

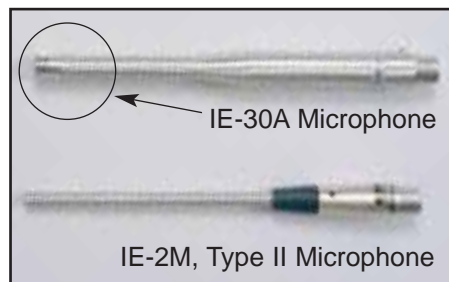
IE-30A 1/3-octave Spectrum Analyzer and Precision Sound Level Meter

Laboratory accuracy . . .
on the bench or in the field.

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For the first time a real time analyzer (full octave / 1/3-octave) and a precision sound level meter have been combined into a truly portable, high-powered package. Calibrated in both dB SPL and dB μ V, the IE-30A measures a broad variety of simple and complex signals quickly and accurately: amplifier gain, frequency response, output power, acoustic measurements, weighted or unweighted SPL measurements, peak accumulation, impulse measurement, and distortion analysis.

Whether in the auditorium, recording studio, sound stage, classroom, or laboratory, in the steel mill or factory, the IE-30A provides accuracy and versatility in a rugged package that fits easily in your hand.



Highly selective three pole-pair filters.

Output connector for oscilloscope display, voice prints or strip chart recorder.

“Alternate” button for comparing memory data with real time display.

The IE-30A comes standard with the IE-2P precision preamplifier, and your choice of the 1133 free field response microphone, or the 1134 random, pressure response microphone. Both mics are laboratory quality, air condenser microphones. The IE-2P is also compatible with other high quality, air condenser microphones such as Brüel® and Kjær®.

The IE-30A is also available with the IE-2M, Type II microphone at a reduced cost.

Graticule back-lights automatically in darkened environments.

Four digit readout with 0.1 dB resolution, calibrated in dB SPL and dB μ V. Digital hold feature.

Precision low noise preamp with A, C or Flat weighted response characteristics.

Precision Sound Level Meter with A, C or Flat weightings.

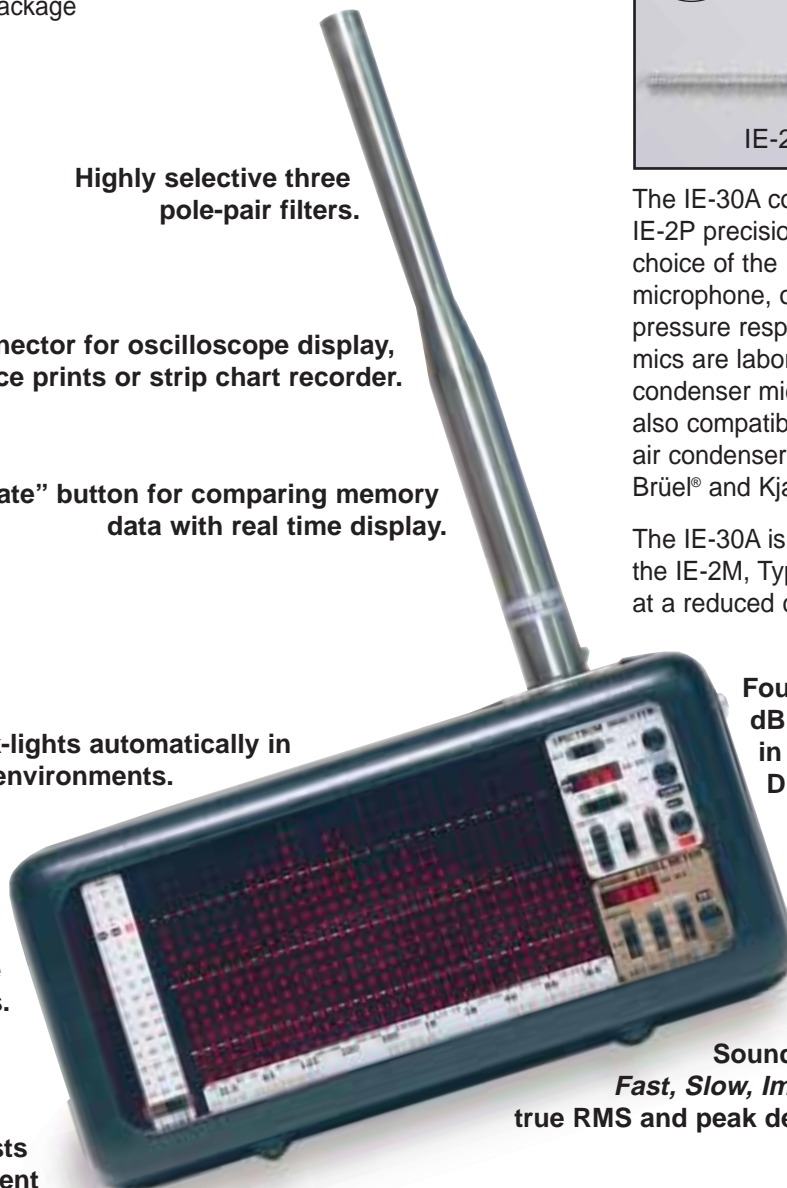
Display brilliance adjusts automatically for ambient light level.

Sound Level Meter provides *Fast, Slow, Impulse* and *Peak* with true RMS and peak detectors.

Dual nonvolatile memories will store or accumulate data.

Up to 45 dB display range with resolutions of 1, 2, or 3dB per step.

Selectable octave, 1/3-octave, or weighted 1/3-octave display modes.





SOUND SYSTEM MEASUREMENT/EQUALIZATION

For sound system measurement and analysis, the IE-30A is capable of 1/3-octave, "weighted" 1/3-octave, or full-octave spectral analysis employing its many versatile features. Using the calibrated microphone, sound system response is visible at a glance on the LED matrix display. A digital LED reference window calibrates the display range accurately and allows rapid 10dB incremental shifts up or down from 30dB to 140dB SPL or dB μ V. (Actual full-screen measuring range is up to 149dB SPL.) The display has 3 decay times which allow for monitoring, peak reading or pink noise integration.

Two nonvolatile memories will store what is displayed at any given moment, and then recall the display at will, even weeks later. The accumulation mode allows for peak-envelope equalization. A probe accessory permits signal tracing, EQ check out, and allows voltage measurements up to 500 volts.



NOISE SURVEYS AND THE IE-30A

Because the IE-30A combines real time analysis and precision sound level measurements in one package, you can now analyze the sound pressure levels in any environment and simultaneously view the frequency components that make up the sound. True RMS and peak detectors provide accurate readings for *Fast*, *Slow*, *Impulse*, or *Peak* measurements. The digital readout will operate in a continuous sampling mode or in a maximum signal "hold" mode. Selectable filter weights of A, C or Flat can be applied to the SLM and also to the 1/3-octave display. Whether your application is noise surveys, laboratory analysis or speech and hearing measurement, the IE-30A will likely save you considerable time.



THE IE-30A ON THE TEST BENCH

Using the precision probe accessory that comes standard with the IE-30A, you can measure AC voltages with either true RMS or peak detectors from a few microvolts to hundreds of volts with a resolution of 0.1 Db μ V. You can accurately measure any audio signal from a simple sine wave to a complex signal like pink or white noise. The IE-30A will enable you to measure the voltage of the power line, the ripple in a power supply, amplifier gain and true rms output power to a tiny fraction of a watt. And don't forget that you can identify the 1/3-octave frequencies of any audio signal measured. Harmonic distortion of less than 1.0% can be measured directly with the IE-30A due to the excellent selectivity characteristics of the 1/3-octave filters.

X, Y, Z axis outputs allow interface with storage oscilloscopes, regular oscilloscopes, and various recording systems. The IE-30A is truly a versatile measurement tool for laboratory, production or maintenance applications.



EQUALIZATION AND ALIGNMENT OF TAPE MACHINES

In the studio, the IE-30A is useful for acoustic measurements as well as electrical signal adjustments. Many equalizer circuits, like those found in tape recording systems, are interactive, and making a single adjustment can cause amplitude changes at more than one frequency. The IE-30A can eliminate tedious hours of tuning audio circuits a single frequency at a time. Using a pink noise tape with the IE-30A enables the technician to evaluate the entire audio band at once. He can see the signal amplitude in every 1/3-octave simultaneously, and can quickly make the necessary adjustments. In a similar manner, the azimuth at the tape head and bias may be adjusted using the high frequency filters in the IE-30A.



ACCESSORIES

The IE-30A comes with . . .

- "Fast Charge" nickel cadmium batteries.
- Manual with instructions and illustrations.
- CH 30 AC adapter/charger that provides continuous line operation.
- IE-2P Preamp with 1133 or 1134 Microphone Cartridges.
- IE-1036B Test Probe.
- IE-30A Carrying Case.

OPTIONAL ACCESSORIES

- MC-25 Multi-conductor, calibration microphone extension cable in 25 foot to 200 foot lengths.
- 81AD Adapter – 6 pin XLR to 3 pin XLR.
- 82AD Adapter – 6 pin XLR to BNC.
- 83AD Adapter – 6 pin XLR to phono.
- 84AD Adapter – for standard mic cables.



COMPLEMENTARY EQUIPMENT

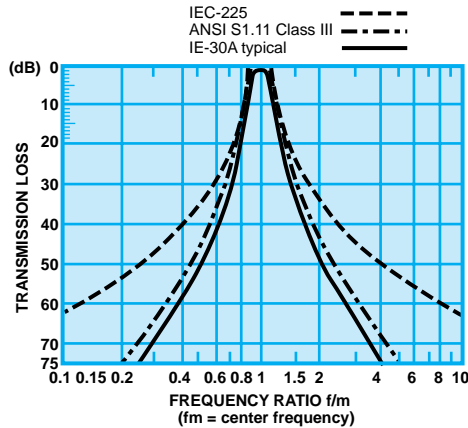
The IE-20B is a state-of-the-art pink and white noise generator, designed to handle the most exacting laboratory requirements. The digital generation techniques used in the IE-20B provide noise that is statistically well defined and very stable.

The calibrated output of the IE-20B provides up to 58dB of attenuation in precise, 2dB increments, making the IE-20B capable of driving a wide spectrum of sound equipment from high power amplifiers to ultra-sensitive preamplifiers.

TECHNICAL DATA:

REAL TIME ANALYZER

- 1/3-octave operation provided from 25Hz to 20KHz in thirty ISO bands.
- Highly selective, three pole-pair filters exceed ANSI S1.11-1966 Class III, B.S. 2475-1964 DIN 45652, and IEC225-1966.
- Relative filter flatness: $\pm 0.5\text{dB}$.
- 1/3-octave filter display can be "weighted" with A, C or Flat filters.



- One-octave operation provided from 25Hz to 20KHz in ten ISO bands.
- Octave filter skirt selectivity satisfies ANSI S1.11-1966 class II, B.S. 2475-1964, DIN 45652, and IEC 225-1966.
- Dual Memories store or accumulate (max hold) and display pattern.
- Filters are calibrated in $\text{dB}\mu\text{V}$ ($\text{re } 1\mu\text{V}$).
- Range: -3 to +149 $\text{dB}\mu\text{V}$ ($.7\mu\text{V}$ to 28V) direct.
- Range: to +174 $\text{dB}\mu\text{V}$ (500 VAC) with probe.

SOUND LEVEL METER

- Response modes: *Fast, Slow, Impulse, and Peak*.
- Instrument Range: 3 dBA SPL to 149 dBA SPL ref. $20\mu\text{N/M}^2$.
- Selectable true rms or peak detectors.
- 20dB crest factor for full scale reading.
- Four digit LED readout with 0.1dB SLM resolution.
- Digital display modes for continuous sample or display hold.
- Overload and underrange indicators.
- Filter weights: A, C and Flat.
- Flat filter bandwidth: 7Hz-35kHz.
- Calibration microphone is remoteable.
- Strip chart recorder outputs.
- Meets requirements of:
 - ANSI S1.4-1971 TYPE S1A, S1C
 - BS 4197-1967
 - DIN 45633 B1.1, B1.2 (Impulse)
 - IEC 651-1979

PREAMPLIFIER/ATTENUATOR

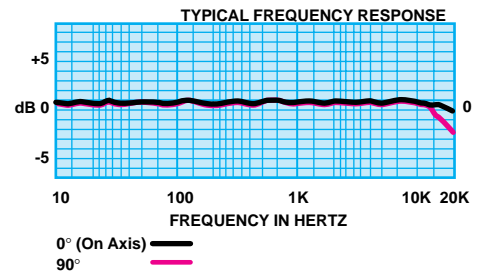
- 100K ohm input impedance.
- Headroom: +40dB (above display screen) with sine wave input.
- Selectable filter weighting: A, C or Flat
- Bandwidth: 7Hz-35kHz.
- Flatness: $\pm 0.5\text{dB}$ (20Hz-20kHz).
- THD $\leq 0.1\%$ @ 2.0V output level.
- Input damage level: $\pm 100\text{VDC}$ or 300 VAC (above 20Hz).
- Output short circuit protected.

DISPLAY

- Thirty channel 480 LED array.
- Display ranges of 15, 30 and 45dB are selectable with resolutions of 1, 2 or 3dB.
- Display intensity adjusts automatically for room brightness.
- Control panel lights up automatically in low-light environments.

MICROPHONE

- Element: Air Condenser.
- 200 VCD Polarization.
- Directional Pattern: Omnidirectional.
- Dynamic Range: Greater than 110dB with supplied electronics.
- Response: Either Free Field or Random Response is available.
- Frequency Response: 10Hz to 20kHz, as illustrated.



MECHANICAL

- Dimensions (w x h x d): 203 x 98 x 54 mm ($8'' \times 3\frac{7}{8}'' \times 2\frac{1}{8}''$).
- Input connector: 6 pin XLR.
- Weight: net 1.2 Kg (2.9 lbs.) shipping 3.4 Kg (7.4 lbs.)

WARRANTY

The IE-30A is warranted against defects in materials and workmanship for one (1) year from the date of purchase. During the warranty period, Ivive will repair or, at its option replace, components which prove to be defective provided the unit is returned, shipping prepaid, to an authorized Ivive service facility. Defects caused by modifications, misuse or accidents are not covered by this warranty. No other warranties are expressed or implied. Ivive is not liable for repairs and information should include the instrument serial number to assure rapid service.



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