

The Perfect Vision

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Sound From Above

Out of sight but not out of mind, in-ceiling speakers can deliver surprisingly good sound. How good? We look at four models in different price ranges to find out.

by Chris Martens

One of the fastest growing categories in the world of home audio is a special class of speakers that are designed to be mounted in the ceiling. Why? The simple answer is that many of today's décor-conscious homeowners want sound sources that can be heard but not seen. In fact, many would prefer not to see speakers on the floor, on shelves or stands, on the walls or even in the walls. What does that leave? Easy-to-conceal speakers that go in the ceiling.

But concealment is only half of the story—getting good (even great) sound is the other half. Only a few years ago we might have said it was unrealistic to expect top-shelf sound from ceiling speakers, but advances in the mounting systems, drive units, enclosures, and crossover networks used in today's models have made it possible to get excellent sound from inconspicuous speakers that reside in your ceiling.

Finding the Right Speaker

There are two basic types of ceiling speakers: general purpose models and home theater models designed for more serious movie or music listening. And the differences between them can be significant.

General purpose ceiling speakers are analogous to recessed lights. They're visually unobtrusive and they should project smooth, clear sound over a broad area (though some models behave more like sonic "accent lights"). As with ceiling lights, the effects of ceiling speakers are most intense (loudest) when you sit or stand directly beneath them; as you move away, volume levels gradually taper off. Generally speaking, one or two pairs of speakers positioned above a favorite workspace or relaxation area will provide satisfying sound, but keep in mind that the larger the area, the more speakers you'll need to provide adequate coverage.

We judge general purpose speakers by the same standards we use for conventional speakers, but with two important differences. First, we're listening for smooth, evenly distributed sound that surrounds listeners from above as opposed



to the tightly focused, ear level "images" or "soundstages" you hear when listening to a good hi-fi or surround sound system. Second, we recognize that speakers mounted in ceilings (or walls, for that matter) tend to produce less bass than traditional floorstanding and bookshelf speakers.

Home theater ceiling speakers are designed to match the performance characteristics of traditional speakers as closely as possible. Unlike general purpose models, they're designed to capture imaging, soundstaging, and other spatial effects—effects best appreciated when heard at ear level. The challenge, of course, is to create the illusion of ear-level sound from overhead speakers.

As you might expect, we judge this class of speaker using the same tough performance standards we apply to conventional speakers. As a general rule, home theater ceiling speakers are designed to serve as dedicated L/C/R (left, center, right) or surround speakers, and therefore meant to be used with powered subwoofers, which is how we test them.

Real World Options

To give you an idea of the range of ceiling speakers available today, we rounded up a general purpose model from Noble Fidelity, a hybrid general purpose/home theater model from Speakercraft, and two high-performance models from Definitive Technology and Polk Audio, both of which are intended for home theater use. We evaluated the speakers as stereo pairs, running the general purpose models full-range, while judging the home theater

models with a standalone subwoofer in the mix.

We mounted the speakers in custom-made, rigid MDF mounting plates covered with a thin layer of fabric-covered damping material. The plates were sized to serve as drop-in replacements for the 2x2-foot acoustic tiles in the suspended ceiling of the Audio Lab. We placed speakers several feet apart within the support grid for the ceiling.

We rated each speaker using both traditional and ceiling-speaker-specific criteria, which include:

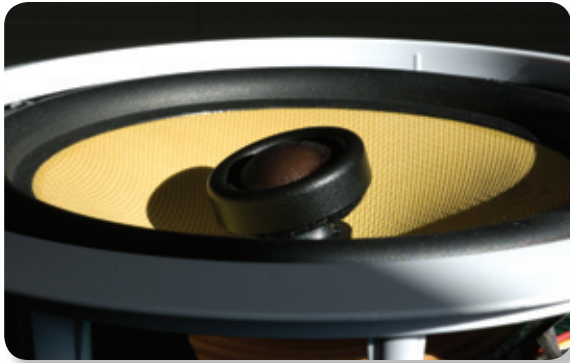
- >> Transparency and focus
- >> Tonal balance
- >> Dynamics
- >> Imaging and soundstaging (home theater models only)
- >> Bass extension
- >> Bass definition
- >> Coverage/dispersion (general purpose models only)
- >> Value

The coverage/dispersion rating indicates how broad an area the general purpose models can fill with smooth, evenly balanced sound. Most importantly, we describe how each speaker performs in real-world terms so you can get a handle on how it sounds and specific strengths (and weaknesses) it possesses.

As you read on, we think you'll discover, as we have, that sound from above holds greater potential than ever before. >>

To see full article including information on Definitive Technology and Polk Audio; visit www.theperfectvision.com

Brilliant All-Rounders



Noble Fidelity's L-85 is a well-conceived and extremely well-balanced ceiling speaker developed by and for music lovers. No wonder the company's motto is "Live with Music." The L-85s offer pleasing clarity, smooth overall sound with clean highs, surprisingly deep bass, and room-filling dispersion—all at a bargain price.

FEATURES The L-85 is a two-way design with a pivoting 1-inch tweeter and an 8-inch woofer mounted as close as possible to the mouth of the speaker enclosure to improve dispersion. Two three-position "MF" and "HF" switches let you fine-tune the midrange and treble.

Noble's designers obviously paid attention to details seen and unseen, equipping the L-85 with high-quality parts, heavy-gauge wiring, and four large dogleg-type clamps (to secure the speaker to the ceiling). Environmentally conscious

buyers will be pleased to know that all Noble Fidelity speakers comply with RoHS (Restriction of Hazardous Substances) standards.

PERFORMANCE The L-85s sounded a little "stiff" straight out of the box, but after several hours of run-in time their sound opened up considerably, impressing me in three ways.

First, the resolution and detail reminded me of the sound of good mid-priced floorstanding and bookshelf speakers. The Nobles have a certain quality of sophistication and finesse that can bring first-rate vocal recordings such as Allan Taylor's *Colour to the Moon* [Stockfish] alive. Through the L-85's, Taylor's richly textured voice sounded uncolored and harmonically complete.

Second, the L-85s offer surprisingly solid bass. Though they can't produce subterranean lows the way a subwoofer-equipped system can, they easily catch the unmistakable snap and growl of master bassist Marcus Miller's Fender Jazz bass on *The Sun Don't Lie* [PRA], and with genuine heartiness. Not many ceiling speakers can do that.

Finally, the L-85s offer good dispersion, covering large spaces with smooth, evenly balanced sound. True, you will hear a

gradual rise in treble (and perhaps a hint of roughness) as you move directly beneath the tweeter, but it's subtle. In short, a couple of L-85s can easily fill modestly-sized rooms with good sound.

BOTTOM LINE Noble Fidelity's L-85 is a well-executed, high-performance in-ceiling speaker that puts musical values first—exhibiting a true touch of class in the process. And at just \$549/pair, these little overachievers make any number of higher priced poseurs look pretty silly.

The Last Word



- Clear, sophisticated sound
- Good dispersion
- Hearty bass



- Noble's smaller L-65 offers better dispersion
- Need a long period of run-in before they "sing"

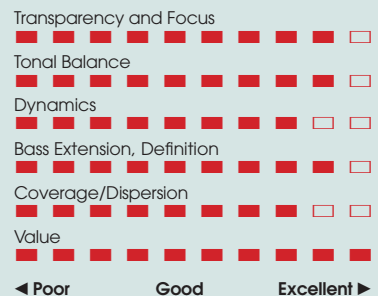
Specifications: Noble Fidelity L-85

- Driver complement: 1" pivoting fabric-dome tweeter, 8" Kevlar woofer
- Frequency response: 38Hz-21 kHz ± 3dB
- Sensitivity: 91dB (1W/1m)
- Impedance: 8 ohms
- Recommended amplifier power: 5-200 watts
- Dimensions: 9.75" diameter x 3.62" deep
- Weight: 5.4 lbs. each
- Price: \$549/pair

Manufacturer Info
(888) 808-4434
Noble-Fidelity.com

Ratings

(compared with sub-\$1000/pair general purpose in-ceiling speakers)



NOBLE FIDELITY.



The Sonic Equivalent of Track Lights

Speakercraft's AIM7 Five is a versatile, two-way speaker featuring a pivoting woofer and tweeter, meaning that in principle it can be used in either a general purpose or home theater setting. But our take is that the AIM7s work best when used as the sonic equivalents of easy-to-aim track lights. Just point the drivers where you want a focused "pool" of sound and enjoy.

FEATURES The AIM7 Five is the top model in the AIM7 family, featuring a 1-inch dome tweeter and a 7-inch woofer. Speakercraft's AIM/PivotBall system, offered in all AIM7 models, lets you direct the output of each driver toward a specific listening area. You can also adjust the sound using three-position switches, one for BASS and one for TREBLE. The speaker is held in place by four dogleg-type clamps, which makes installation simple.

PERFORMANCE The AIM7 is relatively directional, meaning that it produces a tight but somewhat narrowly focused "pool" of sound where its drivers are aimed. As you move away from that focal point,

the sound becomes softer and more diffuse, and the middle frequencies begin to sound slightly recessed.

At its focal point, the AIM7's sound is lively and expressive, so that sonic details such as the percussive attack and chime-like sustain of Gary Burton's vibraphones on *Like Minds* [Concord Jazz] sound appropriately energetic and engaging. The same goes for Earl Wild's piano as it boldly states the main theme of Gershwin's "Variations on 'I Got Rhythm'" [RCA Living Stereo: SACD]. Move out of the sweet spot, however, and female voices can begin to sound withdrawn.

Bass is articulate though not as deep as the official specs would suggest. We tried the "+3dB" BASS control setting, but found that as the lows increased, bass clarity decreased—not a great tradeoff.

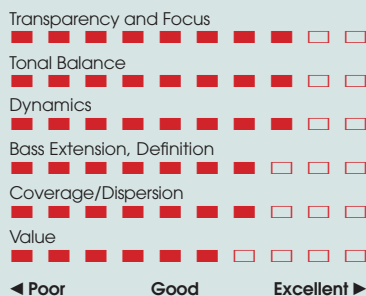
Overall, though, the AIM7 is a flexible performer thanks to the combination of pivoting drivers and the BASS and TREBLE switches.

BOTTOM LINE To exploit the things the AIM7 Fives do best, aim the drivers carefully to create pockets of focused sound—perhaps over a favorite desk or a seating area.

Speakercraft suggests the AIM7 Fives can be used for home theater applications, but the speaker doesn't really provide the precise, ear-level soundstages or high-powered dynamic capabilities necessary for that application. Instead, the AIM7 Fives work much better as well-focused general purpose speakers.

Ratings

(compared with sub-\$1000/pair general purpose in-ceiling speakers)



The Last Word



- Lively, energetic presentation
- Handy driver-aiming feature
- Can create tightly focused soundfields



- Mids sound recessed off axis
- Could use deeper, more potent bass

Specifications: Speakercraft AIM7 Five

- Driver complement: 1" aluminum/magnesium dome tweeter, 7" Kevlar woofer (both pivoting)
- Frequency response: 35Hz-20 kHz ± 3dB
- Sensitivity: 91dB (1W/1m)
- Impedance: 4/6/8 ohms, depending on EQ settings
- Recommended amplifier power: 5-150 watts
- Dimensions: 9.8" diameter x 5.75" deep
- Weight: 6 lbs. each
- Price: \$925/pair

Manufacturer Info
(800) 448-0976
Speakercraft.com