

HD1531

The HD1531 3-Way High-Definition Powered Loudspeaker delivers 1800W of peak system power via Class-D Fast Recovery™ amplification. Class-D amp design delivers up to 95% 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 3-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 HD1531 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 15-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 and 6-inch midrange transducer are loaded into Mackie's wide-dispersion WaveFront™ system, which ensures optimum intelligibility for every seat in the house.

The integrated 3-band contour EQ with a sweepable mid allows the user to custom-tailor system tone for their application or correct for common room anomalies. A bypass switch provides easy implementation of a pre-set EQ.

The 15mm birch plywood enclosure is rugged and ready for install using the 12 integral fly points. Standard M-10 eyebolts allow the HD1531 to be flown both vertically and horizontally. The look of the HD1531 is understated and the front LED can be defeated for maximum stealth. The lightweight design of the HD1531 allows for pole-mounting on a tripod stand or atop a subwoofer.

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:

- 15" 3-way High-Definition Powered Loudspeaker System
- 1800W of efficient Class-D Fast Recovery™ amplification
 - LF amp: 700W RMS / 1400W peak
 - MF amp: 100W RMS / 200W peak
 - HF amp: 100W RMS / 200W peak
- Custom designed transducers by EAW
 - 15" neodymium woofer with 3" voice coil
 - 6" high-output midrange transducer
 - 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 3-way crossover
- Optimized wide-dispersion WaveFront™ high/mid horn system
- User-adjustable 3-band contour EQ with sweepable mid-frequency
- Ultra-compact and lightweight
- Integrated limiting and protection circuitry
- Rugged all wood cabinet (15mm birch plywood)
- 12 integrated fly points for horizontal and vertical rigging using M10 threaded eyebolts
- Stand / pole mountable

HDI531 SPECIFICATIONS

Acoustic Performance

Frequency Response (-3 dB)	50 Hz - 18 kHz
Frequency Range (-10 dB)	38 Hz - 20 kHz
Horizontal Coverage (-6 dB)	90° averaged 2 kHz to 10 kHz
Vertical Coverage (-6 dB)	40° averaged 2 kHz to 10 kHz
Directivity Factor; Q (DI)	11.9 (10.7), averaged 2 kHz to 10 kHz
Max SPL peak (calculated) ¹	135 dB @ 1 m
Max SPL peak (measured) ²	126 dB @ 1 m
Crossover Points	400 Hz, 1500 Hz

¹ Calculated from driver sensitivity and amplifier power.

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

Input / Output

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

Equalization

Low Shelving	±3 dB @ 80 Hz (6 dB / octave)
Mid Peaking	±3 dB, 100 Hz to 8 kHz, Q=1.5
High Shelving	±3 dB @ 12 kHz (6 dB / octave)

Low-Frequency Power Amplifier

Rated Power	700 watts rms 1400 watts peak
Rated THD	< 0.03%
Cooling	Convection Extrusion
Design	Class D

Mid- and High-Frequency Power Amplifiers

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

Low-Frequency Transducer

Diameter	15 in / 381 mm
Voice Coil Diameter	3 in / 76 mm
Diaphragm Material	Paper
Magnet Material	Neodymium

Mid-Frequency Transducer

Diameter	6 in / 152 mm
Diaphragm Material	Paper
Magnet Material	Ferrite

High-Frequency Transducer

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

Line Input Power

US	100 - 120 VAC, 50 - 60 Hz, 1050W
Recommended amperage service	9 amps
EU, CN	200 - 240 VAC, 50 - 60 Hz, 1050W
Recommended amperage service	5 amps
AC Connector	3-pin IEC 250 VAC

Safety Features

RMS limiting, power supply and amplifier thermal protection

Construction Features

Basic Design	Trapezoidal, 20° included angle
Material	15 mm exterior grade premium birch plywood
Finish	High durability black paint
Handles	One on each side
Grille	Powder coated galvanized steel
Display LEDs	Power ON, EQ ON, Sig/Limit, Thermal protection, Front Power Light ON
Fly Points	Twelve M10 x 1.5 mm
Operating Temperature	0° - 40°C 32° - 104°F

Physical Properties (packaged product)

Height	38.0 in / 965 mm
Width	21.0 in / 533 mm
Depth	22.0 in / 559 mm
Shipping Weight	108.0 lb / 49.0 kg

Physical Properties (product)

Height	35.4 in / 900 mm
Front Width	18.3 in / 464 mm
Rear Width	11.8 in / 300 mm
Depth	18.8 in / 478 mm
Net Weight	96.0 lb / 43.5 kg

Mounting Methods

Floor mount, pole mount, or fly via 12 integrated threaded inserts using M10 x 1.5 x 37 mm forged shoulder eyebolts.

Options

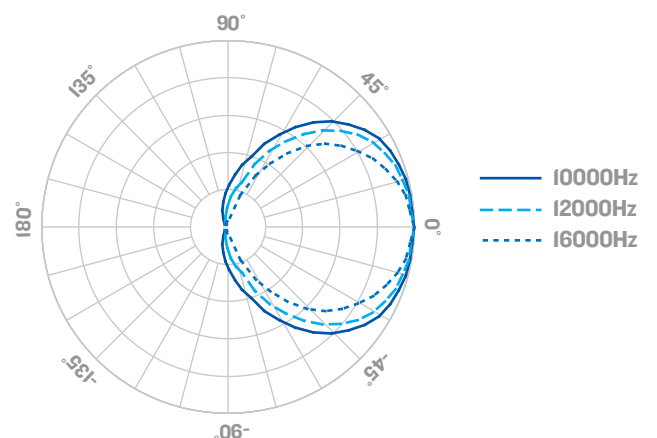
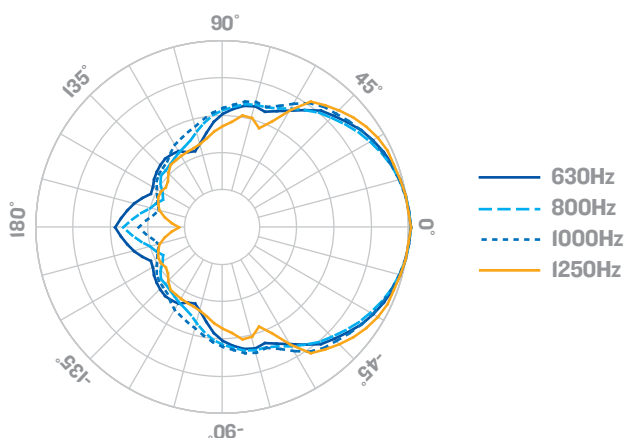
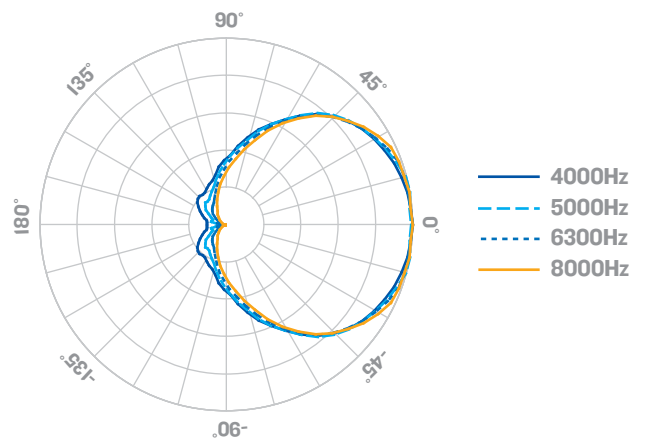
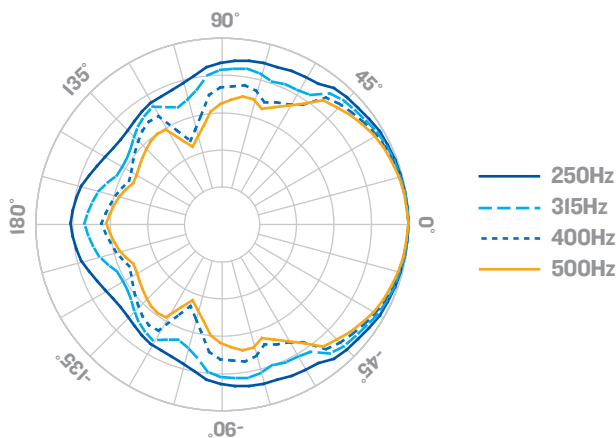
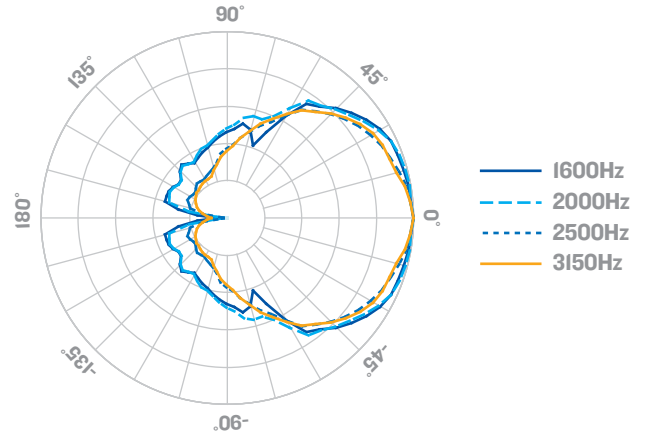
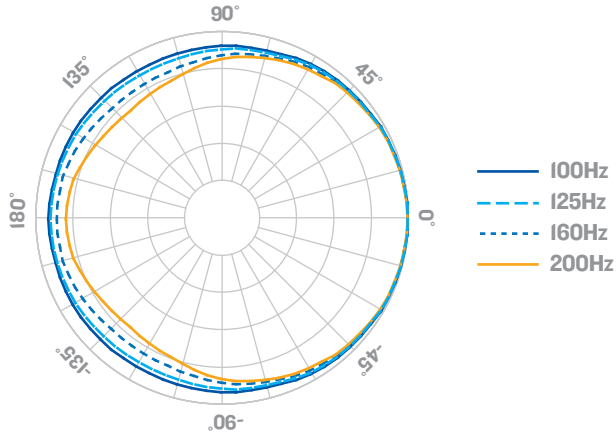
PA-A2 Forged Shoulder Eyebolt Kit (4 x M10 x 1.5 mm x 37 mm)	P/N 0028272
SPM200 Loudspeaker Pole Mount	P/N 2035170-01

Ordering Information

HD1531 15" 2-Way High Definition Powered Loudspeaker, US	P/N 0031218-00
HD1531 15" 2-Way High Definition Powered Loudspeaker, EU	P/N 0031218-01
HD1531 15" 2-Way High Definition Powered Loudspeaker, CN	P/N 0031218-05

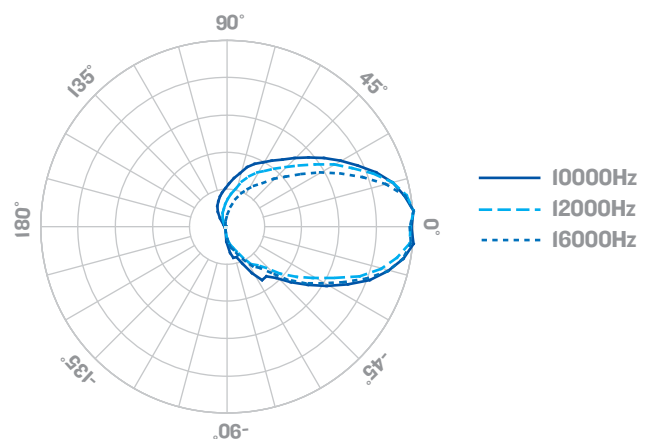
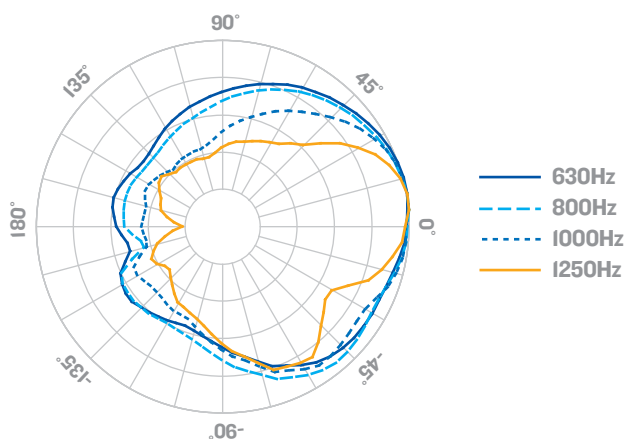
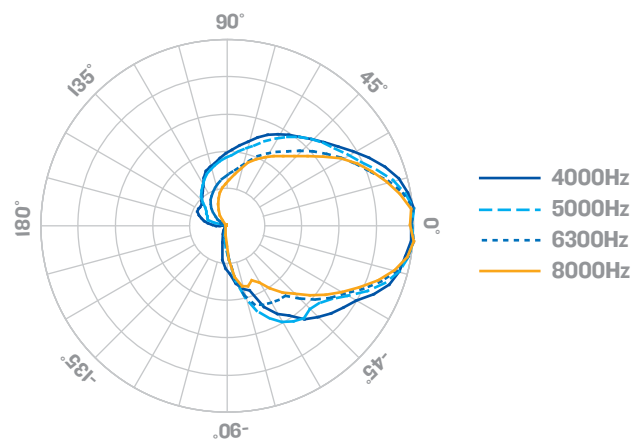
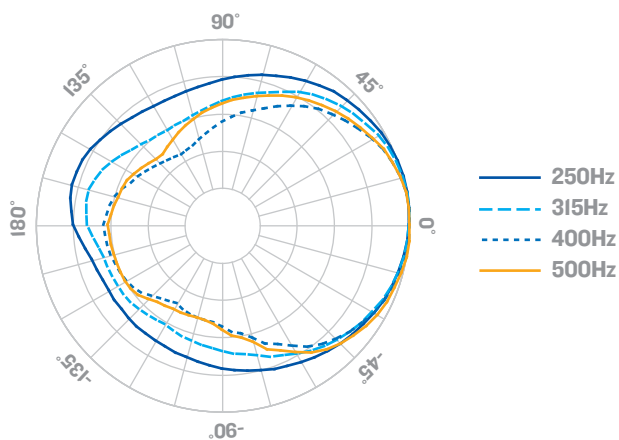
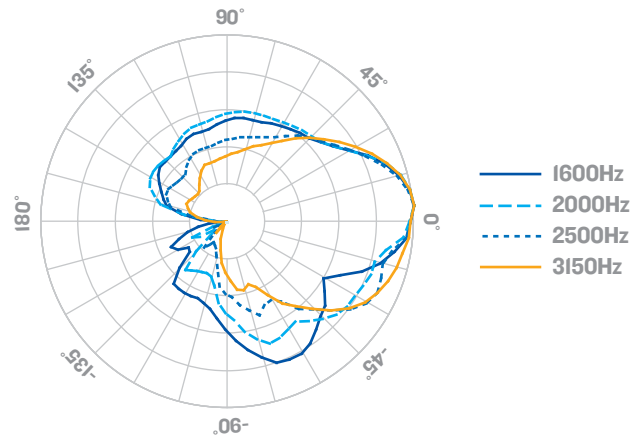
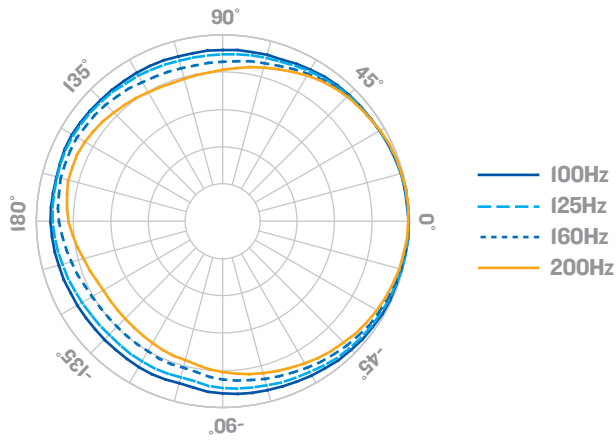
HDI531 HORIZONTAL POLARS

Gridlines: 6 dB axial / 15 degrees radial

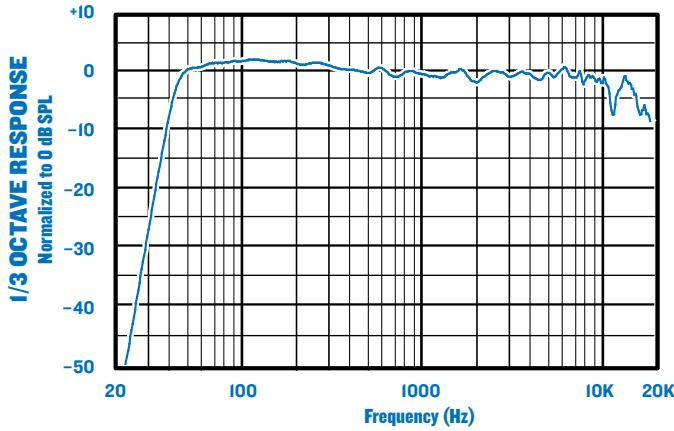


HDI531 VERTICAL POLARS

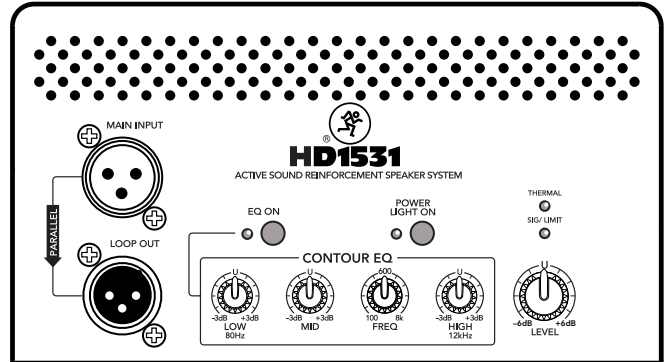
Gridlines: 6 dB axial / 15 degrees radial



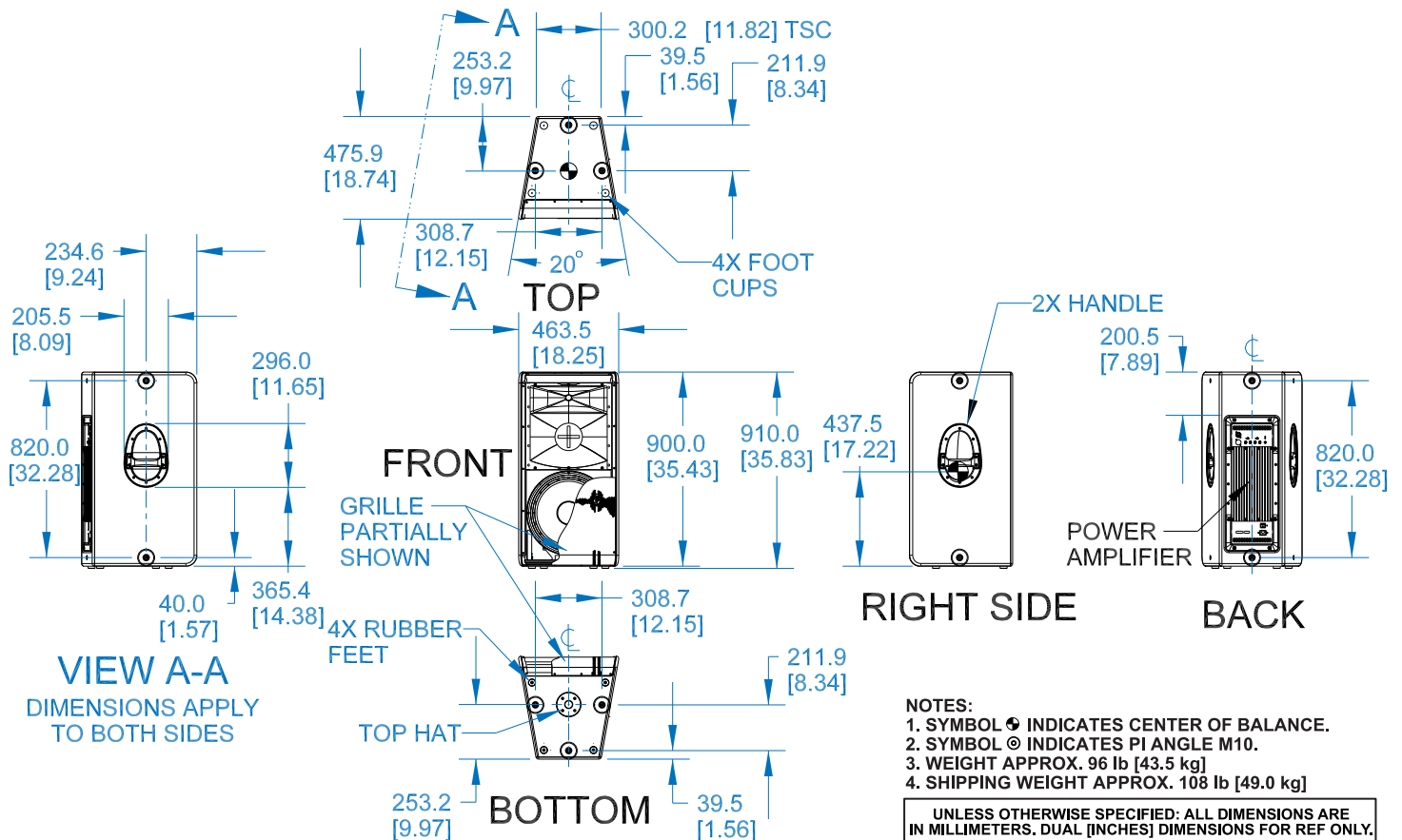
HDI531 FREQUENCY RESPONSE



HDI531 INPUT PANEL



HDI531 DIMENSIONS



- NOTES:
1. SYMBOL ⊕ INDICATES CENTER OF BALANCE.
 2. SYMBOL ⊙ INDICATES PI ANGLE M10.
 3. WEIGHT APPROX. 96 lb [43.5 kg]
 4. SHIPPING WEIGHT APPROX. 108 lb [49.0 kg]

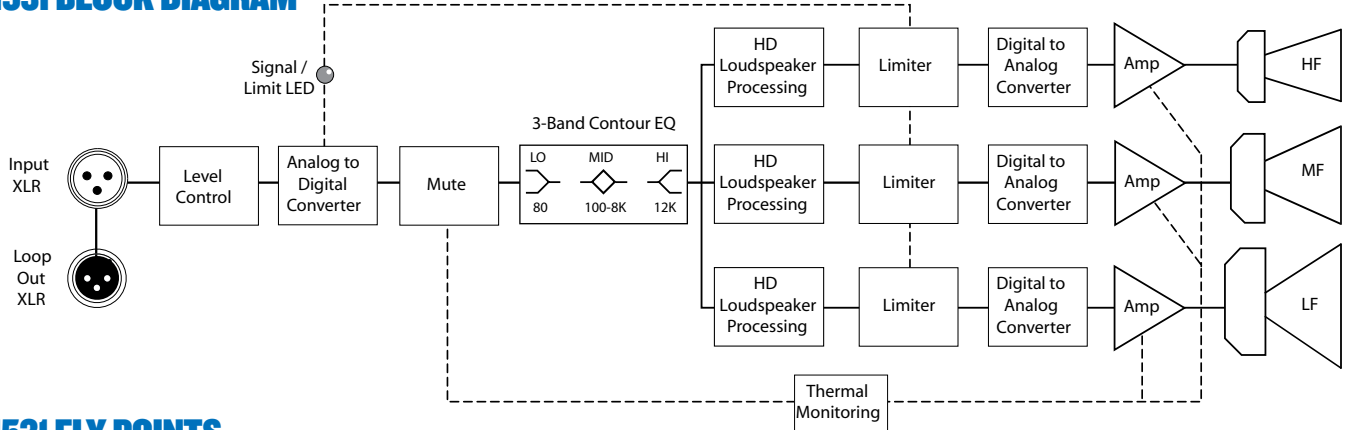
UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS ARE IN MILLIMETERS. DUAL [INCHES] DIMENSIONS FOR REF ONLY.

TOLERANCES
LINEAR ± 3.3 mm / ± 0.13 in; ANGLES ± 1°

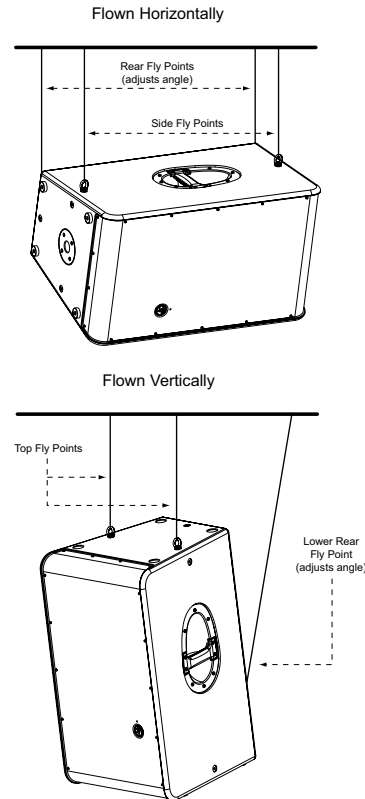
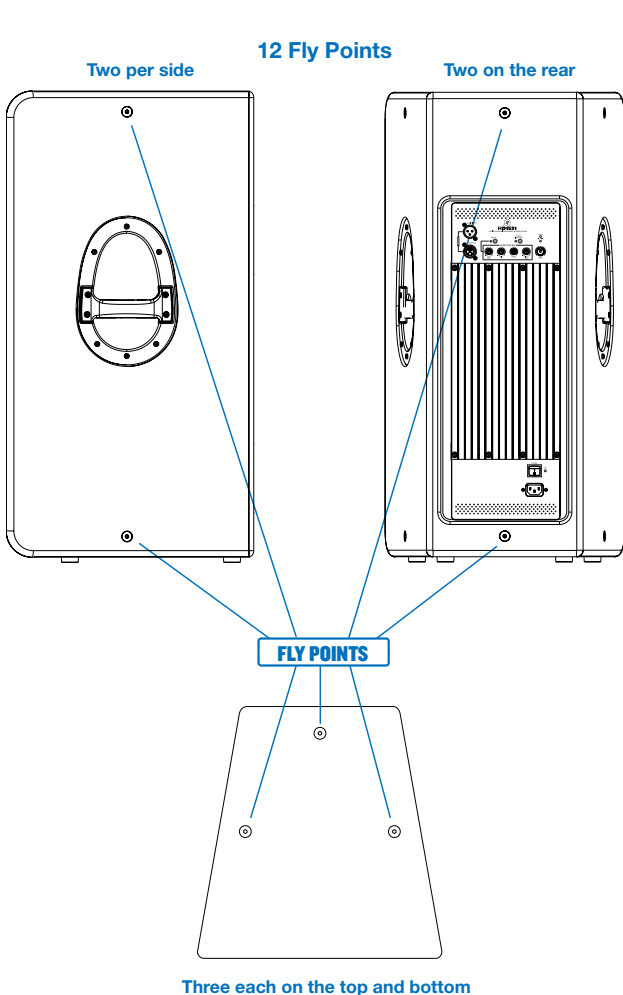
(X.XX) = REF DIMS
NO TOLERANCE IMPLIED

TSC=THEORETICAL SHARP CORNER
DIMENSIONS ACROSS CENTERLINES TO BE SYMMETRICAL

HD1531 BLOCK DIAGRAM



HD1531 FLY POINTS



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

Specification Sheet	HD1531_SS.PDF
Owner's Manual	HD1531_OM.PDF
EASE Data	HD1531_EASE_DATA.zip

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Part No. SW0766 Rev. B 06/10

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