

# Ivie IE-33 Handheld Audio Analyzer

By Mark Amundson

Ivie Technologies has mated the value of a pocket PC with an audio interface module to create the IE-33, a handheld audio analyzer with functions like Real-Time Analyzer (RTA), Sound Level Meter, Oscilloscope, SPL Data Recorder, Polarity Checker, Voltmeter and Signal Generator. Weighing less than a pound and a half, the unit measures 5.3 by 3.3 by 1.8 inches. And if you already have a Compaq iPAQ 5500 Personal Digital Assistant, you can save a few bucks and get just the audio jacket containing the additional hardware, and the application software.

## The Gear

The most compelling feature of the IE-33 is the RTA, with 240-point (1/24 octave) resolution and selectable to the lower one-sixth, one-third and one-octave resolutions. The RTA display can be with bargraphs or LED-like indications, and with or without peak hold indications. Nine scratch pad memory locations allow snapshot storage of readings for further reference or comparison with other stored RTA plots in unlimited memory storage of the file manager. And accuracy is within  $\pm 0.5$ dB.

For me, the killer application for the IE-33 was using the supplied measurement microphone attachment plus the two phone jacks to store plots from the drive signals and speakers. By storing each plot, I could

mathematically subtract the plots and get a precise idea of which equalization adjustments to make to flatten the system from the console onward. Short of time domain adjustments, I could do a venue-to-venue tweaking for more consistent performances.

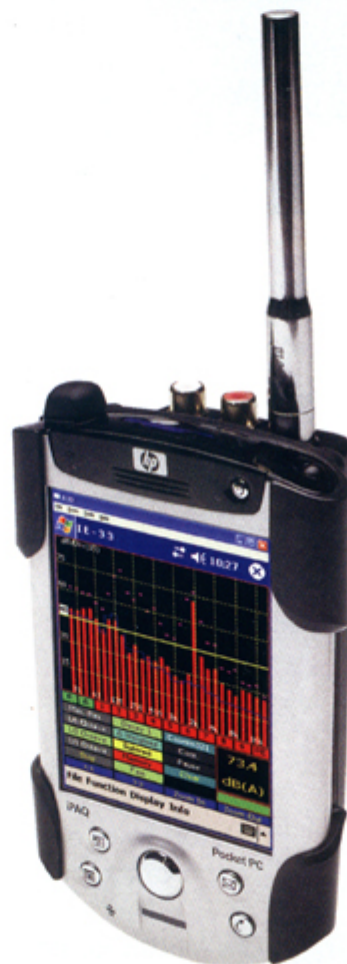
Of course, the SPL metering is the other powerful application of the IE-33. Besides the A and C weighting choices as well as octave band filters, you get a large numeric display and a bargraph alongside that reacts very quickly to change of levels. A side application of the SPL metering is the "seat-to-seat" function to set a reference SPL and then be able to walk the room to check for general loudness coverage.

In general, the IE-33 gives all these precise and colorful displays of audio, but you get the additional capability of the iPAQ PDA included. As a frequent user of my iPAQ 4500, the IE-33's iPAQ 5500 brings more computational horsepower, plus you still can synchronize up your e-mail messages, address book and appointment calendar. Also, the IE-33 can be set up to save on batteries or live large with full functions and backlighting during the show. However, leaving the IE-33 on the 5500 charger for a while is recommended for max up time when mobile.

At first, I felt a little let down because the IE-33 did not have time domain measurements besides the amplitude and frequency

domain capabilities. But I realized that multi-channel simultaneous digital conversion and calculation is likely not realistic given the size, battery power and hardware limitations of today's handheld PDAs. Resigned to live in the real world, the high-resolution RTA and SPL functionality can do a lot of work that could not be imagined with today's rack-mount RTA offerings.

Another nicety is the peak frequency detect display in numeric form in the RTA function. Got a feedback ring not arrested? The solution is as simple as reading the numeric frequency and grabbing a parametric or graphic equalizer for a notch filter. Now, the IE-33 is not a low-cost system, but there is nothing better when size, mobility and processing are required at Front of House.



**What it is:** Ivie IE-33 Handheld Audio Analyzer

**Who it's for:** Critical users who need mobility and precision audio frequency and amplitude measurements

**Pros:** Beautiful displays with plenty of flexibility in setup. Measurement mic provided. Powerful software for relative measurements

**Cons:** Overall cost with PDA included  
**How much:** IE-33 with iPAQ model 5555 \$1,647; without iPAQ \$999