

## The Pros and Cons of Ceiling Speakers

Office buildings, airports and restaurants were the first homes of ceiling speakers. They can be easily recognized by the dense grilles that pour decibels right into your head.

But why would someone want ceiling or in wall speakers, instead of a pair of normal, efficient and highly affordable speaker cabinets. There could be a few reasons:

- Saving some space in the room;
- Maintaining the aesthetics of the room;
- Hiding the wires;
- Getting rid of the holes in the walls.

In the past, there weren't many fans of wall or ceiling-mounted speakers. While there are still people that think plenum-mount technology is just a whim, on the other side it is this technology in particular that gains more and more advocates. This is probably due to a change in life styles. People want the environment adapted to their needs, not the other way around.

There's one sure thing with in-wall and ceiling speakers: they are not for those who are into high-end audio. You could hardly find an audiophile willing to trade the deep bass that he or she loves so much for a bit of extra shelf space.

But even if not an audiophile, you'll need to pay attention to the following parameters:

- Frequency response - gives you the range of the audible spectrum that the speakers can reproduce; the human ear can hear 20 Hz to 20 MHz, thus the more a speaker approaches this interval, the better.
- Power handling - specifies the ranges of power the speakers can safely receive from the amplifier (e.g. 20-100 watts);
- Efficiency - also called sensitivity, this rating indicates how effectively the speaker uses the power sent to it by the amplifier.

A key aspect in having in-wall or in-ceiling speakers is how you capture the back wave. You can't always know what happens behind that wall, how big the hole really is, or if it's sealed. The answer is to use sealed speakers, no matter their location. Otherwise you'll have a lot of rear acoustic energy wasted into the back-wall and a distorted, uneven sound. Mounting the speakers

Usually it is a lot easier to mount ceiling speakers than in-wall speakers, at least where there is a fake ceiling. Mounting in-wall speakers is more of an architectural problem. That's probably why these are also called "architectural speakers". People don't like to have small rooms, thin walls, and wires bursting from one room to another.

The easiest alternative is to project the audio system before even having the walls built up. The advantage is freedom to plan things (speakers among others) exactly how you want them. Figuring out the wires is the part you should do before building the walls. Some planning is needed ahead: talking to an electrician, finding out how much wire you need, seeing what kind of wire you can actually use (UL-rated wire is approved for use in walls in all 50 states). Also, seeing the layout of your lighting system, and how it would interfere with that of the speakers.

Inserting the speakers can be done on the run, as the wall is being raised. Some people successfully use the drywall as a speaker's enclosure. The key is to have the speakers in the right place from the start. This would save you time, money and nerves.

Installing the speakers in an existing wall or ceiling is a bit more difficult and pricey. But it can be done. At first, find out what's behind the walls you want the speakers mounted in and see if you can drill. You need to make some holes into the desired spots, and build the speaker-enclosures.

Ceiling speakers have a drawback: the location. we're not used to having the sound come down at us from the ceiling, but from our side. The sensation of the sound-waves reaching the head and then the ears, is a bit strange. Some ceiling speakers are flexible within a given degree, so they can be pointed towards the listener. They are round-shaped in order to match the bulbs and lamps that also found their site on the ceiling.

Niles, SpeakerCraft, and others use directional tweeters and woofers that can be separately adjusted to compensate for imaging problems arising from the positioning drawbacks.

Most in wall speakers have paintable grilles, so you can perfectly black them out.

Above all, my biggest dilemma is what to do if my trendy, camouflage speaker, be it in-wall or in-ceiling, breaks down? Most users say I don't need to worry as they can be taken out, repaired or even replaced. There's also absolutely no

need to worry if I want to add some speakers to my system, they say. One solution would be to think ahead and stuff the wall with more wire for later add-ons. Still, I find this unnecessary hassle. But for the sake of interior design logic, it may be worth it.

Learn how wireless speakers and headphones work, read product reviews and find out shopping tips and tricks at <http://www.Wireless-Speakers.org>.

Some ceiling speakers are also wireless speakers, so installing ceiling speakers does not have to be too complicated at all.