

Thiel SS2 SmartSub Subwoofer

Thanks to superb engineering—and a unique compensation feature that ensures the same superlative sonics regardless of where this sub is located in a room—the Thiel SmartSub breaks new ground in the bottom octaves.



Slam without slop; depth without distortion; sheer ferocity without a trace of constraint or compression. The new Thiel SS2 has taught me the sound of a subwoofer that is absolutely fearless in the face of extremes. And that is but the first of its lessons about what a subwoofer—freed from the constraints that typically plague the breed—can do.

Breaking New Sonic Ground

Subwoofers carry much of an action film's dramatic impact. But until I spent time with the remarkable SS2, I did not realize how much. Watching a rock-'em, sock-'em sonic showboat

like *The Incredibles* through this speaker is—sorry, there is no better word—incredible!

But there is more to it than electrifying punch and power. The plot-plot-BOOM-plot-plot-BOOM action flick formula can become tiresome when, as with too many subwoofers, the Big Bangs all sound alike and each portentous rumble resembles the last. The SS2 is not nearly so coarse. It reveals that large effects are actually highly differentiated. Some are short and sharp, while others are long and lingering. By reproducing variations in bass intensity, attack, delay, and pitch with exceptional accuracy, the SS2 enables sound effects to better match the variety of their accompanying images and the dramatic tenor of the movie.

In *The Incredibles*, for example, there are a half dozen dazzling action sequences, but each is unique and each builds upon the intensity of the last. Thanks to its broad acoustic palette, the SS2 reinforces the distinctiveness of each scene. Furthermore, it precisely traces the film's mounting intensity with progressively more penetrating bass. The Thiel not only musters the necessary low-end wallop, it underscores the movie's dramatic line to an unprecedented extent.

So far I have focused on the SS2's ability to tease out the distinctions among big sound effects. Rest assured that this subwoofer's virtues extend to subtler realms as well. It portrays sonic minutiae, like the thud of a thick door closing, with exactly the right weight and detail. On music DVDs, such as the fine 9/11 memorial, *America: A Tribute to Heroes*, acoustic guitars exhibit a realistically burnished tone while electric basses

are punchy, fat, and tuneful.

Indeed, music is one of the SS2's strongest suits. The speaker's lofty dynamic headroom and exemplary transients, which serve action features so well, are equally in evidence when playing music. As a bonus, the Thiel is unrivaled in pitch definition. Listen, for instance, to the Bach "Orgelwerke" track from Burmester's CD3 sampler. This brief organ piece exposes any pitch ambiguity and often induces considerable subwoofer slop. The SS2 will have none of that! Through it, deep bass notes are not hinted at—they are nailed. And, as with film sources, even the most challenging musical bass can't cause the SS2 to lose its composure.

Breaking New Technological Ground

My description of the SS2's sonics may evoke the mental image of a refrigerator-sized beast. On the contrary, the sub is rather compact for its performance envelope (though it is every bit as heavy as you might expect). Inside its buffed, rounded, and sealed enclosure reside two stacked short-coil/long-gap 10" woofers, replete with aluminum diaphragms and massive magnet structures. These units are said to reduce distortion and to allow the woofers to move atypically large amounts of air for their size. Also contributing to the SS2's trim stature is the choice of a 1000-watt Class D switching amp. Such amps deliver bounteous power for their size, and require no fins, fans, or overbuilt power supplies since they generate little heat.

The SS2's back panel sports an LFE input as well as an output that enables daisy-chaining multiple subs,

should you be so fortunate. There are also connections for an upstream Integrator—Thiel’s microprocessor-based active crossover that matches the subwoofer’s characteristics to a music system’s main speakers—as well as a twelve-volt trigger jack. There are also three unusual pushbuttons labeled INCREASE, DECREASE, and SELECT, as well as an LED readout. Together, these make up the user interface for the room-placement compensation feature (more on this later).

The Thiel SS2 demonstrates the sound of a subwoofer freed of the usual constraints. Its unbridled dynamic headroom allows it to toss off mammoth sonic booms with such ease that viewers have no choice but to surrender themselves to an overwhelming experience. And its superior dynamic range, transient response, and pitch resolution enable it to carry far more than the usual quotient of a film’s dramatic impact.

The SS2’s back panel is intriguing as much for the features it excludes as for those included. Unlike a traditional subwoofer, the unit has no crossover controls. Instead, Thiel relegates those functions to an upstream digital controller, A/V receiver, or Thiel’s own Integrator. Particularly in the home-theater environment, where crossovers built into subs are superfluous, this approach makes eminent sense. Not so sensible is the lack of a phase switch. If the SS2 happens to be out of phase with any full-range speakers in the system, nothing short of rewiring the latter will cure the problem.

The SS2 is actually one member of a family of new Thiel subwoofers collectively dubbed SmartSubs. They vary in size and price (the SS2 is approximately mid-line), but not in features or philosophy. The idea of all SmartSubs is to compensate for the predictable problems that degrade subwoofer performance. One such problem is voice-coil overheating. Thiel claims this condition can reduce a driver’s output by as much as five decibels and play havoc with its frequency response.

As a countermeasure, SmartSubs

include thermistors mounted to each voice coil that continuously sense and report temperature. An internal circuit then boosts output as necessary and corrects any response aberrations associated with current conditions. The upshot is a speaker that remains linear and uncompressed regardless of temperature. Of course, if the driver is about to toast itself, the circuit will temporarily shut everything down. But so long as a SmartSub is playing, it isn’t holding back.


The second performance obstacle SmartSubs surmount is not internal—it’s the room itself. Like all speakers, subwoofers sound very different depending upon their location. Finding the optimum position can be a maddening process. Furthermore, every location will excite one or more room resonant modes (corners are the worst in this respect).



To overcome this problem, Thiel created a circuit that allows the subwoofer to know and account for its room position. The user employs those three mysterious buttons and the LED readout mentioned earlier to input the sub’s distance from the side and back walls. Having been thus programmed, the SmartSub tailors its response to counteract the deleterious room effects

it knows it will encounter.

No doubt these circuits play a large part in the SS2’s rare combination of power and finesse. Thanks presumably to the temperature compensation circuit, the speaker exhibits nary a whiff of dynamic compression, even when driven murderously hard. The room-compensation feature is equally effective. I positioned the subwoofer in multiple spots and could not perceive any change in its sound. Moreover, by switching the feature on and off I confirmed that it is at least partly responsible for the SS2’s superior resolution. Enabling room compensation cleans up the reverberant overhang that normally obscures subtle bass information.

Conclusion

The Thiel SS2 demonstrates the sound of a subwoofer freed of the usual constraints. Its unbridled dynamic headroom allows it to toss off mammoth sonic booms with such ease that viewers have no choice but to surrender themselves to an overwhelming experience. And its superior dynamic range, transient response, and pitch resolution enable it to carry far more than the usual quotient of a film’s dramatic impact. Even room colorations are slashed by the SS2’s placement compensation feature, to refreshing effect. The SS2 breaks ground both sonically and technically, and the results are giddily satisfying. 

	Unhindered, undistorted power and depth
	Detailed and involving on both film and music
	Room compensation feature really works
	Lacks phase switch
	Requires upstream controller, A/V receiver, or Integrator
	

MANUFACTURER INFORMATION

THIEL AUDIO
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Price: \$4900 (varies with finish)

SPECIFICATIONS

Model: SmartSub SS2
Frequency Response: 12–300Hz
Power: 1000 watts
Drive Unit: Dual 10"
Dimensions: 23.5" x 11" x 21.5"
Weight: 108 lbs.

THIEL

Ultimate Performance Loudspeakers

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