



Earthquake Sound Tethys And Rhea

Titan Series High-Fidelity Loudspeakers

Danny Richelieu

Introduction

Earthquake Sound began as the brainchild of Joseph Y. Sahyoun, a brilliant engineer and outspoken man who will not shy away from any conversation. Now a subsidiary of the Hohmann International Group, Joseph still runs the company as an engineering-driven company with a simple objective: make products of need, not greed. In addition to high performance and impeccable quality, Earthquake's products are all about value.

Earthquake's first foray into the home theatre loudspeaker arena has been given the treatment of Greek deities. Or, more specifically, Greek Titans. Tethys, the full-range tower loudspeaker in the series, has been named after the ancient Greek titaness of the same name, goddess of the world's fresh water. Rhea—great mother of the Titans—was kind enough to lend her name to the center channel loudspeaker in the Earthquake Sound Titan line. As the center channel, perhaps Mnemosyne would have been a more suitable name, being the Titan goddess of music and inventress of words and language. But, honestly, who can pronounce Mnemosyne?

Every driver, crossover, and cabinet used in the Titan line was designed, manufactured, and tested in the United States at Earthquake Sound's facility in northern California. While this does make it difficult for Earthquake to compete in terms of the price they can sell their loudspeakers at, it gives them ultimate quality control, which is immediately recognizable when listening to

"The most impressive part of the Titan loudspeakers is their incredible midrange."

the Titan series loudspeakers. The Tethys and Rhea give you exactly what you want from high-end loudspeakers: uncolored, transparent sound.

The Loudspeakers

These loudspeakers are not designed for just any room. At five feet tall and almost 400 pounds, the Tethys tower loudspeaker can really fill a room. And not just with its massive size—these loudspeakers can really crank out some extreme SPLs without distortion. The Tethys tower is broken up into three separate chambers. The top of the loudspeaker, which is coated with ten layers of black lacquer and polished to a mirror shine, contains two separately tuned chambers—one for the tweeter and one for the midrange—while the bottom portion of the loudspeaker, which is enclosed in 16 layers of steam-bent, solid, high-density wood, is a sealed-box system to deliver deeper, tighter bass than a ported system could reproduce. For more on the Tethys loudspeaker, see the sidebar on the next page.

The Rhea center channel loudspeaker is what is truly revolutionary. Consisting of three 1.5-inch soft-dome tweeters—each of which are rated to 30 degrees of wide-angle dispersion that do not overlap until a distance of exactly 15 feet—and four 6-inch, full-range, high-speed drivers powered by long, massive magnetic motors. The motors are specially designed to deliver long and accurate excursions, critical for a high-SPL system such as this, especially one that is designed to deliver such deep bass. Earthquake's engineers uniquely tune the combinations of drivers for uniformly dispersed sound waves over a large area with a broad frequency range. The drivers are mounted in a horizontal array, based on a design theory developed in the 1960s. Because sound pressure level (SPL) decreases in relation to the square of the distance traveled in a typical single-driver

SPECIFICATIONS

Tethys Tower Loudspeaker

Five-way passive-loaded bass reflex system
Drivers: 1.5-inch silk dome tweeter (1), 5.25-inch high-precision midrange (1), 8-inch mid-bass woofer (1), 12-inch long excursion subwoofer (2), 15-inch symmetrically loaded passive radiator (1)
Frequency Response: 17-Hz to 30-kHz
Sensitivity: 91-dB-per-watt per meter
Power Range: 200 to 2,000 watts

Dimensions (WHD In Inches): 18 x 60 x 24
Weight (In Pounds): 392.7
Price: \$20,000 per pair

Rhea Center Channel Loudspeaker

Two-way sealed system
Drivers: 1.5-inch silk dome tweeter (3), 6-inch silk coated pressed pulp full-range driver (4)
Frequency Response: 23-Hz to 30-kHz
Sensitivity: 90-dB-per-watt per meter
Power Range: 250 to 2,000 watts

Dimensions (WHD In Inches): 36.2 x 12.4 x 21.3
Weight (In Pounds): 250
Price: \$6,000

Manufactured In The USA By:

Earthquake Sound Corporation
2727 McCone Avenue
Hayward, CA 94545
Phone: 510 732 1000
Fax: 510 732 1095
<http://www.earthquakesound.com>

design (think of sound emanating as an omni-directional sphere from a point; because the sphere must occupy a lot of space as it travels, SPL decreases dramatically as the distance from the source increases), it can be difficult to produce high enough SPLs without distortion for large rooms. By creating a driver array, like the Rhea uses, multiple spheres of sound are created, which leads to a more cylindrical dispersion that loses SPLs in relation to the distance rather than its square. Generally, though, the problem with using multiple drivers delivering the same signal is you can create "hot" and "cold" spots where sound waves reinforce or cancel each other out. Earthquake Sound has taken special care in the tuning and design of the Rhea to eliminate those hot and dead spots for a smooth, even frequency response.



SONY'S ACTION MOVIE HD CHALLENGE

SONY SXRD



VS.

DLP®



ASK YOUR HDTV RETAILER
☆☆☆ TO TUNE ALL SCREENS ☆☆☆
TO AN ACTION MOVIE
TWO SETS. NO MERCY.

SONY

HDTV

Head down to your local HDTV retailer and ask them to tune all the screens to an action movie. You may see how some rear-projection DLP® televisions can sometimes create color separation on fast-moving objects, a weakness the industry refers to as the "rainbow effect." This is because they project each color, one at a time, using a mechanical color wheel. Sony® SXRD™ technology projects color all-at-once to give you HD as it was meant to be. See the world's most powerful HD experience yourself. Learn more at sony.com/HDTV



With their 1.5-inch silk dome tweeter, Earthquake Sound has increased the flat frequency response up to a purported 30 kHz. The resulting sound: very natural high treble, void of the ringing lesser tweeters can impart.

Earthquake Sound's 5.25-inch carbon-Kevlar midrange driver produces some of the most articulate and accurate vocals I have heard in a loudspeaker design. The pureness of the sound is so soothingly pleasant, I was able to listen to human voices for hours on end with the Tethys loudspeakers without ever feeling discomfort or listening fatigue.

The eight-inch upper-bass/low-midrange driver (top) is incorporated into the design to help create a more seamless frequency response for the Tethys loudspeakers. The dual 12-inch woofer cones are made of pressed pulp, laminated with silk, which creates a light and sturdy "piston" for delivering the sound waves into the room. While their large size does cause them to lag ever so slightly with the pace of music in the DVD-Audio version of Dire Straits' "Money For Nothing" off *Brothers In Arms*, they have a much faster response than other 12-inch sub-woofers I have listened to.



Earthquake Sound's patented SLAPS (Symmetrically Loaded Audio Passive System) is incorporated into the Titan Tethys loudspeaker, driving its flat frequency response down to 17 Hz. Unlike traditional passive radiator designs that can suffer from non-linear forward and backward excursion, the SLAPS woofer is designed using a custom aluminum ring with two one-piece, flat diaphragms, one on each side. The structures of both sides are identical, which makes the resistance to inward and outward movement perfectly symmetrical. The system allows Earthquake to tune the Tethys' enclosure down to 17 Hz without needing to increase the cabinet's internal volume. And the system really works. The added power afforded to the loudspeakers by the SLAPS system can be more felt than heard. The sub-20 Hz bass delivered by the Nazgul's fell-beast's wings flapping in *Lord Of The Rings: The Two Towers'* Marsh scene from DTS's Demo Disc #8 explodes into the room with the Tethys loudspeakers, feeling much deeper than any other loudspeaker system I have heard with this material.

While these massive, gold-plated four-gauge loudspeaker cable terminals may seem a little excessive, they do have their purpose. By tying them together (as shown), you can drive the Tethys with a single amplifier (recommended power between 200 and 1300 watts). You can also power the drivers separately by removing the two bridges and sending the channel's full-range signal to each terminal pair from separate amplifiers. The top pair are for the tweeter (recommended power from 20 to 100 watts), next is the midrange (30 to 150 watts), then the upper-bass/low-mid (50 to 350 watts), and the two active woofers (75 to 700 watts).



And, while the drivers are impressive in their own right, it is the Rhea's cabinet that is revolutionary. The aerodynamic enclosure is designed to improve the sound quality by minimizing sound-wave reflections and reducing turbulent airflow inside the enclosure. With more typical cabinet designs that have sharp angles on corners, turbulent airflow is produced internally and externally. Because the two airflows do not match, inward strokes of the driver can fight against outward strokes, which will offset the voice coil and create unwanted distortion. The aerodynamic design of the Rhea minimizes that distortion.

Listening Tests

The most impressive part of the Titan loudspeakers is their incredible midrange. The detail and clarity they impart on a recording is impeccable. Ben Harper's

smooth voice was rendered so well from his *Burn To Shine* CD, closing my eyes I felt like he was there in the room. The Tethys loudspeakers image very well—and are not finicky when it comes to placement—to create a broad and controlled stereo image.

Using four Tethys towers and a Rhea midrange for multichannel music and movies was a delight, with phantom images placed well around the room. The Rhea center channel matches the Tethys surprisingly well tonally—surprising only because of the different drivers used and their much different designs. Dire Straits' *Brothers In Arms* is one of my favorite discs for evaluating loudspeakers, and the Tethys and Rhea loudspeakers did a very good job of reproducing it. I was impressed by the speed and little residual overhang of the Tethys' dual 12-inch woofers, given their size.

The Titan loudspeakers really excel in movie playback, as they go incredibly

deep, get incredibly loud, and are incredibly detailed across the frequency spectrum. They reproduced the fine nuances of *The Lord Of The Rings: The Fellowship Of The Rings* with perfection, and created a sound-field that really did seem true to life. And, with their intense power at such low frequencies, the recording can be played back exactly as intended by the mixers without the need for bass management.

Conclusion

For anyone looking to buy high-end loudspeakers for a large room, the Tethys and Rhea should be auditioned. Their fantastic midrange—the crux of most music and movie soundtracks—makes for a fantastic experience. Add to that deep, tight bass and smooth, natural treble—let's just say Earthquake has a real winner. ■

CES: CONTENT, TECHNOLOGY AND EVERYTHING IN BETWEEN.

The consumer electronics industry is rapidly expanding. From breakthrough products to device entertainment, CES is where the best of the business world gathers each year. See the latest innovations and gain the competitive edge only the world's largest tradeshow for consumer technology can deliver. Register now.

2007 INTERNATIONAL CES® JANUARY 8-11 LAS VEGAS, NV www.CESweb.org

