

**Purpose:** Checking Voltage Levels on the 1822 Controller

**System:** MPMS

## Introduction

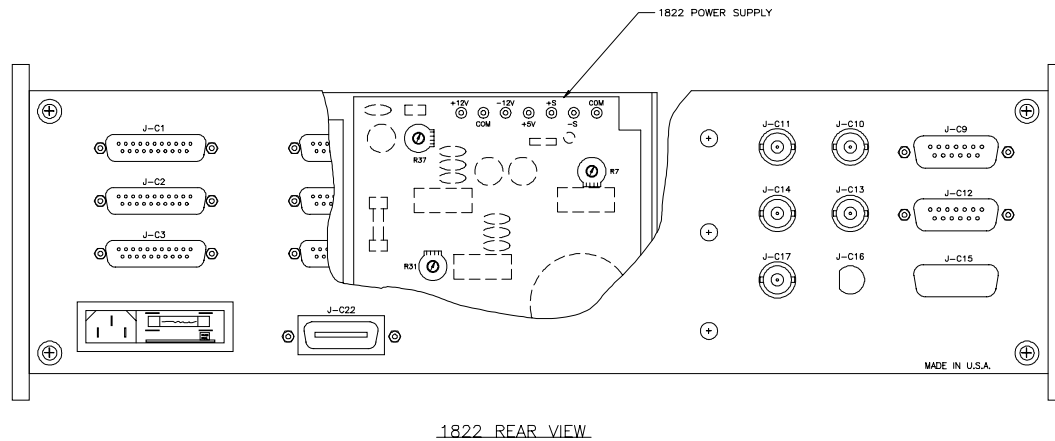
During troubleshooting, it may be necessary to check that correct voltages are being delivered to subsystems. Symptoms such as loss of bus communication can be caused by a faulty +5V line on the 1822 controller. Other symptoms involve the relays on the TC relay board that are engaged through the +/- 12V line on the 1822 controller. The relays are associated with the heater protection, oven or gas heater, the proportional valve, and the chamber heater.

## Procedure

1. Turn off the 1822 MPMS controller.
2. Remove the cables from the rear panel of the 1822 controller.
3. Remove the four mounting screws from the front of the 1822 controller.
4. Remove the 1822 controller from the cabinet console by pulling it out through the front of the cabinet.
5. Place the 1822 controller on a bench, and plug it into a 110 volt outlet.

**Note:** For 220V systems, the power cord may be connected to the Power Distribution Unit (PDU) in the cabinet console. Place the 1822 controller on a chair and access the PDU from the back of the cabinet.

6. Locate the power supply (**Figure 1**) inside the 1822. It is approximately 5 inches (13 cm) from the rear panel toward the center of the 1822.



**Figure 1** 1822 Controller, rear view showing the location of the power supply and voltage test points.

7. Measure the following voltage on the +/- 12V and + 5V posts.
  - a) Use the COM post between the +/- 12V for their return and the COM post at the one end for the + 5V return.
  - b) The voltage on the +/- 12V post should read +/- 15V.
  - c) All voltages must be within +/- 0.1V tolerance.

If the voltage readings are not within the 0.1V tolerance, contact your Quantum Design Service representative before reinstalling the 1822 controller as further testing or work may be required on the unit.

### Restore the System

1. Reinstall the 1822 controller into the cabinet console.
2. Install the four mounting screws.
3. Reconnect all cables.
4. Turn on the 1822 MPMS controller.