

TCS SERIES ENGINEERING INFORMATION

The TCS-20 is a compact passive two-way loudspeaker enclosure designed for use in a wide variety of background and surround sound applications, ranging from cafés and restaurants, conferencing and multi-media to retail shopping malls and houses of worship.

It consists of two 5" reflex-loaded low frequency drivers and a 1/2" liquid-cooled high frequency tweeter, matched with an internal hybrid second order / third order passive crossover network in a compact 5/8" (15mm) birch plywood enclosure, finished in black semi-matt textured paint (other colours optionally available).

The wide dispersion of pattern of 120° x 120° allows the TCS-20 to be used in a variety of nearfield, background and surround sound

applications, including use as a delay speaker in large sound reinforcement systems, in either horizontal or vertical orientations.

A single Neutrik Speakon NL4MP and a 4-way terminal strip provides input and loop in / loop out connections to the enclosure. A pair of M6 fixing points provided on the rear of the enclosure are compatible with OmniMount™ 50 series mounting hardware and optional Turbosound hardware for permanent installations.

Recommended complementary products:

TCS-108, TCS-215, TCS-118 subwoofer enclosures
LMS-D6, LMS-D4 loudspeaker management systems

**FEATURES**

Full range response
Compact enclosure
Dual 5" LF drivers
Wide dispersion

APPLICATIONS

Background sound
Surround sound
Conferencing
Multi-media
Industrial / corporate
Restaurants / cafés

DIMENSIONS (HxWxD)	426mm x 162mm x 140mm (16.8" x 6.4" x 5.5")
NET WEIGHT	4.5kgs (9.9 lbs)
COMPONENTS	2 x 5" (127mm) LF driver, 1 x 0.5" (14mm) HF tweeter
FREQUENCY RESPONSE¹	70Hz - 20kHz ±4dB
NOMINAL DISPERSION²	120°H x 120°V@-6db points
POWER HANDLING	120 watts r.m.s., 240 watts program, 300 watts peak Recommended amplifier 240 watts @ 8 ohms
SENSITIVITY³	90dB, 1W @ 1m
MAXIMUM SPL	114dB continuous ⁴ , 120dB peak ⁵
CROSSOVER	Internal passive crossover network at 2k8Hz; 18dB/octave high pass, 12dB/octave low pass
NOMINAL IMPEDANCE	8 ohms
CONSTRUCTION	15mm (5/8") birch plywood; rebated, pinned and glued. Finished in black semi-matt textured paint
GRILLE	Black powder coated perforated steel
CONNECTORS	Neutrik Speakon NL4MP, wired pin1+: positive, pin1-: negative Four way terminal strip for loop in/loop out connection
FLYING HARDWARE	(2) M6 internal fixing points for OmniMount™ 50 series and WB-60 brackets
OPTIONS	Optional colours: white, blue, raw birch plywood
SPARES AND ACCESSORIES	LS-5025 5" (127mm) LF loudspeaker RC-5025 Recone kit for LS-5025 TW-50 0.5" (13mm) HF tweeter PX-20 Crossover assembly MG-20 Replacement perforated metal grille WB-60 Wall bracket

Notes

¹Measured on axis

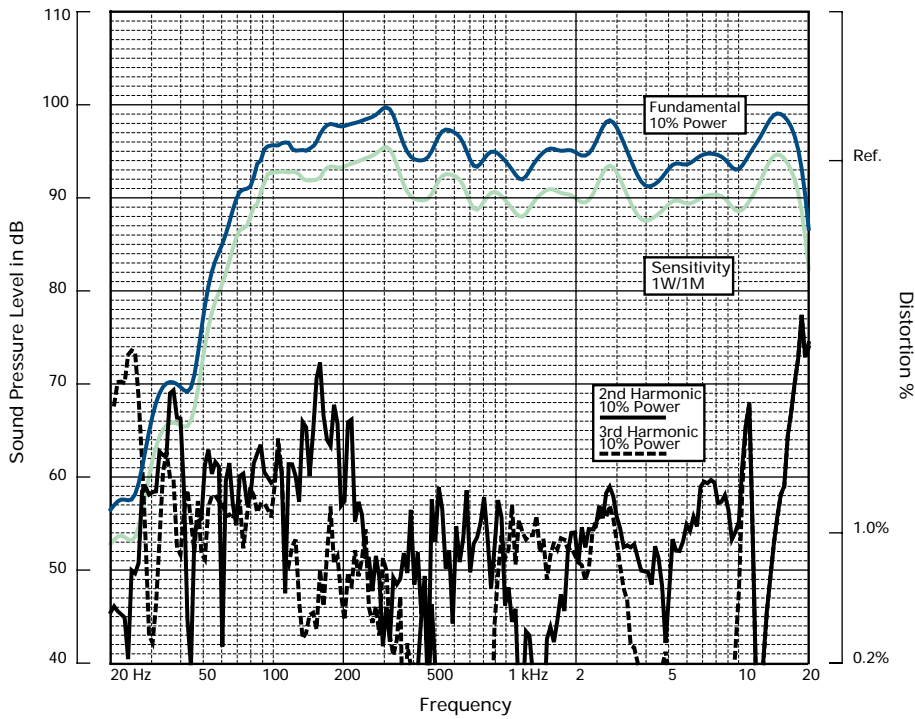
²Average over stated bandwidth

³Average over stated bandwidth

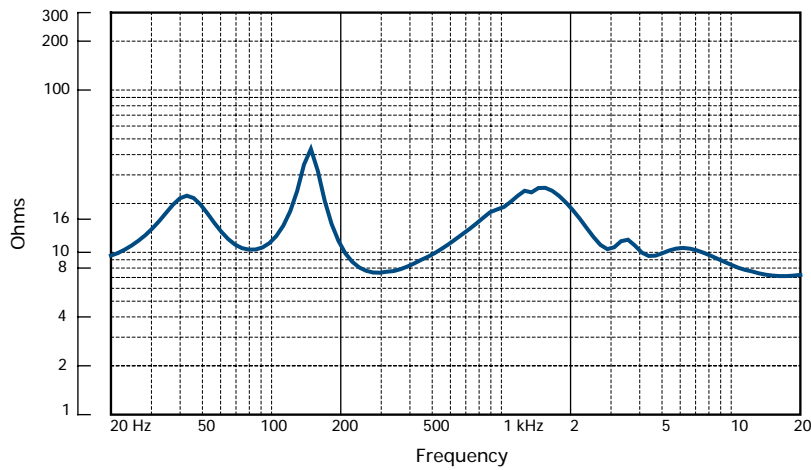
⁴Unweighted diode-clipped pink noise. Measured in a half space environment

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

FREQUENCY RESPONSE



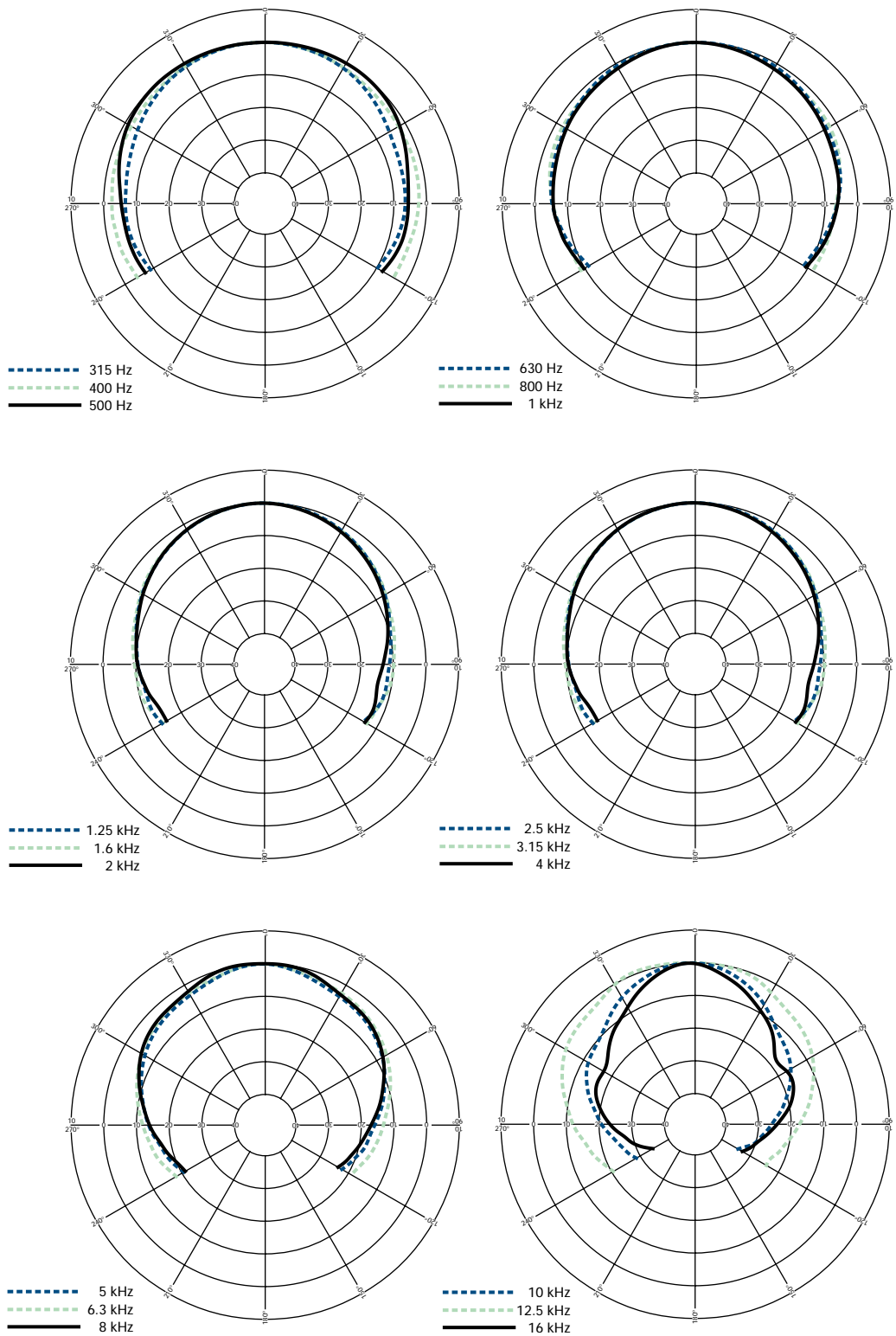
IMPEDANCE



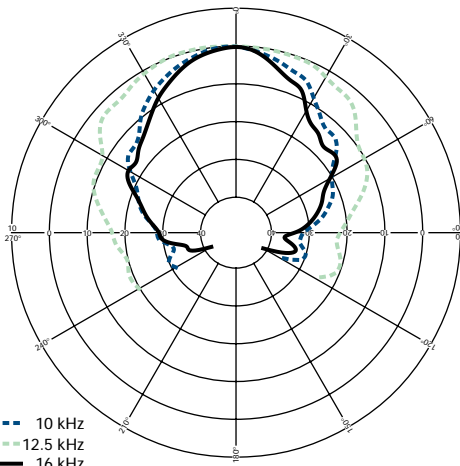
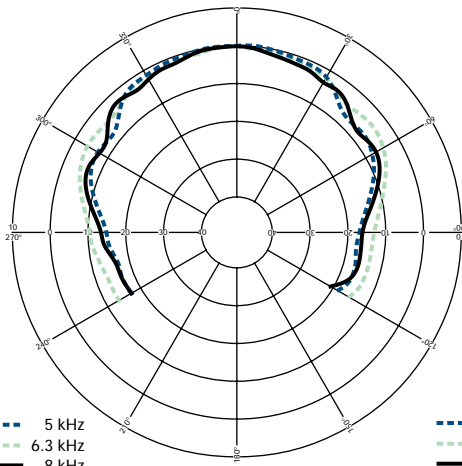
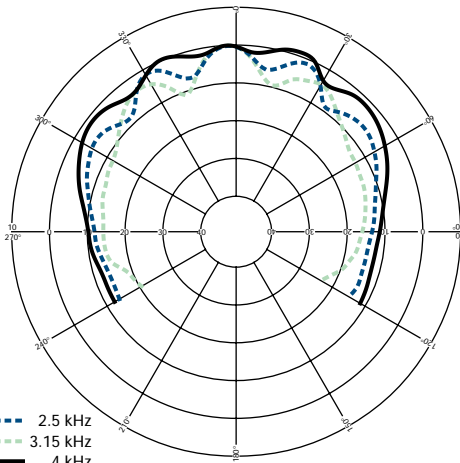
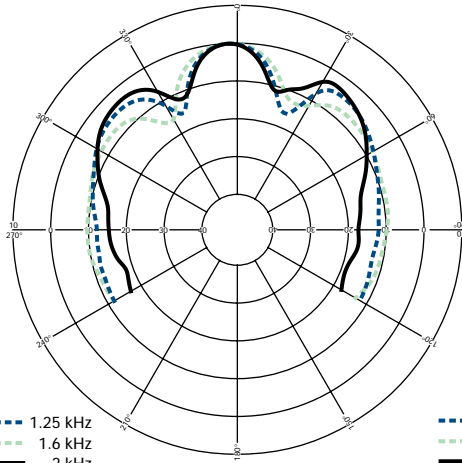
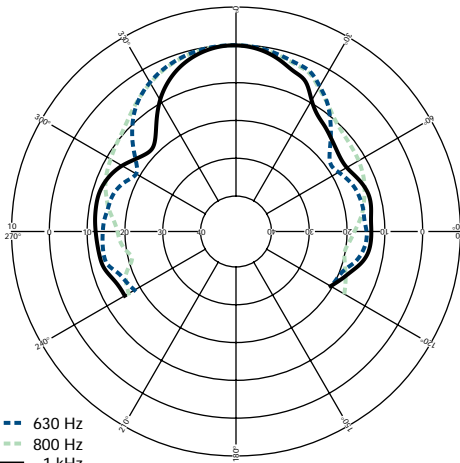
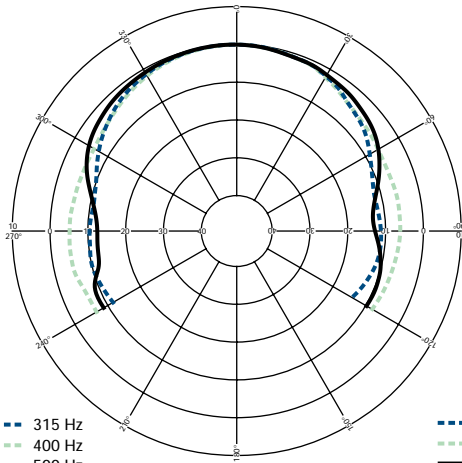
Impedance A constant current circuit was used to measure the impedance. **Frequency response** The frequency response shown was obtained by feeding a swept sine wave through the system in a half space environment. The position of the microphone was vertically on-axis at a distance of 2 metres, then scaled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

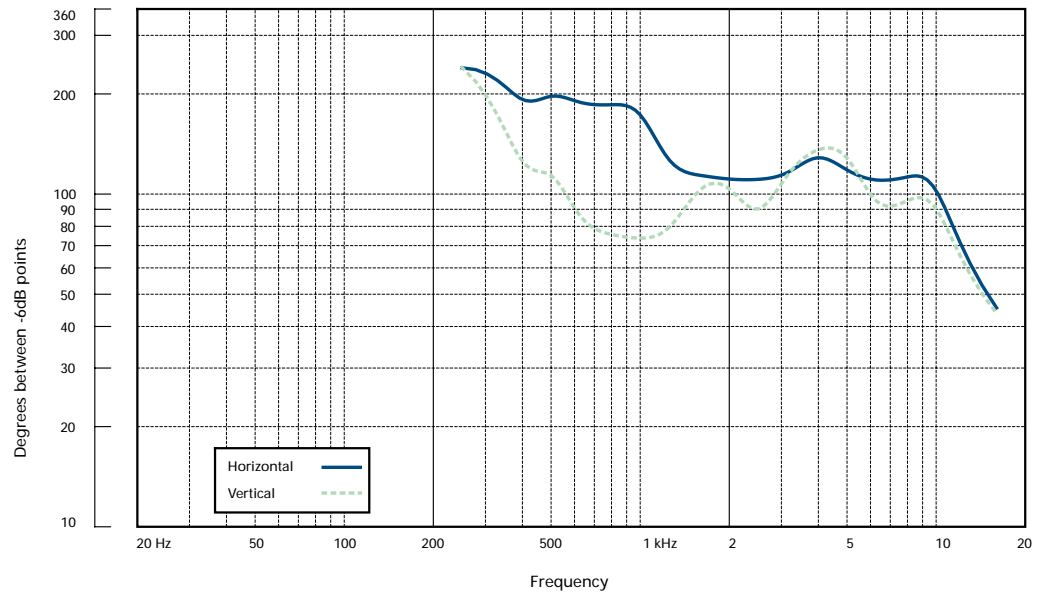
HORIZONTAL THIRD
OCTAVE POLARS



VERTICAL THIRD
OCTAVE POLARS



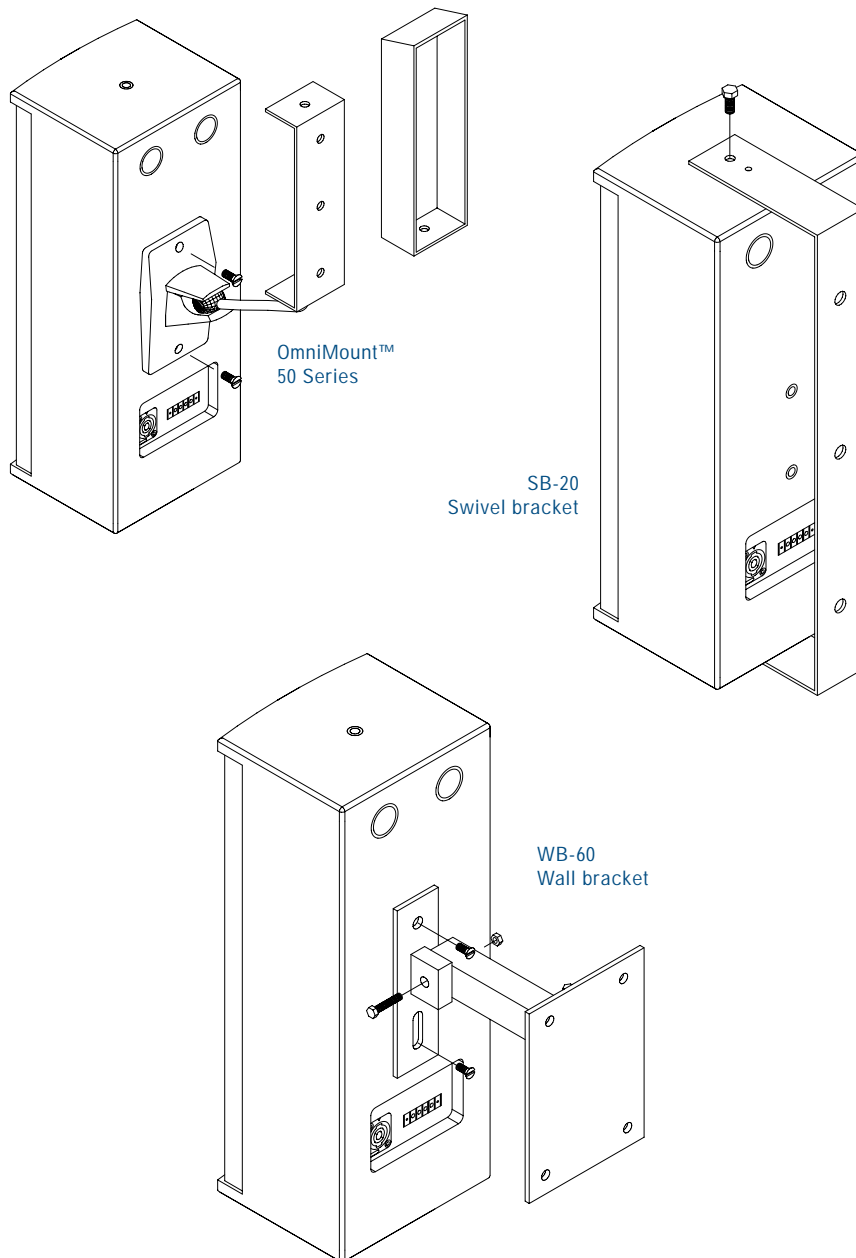
BEAMWIDTH



TCS SERIES ENGINEERING INFORMATION

The TCS-20 is fitted with two M6 internal fittings on the rear of the cabinet which enable it to be permanently installed using OmniMount™ 50 series hardware (not supplied) or optional Turbosound mounting hardware as shown. The enclosure can be angled and tilted to suit the exact requirements of sound coverage within the venue.

INSTALLATION HARDWARE



**ARCHITECTURAL
& ENGINEER'S
SPECIFICATIONS**

The system shall be of the two-way passive type consisting of two 5" (127mm) low frequency loudspeakers and one 0.5" (14mm) high frequency tweeter. 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 70Hz - 20kHz ± 4 dB. Nominal dispersion, at -6dB points, shall average 120°H x 120°V. Nominal impedance shall be 8 ohms. Power handling shall be 120 watts r.m.s., 240 watts program, 300 watts peak. Sensitivity, measured with 1 watt input at 1 metre distance on axis, mean averaged over stated bandwidth, shall be 90dB. Maximum SPL (peak) measured with music program at stated amplifier input shall be 120dB. Dimensions: 426mmH x 162mmW x 140mmD (16.8"H x 6.4"W x 5.5"D). The loudspeaker system shall be the Turbosound TCS-20. 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

