

# HEIMKINO

EUROPE'S FIRST HOMETHEATER MAGAZINE • AUGUST/SEPTEMBER 1999

## Thiel MCS1 / CS2.3

### Loudspeakers of Craftsmanship and Perfection

**T**he smaller that speaker manufacturers are, the less often they are able to realize their own ideas and concepts. Especially with drivers, they are largely dependent on standard available units. The same applies vice-versa. Large manufacturers, with their own driver production, often lack the time for innovative technology and involved woodworking.

**Very high level, depth of production.** In this area, Thiel can be counted among the rare exceptions. The small manufacturer in the American state of Kentucky performs woodworking according to best tradition of craftsmanship and has also recently been manufacturing all drivers in-house. But that's not all: physicist and mathematician Jim Thiel's speakers also exhibit a series of special construction features, from the cabinet, to woofer with metal diaphragm, to complex crossovers. Aside from the "trivial" demand of a linear frequency response, Thiel pays special attention to two other parameters: having low distortion and very minimal phase shift to ensure great dynamics and correct spatial information—virtues which are also important in home theaters.

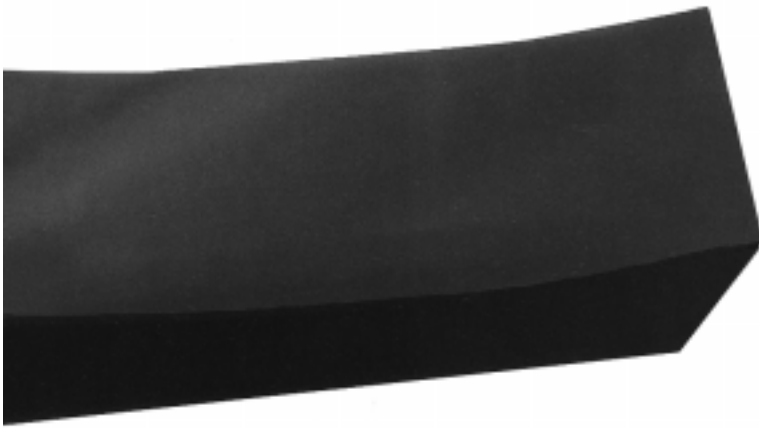
**Speakers for every purpose.** With the MCS1, Thiel has recently introduced a speaker predestined for home theaters. Of course, two MCS1s can also be used magnificently in a two-channel system. Thanks to its flexibility of positioning—it can be used vertically as well as



horizontally—nothing stands in the way of its use as a center channel speaker either. For this test, we supplemented one MCS1 with two floor-standing THIEL CS2.3s featuring the same midrange-tweeter, but making a subwoofer unnecessary as the CS2.3 has sufficiently powerful bass. For rear speakers, either two MCS1's or alternatively small floor-standing speakers such as the Thiel CS.5 were used.



With its visually attractive grille, and a front baffle that has no sharp edges or corners, the center channel MCS1 speaker's cabinet design does not take away from its looks or its sonic performance.



**Unique construction.** Thiel's MCS1 and CS2.3 speakers' crucial and central feature is the unique midrange/tweeter they share. From the front, the driver looks like a standard coaxial speaker whose typical characteristic is a tweeter amidst a separate midrange diaphragm. At second glance, the unusual connection between tweeter dome and midrange diaphragm stands out. Where otherwise an air gap permits independent movement, here a plastic coupler connects both diaphragms to each other. High frequencies, meaning fast diaphragm movements, are performed exclusively by an interior aluminum dome, while low frequencies are increasingly passed to the large outer diaphragm surface. With this mechanical type of division, an electrical crossover becomes unnecessary. An electrical network is used for gently separating the midrange/tweeter and the woofer's low frequencies.

**Optimal perfection.** Supported by a so-called "passive radiator," the Thiel CS2.3 covers the bass range with a large diaphragm woofer, also made from aluminum like the mid-tweeter. What looks like a bass driver with a flat diaphragm from the front, is actually only a "passive" diaphragm with the ability to vibrate and without a motor system of its own. The passive diaphragm fulfills the same function as a bass reflex design, but by covering the opening, the disadvantages such as port noise or midrange frequencies escaping from the cabinet are eliminated. On the other hand, due to space considerations, Thiel

uses bass reflex ports for the new MCS1. Thiel minimizes the cited disadvantages with internal tubes behind the ports, and are rounded at the front exit of the openings for strong interior absorption and easier flow. The cabinets have an extremely rigid, heavily rounded front baffle, so diffraction at the cabinet edges are therefore of no concern. Due to less enclosure volume, the MCS1 does not quite extend as low in the bass as the large floor-standing speakers, however the MCS1 easily outperforms the majority of center speakers in the bass thanks to its two aluminum woofers, which measure 6.5" each.



Aluminum as a diaphragm material combines low mass with high rigidity—prerequisites for great dynamics. Excellent workmanship with well-built drivers and attractive mounting easily visible here.



A cutaway cabinet of the CS2.3 clearly shows the complex cabinet built with internal braces and a massive front baffle.

**Vibrations at the right time.** Like the other THIEL drivers, these woofers distinguish themselves with their short voice coil in a very long air gap. This rare construction is rather unfavorable for efficiency, however, is advantageous to distortion-free reproduction. Like other THIEL speakers, also used are first-order crossovers, only sloping at 6 dB per octave, but also creating the lowest phase shift, which define the design. All other crossover components are only used to level the impedance to make it easier on the driving amplifier. Due to the high driver quality with their clever aluminum diaphragms, the frequency response does not require extensive electrical correction, which in turn benefits the impulse response. For the outputs of the individual drivers to reach the listener's ears as simultaneously as possible, the sound sources of each must be properly aligned.

The bass-proficient Thiel CS2.3, by using the similar driver technology as the MCS1, integrates well with it as a right and left speaker. The sloped front baffle positions the outputs of each of the drivers along a vertical axis.



Thanks to the sloped, rounded front baffle on the CS2.3 and the driver positioning on the MCS1, this requirement has been well met by Thiel.

#### Perfect woodworking craftsmanship.

Yet all these endeavors on the technical side only come to bear with an adequate enclosure. For this reason, Thiel pays much attention to building rigid cabinets with minimal resonance. If one knocks on the cabinet walls, one gets an idea of the complex interior bracing—outside of aching knuckles. Aside from our MCS1 review sample cabinet finished in shiny black laminate, every type of wood conceivable is available, as can be seen in the example of the floor-standing CS2.3 speakers, shown above, finished with fine rosewood. Three floor spikes ensure the CS2.3's secure set-up, while stands (filled with sand and spike-reinforced for DM1,200/\$580 U.S. in Germany) for horizontal, as well as vertical positions, are available for the compact MCS1.



Two excellent woofers and the unique midrange/tweeter mounted in a massive front baffle creates the basis for great sound.

#### Powerful output, high precision.

Already, after only listening for the first time, the sonic result of the effort undertaken by Thiel is overwhelming. After several days' of warm-up time and during intense listening, ultimately the subtle details, such as spatially precise positioning, are uncovered. In particular, the center channel especially benefits from the breathtaking fine resolution and natural voice reproduction, while the rich bass as well as powerful dynamics are achieved with music and films. One should only note that the CS2.3 requires placement a good distance from walls (1 meter to the rear, preferably more to the sides) in order not to over-accentuate the low frequency range. In tests, there is often talk of rhythmically



The tweeter/midrange driver works with a single voice coil. Thanks to the coupling connection with the inner dome, the outer diaphragm rolls off on its own at high frequencies. Thiel calls this a mechanical crossover.

jigging feet or goose bumps and sometimes a shiver running down one's spine. No question, this may also happen with Thiel speakers. However, as has always been the case, the performance in the recording is responsible for such emotional outbursts, while speakers act no more and no less as agents between the soundtrack or music and our ears. And this role of an impartial agent is exactly filled by Thiel's speakers in a thoroughly outstanding manner. And thanks to their dimensions as well as their distortion-free and bass-proficient construction, they are also capable of terrific and fierce thunder.

**Conclusion.** Jim Thiel's speakers' craftsmanship quality and extraordinary technical finesse already arouse enthusiasm. We were astonished to experience the worlds of sound revealed at last: light, dynamic and with utterly natural sound, Thiel's products can be counted among the best speakers for film and music.

#### Thiel CS 2.3 / MCS I

Sales:	Sun Audio, Munich, Germany
Dimensions:	(W x D x H)
MCS1	10" x 12.25" x 28.5"
CS2.3	11" x 15" x 41.5"
Price (each, in Germany):	
MCS1	DM6,000 (\$3000 US)
CS2.3	DM4,900 (\$2400 US)