

**The TCS-101C is a compact trapezoidal passive two-way loudspeaker enclosure designed for use in a wide variety of fixed installation applications that require professional sound quality.**

It consists of a 10" reflex-loaded low frequency driver and a 1" high frequency compression driver on a rotatable 100°H x 60°V Converging Elliptical Waveguide™ 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 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.

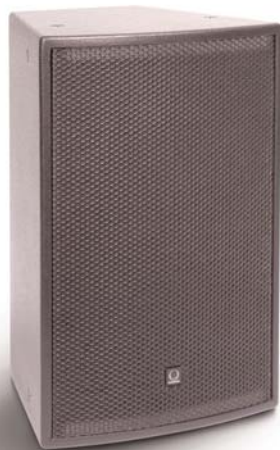
The cabinet is constructed from 15mm (5/8") birch plywood, screwed and glued together for maximum rigidity. A powder-coated

perforated steel mesh grille, backed with reticulated foam, protects the drive units from damage.

Rigging points are provided on the top, bottom, sides and rear of the cabinet to enable it to be suspended and angled in permanent installations using M10 shoulder eyebolts. The rigging points on the bottom allow cabinets may be hung upside down in order to position the HF driver closer to an audience. 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 speaker connector 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-101C is finished as standard in durable black or white semi-matt textured paint; raw wood and custom colour options are also available for decor matching. A weather-resistant option to IP54 allows cabinets to be used outdoors. 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**
- Multiple rigging points**
- IP54 option**
- Line transformer option**
- Passive crossover**
- Custom colour options**
- HF protection system**

## APPLICATIONS

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

<b>DIMENSIONS (HxWxD)</b>	508mm x 366mm x 319mm (20" x 14.4" x 12.5")	
<b>NET WEIGHT</b>	16.5kg (36.3lbs); 18kg (39.6lbs) with optional line transformer (TCS-101CT)	
<b>COMPONENTS</b>	1 x 10" (254mm) LF driver, 1 x 1" (25mm) HF compression driver on a rotatable Converging Elliptical Waveguide™	
<b>FREQUENCY RESPONSE<sup>1</sup></b>	65Hz - 20kHz ±4dB; 65Hz - 17kHz with line transformer (TCS-101CT)	
<b>NOMINAL DISPERSION<sup>2</sup></b>	100°H x 60°V @ -6dB points	
<b>POWER HANDLING</b>	250 watts r.m.s., 500 watts program Recommended amplifier power 500 watts @ 8 ohms	
<b>SENSITIVITY<sup>3</sup></b>	95dB, 1 watt @ 1 metre	
<b>MAXIMUM SPL</b>	119dB continuous <sup>4</sup> , 125dB peak <sup>5</sup>	
<b>CROSSOVER</b>	Internal passive network at 2.2kHz; 12dB/octave high-pass, 12dB/octave low-pass	
<b>NOMINAL IMPEDANCE</b>	8 ohms	
<b>CONSTRUCTION</b>	15mm (5/8") birch plywood enclosure. Finished in black semi-matt textured paint	
<b>GRILLE</b>	Powder coated perforated steel mesh, backed with black reticulated foam on black cabinets; backed with white acoustically transparent cloth on white cabinets	
<b>CONNECTORS</b>	(1) Neutrik Speakon NL4MP, wired pin1+: positive, pin 1-: negative, pins 2+ and 2- N/C (1) 4-way barrier strip connector	
<b>OPTIONS</b>	Optional finishes: white, raw wood, and custom colours 70v/100v line transformer, tapped at 120 watts, 60 watts and 30 watts (TCS-101CT) IP54 weather-resistant version (TCS-101CW)	
<b>FLYING HARDWARE</b>	(9) M10 internal rigging points (4) M8 internal rigging points for WB-20 and CB-55 brackets (4) M6 internal rigging points for OmniMount™ 60 series brackets (2) M10 internal rigging points for SB-101 swivel bracket	
<b>SPARES AND ACCESSORIES</b>	LS-1023	10" (254mm) LF loudspeaker
	RC-1023	Recone kit
	CD-111	1" (25mm) HF compression driver
	RD-111	Replacement HF diaphragm
	TXD-TCS-101-PX-A	Passive crossover network
	CB-55	Ceiling bracket
	SB-101	Swivel bracket
	WB-20	Wall bracket

**Notes**

<sup>1</sup> Measured on axis

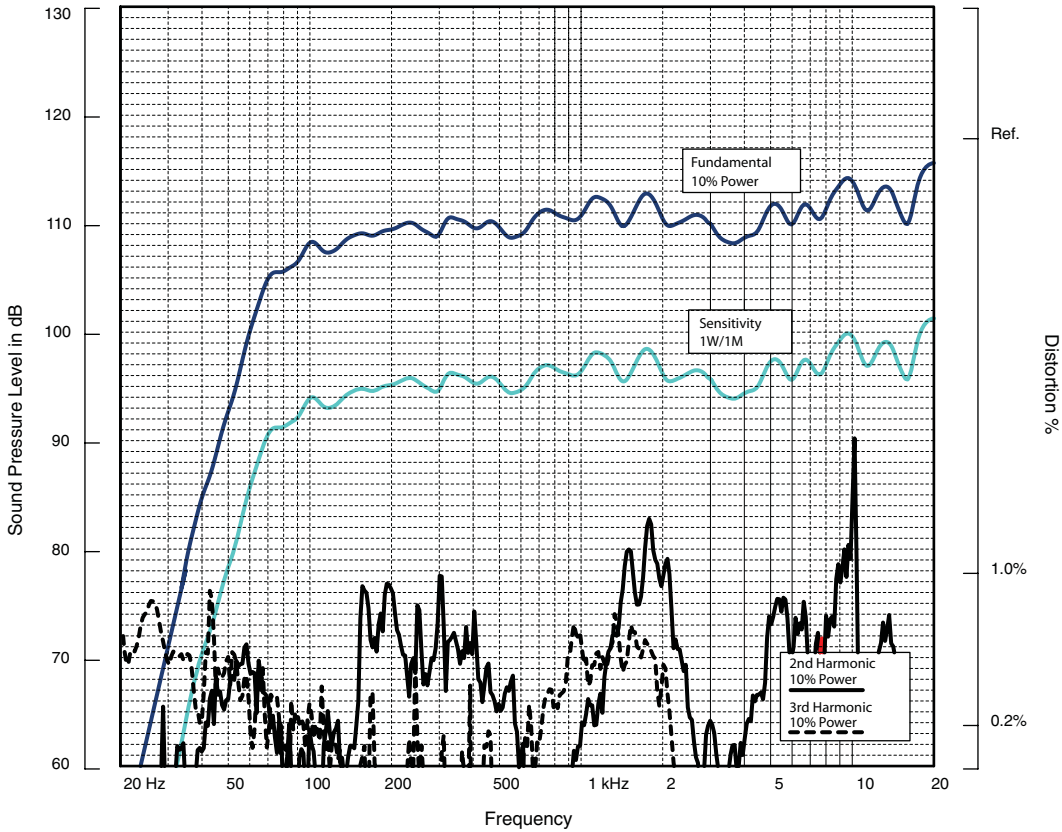
<sup>2</sup> Average over stated bandwidth

<sup>3</sup> Average over stated bandwidth

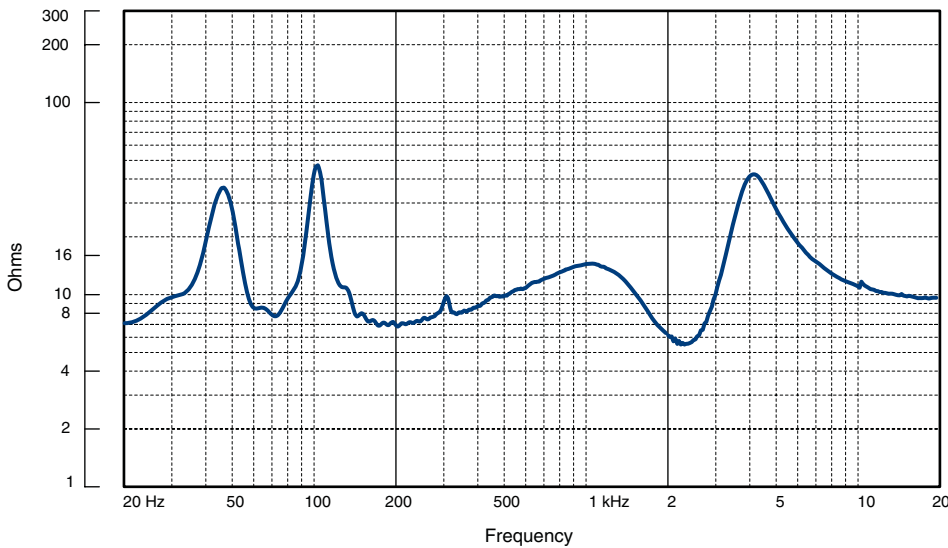
<sup>4</sup> Unweighted diode-clipped pink noise. Measured in a half space environment

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

**FREQUENCY RESPONSE**



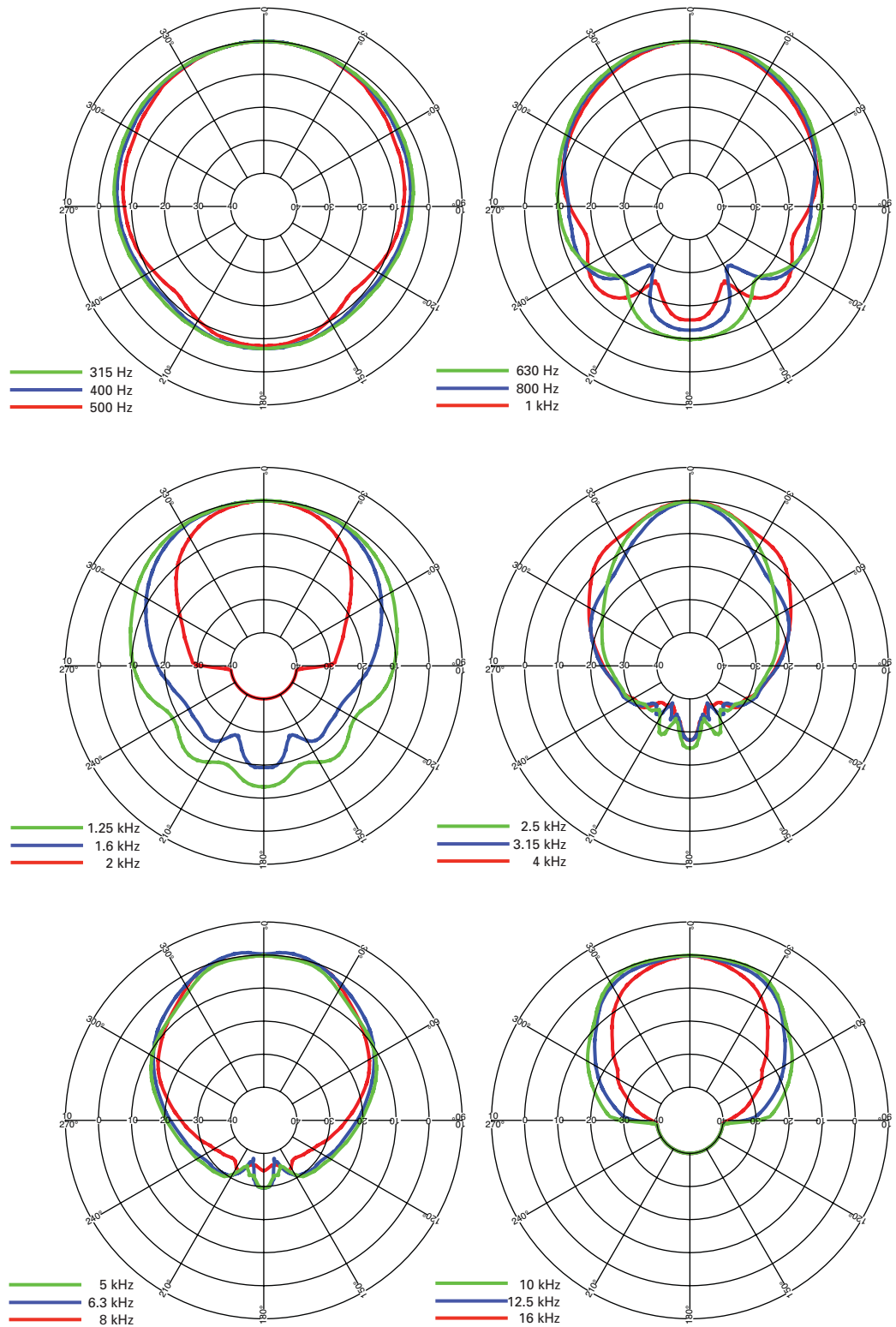
**IMPEDANCE**



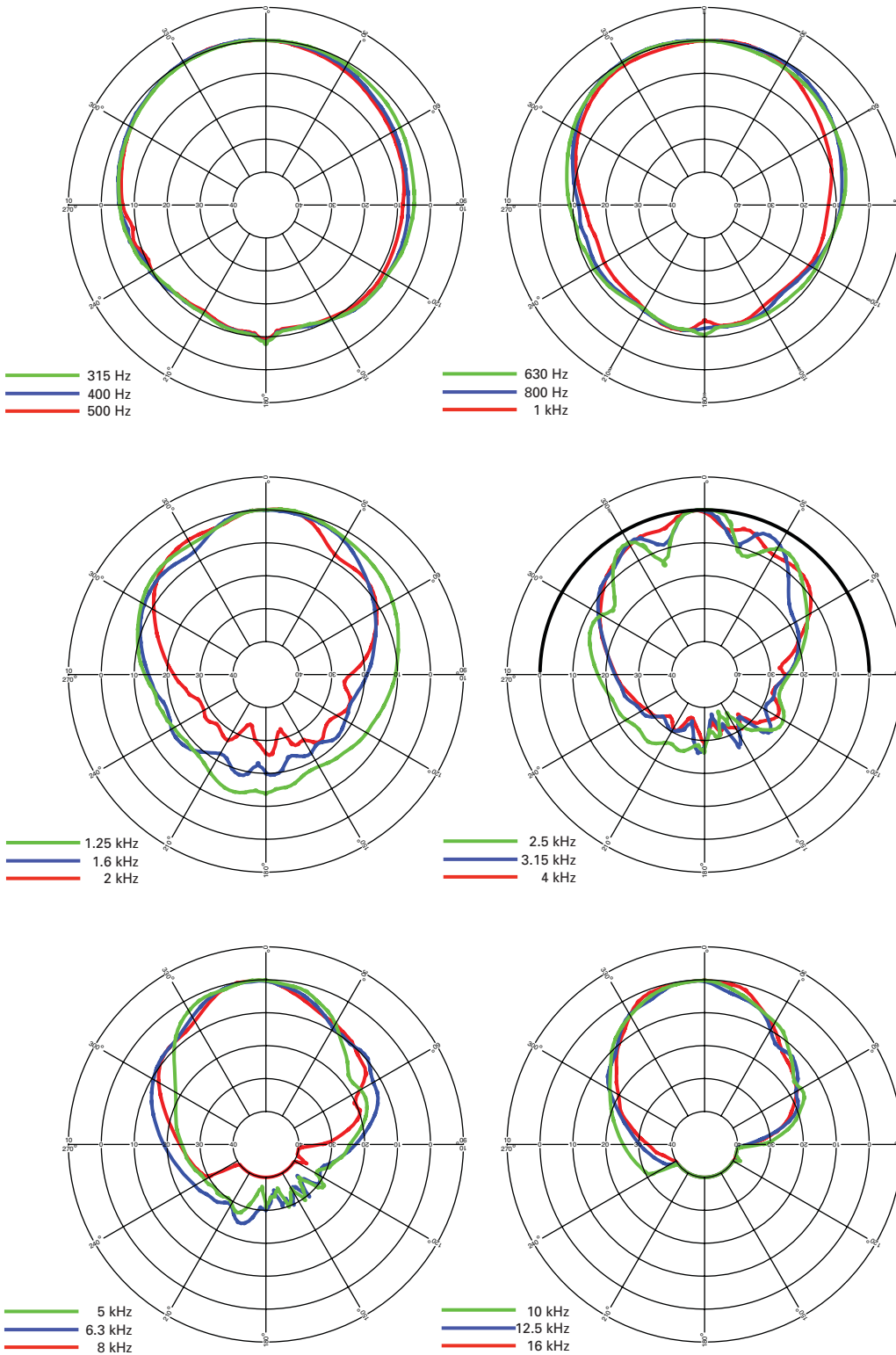
**Impedance** A constant current circuit was used to measure the impedance. **Frequency response** The frequency response shown was obtained by feeding a swept sine wave through the system in a half space environment. The position of the microphone was vertically on-axis at a distance of 2 metres, then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



**VERTICAL THIRD  
OCTAVE POLARS**



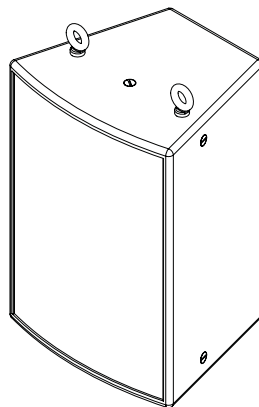
**INSTALLATION AND  
RIGGING HARDWARE**

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

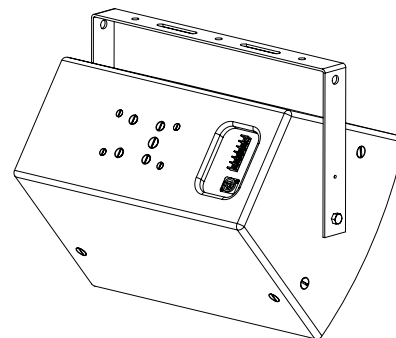
M8 rigging points are also provided on the back panel to enable fixed installation use with optional WB-20 ceiling brackets and CB-55 ceiling brackets. M6 rigging points are provided for use with OmniMount™ 60 series brackets.

The SB-101 swivel brackets can be used to mount the cabinet horizontally to walls or ceilings with a wide range of downward angle.

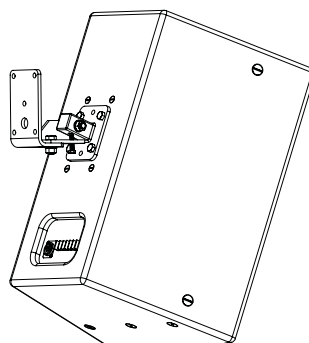
**M-10  
Eyebolts**



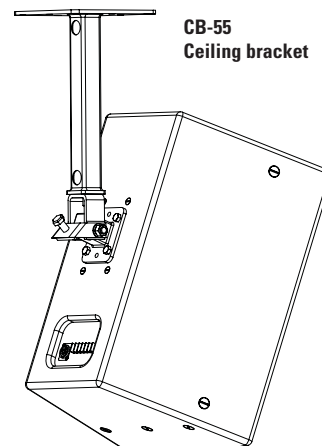
**SB-101  
Swivel bracket**



**WB-20  
Wall bracket**



**CB-55  
Ceiling bracket**



**ARCHITECTURAL  
& ENGINEER'S  
SPECIFICATIONS**

The speaker shall be of the two-way passive type consisting of one 10" (254mm) low frequency driver and one 1" (25mm) high frequency driver on a rotatable 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 65Hz - 20kHz. Nominal dispersion, at -6dB points, shall average  $100^\circ\text{H} \times 60^\circ\text{V}$ . Nominal impedance shall be 8 ohms. Power handling shall be 250 watts r.m.s., 500 watts program. Sensitivity, measured with 1 watt input at 1 metre distance on axis, mean averaged over stated bandwidth, shall be 95dB. Maximum SPL (peak) measured with music program at stated amplifier input shall be 125dB. Dimensions: 508mmH x 366mmW x 319mmD (20"H x 14.4"W x 12.5"D). Weight: 16.5kg (36.3lbs). The loudspeaker system shall be the Turbosound TCS-101C. 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**

