

# EQUIPMENT REVIEWS

## Definitive Technology SuperCube Reference Subwoofer

*“whiplash accuracy ... truly spectacular ... a very detailed and layered soundstage that had great depth”*

By Tim Hart  
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### Introduction

There's nothing more satisfying while watching a movie or listening to music than deep, bone-shaking bass. While surround sound in the home has given us a magical experience of movie-watching in our living rooms or home theaters, a lot of home set-ups tend to ignore the lower frequencies, the argument being that as long as it booms and fits in the living space, what more could be achieved? Then came alternatives. High-performance mini-cube subwoofers garnered acclaim by producing a better sound than the subwoofers that come in pre-packaged systems and it didn't intrude on the décor. People were amazed at what these diminutive cubes could produce, with their long excursion drivers and high-powered amplification. Seemingly, the quest for a home friendly subwoofer had ended. But as impressive as the performance of the space-saving miracles are, they don't generate the sound pressure levels and true lower frequencies that their bigger cousins produce. In order to get this type of performance, you had to get the kneepads out and convince the practical side of the family to buy into the huge cumbersome enclosure that would end up dominating the room in which it would reside.

Definitive Technology is out to change that with their SuperCube Reference subwoofer (\$1,699). The SuperCube Reference is Definitive Technology's flagship in their SuperCube product line and aims at world-class performance for music and home theater applications with true subterranean frequencies at a very attractive price point and, most important of all, a package smaller than a refrigerator.

*“At this price point, can any subwoofer claim world-class performance? The answer is yes.”*

Definitive Technology has a contemporary look with their SuperCube series. The unit comes completely covered with



**Definitive Technology's SuperCube Reference Subwoofer**

*“intense ... deep, bone-shaking bass ... it got my neighbors' attention”*

black fabric, with the exception of the top and bottom cap, where the finish of the wood (piano gloss black or golden cherry) accents the subwoofer's presence. My review sample came in golden cherry. The color contrasts make a subtle and attractive statement that would blend with many of today's home decors. This look is carried over from Definitive Technology's other product offering, their BP Series of SuperTower bi-polar loudspeakers.

At 111 pounds, the 16.7 x 16.7 x 16.9-inch enclosure is dense, solid and almost seemingly impossible to move once on its spikes, which is a good thing. Generating a soul-jarring reported frequency response of 11–200 Hz, the 1,800 watt Digitally-Coupled Class D internal amplifier supplies the ponies to a 14-inch long-throw woofer. Because this is a sealed cabinet design, Definitive Technology uses two opposed passive radiators that are

*“a subtle and attractive statement that would blend with many of today’s home decors”*

90 degrees from the active driver. These passive radiators give the air displaced by the main driver a place to go, in turn generating low frequency themselves. Also, using a sealed cabinet in this way greatly improves the response of the active driver. The negative pressure behind the active driver centers the driver back to neutral much more quickly. Combined with the very powerful amp, this combination gives the larger driver a better chance of blending with quicker, smaller drivers in your main loudspeakers.

The back panel has connections for low-level RCA inputs, along with the ability to run your line-level main speaker outputs through the high-level speaker cable inputs on the SuperCube Reference to limit low-frequency information sent to those speakers. This is attractive if you want to leverage your existing amplification by off loading its power requirement to generate lower frequencies. But to do this requires another set of speaker cables, so it may not be practical to do so.

Instead of limiting the user to three phase settings of 0, 90 and 180 degrees like most subs I’ve seen, the SuperCube Reference gives you an infinitely adjustable phase between 0 to 180 degrees. This makes it easier for you to blend your own SuperCube Reference to your main speakers. The variable high-pass and low-pass crossover knobs handle the 40 to 150 Hz range for fine-tuning to your main loudspeakers frequency range, with a volume knob and fuse to sum it all up.

*“The SuperCube Reference had become one with my system”*

## Setup

When determining the best location for your subwoofer, many factors must be considered. Your room is the biggest variable in any system set-up, whether it’s your loudspeakers, your center loudspeaker, or your surround and effects loudspeakers. Starting off by ensuring that your existing system is set up properly will greatly reduce your frustration when introducing a subwoofer. Minimizing wall interactions with your front three speakers is a good place to start. Loudspeakers too close to surrounding walls or objects will artificially boost the lower frequencies, emitting a bloated and bloomy response; too far away from the walls, bass support drops off. If you’re confident that you have a nice balance within your room’s limitations and your loudspeakers are level matched, you’re ready to start.

I have a 16 x 27-foot room that serves as more than a home theater and music room. It is also the family room, computer room, and the kid’s sleepover room (Don’t touch the equipment!), so I, like most people, have to be considerate of the many uses the room has to accommodate. In real world terms, this means

I was limited to the area where the SuperCube Reference would reside. To help me in my quest, I used a Radio Shack analog SPL meter and a test tone generator for testing the location.

I started off with an area behind a couch. Moving the 100-plus pounds of SuperCube to the chosen area had me thinking that this spot had better work out because I wasn’t looking forward to moving it again. Attaching a single-ended RCA interconnect from the LFE on the back panel to the LFE output on my B&K AVR307, and plugging in the power cord, I was ready to start. As things have it, the first location did not work out, as the SuperCube Reference was sitting adjacent to a sliding glass door. As I was outside while the kids were watching “The Matrix Reloaded,” the glass of the door looked like the side of the glass building in the first “Matrix” movie right after the helicopter crashed into it. The effect scared me into the action of moving to another locale.

*“the SuperCube Reference allowed me to realize what I have been missing in the sub-ten Hz range”*

Although I prefer corners, I was unable to use any of the ones in my room. The next available spot I manhandled the SuperCube Reference into was somewhere along the wall between my Revel Studios, which are spaced eight-and-a-half feet apart and three feet from the wall. I oriented the active driver of the SuperCube Reference away from the wall, which allowed the two opposed passive radiators to point along the wall, then started running test tones and taking measurements to eliminate as many bumps and valleys in the frequency range as the limited location allowed. I moved the SuperCube Reference back and forth along the wall, taking measurements as I did so and found an acceptable position towards the left speaker with the left passive radiator about 14 inches from a ASC Tube Trap. Satisfied that the phase was set properly, I set low-pass and high-pass filters to slightly crossover to the Revels’ specified frequency response and did some more twiddling until I felt I had the SuperCube Reference where I wanted it. Then it was down to the business of listening.

*“true subwoofer frequencies that add breadth and depth to your existing system”*

## Music and Movies



Enamored with the higher-resolution formats, such as SACD and DVD-Audio, I couldn’t wait to hear what the SuperCube Reference was going to do for me. I popped in the remastered-to-SACD copy of Peter Gabriel’s *Plays Live Highlights* (Geffen Records). “San Jacinto” was first up. The

immediate impression I had was that I have been missing a lot of low-level detail. The Revel Studios have a marvelous bass extension down below 30 Hz, but the SuperCube Reference allowed me to realize what I have been missing in the sub-ten Hz range. The delicate resonant texture of the non-linear bass playing by Tony Levin took on a new dimensionality. The gravelly quality was handled with a firm control. The tautness and snap on the

*“firm control ... The tautness and snap on the kick-bass drum had great energy and didn’t collapse or distort despite high volume levels”*

kick-bass drum had great energy and didn’t collapse or distort despite high volume levels. It blended better than I thought possible with the Revels, although I did notice a very faint bloom to some bass notes that I’ve not heard with the Revels alone. Some quick measurements suggested a peaky response in the 25–30 Hz range. More twiddling with the phase and the high- and low-pass filters took care of some of the bloom, but a tad remained. Towards the last part of the tune, the chorus on “No Self Control” has a synth-accompanied bass line that filled the area between my Revels with a very detailed and layered soundstage that had great depth and pinpoint instrument location within the soundstage. The added presence of the live recording was very enjoyable.

*“The bass lines on ‘The Package’ are deep, crunchy and punchy, highlighting the SuperCube Reference’s ability to control with authority”*



Next up was A Perfect Circle’s *Thirteenth Step* (Virgin Records). Having just seen them live in San Francisco two months ago, their sound was still very clear in my mind. One aspect of that show was the thundering bass and drums that shook us the whole event. This recording leans towards the warm side and pleasantly

so, with deep accentuated lower register information. The bass lines on “The Package” are deep, crunchy and punchy, highlighting the SuperCube Reference’s ability to control with authority. The transients on this track demand articulation and deftness and the SuperCube Reference does an admirable job. Never does the attack sound like it collapses. The dynamics never seemed muddy or congested, especially when the music gets heavy. “Pet” attacks with powerful kick drum, bass and

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*“powerful, kick drum, bass and thundering guitar ... the SuperCube Reference never seemed to bat an eyelash under the assault”*

thundering guitar, but the SuperCube Reference never seemed to bat an eyelash under the assault. All layers of detail were faithfully rendered as previously heard without the SuperCube in my system, but now they were fleshed out and even more extended with whiplash accuracy. Slam and pace were maintained throughout this piece, never drawing attention to its location. The SuperCube Reference had become one with my system.

*“the SuperCube’s ability to sort out the subtle details of the different thrumming engine sounds and still convey the unique sound of each in the melee ... was impressive at high volumes”*

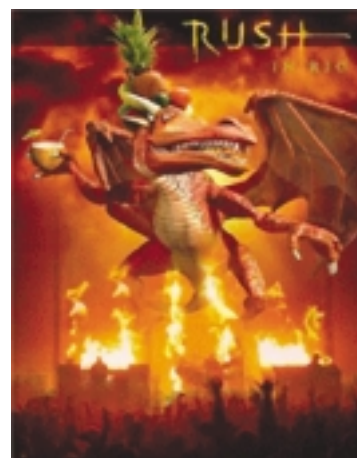


On to one of my favorite test DVDs, I popped in “Star Wars Episode 1 – The Phantom Menace” (Lucasfilms Ltd.) for the pod race. A subsonic hum of turbines firing up heralds the race’s start. The SuperCube’s ability to sort out the subtle details of the different thrumming engine sounds and still convey the unique sound of each in the melee of the start was impressive at high volumes.

It never got overwhelmed or congested with the information it had to process, and what came out was truly spectacular.

*“the SuperCube Reference conveyed the subtle and dynamic impact of Peart’s drums with dexterity”*

The *Rush in Rio* DVD (Anthem) seemed like a good choice to air out the SuperCube Reference with some polyrhythmic sleight of hand with Neil Peart’s “O Baterista.” At loud volumes, the SuperCube Reference conveyed the subtle and dynamic impact of Peart’s drums with dexterity. There is a portion of his drum solo that is done on electronic drums, and some of the lower frequencies came across in





such a way that it made this section sound new to me. This happened a few times during my listening sessions. It felt like a different perspective had been added, and I liked the view.

**“Master and Commander: The Far Side of the World (20th Century Fox/Universal) allowed the SuperCube to show me what SPL is all about”**



“Master and Commander: The Far Side of the World” (20th Century Fox/Universal) allowed the SuperCube to show me what SPL is all about. Starting with the first encounter with the French ship as it opens fire at a distance, you don’t as much hear the cannon shots as feel them. The visceral impact of the sound wave of the distant cannon shot is impressive. I’d not expect a 14-inch driver to move the air in quite that way. When the two

ships face off the onslaught, it is intense. I overloaded my room at this point and had to back off of the volume a bit, but it got the neighbors’ attention.

### Downside

As I stated earlier, there was a touch of bloom down around the 25–30 Hz range that I was unable to remedy. Although I did get a pretty flat measured response, with the exception of a few dips and peaks at around the 35–45 Hz range, there is a possibility that the location was the culprit. Having the ability to do some room equalization would have solved this problem, which the SuperCube Reference does not offer. Tiny changes and movements will have a profound effect on the response you get. If you are uncomfortable with the time it will take to get your product set up correctly, make sure your dealer will come to your home, measure your room’s response, and do a proper set-up. Better yet, a professional acoustician can nail your room and bring out that hard-to-get magic. This will mean the difference between being happy with your purchase and wanting to return it.

***“To improve on the SuperCube Reference’s ability to plumb the depths with authority and agility, you would have to spend twice as much”***

This probably would have added a few hundred dollars to the overall cost of the SuperCube Reference, but a remote would greatly ease the set-up process and allow for some on-the-fly minor adjustments. I found myself changing the gain when

changing from music to movies. Different material is recorded at different levels at different studios and it sometimes becomes necessary to make these adjustments to overcome these situations.

### Conclusion

Setting up a subwoofer in your home can be a challenge. Patience can pay big dividends, especially when working with a product that is at the caliber of the SuperCube Reference. Although smaller than many other subwoofer systems with similar specifications, the SuperCube Reference makes up for it with true subwoofer frequencies that add breadth and depth to your existing system. To improve on the SuperCube Reference’s ability to plumb the depths with authority and agility, you would have to spend twice as much to make a noticeable improvement over what a properly set-up SuperCube Reference can do. The SuperCube’s ability to disappear in my system speaks highly of its capabilities and the styling is elegant, tasteful and unobtrusive. At this price point, can any subwoofer claim world-class performance? The answer is yes.

***“world-class performance for music and home theater applications with true subterranean frequencies at a very attractive price point ”***

reference software:	<ul style="list-style-type: none"><li>• Peter Gabriel – Plays Live Highlights (CD)</li><li>• A Perfect Circle – Thirteenth Step (CD)</li><li>• Star Wars Episode 1: The Phantom Menace (DVD)</li><li>• Rush – Rush in Rio (DVD)</li><li>• Master and Commander: The Far Side of the World (DVD)</li></ul>
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