datasheet

TFM-420

TFM SERIES ENGINEERING INFORMATION

The TFM-420 is a top-of-the-range professional bi-amped floor monitor for use for all types of demanding monitoring applications.

The TFM-420 utilises all neodymium components, resulting in an ultra-lightweight product of only 25.2kg total net weight. This makes handling and shipping extremely easy and cost-effective. It incorporates a custom designed 4" voice coil, neodymium 12" low frequency driver, and a high power 3" diaphragm neodymium high frequency compression driver on a custom 40° x 60° waveguide in a compact vented enclosure.

The drive units are mounted side by side on a 37° baffle, producing a small footprint which results in a highly efficient wedge monitor package, ideal for use wherever high SPL and exceptional intelligibility is required. A low box profile is maintained, thereby improving sightlines, by mounting the HF horn alongside, rather than on top of, the low frequency driver. The HF horn pattern is designed to give very even coverage both close to, and standing back from, the monitor while at the same time minimising sound spillage into adjacent microphones. As a result the TFM-420 offers impressive feedback rejection, developing high sound pressure levels without the need for excessive equalisation.

The TFM-420 has been designed as a symmetrical mirror-image monitor, allowing multiple units to be used with one monitor inverted to form left and right pairs.

The cabinet is constructed from 5/8" (15mm) birch plywood, and is finished in black semi-matt textured paint. Recessed connector panels are fitted at both ends of the cabinet, each with a Speakon NL4MP connector. This arrangement allows for neat interconnection between units. A pole mount enables use with poles and loudspeaker stands and the TFM-420 can be used with Thomas frame accessories for portable or fixed front-of-house applications. Side mounted flush handles are provided for easy lifting and handling. A black powder coated perforated steel mesh wrap-around grille protects the drive units from damage.

The TFM-420 is used together with Turbosound loudspeaker management systems, which offer steep slope fixed crossovers and true r.m.s. output limiting functions.

FEATURES

- Neodymium components
- Symmetrical enclosure
- High spec components
- Controlled dispersion
- Pole mount socket
- Speakon connectors

APPLICATIONS

- Vocal monitoring
- Horn sections
- Drum fills
- Front of house

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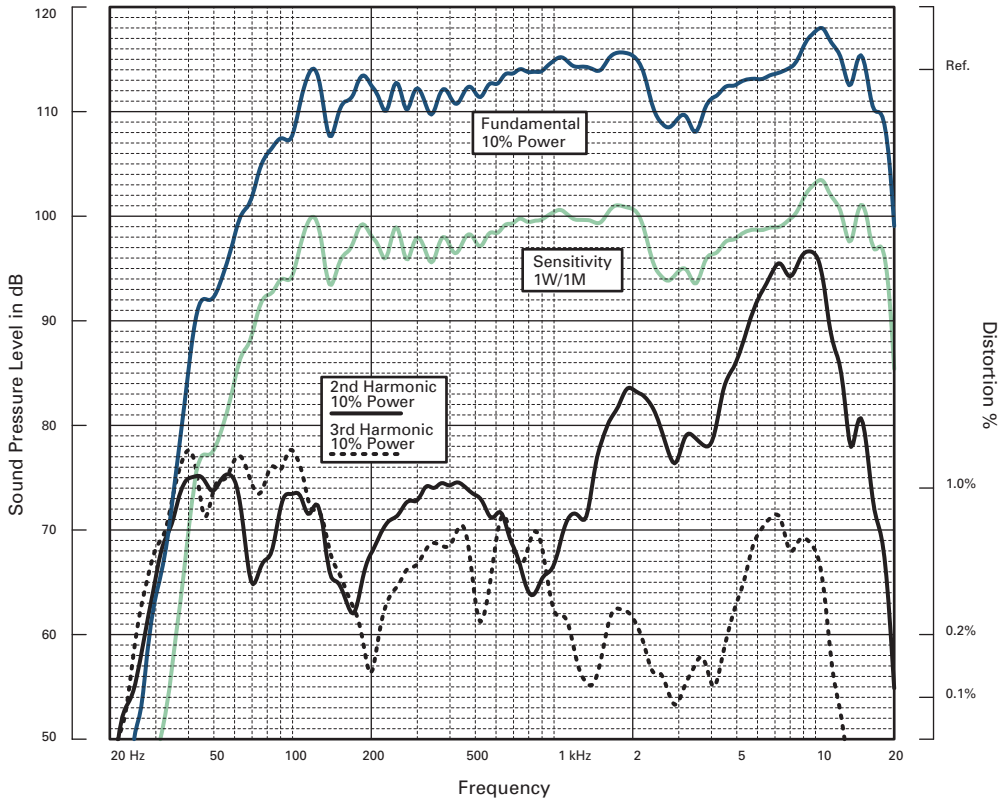
DIMENSIONS (HxWxD)	329mm x 614mm x 386mm (13" x 24.2" x 15.2")
NET WEIGHT	25.2 kg (55.4 lbs)
COMPONENTS	1 x custom 12" (305mm) LF driver, 1 x 3" (75mm) diaphragm HF driver on a custom flare
FREQUENCY RESPONSE[1]	90Hz - 16kHz ±4dB
NOMINAL DISPERSION[2]	40°H x 60°V @-6db points
POWER HANDLING	LF: 300 watts r.m.s., 600 watts program, 750 watts peak HF: 100 watts r.m.s., 200 watts program, 250 watts peak Recommended amplifier power: LF: 600 watts @ 8 ohms; HF: 200 watts @ 8 ohms
SENSITIVITY[3]	LF: 99dB; HF: 103dB, 1 watt @ 1 metre
MAXIMUM SPL	130dB continuous[4], 136dB peak[5]
CROSSOVER	Active only: Recommended point 1k3Hz, 24dB/octave slope, Linkwitz-Riley
NOMINAL IMPEDANCE	LF: 8 ohms; HF: 8 ohms
CONSTRUCTION	15mm (5/8") birch plywood throughout; rebated, screwed and glued. Finished in black semi-matt textured paint. Two recessed carrying handles
GRILLE	Black powder coated perforated steel
CONNECTORS	(2) Speakon NL4MP wired pin 1+: LF positive, pin 1-: LF negative, pin 2+: HF positive pin 2-: HF negative
SPARES AND ACCESSORIES	LS-1218 305mm (12") LF loudspeaker RC-1218 Recone kit CD-213 75mm (3") diaphragm HF compression driver RD-213 Replacement diaphragm MG-420 Replacement perforated metal grille

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.

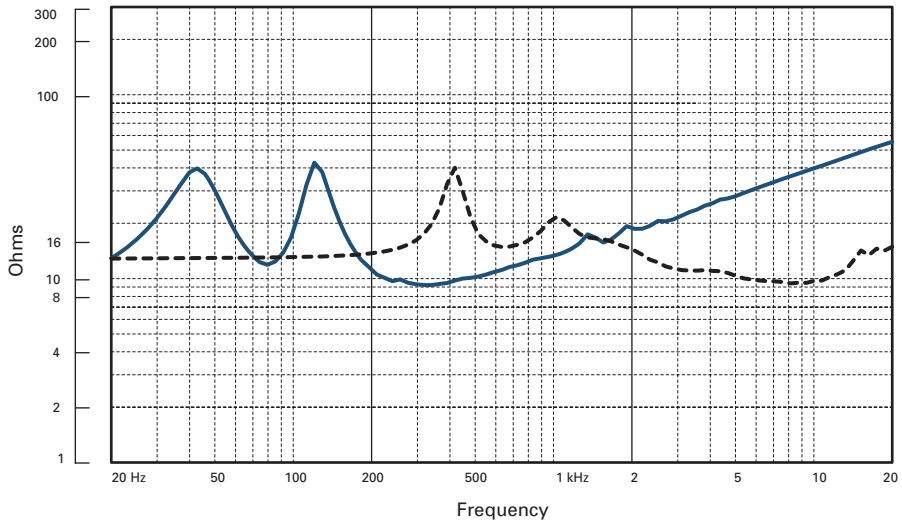
Notes

[1]Measured on axis
[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.

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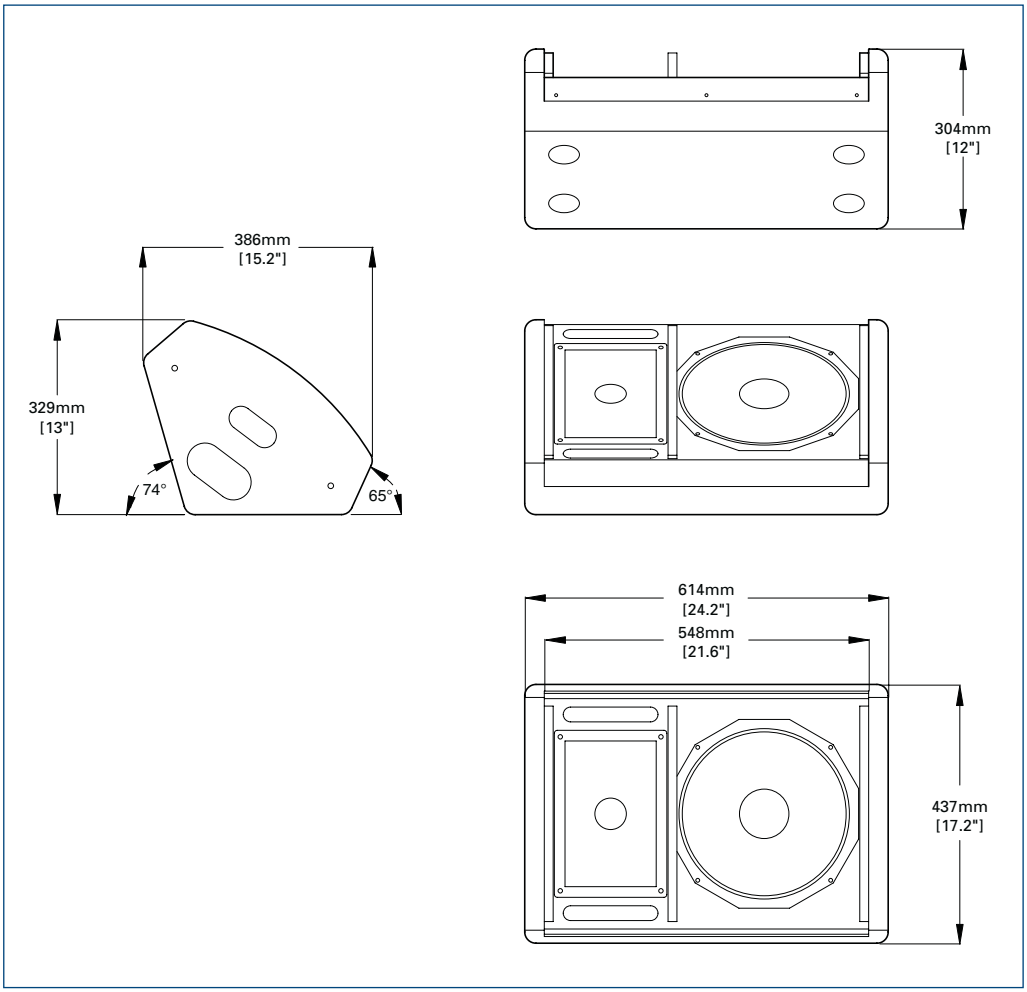
ARCHITECTURAL & ENGINEER'S SPECIFICATIONS

The loudspeaker shall be of the bi-amped, two-way type consisting of one 305mm (12") neodymium low-frequency loudspeaker and one 3" (75mm) diaphragm, 38mm (1.5") exit neodymium high frequency compression unit. 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 ± 4dB from 90Hz – 16kHz. Dispersion at -6dB points shall average 40° x 60°. Nominal impedance shall be LF: 8 ohms, HF: 8 ohms. Power handling shall be LF: 300 watts rms, 600 watts program; HF: 100 watts r.m.s., 200 watts program. Sensitivity measured with 1 watt input at 1 metre distance on-axis, mean averaged over stated bandwidth, shall be LF: 99dB; HF: 103dB. Maximum SPL (peak), measured with music program at stated amplifier power, shall be 136dB. Dimensions: 329mmH x 614mmW x 386mmD (15.8" x 28" x 15.2"). Weight: 25.2 kg (55.4lbs) The loudspeaker shall be the Turbosound TFM-420. 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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