

ART Series

- Careful acoustic design and advanced materials have resulted in an exceptional full range, full fidelity, self-contained sound system. The ART500A provides an ideal combination of high power, low distortion and wide bandwidth for permanent installations.
- The two-way design consists of a 15" woofer with a massive magnet structure for accurate, powerful bass reproduction. The HF section uses a Polynomial CD horn loaded to a 2" exit titanium compression driver and new technology, ring-mode suppression design to deliver controlled coverage at the highest sonic purity. The CD horn is a part of the molded enclosure. Two discrete power amplifiers and an electronic crossover are matched to the two transducers and provide time correction, CD horn compensation, as well as peak-limiting, over-excursion and thermal protection.
- The ART500A will accept a balanced or unbalanced (switch selected) microphone or line input, adjusted by a single rotary control.
- All components are housed in a vented enclosure formed from rigid polypropylene that is further reinforced with two internal 15mm thick multilayer wood panels. The woofer is protected by a metal grille. All controls and connectors are recessed on the rear. A 1-3/8" stand socket and M10 threaded inserts are molded into the cabinet to provide quick and easy installation using specially designed accessory mounting hardware.
- This Mackie Industrial product is covered by our exclusive, one-time NO FAULT repair policy in addition to a five year, limited warranty.

Two-Way Active Speaker System



Features

- 80° x 60° constant-directivity horn with 2" exit titanium compression driver
- 15" high-efficiency woofer
- Internal bi-amplifier: 400W LF, 100W HF, and driver-optimized electronic crossover
- Switchable balanced mic/line input
- Total system protection: over-excursion, thermal, short circuit and peak limiting
- Wood-reinforced polypropylene enclosure
- Built-in hand grips, M10 fly points and stand socket
- Optional installation accessories include hardware for truss, grid, pipe and adjustable wall mounts
- Exclusive Mackie Industrial — one-time NO FAULT repair policy
- Five year, limited warranty

- Live Sound/Music Reinforcement
- Ultra High-Level AV Playback
- Large Speech Systems
- Dance Music Systems

ART500A Two-Way Active Speaker System

Specifications

System Acoustic

Frequency Range (-10 dB):	55Hz-20kHz
Frequency Response (-3 dB):	90Hz-19kHz
Horz. Coverage Angle (-6 dB):	80°, nominal
Vert. Coverage Angle (-6 dB):	60°, nominal
Directivity Factor; Q (DI):	11.5 (10.6), averaged 1kHz to 10kHz
System Sensitivity ¹ :	99dB 1W @ 1m
Rated Maximum Peak ² :	126dB @ 1m
Crossover:	1.2kHz, 24dB/octave
Time Alignment:	Analog, 0.3mS
Speaker Protection:	Thermal, over-excursion

Transducers

Low-Frequency:	15" (380mm) woofer with 3" (76mm) coil
High-Frequency:	Polynomial horn-loaded 2" (51mm) exit titanium compression driver

Electronics

Power Amplifier Rating:	LF: 400W, HF: 100W
Distortion:	< 0.1% THD, nominal power @ 1kHz and 10kHz
Inputs:	Mic: 8mV, 1.3kΩ balanced, 650Ω unbalanced, XLR Line: 125mV, 19kΩ balanced, 10kΩ unbalanced
Output:	XLR connector, parallel to input
Indicators:	Power On, Limiter active
Controls, Switch:	Mic/Line, Music/Voice EQ, Power On/Off Music EQ: Off/+4.3dB @ 65Hz, +4dB @ 12kHz Voice EQ: Off/+4dB @ 3kHz, +4dB @ 6kHz
Controls, Rotary:	Input Volume
Electronics Protection:	Thermal, limiting, short circuit
Power Requirements:	115/230 VAC (internal select), 5A, 50/60Hz

Physical

Enclosure:	Gray, semi-trapezoidal, reinforced polypropylene
Dimensions (HxWxD):	29.15" x 17.88" x 14.77" (740mm x 454mm x 375mm)
Weight:	83.8 lbs. (38kg)
Mounting:	Six M10 metal threaded inserts, 1.375 in. (35mm) lockable stand mount

Options

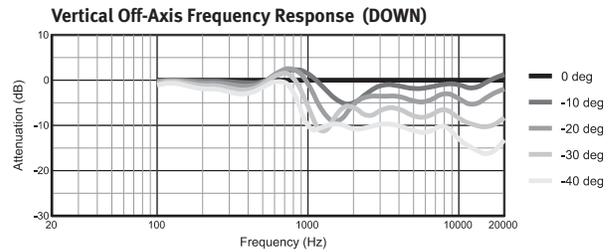
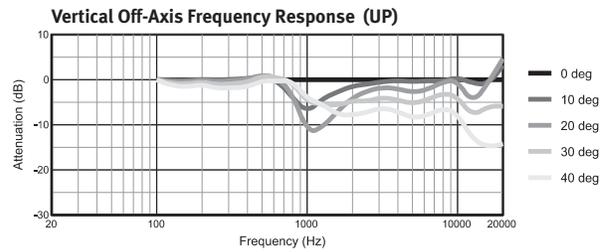
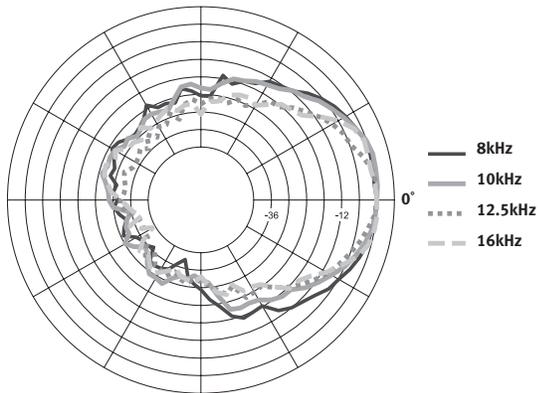
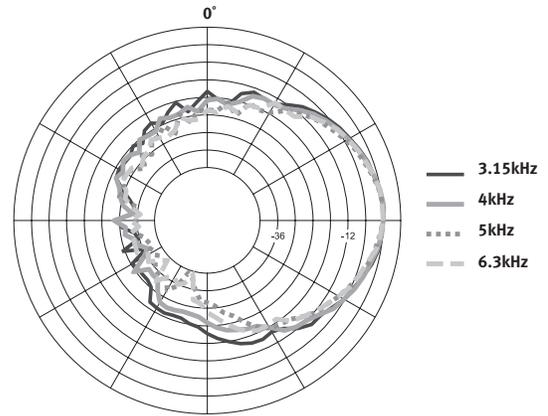
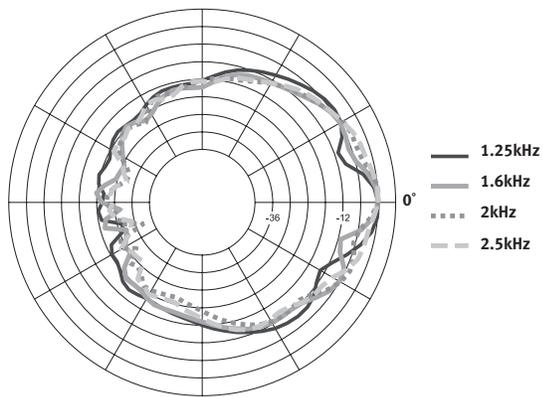
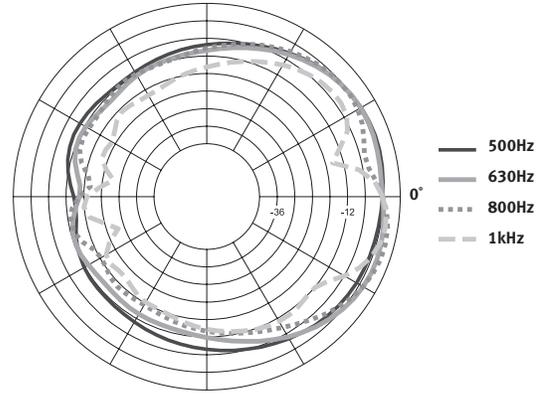
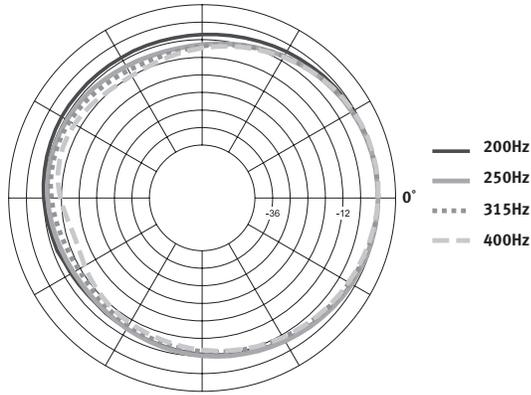
ART A-8	Full front metal grille, black
ART A-9	Horizontal, adjusting wall mount bracket
ART A-10	Vertical, adjusting wall mount bracket
SM	Tripod stand, black

¹ Measured on axis in the far field, referenced back to 1 watt RMS from maximum power and to 1 meter distance using the inverse square law. Listed sound pressure represents an average from 300 Hz to 3 kHz.

² RMS using 20Hz to 20kHz, PN Spectrum, Peak for 2 hours with +6 dB crest factor.

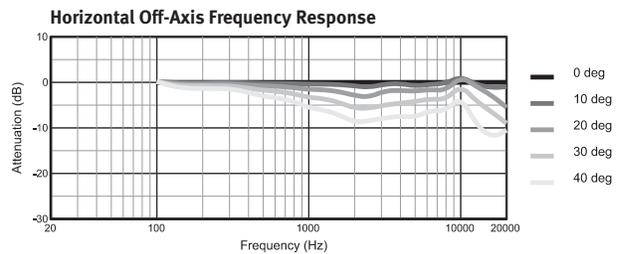
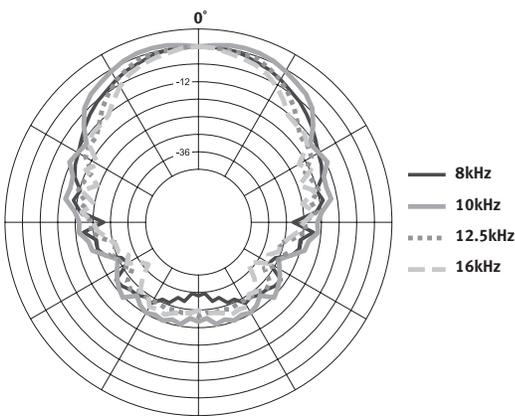
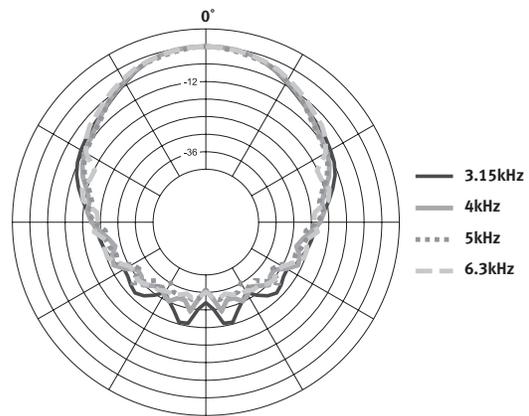
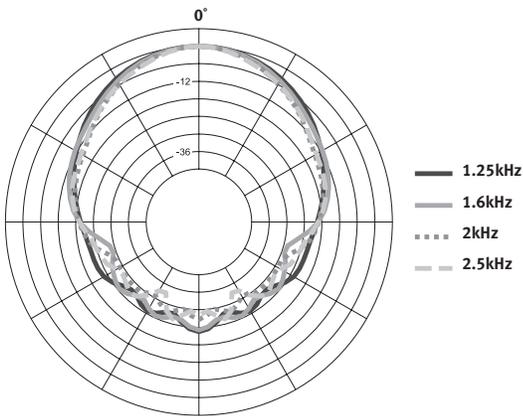
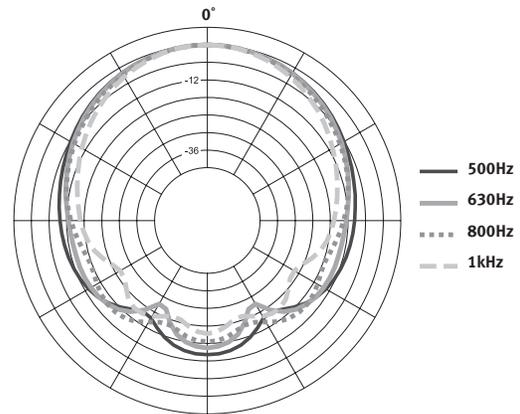
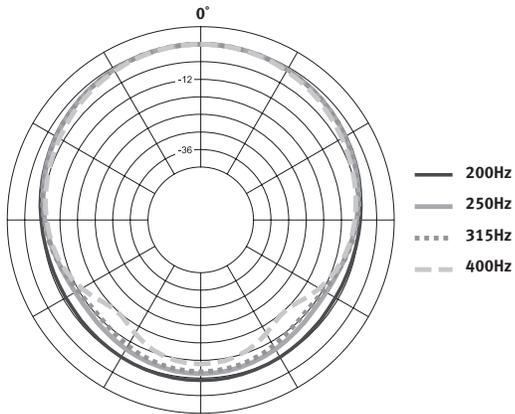
ART500A Two-Way Active Speaker System

ART500A Vertical Polars



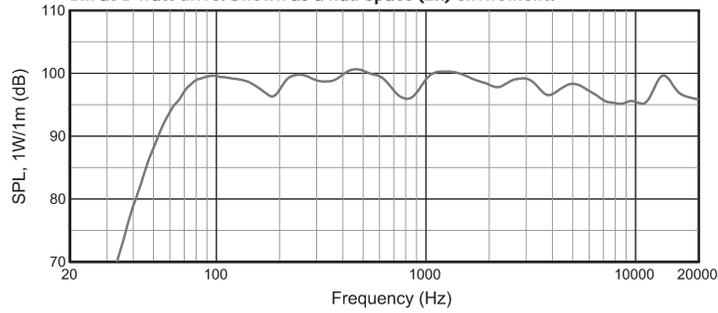
ART500A Two-Way Active Speaker System

ART500A Horizontal Polars

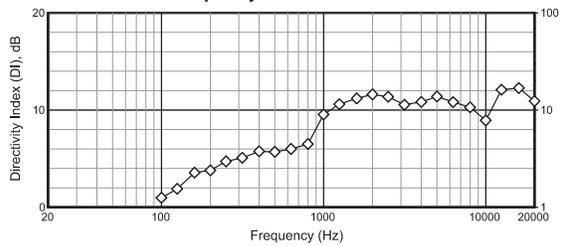


ART500A Two-Way Active Speaker System

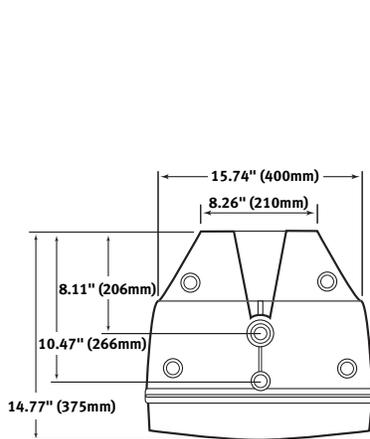
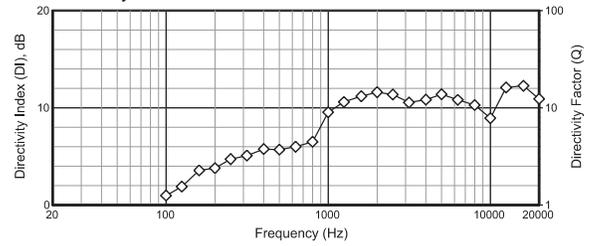
Frequency response is measured on-axis at a distance referenced back to 1m at 1-watt drive. Shown as a half space (2π) environment.



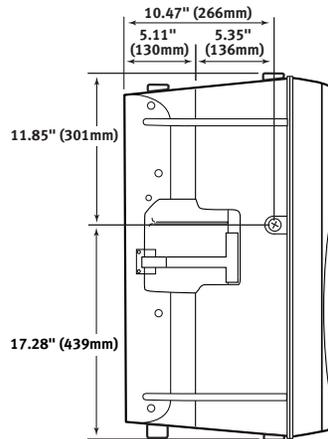
Beamwidth vs. Frequency



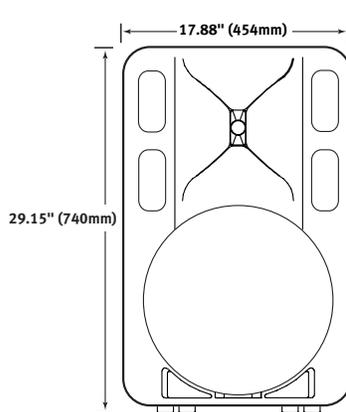
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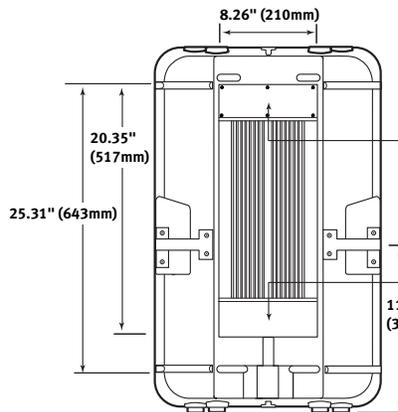
BOTTOM



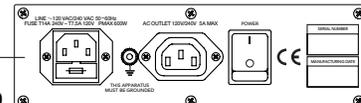
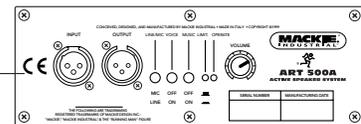
SIDE



FRONT



REAR



ART500A Two-Way Active Speaker System

Architects' & Engineers' Specifications

The amplified loudspeaker system shall be a self-contained unit, housed in a reinforced polypropylene enclosure and consisting of the following sub-systems: (1) vented two-way loudspeaker system, (2) integrated power amplifiers and crossover network, (3) integrated mic/line input with music and voice equalizers.

The loudspeakers shall consist of a 15 inch low-frequency, cone driver, with at least a 3 inch voice coil, and an 80° x 60° high-frequency, constant-directivity polynomial horn with a horn-loaded, 2 inch compression driver having a titanium diaphragm and compensated for horn resonance and ringing. The drivers shall be aligned with an analog circuit and crossed over at 1.2kHz by a 4-pole network built into the power amplifiers. Together they shall be capable of producing 126dB SPL (1m, anechoic).

Two discrete amplifiers shall be provided, capable of continuously delivering 400W RMS to the low-frequency driver and 100W RMS to the high-frequency driver. Distortion shall be less than 0.1% when measured at 1kHz and 10kHz. They shall be equipped with a multi-function protection circuit to peak limit and protect the loudspeakers from overheating, over-excursion, overloads, short circuits and extreme operating temperatures. An indicator light shall illuminate when any aspect of the protection circuit engages.

The integrated mic/line input shall be actively balanced, may also accept an unbalanced input, and shall be paralleled to an output. Both shall have XLR connectors. The input shall have a switch to select between 10mV mic and 775mV line levels. The unit shall be provided with both voice and music optimization equalization that can be activated with buttons on the rear panel. The voice equalizer shall provide +4dB at 3kHz and +4db at 6kHz. The music equalizer shall provide +4dB at 65Hz and +4dB at 12kHz. A continuously variable, rotary master volume control shall be provided.

The power supply shall be internal and connected to 50 or 60Hz source current through a detachable IEC power cord and shall have an IEC socket for mains power loop-through. It shall have an on/off switch, fuse holder and threaded grounding screw on the rear panel. AC voltage shall be selectable between 115 and 230VAC. The power supply shall draw a maximum of 5A and illuminate an indicator light when on.

The reinforced polypropylene enclosure shall have a volume of at least 2.64 cu. ft., be trapezoidal shaped and equipped with a grille to protect the cone driver. At least four M10 and two M8 threaded sockets and stand socket shall be molded into the cabinet for attaching mounting hardware, designed for the unit and available from the manufacturer. The amplified loudspeaker system shall be a model ART500A manufactured by Mackie Industrial.

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

This Specification Sheet	ART500A.PDF
Architects' & Engineers' Specifications	ART500AAE.TXT
Quick-Start Manual	ART500AQS.PDF
Owner/Operator's Manual	ART500AML.PDF
CADD files	ART500A.DXF
EASE data	ART500A.EAS

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part no. 910-166-10



www.mackieindustrial.com

16220 Wood-Red Rd NE, Woodinville, WA 98072 USA
888.337.7404, fax 425.487.4337, industrial@mackie.com

UK + 44 1268 570 808, fax + 44 1268 570 809, industrial@rcf-uk.com
ITALY +39 0522 354 111, fax +39 0522 332 294, industrial@rcf.it
FRANCE +33 3 8546 9160, fax +33 3 8546 9161, industrial@rcf.fr
GERMANY +49 2572 96042 0, fax +49 2572 96042 10, industrial@mackie.de