Subject: Newton's Third Law of Audio
Posted by Bill Epstein on Sat, 18 Mar 2006 11:34:26 GMT
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Been completing my to-do list; finished the small 1.45 cu ft speakers with the P.E. horn tweeter yesterday and was relaxing listening to the main system.Put on the Copland Appalachian Spring Bernstein and the NYPO SACD and was reminded that the treble was "too hot". That according to Speakerman and Steve Brown. And I knew it too but other things took precedence. The violins, however, on this really fine recording were "fingernails-on-a-blackboard" shrill. So much so that, tired as I was, I couldn't listen another minute.I took the crossovers up to the bench and proceeded to up the attenuation of the 902B's from 14 to 16 dB going from 30 to 40 Ohms R1. I left R2 at 15 Ohms as I didn't have a 12 ohm resistor.Back at the sofa, I now found the violins just right: not quite that 'shimmery' ideal you sometimes hear but much better balanced with the rest of the orchestra. And this recording is just superb. Acres of depth, gorgeous polyphonic woodwinds with all the members of the family clearly represented. And those drums! No blurring of the Bass and Tympani.This recording goes right to my short list of "perfect" performances.But the news is not all good. ANYBODY STILL AWAKE?I had to hear what effect there might be on voice so I played the "Gaia" cut of James Taylor's Hourglass SACD. His voice was less smooth than I'm used to; more saccharin than sweet (I love a well-turned cliche'). This was not a subtle diffeence. Something in the mid-range changed quite drastically. The cap: .33uF KImber remained the same. Perhaps the lessened upper treble UN-masked this existing mid-range issue? Could a mere 2 dB cause this? I'm especially concerned that I'm hearing the character of the Vifa tweeter more instead of the blend of the Vifa and Altec as before. If so, I'll have to look elsewhere (read: spend more $$$) for my super-tweeter. But how great is it that sound-conditioning my room now allows me to hear subtle differences such as these like never before? If you don't have panels and bass traps you're missing so much!

Subject: Re: Newton's Third Law of Audio
Posted by spkrman57 on Sat, 18 Mar 2006 13:07:28 GMT
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Room treatment is the most important feature of a audio system. No matter how good your system is, if you don't kill those secondary and third, etc waves from reaching you it will kill the original sound.Best upgrade a audiophile can do!Ron

Subject: Re: Newton's Third Law of Audio
Posted by Manualblock on Sat, 18 Mar 2006 18:26:36 GMT
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Outside of buying better recordings!

Subject: Re: Is it a small box = underdamped?
Posted by Bill Epstein on Sun, 19 Mar 2006 10:12:08 GMT
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1.45 cu ft tuned to 50 Hz. I used the library T-S parameters for the Altec 414 8-C in WinISD. The Altec-University 12" woofer is boomy. But not one-note boomy. I took the Vifa DX25 out from the main system and replaced the el cheapo PE horn with it. So this experiment sounds like a Studio 2 on steroids. Today I'll plug the port and find out what Edward Villchur was up to.I think this is a nice size for even a book shelf or entertainment center with it's 10" depth. 15"x24"x10".I cut all the MDF on the panel saw at Home Depot. That was part of the experiment. Went together real nice. I made sure I pushed all the out-of-square to the bottom of the cabinet for glue-up. And didn't allow any panels to be proud of edges; always the reverse. I planed off the slight out-of-square edges, Bondo'd the joints then sanded with 100 grit.You don't need a table saw to build speakers.Just do it!

Subject: Re:Acoustic suspension
Posted by Bill Epstein on Mon, 20 Mar 2006 10:34:19 GMT
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Okay. I'm no speaker designer.I sealed the box. The bass is less boomy but has a "hollow" sound somewhere in the middle around 75 to 100 Hz, I would guess.But with the boxes just sitting on the floor next to the big guys, the imaging is outstanding. The Vifa really does the job. Funny thing, though, with it's spec to 40MHz, it sounds a little muffled.Not too many tweeter choices at 94 dB except expensive ribbons.Fortunately, going back to the Altec horns makes me appreciate them more. I think I'll put these in the bedroom and leave the speaker designing to Wayne. Sure was fun, though.

Subject: Altec 414
Posted by Wayne Parham on Mon, 20 Mar 2006 15:00:14 GMT
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Looking back through my notes, the Altec 414 works best in vented cabinets from 0.5ft3 to 2.0ft3 tuned to 60Hz. PiAlign suggests 1.5ft3. The thing is, none of these alignments are going to result in a speaker with much deep bass at all. Same thing with sealed alignments.It's not that these alignments are underdamped, it's just that they result in high-efficiency midbass with no deep bass. To me, a high-efficiency speaker with a lot of midbass can sound sort of thick. I hear this in mini-monitors when turned up loud too. They're making plenty of low midrange and some upper bass, but no deep bass foundation. It just sounds weird to me.Maybe try this new speaker of yours with a sub? How does that sound?