

---

Subject: Re: In-wall baffle

Posted by [Wayne Parham](#) on Fri, 15 Apr 2011 02:47:29 GMT

[View Forum Message](#) <> [Reply to Message](#)

---

Flush soffit mouting is a good thing because it eliminates the (baffle step) directivity transion from freespace to halfspace radiation. Anytime there is a directivity change, there is a corresponding change in on-axis response. This assumes power response is constant, of course, but it almost always is at the frequencies where the baffle is approximately wavelength scale. So the bottom line is, yes, soffit mounting is a good thing.

On the other hand, it is important to understand that the frequency where the baffle would begin to introduce directivity on a loudspeaker this size is down in the modal range in most rooms. So room modes are making directivity ambiguous anyway. This is the case in all but the largest rooms. What you might gain from smoothing the baffle transition is made moot by room modes. The best thing for this is to use multiple subwoofers.

Beyond this, probably the largest benefit of soffit mounting is the fact that there cannot be any self-interference from the wall behind the speakers, because they are mounted flush with that wall. This reflection is almost always the most troublesome in free-standing loudspeaker setups. It usually occurs in the lower midrange, and the notch is often very large, on the order of 20dB.

Self-interference from near boundaries is sort of like a room mode, in that it is caused by a boundary reflection. But it is not a standing wave, like room modes are. Room modes still exist, even when speakers are soffit mounted, flush in-wall. So multisubs are still recommended.