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SONUS FABER CREMONA  
HOME THEATER  
SPEAKER SYSTEM

A PRIMEDIA Publication



## SURROUND SPEAKER SYSTEM

# Sonus Faber Cremona

Thomas J. Norton

Visit the Sonus Faber website and you're given the softest of soft sells. The home page has birds flying lazily overhead while wheat sways gently in the breeze. Quiet classical music hums in the background. Click in the right place and you might find a few words about products, but you won't learn that Sonus Faber is the best-known Italian speaker manufacturer west of . . . Cremona.

Since its founding in 1980, Sonus Faber has won consistent accolades for its products. True to the sort of craftsmanship we expect from Italy, the company's speakers invariably feature over-the-top cabinetwork using solid woods, high-quality synthetic leather on the front baffles, and finishes polished to a high luster. Their models also have musical-sounding names: Guarneri Homage, Lineo Concerto, Amati Homage, and so on.

If all this sounds expensive, it is. The Cremona is Sonus Faber's latest floorstander, and if I call it a "bargain," the men in white coats will soon be coming to take me away. But for Sonus Faber, \$7495/pair is something of a price breakthrough for a floorstanding design of this complexity. In appearance, the Cremona is almost a dead ringer for the Amati Homage, a Sonus Faber design dating from 1998. The Cremona is smaller, with a slightly less elaborate cabinet (a mixture of veneers and solid woods), and it uses differ-

ent though no less advanced drivers. The Amati Homage is still available and sells for \$22,000. A pair.

Sonus Faber has followed a different strategy with the Cremona, making sure from the get-go that the speaker is home-theater-friendly. The small stand-mounted Cremona Auditor serves nicely in a surround capacity. While the drivers in the Auditors are different from those used for the Cremona midrange and tweeter, they look the same, and more importantly, are a good acoustic match for the larger speaker over the operating range.

The surprise entry here is the 3-way Cremona Center. If you must use a horizontal

center-channel speaker (and the market seems to demand them), the best design is a 3-way system with the drivers that cover most of the frequency range—the midrange and tweeter—mounted one above the other. That's how it's done here.

I've been following loudspeaker driver design as long as I've been using and reviewing speakers, and it would be a safe wager that the woofers and midranges here are from ScanSpeak, and the tweeter is from Vifa—both well-known and respected Danish driver manufacturers, now under common ownership. The woofers and mids employ paper cones with radial slits to minimize

## SPECIFICATIONS

**Cremona** 4-driver, 3-way, vented-box speaker

**Drivers:** 1.25" ring-radiator dome tweeter, 5.25" sliced paper-cone midrange, two 6" sliced paper-cone woofers

**Frequency response:** 32Hz–40kHz

**Nominal impedance:** 4Ω

**Recommended amplification:** 50–300W without clipping

**Sensitivity:** 90dB/W/m

**Finishes:** maple, graphite

**Dimensions:** 42.9" × 8.9" × 18.1" (H×W×D)

**Weight:** 75 lbs

**Price:** \$7495/pair

**Cremona Center** 4-driver, 3-way, vented-box center speaker

**Drivers:** 1.25" soft-dome tweeter, 4.5" sliced paper-cone midrange, two 6" sliced paper-cone woofers

**Frequency response:** 42Hz–40kHz

**Nominal impedance:** 4Ω

**Recommended amplification:** 50–300W without clipping

**Sensitivity:** 90dB/W/m

**Finishes:** maple, graphite



distortion and breakup. The tweeter is a ring-radiator model that resembles a tiny donut with a phase plug sticking out of its center. This new design—which Vifa and ScanSpeak seem to be making exclusively, at least for now—is showing up in speakers from a number of manufacturers.

Exactly what benefits this design is supposed to provide are unclear from the driver manufacturers' and Sonus Faber's websites, but the latter avoids technobabble like the plague. We'll just have to let the tweeter speak—or sing—for itself.

The tall, deep, but narrow Cremona has a sculpted, lute-shaped cross section. This is not only for appearance, but to enhance rigidity and minimize standing waves inside the enclosure. It also comes with crossbraces that attach to the bottom of the narrow cabinet for added stability. The speaker is designed to be angled back slightly, and since that tilt can have a subtle but important effect on the sound, particularly with the first-order crossover filters the manufacturer uses, the adjustable spiked feet that fit into the braces are longer in front than in back. The spikes are rounded enough to make them safe to use, with care, on wood or tile floors, but they aren't sharp enough to penetrate carpets and thus firmly anchor the speaker to the surface beneath.

Each speaker in the Cremona system has a single set of high-quality binding posts—no biwiring here. Each also has Sonus Faber's signature grille design, consisting of dozens of black elastic strings stretched vertically. The strings provide a see-through appearance and resemble the strings of a violin—which I

## SPECIFICATIONS CONTINUED

**Dimensions:** 30" × 8.9" × 17" (W×H×D).

**Weight:** 64 lbs

**Price:** \$3995 each (stand, \$450)

**Cremona Auditor** 2-driver, 2-way, vented-box surround speaker

**Drivers:** 1.25" ring-radiator dome tweeter, 5.25" sliced paper-cone woofer

**Frequency response:** 46Hz–40kHz

**Nominal impedance:** 4Ω

**Recommended amplification:** 50–250W without clipping

**Sensitivity:** 88dB/W/m

**Finishes:** maple, graphite

**Dimensions:** 13.8" × 7.5" × 12.6" (H×W×D)

**Weight:** 21 lbs

**Price:** \$3595/pair (stands, \$650/pair)

**REL Stadium III** powered subwoofer with Acoustic Resistive Matrix loading

**Driver:** 10" long-throw cone with cast chassis

**Frequency response (low limit):** 12Hz in-room, –6dB

**Amplifier:** 200W RMS

**Input impedance:** 100kΩ high level, 10kΩ low level (both: balanced and unbalanced)

**Finishes:** black ash, walnut, cherry, rosenut

**Dimensions:** 23.2" × 21.9" × 14.6" (W×H×D)

**Weight:** 110 lbs

**Price:** \$2995 each

**System prices:** \$19,180 with Center & Auditor stands, \$18,080 without stands

### Distributor

Sumiko

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Berkeley, CA 94710

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www.sumikoaudio.net



Cremona center speaker

suspect was their inspiration. It's a unique and very attractive look.

But if you remove or reinstall the grilles, be very careful. It's easy to do, but a fair amount of stretching is involved, and if one end comes

## REVIEW SYSTEM

### Sources

Integra DPS-8.3 DVD player  
Proceed PMDT DVD player

### Preamp-Processors

Primare SP31.7  
TAG McLaren AV192R AvantGarde

### Power Amps

Primare A30.5  
Theta Dreadnaught II

### Cables

Digital: Kimber Kable AGDL  
Interconnect: Madrigal CZ-Gel, Monster  
M-1500  
Speaker: Monster M2.2, OCOS

loose while you're pulling on the other, you could take a nasty whack. I recommend that you or someone else make certain that one end is held securely in place while the other is being maneuvered into position.

The Stadium III subwoofer from British subwoofer specialist REL is a heavy but not overly large, ported box containing a single heavy-duty 10-inch driver and 200W MOSFET amplifier. It has both high-level (speaker) and low- or line-level (balanced and unbalanced) inputs. The high- and low-level inputs have their own individual level controls, and both inputs can be used simultaneously. Phase settings of 0° and 180° are provided. The lowpass filter can be set to one of 24 discrete rolloff settings or defeated entirely, which is what you want to do when using the filter in your pre-pro or A/V receiver.

### Setup

I set up the Cremonas in the positions I normally use for home theater speakers: the

left and right fronts just beyond the edges of my 80-inch-wide Stewart projection screen and toed-in toward the listening position, the center located mid-screen and just below it. The top of the Center is just under 25 inches high on its dedicated stand; I had to raise my screen slightly to accommodate it. The surrounds were positioned at the rear of the room, with the REL subwoofer at the front, either in a corner or several feet out from it, along the front wall.

REL encourages the use of the high-level inputs with their subwoofers for the bass from the main channels. With their recommended setup, all of the 5 (or more) main speakers are driven full range. The subwoofer's high-level inputs get their signal by tapping into the L/R speaker outputs. The lowpass filter on REL is then set to a frequency close to the useful low-end limit of the L/R speakers, allowing the subwoofer to pick up the slack below that point. The Stadium III's highpass filter offers 24 options for this, ranging from 22Hz to



Cremona speaker

95Hz, but the most likely setting for a full-range, floorstanding speaker such as the Cremona will be in the 30–40Hz range. The LFE information is fed to the REL's low-level input from the pre-pro's subwoofer output. A separate level control on the REL is then used to set the LFE output relative to the main channel bass.

I'm not a fan of this arrangement. First, the center and surround speakers are provided no support from the subwoofer; set to Large, their bottom end extension will be subject to their own limits. Second, setting the subwoofer level may have to be done by ear, and while most

audiophiles will be adept at doing this for the main channel bass, setting the LFE level relative to the main-channel bass by ear will be tricky at best. (A good 2-channel test CD, such as those offered by *Stereophile*, can help.) Third, and most important, the left and right main speakers are asked to carry the same main-channel bass as the subwoofer. This generally won't be a problem with music, but when you're talking about movie sound containing all manner of woofer-crunching low-frequency mayhem, you're asking for trouble when you feed it to any full-range speaker short of one with large, seriously heavy-duty woofers. The woofers in the

Cremona are top-class units, but they're still only 6-inch drivers that haven't been designed for a slugging match with high-level, excursion-challenging frequencies below their effective lower limit—a limit that is higher than that of any subwoofer likely to be used with them.

For this reason, I did all but a little of my listening by driving the Stadium III subwoofer the way most subwoofers are used in a home theater: from the subwoofer output of the preamp-processor driving the sub at its low (line)-level, LFE input. I bypassed the REL's internal lowpass filter, and all of the crossover functions were handled in the pre-pro. None of the main-channel speakers were then required to deliver high-level bass significantly below 60 or 80Hz, the two pre-pro lowpass settings I tried. In my system, this arrangement produced the most open, clearly defined sound—the sound I report on here.

Sumiko imports Sonus Faber and REL products to the US, as well as electronics from the Swedish company Primare. They sent the new Primare SP31.7 pre-pro and A30.5 5-channel amplifier for use in this review. The Primares will be reviewed separately in an upcoming issue; I used them about half the time for the review. For the rest of my listening, I used the TAG McClaren AV192R AvantGarde pre-pro and Theta Dreadnaught II power amp. The Primare combo couldn't quite equal the smooth detail and sheer effortlessness of the more powerful TAG-Theta pairing, but it still sounded first-rate at roughly a third the cost.

### A Little Night Music

I did much more than a little music listening through the system, primarily in 2-channel, using only the left and right Cremonas and the subwoofer. My first reaction was that the Sonus Fabers were exceptionally clean and sweet, but a little lacking in high-frequency air. The Sumiko crew who set up the system in my house had positioned the speakers a foot or so farther back from the locations I normally use for the L/R front channels. Moving the Cremonas about a foot closer helped considerably. So did removing the string grilles—as attractive as they are, they don't seem to be as acoustically transparent as no grille at all (surprise). For the rest of my listening, 2-channel and surround, the speakers were auditioned *au naturel*.

Sumiko had also sent along a set of OCOS speaker cables for the front channels. These added a noticeable sparkle to the sound, but

with the other changes I made, I was not convinced that this additional high-frequency energy was a plus. I did most of my listening with my resident Monster cables.

With these tweaks, and extended listening, the Cremonas began to shine, though they didn't wow me right out of the gate with sparkling highs and an explosive dynamic range. Coming on the heels of the Revel Performa F50 system I'd just finished reviewing, the Sonus Fabers sounded distinctly more polite, and more forgiving of less than the best program material.

But "forgiving" doesn't mean "dull." The more I listened, the more I enjoyed the detail the Cremonas uncovered. I began to appreciate again the subtly different ways a

percussionist can brush a cymbal, a violinist can attack a string, or the way the ambience of the recording venue can alter one's reaction to a piece of music. Much of this was due to the quality of the tweeter. At the end of the day, I might have preferred just a trace more air at the very top end, but the Cremona's honest resolution and freedom from smear or edginess were more than enough to compensate.

The midrange was also outstanding: a little forward, but only enough to give the sound a natural immediacy and presence. Instrumental attack was lively, and voices were simply *there*. And there was no identifiable coloration to distract—no chestiness, nasality, or boxiness. No speaker is completely uncolored, but in several weeks of listening I never heard

anything from the Cremonas that pulled me out of the music—or the film—to remind me that what I was listening to was merely a simulation of the real thing.

The imaging produced by a pair of subwoofered Cremonas was also hard to criticize. Centered vocalists and instruments were anchored firmly enough to produce that "Is the center speaker on?" sensation. Depth was just what was called for by the program material. The overall soundstage ranged from small and intimate to enveloping—again, determined by the program material, not the speakers.

### The Lowdown

The proper blending of a subwoofer and main

## MEASUREMENTS

The Cremona's bass port is tuned to approximately 30Hz. Its impedance magnitude is a minimum of  $3\Omega$  at both 98 and 137Hz, and remains below  $4\Omega$  from 75 to 240Hz. The impedance phase is more capacitive than normal between 50 and 100Hz; I would judge the speaker to be a moderately difficult load to drive, though it should be no challenge for an amplifier of the quality likely to be used with it. The specified nominal impedance rating of  $4\Omega$  is reasonable. The sensitivity measured 90dB/W/m across most of the frequency range.

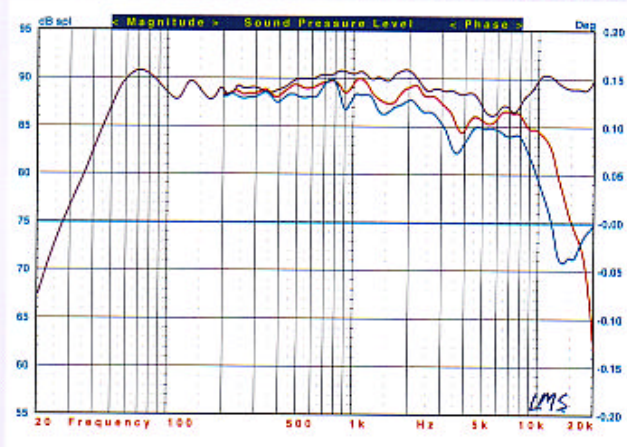
The Cremona's front response is shown in **Fig. 1** (violet). This is the pseudo-anechoic response averaged across a  $30^\circ$  forward angle in the horizontal plane at tweeter height, combined with the nearfield responses of the woofers and bass part. The Cremona's measured effective lower limit ( $-10$ dB) was 37Hz relative to the output at 70Hz.

The overall averaged response in Fig. 1 is impressively smooth from the lower-bass limit to the 20kHz limit of the measurements. A gentle +2-octave plateau in the response between 500Hz and 2.5kHz could account for the (not unpleasant) slight forwardness I heard, particularly on vocals. The most significant response aberration is a small dip of about  $-3$ dB between 4.5 and

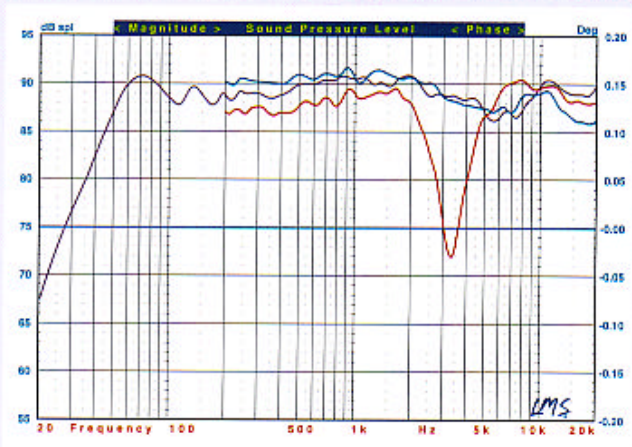
8kHz. This might explain the Cremona's rather forgiving nature in the mid-treble, as well as its slightly dark sound. While I described the latter as a subtle lack of "air" in the review, it's clear from the curve that the high treble is fine. The mid-treble dip does seem an odd quirk for a tweeter of this obvious high quality. Nevertheless, the Cremona's overall on-axis averaged response remains within  $\pm 2$ dB from 50Hz to 20kHz. While we measure only one speaker of a stereo pair, the excellent imaging of the Cremona left and right review samples suggests that they were well-matched and that the dip is not a sample irregularity.

The Cremona's horizontal off-axis response indicates nothing amiss; the falling responses at wide off-axis angles (red and blue curves) are common. The vertical responses (**Fig. 2**) indicate only that you don't want to listen too far above tweeter height. Don't audition the Cremonas when standing up!

The Cremona Center's reflex enclosure is tuned to approximately 45Hz. Its impedance magnitude in the bass/midrange region is a minimum of  $3.9\Omega$  from 140 to 180Hz, this dropping again to  $3.6\Omega$  at 2.3kHz (it remains just below  $4\Omega$  from 900Hz to 10kHz). The phase angles are benign where the magnitudes are low, however, so I judge the speaker to be of only slightly



**Fig. 1:** Sonus Faber Cremona, pseudo-anechoic horizontal response at  $45^\circ$  (red) and  $60^\circ$  (blue) relative to tweeter axis.



**Fig. 2:** Sonus Faber Cremona, pseudo-anechoic vertical response at  $+15^\circ$  (red) and  $-15^\circ$  (blue) relative to tweeter axis.

speakers can be tricky. The room is just as important as the speakers in determining how well a combination of sub and mains will work—a room peak at or near the crossover point will defeat even the best efforts. While they might not deserve *all* the credit, the Cremonas blended well with three different subwoofers in my room: the REL, the MartinLogan Descent, and the B&W ASW 675.

Crossed over at either 60 or 80Hz by the filters in my pre-pro, the REL Stadium III subwoofer provided solid low-end support for the Cremonas. It shook the floor when required (mostly on films—more on that shortly), calling attention to itself only when needed. I suspect that its solo 10-inch driver would not be well suited for very large rooms

(like the 7000-cubic-foot space in my previous house, a real sub-killer), but I was rarely able to stress the REL in my 3200-cubic-foot home theater at high (but not insane) listening levels. In fact, the REL audibly complained on only one selection I tried. Curiously, it was music: a passage with a strong 19Hz fundamental (underpinning a higher frequency, but average level, melodic line) on a Hindemith piece for pipe organ (Hindemith Organ Works, Argo 417 159-2, 4:45 into track 5). Here the REL substituted a gravelly, higher-pitched rumble for the fundamental. The comparably priced MartinLogan Descent reproduced the same extreme-low-frequency note without complaint. On most material this difference was irrelevant, but I did hear it on a few of my

most difficult bass references.

In fairness to the REL, however, other otherwise impeccable subwoofers have hiccupped in the Hindemith test—including the Aerial Acoustics SW12. And, arguably, hooking up the Stadium III the way I did, and forcing it to reproduce an octave or so above the 40Hz upper limit recommended by REL may have somehow placed its deep bass response at a disadvantage, though I'm not certain exactly how. REL may wish to discuss this point in a manufacturer's comment.

#### Onscreen

I listened to all or parts of dozens of movies through the Cremona system with the REL subwoofer. The system's strengths were clear:

## MEASUREMENTS CONTINUED

above-average difficulty to drive, and agree with the specified nominal impedance rating of 4Ω. The sensitivity measured approximately 90dB/W/m above 800Hz.

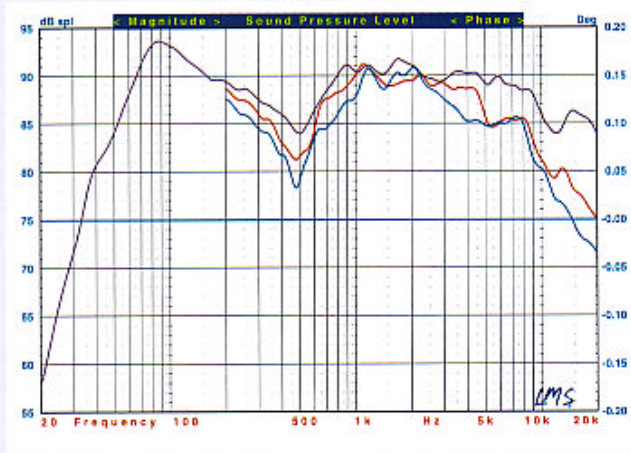
The horizontal front response of the Cremona Center, derived and averaged as described for the Cremona, is shown in **Fig.3** (violet). The speaker's measured effective lower limit (-10dB) was 38Hz relative to the output at 150Hz. The response curve is somewhat at odds with the speaker's fine sound. The on-axis averaged response is reasonably smooth above 900Hz (though its tweeter falls off more rapidly above 9kHz than the different unit in the Cremona, and also falls more rapidly in its off-axis response). But there's a significant suckout centered at 500Hz. We often see this sort of dip in the off-axis measurements of center-channel speakers, from phase interference between the two displaced woofers; its presence here in both the off- and on-axis responses suggests another cause. It could be the result of a phase inversion between the woofers and the midrange, or a quirk in the crossover design. The lack of biwire terminals, which would have permitted a simple polarity reversal of the woofers alone, precluded further investigation of this anomaly.

The vertical responses in **Fig.4**, like those in Fig.2, suggest that the prospective buyer listen to the Cremona Center on or slightly below the tweeter axis.

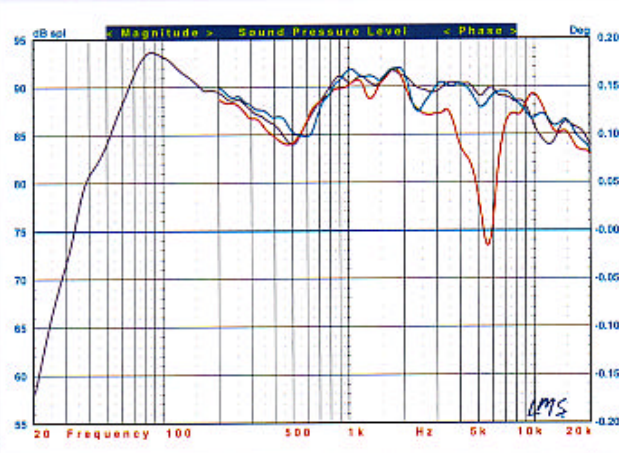
Although all of the measurements shown in the curves and discussed above were made with the grilles removed, we also measured the Cremona's on- and off-axis (30°) responses with its grille on. The results did not confirm the high-frequency loss I heard during my auditioning with the grilles in place, though they did indicate an on-axis dip of about -1.5dB at 10kHz—and, oddly, an increase of 1.2dB at 15kHz—with the grille on. I still recommend experimenting with the grilles on and off; the effect of any grille on a speaker's room response is a complex function of on- and off-axis behavior that cannot always be fully characterized by one or two measurements.

This is a good though not exceptional set of measurements—better for the Cremona than for the Center. While Sonus Faber might want to look into the reason for the latter's lower-midrange dip, it did not detract from my enthusiasm for the system's outstanding sound.—TJN

**All figures:** Violet: Pseudo-anechoic response on tweeter axis, averaged across a 30° horizontal window, combined with the nearfield response of woofers and bass part.

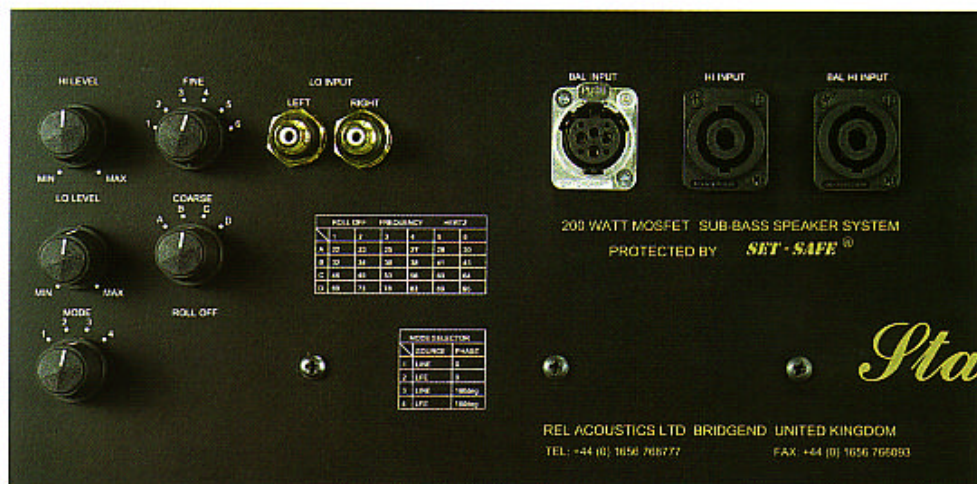


**Fig.3:** Sonus Faber Cremona Center, pseudo-anechoic horizontal response at 45° (red) and 60° (blue) relative to tweeter axis.



**Fig.4:** Sonus Faber Cremona Center, pseudo-anechoic vertical response at +15° (red) and -15° (blue) relative to tweeter axis.





REL Stadium III subwoofer's back panel

a big, expansive soundstage, an immediate but not pushy sound, a superbly clear midrange, and a deep, powerful low end.

The positive traits of the Cremona L/R fronts described earlier were also evident in full surround mode. But with films, the Cremona Center made its own case. It was as good as any center-channel I have yet auditioned, equaled only by the best center speakers from the likes of Revel and, perhaps, ATC (though I haven't heard ATCs in my own listening room).

The Cremona Center's strength was its ease and unobtrusiveness: It was simply there, and didn't muscle its way into the sound in any obvious way. Over the weeks I lived with it, I appreciated its naturalness with everything I threw at it. While it handled even the most aggressive soundtracks without complaint, its way with dialog impressed me most. If it had a fault, it was a slight warmth in the midbass. But the Cremona Center was superbly uncolored through the midrange.

The soundtracks I played through the Center spoke for themselves. I have noticed in the past that there's a wide range of coloration in soundtrack dialog, largely due, I believe, to post-production dialog replacement (aka looping) and the processing it requires. With the Cremona Center, those variations were less intrusive than they often are. Was this, in itself, a coloration? I don't think so, but if it is, it's a coloration that kept me absorbed in the film rather than constantly reminding me of the manipulation and processing that soundtrack production requires.

More often than not, I never noticed the contributions of the individual speakers in the Cremona system, so well-integrated was the

soundstage they created. The drivers in the Cremona Center are slightly different from those in the Cremona L/Rs (conventional dome tweeter and smaller midrange, both likely chosen to limit the height of the cabinet). But the balance across the front soundstage was superbly uniform: as close as is likely possible, except with identical speakers—and even then, slight variations due to location will work against perfect uniformity. The surround-sound ideal of a huge, uniformly balanced "bubble of sound" had never been more obvious in my listening room.

As a surround, the Cremona Auditor may be a little pricey, but it worked extremely well with this system. In fact, to check out the Auditor's consistency, I briefly substituted our pair for the Cremonas as the front L/R speakers. They came as close as one could hope for in duplicating the Cremonas' front soundstage and overall sound. The only difference I noted was a slightly less uniform balance with steered dialog. I also tried using the Auditor as a center speaker. It worked very well, though the Center sounded slightly clearer in the upper midrange (probably due to the smaller midrange driver) and a little sweeter in the treble. Both differences were very subtle; I suspect that a system composed of five to seven Auditors, plus sub, would make a fine, less expensive alternative to the system reviewed here.

I listened to soundtracks as diverse as *Holes* (with its superb dialog and nicely balanced music track), *Finding Nemo*, *Solaris*, and *Final Fantasy*. *Finding Nemo* sounded sweet yet detailed. Steered dialog is used often in this film, and it sounded consistent across the soundstage (though, as noted above, less so when the Auditors were used in front). The

balance was neither bright nor dull. Nothing was slighted or exaggerated, from subtle sounds like bubbles or the footsteps of crabs on an underwater pipe, to the explosive sequence of sharks, mines, and submarine.

Steven Soderbergh's recent remake of Andrei Tarkovsky's *Solaris* has no really explosive moments. Its strength is in the ambience it creates—a combination of music and discreetly chosen sounds designed to envelop the listener. The superbly coherent way that the Cremonas reproduced this ambience almost made this simultaneously absorbing and frustrating film itself coherent—no mean feat.

The soundtrack of *Final Fantasy*, however, probably illuminated the strengths of the Cremonas best of all. At very low levels, subtle details were clear, sometimes in ways I hadn't heard before. The speakers let me appreciate how good this soundtrack actually is, from the sound effects—which are surprisingly natural and not over-the-top—to the well-recorded music score. The soundstage was magnificent: a continuous sweep from left to right, with excellent depth and well-integrated surrounds. Everything held together at high levels, and while the dynamics might have been a little compressed at the very highest levels, nothing sounded edgy or harsh or—just as important—squashed or dulled. The soundtrack sounded so listenable and exciting that even audiophiles who dislike home theater might admit to being impressed.

### Hold the Butter

During my time with Sonus Faber's Cremona system, an analogy came to mind that perfectly sums up their strengths. For many years, I've avoided fatty meals (those old high-cholesterol blues). I rarely use butter, or anything resembling it. It wasn't long before I noticed that I could actually better appreciate the fine points of different breads when they weren't slathered in grease. And while beef isn't often what's for dinner chez Norton, the same would apply to a prime steak smothered—or not—in ketchup.

Sound reproduction is a lot like that. With the Cremonas, I could discover the sound of music and movies without butter (distortion) or ketchup (coloration) getting in the way. I could hear what was on the recording the way it was meant to be heard. It's an outstanding system.



# Manufacturers' Comments

## REL Stadium III

Editor:

Thank you for the opportunity to provide clarification of some points raised

in the wonderful review of the REL Stadium III subwoofer used in a film sound system.

REL and Sumiko have, after extensive testing and listening, adopted a protocol for system optimization that comprises the following:

1) Speakers set to Full Range at preamp-processor. This presupposes high-quality, full-range speakers that can handle a great deal of power. Ours can.

2) The REL connected high-level, in support of the main left/right speakers, carefully crossed "under" to provide the infrabass that virtually no main speaker can yield, if for no other reason than placement optimization of main speakers is almost never the ideal location for lowest bass in the room. These REL crossover points under a quality speaker



such as the Cremona are, as Tom points out, necessarily low. In his case, we crossed the Stadium over between 25 and 30Hz, the mains dying off in his room somewhere in the low to mid-30s.

3) The REL concurrently connected via the low-level RCA connector to the LFE (low-frequency effects) channel of the surround processor. REL properly allows for this signal to bypass their internal crossover, and thoughtfully provides a separate volume control to allow the discerning film-lover the ability to set this quite distinct and separate signal at the proper level to support the film soundtrack.

There are those who apparently believe that home film-sound systems should be crossed over at 60–80Hz. We politely disagree, and so, apparently, does every high-quality film-sound mastering studio in the country, whose control rooms much more closely resemble the dimensions and acoustics of the home than does a large public theater. The resulting sense of effortless spaciousness, while less obvious than the bite and snap of conventional systems, possesses an appealing naturalness that's right

for many over the long haul. Try it, it's free.

Finally, Tom wonders how crossing over at 80Hz can stress a subwoofer being presented with primarily low-bass (19Hz) information. Quite simply, the REL was being asked to produce enormous amounts of power-robbing signal in the mid- and upper bass frequencies, leaving insufficient reserves for the desired reproduction of truly low bass. Had he crossed it over in the 25–30Hz region, he would have found the increase in output at the desired frequency to have been substantial. Our own demonstrations of this unit in our 6300-square-foot listening studios, conducted by our resident pipe-organ freak, verify the Stadium's abilities to drive truly deep bass into large spaces.

Thanks again for the opportunity to clear up a few points, and many thanks to Tom Norton for diligently working away at this review. For those unfamiliar with the process, it's rather less glamorous than it may seem from the outside looking in, and requires many hours of occasionally tedious work. Thanks.

John Hunter  
President, Sumiko

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