

Resistance Anodize Trimmer System — "MiniRATS"

- accurate, economical tantalum-resistor trimming
- complete — trims and tests
- wide range — 10 Ω to 1 M Ω
- precise — 0.01- Ω resolution, 0.02% accuracy
- fast — 0.5% in 1/2 second



New Since
Catalog U

A complete solution The General Radio MiniRATS is particularly useful for design and small-lot production jobs. Despite its economy and small size, the MiniRATS is a complete system that includes an anodizing current supply, measurement bridge, and all necessary control circuitry. The entire installation procedure comprises only making a few connections to your probing device.

Operation is equally simple: Set eight direct-reading lever switches for the desired final resistance value; set three other controls for the anodizing current, pre-trim anodizing voltage, and measurement rate. Half a second later, your resistor is trimmed. With the Kelvin and guard connections, you can trim small values with ease, even in networks with shunt paths.

Front-panel indicators provide a check on the process. One lamp warns of pretrimmed resistance values too high to be processed, another signals when the process is complete, and a meter indicates the anodizing voltage during the trim operation. The anodizing current can also be turned off and the unit used as a precision resistance bridge if need be — simply at the flick of a switch.

The simplified diagram shows the major elements of the MiniRATS and the external probes attached to the resistor to be trimmed (R_x). The measurement probes are shown as closed arrows and are connected for six-terminal guarded-Kelvin measurements. This allows resistors

to be trimmed in closed-delta configurations and thus eliminates the need to break a resistor chain or to bond resistors together after trimming. Unguarded 4-terminal Kelvin connections and simple 2-terminal measurements are also possible.

SPECIFICATIONS

Resistance: 10 Ω to 1 M Ω in 0.01- Ω steps; set by 8 in-line-read-out lever switches.

Accuracy: $\pm 0.02\%$ ± 50 m Ω , from 100 Ω to 100 k Ω ; $\pm 0.1\%$, from 10 Ω to 1 M Ω .

Display: METER: 0 to 250 V, indicates anodizing voltage. INITIAL VALUE LAMP: Lights during pre-trim; extinguishes when oxide-film breakdown reaches from 0 to 100 V as set by rear-panel control; remains lit if initial value is too high for trim. FINAL VALUE LAMP: Lights during trim, extinguishes when final resistance value is reached.

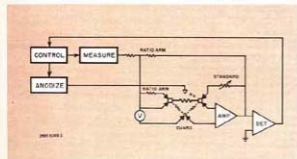
Anodizing Current: 0.01 to 10 mA in ten 1-2-5 steps with compliance voltage to 270 V. Applied for 80% of trim/measurement cycle initially, 20% when resistance is within 2% of final value. Current shuts off automatically when trim is complete or pre-trim value is too high.



Measurement: RATE: 2 to 41 measurements/s, continuously variable. TERMINALS: 7, i.e., 1 anodizing cathode, 6 guarded-Kelvin terminals. (4-terminal unguarded Kelvin or simple, 2-terminal connections can also be used.)

Supplied: Power cord, two 14-pin type 57 plugs to mate with rear socket for probes.

Mechanical: Convertible bench cabinet. DIMENSIONS (w \times h \times d): 17 \times 3.88 \times 11.75 in. (432 \times 98 \times 298 mm). WEIGHT: 13 lb (6 kg) net, 18 lb (8.5 kg) shipping.



Description

Resistance Anodize Trimmer

Catalog
Number

2995-9349