

MULTI-PURPOSE AUDIO TESTER

- *Single Instrumentation Package Combining:*
- *Audio Sine/Square Wave Generator*
- *120 dB Attenuator*
- *Stereo (2-Channel) AC Millivoltmeter*

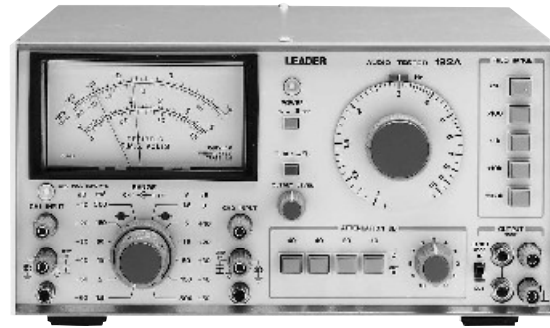
A single self-contained instrumentation package, Model 192A meets the basic needs of audio testing in production, QC, education and service applications. It helps to minimize bench clutter particularly in those applications where audio is only part of the system makeup. The 192A combines the functions of test signal source, precision attenuator and output measuring AC millivoltmeter.

GENERATOR

Offering both sine and squarewave operation, the generator covers frequencies of 10 Hz to 1 MHz in 5 ranges. Sinewave output is 3 V rms max into 600 Ω . Output connectors are both banana terminal posts and a pair of phono type jacks. Provision is made to switch in a 600 Ω shunt to form a 600 Ω source resistance. THD is less than 0.05% from 500 Hz to 20 kHz.

ATTENUATOR

Total attenuation range is 0 - 120 dB in 1 dB steps at 600 Ω .



Model 192A

AC MILLIVOLTMETER

A pair of independent AC millivoltmeters share a common set of meter scales. The scales are calibrated in rms volts, dBV and dBm. Twelve ranges cover full scale readings of 0.15 mV to 500 V, -80 dBm to +56 dBm. Bandwidth remains flat (within 2%) from 20 Hz to 100 kHz. A unique mechanical link allows both range switches to lock together. However, the center knob can be disengaged for independent operation and re-engaged at a selected offset. Accuracy is $\pm 2\%$ of full scale at 1 kHz. Output connectors allow the internal amplifiers to be used as high gain preamps to drive oscilloscopes or for other purposes.

KEY SPECIFICATIONS

AUDIO GENERATOR

FREQUENCY

Range

10 Hz - 1 MHz, 5 ranges

Accuracy

$\pm (3\% + 1 \text{ Hz})$

SINE WAVE

Voltage

Over 3 V rms into 600 Ω

Flatness

$\leq \pm 0.5 \text{ dB}$

Distortion (Max.)

0.05%: 500 Hz - 20 kHz

0.4%: 50 Hz - 200 kHz

0.8%: 20 Hz - 500 kHz

1.5%: 10 Hz - 1 MHz

Output Impedance

600 Ω

Square Wave

Output: $> 3 \text{ V p-p}$ into 600 Ω

Rise Time: 200 ns or better

Sag

5% or less on all ranges

AC MILLIVOLTMETER

Voltage Range

0.15 mV - 500 V rms f.s. 12 ranges

Decibel Range

-80 dBm - +56 dBm (0 dB = 0.775 V)

-80 dBV - +54 dBV (0 dB = 1 V)

Accuracy

$\pm 2\%$ full scale at 1 kHz

Bandwidth

20 Hz - 100 kHz $\leq \pm 2\%$

10 Hz - 1 MHz $\leq \pm 10\%$

Input Impedance

10 M Ω

AMPLIFIER OUTPUT

Approx. 1 V rms

Output Impedance

600 $\Omega \pm 20\%$

Distortion

Less than 2% at 1 kHz full scale

ATTENUATOR

Range

0 - 120 dB in 1 dB steps at 600 Ω

40 dB x 2, 20 dB, 10 dB, 1 dB x10

Accuracy

$\pm 1.5\%$

Frequency Characteristics

0 - 60 dB: 10 Hz - 500 kHz: $\pm 0.5 \text{ dB}$

10 Hz - 1 MHz: $\pm 2 \text{ dB}$

60 - 120 dB: 10 Hz - 150 kHz: $\pm 0.5 \text{ dB}$

10 Hz - 500 kHz: $\pm 6 \text{ dB}$

10 Hz - 1 MHz: $\pm 10 \text{ dB}$

POWER REQUIREMENTS

100, 120, 220, 240 V ac $\pm 10\%$

50/60 Hz, 10 VA

PHYSICAL

Size (W x H x D)

11 $\frac{3}{4}$ x 5 $\frac{7}{8}$ x 9 $\frac{7}{8}$ in.

300 x 150 x 250 mm

Weight

13 lbs., 5.9 kg

SUPPLIED ACCESSORIES

2 Phono-Phono Cables

Phono-Miniplug Cable

2 Banana Clip Cables