

The TCS-121C is a compact trapezoidal passive two-way loudspeaker enclosure designed for use in a wide variety of live sound and fixed installation applications that require professional sound quality.

It consists of a 12" reflex-loaded low frequency driver and a 1" high frequency compression driver on a 70°H x 40°V dispersion HF horn in an optimally tuned trapezoidal enclosure. These high grade components are matched with an internal passive crossover network to ensure a seamless transition between the HF and LF drivers.

The crossover incorporates a two-stage thermal overload protection system which prevents damage to the high frequency driver, reacting instantly to large transient peaks while still allowing wide dynamic range to be maintained. Although the protection system is transparent at normal operating levels, as the level increases the signal is gradually and imperceptibly compressed once the critical threshold has been reached.

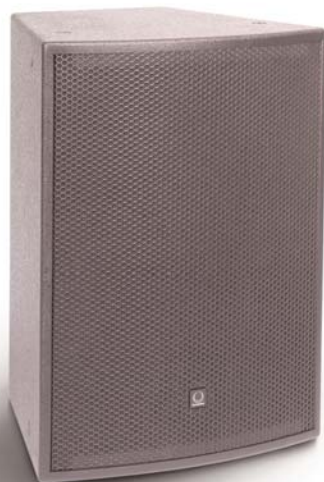
The cabinet is constructed from 15mm (5/8") birch plywood, screwed and glued together

for maximum rigidity. A powder-coated perforated steel mesh grille, backed with reticulated foam, protects the drive units from damage.

Rigging points are provided on the top, sides, bottom and rear of the cabinet to enable the TCS-121C to be suspended and angled in permanent installations using M10 shoulder eyebolts. Additional rigging points are provided on the rear of the cabinet for use with Turbosound and OmniMount™ wall and ceiling brackets.

A Neutrik Speakon NL4MP and a four-way barrier strip connector are located on the rear panel, providing input and parallel connections to additional TCS series cabinets.

The TCS-121C is finished as standard in durable black semi-matt textured paint; white and raw wood options are also available for decor matching. A weather-resistant version is available to IP54. A line transformer version is also available for use with 70 volt or 100 volt line distributed systems.



FEATURES

- Full range response**
- Compact enclosure**
- Trapezoidal shape**
- Rigging points**
- Passive crossover**
- HF protection system**
- Line transformer option**
- Custom colour options**
- IP54 option**

APPLICATIONS

- Fixed installations**
- Clubs and bars**
- House of worship**

DIMENSIONS (HxWxD)	553mm x 407mm x 352mm (21.8" x 16" x 13.9")	
NET WEIGHT	19kg (41.8lbs); 20.5kg (45.1lbs) with optional line transformer (TCS-121CT)	
COMPONENTS	1 x 12" (305mm) LF driver, 1 x 1" (25mm) HF compression driver	
FREQUENCY RESPONSE¹	60Hz - 20kHz ±4dB; 60Hz - 17kHz with line transformer option (TCS-121CT)	
NOMINAL DISPERSION²	70°H x 40°V @ -6dB points	
POWER HANDLING	300 watts r.m.s., 600 watts program Recommended amplifier power 600 watts @ 8 ohms	
SENSITIVITY³	97dB, 1 watt @ 1 metre	
MAXIMUM SPL	122dB continuous ⁴ , 128dB peak ⁵	
CROSSOVER	Internal passive network at 1.8kHz; 12dB/octave high-pass, 12dB/octave low-pass	
NOMINAL IMPEDANCE	8 ohms	
CONSTRUCTION	15mm (5/8") birch plywood enclosure. Finished in black semi-matt textured paint	
GRILLE	Powder coated perforated steel mesh, backed with black reticulated foam on black cabinets; backed with white acoustically transparent cloth on white cabinets	
CONNECTORS	(1) Neutrik Speakon NL4MP, wired pin1+: positive, pin 1-: negative, pins 2+ and 2- N/C (1) 4-way barrier strip connector	
OPTIONS	Optional finishes: white, raw wood and custom colours 70v/100v line transformer, tapped at 120 watts, 60 watts and 30 watts (TCS-121CT) IP54 weather-resistant version (TCS-121CW)	
FLYING HARDWARE	(9) M10 internal rigging points (4) M8 internal rigging points for WB-20 and CB-55 brackets (4) M6 internal rigging points for OmniMount™ series 60 brackets	
SPARES AND ACCESSORIES	LS-1219	12" (305mm) LF loudspeaker
	RC-1219	Recone kit
	CD-111	1" (25mm) HF compression driver
	RD-111	Replacement HF diaphragm
	TXD-TCS-121-PX-A	Passive crossover network
	WB-20	Wall bracket
	CB-55	Ceiling bracket

Notes

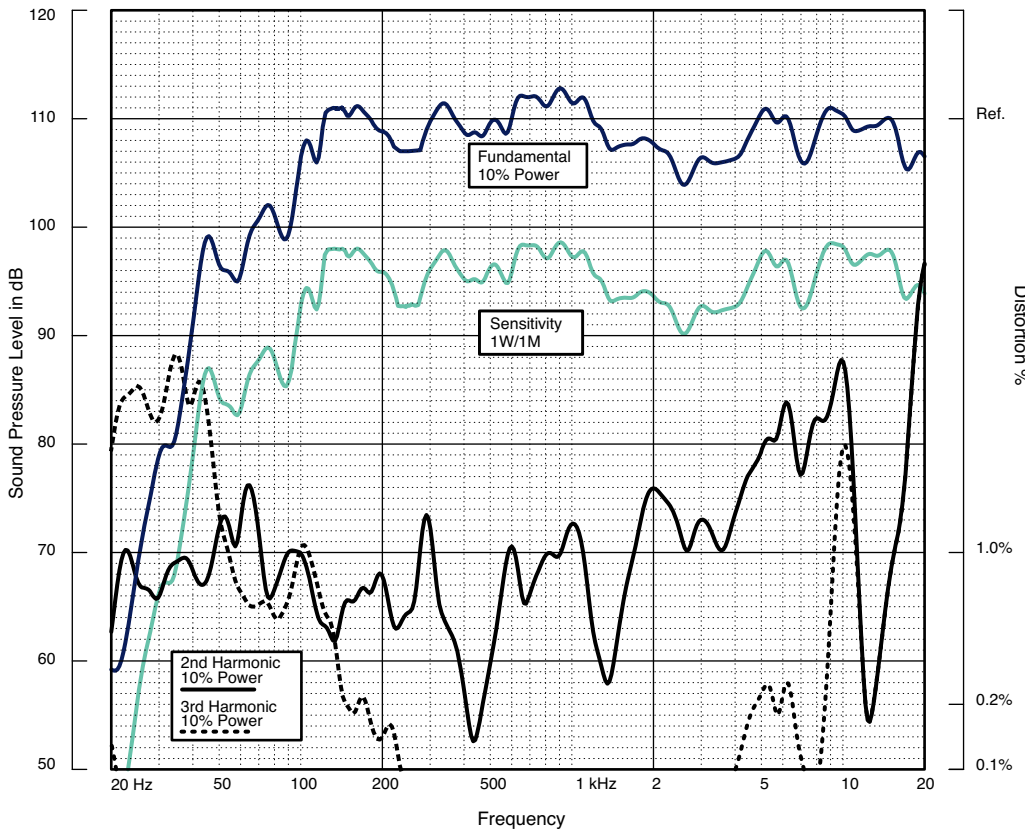
¹ Measured on axis

² Average over stated bandwidth

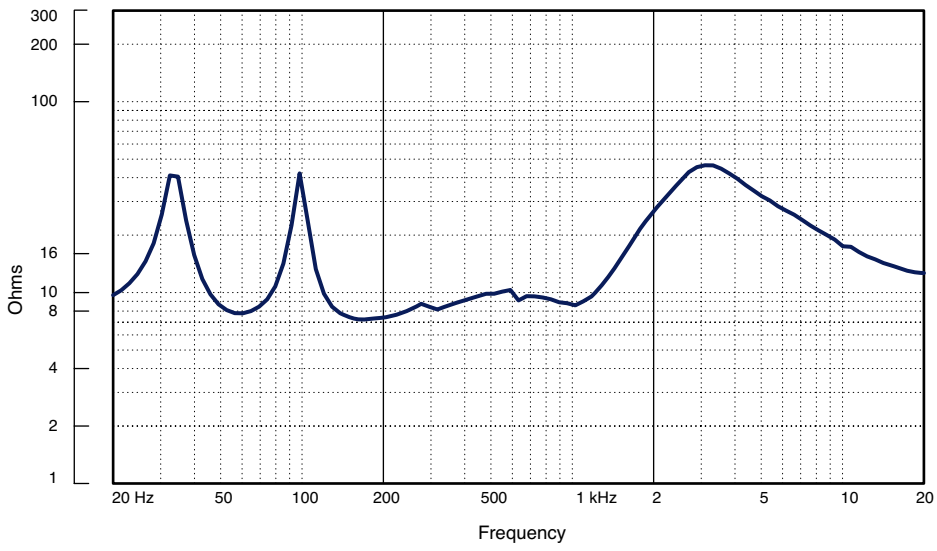
³ Average over stated bandwidth

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

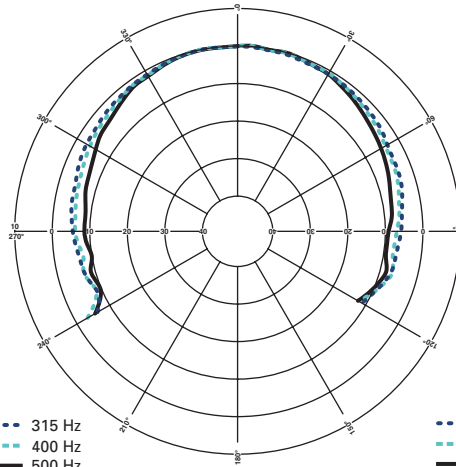


IMPEDANCE

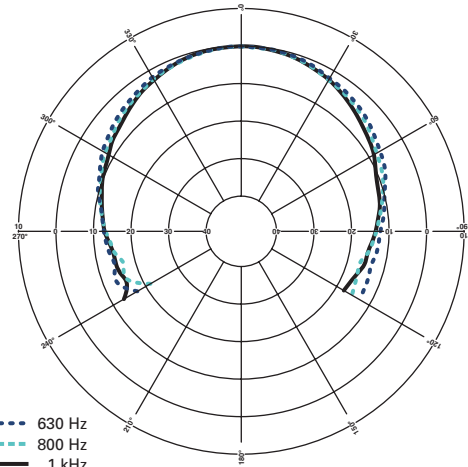
Impedance A constant current circuit was used to measure the impedance. **Frequency response** The frequency response shown was obtained by feeding a swept sine wave through the system in a half space environment. The position of the microphone was vertically on-axis at a distance of 2 metres, then scaled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

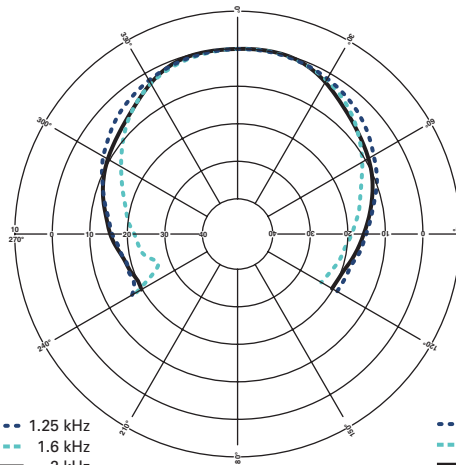
**HORIZONTAL THIRD
OCTAVE POLARS**



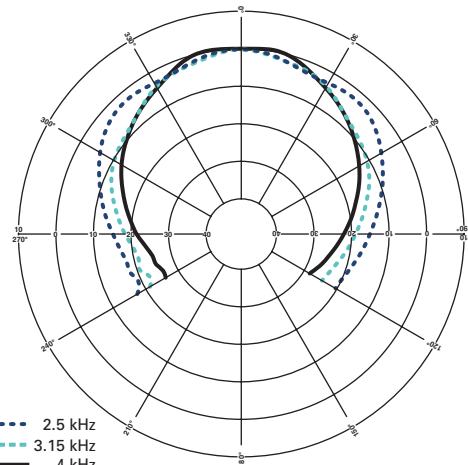
..... 315 Hz
- - - - - 400 Hz
————— 500 Hz



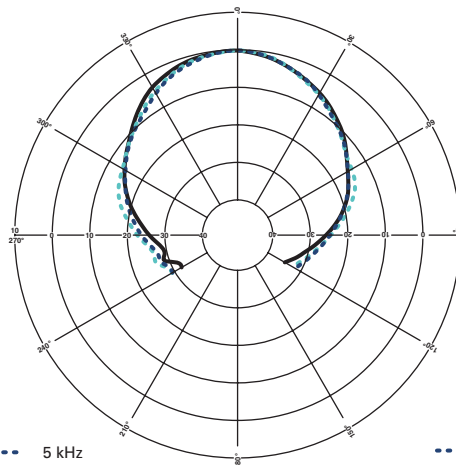
..... 630 Hz
- - - - - 800 Hz
————— 1 kHz



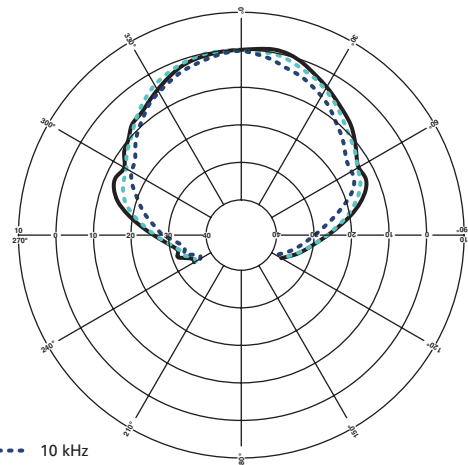
..... 1.25 kHz
- - - - - 1.6 kHz
————— 2 kHz



..... 2.5 kHz
- - - - - 3.15 kHz
————— 4 kHz

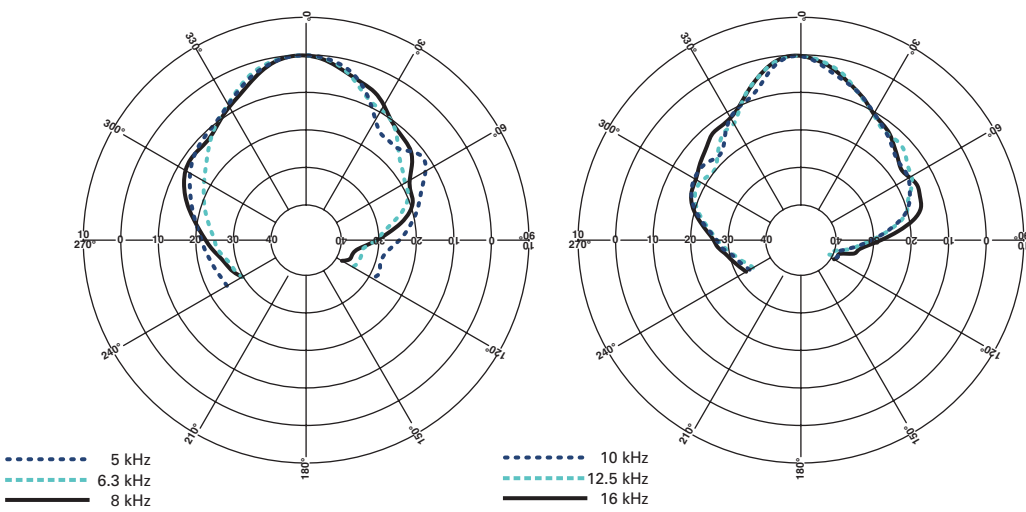
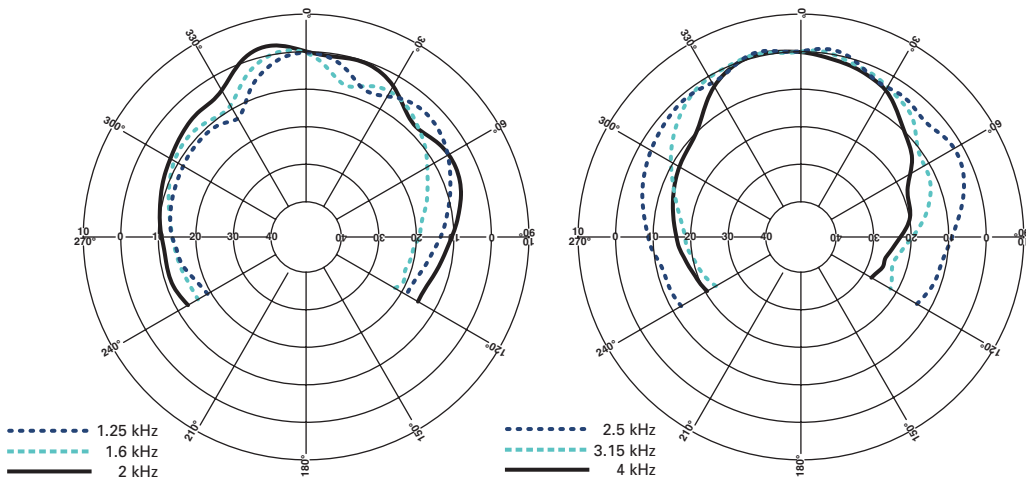
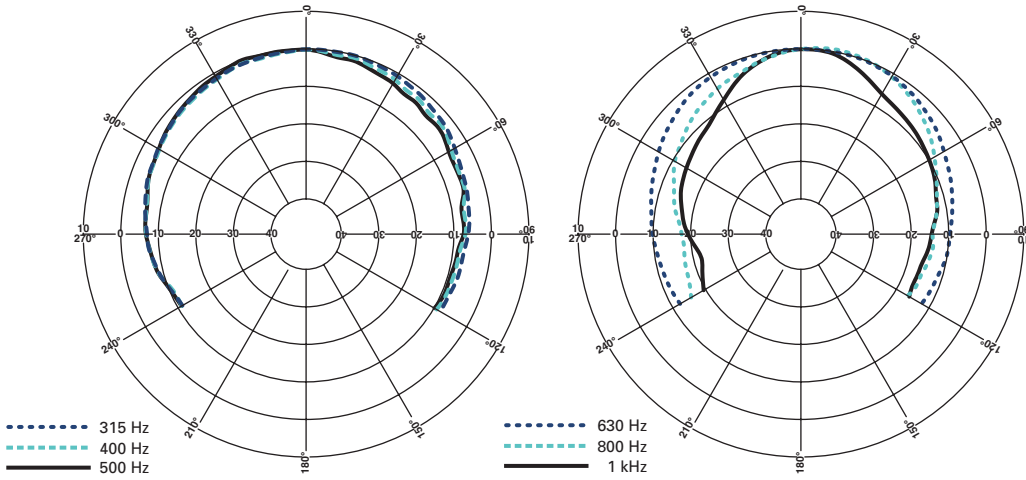


..... 5 kHz
- - - - - 6.3 kHz
————— 8 kHz



..... 10 kHz
- - - - - 12.5 kHz
————— 16 kHz

**VERTICAL THIRD
OCTAVE POLARS**

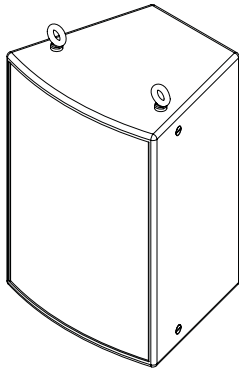


The enclosure is fitted with M10 rigging points on the top, bottom, sides and back, to allow single loudspeakers to be rigged in permanent installations using M10 shoulder eyebolts with a minimum thread length of 20mm. The single rear panel rigging point is used to set the desired downward inclination.

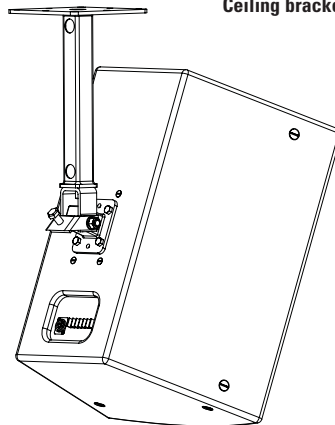
INSTALLATION AND RIGGING HARDWARE

M8 rigging points are provided on the back panel to enable fixed installation use with optional WB-20 ceiling brackets or CB-55 ceiling brackets. M6 rigging points are also provided for use with OmniMount™ 60 series brackets.

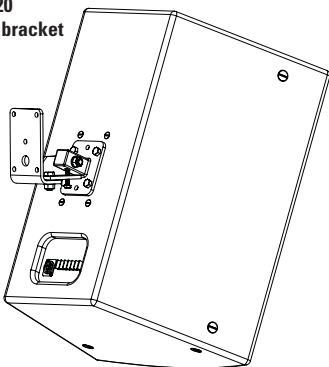
M10 Eyebolts



CB-55 Ceiling bracket



WB-20 Wall bracket



**ARCHITECTURAL
& ENGINEER'S
SPECIFICATIONS**

The speaker shall be of the two-way passive type consisting of one 12" (305mm) low frequency driver and one 1" (25mm) high frequency driver. 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 60Hz - 20kHz. Nominal dispersion, at -6dB points, shall average 70°H x 40°V. Nominal impedance shall be 8 ohms. Power handling shall be 300 watts r.m.s., 600 watts program. Sensitivity, measured with 1 watt input at 1 metre distance on axis, mean averaged over stated bandwidth, shall be 97dB. Maximum SPL (peak) measured with music program at stated amplifier input shall be 128dB. Dimensions: 553mmH x 407mmW x 352mmD (21.8"H x 16"W x 13.9"D). Weight: 19kg (41.8lbs). The loudspeaker system shall be the Turbosound TCS-121C. 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

