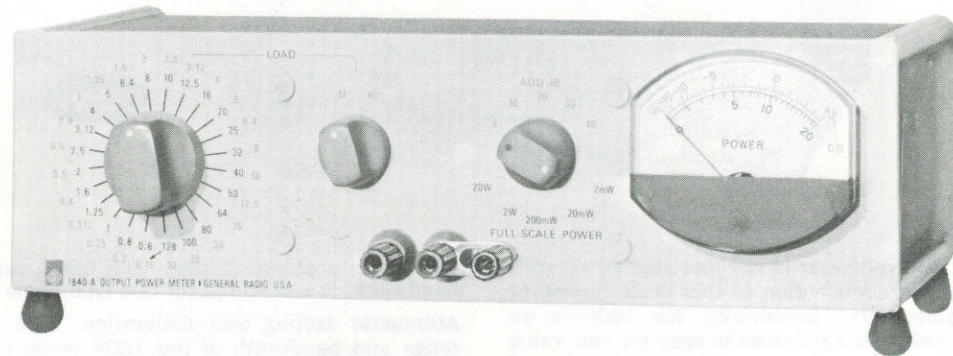


## Type 1840-A OUTPUT POWER METER

- 20 Hz to 20 kHz
- 0.1 mW to 20 W
- 0.6- $\Omega$  to 32-k $\Omega$  input impedance
- true rms reading



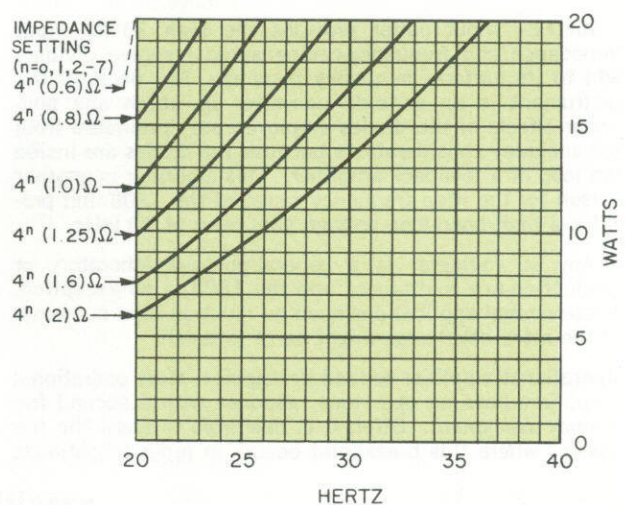
The 1840-A measures audio-frequency power into any desired load. Its important uses include the measurement of:

- Power output of oscillators, amplifiers, preamplifiers, transformers, transducers, and low-frequency lines.
- Output impedance, by adjustment of the load to yield maximum power indication.
- Frequency-response characteristics of amplifiers, transformers, and other audio-frequency devices.

This instrument is basically a multi-tapped audio-frequency transformer with a fixed secondary load. Its two front-panel switches connect eight identical primary windings and six secondary taps in various combinations to provide a total of 48 different primary impedances.

The maximum power rating can be extended for any given impedance with the use of a simple T-network attenuator, design data for which are supplied with the instrument.

— See *GR Experimenter* for January-February 1962.



Derating vs impedance setting and frequency.

### specifications

#### RANGES

**Power:** 0.1 mW to 20 W, 40 Hz to 20 kHz. Below 40 Hz, max rating is reduced by up to 50% (at 25 Hz), depending on impedance selected. See curve. Auxiliary dB scale reads from -15 to +43 dB re 1 mW.

**Impedance:** 0.6  $\Omega$  to 32 k $\Omega$  in two ranges; yielding 48 individual impedances spaced approximately  $\sqrt{2}$  apart.

#### ACCURACY

**Power:** At 1 kHz,  $\pm 0.3$  dB;  
50 Hz to 6 kHz,  $\pm 0.5$  dB;  
30 Hz to 10 kHz,  $\pm 1$  dB;  
at 20 Hz, -1.5 dB max, -1 dB avg;  
at 20 kHz, -5 dB max,  $\pm 1.5$  dB avg.

**Impedance:** At 1 kHz,  $\pm 6\%$  max, -0.5% avg;  
70 Hz to 2.5 kHz,  $\pm 7\%$  above 10 k $\Omega$ ;  
70 Hz to 5 kHz,  $\pm 7\%$  below 10 k $\Omega$ ;

at 20 Hz, -15% max, -8% avg;  
at 20 kHz,  $\pm 50\%$  max,  $\pm 12\%$  avg.

**Waveform Error:** Meter will indicate true rms with as much as 20% second and third harmonics present in the input signal.

#### GENERAL

**Mounting:** Convertible-Bench Cabinet. Adaptors for rack mounting available.

**Dimensions** (width x height x depth): 12 x 4 x 8 in. (305 x 105 x 205 mm). Rack-adaptor panel height, 3½ in.

**Weight:** Net, 10¾ lb (4.9 kg); shipping, 17 lb (8 kg).

Catalog Number	Description
1840-9701	1840-A Output Power Meter
0480-9622	480-P212 Relay-Rack Adaptor Set



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