

## HD1221

The HD1221 2-Way High-Definition Powered Loudspeaker delivers 1200W of peak system power via Class-D Fast Recovery™ amplification in an ultra-portable package. 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. Plus, patented acoustic correction algorithms harness the power of proprietary measurement tools that identify sonic anomalies that are inherent to all horn-loaded systems. Extremely complex algorithms are then applied to the HD1221 to counter these 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 1.75-inch compression driver utilizes heat-treated titanium, which provides increased diaphragm rigidity, eliminating distortion that can occur due to surface inconsistencies. It is mounted to a 90° x 50° user-rotatable custom designed horn by Martin Audio.

The integrated three-position voicing mode switch allows the user to custom-tailor the system tone for their application. The monitor position has a dedicated voicing mode paired with the steep 60° cabinet angle.

The 15mm birch plywood enclosure is rugged and ready for install using the 12 integral fly points. Standard M10 eyebolts allow the HD1221 to be flown both vertically and horizontally. The look of the HD1221 is understated and the front LED can be defeated for maximum stealth. The lightweight design of the HD1221 allows for pole-mounting on a tripod stand, atop a subwoofer, or hanging under an HD1801.

## 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 High-Definition Powered Loudspeaker System
- 1200W of efficient Class-D Fast Recovery™ amplification
  - LF amp: 500W RMS / 1000W peak
  - HF amp: 100W RMS / 200W peak
- Custom designed transducers by EAW
  - 12" neodymium woofer with 3" voice coil
  - 1.75" compression driver with heat-treated titanium diaphragm
- High-definition audio processing includes:
  - Revolutionary patented acoustic correction
  - Transducer time alignment and phase correction
  - Precision 2-way crossover
- Custom designed horn by Martin Audio
  - User rotatable 90° x 50°
- Three voicing modes allow on-the-fly system tuning
- Integrated limiting and protection circuitry
- Ultra-compact and lightweight (50 lb / 22.7 kg)
- Rugged all wood cabinet (15mm birch plywood)
- 12 integrated fly points for horizontal and vertical rigging using M10 threaded eyebolts
- Stand / pole mountable
- Ultra-steep 60° monitor angle

## HDI221 SPECIFICATIONS

### Acoustic Performance

Frequency Response (-10 dB)	55 Hz - 20 kHz
Frequency Response (-3 dB)	65 Hz - 18 kHz
Horizontal Coverage (-6 dB) <sup>1</sup>	90° averaged 2 kHz to 10 kHz
Vertical Coverage (-6 dB) <sup>1</sup>	50° averaged 2 kHz to 10 kHz
Max peak SPL (calculated) <sup>2</sup>	133 dB
Max peak SPL (measured) <sup>3</sup>	124 dB
Crossover Point	1.5 kHz

<sup>1</sup> HF horn can be rotated 90° if desired.

<sup>2</sup> Calculated from driver sensitivity and amplifier power.

<sup>3</sup> Measured with pink noise, free field at 1 meter, before limiting.

### Input / Output

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

### Voicing Mode

Contour	LF, HF boost
Normal	Nominally flat
Monitor	100 Hz HPF, broad cut @ 3 kHz

### 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 in / 305 mm
Voice Coil Diameter	3 in / 76 mm
Diaphragm Material	Paper
Magnet Material	Neodymium

### High-Frequency Transducer

Voice Coil Diameter	1.75 in / 44 mm
Horn Entry Diameter	1 in / 25 mm
Diaphragm Material	Heat treated titanium
Magnet Material	Ferrite

### Line Input Power

US	100 - 120 VAC, 50 - 60 Hz, 200W
EU, CN	200 - 240 VAC, 50 - 60 Hz, 200W
AC Connector	3-pin IEC 250 VAC

### Safety Features

RMS limiting, power supply and amplifier thermal protection

### Construction Features

Basic Design	Asymmetrical monitor, 60° tilt
Material	15 mm exterior grade premium birch plywood
Finish	High durability black paint
Handles	One on each side, one on top
Grille	Powder-coated galvanized steel
Display LEDs	Power ON, Voicing Mode selection, Sig / Limit, Thermal protection, Front Power Light ON
Fly Points	Twelve M10 x 1.5 mm
Monitor Angle	60°
Operating Temperature	0° - 40°C 32° - 104°F

### Physical Properties (packaged product)

Height	26.8 in / 680 mm
Width	20.2 in / 513 mm
Depth	20.2 in / 513 mm
Shipping Weight	66 lb / 29.9 kg

### Physical Properties (product)

Height	24.0 in / 610 mm
Width	15.2 in / 386 mm
Depth	15.0 in / 381 mm
Monitor position depth	16.2 in / 412 mm
Net Weight	50 lb / 22.7 kg

### Mounting Methods

Floor mount, pole mount, or fly via 12 integrated M10 mounting points (using M10 x 1.5 x 37 mm forged shoulder eyebolts).

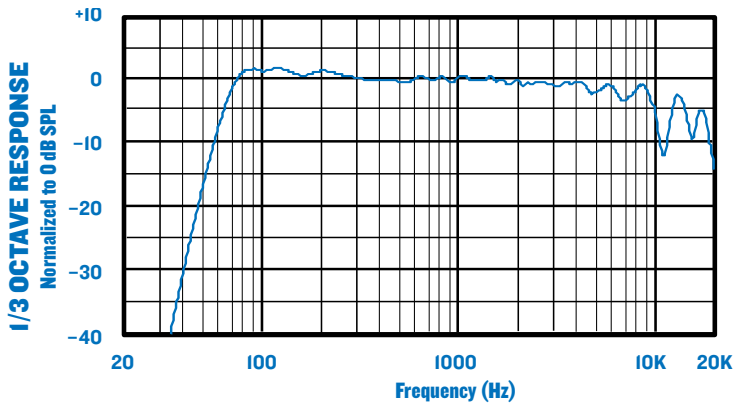
### Options

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

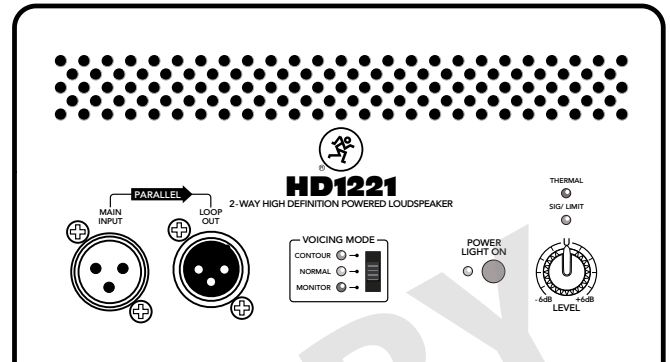
### Ordering Information

HD1221 12" 2-Way High Definition Powered Loudspeaker, US	P/N 2034680-00
HD1221 12" 2-Way High Definition Powered Loudspeaker, EU	P/N 2034680-01
HD1221 12" 2-Way High Definition Powered Loudspeaker, CN	P/N 2034680-05

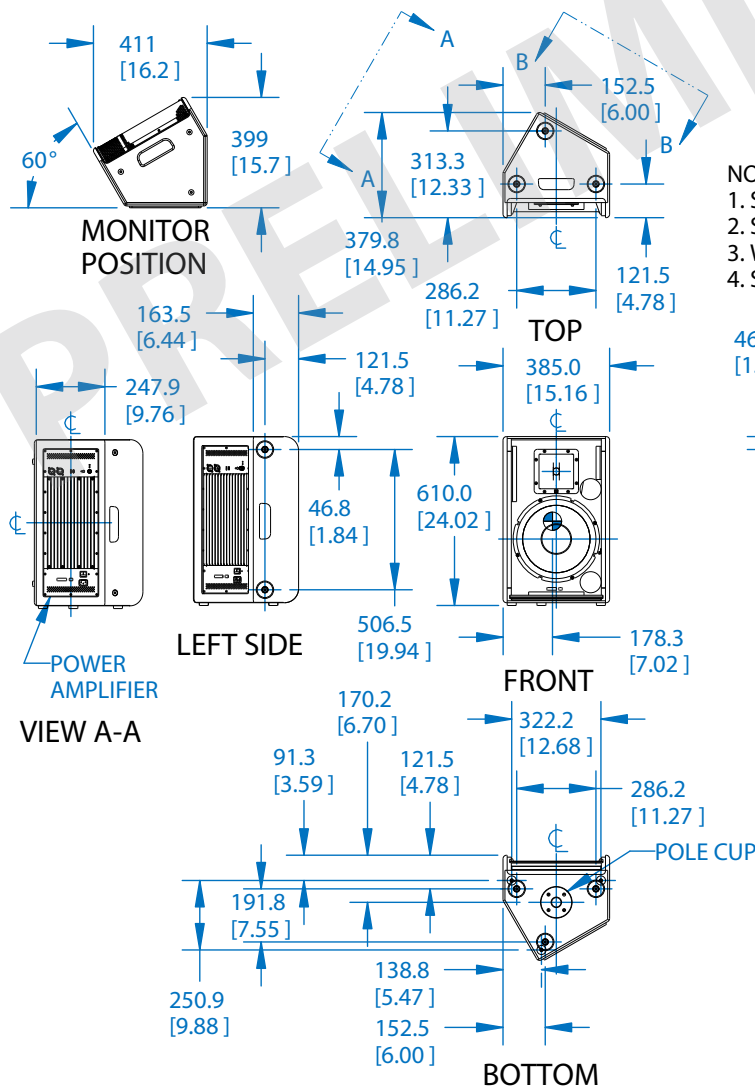
## HD1221 FREQUENCY RESPONSE



## HD1221 INPUT PANEL

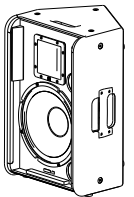


## HD1221 DIMENSIONS



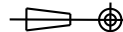
### NOTES:

1. SYMBOL INDICATES CENTER OF BALANCE.
2. SYMBOL INDICATES PI ANGLE M10.
3. WEIGHT APPROX. 22.7 kg [50 lb]
4. SHIPPING WEIGHT APPROX. 29.9 kg [66 lb]



HD1221

THIRD ANGLE PROJECTION



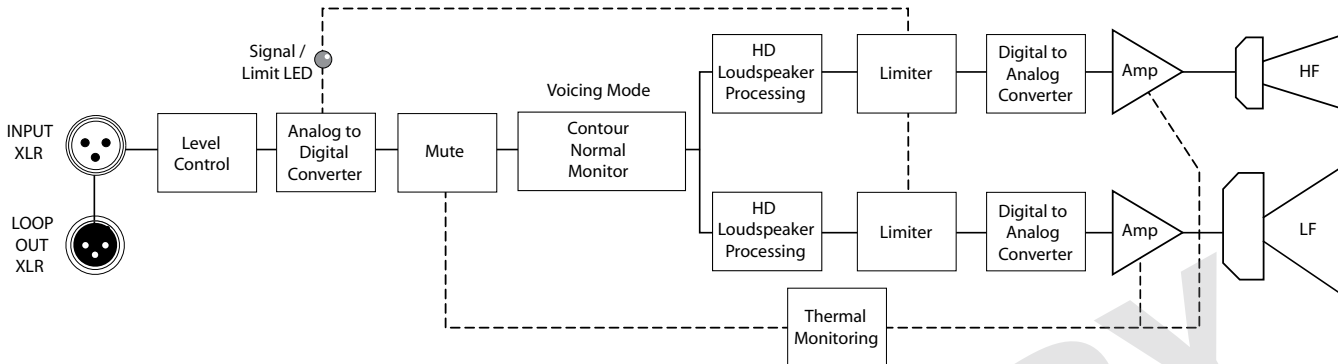
UNLESS OTHERWISE SPECIFIED:  
ALL DIMENSIONS ARE IN MILLIMETERS  
DUAL (INCHES) DIMENSIONS  
FOR REF ONLY

TOLERANCE IN MILLIMETERS  
LINEAR  $\pm 3.3 \text{ mm} \pm 0.13 \text{ in}$   
(X.XX) = REF DIMS  
ANGLES  $\pm 1^\circ$

(X.XX) = REF DIMS  
NO TOLERANCE IMPLIED

TSC = THEORETICAL SHARP CORNER  
DIMENSIONS ACROSS CENTERLINES  
TO BE SYMMETRICAL

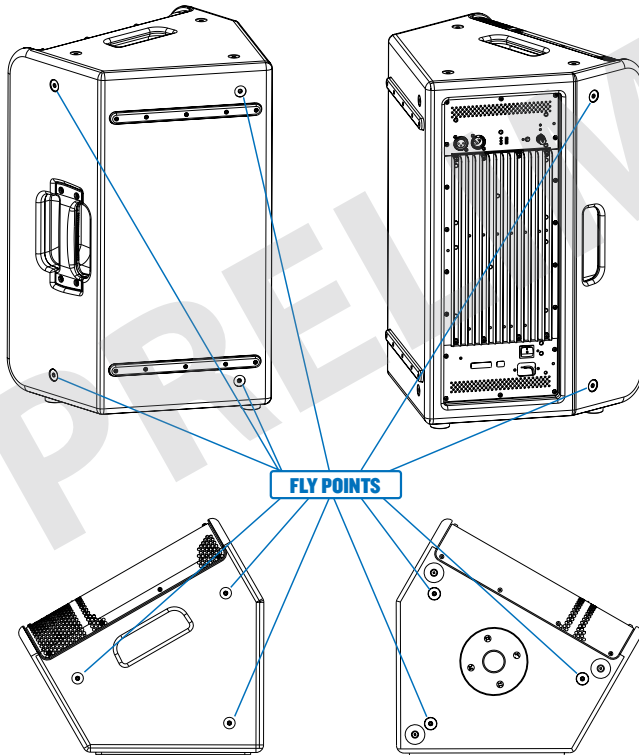
## HD1221 BLOCK DIAGRAM



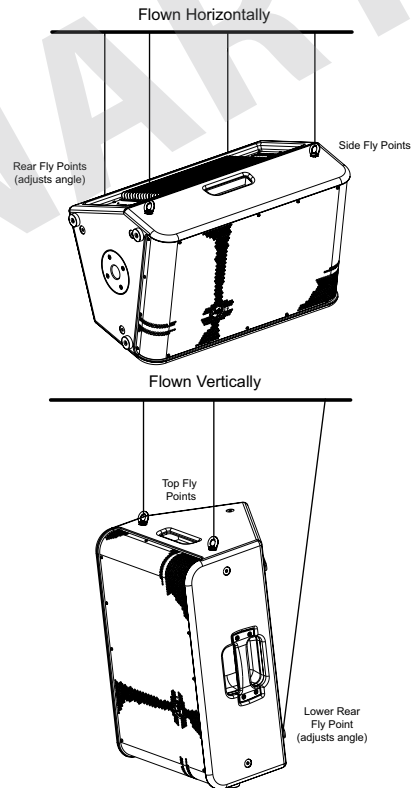
## HD1221 FLY POINTS

### 12 Fly Points

Two on each side (6 total)



Three each on the top and bottom (6 total)



Electronic files for this product are available at:

[www.mackie.com](http://www.mackie.com)

Specification Sheet	HD1221_SS.PDF
Owner's Manual	HD1221_OM.PDF
EASE Data	HD1221_EASE_DATA.zip

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# 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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