYPE DATA MOUNTING IDENTIFICATION

1. GENERAL

1.01 This practice provides information on the 27-type Data Mountings that are used as part of the type-3 low-voltage hub.

1.02 Three different data mountings are provided for use with the type-3 low-voltage hub. These are the 27A1 Data Mounting shown by Fig. 1, the 27B1 Data Mounting shown by Fig. 2, and the 27C1 Data Mounting shown by Fig. 3. All three mountings are designed to be mounted in either 23-inch or 25-inch racks. The data sets and other circuit packs are then inserted into the slots in the data mounting.

1.03 The data mountings are provided with rear connecting blocks which are intended to be used as a cross-connect field with the bay wiring. By using these connecting blocks plus the interconnections made on the nest and the plug-in assemblies, half-duplex, full-duplex, and back-to-back circuit arrangements can be made. Any nest position can be connected to any incoming line which makes a distribution frame unnecessary.

1.04 Completely wired bays for mounting up to either two or four data mountings can be provided. These bays include all the associated terminal strips, fuse alarms, etc, required in a typical installation (Fig. 4).

1.05 The data mountings used as part of the type-3 low-voltage hub (27A1, 27B1, 27C1) are multiposition, double-row mountings. The positions in the upper row are physically and electrically compatible to accept Data Sets 108D-L1, Data Sets 109G-L1, and hub circuit packs.

> ***Note:*** A 43B1 channel cannot be inserted into a data mounting; therefore, the baseband leads are connected to the hub via the J70173AB terminal strip. The baseband leads are then cross-connected to the required position in the data mounting. Connection of a 43B1 channel precludes the use of a data set in the position that the 43B1 channel is connected into although the space in the data mounting row is not physically occupied (see Fig. 5).

1.06 An AR432 bus circuit card is inserted in the lower row of the data mounting for each position used in the upper row. This card provides the required connections for each position used in the upper row. A bus circuit card must be provided for 43B1 channels although the upper-row position is not physically occupied by a card. The AR432 card also provides the required patch-monitor jacks and the TL lamp.

1.07 A typical arrangement of circuit packs for a half-duplex hub, back-to-back circuits, and a full-duplex hub are shown in a 27A1 Data Mounting (Fig. 5).

1.08 The 27B1 and 27C1 Data Mountings provide a test circuit that allows testing with a 911A transmission measuring set (TMS) or a teletypewriter (TTY). By patching in a teletypewriter or transmission measuring set, the following tests can be performed.

- In-service monitoring with either a TTY or TMS can be performed by using the data mounting MON jack and AR432 M jack of the leg to be tested.
- Testing of the leg when it has been removed from the hub is accomplished by use of the P jack and then connecting the leg to a TTY or TMS for sending, receiving, or loop-back testing. The jack associated with the SEND key permits the use of a TTY or TMS as a sending source and a TMS as a receiver.
- The hub circuit can be tested by using a TTY or TMS and patching the hub M jack to the HUB (TMS) or HUB (TTY) jack as required.

- When testing with a TTY, local copy printing of the position machine is obtained by operation of the LC key.

1.09 A channel alarm which indicates a carrier failure caused by facility or data set trouble is also provided. The alarm feature is obtained by multipling the CF1 leads of all data sets or 43B1 channels together and operating a common alarm circuit per bay. A visual bay alarm lamp and two relay contact closures for operating an optional office alarm are also provided. Associated with these contact closures is an alarm cutoff (ACO) relay which disables the office alarms. The ACO key and lamp are located on the 27B1 and 27C1 Data Mounting jack panel.

2. 27A1 Data Mounting

2.01 The 27A1 Data Mounting consists of an upper and lower row. Each row is equipped with 32 connectors to accept the printed circuit cards (see Fig. 1).

2.02 The upper row is designed to hold the data sets and hub circuit cards. The lower row is designed to hold the bus circuit cards (AR432 circuit pack) and strap cards (AR433 circuit pack). These cards are used to connect all the legs associated with a particular hub and also provide for connecting back-to-back pairs. Refer to Fig. 5 for a typical arrangement of circuit cards in a 27A1 Data Mounting.

2.03 The 32 connectors provided by the 27A1 Data Mounting are spaced to allow the mounting of single-width circuit packs. When a double-width circuit pack is used, such as the Data Set 108D-type, a correspondingly fewer number of circuit packs may be installed due to the space taken up by the double-width circuit packs.

3. 27B1 Data Mounting

3.01 The 27B1 Data Mounting consists of an upper row, a lower row, and a jack and key panel (see Fig. 2). This panel provides the necessary jacks and keys required to make monitoring and test connections.

3.02 The upper and lower rows are equipped with 26 connectors to accept printed circuit cards (Fig. 2). Upper positions 15 and 16 are reserved for a double-width circuit pack (AR460 test card circuit pack) mounted in position 15; therefore, 25 spaces are available in the upper row for data sets and hub circuit cards.

3.03 The lower row is designed to hold the bus circuit cards. These cards are used to connect all the legs associated with a particular hub and make back-to-back connections. A bus card (AR432 circuit pack) is required for each card in the upper row. When a 43B1 channel is provided in place of a data set, an AR432 circuit pack is required under the empty slot that the 43B1 is wired into.

3.04 The 26 connectors provided by the 27B1 Data Mounting are spaced to allow the mounting of single-width circuit packs. When a double-width circuit pack is used, such as the Data Set 108D or AR460 circuit pack, a correspondingly fewer number of circuit packs can be installed due to the space taken up by the double-width circuit packs.

3.05 The test circuit pack (AR460 circuit pack) is a double-width card that is mounted in position 15 and provides for hub and leg testing.

4. 27C1 Data Mounting

4.01 The 27C1 Data Mounting consists of an upper row, a lower row, and a jack and key panel (see Fig. 3). The key and jack panel is associated with the AR460 circuit pack to provide test capabilities for hub and leg testing.

4.02 The upper and lower rows are equipped with 15 connectors to accept printed circuit cards (Fig. 3). Position 15 is reserved for a double-width circuit pack (AR460 circuit pack); therefore, 14 spaces are available in the upper row for data sets and hub circuit cards.

4.03 The lower row is designed to hold the bus circuit cards. These cards are used to connect all of the legs associated with a particular hub and make back-to-back connections. A bus card (AR432 circuit pack) is required for each card in the upper row. When a 43B1 channel is provided in place of a data set, a bus card is required under the empty slot that the 43B1 is wired into.

4.04 The 15 connectors provided by the 27C1 Data Mounting are spaced to allow the mounting of single-width circuit packs. When a double-width circuit pack is used, such as Data Set

108D, a correspondingly fewer number of circuit packs can be installed due to the space taken up by the double width-circuit packs.

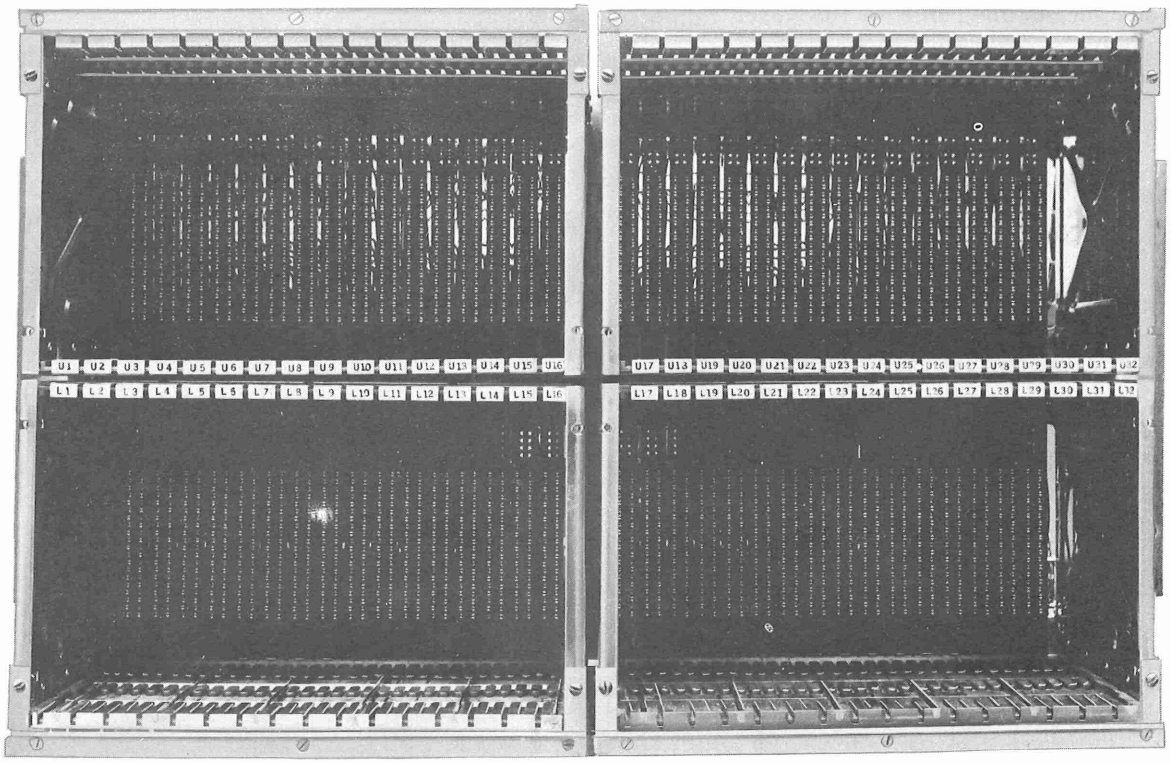
4.05 The 27C1 Data Mounting provides space for mounting two KS-20575 rectifiers. These rectifiers are used where no dc power source is available and ac operation is necessary.

4.06 One KS-20575 rectifier will provide power for 14 upper row positions and the test card or 1 complete 27C1 Data Mounting. A KS-20575 rectifier can also be used to power a 27B1 Data Mounting or up to 25 positions in a 27A1 Data Mounting.

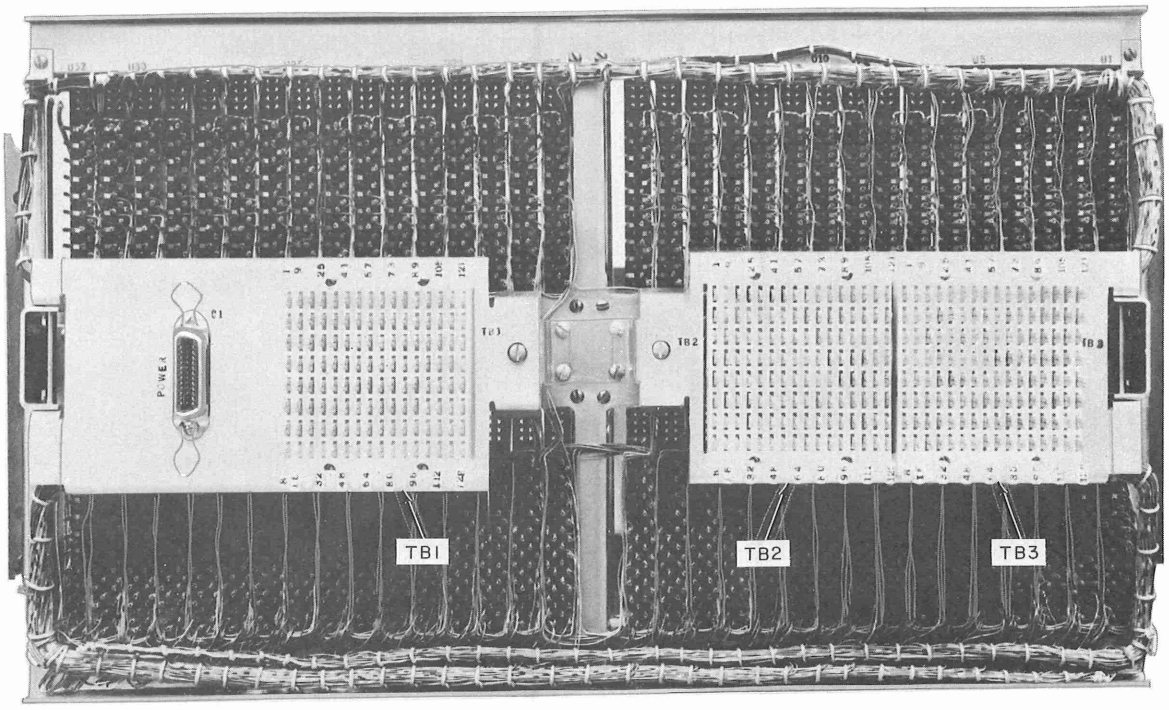
5. REFERENCES

5.01 For additional information on the type-3 low-voltage hub and associated data mountings, refer to the following documents:

- SD-73059-01
- CD-73059-01
- BSPs on the Type-3 Low-Voltage Hub (312-807-Series)
- Type-3 Low-Voltage Hub Equipment Design Requirements (Section 807-401-153)
- Interbay Cabling Plan ED 73392.

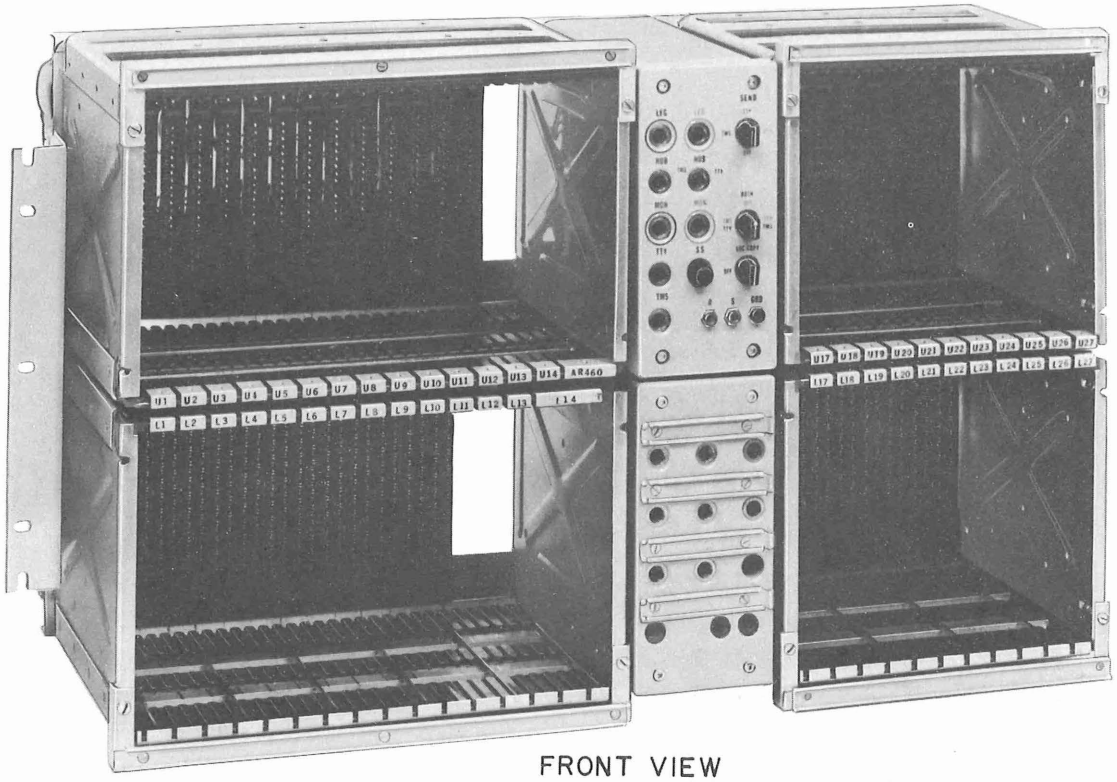


FRONT VIEW

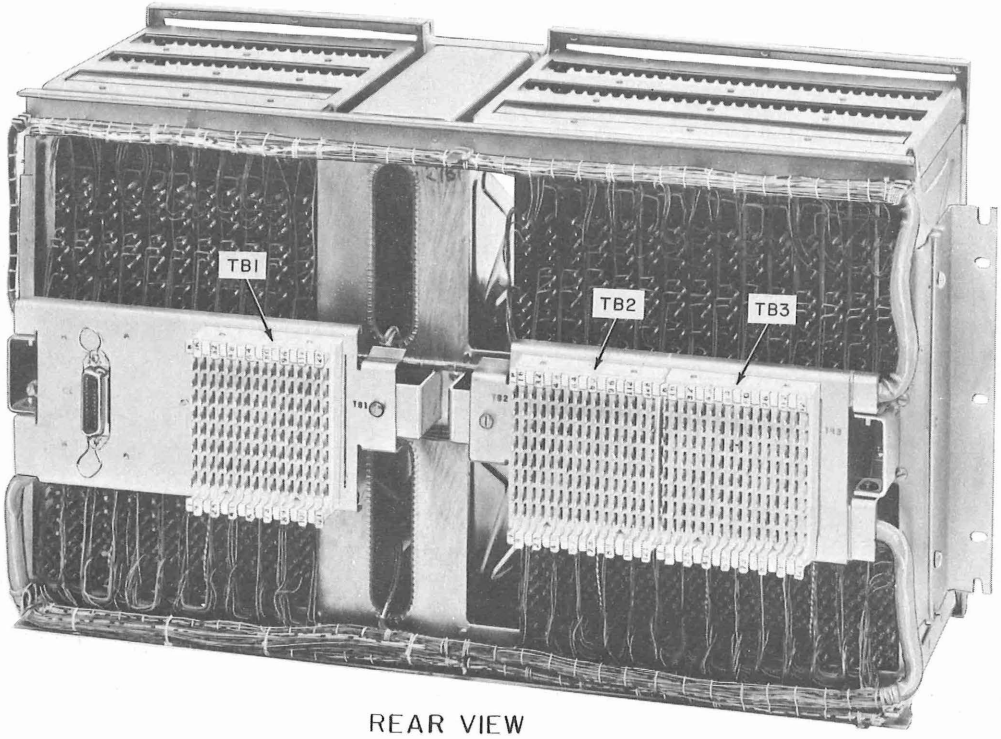


REAR VIEW

Fig. 1—27A1 Data Mounting

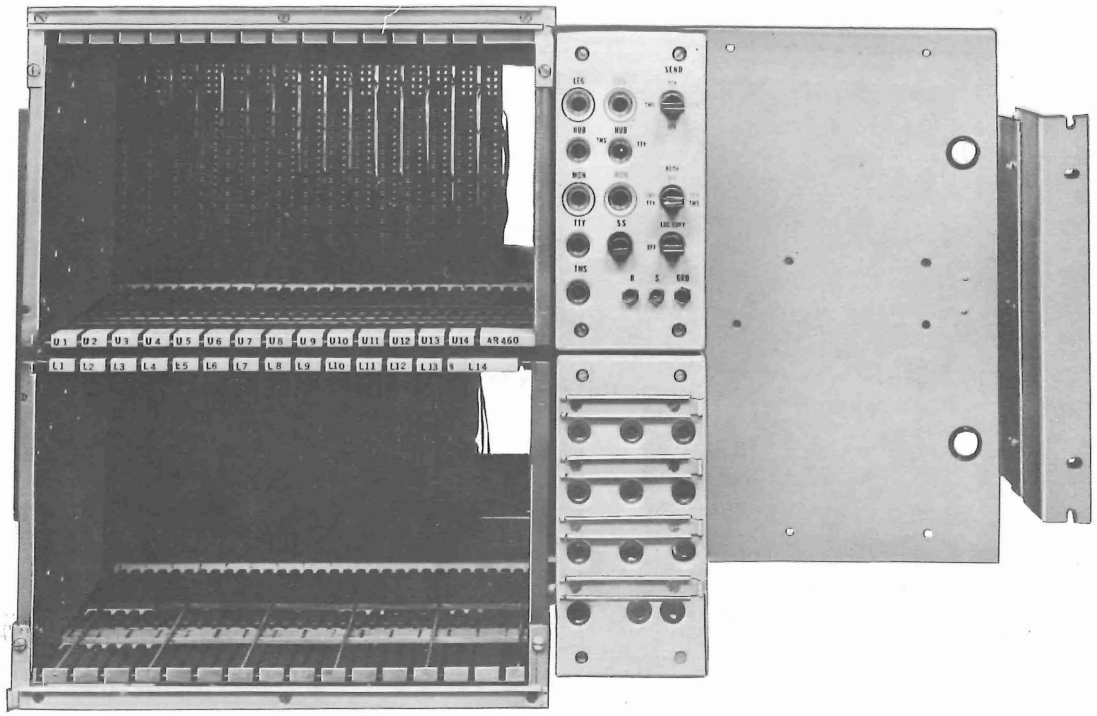


FRONT VIEW

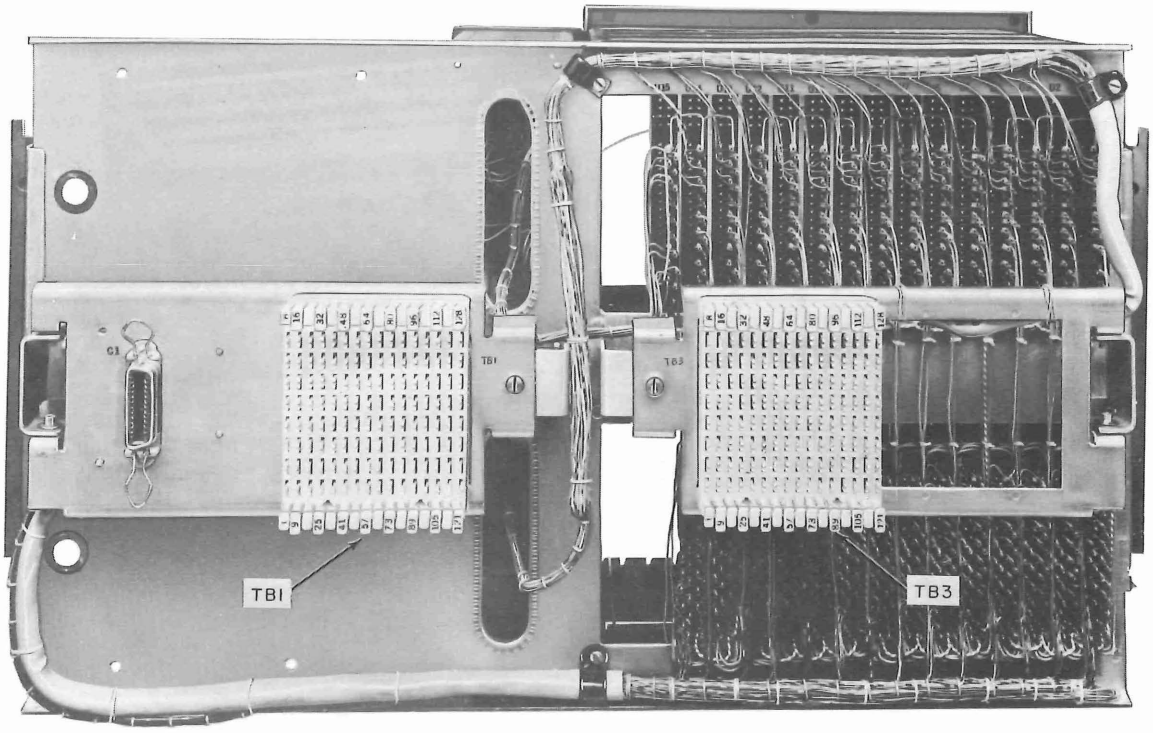


REAR VIEW

Fig. 2—27B1 Data Mounting



FRONT VIEW



REAR VIEW

Fig. 3—27C1 Data Mounting

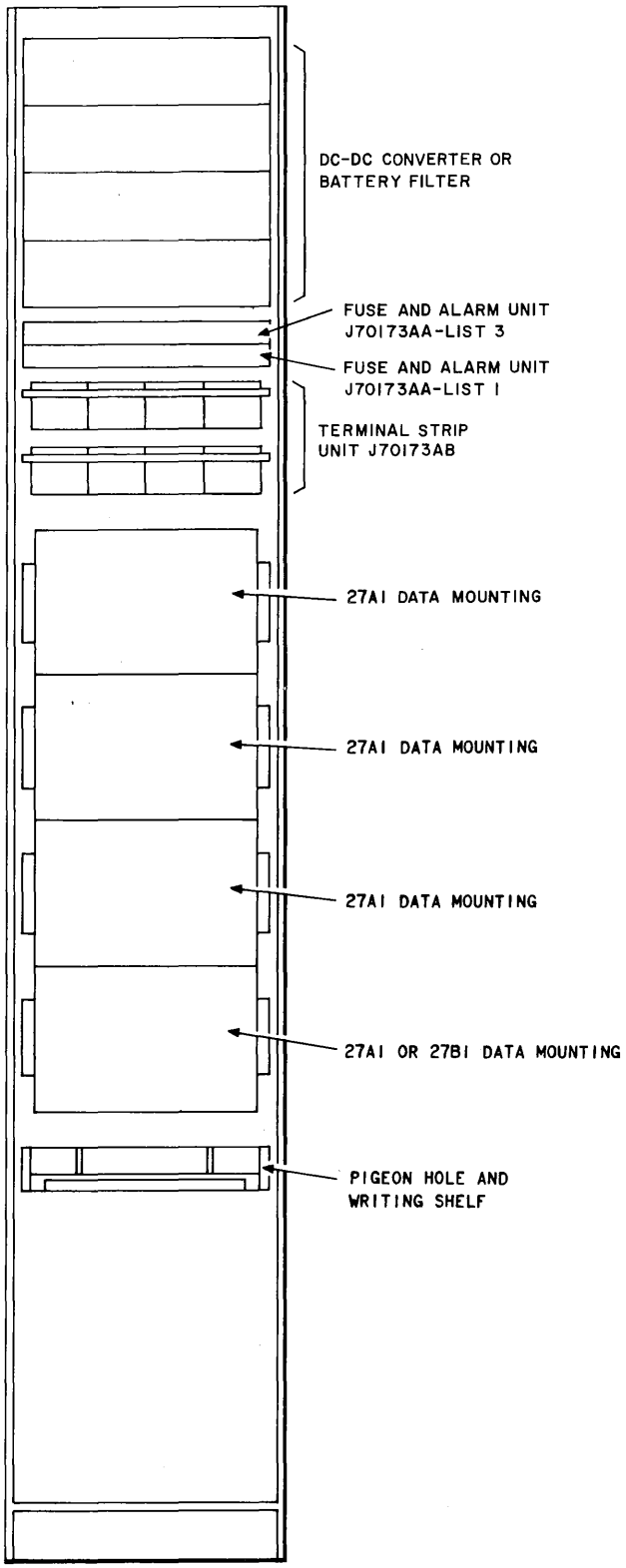
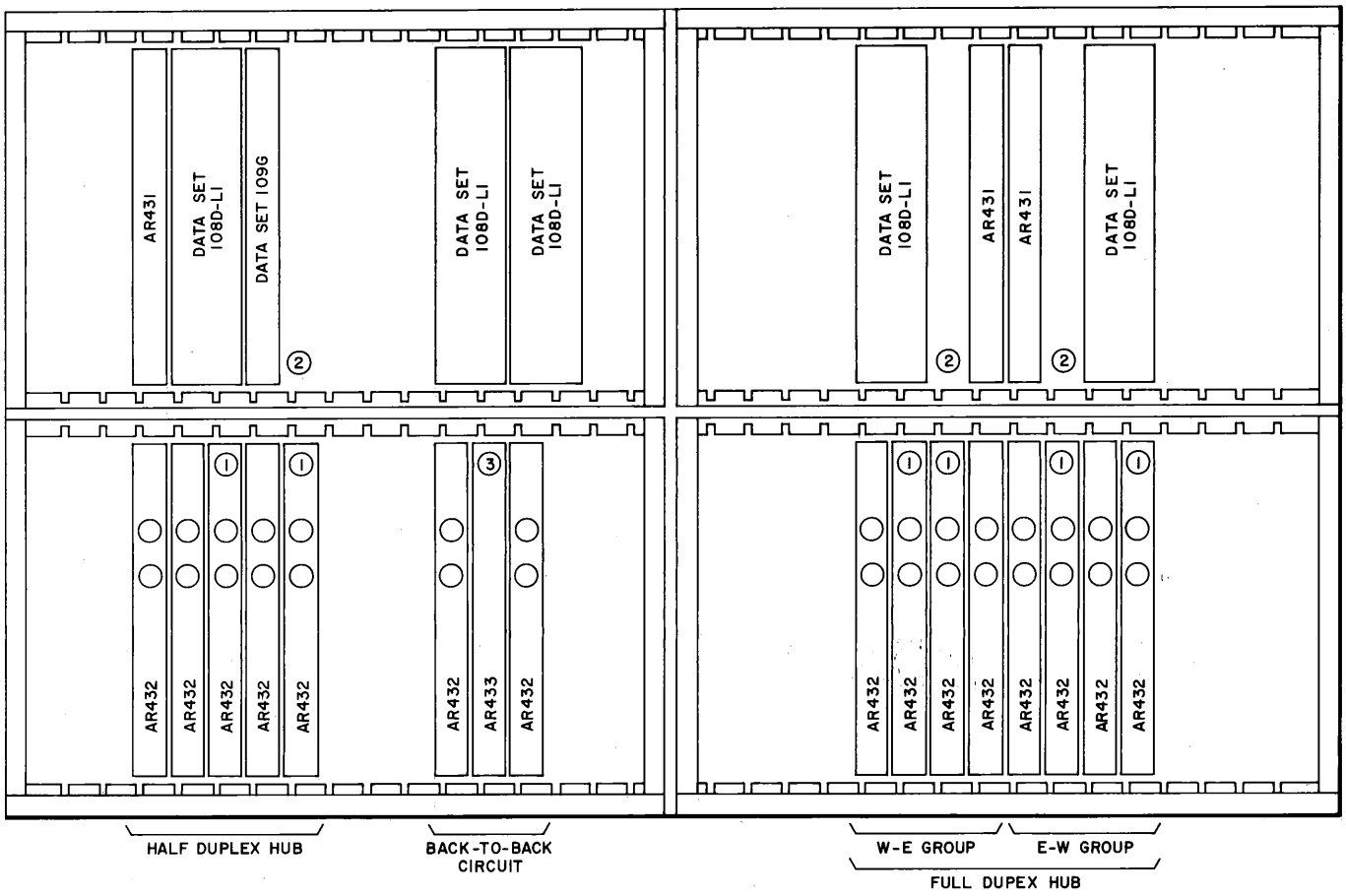


Fig. 4—Typical Type-3 Low-Voltage Hub Mounting Arrangement



(1) 43BI CHANNEL TERMINAL (LOCATED EXTERNALLY) WIRED TO THESE POSITIONS.

(2) THIS POSITION CANNOT BE EQUIPPED WHEN 43BI CHANNEL IS WIRED TO POSITION DIRECTLY BELOW IT.

(3) THIS CIRCUIT PACK IS REQUIRED ONLY WHEN A DOUBLE WIDTH DATA SET, ON THE LEFT SIDE OF A PAIR USED IN BACK-TO-BACK SERVICE, CAUSES A VACANT SPACE IN THE LOWER NEST. THE AR 433 CARD PROVIDES LOWER NEST CONTINUITY.

Fig. 5—27A1 Data Mounting Showing a Typical Arrangement of Circuit Packs for Half-Duplex, Full-Duplex, and Back-to-Back Service