"DMS-1* DIGITAL MULTIPLEX SYSTEM

J7209C POWER BAY

INITIAL ADJUSTMENTS

1. GENERAL

1.01 This section contains procedures for adjusting the output voltage and the current limits of the rectifiers in the power bay. The procedures must be carried out in the sequence given in the chart.

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

REFERENCES

1.03 For details of the J7209C power bay, refer to the following sections:

363-2011-104 Description

363-2011-201 Bay Installation

363-2011-207 Battery Installation.

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CHART 1
POWER BAY ADJUSTMENT

The procedures in this chart are done with the power bay out of service.

Note: This procedure adjusts the power output of the J2357E Rectifier in the DMS-1 Power Bay specifically for DMS-1 operation. For full details of the J2357E rectifier itself refer to 169-2191-200.

APPARATUS:

1 Digital Voltmeter; with

- 4 1/2-digit display, minimum
- input impedance: $\geqslant$1 megohm
- accuracy: better than 0.1 percent.

Example: John Fluke 8100A or 8040A.

STEP	PROCEDURE

INITIAL SETTING OF CURRENT LIMIT

1 Ensure that each J2357E rectifier is turned off. The rectifier is off when:

(a) the ON/OFF circuit breaker handle is in the down position (see Fig. 1),

(b) the AC indicator lamp is off.

Caution: Voltages of 115 or 230 V 60 Hz, and 48 V dc, are present on the terminal blocks inside the rectifier (Fig. 1).

2 Open the top rectifier front panel by unscrewing the fastener and swinging the panel open (Fig. 1).

3 Determine the initial current-limit setting of the rectifier as follows:

(a) count the number of battery shelves installed and equipped with batteries (one set of four batteries per shelf);

(b) multiply the number of equipped shelves by 3 A; that is ([number of equipped battery shelves] $\times$ 3 A). The product is the initial current limit in amperes.

Example: If five battery shelves are installed and equipped with batteries, the initial current limit is 5 $\times$ 3 A = 15 A.

4 On the QPY353 circuit pack (on the inside of the rectifier front panel Fig. 1), move the jumper-wire connector to the terminal marked with the number nearest to the initial current limit, calculated at Step 3.

Example: For the example in Step 3, move the jumper-wire connector to terminal 15. Record the setting for use at Steps 10, 15, and 16.

Note: This setting limits charging of the batteries to not more than 3 A per set of four batteries while the output voltage is being adjusted.

Chart Continued

CHART 1 Continued
POWER BAY ADJUSTMENT

STEP	PROCEDURE

OUTPUT VOLTAGE ADJUSTMENT

5 Ensure that the current limit setting has been adjusted using Steps 1 through 4.

6 On the ED2357-30 G21 circuit pack (Fig. 1), locate the VOLT ADJ potentiometer and turn the adjustment screw fully counterclockwise.

Caution: Do not adjust any other control on the ED2357-30 G21 circuit pack.

7 If the power bay output is connected to an RCT bay, remove all fuses from the RCT fuse panel.

8 On the J2357E rectifier in the power bay, switch on the ON/OFF circuit breaker (handle to the up position) on the first rectifier.

Requirement 1: The AC ON lamp on the J2357E rectifier lights up.

Requirement 2: The rectifier VOLTS meter indicates between −44 and −56 V.

Note: There is a 10-second delay on initial turn-on of the rectifier before the output voltage settles to its steady-state value. Wait 15 seconds before proceeding to Step 9.

9 On the voltmeter, select the 100-V scale and connect the meter to the −48 V and GRD pin jacks on the front panel of the rectifier.

Caution: While adjusting the output voltage at Step 10, observe the AMPERES meter on the rectifier front panel. If the current reading exceeds the limit set at Step 4, stop adjusting the voltage until the reading has fallen to about half of this value.

10 On the ED2357-30 G21 circuit pack, adjust the VOLT ADJ control slowly clockwise until a reading of 55 V is indicated on the voltmeter.

11 Remove the voltmeter test connections.

FINAL CURRENT LIMIT ADJUSTMENT

12 Verify that Steps 1 through 11 are completed.

13 Read the indication on the AMPERE meter on the front panel of the rectifier.

Requirement: A reading of <1 A.

If the reading is more than one ampere, the batteries may have been discharged. If the current is still >1 A after 20 hours, refer to 363-~~20~~11-500 Part 4 to locate the fault.

14 If a second rectifier is installed, turn off the first rectifier, and repeat Steps 1 through 13 for the second rectifier. In Step 4, connect the current limit jumper to the same terminal as the one in the first rectifier.

Chart Continued

CHART 1 Continued
POWER BAY ADJUSTMENT

STEP	PROCEDURE
15	Reinstall the fuses removed at Step 7 on the RCT fuse panel.
16	Note the reading on the AMPERE meter on the rectifier. ***Requirement:*** A reading at least 3 A less than the current limit set at Step 4. ***Example:*** Using the example in Step 4, the reading at Step 16 must be less than 12 A. If the requirement is not met, (a) switch off the rectifier (ON/OFF circuit breaker handle to the down position), (b) on the QPY353 circuit pack move the current limit jumper from the position set at Step 4 to the next higher current setting.
17	Determine the final current limit setting from the following formula: Final current limit = (reading at Step 16) + (current limit setting from Step 4). ***Example:*** If reading at Step 16 is 6.5 A, and jumper is set to 15 at Step 4, then final current limit = 6.5 + 15 = 21.5 A.
18	Switch off the rectifier (ON/OFF circuit breaker handle to the down position).
19	On the QPY353 circuit pack (Fig. 1) move the current-limit jumper to the terminal marked with the number next highest to the value calculated at Step 17. ***Example:*** To the terminal marked 22 in the example given.
20	Close the rectifier front panel.
21	If the second rectifier is installed, switch on the first rectifier and repeat Steps 16 through 20. If the second rectifier is not installed, go to Step 22. *Note:* The current limit setting must be the same for each rectifier. If it is not, reconnect each rectifier current limit jumpers to the higher of the two settings. ***Example:*** If one rectifier was set at 22 A and the other at 25 A, reconnect the first jumper to terminal 25.
22	Switch on each rectifier (ON/OFF circuit breaker handle to the up position). *Note:* It is normal for one rectifier to carry the full load and the other rectifier to indicate 0 A. Do not attempt to readjust the output voltage for equal load sharing. Adjustment of the DMS-1 power bay output is completed.

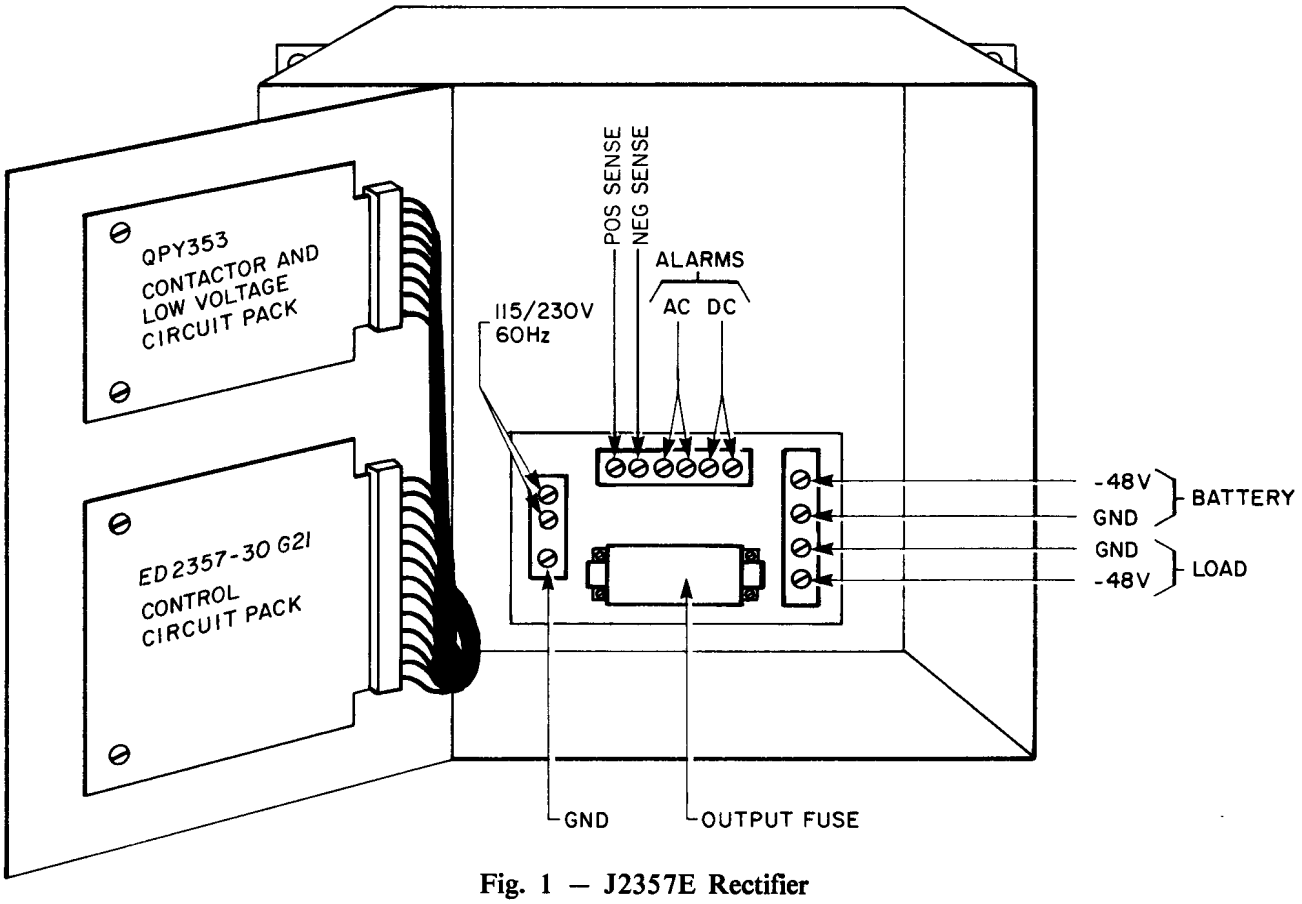

Fig. 1 — J2357E Rectifier