

S400

PRECISION PASSIVE LOUDSPEAKERS

FEATURING **TETRAD**
DRIVER ALIGNMENT TECHNOLOGY

PRELIMINARY INFORMATION



MACKIE®

INTRODUCING THE S400 SERIES PASSIVE LOU

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S408

Compact, two-way loudspeakers have always represented a compromise. The most popular format—the 15" passive loudspeaker with a horn—can provide ample punch and “ruler-flat” frequency response when listening directly in front of the speaker. But move even just a little bit to the left, right, up or down, and that perfect sonic image deteriorates rapidly. That’s simply the laws of physics. But it’s something Mackie sought to bypass with our new flagship S400 Series Precision Passive Loudspeakers.

To develop the S408 Precision Passive Loudspeaker and S410s Subwoofer, we enlisted the loudspeaker experts at Eastern Acoustic Works (EAW)—the company behind high-end touring systems and world-class stadium sound the world over. Their solution was to develop proprietary Tetrad™ Technology, bringing the advantages of large-format touring systems to a compact, portable loudspeaker design.

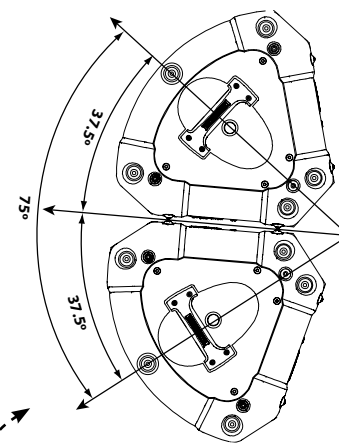
Proprietary Tetrad™ Design

Tetrad Technology starts by eliminating the biggest source of trouble with a 15" 2-way loudspeaker—the 15" woofer—and replaces it with four smaller 8" drivers, plus an unusually large horn in the center of the S408. The result is greater overall low-frequency driver surface area—200 sq. inches vs. 175 sq. inches—for more punch, and a horn that delivers far better pattern control in the upper mid frequencies.

As bass players know, because four smaller drivers have a quicker attack (transient response) than a 15" woofer, they can be made to deliver a tight, focused low-end with more impact. So we employed this quad-driver design in both the S408, which features four 8" speakers, and the S410s subwoofer, which features four 10" speakers.

In the S408, the spacing of the 8" drivers above and below the horn was calculated so that the polar pattern of the drivers matched the polar pattern of the horn at the crossover, both horizontally and vertically. This provides much more consistent directivity and pattern control.

Why does directivity matter? Because when sound radiates from a speaker, the listener will typically hear the direct sound first; then they'll hear the energy that is reflected back from the room. If the low-frequency directivity is wide and the high-frequency directivity



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The S408 offers 12 integrated rigging points from which to fly the speaker.

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LOUDSPEAKERS WITH TETRAD™ TECHNOLOGY

DEFINITION. SIMPLE DESIGN. UNMATCHED COVERAGE.

S410s



If the horn is narrow, there will be a lot more reflected low-end, which will "muddy" the tonality and ruin the intelligibility. With Tetrad's large horn and spaced drivers, problem solved.

The Big Horn

Speaking of horns, thanks to the smaller 8" drivers, the S408 is able to incorporate a large, central 75° x 40° horn. Big horns present a friendly load impedance to the high-frequency device, which means lower distortion. And big horns offer better pattern control to a lower frequency than smaller horns—which is why they're used in large-format touring systems.

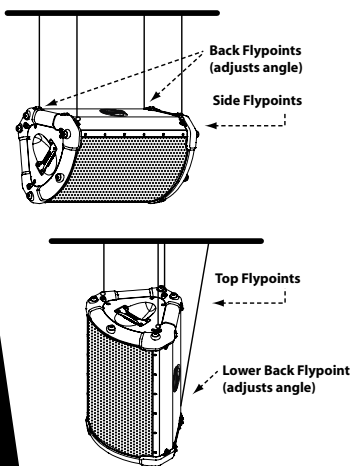
The large horn also eases the crossover transition from the 1.75" titanium compression driver to the 8" drivers. This allows the S408 to keep the crossover frequency low enough that the critical vocal and midrange frequencies (1k-3k) are all reproduced by the horn. Put simply, this means the S408 sounds superb and projects extremely well—far better than anything in its class, in fact.

Taken together, the spaced woofers and central horn allow for a horizontally and vertically symmetrical design. This means that the off-axis frequency response is the same on one side of the S408 as it is on the other. This is particularly helpful when used as a stage monitor. As the performer moves, the sound remains the same.

Top-Notch Construction and Versatile Array Options

The S400 Series is comprised of the S408 Precision Passive Loudspeaker and the S410s Subwoofer. Both models feature solid 18mm Baltic Birch plywood enclosures coated with wear-resistant, textured black PVC vinyl paint. They also incorporate comfortable, weight-balanced carrying handles and integrated pole mounts. The S408 features 12 integrated rigging points for flying and permanent installation applications in numerous configurations. And the S408's trapezoidal shape makes it perfect on its side in a stage monitor application, delivering all of the acoustical benefits discussed above.

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TETRAD™
TETRAD™ TECHNOLOGY

Molded enclosures are designed to provide optimum dispersion in arrays.

S400

PRECISION PASSIVE LOUDSPEAKERS
FEATURING **TETRAD**
DRIVER ALIGNMENT TECHNOLOGY



S408

PRECISION PASSIVE 2-WAY LOUDSPEAKER

with Tetrads Technology for controlled dispersion and superior clarity

- 4 x 8" LF drivers in unique Tetrads alignment offer wide low-frequency dispersion and enhanced transient response
- 1" exit HF driver on an oversized 75° x 40° horn provides superb coverage and high-frequency definition; 2 vertically arrayed enclosures provide 150° coverage
- Pole mountable on commercially available speaker stands
- Symmetrical Trapezoidal design allows for monitor wedge applications
- Stackable on top of S410s Precision Passive Subwoofer
- Flyable both horizontally and vertically via 12 integrated 3/8" threaded inserts
- Portable with 4 balance-optimized top and side-mounted handles
- Dual parallel, locking NL4 connections for Input and Thru on rear panel
- Thermal Overload HF driver protection
- Sensitivity: 99dB SPL (1W/1m)
- 600W RMS power handling at 8 Ohms; 2,400W peak
- Frequency Response: 60Hz-22kHz

S410s

PRECISION PASSIVE SUBWOOFER

ideal for use with S408 Precision Passive 2-way Loudspeaker

- Unique 4x10" LF driver configuration offers enhanced transient response vs. single 18" configuration
- Stackable design with recessed footholds allows for stacking S408 on sub, or stacking two S410s for a powerful long-throw sub stack
- Top Hat pole receptacle for use with S408
- Portable with 2 balance-optimized side mounted handles
- Dual, parallel, locking NL4 connections for Input and Thru on rear panel
- Sensitivity: 96dB SPL (1W/1m)
- 750W RMS power handling at 8 Ohms; 3,000W peak
- Integrated 180Hz low pass filter
- Frequency Response: 40Hz-400Hz



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