

Figure 18A. Location of main board adjustments.

ADJUSTMENTS

This unit was accurately adjusted at the factory before shipment. Readjustment is recommended only if repairs have been made in a circuit affecting adjustment accuracy, or if you have a reason to believe the unit is out of adjustment. However, adjustments should be attempted only if

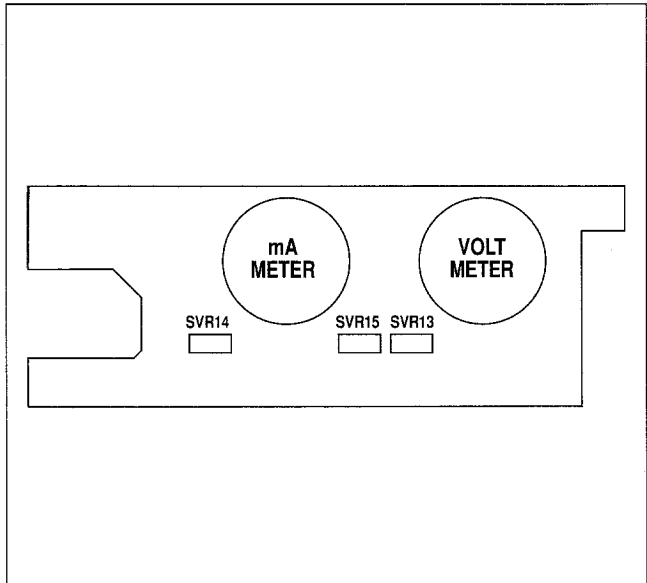


Figure 18B. Metering adjustments; control board solder side.

two 3-1/2 digit multimeters with an accuracy of 0.5% dcV or better are available (**B & K-Precision** Model 388-HD or equivalent).

If readjustment is required, use the following procedure. All references to left and right are correct when facing the front of the supply. Locations of the electrical adjustments are shown in Fig. 18.

Meter Mechanical Zero Adjustments

The meters may be mechanically zeroed with a small slotted blade screwdriver thru the holes in the front panel (see Fig. 1) with the power turned off.

Table 1. Function of Adjustments

MAIN BOARD	
SVR1	FIXED 5V Current Foldback
SVR2	FIXED 5V OVERLOAD Indicator
SVR3	FIXED 5V Voltage
SVR4	A SUPPLY Max. Voltage
SVR5	A SUPPLY Max. Current
SVR6	A SUPPLY Min. Voltage
SVR7	B SUPPLY Max. Current
SVR8	B SUPPLY Max. Voltage
SVR9	B SUPPLY Min. Voltage
SVR10	Series Tracking Voltage
SVR11	Series Max. Current
SVR12	Parallel Max. Current
METERING BOARD	
SVR13	Volt Meter
SVR14	A SUPPLY mA Meter
SVR15	B SUPPLY mA Meter

Fixed 5 V Supply Adjustments

1. Connect one multimeter (set to 20 DCV Range) to measure the dc voltage across the **FIXED 5 V** supply output terminals.
2. Adjust trimmer potentiometer SVR3 located on the left side of the supply for a reading of 5.05 0.05 V on the multimeter.
3. Preset trimmer potentiometer SVR1 fully clockwise.
4. Connect a variable load (load must be rated to handle a power of at least 30 W) in series with a second multimeter (set to 20 DCA Range) to measure the dc output current across the **FIXED 5 V** supply output terminals.
5. Adjust the load so that the second multimeter shows an output current of 4.40 ± 0.10 A.
6. Adjust trimmer potentiometer SVR1 counterclockwise until the output voltage (read from first multimeter) drops by 0.05 to 0.20 V.
7. Turn trimmer potentiometer SVR2 fully counterclockwise.
8. Adjust trimmer potentiometer SVR2 clockwise until the **OVERLOAD** indicator first lights.

“A” Supply and A Metering Adjustments

1. Connect one multimeter (set to 20 DCV Range) to measure the dc output voltage across the “A” supply output terminals.
2. Set the **TRACKING/INDEPENDENT** mode switch to the **INDEPENDENT** (right) position and the **A/B Metering** switch to the A (up) position.

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- 3. Set the “A” VOLTAGE control to minimum (fully counterclockwise).
- 4. Adjust trimmer potentiometer SVR6 for a reading of 0.00 ± 0.02 V on the multimeter.
- 5. Set the multimeter to 200 DCV Range.
- 6. Set the “A” VOLTAGE control to maximum (fully clockwise).
- 7. Adjust trimmer potentiometer SVR4 for a reading of 24.5 ± 0.2 V on the multimeter.
- 8. Set the “A” VOLTAGE control for a reading of 20.0 ± 0.1 V on the multimeter.
- 9. Adjust trimmer potentiometer SVR13 located on the METER BOARD so that the meter pointer on the Volts meter lines up with the 20 volt mark.
- 10. Set the “A” CURRENT control to maximum (fully clockwise).
 - 11. Connect the second multimeter (set to 2 DCA Range) to measure the dc output current across the “A” supply output terminals.
- 12. Adjust trimmer potentiometer SVR5 for a reading of 0.550 ± 0.020 A on the second multimeter.
- 13. Set the “A” CURRENT control for a reading of 0.500 ± 0.010 A on the second multimeter.
- 14. Adjust trimmer potentiometer SVR14 located on the METER BOARD so that the meter pointer on the mA meter lines up with the 500 milliamp mark.

“B” Supply and B Metering Adjustments

- 1. Connect a multimeter (set to 20 DCV Range) to measure the dc voltage across the “B” supply output terminals.
- 2. Set the TRACKING/INDEPENDENT switch to the INDEPENDENT (right) position and the A/B Metering switch to the B (down) position.
- 3. Set the “B” VOLTAGE control to minimum (fully counterclockwise).
- 4. Adjust trimmer potentiometer SVR9 for a reading of 0.00 ± 0.02 V on the multimeter.
- 5. Set the multimeter to 200 DCV Range.
- 6. Set the “B” VOLTAGE control to maximum (fully clockwise).
- 7. Adjust trimmer potentiometer SVR8 for a reading of 24.5 ± 0.2 V on the multimeter.
- 8. Set the “B” CURRENT control to maximum (fully clockwise).
- 9. Connect a second multimeter (set to 2 DCA Range) to measure the dc output current across the “B” supply output terminals.
- 10. Adjust trimmer potentiometer SVR7 for a reading of 0.550 ± 0.020 A on the second multimeter.
- 11. Set the “B” CURRENT control for a reading of 0.500 ± 0.010 A on the second multimeter.

MAINTENANCE

- 12. Adjust trimmer potentiometer SVR15 located on the METER BOARD so that the meter pointer on the mA meter lines up with the 500 milliamp mark.

“B” Tracking Adjustments

- 1. Set the supply to the TRACKING SERIES mode by setting the TRACKING/INDEPENDENT switch to the SERIES (left) position, and the A/B Metering switch to the A (up) position.
- 2. Set the “B” VOLTAGE and CURRENT controls to minimum (fully counterclockwise).
- 3. Set the “A” VOLTAGE control for a reading of 20 V on the 1651 front panel Volt Meter.
- 4. Connect the multimeter (set to 200 DCV Range) and measure the voltage across the “A” supply output terminals and note the EXACT voltage reading.
- 5. Disconnect the multimeter from the “A” supply outputs and connect it across the “B” supply outputs.
- 6. Adjust trimmer potentiometer SVR10 to obtain the exact same reading for the “B” supply output as was present at the “A” supply output in step 4.

- 7. Connect the multimeter (set to 2 DCA Range) to measure the dc output current across the “A” supply positive output terminal and the “B” supply negative terminal.

- 8. Set the “A” CURRENT control to maximum (fully clockwise).

- 9. Adjust trimmer potentiometer SVR11 for a reading of 0.550 ± 0.010 A on the multimeter.

- 10. Set the supply to the TRACKING PARALLEL mode by setting the TRACKING/INDEPENDENT switch to the PARALLEL (middle) position.

- 11. Connect the multimeter (set to 2 DCA Range) to measure the current between the output terminals of the “A” supply.

- 12. Adjust trimmer potentiometer SVR12 for a reading of 1.100 ± 0.020 A on the multimeter.

INSTRUMENT REPAIR SERVICE

Because of the specialized skills and test equipment required for instrument repair and calibration, many customers prefer to rely upon **B & K-Precision** for this service. We maintain a network of **B & K-Precision** authorized service agencies for this purpose. To use this service, even if the instrument is no longer under warranty, follow the instructions given in the **WARRANTY SERVICE INSTRUCTIONS** section of this manual. There is a nominal charge for instruments out of warranty.