

C. O. R. E. Technology

System 8200 Information

There are literally hundreds of speaker systems on the market today. And many of them are good enough to satisfy the vast majority of listeners. Of course, every manufacturer will be happy to extol the amazing technical breakthroughs and details that make his speakers vastly better than all the others. Good common sense tells us that most, if not all, these breakthroughs probably aren't as important as they're cracked up to be, and excellent quality speakers can be made using any number of design elements and mechanical characteristics.

We're just as aware of all this as you are. We're equally aware that today's high end multi-channel customer's priorities range from system performance first, to visual appeal overriding all other considerations, to not wanting to see the system elements at all. Lastly, we all know that room design elements, speaker locations, and the vagaries of software recording quality all combine to make the actual performance in any given install iffy at best.

Well, worry not, oh audio conscious installation professional. We've taken all this into consideration and designed the new System 8200 THX Ultra II certified series of speakers to, for the first time, uniquely address all these issues. In fact, System 8200 can be customized both visually and acoustically to fit in most any situation; For the first time an ultra-high performance speaker system can be modified to deliver different levels of performance *and* to look great in any room and décor. It also can be adjusted to maximize its sonic performance, compensating for placement issues, room acoustic problems, and source material inconsistencies! We call this C. O. R. E. technology; Custom Optimized Room Enhanced. Before we explain what that means it's important to briefly describe the component parts of the system.

Available Components:

All pricing is preliminary and subject to change without notice.

8200 LR (Left/Right) three-way satellite (\$2900/pr)

8200 C center channel three-way satellite (\$1500ea.)

8200 SR Dipole/Bipole switchable two-way surround satellite (\$1700/pr.)

8200 PedWoofers compact Servo-controlled pedestal subwoofer (\$4000/system)

SA 8200 Servo-controlled dedicated external amplifier for the 8200 PedWoofers (See PedWoofers)

8200 LR PED empty pedestal for the LR satellites (\$700/pr)

8200 SR PED empty pedestal for the SR satellites (\$700/pr)

The system can be configured in a variety of ways, in both THX Ultra II certified and non-certified versions. System prices range from \$6900 for a 2-channel system with built-in PedWoofers, to over \$20,000 for Ultra II with four subwoofers, depending upon the chosen components and trim kits. Some potential combinations of System 8200 are as follows:

Two – 8200 LR

Two - 8200 PedWoofers

One – 8200 C

Two – 8200 SR (w/ or w/out PEDs)

Technical Overview

Atlantic Technology

Two – 8200 LR
Two – 8200 PedWoofers
One – 8200 C
Four – 8200 SR (w/ or w/out PEDs)

THX Ultra II certified

Four – 8200 LR
Four – 8200 PedWoofers
One – 8200 C
Two – 8200 SR (w/ or w/out PEDs)

Simply adding another pair of 8200 SR or LR speakers in the back of the room allows the system to be stepped up to full 6.1 or 7.1 operation, which also fulfills the THX Ultra II requirements for 7.1 channel processing. Of course, using LR's also allows the addition of a second pair of PedWoofers to be easily integrated. However, since a finish kit is available for the PedWoofers that includes a beveled glass top, they can easily be used independently and therefore *do not* have to be set up as pedestals for the LRs.

System 8200 is a large, ultra-high performance multichannel package that delivers excellent, low distortion, accurate sound reproduction. It can be used with equal confidence for music or movie reproduction and given high quality source material, the 8200 will compete, head to head, with any comparable system from any known supplier, in every aspect and measure of system performance.

C. O. R. E. Technology Custom Optimized

The Custom Optimized portion of C. O. R. E. means the consumer assembles as simple or elaborate a system as they desire, based upon the available woofer/satellite combinations. Then the visual integration of the system is dealt with. All the core enclosure cabinets are delivered in our new *duraBlac™* matte black lacquer. This durable finish is ideal for speakers that are going to be installed in cabinets, behind perforated screens, or behind curtains. Or, with the addition of the matching panel accent kit, you can leave them out in the room where the elegant black finish takes on a whole new demeanor. But wait. There's more! If the speakers are going to be out in the room for all to see the homeowner will want to choose among the several optional panel accent kits to create a totally different look for the basic core enclosures! These individual

kits include attractive, custom-fit side panels for the LR, or the Center, or the PedWoofers cabinets that dramatically enhance their appearance (and, in the case of the PedWoofers, add a lens cover for the IR receiver and a flush black cloth grille for the driver). The kits range in price from \$120/pr. to \$800/pr., depending on finish and which enclosure they're for. The kits are available in the following finishes:

duraBlac Matte Black Lacquer (All LR kits include a beveled glass top. Glass tops for the PedWoofers are an optional extra.)

Gloss Black Lacquer

Natural Finish Light Maple veneer with a durable polymer satin coating

Natural Quartered Cherry veneer (fine closed grain) with a durable polymer satin coating

Natural Khaya (fine open grain, dark brown, similar to Mahogany) with a durable polymer satin coating

Unfinished MDF

The LR and C utilize a curved perforated metal grille held on with high strength Neodymium magnets. In order for the PedWoofers and empty Peds to match the curved front shape of the LR grilles, their trim kits include a front panel that precisely mimics the size and curvature of the LR grille. Included in the PedWoofers trim kit is a smoked lens for the top front of the PedWoofers cabinet to cover the IR receiver that is explained below.

Technical Highlights:

The LCRs feature:

Heavily braced ¾ inch thick MDF enclosures. The LR rear panel is sloped to reduce internal standing waves within the enclosure. The drive compliance includes:

Two 8-inch high power long throw woofers with vented magnet structures, rubber surrounds, Graphite Loaded Homopolymer (GLH) cones, Multi-layer OFC copper voice coils wound on Kapton® formers, "T" shaped pole pieces and Faraday shorting rings.

The shaped poles along with the shorting rings reduce the driver's distortion components by an order of magnitude over similar drivers without these features. The Kapton formers enhance

power handling and dramatically reduce thermal compression.

Two 5.25-inch midrange drivers, completely isolated in their own internal sub-enclosure, feature the exact same design and technologies as the 8-inch units, less the vented magnet assembly.

A 1-inch damped silk dome tweeter with an OFC copper wire voice coil wound on an aluminum former. The tweeter also features a powerful Neodymium magnet assembly with a black anodized aluminum heat sink for maximum power handling and limited thermal compression. The tweeter is located within the midrange sub-enclosure and isolated by the driver's sealed back and heat sink assembly. The voice coil is immersed in FerroFluid® to increase power handling while reducing its heat load and further reduce thermal compression.

The 5.25-inch drivers and the tweeter are aligned in a modified "D'Appolito array" for controlled vertical and enhanced horizontal dispersion. The tweeter is mounted to a cast aluminum plate which reduces its distortion components by isolating it from the vibrations of the baffle. It also incorporates a unique tapered lens that both improves and helps to control the tweeter's dispersion.

The Crossovers are computer optimized asymmetrical fourth order (24dB/octave) Linkwitz-Riley Time Compensated filters. The Asymmetrical Time Compensation time aligns the various driver's output so that it arrives at the listeners ear concurrently. They use large air core inductors and audiophile grade resistors/capacitors. Every stage has been carefully designed to minimize its negative sonic impact and ultra-high quality bypass caps have been incorporated where necessary to maintain this level of performance. Internal wiring is all heavy gauge OFC copper with heavy duty non-corroding push-on connectors. The LCRs include Gold Plated Bi-wire terminals for those dedicated audiophiles among us.

Room Enhanced

Since the room is such an integral component in the ultimate sound of any speaker system we have designed System 8200 to be acoustically "customizable". Therefore, the LCR speakers all

include *three* sophisticated acoustic compensation circuits intended to maximize the speaker's performance in any room or placement situation. These circuits are controlled by toggle switches located on the steel binding post plate in the back of each enclosure. The controls are:

High Frequency Energy – Adjusts the "tilt" of the tweeter's output from a "classic" gradually rolled-off (-2.5dB@20kHz) response, to a more nominally "flat" response (-0.5dB@20kHz), and finally to a slightly rising high frequency tilt (+1dB@20kHz). The HF Tilt control gives you the ability to compensate for more or less damping (live or dead sound) in different rooms in order to make the most natural overall sound possible.

Location Compensation – "Shelves up" the upper midrange and high frequency output to compensate for the speakers being located behind a perforated screen or too far off-axis for good HF response. Particularly useful to enhance dialog clarity and "immediacy" or "definition" in the reproduction.

Boundary Compensation – Adjusts for the sonic reflections caused by mounting the speakers in custom cabinets or directly adjacent to a TV set or other cabinetry.

Great Big Bass, Eensy Peensy Boxes

Our goal in designing the 8200 PedWoofers was to deliver accurate deep subwoofer bass at high volume levels with low distortion. Not an impossible task until you add the requirement that the enclosures be small, slim, attractive, and act as stands for the LR satellites, creating a beautiful floorstanding column speaker when they're set up. After almost 15 months of development, with a total of 20 different prototype drivers under our belt, we're proud to announce that we've succeeded to a level (depth?) well beyond our expectations. These are compact and attractive yet extremely powerful subwoofers. Technical highlights include:

The driver is a 12-inch unit with a 12-pound vented magnet assembly. It's 2.5-inch four-layer voice coil is wound from OFC copper on a high temperature Kapton former and also has a T shaped pole piece and Faraday ring for reduced distortion (a particularly unusual feature in a

driver of this size).

The proprietary concave cone is a continuous one-piece design without a dust cap or opening at its apex. This makes for a much stiffer structure than typical. It's a combination of Homopolymer Polypropylene loaded with a mixture of Mica for reduced sheer and break-up modes, plus Glass Spheres, Carbon Fiber, and Ceramic elements to enhance stiffness while allowing the cone to make exceedingly long strokes without excessive flexing and break-up. Yet the cone is relatively light for fast response and high efficiency. The driver's surround is molded rubber with an unusual "braided" shape that enhances its ability to damp out standing waves in the cone. Finally, the spider is vacuum formed from Santoprene®, a material that is exceedingly strong, very heat resistant, and doesn't change its characteristics as it ages.

The PedWoofers are powered by a dedicated external Servo-controlled power amplifier, the SA-8200. This all-discrete unit features twin toroid transformers, high current power supplies, low distortion driver stages and well under rated output devices. Internally the two amplifier sections are completely separate and only share the power cord in common.

Since bass is so difficult to get "right" in most rooms we have further Room Enhanced the SA-8200 to offer exceptional customization in order to maximize the bass in each individual installation. The unit features:

A single band Parametric Equalizer for each channel with a range of 20 to 150Hz. This EQ only allows signal reduction.

A 4-position Phase control for each channel (0°, 90°, 180°, 270°).

These two controls optimize the woofers for their location within the room.

4 Pre-set Program EQs designed to enhance movie and music bass reproduction. There is also a 5th THX/Reference setting.

A +/-10dB subwoofer Level Trim, in 1dB steps.

The 4 Program EQs, Level Trim, and a Subwoofer Mute function are all remote controllable using

the included mini-IR remote transmitter.

The rear mounted steel terminal plate includes heavy duty gold plated five way binding posts and a mini-connector for the low voltage power supply and IR signal lead to service the front mounted IR sensor located at the top front of the PedWoofers.

The Room Enhanced 8200 C center channel speaker features Atlantic's famous adjustable tilting base for optimum positioning. It too has optional side panels available to match the LR's, and a curved steel grille held on by Neo magnets.

The Room Enhanced 8200 SR surround speaker is a switchable Dipole/Bipole unit using two 6.5-inch drivers with all the same technology as used in the LCR drivers. The driver compliment is completed with two of the same 1-inch damped silk dome tweeters as used in the LCR's as well.

To sum up then, we believe that C. O. R. E. Technology represents something really unique in the loudspeaker business. Even more important it represents something that actually benefits the consumer in several ways. The technology makes the 8200 among the most flexible and potentially the best sounding speaker systems ever produced. It's certainly among the most visually and acoustically adjustable speakers systems available today. At the same time the advanced acoustic design and superior performance place System 8200 firmly at the forefront of today's most highly regarded speaker systems. This is one multi-channel system that you won't feel the need to be upgrading anytime soon.