datasheet

TCS-20

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

Turbosound

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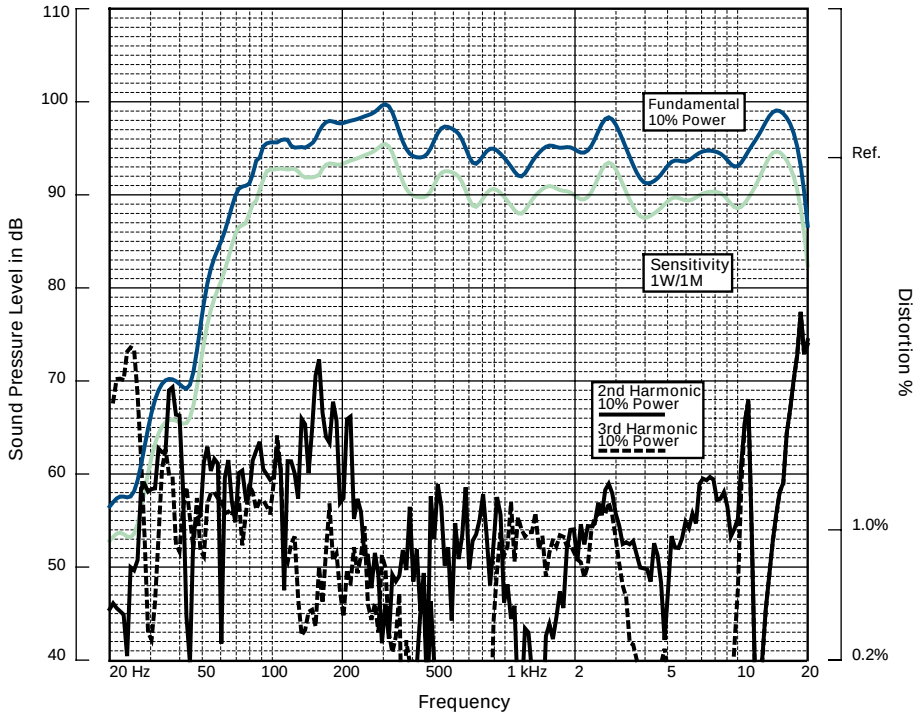
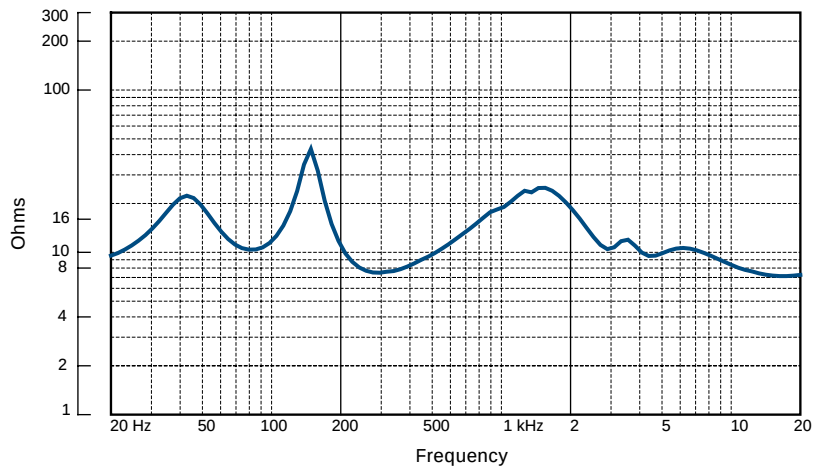
DIMENSIONS (HxWxD)	426mm x 162mm x 140mm (16.8” x 6.4” x 5.5”)
NET WEIGHT	4.5kgs (9.9 lbs)
COMPONENTS	2 x 5” (127mm) LF driver, 1 x 0.5” (14mm) HF tweeter
FREQUENCY RESPONSE[1]	70Hz - 20kHz ±4dB
NOMINAL DISPERSION[2]	120˚H x 120˚V@-6db points
POWER HANDLING	120 watts r.m.s., 240 watts program, 300 watts peak Recommended amplifier 240 watts @ 8 ohms
SENSITIVITY[3]	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
[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



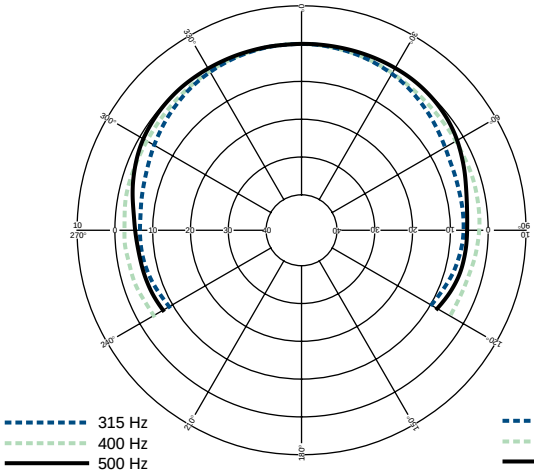
IMPEDANCE

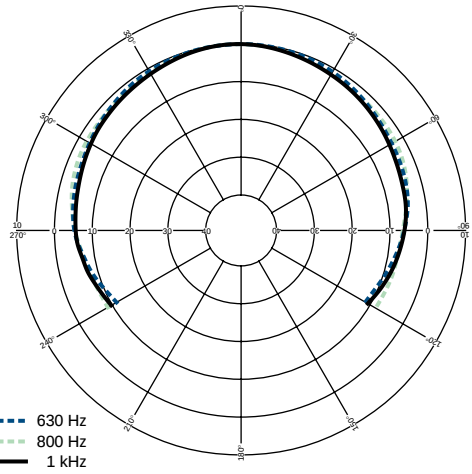


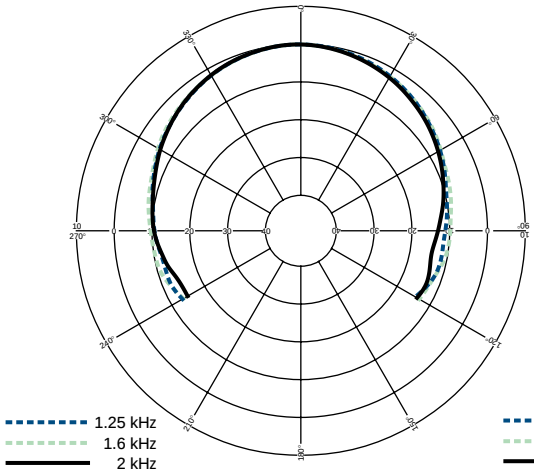
NOTES ON MEASUREMENT CONDITIONS

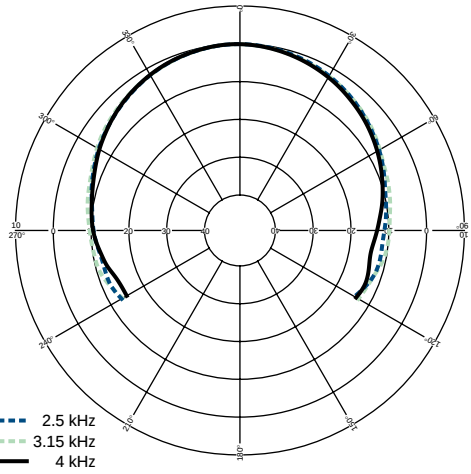
Impedance A constant current circuit was used to measure the impedance. **Frequency response** The frequency response shown was obtained by feeding a swept sine wave through the system in a half space environment. The position of the microphone was vertically on-axis at a distance of 2 metres, then scaled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

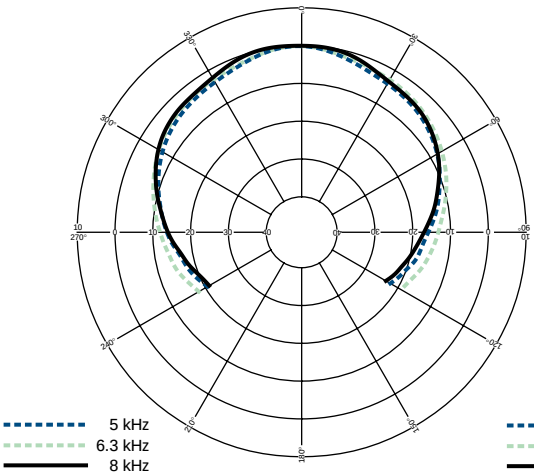
HORIZONTAL THIRD OCTAVE POLARS

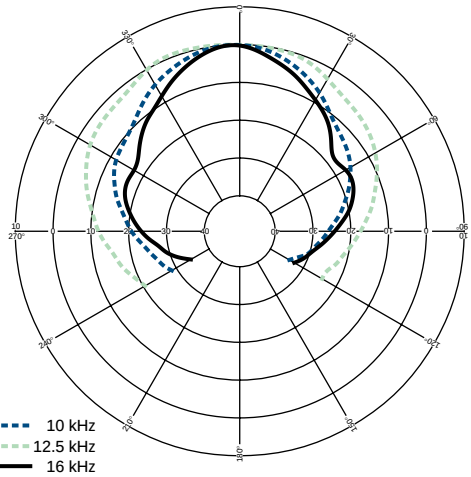




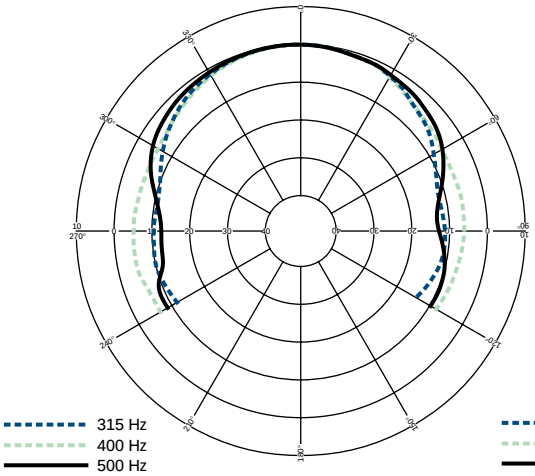


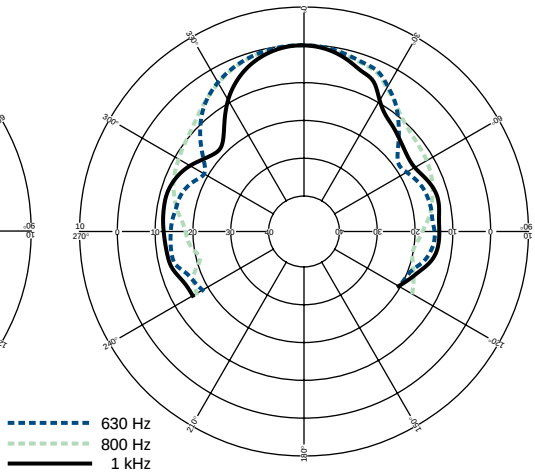


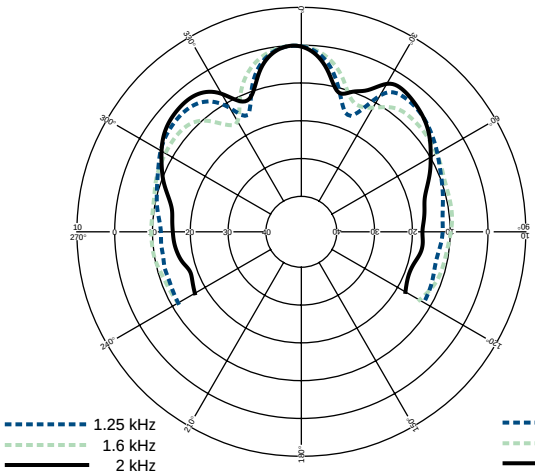


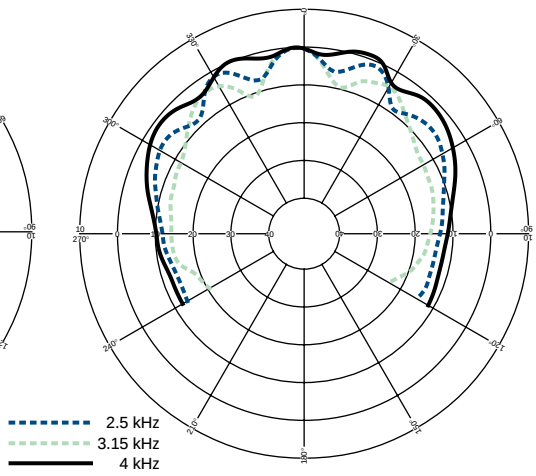


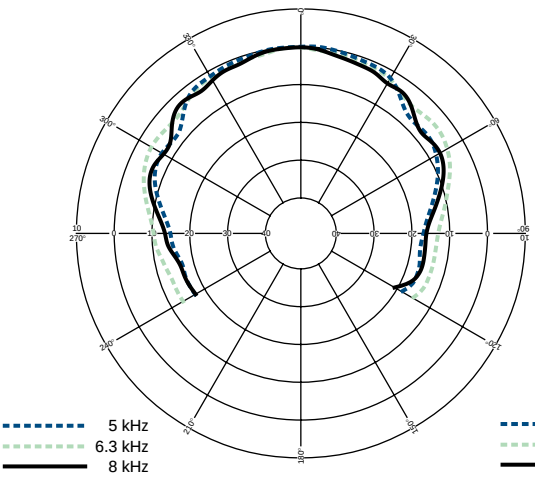
VERTICAL THIRD OCTAVE POLARS

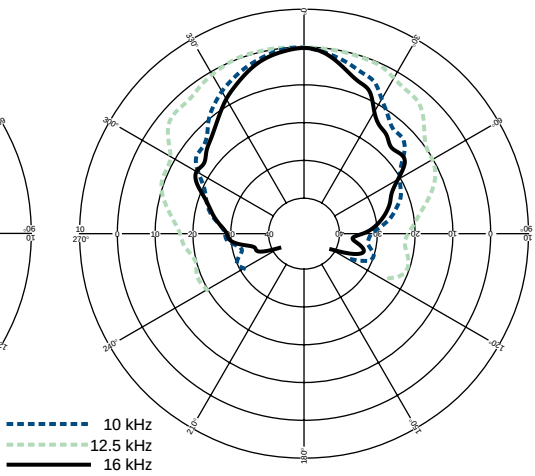




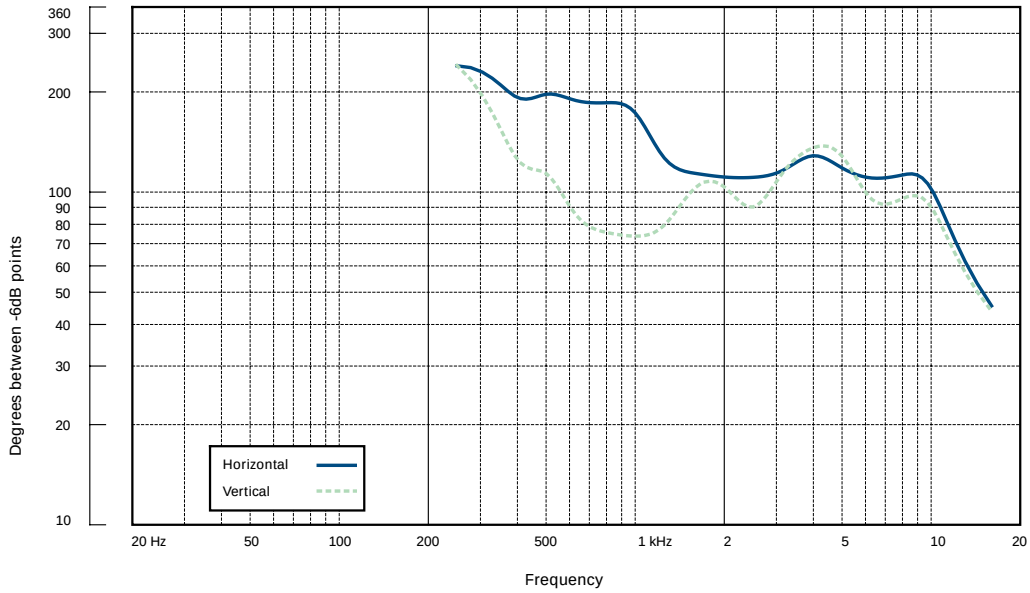






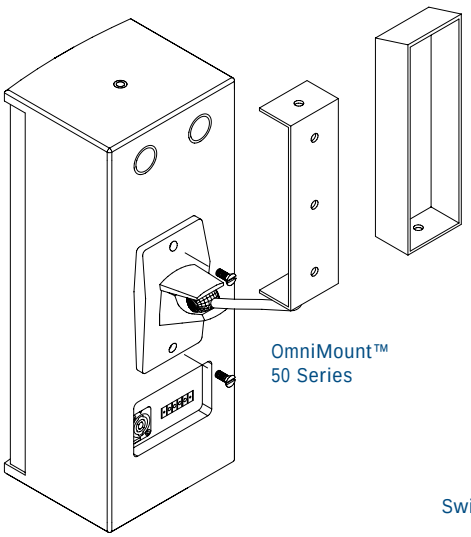


BEAMWIDTH

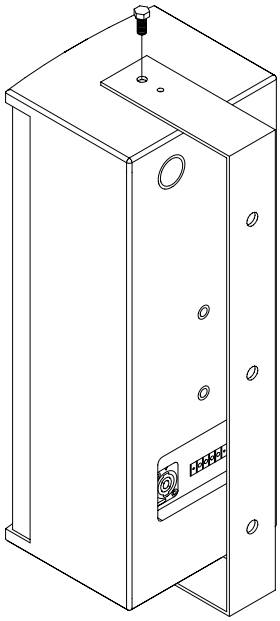

360
300
200
100
90
80
70
60
50
40
30
20
10
Degrees between -6dB points
Horizontal
Vertical
20 Hz
50
100
200
500
1 kHz
2
5
10
20
Frequency

INSTALLATION HARDWARE

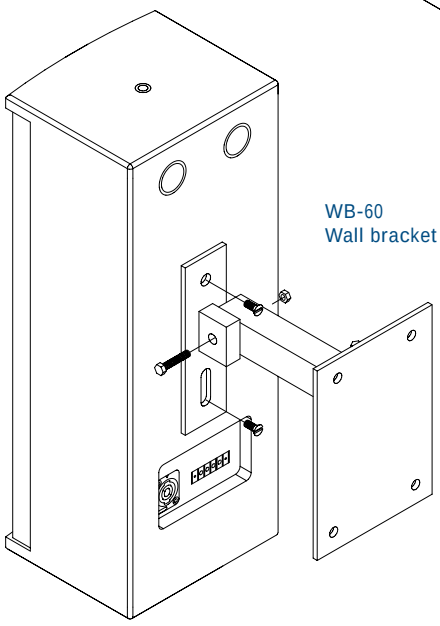
The TCS-20 is fitted with two M6 internal fittings on the rear of the cabinet which enable it to be permanently installed using OmniMount™ 50 series hardware (not supplied) or optional Turbosound mounting hardware as shown. The enclosure can be angled and tilted to suit the exact requirements of sound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



OmniMount™
50 Series



SB-20
Swivel bracket



WB-60
Wall bracket

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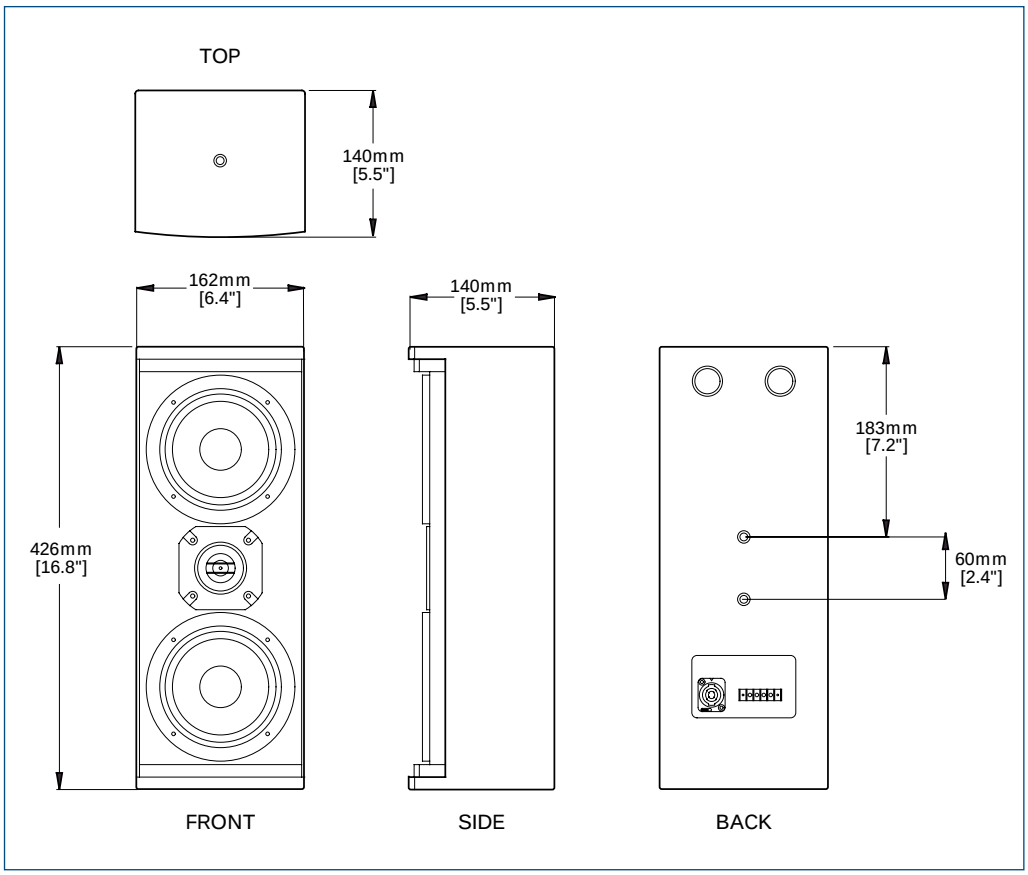
TCS SERIES ENGINEERING INFORMATION

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 ±4dB. 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



TURBOSOUND Ltd Star Road Partridge Green West Sussex RH13 8RY England
tel: +44 (0) 1403 711447 fax: +44 (0) 1403 710155 • www.turbosound.com • e-mail: sales@turbosound.com