

## Equipment Report

# REL T7i Subwoofer

## The i Has It

Neil Gader

It might be a common perception, but a subwoofer's role isn't limited to just adding an octave or so of bass response and going boom. Ideally it should be all about the quantity and quality of low frequencies that restore a bass-shy system to a musical equilibrium—a balance that permits the full breadth of the recording to be realized. In short it's not just how much but how well. If this sounds like a distinction in search of a difference, then you'll need to spend some time with the REL T7i.

As many enthusiasts are aware, REL makes some of the classiest subwoofers in the high end. The T7i is no exception. Finished in a deep, glossy black (white is also available), and discreetly appointed with solid aluminum accents, the T7i is not much larger than a postage stamp (OK, at about a square foot it's a little bigger than that). The T7i does its business with a forward-firing 8" driver which is backed up by a bottom-firing 10" passive radiator. This alignment is a reversal over its predecessor, the T7, which placed the active woofer in the downward position with the passive firing forward.

As REL woofer-in-chief John Hunter described to me, the new T lineup benefitted from the development of the Series S line. The Series S reminded him not only of the importance of both a lighter/stiffer driver but of the issue of self-quieting, which Hunter describes as design and engineering "intended to produce a cone/driver that starts and stops well and immediately quiets down and does not continue ringing." Basically, no overshoot. And, given the choice between lighter and stiffer, stiffer was the big winner sonically. Nonetheless, the T7i still employs a composite of lighter-weight paper—REL even took the carbon black out of the paper because it added 1.4 grams per cone (who knew?). For stiffening the cone, REL designed specially prepared alloy center caps that overlap much of the surface area of the diaphragm. This innovation improved damping and resulted in slightly less weight and almost three times the rigidity. Additionally, cabinet depth was added to properly dissipate the backwave. And cabinet wall mass was increased to a full one inch. The fine Class AB 200W amp was left unchanged.

The back panel houses rotary settings for output plus the tiniest 39-step increments for adjusting the crossover over a range of 30–120Hz. There are dual low-level RCA inputs, plus an LFE, but the high-level input is and has always been the preferred installation. A lengthy Neutrik connector is provided for this purpose. It carries within its jacketing four wires for connection to an amplifier's speaker taps. Famously, REL subs do not use high-pass filters—the main speaker's performance envelope will remain unaltered. There's a phase toggle, as well.

Corner placement is suggested by REL to begin, facing on a room diagonal. This not only maximizes room gain but allows "the most linear low bass wave launch...the ability to tune the sub to the axial node of the room, or longest throw distance." In my small room, this procedure works but don't be shy about experimenting.

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## Specs & Pricing

**Drivers:** Active drive unit, 8" long-throw; 10" passive radiator

**Lower frequency response:** 30Hz at -6dB in-room

**Inputs:** Hi-level Neutrik Speakon, low-level single phono, LFE phono

**Dimensions:** 12" x 14.3" x 15"

**Weight:** 36 lbs.

**Price:** \$999

### REL ACOUSTICS NORTH AMERICA

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I ran the T7i with a range of compact loudspeakers that included the B&W 805 D3, Revel Concerta2 M16, Elac Uni-Fi UB5 (reviews forthcoming) plus my own ATC SCM20SL pro-monitor. These all have varying amounts of bass extension, roll-off characteristics, and sensitivity—differences that were easily compensated for with the T7i crossover and output settings. The low 84dB sensitivity of the sealed-box ATC, for example, required bringing up the output slightly, while the deeper extension and superior efficiency of the ported B&W necessitated a lower crossover setting and a slight reduction in output.

I evaluated the T7i like I do all subwoofers—an interwoven, three-perspective approach of assessing extension, integration, and musicality. In extension the REL was as good as its word, descending with authority into the low thirty-cycle range and perceptibly lower as it rolls off. Not quite the full bottom octave (20Hz) but true sub-bass territory, nonetheless, and an achievement for such a small sub.

Sonically, each of the T7i/speaker combinations I listened to registered as more present, with greater weight and wider dynamic impact, and perhaps, most importantly improved dimensional and ambient information. The opening riff on Michael Jackson’s “Billie Jean” was especially instructive. The establishing groove, a tandem of kickdrum and bass guitar lays the groundwork for this iconic mega-hit. Operating without the REL, bass response was articulate and fast, but dynamically a bit restrained and lacking in the hip-gyrating impulse of the dance floor. Adding the REL to the system raised the sound and weight of this riff into a different category of impact, expressiveness, and bloom. Similarly, the marvelous “Duetto” from Stravinsky’s Pulcinella required the T7i to reproduce the thick, grumbling mood and timbral details of trombone and doublebass. Without such direct comparisons, it’s easy to overlook—and I know I have—the relationship between frequency and dynamics. If the system isn’t reproducing the lowest bass frequencies, that range will similarly have its dynamics rolled off as well.

I listened to Tony Bennett’s “Just in Time” from the recently released LP Bennett/Brubeck, *The White House Sessions, Live 1962* [Columbia/Impex]. The drummer and bassist have a nice, swinging rhythm line going, but it takes the REL to reveal individual identities. Removing the REL causes the individual textures and timbre of these instruments to meld into one another. This is where the musicality of the T7i comes to the fore. The best subwoofers I’ve encountered are just as much about detail and definition as they are about extension.

For classical music listeners, the most immediate rewards come in the form of ambient information. A prime example would be the LP of the Copland Fanfare [Dallas, Johanos: Analogue Productions],



which depends on the explosive kettledrums and trombones to establish the majesty of the piece. Take the REL out of the system, and the cavernous, immersive soundstage becomes a narrower, more generic space.

Or, take the example of a solo 88-key piano. Its lowest note, an A, produces a 27.5Hz tone. (The 97-key Bösendorfer can hit 16.5Hz but that’s another matter.) Most of this massive low-frequency energy is radiated by the huge wooden soundboard that underlies the piano’s frame. And this is why most LF-limited loudspeakers sound like tinker-toys trying to reproduce a concert grand. Add the T7i and a piano recording like Nojima Plays Liszt [Reference Recordings] takes on powerful authority and vitality. The massive aura in and around the piano becomes more present on the stage, the intensity of upper treble transients are more in balance with the instrument.

The T7i faces some serious competition from another REL. It’s the Series S/5, which recently garnered my 2016 Golden Ear Award. The comparison reveals the difference between a very fast, small-driver, 30-cycle sub like the T7i, versus the 20Hz, considerably more costly S/5 (\$2500) with

big drivers. It comes down to the amount of weight and the foundation-rocking extension of the larger S/5. I could hear the limits of the T7i when reproducing the steady sustain of the deepest pipe organ notes—it was one of the only times it revealed itself as a sound source. The S/5 comparatively got its seismic groove on and pored forth as if connected directly to the Earth’s core.

I had the opportunity to add a second T7i to the system and the results, I hate to admit, are pretty addicting. Why more than one? A pair of subs moves more air and can smooth the overall room response as they manage the peaks and nulls within the listening space. They become less prone to our own localization antennae. If your budget allows, adding a second sub is also a great option if the system moves to a larger room.

Has REL managed the impossible? Well, not quite. But that doesn’t mean the T7i isn’t worth popping a couple of champagne corks over. As a companion in smaller rooms where placement requires discretion, its footprint-to-performance ratio makes it near second-to-none in its category. And that makes it another outright winner from the good lads at REL.