

HDA

The HDA is a 110° x 20° constant curvature line array ideal for install and portable PA. The HDA 2-Way High-Definition Powered Loudspeaker delivers 1200W of peak system power via Class-D Fast Recovery™ amplification. The Class-D amp design delivers high efficiency and, along with the lightweight switch-mode power supply, drastically reduces loudspeaker weight.

Mackie High-Definition Audio Processing provides unmatched sonic accuracy and clarity. Mackie Active technology includes a precision 2-way crossover, transducer time alignment, and phase correction. Patented acoustic correction algorithms utilize proprietary measurement tools to identify and correct sonic anomalies; this improves vocal intelligibility while removing high frequency discord.

EAW custom-designed HD Series transducers maximize efficiency and performance when matched with the system's internal amps. The 12-inch woofer uses a neodymium magnet for reduced weight, and the 3-inch voice coil dissipates heat extremely well. The dual Beyma® 1.7-inch compression drivers are mounted into a multi-cell horn.

The integrated Array Voicing mode switch allows the user to custom-tailor the array for their application by choosing the more number of HDAs in use. Full protection circuitry completes this ultra-portable, powerful and arrayable HD system.

The 15mm birch plywood enclosure is rugged and ready for install using the four integral fly points. The integrated rigging channels allow for quick setup and teardown of arrays. Use the flybar in conjunction with up to two Mackie HD1801 subwoofers and up to four HDAs for maximum array size. Or ground stack up to three HDAs on top of the HD1801 or the optional flybar. The lightweight design and the integrated dual angle pole cup allows up to two HDAs to be pole-mounted atop a subwoofer or on a tripod stand.

APPLICATIONS

Small to mid-size club/band PA systems, houses of worship, DJs, rehearsal spaces, gymnasiums, banquet halls, A/V rentals and many, many more.



FEATURES:

- 12" 2-way Constant Curvature HD Array
 - 110° x 20° coverage
 - Integrated rigging
 - Three array voicing modes allow easy system configuration
- 1200W of efficient Class-D Fast Recovery™ amplification
 - LF amp: 500W RMS / 1000W peak
 - HF amp: 100W RMS / 200W peak
- 12" neodymium woofer with 3" voice coil by EAW
- Dual Beyma® 1.7" compression drivers
- High-definition audio processing includes:
 - Revolutionary patented acoustic correction
 - Transducer time alignment and phase correction
 - Precision 2-way crossover
- Integrated limiting and protection circuitry
- Multitude of configuration options:
 - Integrated fly points or optional flybar support up to 4x HDA and up to 2x HD1801 subwoofers
 - Ground stack on HD1801 subwoofer or flybar
 - Pole mount up to 2x HDA on HD1801 subwoofer or tripod using dual angle pole cups
- Ultra-compact and lightweight (59 lb / 26.7 kg)
- Rugged all wood cabinet (15mm birch plywood)
- Supported by EAW Resolution prediction software

HDA SPECIFICATIONS

Acoustic Performance

Frequency Response (-10 dB)	57 Hz – 20 kHz
Frequency Response (-3 dB)	65 Hz – 18 kHz
Max peak SPL (calculated) ¹	134 dB
Max peak SPL (measured) ²	124 dB
Crossover Point	2.0 kHz

¹ Calculated from driver sensitivity and amplifier power.

² Measured with pink noise, free field at 1 meter, before limiting.

Array Coverage

Horizontal Coverage (-6 dB)	110° averaged 2 kHz to 10 kHz
Vertical Coverage (-6 dB)	
1x HDA	20° averaged 2 kHz to 10 kHz
2x HDA	40° averaged 2 kHz to 10 kHz
3x HDA	60° averaged 2 kHz to 10 kHz
4x HDA	80° averaged 2 kHz to 10 kHz

Input / Output

Input Type	Female XLR balanced
Input Impedance	11 kΩ balanced
Loop Out	Male XLR balanced

Voicing Mode

1-2	Voicing for an array with 1 or 2 HDAs
3-4	Voicing for an array with 3 or 4 HDAs
3-4 Long Throw	Long Throw Voicing for an array with 3 or 4 HDAs

*See the Frequency Response graph on page 4

Low-Frequency Power Amplifier

Rated Power	500 watts rms 1000 watts peak
Rated THD	< 0.03%
Cooling	Convection Extrusion
Design	Class D

High-Frequency Power Amplifier

Rated Power	100 watts rms 200 watts peak
Rated THD	< 0.03%
Cooling	Convection Extrusion
Design	Class D

Low-Frequency Transducer

Diameter	12.0 in / 305 mm
Voice Coil Diameter	3.0 in / 76 mm
Diaphragm Material	Paper
Magnet Material	Neodymium

High-Frequency Transducer x2

Voice Coil Diameter	1.7 in / 43 mm
Horn Entry Diameter	0.75 in / 18 mm
Diaphragm Material	Mylar
Magnet Material	Neodymium

Line Input Power

US	100 – 120 VAC, 50 – 60 Hz, 200W
EU, CN	200 – 240 VAC, 50 – 60 Hz, 200W
AC Mains Connector	Locking Neutrik PowerCon® A 20 amp, 250 VAC Max input 800W
AC Mains Cable (included)	9.5 ft / 2,896 mm
AC Loop Connector	Locking Neutrik PowerCon® B 20 amp, 250 VAC Max output 600W
AC Loop Cable (included)	1.5 ft / 457 mm

Safety Features

Input Protection	RMS limiting, power supply and amplifier thermal protection
Display LEDs	Power ON, Voicing Mode selection, Sig/Limit, Thermal protection, Front Power ON

Construction Features

Basic Design	Trapezoidal, 20° included angle
Cabinet	15 mm exterior grade premium birch plywood
Finish	High durability black paint
Handles	One on each side
Grille	Powder-coated galvanized steel
Fly Points	Four M10 x 1.5 mm
Pole Mount Diameter	1.42 in / 36 mm
Pole Mount Angle	10° and 30°
FB221 Hole Diameter	0.81 in / 21 mm
Operating Temperature	0° – 40°C 32° – 104°F

Physical Properties (packaged product)

Height	27.1 in / 688 mm
Width	19.8 in / 502 mm
Depth	20.9 in / 532 mm
Shipping Weight	68 lb / 31 kg

Physical Properties (product)

Height	14.7 in / 373 mm
Width	24.7 in / 628 mm
Depth	15.9 in / 405 mm
Net Weight	59 lb / 26.7 kg

Mounting Methods

Pole mount, integral rigging flybar, stack on top or fly underneath subwoofer(s), or fly via 4 integrated M10 mounting points (using M10 x 1.5 x 37 mm forged shoulder eyebolts).

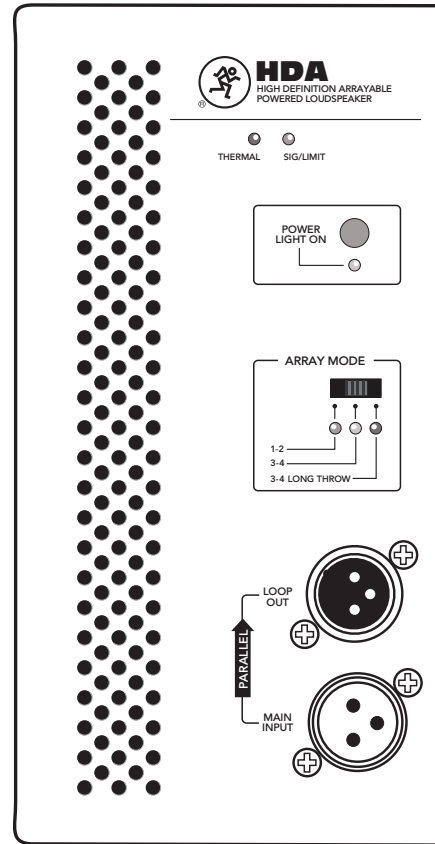
Options

PA-A2 Forged Shoulder Eyebolt Kit (4 x M10 x 1.5 mm x 37 mm)	P/N 0028272
SPM200 Loudspeaker Pole Mount	P/N 2035170-01
FB221 HDA Flybar	P/N 2036411

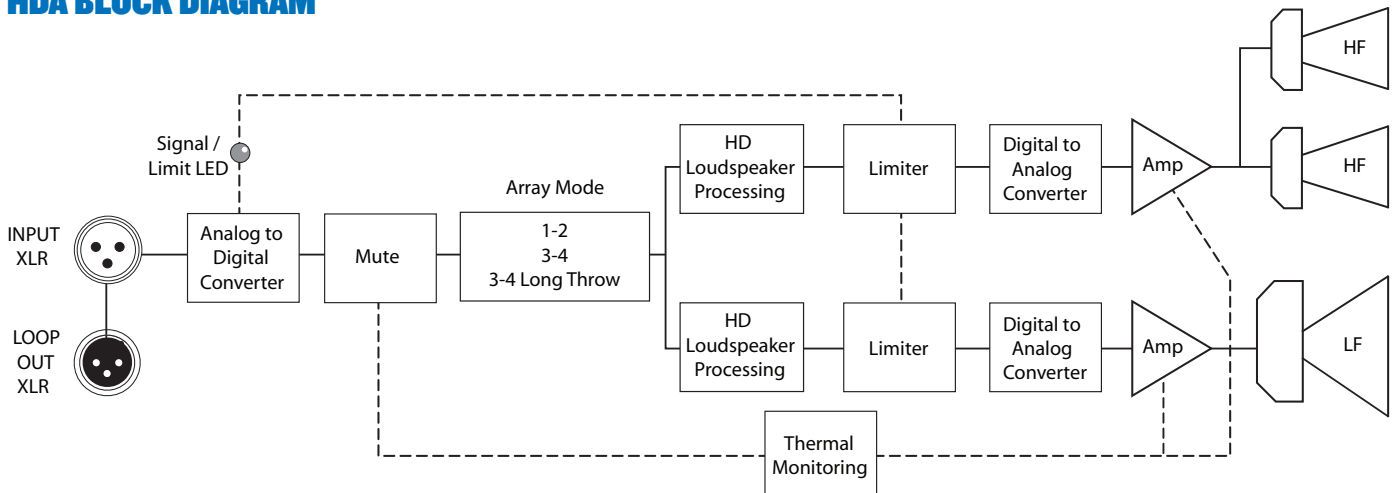
Ordering Information

HDA 12" 2-Way Arrayable Powered Loudspeaker, US	P/N 2034928-00
HDA 12" 2-Way Arrayable Powered Loudspeaker, EU	P/N 2034928-01

HDA INPUT PANEL

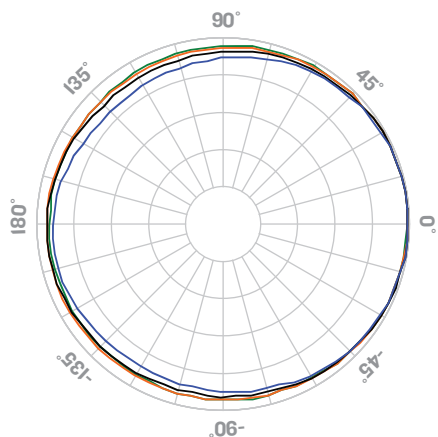


HDA BLOCK DIAGRAM

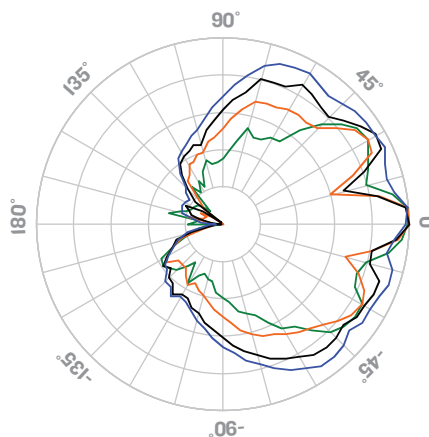


HDA HORIZONTAL POLARS

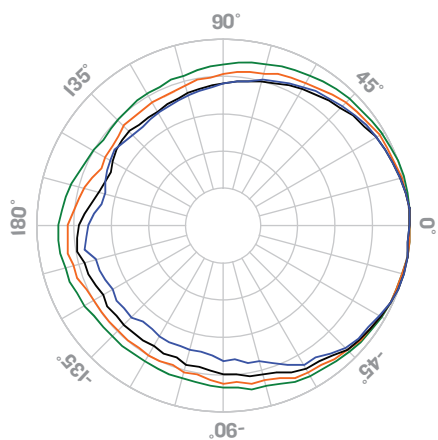
Gridlines: 6 dB axial / 15 degrees radial



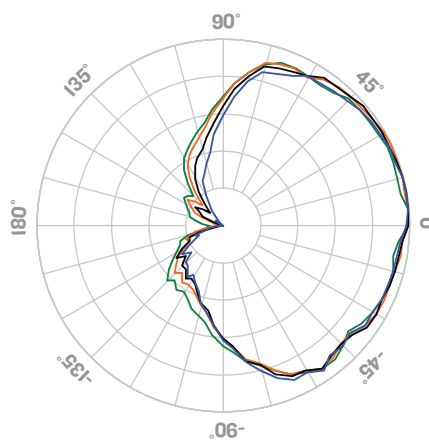
- 100Hz
- 125Hz
- 160Hz
- 200Hz



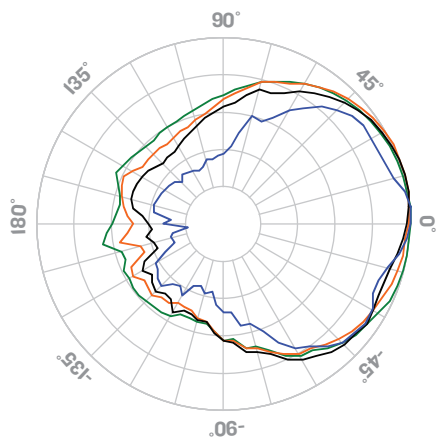
- 1600Hz
- 2000Hz
- 2500Hz
- 3150Hz



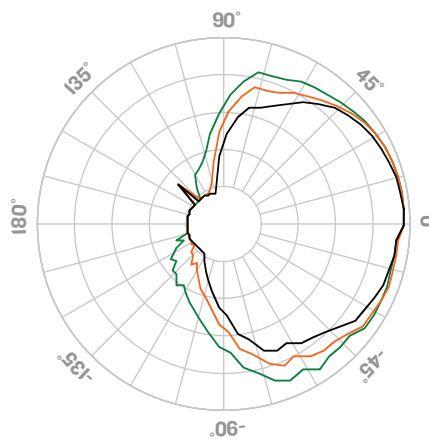
- 250Hz
- 315Hz
- 400Hz
- 500Hz



- 4000Hz
- 5000Hz
- 6300Hz
- 8000Hz



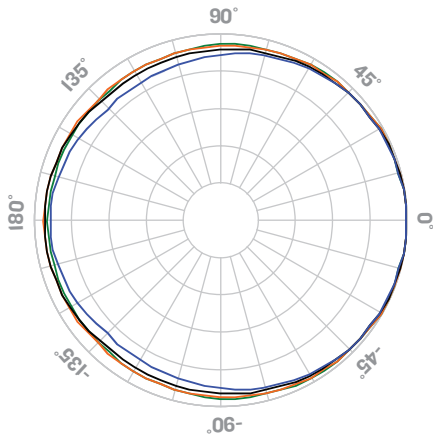
- 630Hz
- 800Hz
- 1000Hz
- 1250Hz



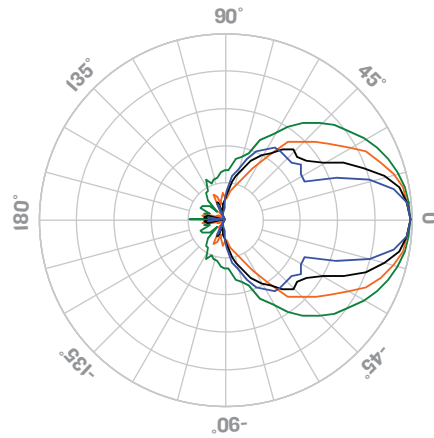
- 10000Hz
- 12500Hz
- 16000Hz

HDA VERTICAL POLARS

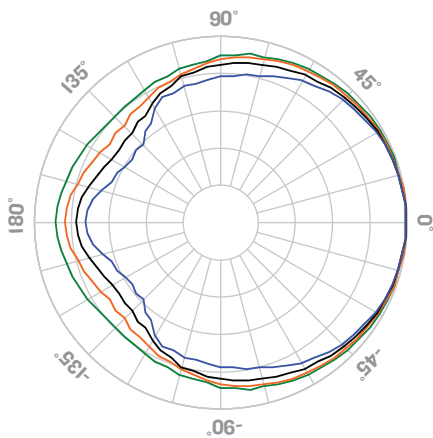
Gridlines: 6 dB axial / 15 degrees radial



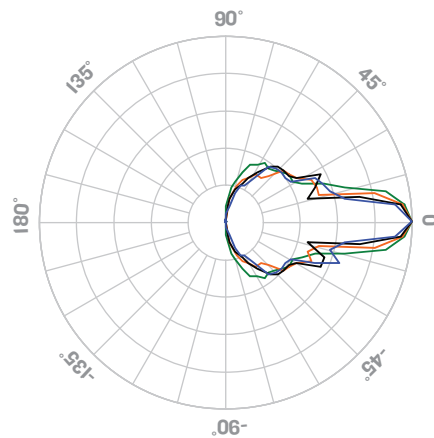
100Hz
125Hz
160Hz
200Hz



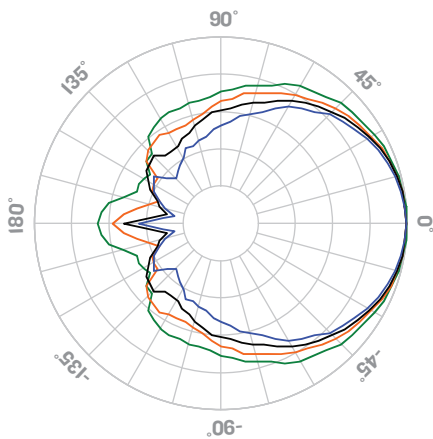
1600Hz
2000Hz
2500Hz
3150Hz



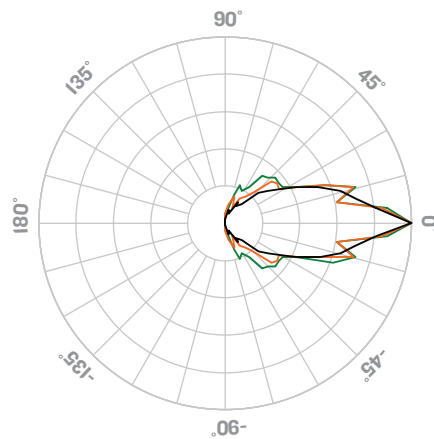
250Hz
315Hz
400Hz
500Hz



4000Hz
5000Hz
6300Hz
8000Hz

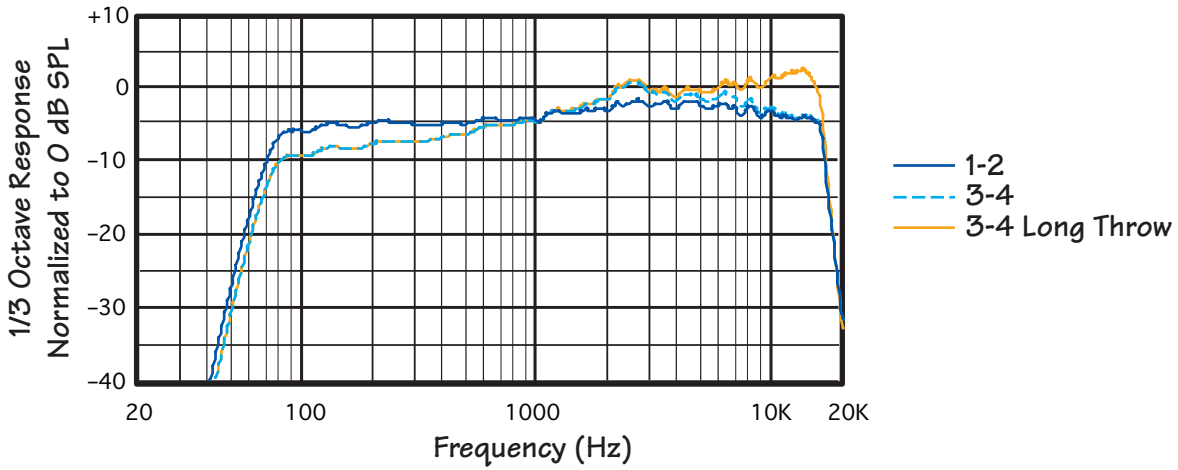


630Hz
800Hz
1000Hz
1250Hz

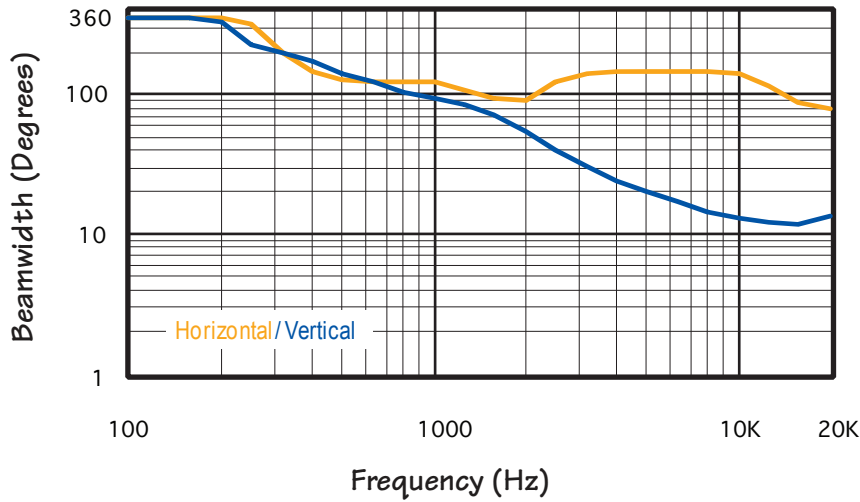


10000Hz
12500Hz
16000Hz

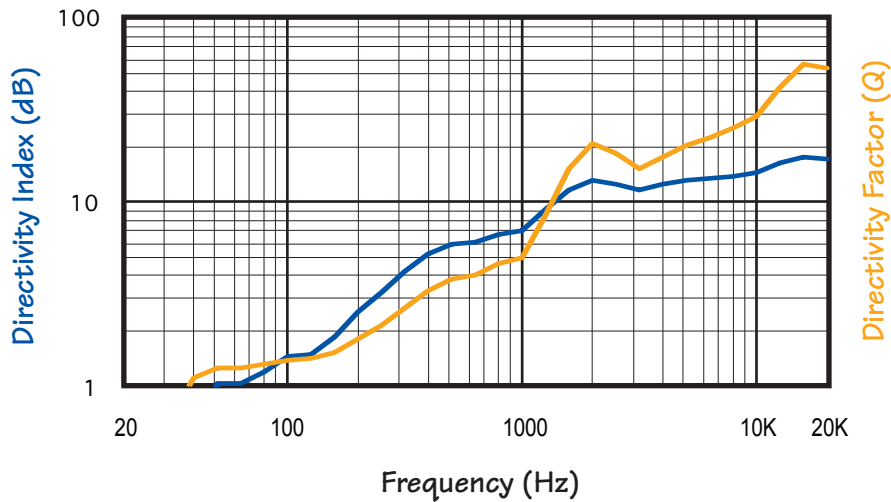
HDA FREQUENCY RESPONSE RESPONSE ON-AXIS



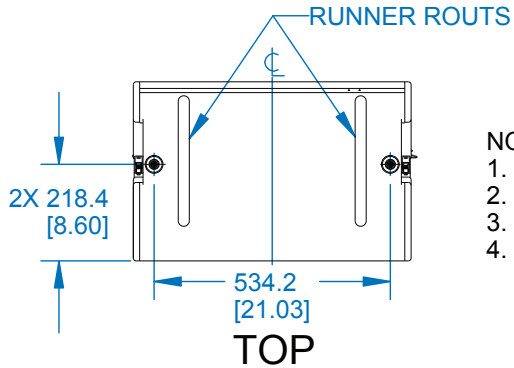
HDA BEAMWIDTH VS. FREQUENCY



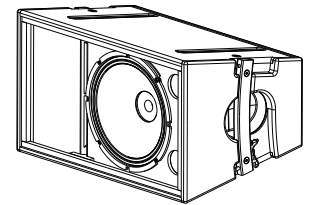
HDA DIRECTIVITY VS. FREQUENCY



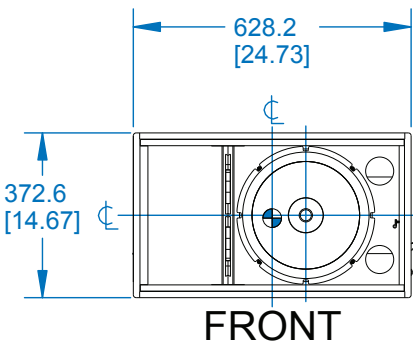
HDA DIMENSIONS



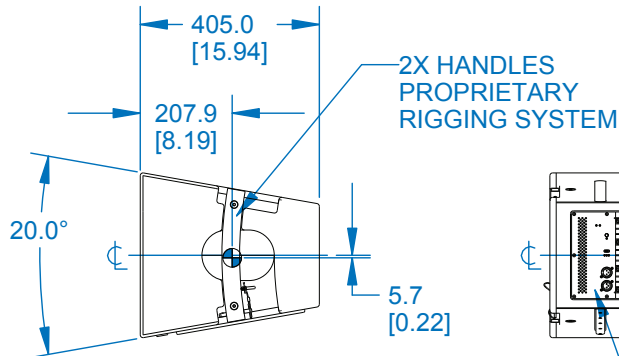
- NOTES:
1. SYMBOL \odot INDICATES CENTER OF BALANCE.
 2. SYMBOL \ominus INDICATES PI ANGLE M10.
 3. WEIGHT APPROX. 26.7 kg [59 lb]
 4. SHIPPING WEIGHT APPROX. 31 kg [68 lb]



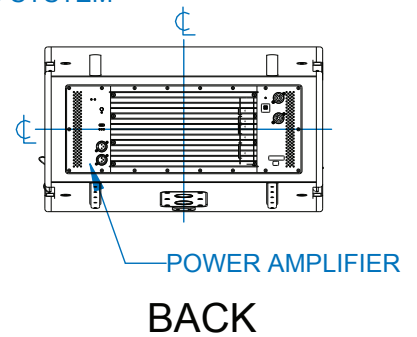
HDA



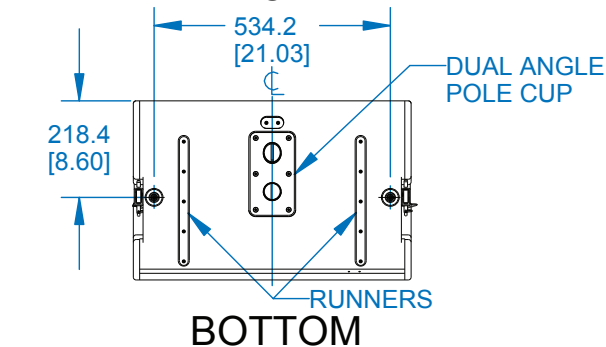
FRONT



RIGHT SIDE
DIMENSIONS APPLY
TO BOTH SIDES



BACK



BOTTOM

<p>THIRD ANGLE PROJECTION</p>	<p>UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS ARE IN MILLIMETERS DUAL [INCHES] DIMENSIONS FOR REF ONLY</p>
	<p>TOLERANCE IN MILLIMETERS LINEAR ± 3.3 mm/± 0.13 in (X.XX) = REF DIMS ANGLES $\pm 1^\circ$</p> <p>(X.XX) = REF DIMS NO TOLERANCE IMPLIED</p> <p>TSC = THEORETICAL SHARP CORNER</p> <p>DIMENSIONS ACROSS CENTERLINES TO BE SYMMETRICAL</p>

Electronic files for this product are available at:

www.mackie.com

Specification Sheet	HDA_SS.PDF
Owner's Manual	HDA_OM.PDF
EASE Data	HDA_EASE_DATA.zip

MACKIE®

www.mackie.com
16220 Wood-Red Road NE
Woodinville, WA 98072 USA
800-898-3211, Fax 425-487-4337, sales@mackie.com

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