SPECIFICATIONS

OUTPUT:
Voltage: 0 to 1200 volts dc in 1-volt steps.
Current: 10 milliamperes dc maximum.
Polarity: Positive or negative with respect to chassis.

ACCURACY: ±1% of dial setting.

RESOLUTION: A "Trim" potentiometer permits interpolation between steps with a resolution of better than 5 mv.

STABILITY: ±0.02% ±2 millivolts the first hour or in subsequent 8-hour periods, after a 30-minute warmup.

LINE REGULATION: ±0.005% ±2 millivolts for 10% change in line voltage.

LOAD REGULATION: ±0.005% ±2 millivolts from no load to full load.

RIPPLE AND NOISE: Less than 1 millivolt rms above 5 cps.

RECOVERY TIME: No load to full load, less than 35 milliseconds to within 0.1% of no-load output.

OVERLOAD PROTECTION:
Electronic current limiting to less than 13 milliamperes within 15 milliseconds for 200% or greater overloads.
Automatic recovery from overload to within 1% of no-load output within ¼ second at 1200 volts. Proportionally faster at lower voltages.

CONNECTORS: Output: Teflon-insulated UHF type.

POWER: 105-125 or 210-250 volts, 50-60 cps, 65 watts.

DIMENSIONS, WEIGHT: 5½" high x 8¾" wide x 13" deep; net weight, 12 pounds.

ACCESSORIES SUPPLIED: Mating connector.

SECTION 1. GENERAL DESCRIPTION

1-1. GENERAL. The Keithley Model 240A is a compact high voltage supply which provides accurate, stable outputs from 0 to 1200 volts dc. Accuracy is ±1% of the dial setting for all outputs. Stability is ±0.02% ±2 millivolts the first hour or in subsequent 8-hour periods, after a 30-minute warm-up. Line regulation is ±0.005% ±2 millivolts for a 10% change in line voltage, and load regulation is ±0.005% ±2 millivolts from no load to full load.

1-2. FEATURES.

a. Three Digit Resolution. Three in-line calibrated dials set the output voltage in 1-volt steps. A TRIM Control permits interpolation between steps with better than 5-millivolt resolution. Output can be selected positive or negative with respect to ground.

b. Overload Protection. Repeated overloading or operation in an overloaded condition for long periods will not damage the Model 240A. Overload protection limits the output current to less than 13 milliamperes and, when the overload is removed, automatically returns the Supply to its set value.

c. Solid-State Design. The circuit for the Model 240A takes advantage of the reliability and stability of a solid-state comparator amplifier, and the high voltage capability of a series regulator tube to provide a high performance circuit.

1-3. APPLICATIONS.

a. General Laboratory Instrument. In the laboratory the Model 240A is a general-purpose high voltage supply. Applications include use in surface and volume resistivity measurements and with high resistance bridges. The Model 240A will supply operating potentials for photomultiplier tubes, electron multipliers, solid-state radiation detectors and ionization chambers. It can also be used in the calibration of meters and electrostatic probes.

b. Production Test Instrument. Typical production testing applications are semiconductor and capacitor leakage measurements. The output of the Voltage Supply may be remotely controlled or programmed by adding a connector to the rear panel.

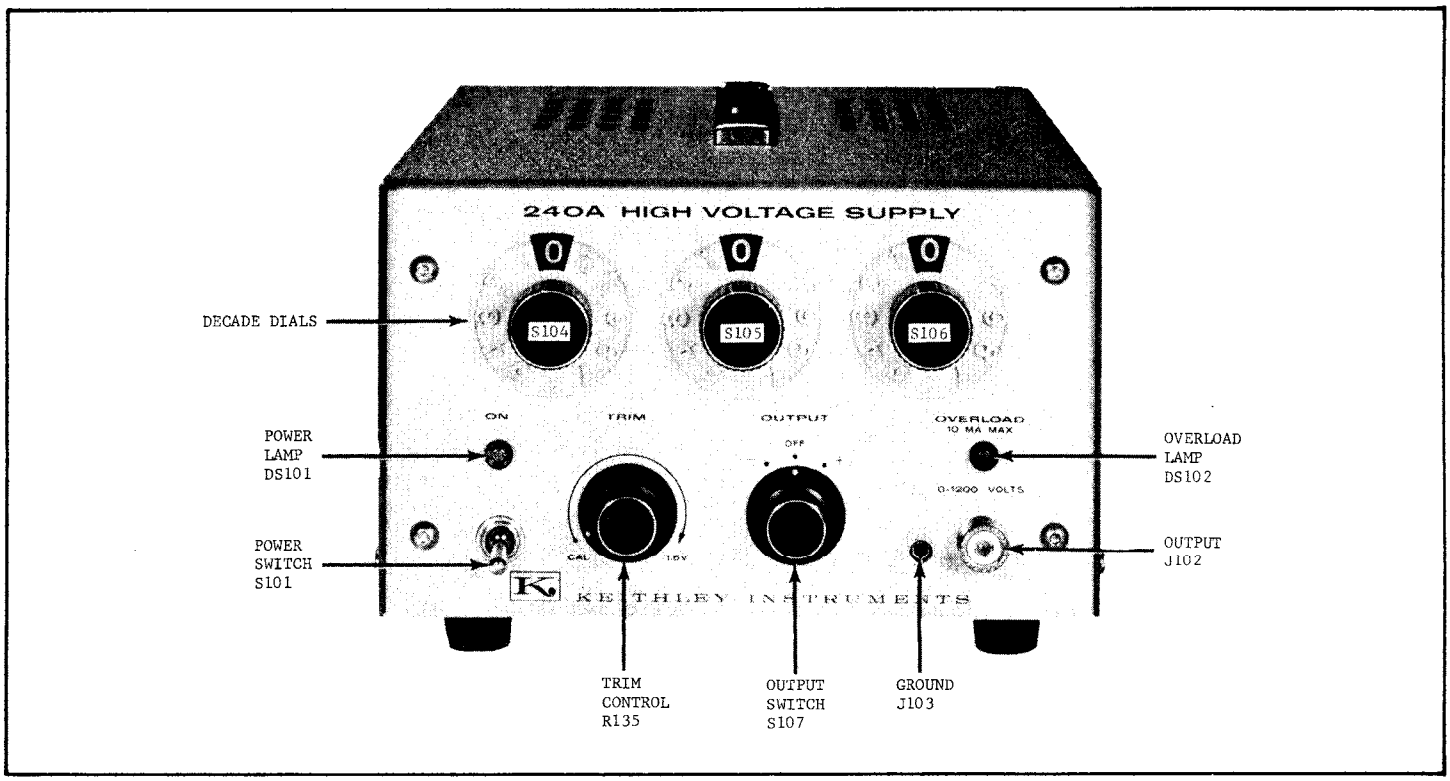

FIGURE 2. Front Panel Controls.