Test Report: Hsu Research VTF-15H Subwoofer

Can you get a true supersub for less than a grand?

- By Brent Butterworth
- Posted February 10, 2011

Email

Enlarge

Key Features

$879 Hsuresearch.com

• 15-inch driver powered by 350-watt BASH amp
• Adjustable Q
• Triangular ports with removable foam plugs
• Two EQ settings
• Line- and speaker-level inputs
• 25 x 18 x 26 in (without grille or feet); 118 lb.

I have a confession to make: I've been a woofer wuss for most of my career as an audio journalist. When I started 21 years ago, there weren't many good subwoofers, and the little ones were usually less bad than the big ones, so I stuck mostly with smaller subs for my personal systems. But the shoot-out of state-of-the-art 12-inch subwoofers I conducted for *S+V* back in 2009 showed me what a great experience a large, high-end sub could deliver. Thanks to improvements in driver design, cabinet construction and amplifier technology, today's supersubs can deliver sound quality even the fussiest audiophile can love.

There's only one catch: Supersubs cost big bucks. Even the most affordable model from my shoot-out, the SVSound PB-12 Plus, costs $1,349, and that's for a 12-incher.

The new Hsu Research VTF-15H may have the same disruptive effect on the supersub market that the Eee PC netbook had on the laptop market. The VTF-15H is a big, muscular subwoofer with a 15-inch driver and a high-efficiency BASH amplifier rated at 350 watts continuous and 1,400 watts peak power. The stiff, heavy enclosure contributes to a back-busting weight of 118 pounds. And the VTF-15H offers more tweaking possibilities than almost any other subwoofer I've encountered.

Now, what would *you* pay for a sub like this? $2,000? Way over. $1,500? Still too high. Try $879 in matte black or $999 in rosenut woodgrain finish.

What's the catch? Actually there are two. First, shipping and handling on this behemoth is $139. Second, you have to unpack and position the beast yourself. Fortunately, the VTF-15H's patent-pending "integrated flare triangular ports" provide not only claimed acoustical advantages but a useful handhold for lifting the sub.

While I have seen some less-expensive 15-inch subs, most cut corners with a flimsy driver cone, a rickety enclosure or a feeble amplifier. Although it may seem counterintuitive, I've found in the past that a cheap 15-incher sometimes distorts far more than a comparable smaller subwoofer. With that broad expanse of unsupported cone diaphragm, you need a stiff, high-quality, and relatively expensive cone material to keep distortion to a minimum.

SETUP

The sheer bulk of the VTF-15H proved a little difficult to accommodate even in my large listening room. I had to turn it sideways to fit it into my room's "subwoofer sweet spot." Suffice it to say this sub makes no concessions to any lifestyle except that of the hardcore audio enthusiast. (Which IMHO is a fine lifestyle indeed.) Connection was typical; I used the line-level inputs, but speaker-level inputs are also provided.

It's in the adjustments that things get interesting. Besides the usual volume, crossover, and phase controls, the VTF-15H offers three ways to tweak bass performance.

Hsu supplies two foam plugs that can be used to stopper the triangular ports. You can use one plug to reduce port response (and change the box tuning), or both plugs to effectively convert the sub to a sealed-box tuning. The EQ switch offers two positions, EQ1 and EQ2; the former provides deeper bass response while the latter provides more mid-bass output. Combining these

two options gives you a total of five different tuning modes, all of which are well explained in the manual. (Using the EQ1 mode with both ports open is strictly forbidden and will void the warranty.)

There's also a Q knob, which adjusts the resonant bandwidth of the subwoofer. The minimum Q of 0.3 gives you a tighter sound (think Yes's Chris Squire or Rush's Geddy Lee); a medium Q setting of 0.5 gives you the flattest response (think the L.A. studio bassists on Steely Dan records); and the maximum setting of 0.7 gives you a fatter sound (think ZZ Top's Dusty Hill or Booker T. and the MG's Duck Dunn).

The changes that all these adjustments facilitate are not subtle. In order to find what works best for you, you'll have to try all the options with a variety of material, a task that took me an hour or two. It's almost like buying six different subwoofers, taking them home, then deciding which among them you like best. The easiest way to find my preferred settings was to put short snippets of DVDs and CDs on repeat, then flip switches, adjust plugs, and note which options sounded best with what.

At some settings, the VTF-15H's brute force overwhelmed me in a way I can't recall experiencing with other subwoofers. To be specific, some settings produced so much punch and power that it started to give me a headache. The 0.3 Q setting in combination with the ports-open mode produced tight bass thuds that felt like being hit in the head with a pillow. On the other hand, you can turn the Q to 0.7, activate the EQ2 mode, and get big, fat, ultra-extended bass that makes you feel like you're sitting on a huge pile of freshly sheared wool.

I greatly preferred the sound with both ports plugged, EQ1 mode activated and a Q setting of 0.5, but that's just me. The point is, it's a pretty sure bet the VTF-15H can deliver bass performance that'll please you, whether your tastes run to Mozart or Michael Bay or somewhere in between.

PERFORMANCE

"Effortless" is the first word in my listening notes for the VTF-15H, and it's one that came to mind over and over again. None of the toughest bass tests I know of, including the opening scene of *Star Wars, Episode II: Attack of the Clones*, the depth-charge scene in *U-571*, and pipe-organ showcases such as Jongen's "Symphony Concertante," and Saint-Saëns' "Symphony No. 3," could faze the VTF-15H. Despite the fact that these tracks contain some of the most intense low bass I've heard (as low as 16 Hz on "Symphony No. 3"), the VTF-15H coasted through them as easily as if they were solo flute recordings.

To sum it up, the listener will distort (i.e., throbbing head, aching eardrums, bruises inflicted by aggrieved cohabitants) before the VTF-15H does. In terms of sheer output, it's the most capable subwoofer I've tested. If the VTF-15H can't shake your couch, your name must be Fred Flintstone.

Not only was the output incredible, the entertainment experience it delivered was singular. I felt the spaceship explosion that opens *Attack of the Clones* in my chest, the same way you feel it when the driver of a semi-trailer truck starts his engine as you're walking by. Movies, especially, benefited from this seemingly direct interface between the subwoofer and the listener's body;

action-movie scenes became much more involving and entertaining.

My adjustments and tweaks got the VTF-15H singing the wonderful, melodic bass lines from Steely Dan's "Aja," pulsing with the English Beat's "Hands Off She's Mine" and perfectly plucking out the delicate lines of jazz virtuoso Marc Johnson on my vinyl record of the Bill Evans/Toots Theilemans collaboration *Affinity*. However, while I'd rate the VTF-15H a little above average in pitch definition, subtlety, and detail, I have heard a few subs that sound more melodic. Given that many of the big bruiser subs out there aren't terribly musical (and cost a lot more), the VTF-15H's achievement in this case is as surprising and impressive as a WWF wrestler dancing "Swan Lake."

BOTTOM LINE
Few people fit into the target market for a subwoofer that can rattle not only your walls but also maybe even your neighbors' walls. Few people want to devote floor space for a subwoofer that measures 26 inches deep. But those devoted enthusiasts for whom the thought of getting a true state-of-the-art subwoofer for just $1,019 (including shipping) is irresistible will find that the VTF-15H delivers absolutely everything they expected and probably even a bit more.

TEST BENCH (*revised September 16, 2011*)

Frequency Response
24 to 149 Hz ±3.0 dB

Bass output (CEA-2010 standard, 2 ports open, EQ2)
Ultra-low bass (20-31.5 Hz) average: 119.2 dB
20 Hz 113.4 dB
25 Hz 122.1 dB
31.5 Hz 122.2 dB

Low bass (40-63 Hz) average: 123.2 dB
40 Hz 123.4 dB
50 Hz 122.8 dB
63 Hz 123.4 dB

Bass output (CEA-2010 standard, 1 port open, EQ1)
Ultra-low bass (20-31.5 Hz) average: 117.2 dB
20 Hz 114.8 dB
25 Hz 116.7 dB
31.5 Hz 121.6 dB

Low bass (40-63 Hz) average: 121.8 dB
40 Hz 120.0 dB
50 Hz 121.2 dB
63 Hz 122.7 dB

This is the second revision of these measurements, due mainly to various issues involving the CEA-2010 subwoofer output measurement standard. (These issues are explained in depth here.) Since the original review, I've acquired several new pieces of measurement gear and have completely remeasured the VTF-15H.

The CEA-2010 results presented here were measured with two different ways. The first set of measurements were taken with both ports open and in the EQ2 setting, this was the highest averaged output I was able to achieve. The second set uses the same settings that the Audioholics website used in their review of the VTF-15H, with one port open in the EQ1 setting; I used these settings so I could share information with Audioholics and Hsu Research. These numbers are a couple dB higher than the results I previously posted, which listed an ultra-low bass (20-31.5 Hz) average of 113.9 dB and a low bass (40-63 Hz) average of 118.9 dB.

No matter who measures it or how they measure it, the VTF-15H puts out tremendous low-frequency energy, especially for its price, and is exceeded in output by only a handful of subs currently on the market.

The measurement shown in the chart reflects the flattest and deepest bass response I was able to achieve with the Q set at the midpoint (0.5). This measurement was taken in the ported max extension mode, with one port plugged in the EQ1 setting. Both the EQ switch and the number of ports plugged affect the deep bass response. The least deep bass response is with both ports plugged in the EQ2 setting, which produced response down to 31 Hz. Activating the crossover produced a low-pass function of about 30 dB/octave.

Adjusting the Q setting has a measurable but not extreme effect on frequency response except in the bottom half of the bottom bass octave; the effect is barely noticeable at about 100 Hz but gets stronger at lower frequencies. Measured with both ports plugged in the EQ1 setting, the highest Q setting (0.7) delivered +4.3 dB boost at 20 Hz compared to the lowest Q setting (0.3). — *B.B.*