

The Great Subwoofer Divide

Subwoofer makers have divided into two camps: the Modernists and the Traditionalists. We tried six recent 12-inch subs to find out which side gets it right.

The six contenders, from bottom left to top right: Axiom Audio EP600 v2, PSB SubSeries 500, SVSound PB-12 Plus, Velodyne Optimum-12, JL Audio Fathom f112, and Bag End PD12E-I.

By Brent Butterworth

There's a war going on. You've probably already heard the rumble of the tanks, the concussive blast of the torpedoes . . . and maybe even the passing of spaceships overhead. That's because this war is taking place in home theaters around the world, and the ammunition is DVDs and Blu-ray Discs like *Patton*, *Das Boot*, and, yes, even the *Star Wars* movies. It's a battle between two different philosophies in subwoofer design: the Modern engineers who've adopted the minisub concept and the Traditionalists who've stuck with the simple physics of big boxes.

The traditional way to put together a great subwoofer has been to build a big enclosure for it. The bigger a subwoofer's cabinet, the deeper the frequencies it can hit; the more efficient it is, the less powerful of an amp it needs, and the less robust its driver construction can be. But still, it's *big* — in fact, some traditional subs are the size of small refrigerators.

In the mid-1990s, a few manufacturers (most notably Sunfire) realized that they could get big bass out of a small box by using then-new digital/switching amplifier technologies. This approach often delivered more than 1,000 watts from a small, cool-running amplifier that was easy to build into a sub. Combining one of these amps with the ultra-robust woofer designs coming out of the car-audio industry resulted in numerous subs whose boxes were barely wider than their drivers but whose output rivaled that of their big-box brothers.

But some audiophiles and home theater enthusiasts contend that these minisubs don't deliver the pitch definition and punch of traditional subs. Although many companies now offer both designs, others proclaim their adherence to one philosophy or the other.

Sound & Vision decided it was time to settle this battle once and for all. We rounded up three traditional subs and three that employ the minisub concept and subjected them all to the same punishing test tracks and lab tests. For these tests, we chose subs with 12-inch drivers, which strike a balance between the speed and punch of 10- and 8-inch models, on the one hand, and the raw power of 15- and 18-inch ones.

Except where noted, I placed all of the subwoofers in my listening room's "sub sweet spot" — the place where I've found most subwoofers perform best. And I used a set of Sunfire XT-series main speakers with a Denon receiver.

Here's what I found, with the six subs listed in alphabetical order:



Trad 3

SV Sound PB-12 Plus

SVSound is a rather innovative company, selling its products only through the Internet in the U.S. and, in an age when most speaker makers have outsourced their production to Asia, assembling them in its own Ohio plant. That's why I was so surprised to find that such a forward-thinking company would offer a subwoofer as conservatively designed as the PB-12 Plus.



The \$1,139 PB-12 Plus is a classic “big box” subwoofer, measuring 25 inches deep, 19 inches wide, and 21 inches high, and weighing 127 pounds. It features an overbuilt 12 1/2-inch woofer with a fiberglass/pulp composite cone, driven by a switching-type BASH amplifier rated at 525 watts continuous power. The woofer vents through three 3-inch ports that run all the way to the back of the enclosure (which, by the way, is available in gloss black, rosenut, and oak finishes).

Those ports allow you to fine-tune the PB-12 Plus through the use of three supplied foam plugs and a subsonic-filter switch on the back. The switch has settings for 25 Hz, 20 Hz, 16 Hz, and sealed. The stock configuration is 20 Hz with no plugs installed, which SVS says is the most efficient. The 25-Hz setting delivers maximum output. One plug installed with the 16-Hz setting delivers the deepest bass response. And the sealed setting with all three plugs installed delivers...well, SVS doesn't specify except to say this mode is for bass purists.

SVS wisely includes a manual single-band parametric equalizer with three controls: frequency, level, and Q (or bandwidth). These controls let you “notch out” the most troublesome bass frequency in your room. SVS even gives you a tutorial on how to use them. From previous measurements, I know my room has a response hump at 40 Hz, and I was able to dial it out in a matter of seconds using the PB-12 Plus's EQ.

After experimenting with different port configurations, I found I preferred the stock one, with no ports stuffed and the 20-Hz filter selected. In my room, other settings — especially the “all plugs in” option — seemed to act like a governor, damping the PB-12 Plus's potent driver.

With no plugs, the PB-12 Plus delivered perhaps the most detailed, subtle performance of all these subs. On every musical cut I played, I could feel the bassists' fingers plucking the notes almost as if I myself were playing the instruments. There was an immediate, tactile sense to the sound; I felt more like I was hearing a bass amp on a stage. The PB-12 Plus seems to me almost a perfect balance of precision and output — I can't ever remember hearing more precise reproduction of bass notes.

It works just as well on movies, delivering a visceral slam with every stomp of a brontosaurus's massive foot and every fracturing bulkhead of a spaceship. Despite all the couch shaking, it never boomed and never audibly distorted.

The PB-12 Plus produced a punishing punch in the lab, too. Without the plugs, it delivered its maximum output of 114.8 dB at 20 Hz — the best 20-Hz performance I measured from any sub in this test. Its output was remarkably consistent, too; all the way from 20 Hz to 80 Hz, it achieved between 108.7- and 114.8-dB output at 10% THD.

The PB-12 Plus at least matches the performance of any subwoofer in this test, and its price is about 40% less than that of the next-least-expensive sub we tested. If you've got the space for this behemoth, it's probably the best deal going for a high-end subwoofer.

PRICE \$1,139
RATED POWER 525 W (continuous)
DIMENSIONS 21 x 19 x 25 in
WEIGHT 127 lb
SVSOUND.COM