

MUSIC IN THE ROUND

Kalman Rubinson

SubTraps

Another fundamental adjustment

I'm a bit of a bass freak. While I resisted it in my stereo system, I like having a good subwoofer in my multichannel system, and Outlaw's ICBM Bass Manager and Paradigm's Servo-15 subwoofer provide the underpinning I need. The sticky issue is correct placement, and that is constrained by choices of furniture and décor. When I installed the Servo-15, I briefly tried only one or two other spots before ending up with the sub just to the left of the couch. The fact that level settings for the sub are quite critical suggests to me that this spot is less than ideal, but I had little choice.

While surfing the Web and musing about subwoofer isolation and supports, Acoustic Sciences Corp. sent me an e-mail about their new SubTrap, a type of Tube Trap designed to fit beneath a subwoofer and thus solve many of the problems encountered in real listening rooms. When placed on a SubTrap, a subwoofer is physically decoupled from the floor and mechanical feedback is minimized. Well, that hasn't been a problem for me, except when I jack the levels way up. However, the SubTrap is also designed to attack acoustic problems caused by the interactions of a subwoofer's output and the room's modes.

First, with a typical ceiling height of 8', the mode is at 70Hz. Simple equalization can reduce the magnitude of the system response at that frequency, but can't easily correct for the storage and release of energy over time, which leads to imprecise and inarticulate bass at and around 70Hz. Second, the common and obvious placement of a subwoofer on the floor puts it in a high-pressure zone—a room boundary where it more effectively loads and is affected by the modal resonance. The SubTrap targets both of these issues by providing ample energy absorption in the 70Hz range, more or less like one of ASC's traditional Tube Traps, and by raising the sub above the floor boundary.

I had misgivings. A SubTrap is one big, chunky black box—stacking my sub on top of it created a monumental black tower that loomed over the listening position like one of those monoliths from 2001: A Space Odyssey. But it worked like magic. As soon as I'd set it up, it was obvious that the room acoustics had changed for the better. There was less apparent energy from clapping,



Photo: Kalman Rubinson

loud conversation, or just stomping around. When I turned on the system, there was also less apparent bass energy from all widerange signals, even with the sub disconnected! Clearly, the SubTrap was minimizing the excitation of these room modes. I say "modes" because my multichannel room measures 16' by 16' by 8' (I know, I know...not room dimensions anyone would choose from scratch for audio reproduction), which means that the 70Hz trap was working on the fundamental of the major mode for the height, and the first harmonic of the major mode for the length and width.

With the SubTrap-stacked Servo-15 back in play, the bass was transformed. I thought I'd had it pretty good before, but now there was more bass detail, and so much deeper than I expected. In fact, I had to rebalance the subwoofer levels; pre-SubTrap, my ears and my SPL meter had been deceived by the encumbered resonances. With the true bass levels restored (and my wife outside in the garden), I unleashed my inner bass freak with Von Kessel's Requiem (SACD, VK3583). This disc has lots of spacey synthesizer sounds compounded with assorted percussion (especially gongs!), but track 2, aptly titled "From DC to 60Hz Ahmmm," was particularly powerful.



The combo of Servo-15 and SubTrap filled the room with throbbing, tuneful bass that moved me, but not the floorboards or the furniture. Ah, yes—glorious bass without the boom!

With acoustic music, things were even better. Gary Border's Trumpet Works (SACD, Artega ART1001) is a collection of solo and concerted performances, beautifully recorded with different collaborators in different venues. On the opening solo, recorded in the Cathedral of St. Paul (Minnesota), I could hear the huge space of the cathedral, unencumbered by the modes of my room. On other tracks, where Border's trumpet is accompanied by an organ, the fundamentals had a discreteness of tone that was new in this listening room.

Figuring merely to sample Gregorio Paniagua's familiar La Folia in its new multichannel version (SACD, Harmonia Mundi HMC 801050), I was (sub)trapped by the natural ambience, startling transients, and incisive percussion revealed by the removal of the room's signature. I sat riveted in my seat for the whole disc. If you liked the original La Folia CD (or LP!) and you now have a multichannel system, you must get this SACD. I swear I could almost smell the little bus on the final cut.

The SubTrap is available in two sizes (18", or 22" square) from ASC dealers. The ASC website offers some guidance in selection, relating the choice to subwoofer bandwidth and room dimensions. At ASC's suggestion, and to fit the Servo-15's dimensions, I went with the 22"-square model.

I now face a serious disagreement with my wife re. the appearance of the room. Unless your room is fortuitously dimensioned or otherwise treated, you, too, may have some serious domestic discussions ahead of you. But most of us with subwoofers will just have to have a SubTrap.