Monsalvat

Preliminary information

Since the introduction of our first Lohengrin in 2001, some of our customers have expressed a desire for an even larger Verity loudspeaker. Some of them own very large listening rooms and also wished to be able to listen at very high SPL levels. Particularly when listening to large symphonic recordings, we agreed a larger system would do an even better job reproducing the scale of an orchestra.

As audio enthusiasts ourselves we've found this challenge to be quite thrilling, and we started doing some focused research on the best solution to fulfil these requirements about five years ago. The result of our efforts is the new Monsalvat loudspeaker system.

During the research and design process we quickly came to the conclusion that such a system had to be built in many modules. Following is a description of this exciting new system.

System Description:

The Monsalvat is a complex system built around (2) two main tower units, each comprised of a mid-treble module and a low-midrange module. The two main towers are partnered with (2) two separate low-bass towers and a unique active crossover module to complete the system.

The active crossover is installed between the pre-amplifier and power amplifiers, of which six (6) independent channels of amplification are required to operate the system. Over our many years of research, it's been consistently demonstrated that the best results in multi-amplified systems are always reached when the same amplifier is used throughout the system. For this reason, the low-bass towers of Monsalvat are not amplified.

The Main Towers:

The two modules of the main towers combine to form a tower that is about the same height as our Lohengrin II. The cabinet design and construction is quite different from Lohengrin II, however; these modules are deeper than Lohengrin II, and instead of widening at the back to accommodate a large woofer, they taper and narrow at the rear. This shape contributes to the exceptional soundstaging capabilities of the system. Furthermore, to make this slim tower very stable it sits on a thick and heavy base of aluminum with adjustable spiked feet.

The Main Towers: (continued)

The mid-treble module:

The mid-treble module contains two (2) drivers: a ribbon tweeter and a midrange driver. The tweeter is our own pure ribbon design that covers a range of about 6 kHz to 60 kHz. The midrange driver is a proprietary design based on the unit we designed for our Sarastro II. The Monsalvat midrange unit differs most in sensitivity- Sarastro II's midrange offers a sensitivity of 93 dB @ 1w/1m, whereas the new Monsalvat midrange was reworked to offer a whopping 99 dB @ 1w/1m. This module has the only passive crossover elements in the entire system. Due to the proprietary driver and cabinet designs we were able to keep these components to a minimum, and these elements are located in an isolated compartment for ease of service should any component updates become available.

The low-midrange module:

The low-midrange module includes an array of (4) four low-mid drivers similar those used in the Lohengrin II. This array allows their combined sensitivity to match the 99dB sensitivity of the proprietary mid-treble module. These four drivers cover the range of about 60 Hz to 500 Hz in a sealed enclosure. Use of these very powerful divers in such array allows cone displacement (hence distortion level) to remain very small, even at high output levels.

The Woofer Towers:

Each of the Monsalvat woofer towers is comprised of (4) four individual woofer modules. Each module includes a fifteen inch driver based on the proprietary design we employ in our Lohengrin II.

The individual modules are stackable/connectible and are designed to be installed facing a corner of the room, thus using it as an "infinite horn". The stacked/connected modules can be installed vertically in room corners or horizontally along the floor/wall interface. Each module can be used as either a ported or a sealed enclosure depending on individual room acoustics, and towers of two modules per channel may be used in smaller rooms. As with Monsalvat's low-mid modules, each of the woofer drivers used in these towers are very powerful units on their own; using them in an array allows for very high sound pressure levels with minimum cone displacement, and thus, lower distortion. These towers cover a range of about 15 Hz to 60 Hz.

The active crossover:

In considering our needs for Monsalvat we decided a hybrid active crossover would be required. Our experience with digital crossovers has often shown this type of crossover often lacks transparency compared to the best analog designs; however since a delay would be required to time-align Monsalvat's woofer towers with its main towers, we needed to find a way to incorporate a digital circuit in the design because digital is vastly superior to analog in such an application.

Our research led us to develop a unique crossover topology that uses an analog line-level filter circuit paired with an ultra-high-resolution digital delay circuit. This unique circuit uses a combination of A/D and D/A converters that are not related to any currently known high-end audio component. The entire analog design was done in house at Verity.

The result of this combined analog/digital circuit is an absolutely transparent active crossover system. The crossover is fully equipped with both balanced and unbalanced inputs and outputs, and it includes level adjustments for the woofer towers, the low-mid modules, and the mid-treble modules.

Dimensions and Specifications:

Woofer modules (4 per channel):

Height:	55 cm (tower = 230 cm) - 21.65 inches (tower = 90 inches)
Maximum width:	71.25 cm - 28 inches
Maximum depth:	80.82 cm - 31.82 inches

Main towers:

Height:	154.86 cm - 60.96 inches
Stand width:	59.37 cm - 23.37 inches
Tower width:	24.87 cm - 9.8 inches
Maximum depth:	112.59 cm - 44.33 inches