

QLIGHT™ SERIES ENGINEERING INFORMATION

The TQ-308SP is a trapezoidal, self-powered full range two-way loudspeaker enclosure designed for use in mobile speech and music sound reinforcement applications as well as in a wide range of fixed installations.

The loudspeaker complement consists of a front loaded 8" low-mid frequency driver and a 1" high frequency compression driver on a 100°H x 60°V HF waveguide.

The TQ-308SP features Turbosound's Converging Elliptical Waveguide™ (CEW™) technology. The comparatively short flare allows physical alignment of the HF and LF devices, and ensures that the wavefront is shaped smoothly, eliminating reflections in the throat area while giving excellent pattern control. Additionally this design does not suffer from the distortion typical of horns employing diffraction edges. The waveguide can be rotated within the enclosure, making it possible to swap the horizontal and vertical coverage patterns.



The TQ-308SP includes rigging points for fitting optional M10 eyebolts, enabling it to be suspended and angled in permanent installations as well as in mobile applications. A pole mount socket is fitted on the bottom of the cabinet for use with 35mm poles and speaker stands.

The trapezoidal cabinet is constructed from 12mm (1/2") birch plywood, screwed and glued together for maximum strength and rigidity, and includes a reticulated foam and steel mesh grille. It is finished in durable black semi-matt textured paint; TurboBlue™ textured paint is optionally available.

The integrated amplifier module is located at the rear of the cabinet. As well as providing input and link connections via 3-pin XLR, the connector panel includes a Powercon mains inlet and mains power switch, limiter status LEDs, gain trim control and bass boost switch.

Recommended complementary products:
TQ-115, TCS-108 subwoofer enclosures

FEATURES

- CEW™ technology
- Self-powered
- Trapezoidal cabinet
- Rotatable HF waveguide
- High power handling
- M10 rigging points
- Pole mount socket

APPLICATIONS

- Front of house
- Dry hire and rental
- Theatre
- Audio-visual
- Houses of Worship
- Corporate / industrial

DIMENSIONS (HxWxD)	464mm x 270mm x 301mm (18.3" x 10.6" x 11.8")	
NET WEIGHT	16kg (35.2lbs)	
COMPONENTS	1 x 8" (203mm) LF driver, 1 x 1" (25mm) HF driver on a Converging Elliptical Waveguide™	
FREQUENCY RESPONSE¹	68Hz - 20kHz ±4dB	
NOMINAL DISPERSION²	100°H x 60°V@-6db points. Rotatable waveguide allows swap of horizontal and vertical pattern	
MAXIMUM SPL	120dB continuous ⁴ , 126dB peak ⁵	
CONSTRUCTION	12mm (1/2") birch plywood; rebated, screwed and glued. Finished in black semi-matt textured paint. One recessed carrying handle. Integral pole mount socket	
GRILLE	Powder coated perforated steel with acoustically transparent reticulated foam	
CONNECTORS	(1) XLR female (1) XLR male wired: pin1 gnd, pin2 +ve, pin3 -ve; AC mains: Neutrik Speakon	
FLYING HARDWARE	M10 internal rigging points for M10 shoulder eyebolts	
OPTIONS	Optional colour: TurboBlue™ textured paint	
AMPLIFIER	TYPE:	Class A/B
	POWER OUTPUT:	HF: 30 watts continuous @ 8Ω (1kHz, 0.5% THD) LF: 220 watts continuous @ 8Ω (1kHz, 0.5% THD)
	THD:	<0.05% (THD, DMIM, SMPTE)
	NOISE:	<110dB/A
	INPUT IMPEDANCE:	10kΩ
	BANDWIDTH:	10Hz - 50kHz
	DAMPING FACTOR:	>500 (1kHz)
	POWER REQUIREMENTS:	100V to 240V AC @50/60Hz
SPARES AND ACCESSORIES	LS-8090	8" (203mm) LF loudspeaker
	RC-8090	Recone kit for LS-8090
	CD-110	1" (25mm) HF compression driver
	RD-110	Replacement diaphragm for CD-110
	AMP-308	Amplifier module
	MG-308	Replacement grille

Notes

¹Measured on axis

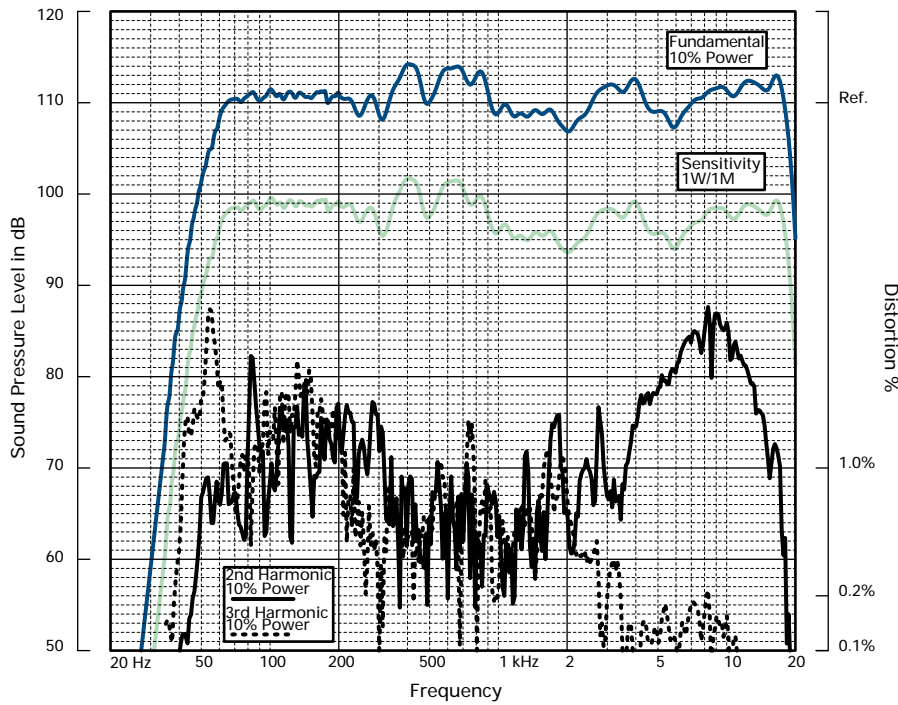
²Average over stated bandwidth

³Average over stated bandwidth

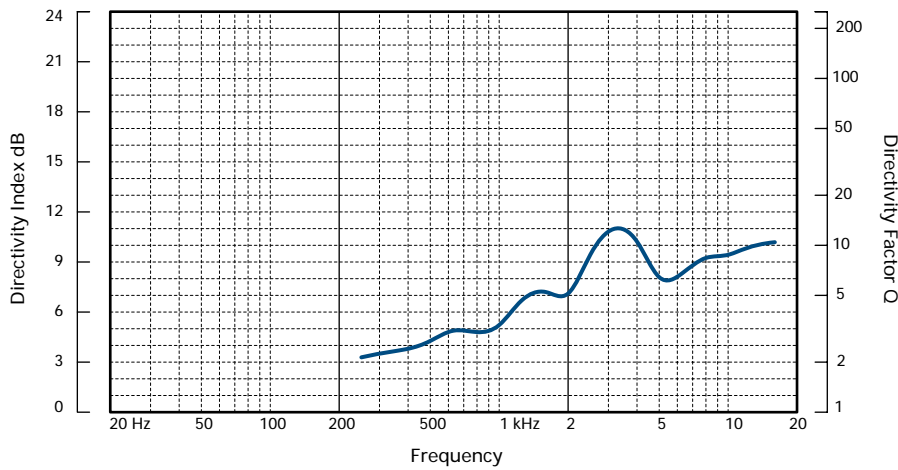
⁴Unweighted diode-clipped pink noise. Measured in a half space environment

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

FREQUENCY RESPONSE



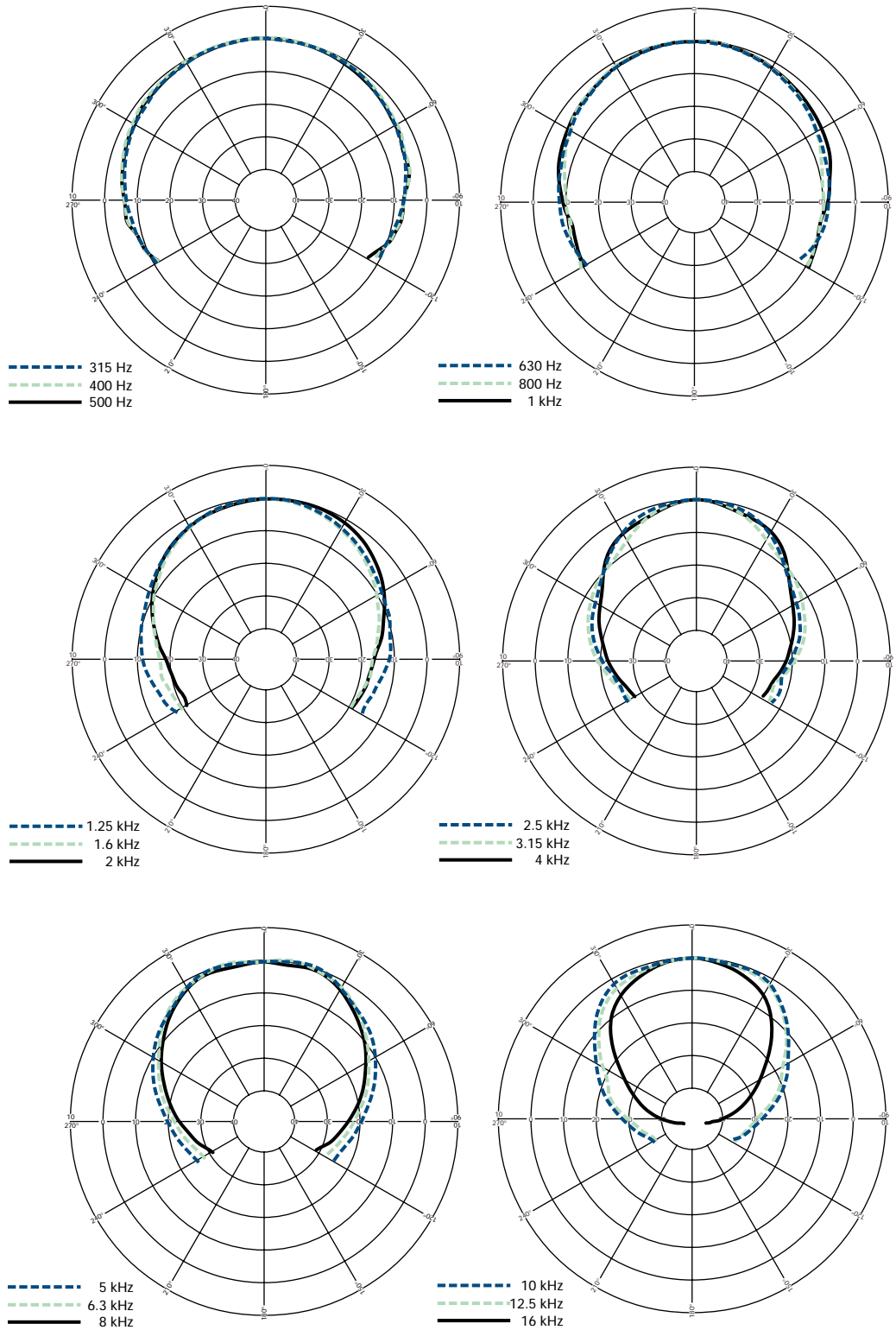
DIRECTIVITY



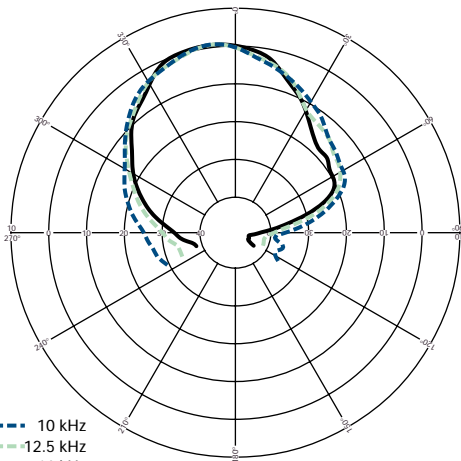
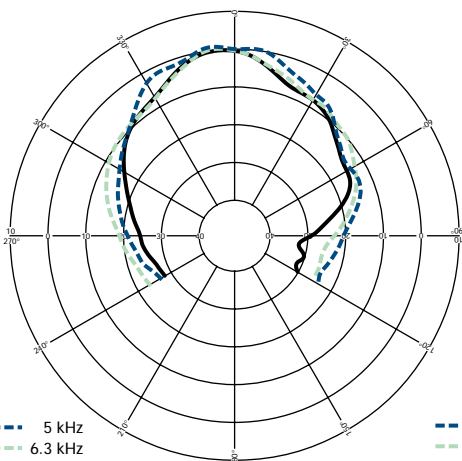
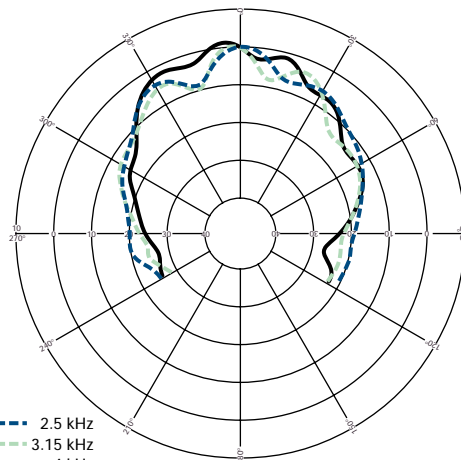
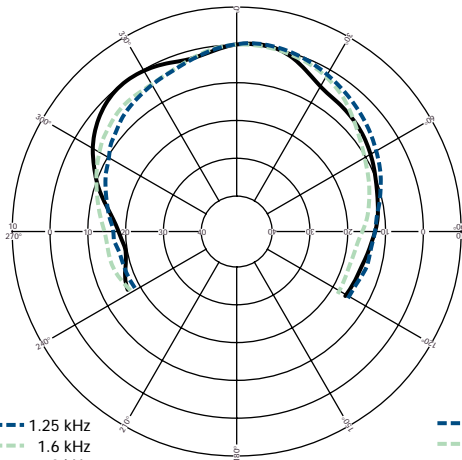
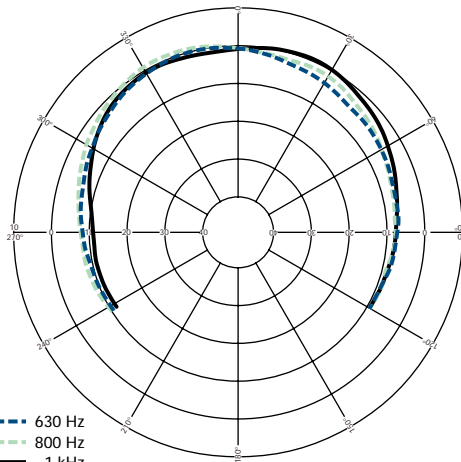
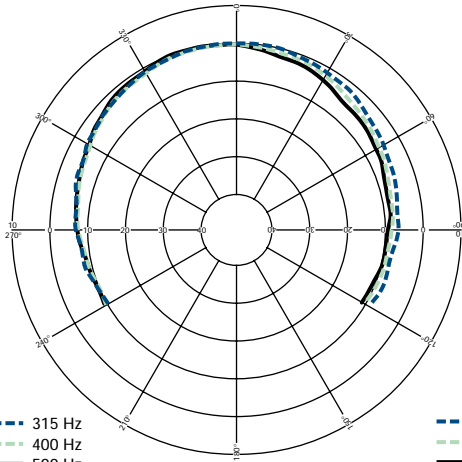
Impedance A constant current circuit was used to measure the impedance. **Frequency response** The frequency response shown was obtained by feeding a swept sine wave through the system in a half space environment. The position of the microphone was vertically on-axis at a distance of 2 metres, then scaled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

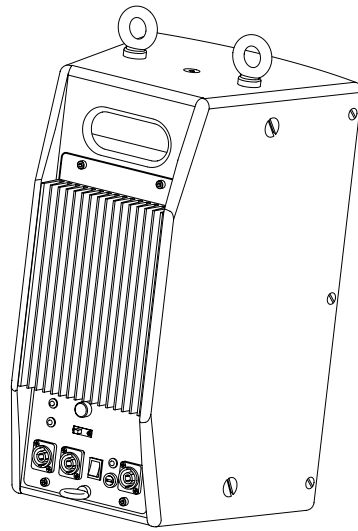
**HORIZONTAL THIRD
 OCTAVE POLARS**



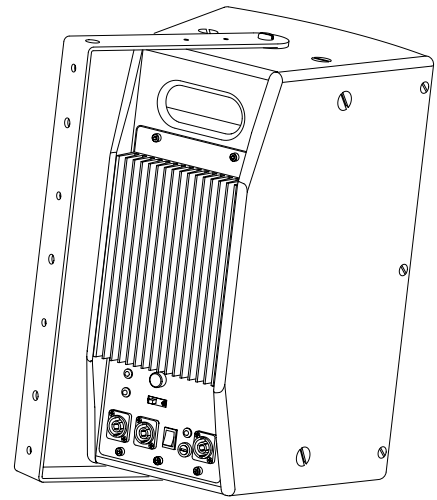
VERTICAL THIRD
OCTAVE POLARS



INSTALLATION AND
FLYING HARDWARE



M10 shoulder
eyebolts



SB-308 swivel
bracket

**ARCHITECTURAL
 & ENGINEER'S
 SPECIFICATIONS**

The system shall be of the self-powered, full range, two-way type consisting of one 8" (203mm) LF driver and one 1" (25mm) HF driver on a Converging Elliptical Waveguide™. Performance specifications of a typical production unit shall meet or exceed the following: Frequency response, measured with swept sine wave input, shall be flat within $\pm 4\text{dB}$ from 68Hz to 20kHz. Maximum SPL (peak) measured with music program at stated amplifier input shall be 126dB. Dimensions: 464mmH x 270mmW x 301mmD (18.3"H x 10.6"W x 11.8"D). Weight: 16kg (35.2lbs). The loudspeaker system shall be the Turbosound TQ-308SP. 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.

DIMENSIONS

