

S-12sm

KEY FEATURES

- Professional 12-inch, 1400W Woofer with 4-inch Voice Coil
- Professional 1.7-inch Ultra-Purity™ Compression Driver on Elliptical Wide Dispersion Horn
- High-Sensitivity: 93dB LF; 108dB HF
- Wide Bandwidth from a Compact Enclosure: 38Hz-22kHz, -6dB
- Maximum Output: 128dB
- State-of-the-art technical performance via PRO Loudspeaker Controller
- 4-ohm Nominal Impedance LF; 8-ohms HF
- **Requires PRO Loudspeaker Controller (2 output channels)**

APPLICATIONS

- Surround Sound/Home Theater
- Studio Reference Monitor
- Two-Channel Stereo



DESCRIPTION

The S-12sm is the first in the new “S” series loudspeakers from Pro Audio Technology - objectively and subjectively the finest loudspeakers the company has ever produced.

The S-12sm is a medium format multipurpose loudspeaker designed for ultimate accuracy, resolution and unrestricted dynamics. Though compact in size, the S-12sm produces surprisingly full-range, visceral sound typically only found in much larger loudspeakers. The S-12sm’s unique elliptical horn and wide-bandwidth Ultra-Purity™ high-frequency compression driver provide ideal dispersion of high-frequency energy. The sound is clean, pure and coherent with no trace whatsoever of compression driver harshness.

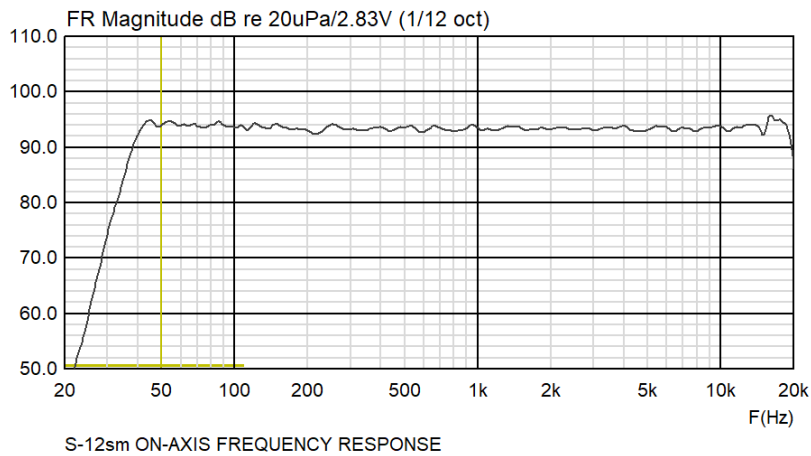
Developed as part of an integrated digital system, the S-12sm’s companion PRO Loudspeaker Controller employs proprietary Digital Signal Processing (DSP) for high-resolution frequency response contouring, dynamics processing and critical time alignment. As in commercial and professional audio systems, the S-12sm is bi-amplified to maximize the performance of each driver in the system. With maximum output exceeding 130dB, it is the ideal choice for screen channel or reference applications in small, medium, and large sized rooms where loudspeaker size limitations might be a concern.

The subjective and measured performance of the S-12sm is so good it can be successfully used as a reference monitor in studios and other applications where absolute accuracy and high resolution are required.

SPECS

APPLICATION:	Bi-amplified medium format multipurpose loudspeaker
LF SECTION:	12” professional grade woofer with 4” voice coil
HF SECTION:	1.7” professional-grade compression driver with advanced polymer diaphragm on 80° x 60° elliptical horn
CROSSOVER:	8th order acoustic via DSP
POWER HANDLING:	1400W LF / 100W HF
SENSITIVITY:	93dB LF / 108dB HF
POWER REQUIREMENTS:	Bi-amplification via PRO Amplified Loudspeaker Controller
POWER RECOMMENDATION:	700W LF / 200W HF
WIRING REQUIREMENTS:	4 conductors
FREQUENCY RANGE:	38Hz – 22kHz, -6dB
MAXIMUM OUTPUT:	128dB
NOMINAL IMPEDANCE:	4-ohms LF / 8-ohms HF
DIMENSIONS:	25”H x 14”W x 12”D
WEIGHT:	63 lbs.

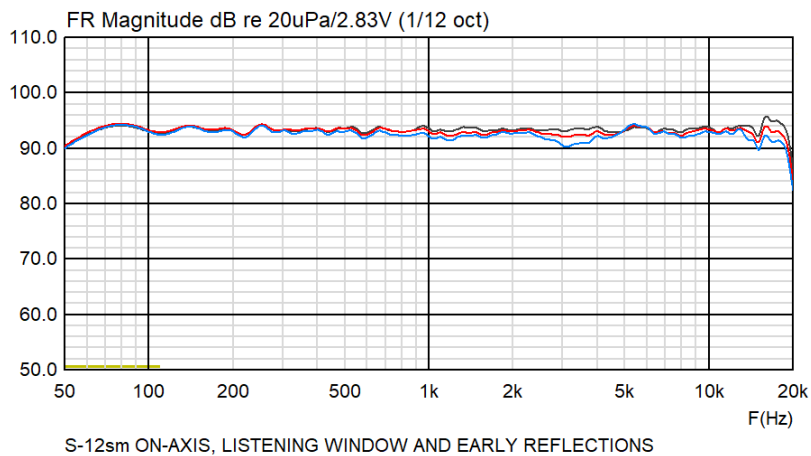
S-12sm Measurements



ON-AXIS FREQUENCY RESPONSE

The on-axis frequency response tells us the most about a loudspeaker's performance. An ideal response would be a horizontal straight line.

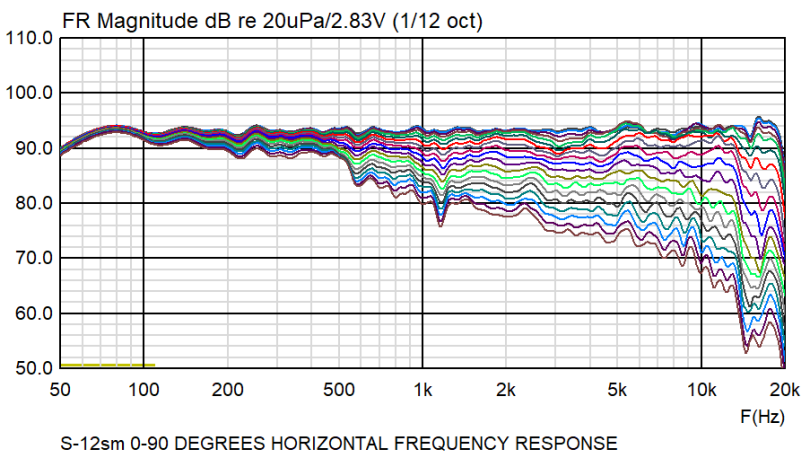
The S-12sm frequency response is remarkably flat and smooth, offering state of the art sonic performance. The response shown is unsmoothed.



ON-AXIS, LISTENING WINDOW and EARLY REFLECTIONS RESPONSE

The "Listen Window" (red) is defined as the average of +/- 30 degrees off-axis horizontal and +/-10 degrees vertical responses and represents what most listeners 'hear' when sitting in the listening area. "Early Reflections" (blue) response is defined as the average of responses +/- 90 degrees horizontal, 20-40 degrees down, and 40-60 degrees up and represents the frequency content of the sound bouncing off the side walls, floor and ceiling. Ideally, the "Early Reflections" and "Listening Window" would mimic the on-axis response of the loudspeaker.

The S-12sm Listening Window and Early Reflections responses are exemplary.

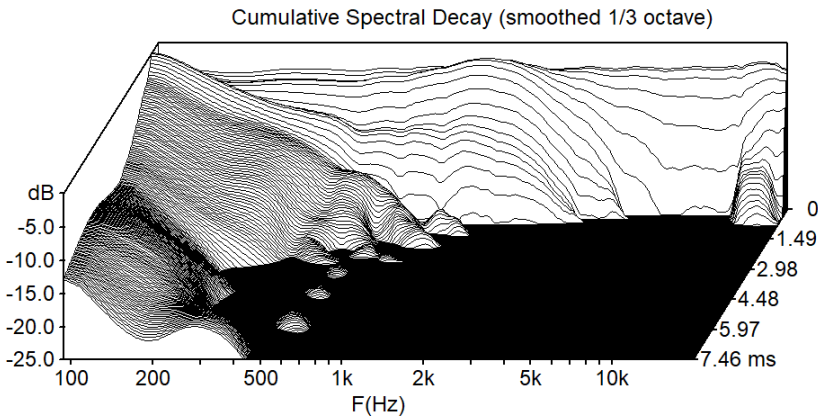


0-90 DEGREES OFF-AXIS RESPONSE

The off-axis frequency response is the second most important measurement of a loudspeaker's performance. An ideal response would be a horizontal straight line on-axis with a uniform and gradual fall off at the higher frequencies as you move off axis.

The S-12sm off-axis response is remarkably uniform and smooth as you move farther off-axis, offering state of the art sonic performance with dense, pinpoint stereo imaging.

S-12sm Measurements (con't)

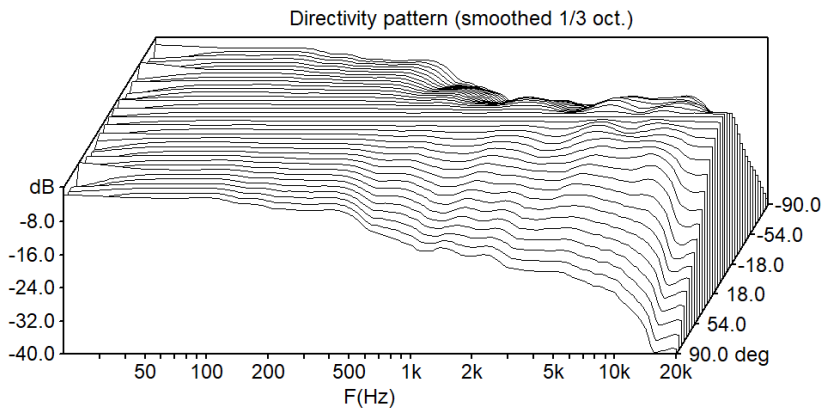


S-12sm CUMULATIVE SPECTRAL DECAY

ON-AXIS CUMULATIVE SPECTRAL DECAY

The on-axis Cumulative Spectral Decay or “Waterfall” plot reveals resonances within a system. An ideal response would be a horizontal straight line at time=0 (the back of the plot window).

The S-12sm Waterfall is remarkably clean and smooth, showcasing the remarkably clean and resonance-free performance of the Ultra-Purity™ compression tweeter.

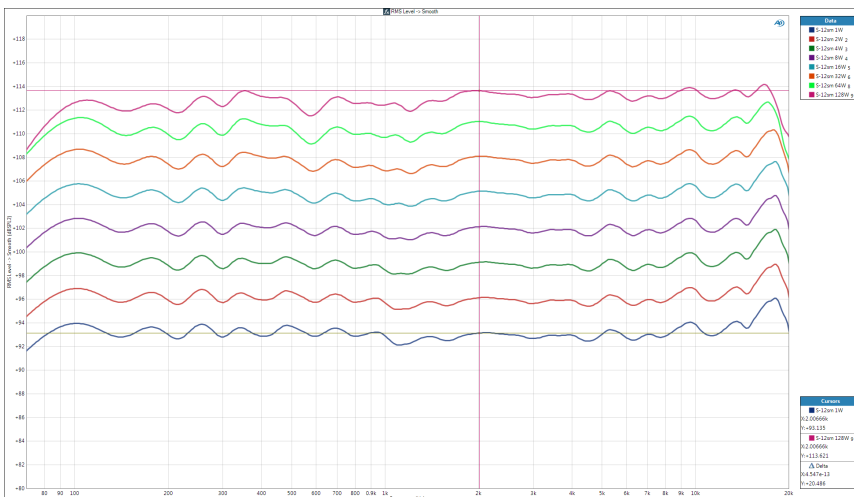


S-12sm LATERAL RESPONSE FAMILY

0-90 DEGREE OFF-AXIS WATERFALL PLOT

The “Off-Axis Waterfall Plot” or “Lateral Response Family” depicts the response of the loudspeaker at progressively more off-axis angles normalized to the on axis response. This shows how the sound “changes” when you’re not sitting directly on-axis and also give a good view of the coherence of the reflected energy in the room. An ideal response would be smooth gradual fall off of acoustic energy with rising frequency (left to right on the plot) and angle (front to back on the plot).

The S-12sm exhibits text book response with uniform, controlled dispersion all the way to 90 degrees off axis.

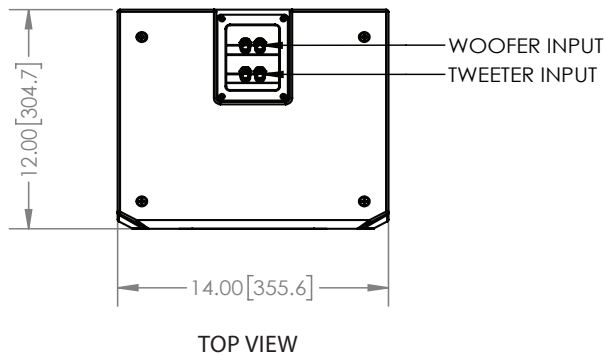


POWER COMPRESSION

The Power Compression plot characterizes the dynamic range of the loudspeaker, or how loudly it can play before it starts to thermally limit output. Each measurement is taken with +3dB greater input signal than the previous measurement. An ideal loudspeaker would show exactly 3dB spacing between all the curves.

The S-12sm is remarkable in this regard, showing only 0.5dB of “compression” at 128W at 114dB SPL at 1 meter distance.

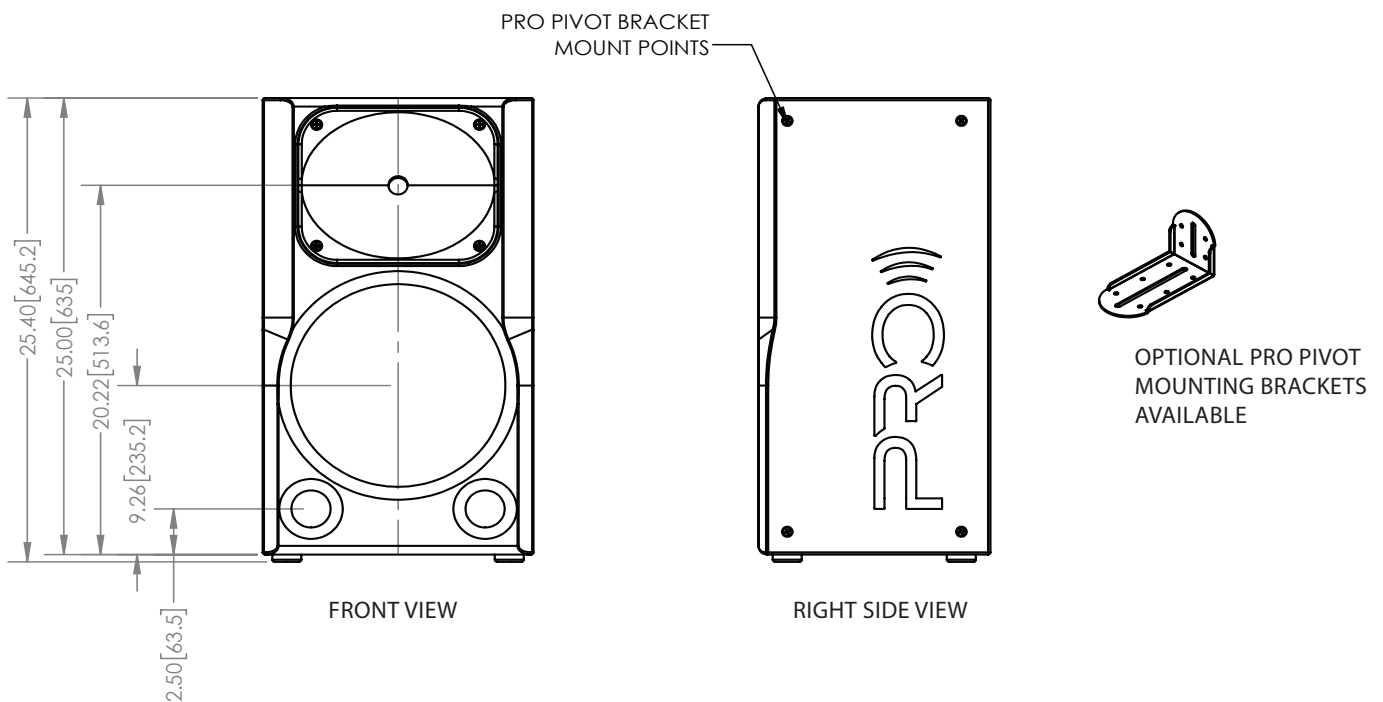
S-12sm Dimensions



DIMENSIONS and FEATURES

The S-12sm requires bi-amplification via a PRO Amplified Loudspeaker Controller (ALC) therefore there are two sets of input terminals, one for the woofer and one pair for the tweeter. 4 conductors are required to make these connections.

Like all PRO S Series loudspeakers, the S-12sm has #1/4-20 mount points that can be used with optional PRO Pivot Mount Brackets.



10-YEAR LIMITED LOUDSPEAKER WARRANTY

Professional Home Cinema, LLC dba "Pro Audio Technology" (PHC) guarantees its loudspeaker products to be free from defective materials and/or workmanship for a period of ten (10) years from the date of manufacture, and will replace defective parts and repair malfunctioning products under this warranty when the defect occurs under normal installation and use. This warranty does not extend to any product which has been subject to misuse, neglect, accident, improper installation - *including the use of PRO loudspeakers with 3rd-party amplification* - or where the date code has been removed or defaced. For more information please see www.proaudiotechnology.com.

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