

HILIGHT™ SERIES ENGINEERING INFORMATION

The THL-811.3 is a 2-way professional loudspeaker enclosure incorporating Turbosound's unique loading principles. The modular enclosure is designed to cover mid and high frequencies in the range from 180Hz to 20kHz in primary sound reinforcement systems.

The THL-811.3 may be used in conjunction with bass enclosures from the Turbosound range, such as the THL-818 or THL-828, and the TSW-721 or TSW-124. System control is provided by the LMS-D6 or LMS-A6 loudspeaker management systems, which provide crossover and limiting functions.

The THL-811.3 incorporates 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. A new HF driver loading technique unique to Turbosound dramatically reduces distortion at high frequencies, resulting in cleaner HF response and greater transient detail.

It 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 without over-spill into other areas.

The THL-811.3's trapezoidal enclosure allows arrays to be easily assembled – using the optional lifting and flying hardware – forming coherent point source clusters. In addition the cabinet shape allows the formation of ground-stacked PA systems with uniform horizontal and vertical coverage. A skeleton version (THL-811.3S) is available for use in permanently installed flown systems.

Two rear-panel Neutrik Speakon NL4MP connectors provide input and parallel connections to the cabinet. The enclosure is constructed from 3/4" (18mm) birch plywood, and is finished in TurboBlue™ semi-matt textured paint.

Recommended complimentary products:

THL-818, THL-828 bass enclosures

TSW-721, TSW-124 bass subwoofer enclosures

LMS-D6, LMS-A6 loudspeaker management systems



FEATURES

- Controlled dispersion
- Seamless mid range
- Ultra-low distortion

APPLICATIONS

- Discothèques and clubs
- Mobile PA systems
- Point source clusters

DIMENSIONS (HxWxD)	574mm x 574mm 526mm (22.6" x 22.6" x 20.7")
NET WEIGHT	36 kg (79.2 lbs)
COMPONENTS	1 x 10" (254mm) MF driver on a TurboMid™ device, 1 x 1" (25mm) HF driver on a custom waveguide
FREQUENCY RESPONSE¹	180Hz - 20kHz ±4dB
NOMINAL DISPERSION²	55°H x 40°V @ -6dB
POWER HANDLING	150 watts r.m.s., 300 watts program, 375 watts peak Recommended amplifier power: 300 watts @ 16 ohms
SENSITIVITY³	105dB, 1 watt @ 1 metre (average)
MAXIMUM SPL	129dB continuous ⁴ , 135dB peak ⁵
CROSSOVER	Internal passive crossover at 4kHz, third order high pass, Linkwitz-Riley
IMPEDANCE	16 ohms nominal
CONSTRUCTION	3/4" (18mm) birch plywood throughout; rebated, screwed and glued. Finished in TurboBlue™ semi-matt textured paint. Two recessed carrying handles. Two key-hole type flypoints
GRILLE	Cloth / expanded metal
CONNECTORS	(2) Speakon Neutrik NL4-MP wired pin 2+: positive, pin 2-: negative
OPTIONS	Skeleton installation version THL-811S
SPARES AND ACCESSORIES	LS-1015 10" (254mm) LF loudspeaker RC-1015 Recone kit for LS-1015 CD-165 1" (25mm) HF compression driver RD-165 Replacement diaphragm for CD-105 PX-811 Passive crossover MG-811 Replacement cloth / expanded metal grille

Notes

¹Measured on axis

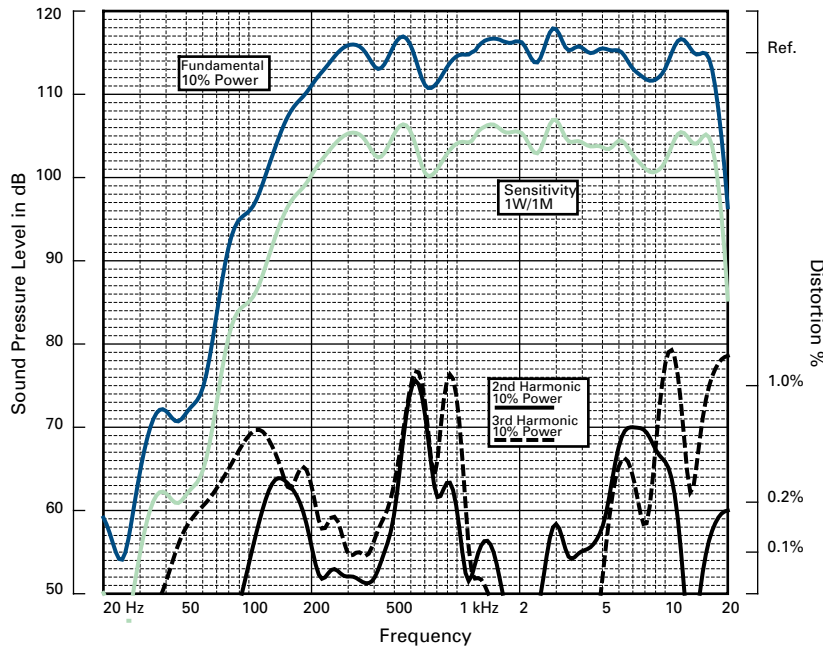
²Average over stated bandwidth

³Average over stated bandwidth

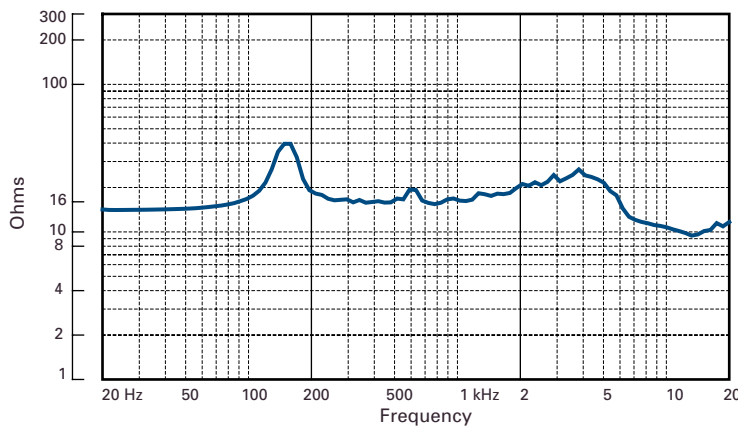
⁴Unweighted diode-clipped pink noise. Measured in a half space environment

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

FREQUENCY RESPONSE



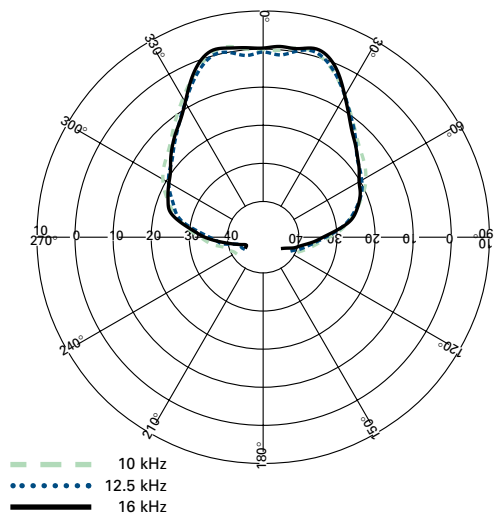
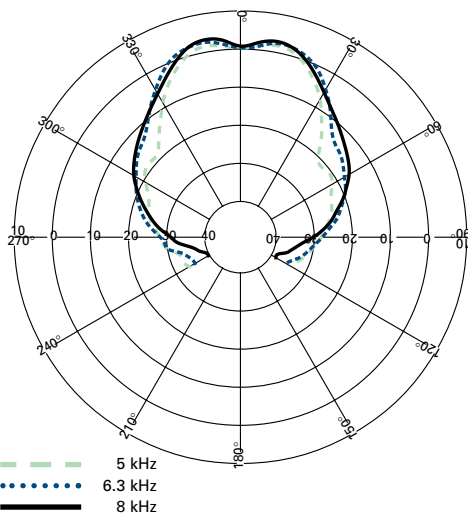
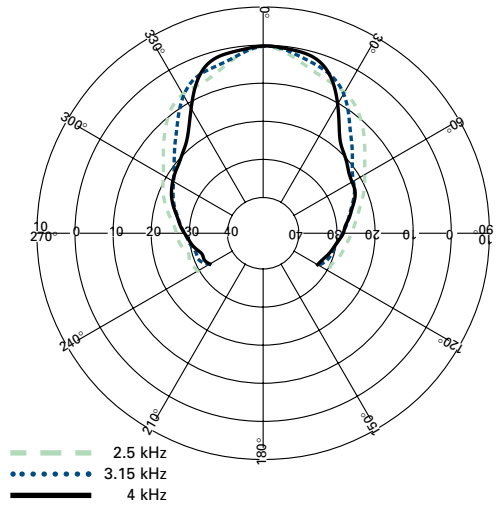
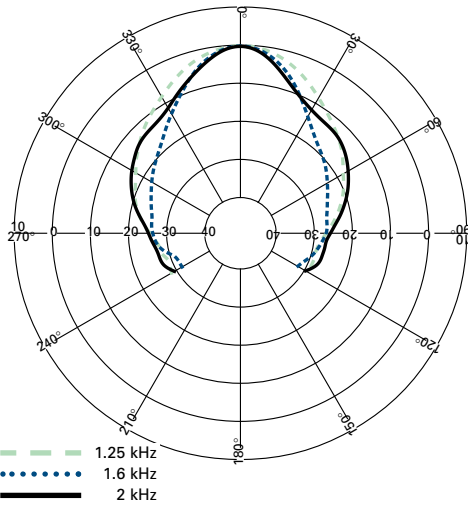
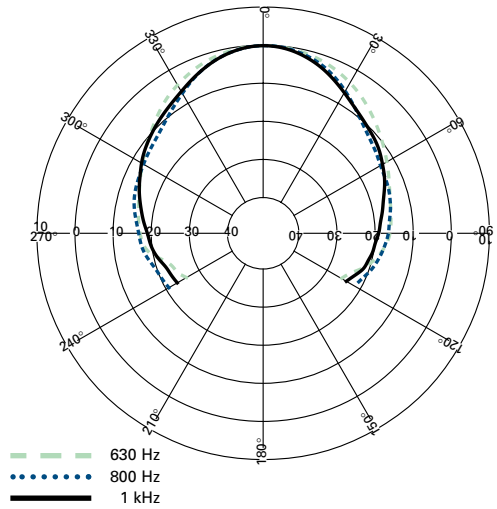
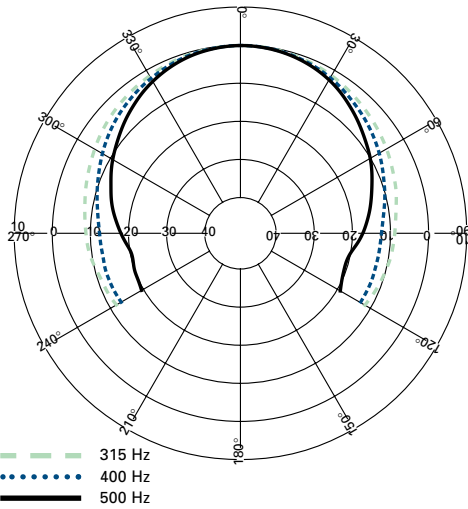
IMPEDANCE



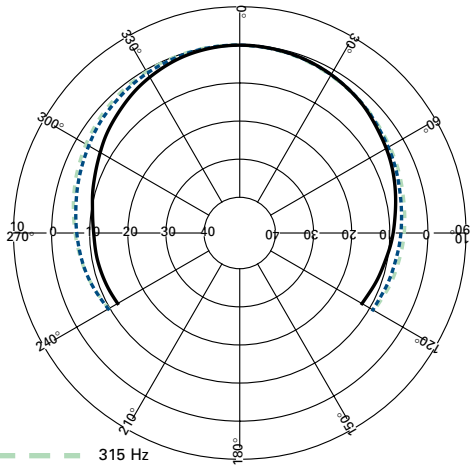
Impedance A constant current circuit was used to measure the impedance. **Frequency response** The frequency response shown was obtained by feeding a swept sine wave through the system in a half space environment. The position of the microphone was vertically on-axis at a distance of 2 metres, then scaled 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.

NOTES ON MEASUREMENT CONDITIONS

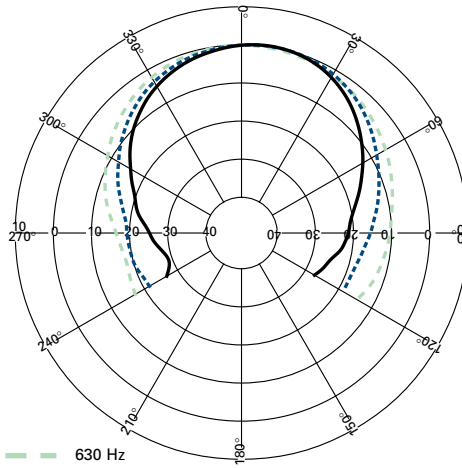
**HORIZONTAL THIRD
OCTAVE POLARS**



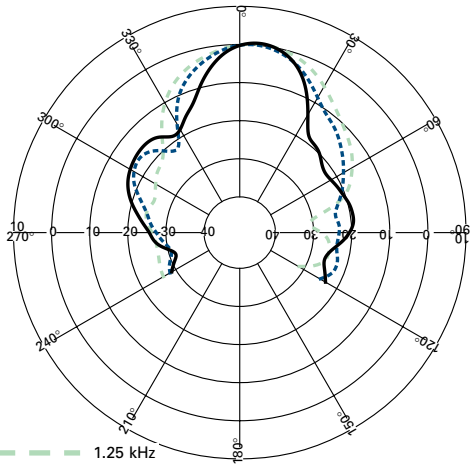
**VERTICAL THIRD
OCTAVE POLARS**



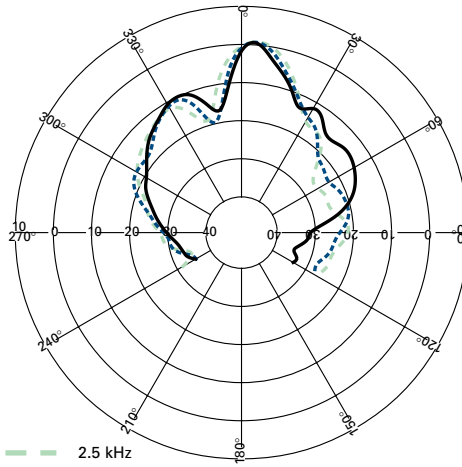
--- 315 Hz
... 400 Hz
— 500 Hz



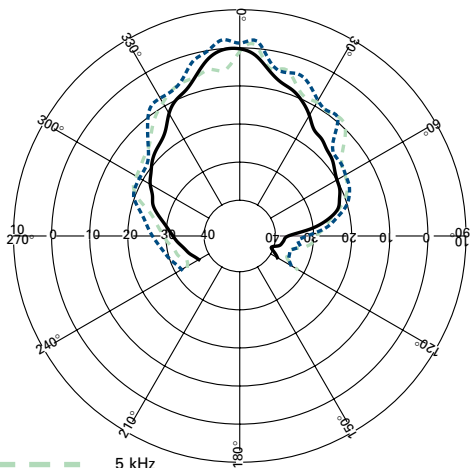
--- 630 Hz
... 800 Hz
— 1 kHz



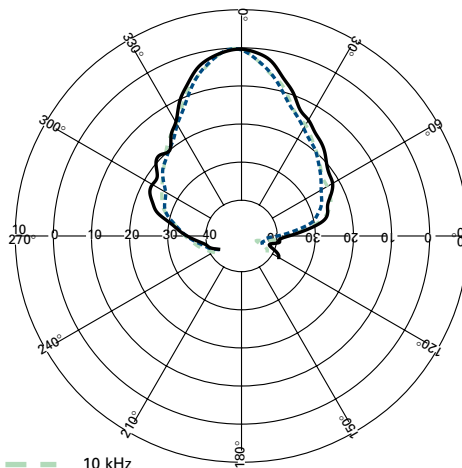
--- 1.25 kHz
... 1.6 kHz
— 2 kHz



--- 2.5 kHz
... 3.15 kHz
— 4 kHz

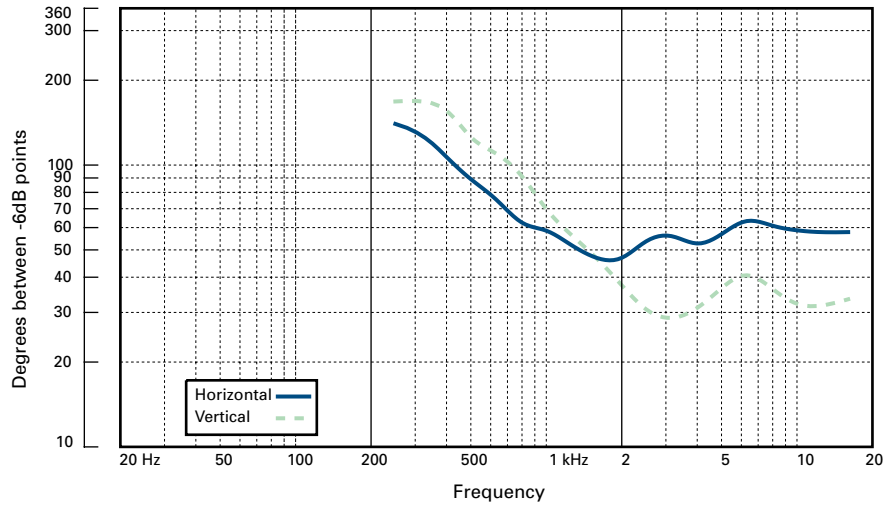


--- 5 kHz
... 6.3 kHz
— 8 kHz

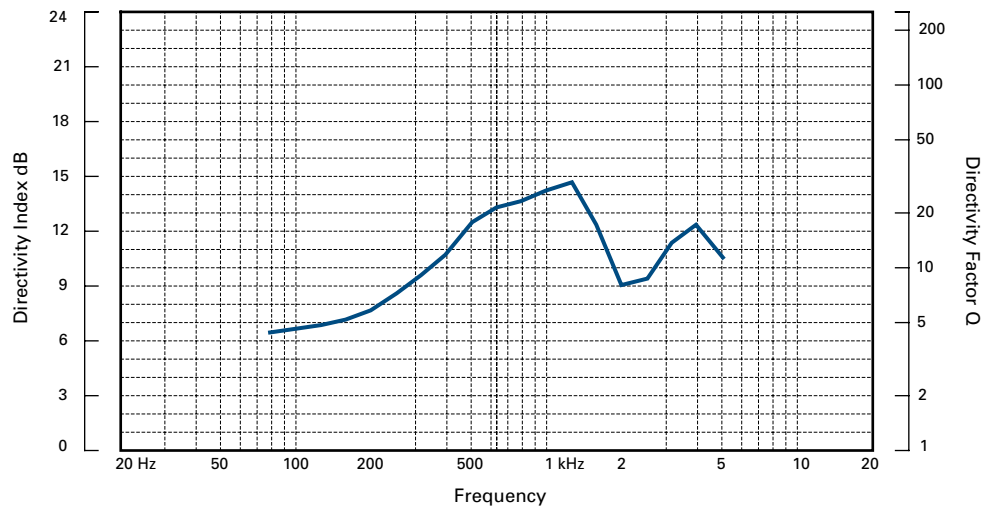


--- 10 kHz
... 12.5 kHz
— 16 kHz

BEAMWIDTH



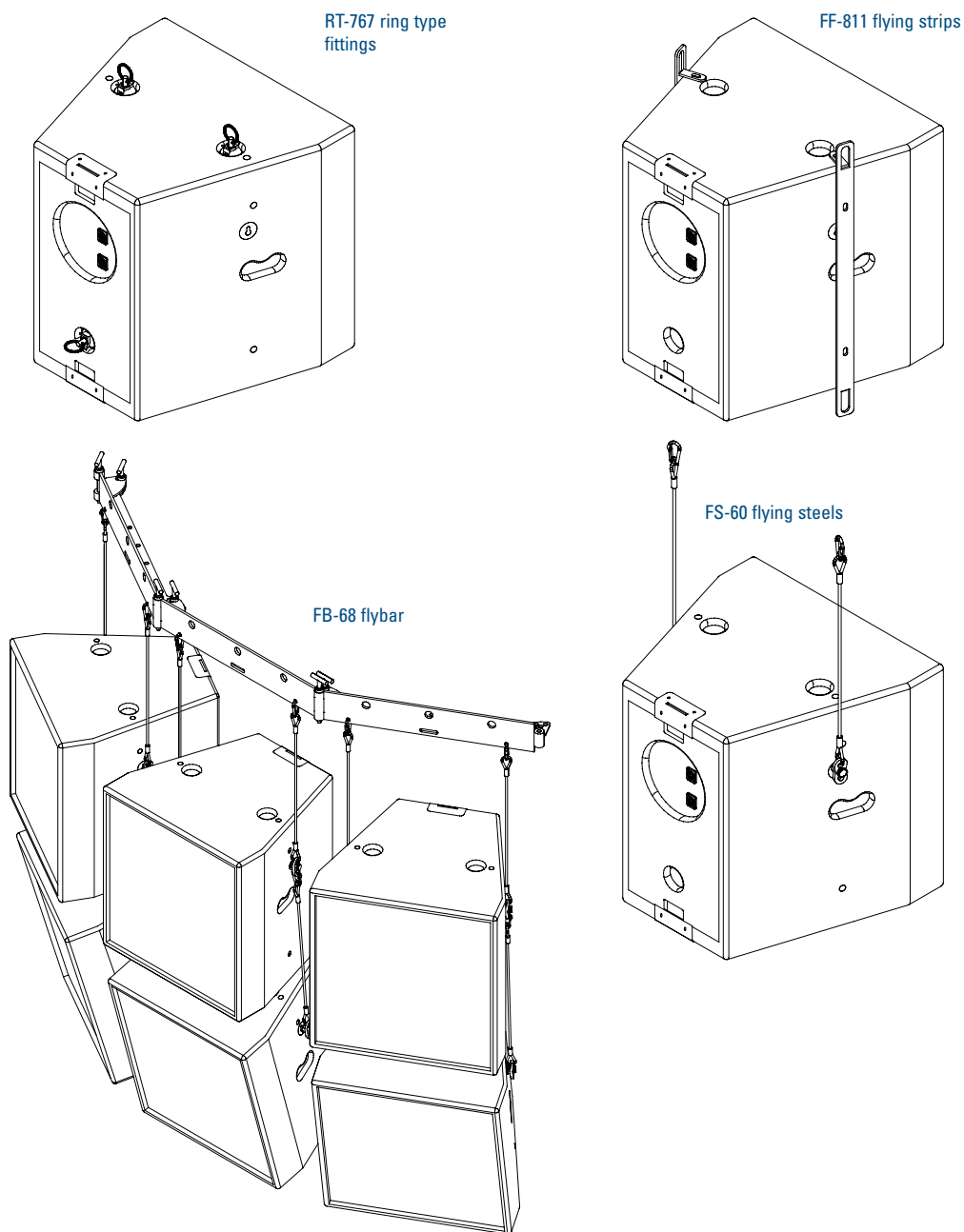
DIRECTIVITY



HILIGHT™ SERIES ENGINEERING INFORMATION

FLYING HARDWARE

The THL-811.3 may be flown or permanently installed using a variety of specially designed flying and lifting hardware. Single units are flown using either FF-2 flying strips (two required per cabinet) which are attached to the sides of the cabinet, or using the optional RT-767 quick release ring type fittings (set of three required per cabinet). Downward inclination is set by using any of the tilting points provided on the rear of the cabinet. In addition, the THL-811.3 enclosure is fitted with side mounted keyhole type flypoints designed for use with the FB-68 modular flybar and fixed length flying steels. This arrangement enables the assembly of point source clusters with variable angles of horizontal coverage.



**ARCHITECTURAL
 & ENGINEER'S
 SPECIFICATIONS**

The loudspeaker shall be of the mono-amped, trapezoidal mid-high type, consisting of 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 ± 4 dB from 180Hz to 20kHz. Nominal dispersion, at -6dB points, shall average 55° by 40° vertical. Nominal impedance shall be 16 ohms. Power handling shall be 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 135dB. Dimensions: 574mmH x 574mmW x 526mmD (22.6" x 22.6" x 20.7"). Weight: 36kgs (79.2lbs). The loudspeaker shall be the Turbosound THL-811.3. 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

