

SR1530 3-Way Active Sound Reinforcement Speaker System

■ The SR1530 is a high-output, horn-loaded, 3-way, wide dispersion, active sound reinforcement speaker system. The combination of active on-board electronics and high-precision transducers allows the SR1530 to generate high output levels with complete clarity and high resolution.

■ The transducers developed for the SR1530 feature several innovations specifically designed for this speaker system. The SR1530 is the first speaker in its class to feature a horn-loaded mid-frequency transducer. By designing a one piece 90° x 40° horn, which includes both the mid and high-frequency sections, the SR1530 takes advantage of several performance benefits. First the 6-inch mid-range's basket assembly is designed as part of the horn assembly. It is also designed to function as an optimized compression chamber, dramatically simplifying the mid-range assembly. Also, in three-way designs the mid-frequency horn and the high-frequency horn are physically pointing to different locations in front of the box. The SR1530 features an "Optimized Wavefront" horn design. Unlike typical mid/high horns, the high-frequency section is positioned to fire down into the six-inch midrange's dispersion pattern. This creates a focused, single wave front with excellent phase and power response characteristics. The mid-range transducer operates between 700 Hz and 3,000 Hz eliminating the placement of a crossover point in the middle of critical voice frequencies. Frequencies above 3,000 Hz are reproduced by a 1-inch exit compression driver. There are two 100 watt amplifiers for the mid and high-frequency drivers.

■ The SR1530 deep bass is produced through a 15-inch high-output woofer. The transducer handles 250 watts rms long term. The low-frequency amplifier is an excellent example of the efficiency of active designs. The amplifier uses a high efficiency, high current Class G topology to produce 300 watts rms of power.

■ The SR1530 frequency response is linear between 45 Hz and 18 kHz. The system processor provides complete system management of all electronic and acoustic functions. These functions include electronic active crossover, electronic phase alignment, electronic time correction, electronic equalization, and complete amplifier and component protection. The system accepts a standard line level signal via an XLR input connector. There is also a loop out connector

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SR1530

Features

- Three-way tri-amplified, horn-loaded sound reinforcement speaker system
- High definition, high output levels before feedback
- 500 watts of integrated power
- Electronic equalization, time correction, and phase alignment
- Complete electronic and component protection circuitry
- Wide dispersion, extreme output high/mid horn design
- High-output six-inch horn loaded mid-range transducer
- High-precision one-inch exit, high-frequency compression driver
- 15-inch woofer with high-flux magnetic circuit
- Professional trap designed enclosure
- Correctly weight-balanced with two comfortable side handles for easy carrying and set up
- One top and one bottom handle for easy repositioning of speaker

Applications

- Live applications
- Playback applications
- Small to medium sized portable PA systems
- Corporate events
- Night clubs
- Houses of worship

SR1530 Specifications

System Specifications

Freq. Range:	40 Hz - 20 kHz
Freq. Response (-3 dB):	45 Hz - 18 kHz
Horz. Coverage Angle (-6 dB):	90° averaged 2 kHz to 10 kHz
Vert. Coverage Angle (-6 dB):	40° averaged 2 kHz to 10 kHz
Directivity Factor; DI(Q):	10.77 (11.95) averaged 2 kHz to 10 kHz
Rated Maximum SPL (long term):	123 dB @ 1 m
Rated Maximum SPL (peak):	126 dB @ 1 m
Crossover Points:	700 Hz, 3,000 Hz
Dynamic Range:	>110 dB
Phase Response:	±40° from 500 Hz to 10 kHz

Transducers

Low Frequency:	15-inch (300 mm) diameter
Voice coil diameter:	2.5-inch (63 mm)
Power handling:	250 watts rms (long term) ¹
Mid Frequency:	6-inch (152 mm) diameter
Voice coil diameter:	2-inch (50 mm)
Power handling:	60 watts rms (long term) ¹
High Frequency	
Diaphragm diameter:	1-inch (25.4 mm)
Voice coil diameter:	1-inch (25.4 mm)
Power handling:	25 watts rms (long term) ¹
Diaphragm material:	Mylar

Amplifiers

Low Frequency	
Burst Capability:	300 watts
Rated THD:	<0.05%
Design:	Class G High Efficiency-High Current
Mid Frequency	
Burst Capability:	100 watts
Rated THD:	<0.1%
Design:	IC Based
High Frequency	
Burst Capability:	100 watts
Rated THD:	<0.1%
Design:	IC Based

Audio Input/Output

Input:	Bal./unbal. Female XLR
Loop Out:	Bal./unbal. Male XLR
Input Impedance:	50 kΩ balanced

Line Input Power

US :	120 V, 60 Hz
Recommended amperage service:	8 amps
AC Connector:	3 pin IEC-Male
Europe:	230 V, 50 Hz
Recommended amperage service:	5 amps
AC Connector:	3 pin IEC-Male

Control System Functions

Electronic Crossover

Phase Alignment

Time Correction

Equalization

Safety Features

RMS Limiting:	Monitoring and limiting of continuous rms output of amplifiers
Thermal:	Monitoring of thermal condition of power supply and amplifiers. High temperature condition engages input stage shut down and auto reset function.

Physical

Enclosure:	Trapezoidal 10° side angles, 18 mm multi-layered plywood, top and bottom high-pressure resin injected "caps"
Handles:	One on top, one on bottom cap One three-piece handle on each side
Color:	Black PVC coated finish
Grille:	Custom perforated oval steel grille with anti-corrosive treatment

Dimensions

Height:	43.9 in (111.6 cm)
Front Width:	19.1 in (48.4 cm)
Rear Width:	13.9 in (35.2 cm)
Depth:	18.1 in (46.0 cm)
Net Weight:	111.25 lbs. (50.6 kg)

Options

Active Subwoofer System: SWA1501 or SWA1801

¹Note: Power handling for transducers is based on an AES long term power testing standard conducted for 100 hours full power, free air.

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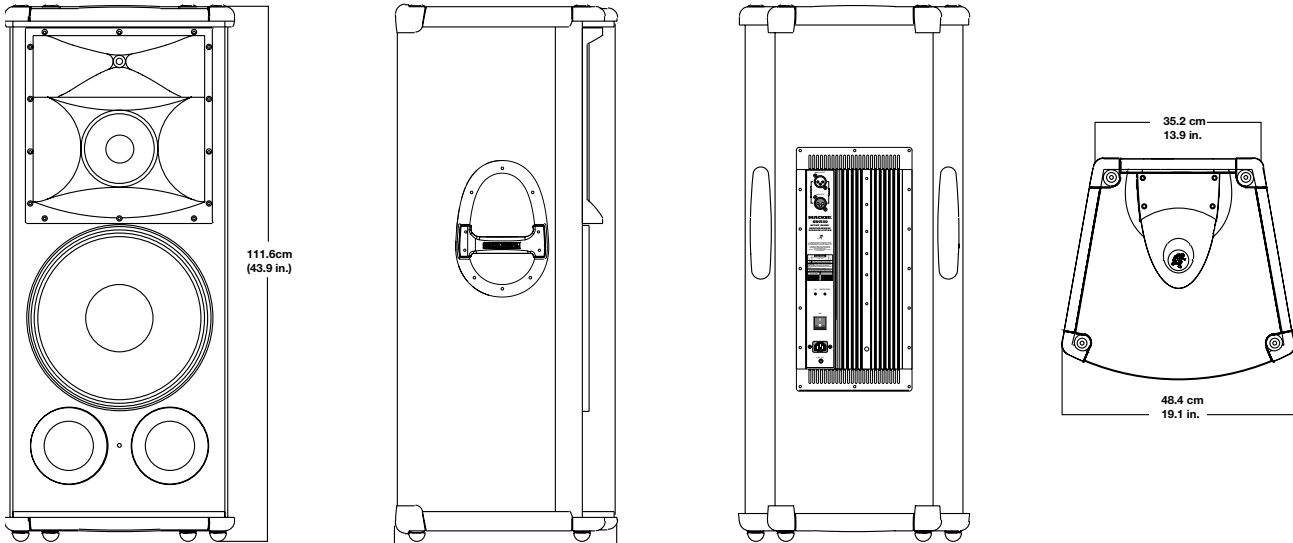
for additional signal routing. To ensure long term reliability and performance, the amplifiers are mounted on a massive heat sink, which is convection cooled and dramatically extends the life expectancy of the heat-producing components.

■ The SR1530 cabinet is constructed using both multi-layered plywood and pressure injected structural resin. The combination provides a robust enclosure system with useful ergonomic features. There are three-part cast aluminum handles on each side of the enclosure for easy carrying and setup. Handles are located on the top and bottom of the cabinet for easy movement and relocation. A full size, oval punched, weather resistant steel grille protects the front of the cabinet.

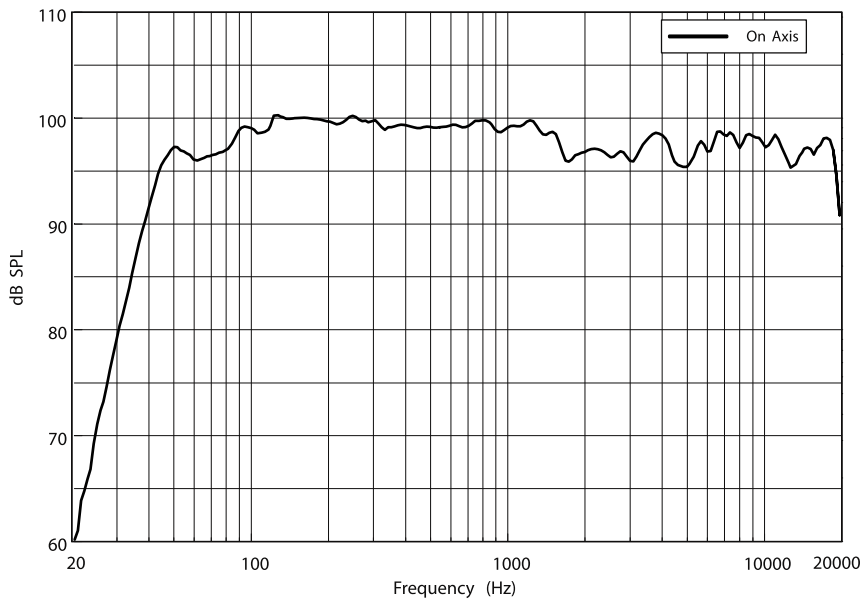
SR1530

3-Way Active Sound Reinforcement Speaker System

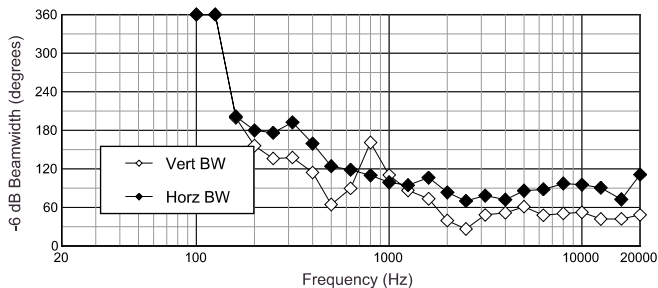
SR1530 Dimensions



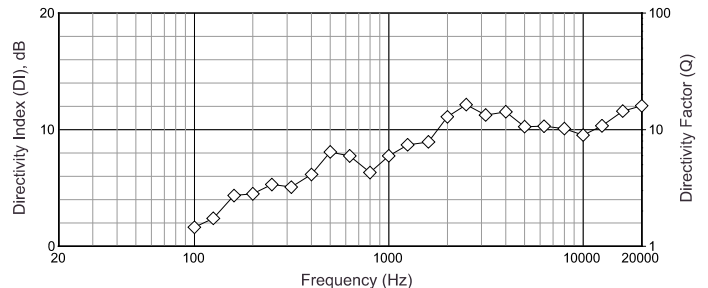
SR1530 Frequency Response



Bandwidth vs. Frequency



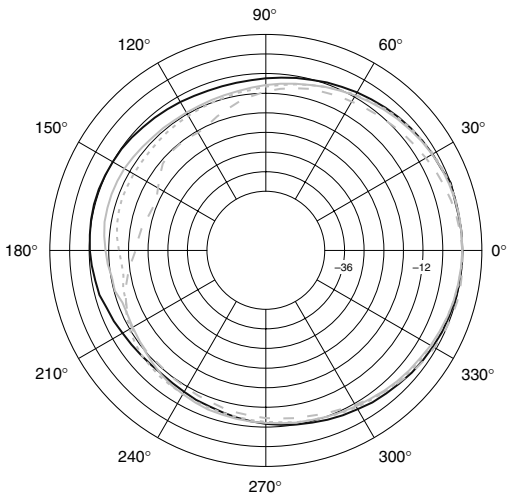
Directivity vs. Frequency



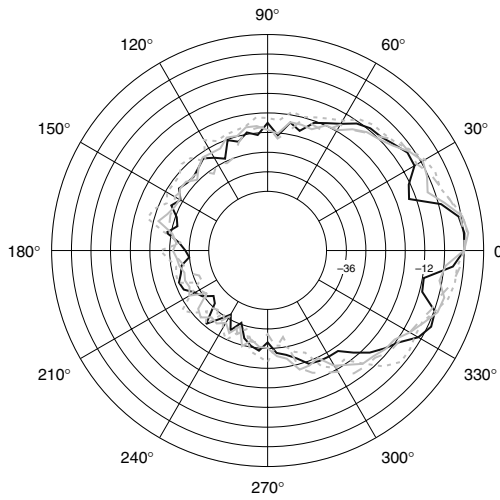
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3-Way Active Sound Reinforcement Speaker System

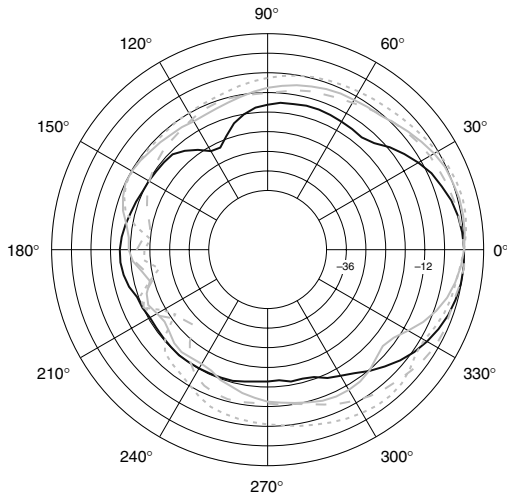
SR1530 Vertical 1/3 Octave Polar Measurements



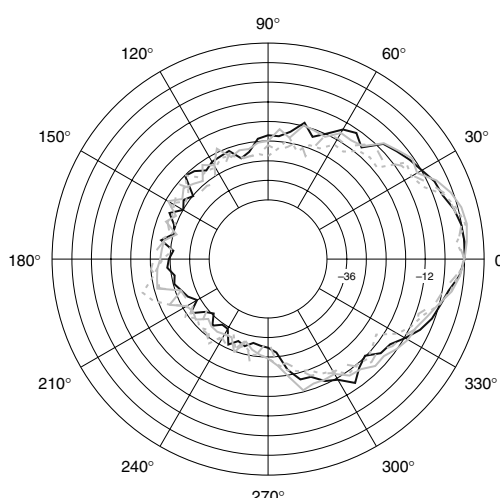
— 200Hz
— 250Hz
- - - 315Hz
- - - 400Hz



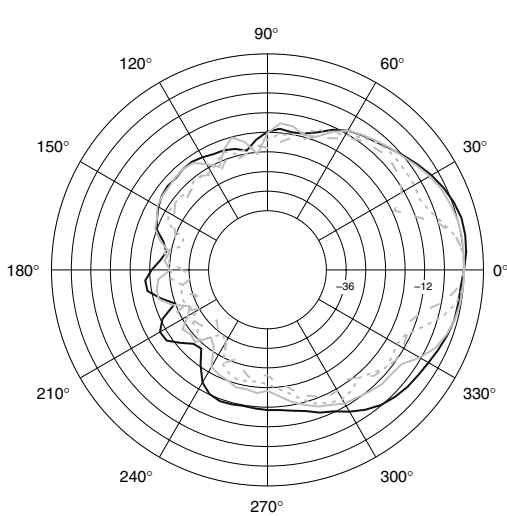
— 3.15kHz
— 4kHz
- - - 5kHz
- - - 6.3kHz



— 500Hz
— 630Hz
- - - 800Hz
- - - 1kHz

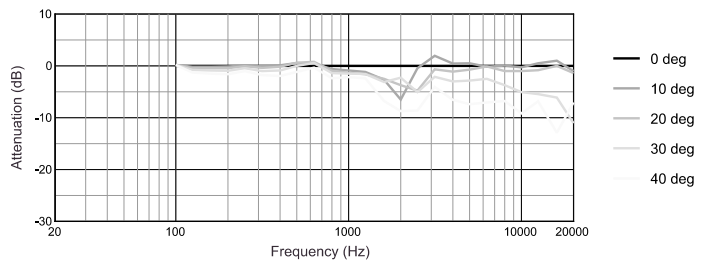


— 8kHz
— 10kHz
- - - 12.5kHz
- - - 16kHz

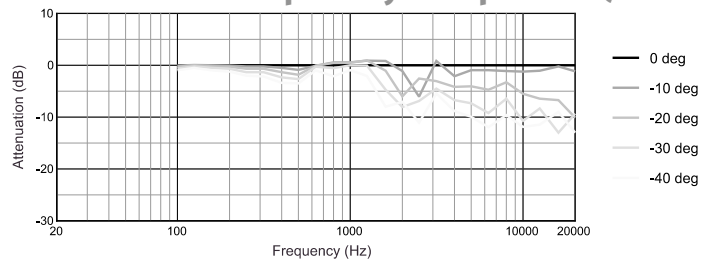


— 1.25kHz
— 1.6kHz
- - - 2kHz
- - - 2.5kHz

Vertical Off-Axis Frequency Response (Up)



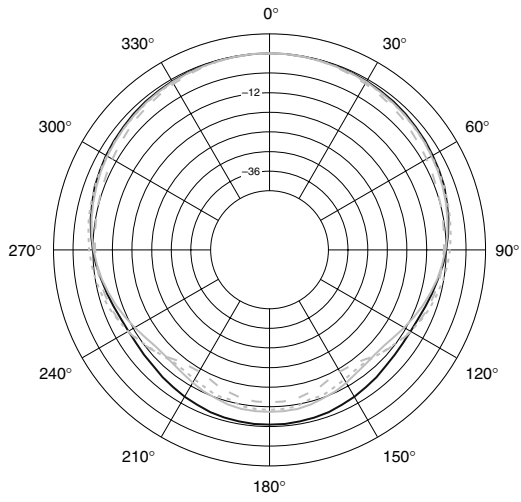
Vertical Off-Axis Frequency Response (Down)



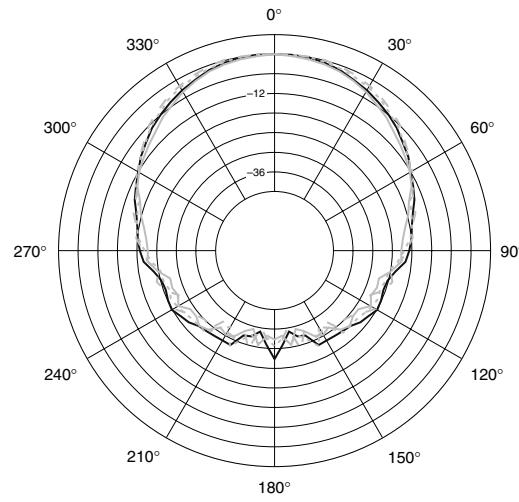
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3-Way Active Sound Reinforcement Speaker System

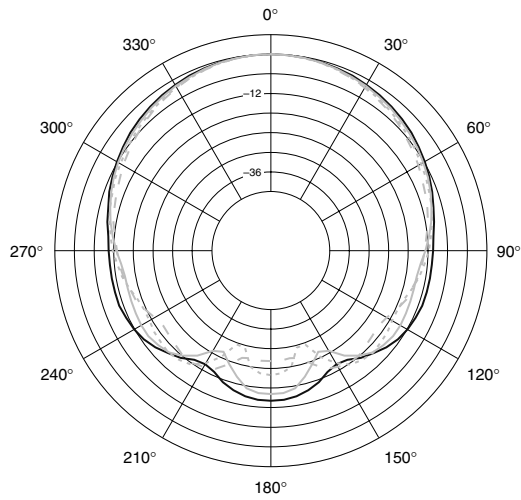
SR1530 Horizontal 1/3 Octave Polar Measurements



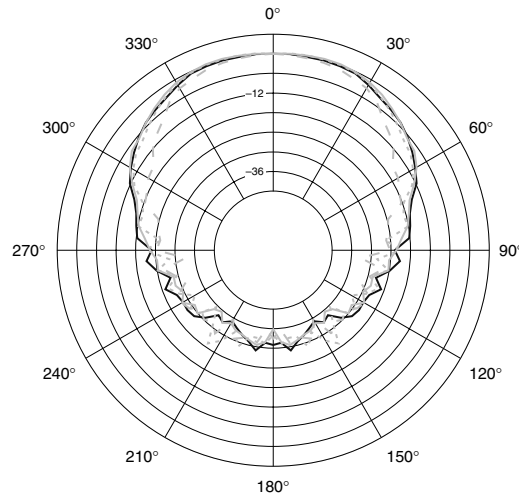
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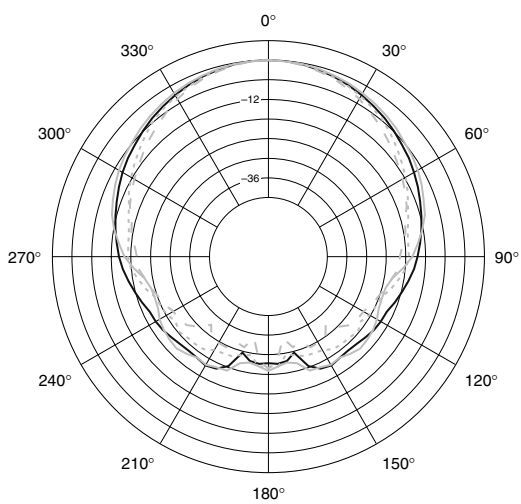
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- 500Hz
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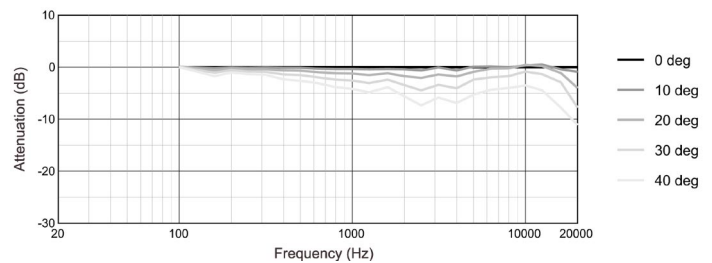


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- 1.25kHz
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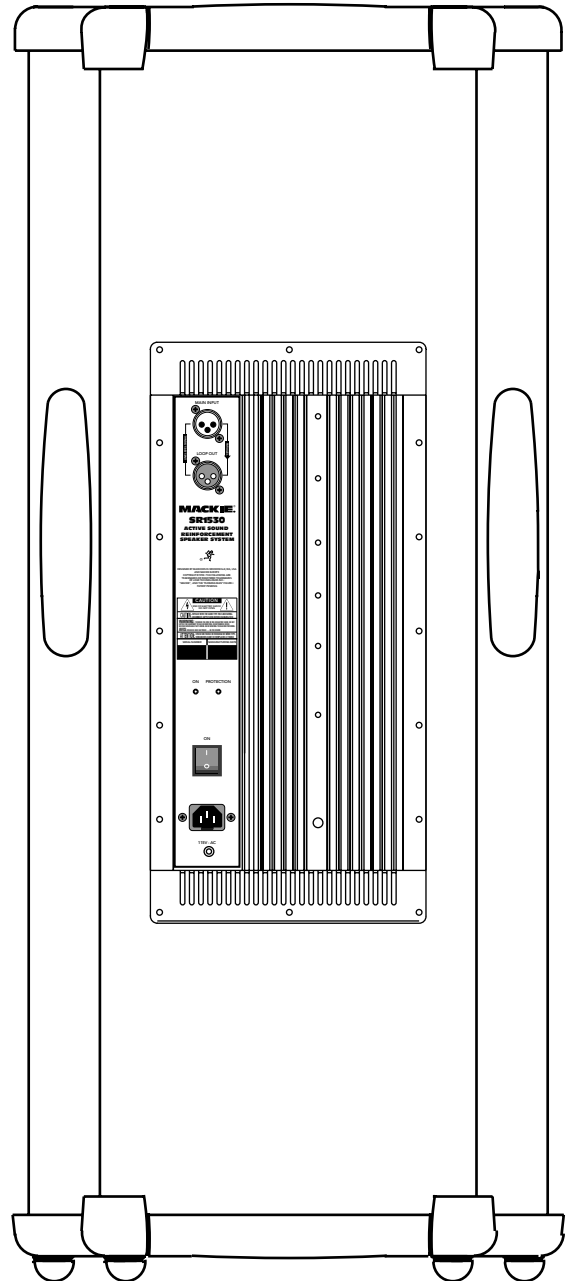
Horizontal Off-Axis Frequency Response



Architects' and Engineers' Specifications

1. GENERAL CONFIGURATION. The active, three-way, full-range loudspeaker system shall incorporate one 15-inch low-frequency (LF) transducer, one horn-loaded 6-inch mid-frequency (MF) transducer, and a 1-inch exit compression driver high-frequency (HF) transducer. The LF driver shall be mounted in a vented combination of multi-ply wood and high-pressure injected wood enclosure tuned for optimum low-frequency response. The MF and HF transducers shall be loaded on a one piece, combination HF/MF horn assembly with optimized wavefront characteristics. The system shall have a nominal coverage pattern of 90° (horizontal) x 40° (vertical). System frequency response shall vary no more than ± 3 dB from 45 Hz to 18 kHz measured on axis. The loudspeaker shall incorporate a low-frequency amplifier capable of delivering 300 watts rms over a frequency range of 20 Hz–800 Hz. The system shall incorporate a 100 watt rms amplifier specifically designed to power the MF driver over the range of 700 Hz–3 kHz and a 100 watt rms amplifier specifically designed to power the HF driver over the range of 3 kHz–20 kHz. The amplifiers shall be mounted on an aluminum heat sink mounted within the speaker system. The loudspeaker enclosure shall have a trapezoidal shape and shall incorporate two side handles and top and bottom relocation handles. The system shall include an XLR input connector and an XLR loop through signal connector. The front of the loudspeaker shall be covered with a powder coated, weather resistant perforated steel grille.

2. DESIGNATION. The active three-way full range loudspeaker system shall be the Mackie SR1530.



Electronic files for this product available at:
www.mackie.com

This Specification Sheet

SR1530_SS.PDF

Owner/Operator's Manual

SR1530_OM.PDF

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