

## TCS SERIES ENGINEERING INFORMATION

**The TCS-12M is a passive two-way vented wedge monitor designed for use in a variety of speech and music floor monitoring applications.**

It consists of a 12" low frequency driver and a 1" high frequency driver on a 90° x 40° horn, matched with a third order internal passive crossover network.

The TCS-12M enclosure has been designed with the high frequency horn mounted vertically in line with the LF driver. This produces a coherent dispersion pattern with minimum phase cancellation within the coverage pattern of the monitor. It is ideally suited for use as a church choir or theatre vocal monitor, or in other critical applications requiring accurate reproduction of voice and music. The HF horn pattern of 90° x 40° is wide enough to allow the artist

considerable lateral freedom of movement on stage without loss of information.

The TCS-12M enclosure provides an optimum monitoring angle of 42°, and is constructed from 5/8" (15mm) birch plywood, finished in black semi-matt textured paint (other colours optionally available). Two flush handles are provided on the sides for lifting and carrying. A black powder coated perforated steel mesh grille is fitted to protect the drive units from damage.

Connection to the enclosure is via two parallel-wired Speakon NL4MP connectors. These are wired in parallel to allow loop-out connections to additional monitors.



### FEATURES

90° x 40° dispersion pattern

42° monitor angle

### APPLICATIONS

Theatres and clubs

Houses of Worship

Live band stage monitoring

<b>DIMENSIONS (HxWxD)</b>	558mm x 350mm x 361mm (22" x 13.8" x 14.2")
<b>NET WEIGHT</b>	17 kg (37.4 lbs)
<b>COMPONENTS</b>	1 x custom 12" (305mm) LF driver, 1 x 1" (25mm) HF driver on a custom flare
<b>FREQUENCY RESPONSE<sup>1</sup></b>	60Hz - 20kHz ±4dB
<b>NOMINAL DISPERSION<sup>2</sup></b>	90°H x 40°V@-6db points
<b>POWER HANDLING</b>	290 watts r.m.s., 580 watts program, 725 watts peak
<b>SENSITIVITY<sup>3</sup></b>	98dB 1 watt @ 1m
<b>MAXIMUM SPL</b>	125dB continuous <sup>4</sup> , 131dB peak <sup>5</sup>
<b>CROSSOVER</b>	Internal passive crossover network at 2k2Hz
<b>NOMINAL IMPEDANCE</b>	8 ohms nominal
<b>CONSTRUCTION</b>	15mm (5/8") birch plywood; rebated, screwed and glued. Finished in black semi-matt textured paint
<b>GRILLE</b>	Black powder coated perforated steel
<b>CONNECTORS</b>	Two Neutrik Speakon NL4MP, wired pin1+: positive, pin1-: negative
<b>OPTIONS</b>	Optional colours: blue, white, raw birch plywood
<b>SPARES AND ACCESSORIES</b>	LS-1213 12" (305mm) LF loudspeaker RC-1213 Recone kit for LS-1213 CD-107 1" (25mm) HF compression driver RD-107 Replacement diaphragm for CD-107 PX-12M Crossover assembly MG-12M Replacement perforated metal grille

Notes

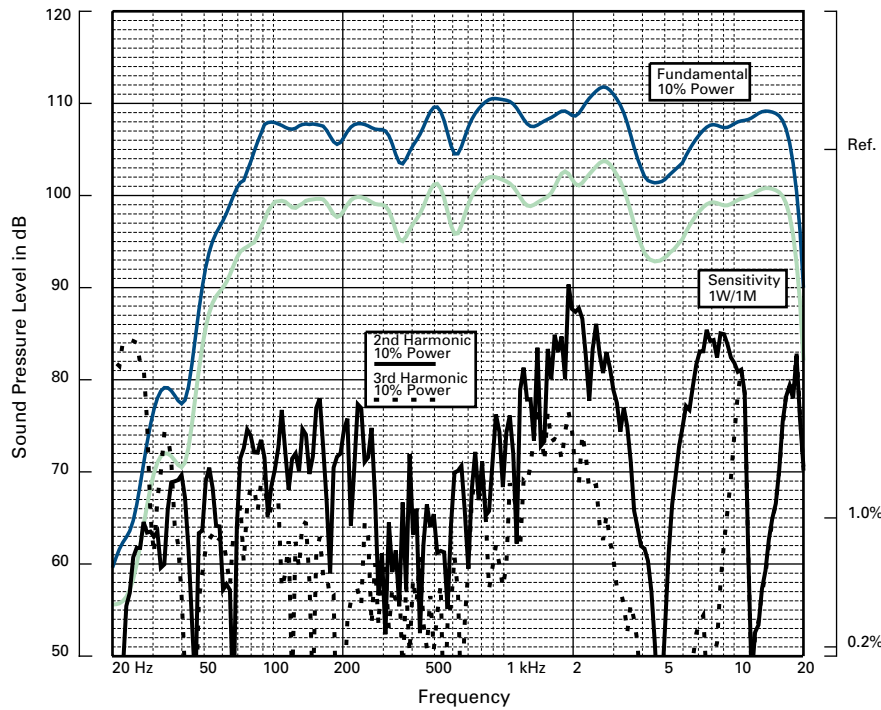
<sup>1</sup>Measured on axis

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

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

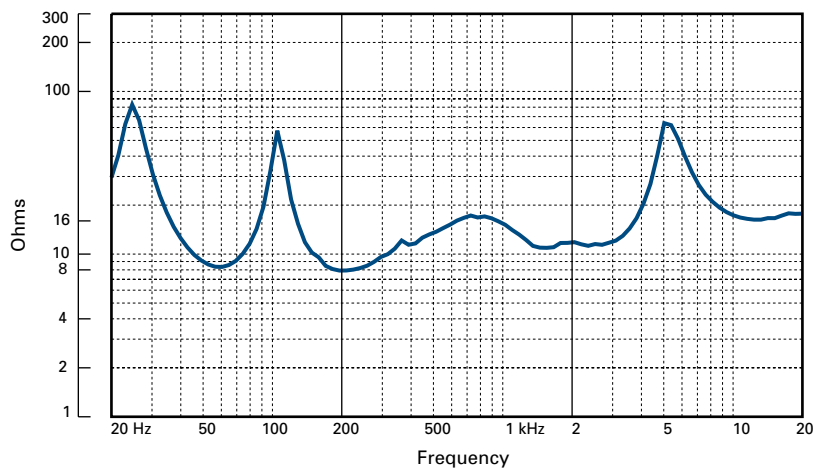
<sup>4</sup>Unweighted diode-clipped pink noise. Measured in a half space environment

<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**

**ARCHITECTURAL  
& ENGINEER'S  
SPECIFICATIONS**

The system shall be of the two-way passive type consisting of one 12" (305mm) low frequency loudspeaker and one 1" (25mm) high frequency driver on a 90° x 40° horn. 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 60Hz – 20kHz ±4dB. Nominal dispersion, at –6dB points, shall average 90°H x 40°V. Nominal impedance shall be 8 ohms. Power handling shall be 290 watts r.m.s., 580 watts program, 725 watts peak. Sensitivity, measured with 1 watt input at 1 metre distance on axis, mean averaged over stated bandwidth, shall be 98dB. Maximum SPL (peak) measured with music program at stated amplifier input shall be 131dB. Dimensions: 558mmH x 350mmW x 361mmD (22"H x 13.8"W x 14.2"D). The loudspeaker system shall be the Turbosound TCS-12M. 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**

