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TSW-218

TSW SERIES ENGINEERING INFORMATION

The TSW-218 is a horn-loaded subwoofer incorporating Turbosound's patented loading principles, designed for use in applications requiring accurate and powerful reproduction of low frequency energy at very high levels. Its ability to reproduce program material with such integrity makes the TSW-218 applicable for both fixed or mobile systems which require energetic low frequency response without stress or equalisation.

It is primarily intended for large-scale concert touring and festival applications, although it is also ideally suited to large nightclubs that demand no-compromise audio quality.

The TSW-218 incorporates the TurboBass™ device, a patented design which employs a high-velocity partial horn-loading technique, giving precise cone control at high power levels. It addresses an increasing demand for accurate, high definition bass reproduction.

The proprietary 18" drive units are the result of a development project that has produced a unique neodymium motor system, currently the largest in the world. The magnet system drives a under-wound 5" coil which, due to the large 25mm gap height, is always completely immersed in a linear flux field—ensuring very low harmonic distortion—even at the excursion limits. The short coil also means a lower system moving mass, resulting in higher sensitivity and exceptional response to fast transient peaks.

The TSW-218 is capable of outstanding electrical to acoustic power conversion (104dB at 1w/1m from a single unit). Optimisation of the curved-profile laminated horn flare produces a dramatic increase in sensitivity when multiple units are coupled, with eight cabinets giving 110dB (1w @ 1m) output with flat frequency response down to 32Hz.

For concert touring use the cabinet is fitted with heavy duty T6 wheels to aid in handling and transportation.

FEATURES

- Modular sub coupling
- Stackable cabinet
- Neodymium magnets
- High definition bass
- 800 watt 18" drivers

APPLICATIONS

- Festivals
- Concert Touring
- Nightclubs

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DIMENSIONS (HxWxD)	574mm x 1400mm x 770mm (22.6" x 55.1" x 30.3")
NET WEIGHT	110kg (242 lbs)
COMPONENTS	2 x custom 18" (457mm) neodymium LF drivers on a TurboBass™ device
FREQUENCY RESPONSE[1]	35 - 150Hz ±4dB Recommended operational range below 250Hz
POWER HANDLING	1600 watts r.m.s., 3200 watts program Recommended amplifier power: 3200 watts @ 4ohms
SENSITIVITY[2]	104dB, 1w @ 1metre average (single unit), 110dB with eight units coupled
MAXIMUM SPL	135dB continuous[3], 141dB peak[4]
CROSSOVER	Active: recommended point 150Hz, 24dB/octave low pass (depending on application)
NOMINAL IMPEDANCE	4 ohms
CONSTRUCTION	18mm (3/4") birch plywood throughout; rebated, screwed and glued. Finished in black textured paint. Four recessed carrying handles. Four heavy duty wheels. Four stacking feet
GRILLE	2mm galvanised and powder coated mild steel with reticulated foam
CONNECTORS	(2) Speakon NL4MP wired pin 1+: positive, pin 1-: negative
OPTIONS	Installation version, TSW-218i: without handles or wheels

SPARES AND ACCESSORIES

LS-1815	457mm (18") LF loudspeaker
RC-1815	Recone kit
MG-TSW218	Replacement metal grille
TSW-218 CASTOR	Heavy duty wheel

All measurements are actual figures taken from real-time testing using stated inputs, free from any filtering or weighting. Therefore actual figures may significantly exceed that of other manufacturers with higher published weighted ratings.

Notes

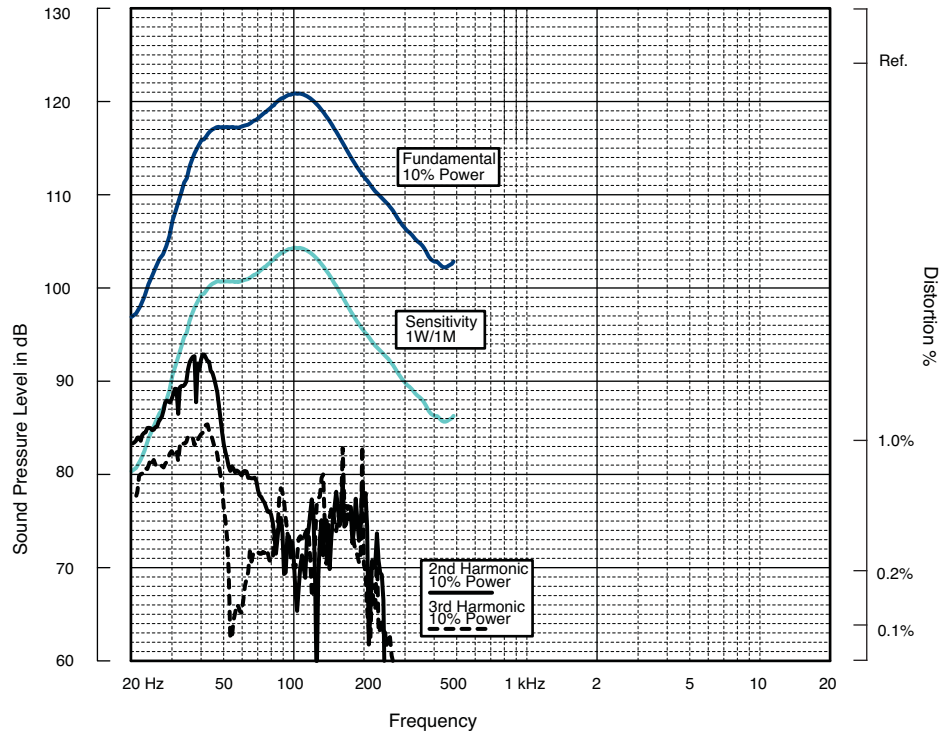
[1] Measured on axis, using swept sine-wave input, in a true half space environment

[2] Average over stated bandwidth. Measured in an anechoic environment (below 100Hz, verified with ground-plane measurement) at 5 watts / 3 metres, then scaled to represent 1 watt / 1 metre, using a swept sine-wave input

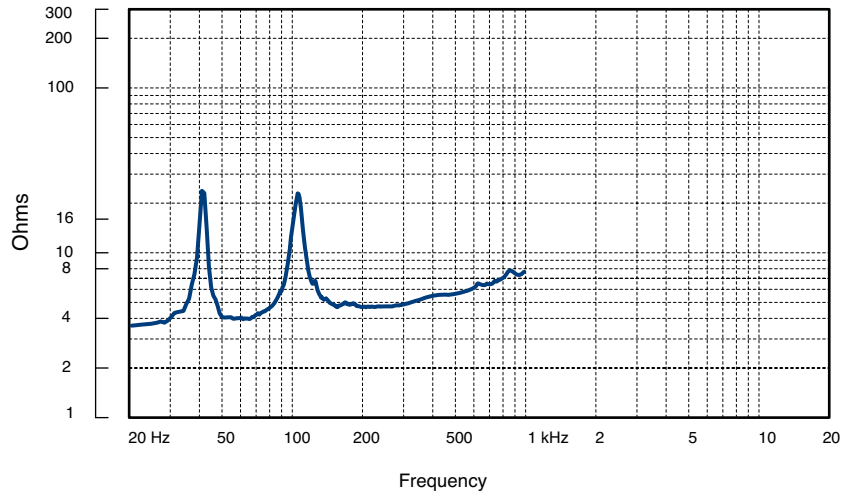
[3] Unweighted pink noise input, measured at 1 metre

[4] 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.

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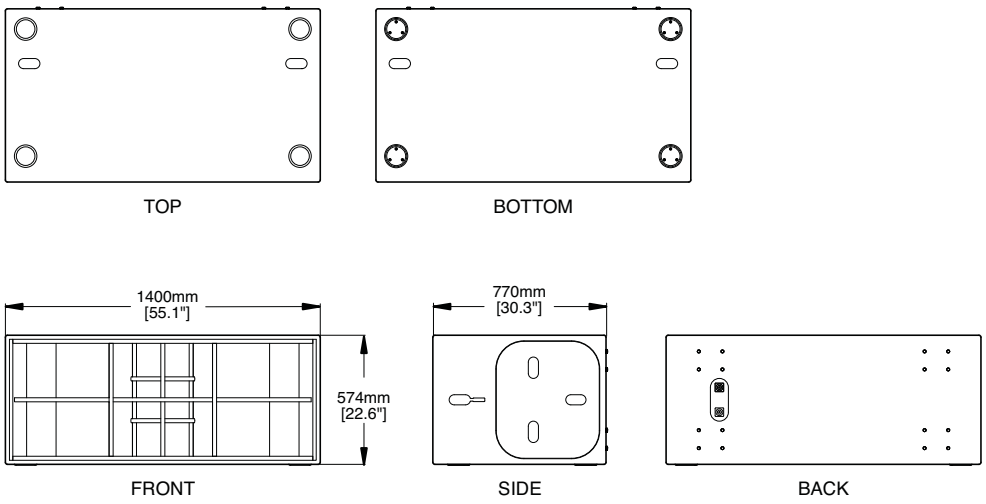
ARCHITECTURAL & ENGINEER'S SPECIFICATIONS

The loudspeaker shall be of the subwoofer type consisting of two 18" low frequency loudspeakers loaded with a patented TurboBass™ device. Performance specifications of a typical production unit shall meet or exceed the following: Frequency response, measured with a swept sine-wave input, shall be flat within ±4dB from 35Hz to 150Hz. Nominal impedance shall be 4 ohms. Power handling shall be 1600 watts r.m.s., 3200 watts program. Sensitivity, measured with 1 watt input at 1 metre distance on axis, mean averaged over stated bandwidth, shall be 104dB. Maximum SPL (peak) measured with music program input at stated amplifier power (below 100Hz) shall be 141dB. Dimensions: 574mmH x 1400mmW x 770mmD (22.6" H x 55.1" W x 30.3" D). Weight: 110 kg (242 lbs). The loudspeaker system shall be the Turbosound TSW-218. 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



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