



INSTRUMENTATION

MICROPHONES AND PREAMPLIFIERS



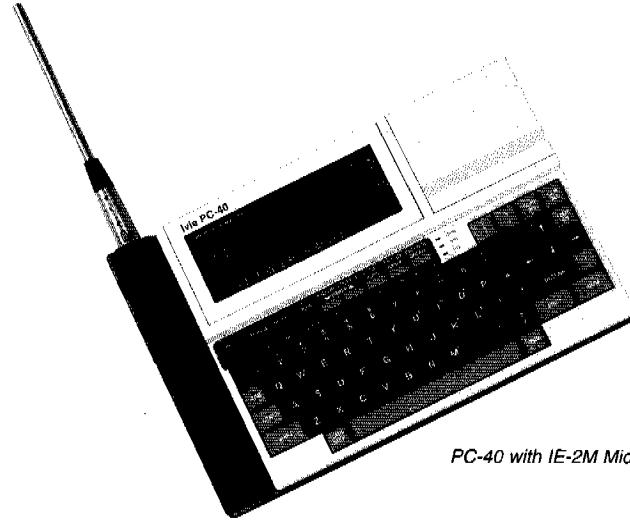
Precision (Type II) Microphone/Preamplifier Combination

IE-2M Type II Microphone/Preamplifier

The IE-2M is a lower cost alternative for use with Ivie instrumentation. It is a self-contained, preamplifier and electret microphone combination.

While it lacks the precision and dynamic range of the Type I, IE-2P with the 1133 or 1134, it still meets Type II measurement requirements and is therefore suitable for a wide range of acoustic and noise measurements.

The element of the IE-2M is an omnidirectional microphone with random pressure response, and is therefore best suited to measurements in a reverberant field. The applications information regarding the 1134 air condenser microphone on the back page apply to the IE-2M as well.



PC-40 with IE-2M Microphone

OSHA Requirements

As a measurement microphone with Type II measurement characteristics, the IE-2M meets all the legal requirement for OSHA approved SPL measurements.

IE-2M Specifications

Microphone Element: Electret Condenser

Maximum SPL Measurement: 115 dB SPL

Dynamic Range: 30dB SPL to 115dB SPL

Output Impedance: 3 k Ω

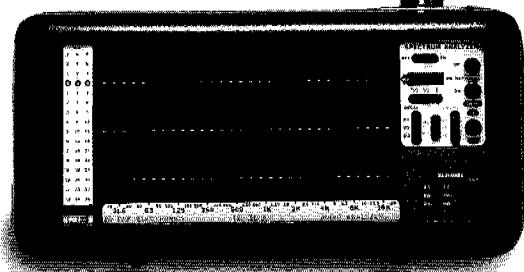
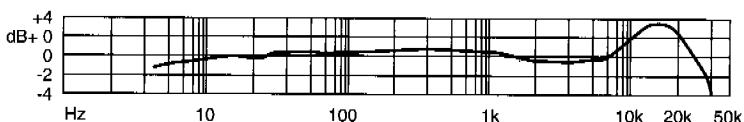
DC Supply Voltage Required: 8 - 12 VDC

DC Supply Current Required: 5 ma

Frequency Response: ± 2 dB, 20Hz to 10kHz
+4,-0, 10kHz to 20kHz



Random Pressure Frequency Response



IE-30A with IE-2P Microphone

INSTRUMENTATION

MICROPHONES AND PREAMPLIFIERS



Precision (Type I) Microphone Capsule/Preamplifier Combinations

1133 Free Field Response Microphone

Applications: The Ivie 1133 Free Field Microphone is a 1/2 inch air condenser microphone intended for use in free, or nondiffuse sound fields. It should be used when measuring point source sound in the direct wave where little or no reverberant energy is present. The microphone should be pointed directly at the sound source such that the diaphragm is perpendicular to the sound source. Some typical examples of free field measurements include near field measurements of machinery noise, airport noise (noise from overhead airplanes) and measurement of traffic noise.

1134 Random Pressure Response Microphone

Applications: The 1134 Random Pressure Microphone is a 1/2 inch air condenser microphone intended for use in reverberant environments where the sound being measured is a mixture of both direct and reflected (reverberant) energy. Some typical applications include auditorium measurements such as frequency response (for equalization purposes), RT60 and seat to seat SPL variation.

1133 Air Condenser Microphone

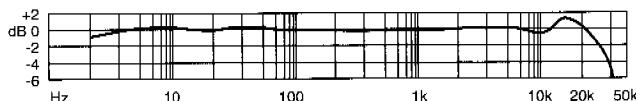
Free Field Frequency Response



Above curve is typical for free field corrected response of electrostatic curve (includes grid cap.)

1134 Air Condenser Microphone

Random Pressure Frequency Response



Above curve is typical for random pressure response of electrostatic curve (includes grid cap.)

1133 and 1134 Specifications

Sensitivity Level: Nominal -36dB re 1V per N/m²
16 mV per Pascal

Acoustic Noise: 18dBA SPL, 1.4×10^{-6} Pascals/Hz

Dynamic Range: From acoustic noise to > 158dBA
SPL (3% THD)

Stability: >900 yrs/dB (23° C) >2hrs/dB (150° C)

Impedance: >10Ω //19pf (1133), 18pf (1134)

Mechanical:

Cartridge height w/grid cap: .490 in. (12.5 mm)

Cartridge height w/o grid cap: .452 in. (11.5 mm)

Cartridge diameter w/grid cap: .519 in. (13.2 mm)

Cartridge dia. w/o grid cap: .500 in. (12.7 mm)

Cartridge threads: .460 in. - 60 NS2

IE-2P Microphone Preamplifier

The IE-2P Microphone Preamplifier is a microphone preamplifier that can be used with all precision, air condenser microphone capsules that require polarization voltages of 28 or 200 Vdc and comply with international thread standards. Manufacturers of such microphones include Ivie, Brüel & Kjær, ACO Pacific, Larsen-Davis and others.

The IE-2P accepts 1/2 inch microphones directly. With the proper adaptors, 1 inch, 1/4 inch and 1/8 inch microphones can also be used.

IE-2P Specifications:

Frequency Response: ± 0.2dB, 5Hz - 40kHz
(18pf source capacitance)
Input Impedance: 2 GΩ at 100 Hz
Input Capacitance: <25pf
Polarization Voltages: 28 or 200 Vdc selectable
Input Voltage Requirements: 12 Vdc

Mechanical:

Construction: Stainless Steel Tube
Length: 8.2 inches
Diameter: Dual: 3/4 inch and 1/2 inch
Interface Connector: Switchcraft A6F 6 pin



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