

“DMS-1*” DIGITAL MULTIPLEX SYSTEM
J7209C POWER BAY
BATTERY INSTALLATION

1. GENERAL

1.01 This section contains procedures for:

- (a) installing batteries in a DMS-1 power bay (Chart 1);
- (b) adding battery shelves and batteries to increase the backup capacity of an operating power bay (Chart 2).

1.02 *Reason for Reissue:* to add new and revised information. Since this is a general revision, changes are not marked by margin arrows.

REFERENCE

1.03 Detailed descriptions of the power bay, including the battery shelves and batteries, are in 363-2011-104.

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**CHART 1
INSTALLING BATTERIES**

This procedure is intended for use primarily during initial installation of a power bay. It may, however, be used at any time.

Caution: A current-limiting resistance must be used in series with the batteries when the batteries are first connected to the J2357E rectifier. The resistance is needed to limit the initial charging current from the batteries to the output filter capacitor on the rectifier. Steps 4 and 5 are a convenient method for connecting the required resistance.

APPARATUS:

- 1 Digital Voltmeter; with
 - 4 1/2-digit display
 - input impedance: $\geq 1 \text{ M}\Omega$
 - accuracy: 0.1 percent minimum

Example: John Fluke 8100A or 8040A

- 1 25- or 40-W, 115-V incandescent lamp in a holder with clip-on leads.

STEP	PROCEDURE
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| 1 | Open the front cover of the J2357E rectifier by unscrewing the screw latch on the cover (Fig. 1). |
| 2 | Ensure that the secondary taps of the power transformer (terminal block mounted at the left rear side of the rectifier) are connected as follows: |

PRIMARY INPUT VOLTAGE OPTION	SECONDARY TAPS
Z	Y X
100	200 5 and 8
105	210 5 and 7
110	220 5 and 7
120	240 5 and 6

- | | |
|---|---|
| 3 | Check that the ac supply is correctly connected to the rectifier terminal block 1 (Fig. 2). |
| 4 | On the panel in the lower part of the rectifier, remove the fuse from the F1 fuseholder (Fig. 1); and remove the 1-1/3 A fuse (CHG ALM) from the faceplate. |
| 5 | Connect a 25- or 40-W lamp across the terminals of the F1 fuseholder. |

Chart Continued

**CHART 1 Continued
INSTALLING BATTERIES**

STEP	PROCEDURE
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| 6 | Measure the battery-terminal voltage for each battery to be installed. |
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Requirement: The voltage must be between 12 and 13 volts.

If the requirement is not met, replace the battery.

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| 7 | Mount the batteries on the battery shelf. |
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| 8 | Refer to Fig. 3, and in the sequence indicated (1 through 8), connect the batteries by pushing the shelf wiring connectors securely onto the terminals on the batteries. |
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| 9 | After the battery connections are complete, wait until the lamp connected across the rectifier output fuseholder has ceased to glow. (It may light and glow briefly as the last battery connection is being completed.) |
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| 10 | Taking care not to disturb the lamp connections, replace the fuse in the F1 fuseholder inside the rectifier and the CHG ALM fuse on the faceplate. |
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| 11 | Remove the lamp connections, and close the rectifier cover. |
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The installation of the batteries is now complete.

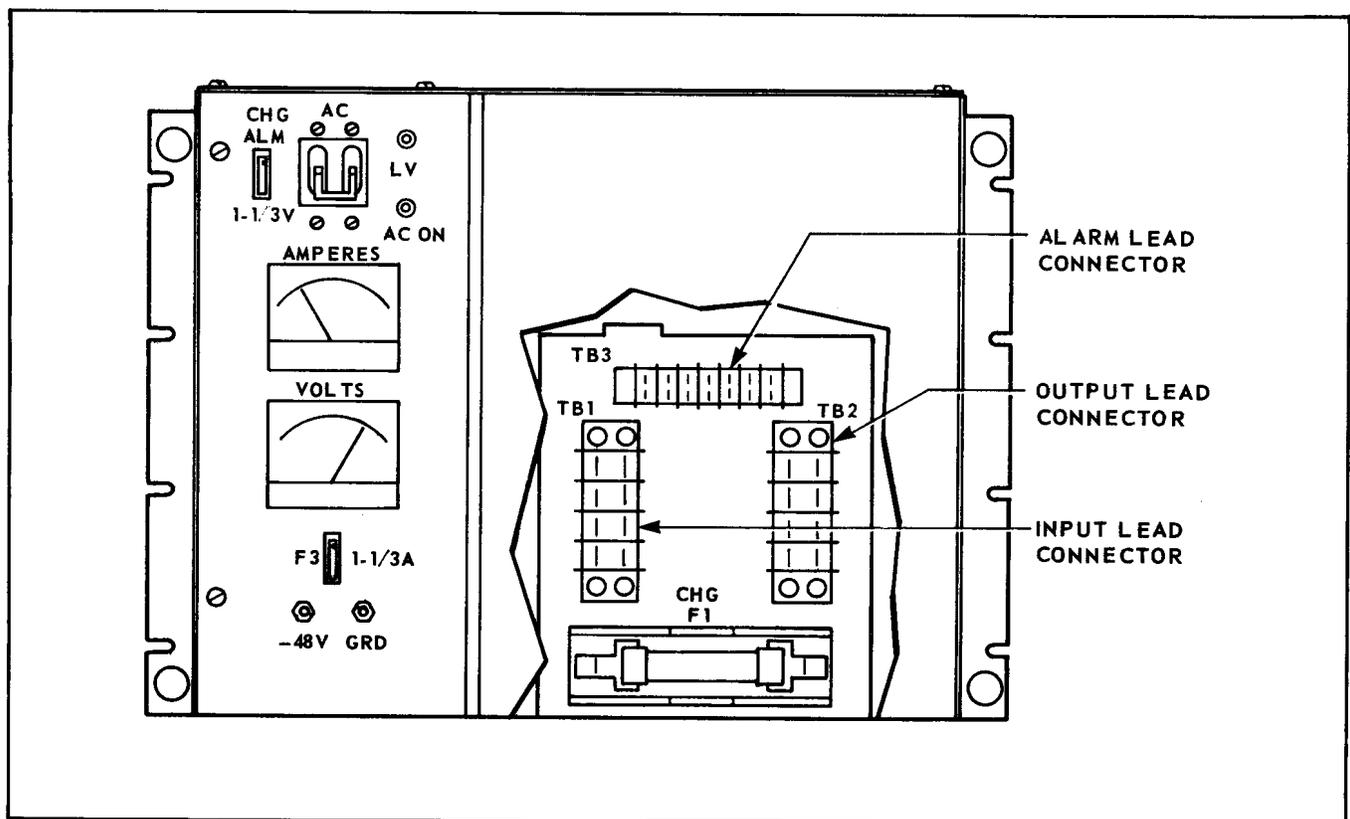


Fig. 1 — J2357E Rectifier

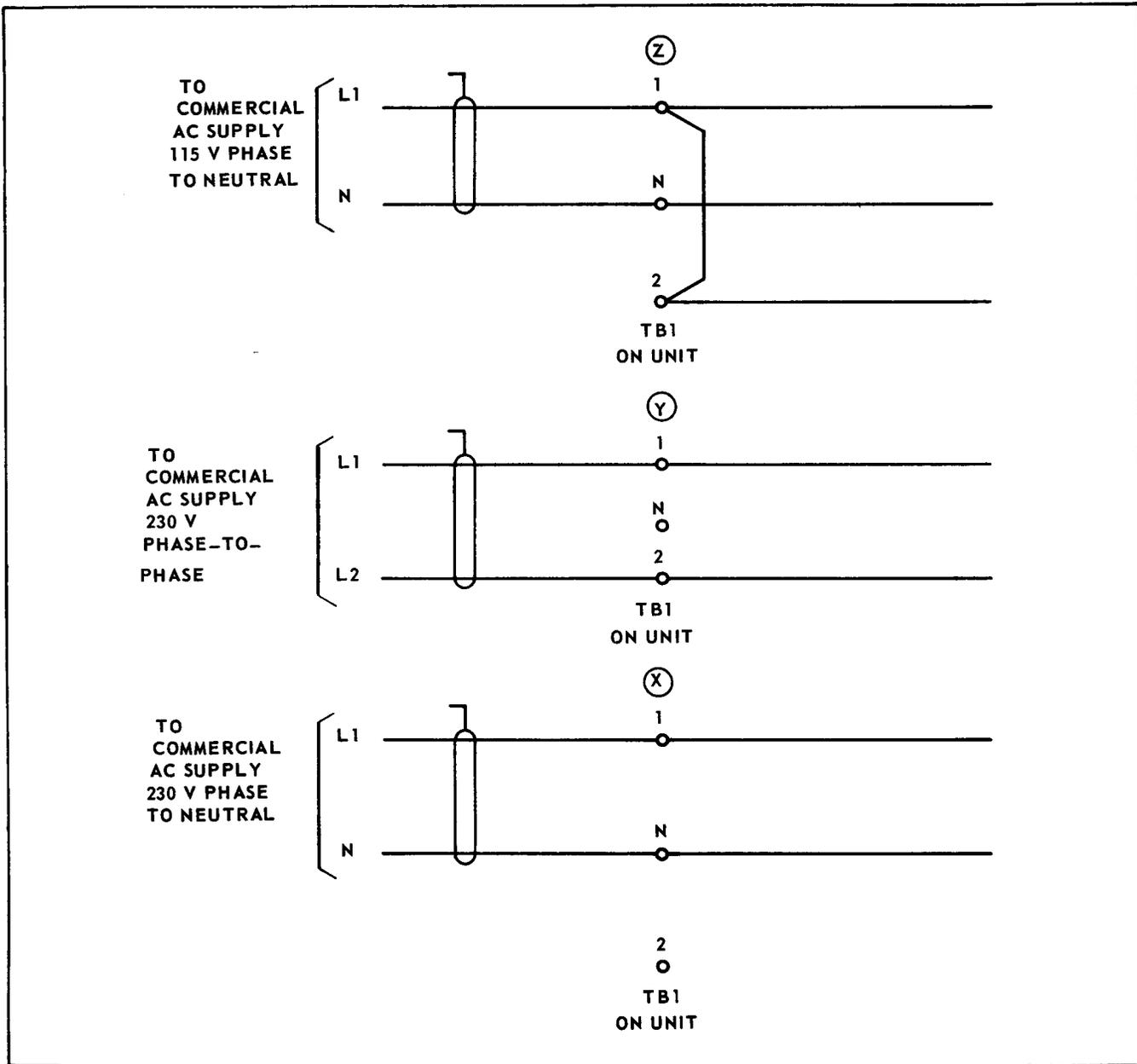


Fig. 2 — AC Supply Connection to Rectifier Terminal Block 1 (TB1)

CHART 2
ADDING A BATTERY SHELF TO A WORKING BAY

Caution: Take particular care to check and observe correct polarities when making connections to the new batteries. See Fig. 3.

APPARATUS:

- 1 25- or 40-W, 115-V incandescent lamp in a holder with clip-on leads.
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STEP	PROCEDURE
<p><i>Note:</i> A new battery shelf is always added below existing battery shelves in an operating power bay. Thus, to clear space for installing a new shelf, remove all wiring connections between the backup J2357E rectifier (if installed) and the lowest existing battery shelf (Step 1).</p>	
1	<p>Switch off the backup J2357E rectifier (if installed), and disconnect, from the lowest battery shelf only, the wires connecting the shelf to the rectifier (one heavy RED [−48 V], one heavy BLACK [GRD], and two light-gauge wires + and − sensing).</p> <p>Tape or otherwise insulate each wire as it is removed to prevent it from shorting on battery connections.</p>
2	<p>Mount the new battery shelf or shelves on the bay frame at the desired locations below the existing shelves.</p>
3	<p>Using the interconnecting wires provided with the shelves, connect each new battery shelf to the shelf immediately above.</p>
4	<p>Mount the new batteries on the new shelves.</p>
5	<p>Refer to Fig. 3, and in the sequence indicated (1 through 8), connect the batteries by pushing the shelf wiring connectors firmly onto the terminals on the batteries.</p> <p><i>Note:</i> If a backup rectifier is installed in the power bay, continue with Step 6; otherwise, installation of the shelves and batteries is complete.</p>
6	<p>Open the cover of the backup rectifier, and remove the fuse from the F1 fuseholder (Fig. 1); and the 1-1/3 A (CHG ALM) fuse from the fuseholder on the faceplate.</p> <p style="text-align: center;">WARNING: 115 or 230 V ac IS PRESENT ON THE LEFT-HAND TERMINAL BLOCK INSIDE THE RECTIFIER.</p>

Chart Continued

CHART 2 Continued
ADDING A BATTERY SHELF TO A WORKING BAY

STEP	PROCEDURE
7	Connect a 25- or 40-W lamp across the terminals of the F1 fuseholder.
8	Using the connecting leads disconnected at Step 1, connect the backup rectifier to the lowest of the new battery shelves.
	<i>Note:</i> As the connections are completed, the lamp across the F1 fuseholder may glow and then gradually fade out.
9	Wait until the lamp connected across the F1 fuseholder ceases to glow.
10	Without disturbing the lamp connections, replace the fuse in the F1 fuseholder; and the 1-1/3 A (CHG ALM) fuse on the faceplate.
11	Remove the lamp connections, and close the rectifier cover.
12	Switch on the backup rectifier.

Installation of the new battery shelf and batteries is now complete.

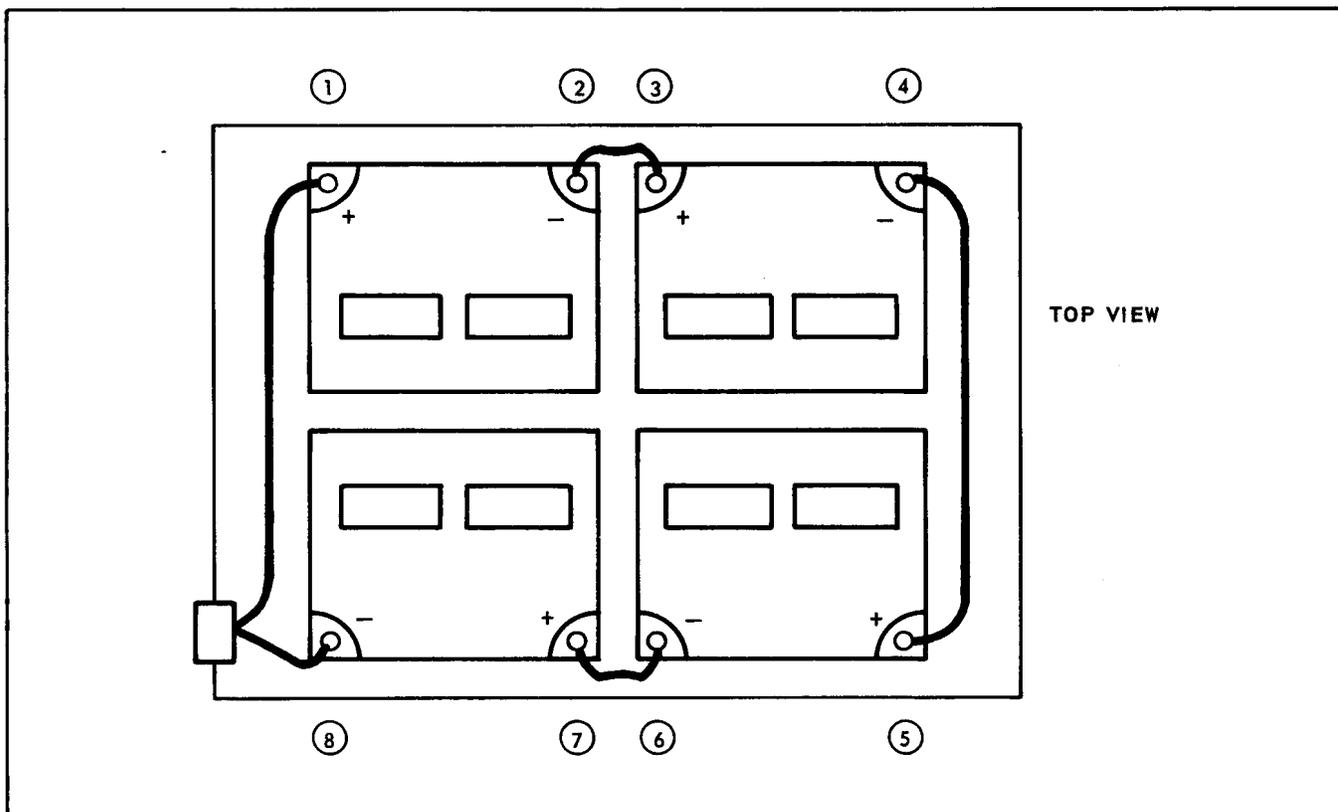


Fig. 3 — Battery Cable Connecting Sequence