

Tip #41 Why the 6.1 Is So Good.

The ICTS-6.1 is a very modestly-priced ceiling speaker (only \$125 ea. MSRP) of seemingly conventional design and construction. But its audio performance—characterized by very wide, even frequency response (see Tech Tip 40) and very high available output levels—is so obviously superior to other entry-level ceiling speakers that it’s apparent that something really special is going on here. (See figure 1)

Resisting the industry’s propensity for techno-jargon, we’ll do our best to explain it in simple, direct language.

First, the actual drive units (the 6 1/2” woofer and 1” silk-dome tweeter) are of very high quality. The woofer has a high-temperature voice-coil that’s able to handle high power inputs without distortion, giving the speaker a clean sound, even at loud playback volumes.

The 1” soft-dome is very much like the soft-domes that Atlantic uses in our best speakers. This provides smooth high frequency response, wide dispersion and distinct freedom from the annoying ‘harshness’ so common in cheaper hard domes made from phenolic or mylar found in inexpensive speakers. (See figure 2)

But the real star here is the crossover network. The crossover network is the speaker’s electronic circuitry that splits up the incoming full-bandwidth

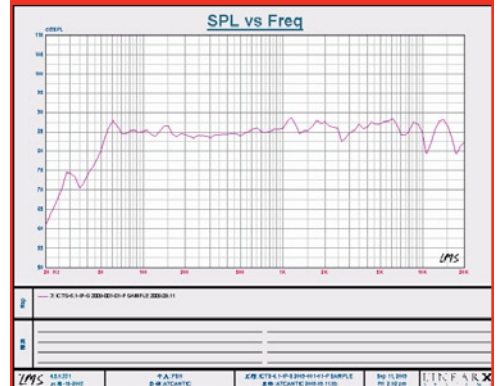
audio signal and sends the lower frequencies to the woofer and the higher frequencies to the tweeter.

Most inexpensive speakers use a very rudimentary crossover network that only has one or two components. All these simple elements can do (usually, just a capacitor to ‘block’ the bass from entering the tweeter and blowing it out, and maybe—if you’re lucky—an inductor to trim the excess highs from the woofer) is to crudely combine the woofer and tweeter into a “system” and give you some semblance of a full-range speaker.

A real crossover will accurately balance the drivers’ output to each other and also correct for any gross response deficiencies in the drivers themselves. This takes a full network, with many electronic components—like the ICTS-6.1’s crossover. (See Figure 3)

The 6.1 is a real high-fidelity speaker with excellent drivers and a real crossover network. Add to that its IP compatibility and you have an amazing speaker that sounds great, is easy to install, and compatible with either conventional audio systems or IP-based systems.

Figure 1



Wide, smooth frequency response of Atlantic’s 6.1 is unheard of in this price range.

Figure 2



Atlantic’s famous 1” soft-dome tweeter highlights the 6.1’s high-quality drive units.

Figure 3



Multi-element crossover blends 6.1’s drivers with precision and accuracy.

Other Tech Tips:

Tip 37: That’s a Gross Distortion

Tip 39: Receiver setup for the FS-7.0

Tip 38: Why no Back Box for 28 SUB?

Tip 40: What is Frequency Response?