

The New Reference

It is impressive how the new Thiel CS6

combines innovative technology,

timeless design, and traditional

craftsmanship. Stereoplay tested

them exclusively.



The Crossover

works as a first-order network with a 6 dB/octave slope. The majority of the 34 components, which are hand soldered, provide linear frequency response and phase accuracy.



The Baffle

weighs 66 pounds and is manufactured by injection molding a mixture of concrete and fiberglass. Steel reinforcement provides the required tensile strength, so that the baffle will not be damaged during shipping.

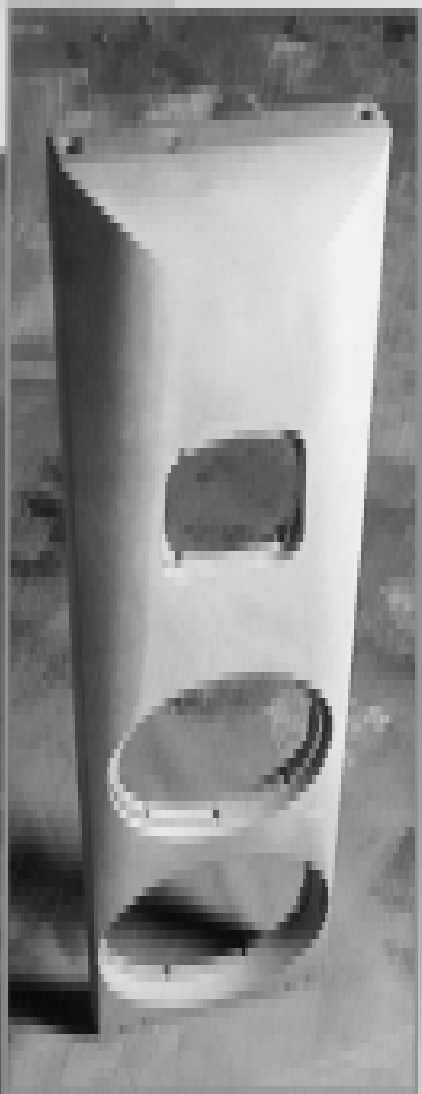


Photo: John Olson

The Woofer

is a real heavyweight: Its extremely low distortion motor system that uses a short voice coil and long magnetic gap requires a truly gigantic magnet for sufficient efficiency.



As tempting as the invigorating bliss of experimenting may be, at some point in time, every music fan will develop a desire for the “ultimate” speaker, which will become their unfailing partner in a future life of hi-fi. This “dream partner,” which may just as well be a little more expensive, should, however, be above reproach. For this demand, the American speaker manufacturer Thiel created their latest model, the floor-standing CS6, which costs approximately DM 20,000 (about \$10,600 U.S. in Germany) for a pair.

Despite its stately height of nearly 50 inches and a net weight of roughly 175 pounds, the CS6 does not at all appear unrefined and makes a nice visual statement thanks to its traditional style. For the cabinet finish, 16 different real wood veneers are available: without additional cost, one may choose from light oak, walnut and black ash. It is also important to the company owner and chief designer, Jim Thiel, that environmentally sound procedures are exclusively applied during the entire production process.

Technology

As far as craftsmanship is concerned, the Thiel CS6 is manufactured perfectly: it is convincing not only through its flawless finish, but proves to be built to last an eternity, as well. Inside, several U-shaped inner braces suppress disturbing cabinet vibrations, while the drivers are mounted on a 2-inch

thick steel reinforced concrete acoustic baffle: power robbing and sound-detrimental micro-vibrations, therefore, never occur.

The Thiel CS6 is a three-way speaker that uses a bass reflex system where a 12-inch passive radiator, used instead of a port opening, prevents typical bass-reflex nuisances such as pipe resonances and turbulence noise.

The CS6 is the first Thiel speaker model in which all drivers are manufactured exclusively within the company. These drivers are true high-tech products, which especially apply to the coaxially built mid-high frequency driver unit (see picture on the next page): exactly in the center of the 4-inch cone midrange driver, which is built with an aluminum “sandwich” diaphragm, sits a one-inch aluminum dome tweeter. The tweeter utilizes the specially shaped midrange driver’s diaphragm as a soundwave “guide.” The tweeter and midrange drivers each use their own voice coils, but they share the same magnet system.

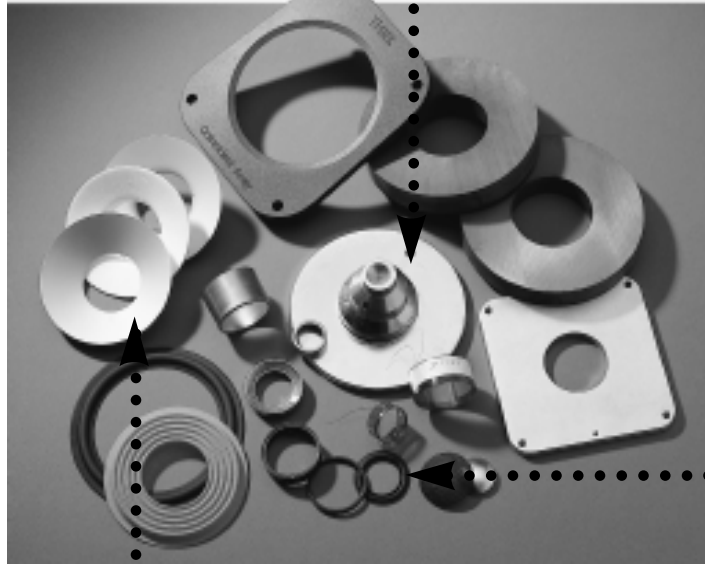
The extremely solid 10-inch woofer exudes a very impressive appearance with its nearly 25 pound weight. It also uses a very rigid aluminum diaphragm and, like the midrange and high frequency drivers of the CS6, is of the short coil/long gap type. The reason: according to Thiel’s belief, a good phase response in speakers can only be obtained with first-order, gradually sloped crossovers (6 dB per octave). Accordingly, the crossover’s attenuation is low, so the drivers must endure considerably wider bandwidths than with steeper sloped filters.

Loudspeaker Test

This demand does not pose a problem for the Thiel CS6, as was confirmed by the test lab: it delivered a non-distorted sound level up to 108 dB and tested impeccably in every regard: its efficiency and impedance profile permit flawless operation, even with amplifiers of lesser abilities.

Under listening conditions, the Thiel CS6 immediately proved that it belongs to a most superb class of speakers. For example, one of the listening panel members was quite startled, upon entering the listening room, by the fabulously natural sounding clarinet which was "located" next to the door: no speaker was playing any longer, "real" music could be heard. Between the Thiel CS6 and its sister model, the CS 3.6 (rated 26 points), which was written about in the January edition, there were differences in sound despite

Mid- and high-frequency drivers are incorporated into one unit with a shared pole plate (arrow) including step-turned center. ●●●●●●●●



The midrange driver diaphragm is a three-part sandwich construction with two aluminum cones around a polystyrene center. ●●●●●●●●



The coaxially mounted mid- and high-frequency driver unit measures 4 inches in diameter and consists of no less than 20 individual parts.

Due to the unusually large excursion of the high-frequency driver, the aluminum dome of the CS 6 tweeter uses a very elastic rubber surround. ●●●●●●●●

The Short and Long of it

In the motor system of dynamic speakers, two construction methods have prevailed: one method is to use voice coils whose length clearly exceeds the magnetic gap. The other, however, is the

opposite. In the first method, the long voice coil in a short gap results in good efficiency, as more of the magnetic field emanating from the permanent magnet is utilized for the driving the diaphragm. A disadvantage is that the voice coil impedance during

movement is constantly changing: this results in the voice coil being subject to greater magnetic field

variations. The drivers of the Thiel CS6 all operate with short voice coils in long gaps: within its linear operation range, the voice coil moves with constant impedance in a very symmetrical magnetic field, which minimizes any distortions. Since, after all, only a small amount of the entire magnetic field strength available is utilized, acceptable efficiency can only be obtained through huge magnets and very narrow gaps, which impose extreme demands on accurate centering of the diaphragm/coil assembly. Thiel's specifications in this regard were so strict that none of the world's renowned driver suppliers qualified as satisfactory vendors and therefore the company decided to manufacture the drivers themselves. JS



Designer Jim Thiel of Lexington, Kentucky

a similarity in design philosophy: for example, the somewhat "cooler" performing CS6 exhibited dynamic refinements and transient sounds even more clearly. Furthermore, the coaxial's radiation pattern noticeably increased the image focus and sharpness, and the speaker possessed a more stable, homogenous stereo image. The CS6 seamlessly presented the entire spectrum and details were remarkably reproduced.

Conclusion

Due to the CS 6's breathtaking precision and its solid bass foundation, even the listening panel's reference speaker Dali Grand (27 points) was unable to keep up: the Thiel was more detailed and clear, especially in the bass, altogether more powerful, breathtaking and profound—simply more forceful.

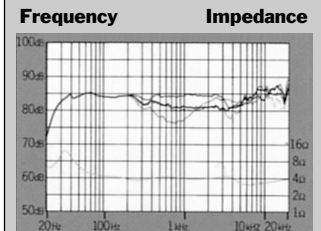
No discussion took place: with 28 points, the Thiel CS6 is currently *Stereoplay's* best dynamic speaker system.

Jürgen Schröder

Thiel CS6

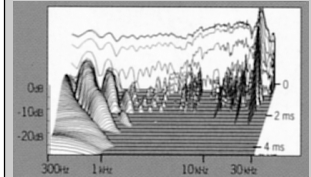
Price per pair	20,000 DM (\$10,600 U.S.)
Distributed by:	Sun Audio, Munich
Dimensions:	13w x 50h x 18.5d
Cabinet finish:	Black Ash, Walnut, Oak (plus 16 optional)
Set-up:	Floor-standing

Measurements



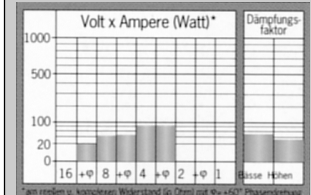
Somewhat dependent on on/off axis position in the midrange due to the 6dB crossover slopes, however, overall is very balanced, has enormously deep ranging bass.

Transient response spectrum



Very speedy transient response, especially in the midrange

Requirement Profile



Minimum power of 80 watts at 8 ohms, with average damping factor. 108db output capability

Sound Evaluation

Large, visually traditional, floor-standing speaker, setting the standard for sound with regard to bass precision and faithfulness to detail. *Stereoplay's* best dynamic loudspeaker.

