

“**THE SUB TO BEAT**

... unmatched performance

... the best subwoofer I know of.”

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“... sweeping bass ... extended much lower in frequency than it had through any other combination of sub and speaker I’d heard ... power produced by the SUB 25 was incredible, but equally impressive was its smoothly extended, evenhanded nature.”

by Randall Smith

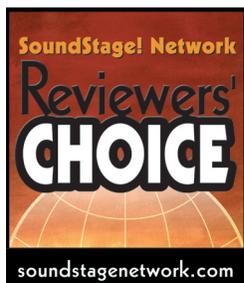
My love for home theater has greatly altered my taste in movies, and not necessarily in a good direction. Before I became addicted, movies like *The Terminator* and *Die Hard* weren’t really my thing; I considered myself above that sort of shoot-em-up. Instead, I preferred films that had great actors in them, that could be filed under “Drama” or “Thriller,” with perhaps a silly comedy every once in a while. Visual effects and big-bang soundtracks didn’t do it for me. I could watch a movie on a 17” TV, listen through the built-in stereo speakers, and be content.

But now home theater is a hobby, a passion, and because of that, my taste in films has expanded to big-bang movies. For the most part, I still enjoy a great drama, but now I find myself more excited to receive the crazy action flicks arriving in my mailbox from Netflix. The reason: nothing exercises the awesome capabilities of my HT system more than a film with a great special-effects soundtrack. Now, I find myself watching more movies in my home and attending more movies at theaters. Being the ultra competitive person I am, I want to experience the film in the theater, then see how my system fares in comparison.

For a long time, my system simply couldn’t compete with cinemas. The speakers I owned were always too small to be able to fill my room with sound. That’s why I started down the endless upgrade road.



While on this journey, I’ve made a few bad purchases, but I’ve learned quite a bit. One thing I now know is that the keys to great sound are the proper setup of electronics and speakers. Achieve this goal, and you’ve given your system its best opportunity to shine. My second bit of advice is to buy speakers that can play big and clean, and with great dynamic range. Remember, if you’re trying to replicate the size and scale of a huge movie theater with less than half the number of speakers, then maximizing the performance of the speakers you have is of the highest importance. And now, I believe that I have at last found the subwoofer that can take my HT system to the next level.



SIGNATURE SUB 25

The SUB 25 is the new top subwoofer in Paradigm's upper-most Signature line. Unlike Paradigm's earlier flagship subwoofers, the SUB 25 is not servo- but DSP-driven. A servo is used in a subwoofer to help lower distortion. The drawbacks are that servo subs are more complicated and thus more expensive to build, and that the servo circuitry can create a slight hum. The SUB 25's DSP circuitry is reportedly low in distortion, and that circuitry also helps Paradigm maintain a relatively small footprint of 18.125" wide x 21.625" deep and a height of 20.065". Looking at this sub, you'd never believe it weighs 114 pounds, and contains a massively built 15" woofer that Paradigm claims has up to 3" of excursion. This driver has a 3" voice-coil and a motor structure weighing a whopping 37 pounds. What this means is that the SUB 25 will play loud and deep, and virtually control the room it's in. I'd love to give you a better description of what the woofer cone looks like, but the grille is permanently attached. Paradigm's reason for this? Safety. Whether or not the SUB 25's woofer is capable of actually hurting anyone is beside the point to me. You've got to like the attitude, though.

"... bass extension and power caused things to move in my house that I had never heard move before ... SUB 25 instantly locked on to the room and energized the entire space—an experience quite unlike any I'd ever had in my room."

The SUB 25 comes in three different finishes: Cherry or, for another \$300, Piano Black or a gorgeous Natural Maple. The quality of the maple finish is to die for, and after I'd carefully freed this monster from its large cardboard box, I was smitten. A large subwoofer looking this good? I didn't see it coming.

"... impressively linear, without major dropouts or any noticeable peaks ... incredibly flat below 80 Hz ..."

The rear panel has all the standard controls for setting volume, phase, and crossover. Toward the bottom of the rear panel are left and right RCA inputs, plus an XLR input. Between the

XLR input and the power plug is a USB port that permits the use of Paradigm's Perfect Bass Kit (PBK-1) as well as the downloading of software updates to the SUB 25's DSP module.

"... able to reproduce this energy in my room in a way that I could feel more than hear ... constant and strong ... the greatest "disappearing" act I've ever heard from a sub ... I was amazed by its ability to energize the room without ever audibly drawing my attention to its physical location."

Mounted on the other side of the rear panel is the SUB 25's class-D amplifier. This uses aluminum circuit boards to dissipate heat more quickly and efficiently than conventional materials. This isn't the first time aluminum has been used in this way in an amplifier, but from what I've been told by Paradigm, it's the first time it's been used in a subwoofer amp. Another interesting tidbit: According to Paradigm, this amp is capable of producing 3,000 watts of power into a "real" load. Considering that only 1,800 watts of continuous power is available from the wall outlet, how do they do this? Paradigm uses their DSP chip to perform what they call Power Factor Correction, which allows the amp to deliver anywhere from 3,000 watts to 4,000 watts for up to a few seconds. Paradigm says that while other manufacturers derive their amplifier specifications from unrealistic testing situations, they insist that the SUB 25's specs were arrived at by putting this amp through its paces in a real-world situation.

SETUP

I placed the SUB 25 just to the right of my left front speaker, in the plane described by the front baffles of the Rockport Technologies Ankaa loudspeakers (currently in for review). The sub was about 2' from the front wall and 4' from the left sidewall, the location that provided the smoothest bass response throughout the room. The SUB 25 was connected to my Integra DTC-9.9 A/V receiver via an RCA cable. After taking some measurements as smooth and extended as any I've seen in a real-world room, I set the Integra to cross the signal over to the sub from 70 Hz down.

"... it seemed as if the SUB 25 actually expanded the size of my room."

PERFORMANCE

Once the SUB 25 was installed and its level matched to those of the rest of my speakers, I picked "Umasha" (*Strawberry Swamp Fever Mix*), the first track on the bonus disc that accompanies Mickey Hart's *Planet Drum* (Rykodisc 10396). It features a very extended, sweeping bass note that can help a listener determine a speaker's low-frequency extension, and how well the speaker's output integrates with the room. *SoundStage! Network's* Jeff Fritz sat in the center listening position, while I stood just behind him and to the left. As the track played, the bass extension and power caused things to move in my house that I had never heard move before. The SUB 25 instantly locked on to the room and energized the entire space—an experience quite unlike any I'd ever had in my room. The sweeping bass extended much lower in frequency than it had through any other combination of sub and speaker I'd heard in my room before, and Jeff enthusiastically agreed. The bass power produced by the SUB 25 was incredible, but equally impressive was its smoothly extended, evenhanded nature. The bass was impressively linear, without major dropouts or any noticeable peaks. Later that week, when I again measured the SUB 25's in-room response, I found it to be incredibly flat below 80 Hz in my room. And this was without the use of the Perfect Bass Kit (sold separately), which Paradigm included with the review sample.

"... great front-to-back pan ... I was thrilled by the SUB 25's ability to put a death grip on my room while remaining agile enough to reproduce small details ... the weight of each note was faithfully reproduced by the sub ..."

It's rewarding when you notice improvements you're not even looking for. While watching one of my favorite shows, *24*, I began to note just how powerful the SUB 25 was in more subtle ways. During this show's intense action sequences, there is a low-frequency tone that hangs out in the background of the sound mix. This sound increases the level of tension in the scene, and indicates just how dire the situation is. The SUB 25 was able to reproduce

HOW TO GET PERFECT BASS WITH A SIGNATURE SUB 25

Having owned an Anthem D2 surround-sound processor for several years, I've come to appreciate Anthem/Paradigm's level of expertise in technological advances. The addition of the Anthem Room Correction (ARC-1) software to the already feature-rich D2 makes it a truly complete product. Now, with the Signature SUB 25, Paradigm offers the same basic room-correction program for its customers who don't yet own a flagship processor. The Perfect Bass Kit is a simplified version of the ARC software that runs on a Windows-based PC.

"If you're forking out for a Signature SUB 25, you owe it to yourself to spend another \$300 [for the PBK-1] to maximize your experience."

The process and interface of the PBK-1 software is virtually the same as the ARC-1 in the D2. You start by connecting the supplied USB microphone, which is calibrated for your particular SUB 25, plus another USB cable (not supplied), from the back of the subwoofer to the PC. Once connected, the PBK-1 conducts a series of swept impulses that measure the subwoofer's room response at five different locations, beginning with the main listening position (you move the microphone between measurements). Once the test is completed, a frequency-response graph is displayed on the screen of your computer, indicated by a red line. The graph also shows a dotted line indicating the theoretical "target curve," and a solid line indicating what the system's actual corrected response should be.

While the SUB 25 already measured exceptionally well in my room, it had a 5 dB peak at 80 Hz, as well as a few dips here and there just below the desired crossover point. After the PBK-1 had done its thing, that peak was virtually eliminated. And because the PBK-1 is able to address many different problems, as compared to the single notch filter included with the JL Audio subs, it can potentially come up with a much more linear response. And the results were easy to hear.

If you're forking out for a Signature SUB 25, you owe it to yourself to spend another \$300 [for the PBK-1] to maximize your experience. As I said at the beginning of the review, proper setup is everything.

this energy in my room in a way that I could feel more than hear: a sound that remained constant and strong, but without drawing attention to the subwoofer itself. The SUB 25 pulled the greatest "disappearing" act I've ever heard from a sub—there were times when I was amazed by its ability to energize the room without ever audibly drawing my attention to its physical location. In fact, it seemed as if the SUB 25 actually expanded the size of my room.

Slumdog Millionaire is a great film not for its uplifting story and great acting alone, but also for its energy-packed soundtrack. Sitting in the theater, I salivated while listening to the drum track in the scene "Children of the Slums," and the drums in the song "O . . . Saya" were overwhelmingly powerful. As soon as the movie was over, I bought the soundtrack CD. Listening to this song through my two-channel system, featuring the Rockport Technologies Ankaa speakers, I was slightly disappointed. First, the quality on the CD wasn't as good as I'd hoped for. Second, the drums in "O . . . Saya" weren't as big or as dominant as they'd been in the theater. When the Blu-ray edition of the film finally arrived, I skipped ahead to "Children of the Slums" to find out, once and for all, which was closer to the Blu-ray version: what I'd heard in the theater or what I was hearing from the CD. Turns out that the theater's setup was overblown by comparison.

"... I was pleased with how well my home theater compared to my local cinema. In fact, with the addition of the SUB 25, there was no comparison."

Leading into "Children of the Slums," a plane lands on a runway where the little kids are playing stickball, giving the SUB 25 an opportunity to reproduce a great front-to-back pan of the plane flying just above their heads. As I mentioned above, the SUB 25's ability to integrate evenly with all of my speakers was paramount in its seamlessly pulling off this effect. I felt the full sonic weight of the plane's takeoff in my room, as well as the growl of its engines. I was thrilled by the SUB 25's ability to put a death grip on my room while remaining agile enough to reproduce small details. "O . . . Saya," on the other hand, sounded much more crisp and clean than I'd experienced in the theater. The film's DTS-MA soundtrack

allows the song to be played in 5.1 crystal-clear channels. The drumstrokes can be heard from all channels at once, which means that the sub must seamlessly integrate with the main and surround speakers. The leading edge of each drumstroke was handled by the main speakers, while the weight of each note was faithfully reproduced by the sub. Again, I was pleased with how well my home theater compared to my local cinema. In fact, with the addition of the SUB 25, there was no comparison.

"Never has a subwoofer energized my room in so dominant yet so controlled a way . . . I have at last found the subwoofer that can take my HT system to the next level."

COMPARISON

It seems to me that in designing the SUB 25, Paradigm was taking aim at JL Audio's Fathom f113. The f113 is a more mature product than the SUB 25—it's been available for a couple of years now—and costs from \$3,300 to \$3,700 (US), depending on finish. JL subs come in just two finishes, Satin Black or Piano Black; the SUB 25's Cherry and Maple finishes make it a better-looking product. However, the Fathom is slightly smaller, permitting greater flexibility of placement and décor. Both subs have massively built drivers—13.5" in the f113, 15" in the SUB 25—capable of extreme excursion. Also, both have built-in room-correction software for smoother frequency response. The JL's come with the software already loaded into the sub, while Paradigm requires you to separately purchase the PBK-1 Perfect Bass Kit (\$300 US). JL's Automatic Room Optimization (ARO) is a single-frequency notch filter, while the Paradigm's room correction is a spin-off of Anthem's ARC software, developed for Anthem's flagship D2 processor. To use the PBK-1, you need a laptop to run the room-correction test, and then download the settings to the SUB 25. JL's setup is far more quick and easy: Connect the provided microphone, place it at the listening position, press the Calibrate button on the sub, and wait for the test to finish.

Both subwoofers were capable of playing very, very loud, but the SUB 25's larger cabinet and driver meant that it could play deeper and louder than the Fathom f113, with more dynamic range and with less apparent effort. When I reviewed the f113 a few years back,

it was easy to hear the difference between it and the other subs I had on hand at the time. Comparing the f113 with the Signature SUB 25 provided much the same results, this time in favor of the Paradigm. The latter's 15" driver simply controlled my room in ways the JLA couldn't—and the SUB 25's Natural Maple finish had seduced me. The JL Audio Fathom f113 was the subwoofer to beat. The Paradigm Signature SUB 25 now is the sub to beat.

"The JL Audio Fathom f113 was the subwoofer to beat. The Paradigm Signature SUB 25 now is the sub to beat."

CONCLUSION

I so loved my time with Paradigm's Signature SUB 25 that I've decided to make it my reference subwoofer. Never has a subwoofer energized my room in so dominant yet so controlled a way. In the past, whenever I've written about how this or that subwoofer I was reviewing did a wonderful job of "disappearing"—i.e., not audibly drawing attention to its position—I never felt as if I was overstating that quality. I guess it just takes a better one to point out the difference. The fit'n'finish of its beautiful cabinet, its massive 15" driver, its ultra-powerful class-D amplifier, and its unmatched performance make the Paradigm Signature SUB 25 the best subwoofer I know of.