datasheet

THL-4.3

HILIGHT™ SERIES ENGINEERING INFORMATION

The THL-4.3 is a bi-amped 3-way full range loudspeaker enclosure incorporating Turbosound's unique loading principles in a particularly powerful one-box format. It is designed to provide full range frequency response in the range from 55Hz to 20kHz in primary sound reinforcement system applications, and is one of a series of complementary enclosures principally intended for sound contracting and touring sound reinforcement.

The THL-4.3 is designed for use with the LMS-D6 or LMS-A6 loudspeaker management systems, which provide model-specific crossover and limiter functions.

The enclosure complement consists of a custom 18" low frequency driver loaded with a TurboBass™ device covering the frequency range from 55Hz to 180Hz, a custom 10" mid-range driver loaded with a TurboMid™ device covering frequencies in the range 180Hz to 4kHz; and a custom 1" high frequency driver on a proprietary horn flare covering frequencies from 4kHz to 20kHz.

The THL-4.3 features a tightly controlled dispersion pattern of 55° horizontal by 40° vertical. This permits the cabinet to be accurately focused into areas such as a nightclub dance floor or a theatre auditorium, which require high sound pressure levels without over-spill into other areas.

The enclosure is constructed from 18mm birch plywood and includes flush handles, loudspeaker access door, kelping brackets, steel mesh grille and heavy duty wheels. Rear-panel Speakon NL4-MP connectors provide input and parallel connections to the cabinet, which is finished in TurboBlue™ semi-matt textured paint.

A flown version is optionally available (THL-4.3F) including key-hole type flyplates.

Recommended complementary products:
THL-818, THL-828 low frequency enclosures
TSW-721, TSW-124 bass and subwoofer enclosures
LMS-D6, LMS-A6 loudspeaker management systems

FEATURES

Controlled dispersion

Seamless mid range

Ultra-low distortion

APPLICATIONS

Sound contracting

Discotheques and clubs

Mobile PA systems

Point source clusters

Turbosound

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DIMENSIONS (HxWxD)	1007mm x 574mm x 718mm (39.6" x 22.6" x 28.3")
NET WEIGHT	92kg (202.4lbs)
COMPONENTS	1 x custom 457mm (18") LF driver on a TurboBass™ device, 1 x custom 254mm (10") MF driver on a TurboMid™ device, 1 x custom 25mm (1") HF compression driver on a custom waveguide
FREQUENCY RESPONSE[1]	55Hz - 20kHz ±4dB
NOMINAL DISPERSION[2]	55°H x 40°V @ -6dB points
POWER HANDLING	LF: 400 watts r.m.s., 800 watts program, 1000 watts peak MF/HF: 150 watts r.m.s., 300 watts program, 375 watts peak Recommended amplifier power: LF: 800 watts @ 8 ohms; MF/HF: 300 watts @ 16 ohms
SENSITIVITY[3]	LF: 101dB, 1 watt @ 1 metre; HF: 105dB, 1 watt @ 1metre
MAXIMUM SPL	130dB continuous[4] 136dB peak[5]
CROSSOVER	Active: Recommended point at 180Hz, 24dB/octave low pass Linkwitz-Riley Internal passive crossover at 4kHz, third order high pass
NOMINAL IMPEDANCE	LF: 8 ohms nominal, MF/HF: 16 ohms nominal
CONSTRUCTION	18mm (3/4") birch plywood throughout; rebated, screwed and glued. Finished in TurboBlue™ semi-matt textured paint. Four recessed carrying handles. Four heavy duty wheels
GRILLE	Cloth/expanded metal
CONNECTORS	Two Neutrik Speakon NL4-MP wired pin1+: LF positive, pin1-: LF negative, pin2+: MF/HF positive, pin2-: MF/HF negative
OPTIONS	Flown version includes T3 keyhole flyplates (THL-4.3F)
SPARES AND ACCESSORIES	LS-1809 18" (457mm) LF loudspeaker RC-1809 Recone kit for LS-1809 LS-1015 10" (254mm) MF loudspeaker RC-1015 Recone kit for LS-1012 CD-165 1" (25mm) HF driver RD-165 Replacement diaphragm for CD-105 MG-4 Replacement cloth/expanded metal grille W-4 Wheel kit (set of four)

All measurements are actual figures taken from real-time testing using stated inputs, free from any filtering or weighting. Therefore actual figures may significantly exceed that of other manufacturers with higher published weighted ratings.

Notes

[1] Measured on axis

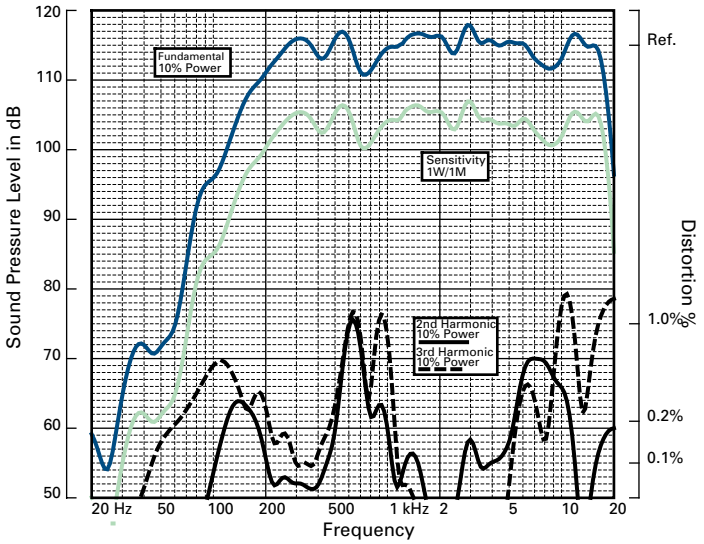
[2] Average over stated bandwidth

[3] Average over stated bandwidth

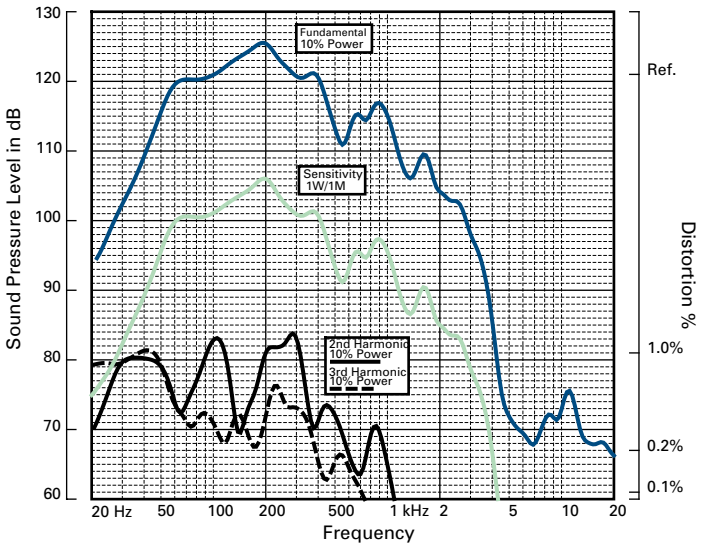
[4] Unweighted diode-clipped pink noise. Measured in a half space environment

[5] Verified by subjective listening tests of familiar program material, before the onset of perceived signal degradation

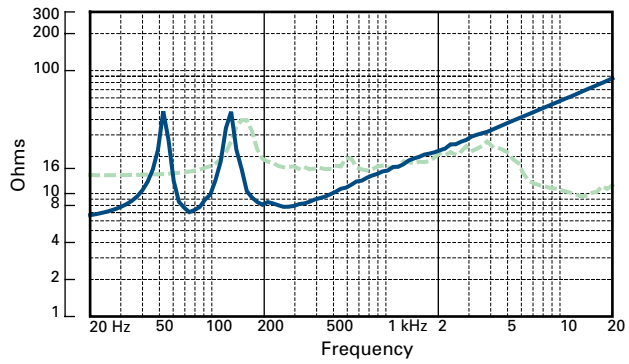
FREQUENCY RESPONSE – HF



FREQUENCY RESPONSE – LF



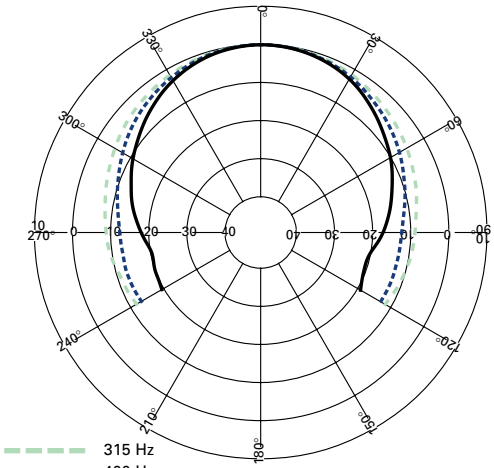
IMPEDANCE

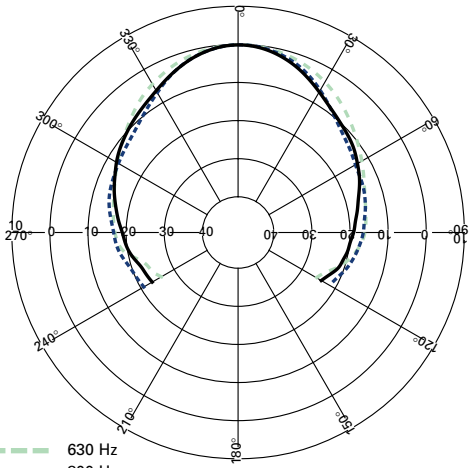


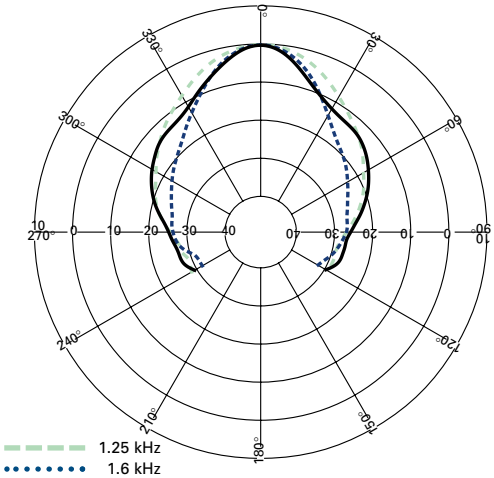
NOTES ON MEASUREMENT CONDITIONS

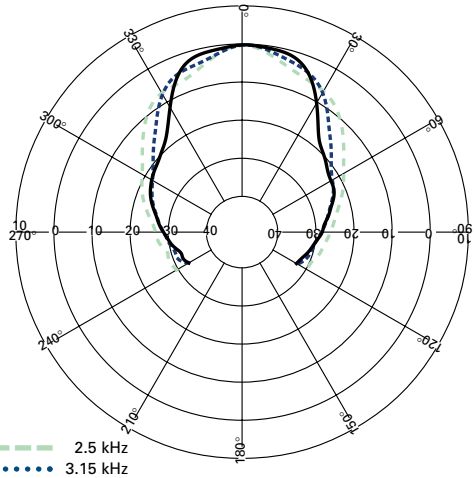
Impedance A constant current circuit was used to measure the impedance. **Frequency response** The frequency response shown was obtained by feeding a swept sine wave through the system in a half space environment. The position of the microphone was vertically on-axis at a distance of 2 metres, then scaled to represent 1 metre. **2nd & 3rd Harmonic Distortion** Distortion measurements were obtained using an Audio Precision harmonic distortion analysis system and comply with AES recommendations for enclosure measurement (AES paper ANSI S4-26-1984). **Data Conversion** All graphs were digitally generated using the APEX custom software system, designed to translate data derived from Audio Precision 'System One' test equipment into AutoCAD™. This program enables graphical information to be plotted to a high degree of accuracy.

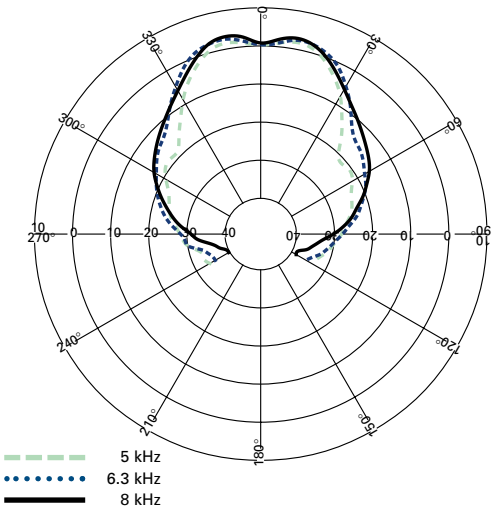
HORIZONTAL THIRD OCTAVE POLARS

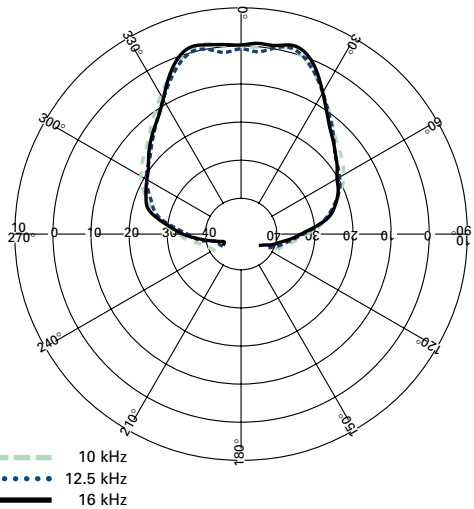




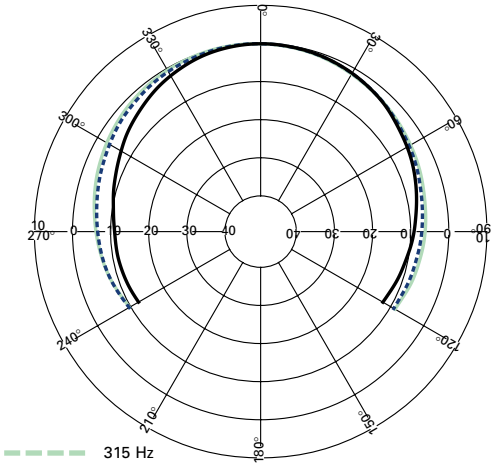


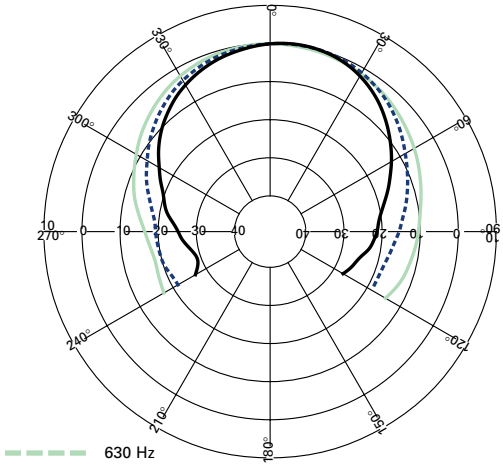


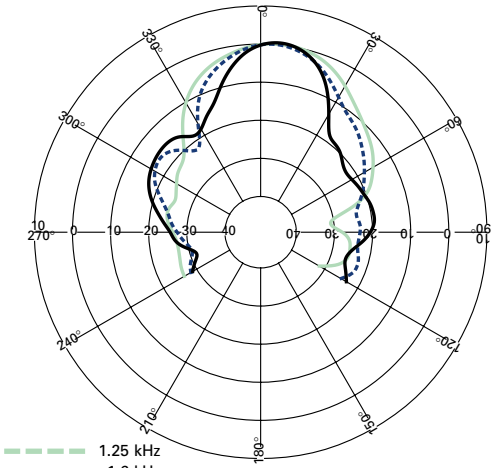


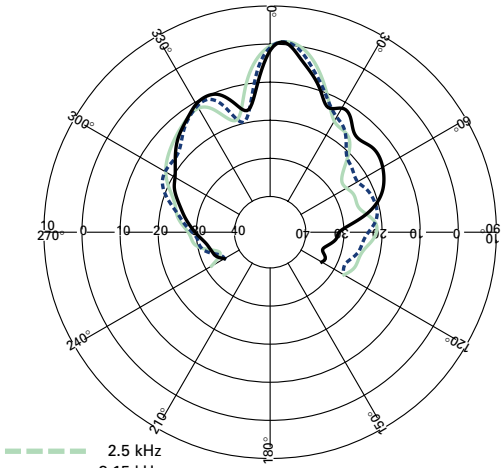


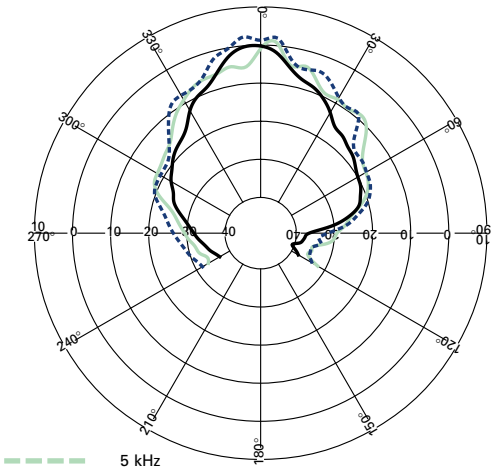
VERTICAL THIRD OCTAVE POLARS

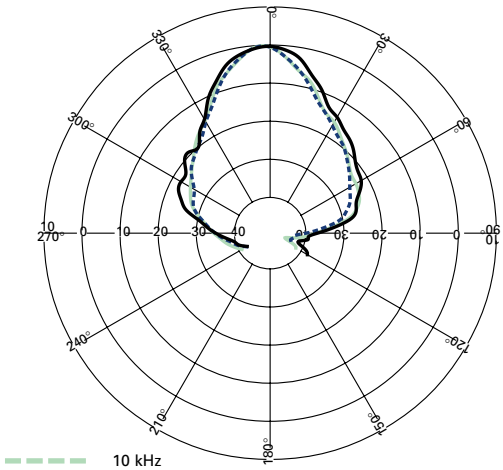




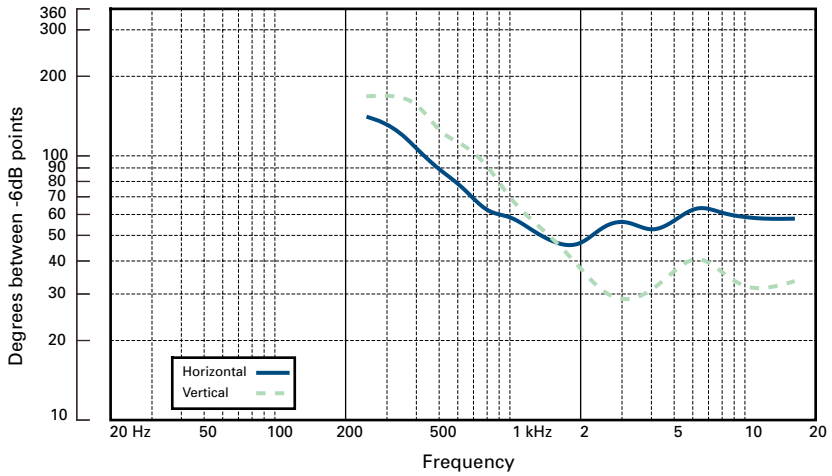




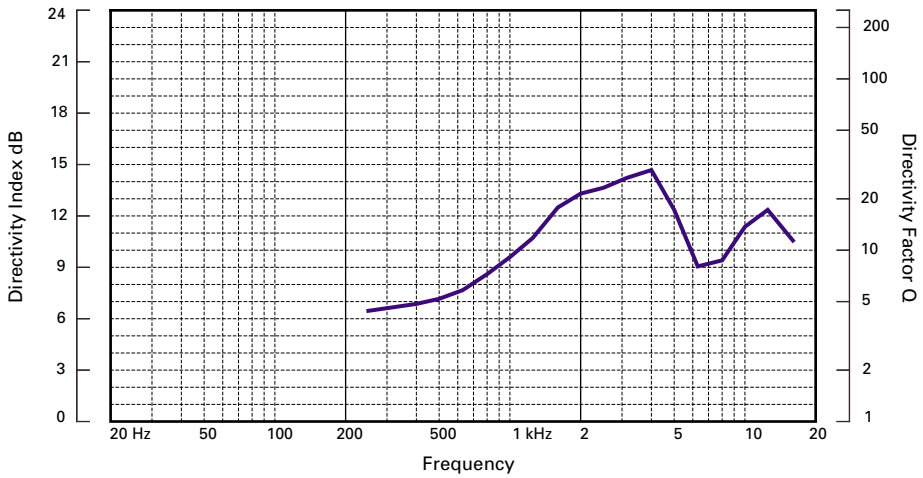




BEAMWIDTH

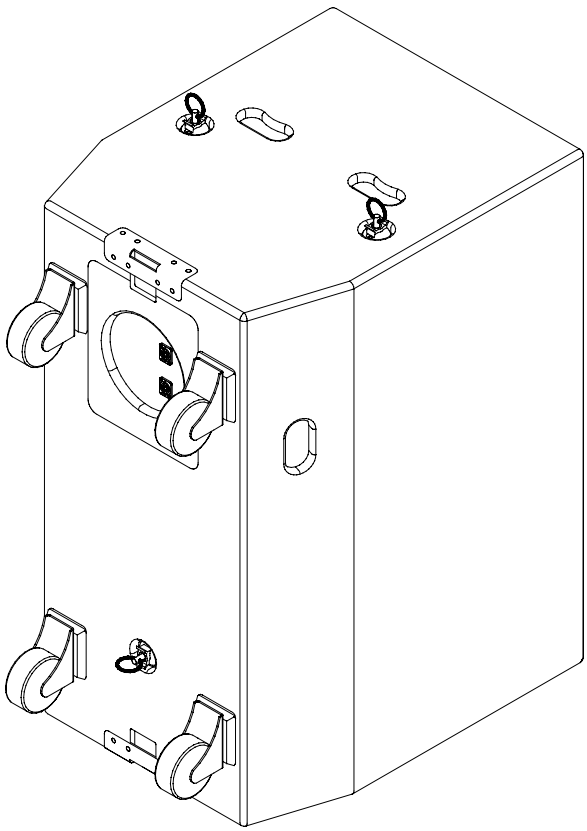


DIRECTIVITY



FLYING HARDWARE

The THL-4.3 is fitted with the facility to add optional RT-767 ring type flying fittings (three required per cabinet). Downwards inclination is set using the fly point on the rear of the cabinet. Additionally, the THL-4.3 is available in a flown version (THL-4.3F) with key-hole type flypoints fitted.



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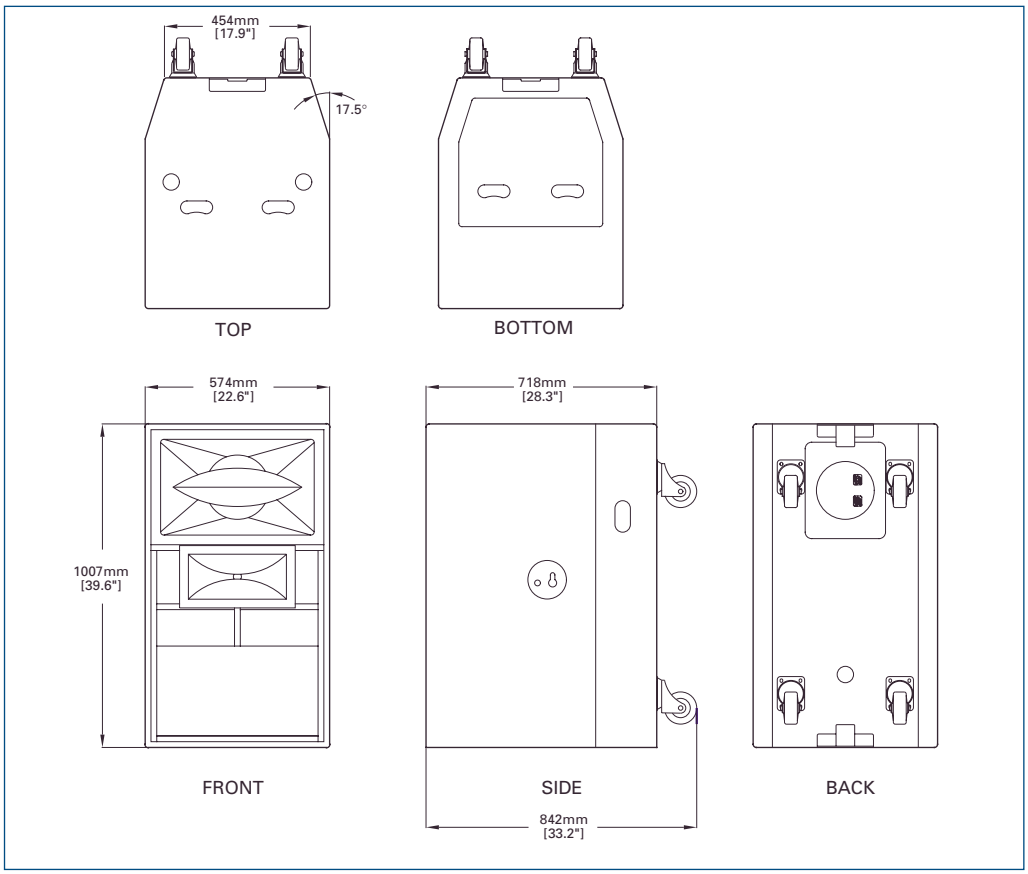
HILIGHT™ SERIES ENGINEERING INFORMATION

ARCHITECTURAL & ENGINEER'S SPECIFICATIONS

The loudspeaker shall be of the bi-amped, trapezoidal full range type, consisting of one 18" (457mm) low frequency driver loaded with a TurboBass™ device, one 10" (254mm) mid frequency loudspeaker loaded with a TurboMid™ device and a 1" (25mm) high frequency compression driver. Performance specifications of a typical production unit shall be: frequency response, measured with swept sine wave input, shall be flat within ±4dB from 55Hz to 20kHz. Nominal dispersion, at -6dB points, shall average 55° horizontal by 40° vertical. Nominal impedance shall be LF: 8 ohms; MF/HF: 16 ohms. Power handling shall be LF: 400 watts r.m.s., 800 watts program, 1000 watts peak; MF/HF: 150 watts r.m.s., 300 watts program, 375 watts peak. Sensitivity, measured with 1 watt input at 1 metre distance on axis, mean averaged over stated bandwidth, shall be 105dB. Maximum SPL (peak) measured with music program at stated amplifier power shall be 136dB. Dimensions: 1007mm x 574mm x 718mm (39.6" x 22.6" x 28.3"). Weight: 92kgs (202.4lbs). The loudspeaker shall be the Turbosound THL-4.3. No other loudspeaker shall be acceptable unless submitted data from an independent test laboratory verify that the above combined performance/size specifications are equalled or exceeded. A range of flying and lifting hardware shall be available.

DIMENSIONS



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