

MODEL 1804

RF PRODUCTS

Directly traceable to primary voltage and resistance standards

Bias either 100 or 200 ohm mounts

LEDs and Analog Meter are conveniently located on the front panel

Economical, easy to use, compact and light-weight

One-year warranty

Single Type IV RF Power Meter

The Model 1804 Single Type IV RF Power Meter is designed for use with bolometer elements and an external DVM to measure high frequency power, microwave power and insertion loss. It can also function as a standard for the calibration of RF detectors, RF voltmeters, and bolometer elements (mounts) manufactured by TEGAM, Weinschel, and Agilent (HP). Mounts easily interface to the 1804's universal front panel binding post connection. Calibration of temperature-compensated mounts can be performed by adding the TEGAM Model 1820 RF Mount Heater.

The exclusive use of 100% DC substituted power eliminates the effect of AC components on the bridge circuit which has been shown to introduce a substantial error in the substituted power due to the short-term time constant of some bolometer elements. Substituted DC power levels ranging from 10⁻⁷W to

30mW can be measured to within $\pm 0.003\%$, which makes this an ideal instrument for insertion loss measurements. Regardless of the application, all measurements can be made directly traceable to primary voltage and resistance standards.

The Model 1804 Type IV RF Power Meter is designed to bias either 100 or 200 ohm mounts and is thus compatible with Agilent (HP) 478A, 486A and 8477A thermistor mounts and the TEGAM Model 1110, 1111, 1120, and 1118 Terminating Series Mounts (refer to applicable data sheets for mount specifications). A front panel switch selects the operating resistance for the power meter. Each power meter has a bolometer current meter and a fault LED indicator that illuminates under any condition preventing loop balance. Terminals are provided for an external DVM, negative bolometer, and voltage sense.



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Specifications

RF (Substituted dc) Power Measurement

Typical Power Measurement Accuracy	$\pm 0.03\% + 2\%W$ when used with Fluke Model 8505A, 8506A, Agilent (HP) 3458A voltmeters, or equivalent
Range	10 μ W to 30mW
Substitution Bridge Accuracy	$\pm 0.003\%$

Temperature Range

Operating	+10 to +40°C (+50° to 104°F)
Storage	-40 to +75°C (-40° to +167°F)

Connectors

Binding Post, standard 0.75" spacing for Banana plugs.

Power Requirements

105-125 or 210-250 Vac, 47 to 420 Hz, 12 Watts (factory optional)

Weight

Net 6.20 lbs. (2.82 kg)

Physical Dimension

Height	85.61 mm (3.37 in)
Width	250.00 mm (9.84 in)
Depth	260.00 mm (10.24 in)

Rack Mounting

The Model 1804 can be shelf mounted in any cabinet or rack designed according to EIA RS-310 and MIL-STD-189