

## 783 loudspeaker

The Mission 783 Reference Tower offers wide-bandwidth no-compromise performance in an elegant and domestically trim package. Behind the beauty of the superbly styled and crafted cabinetry lies the result of much skilful and creative engineering. The design solutions employed within the 783 are novel, while the manufacturing techniques are among the most advanced in the world. The overall result is a speaker system with a class of performance that belies its price.

- Third generation transverse-folded cabinet technology (TFCT), made possible by Mission's high-tech precision CNC manufacturing capability, provides new levels of enclosure integrity and rigidity.
- The standard of precision and finish in the 783 cabinets, found only in some exotic designs of an order of magnitude greater cost, exemplifies the attention to detail and Mission's commitment to total quality concept.
- Internal precision-machined contours restrain resonance energy, so minimising coloration smear. Inter-channel foam damping further reduces cavity resonance. The contours subdivide the cabinet's side panels into irregular, non-rectangular forms. This prompts a series of complex vibration modes which spreads resonance over a lower amplitude, wider frequency range reducing the cabinet's sonic signature.
- The unique implementation of Keraform ceramic matrix MF drivers is a Mission first. Unlike the so-called 'ceramic' hardening applied to aluminium cones, Keraform is a true ceramic material impregnated into a fibre matrix and then oven cured. Having a greater stiffness to mass ratio than any previous drive unit material, performance parameters for midrange performance, transient attack, and detail resolution are exceptional, and set new standards at this price point.
- The multi-driver three way operation of the 783 exploits the highly desired, laterally coherent dispersion characteristic of small radiating area through mid and high frequencies for superb stereo localisation, with powerful bass output provided by a side-firing 200mm (8") low frequency unit. The latter is close-coupled to the floor ensuring good room matching together with extension to 32Hz for authoritative bass rendition.
- Side facing bass drivers are mirror imaged between the pair of cabinets to improve versatility in placement. In a small room where the speakers may be close to side walls the cabinets can be positioned with the bass drivers facing inwards for solid, weighty bass performance. In the larger rooms the bass drivers can be configured to face outwards increasing the size and scale of the stereo image and achieving optimum low frequency extension. The port tube exit is both flared and foam lined to reduce the effects of turbulence and its corresponding distortion of upper bass signals.
- The viscous-laminated HF dome offers exceptionally smooth high frequency performance with superior off-axis response. The ferro-fluid voice coil design is optimised to provide minimal compression at high volume levels with an ultra-fast transient response. A tapered inverse horn loading on the front baffle creates a smooth transition between mid and high frequency output to ensure a wide listening position and superb imaging.
- The unique D<sup>2</sup>IS (Damped Driver Isolation System) reduces the effects of front baffle vibrations on the HF unit's output. A low profile neodymium magnet enables the treble unit housing to be fully contained within the front baffle, mounted in a resiliently damped, compliant cradle. This increases the internal volume available to the bass unit and, by effectively decoupling the treble and bass units, eliminates virtually all unwanted mechanical interaction between them. The improvement in clarity and definition particularly in the vital cross-over region is considerable.
- Inverted drive unit geometry (IDG), optimises vertical dispersion characteristics and ensures smooth phase and frequency response around the crossover transition.

## features

3<sup>rd</sup> generation ultra rigid TFCT cabinet  
Internal precision-machined contours

Foam lined contour ridges  
Cabinet wall and Sonafil damping

Air dried Nomex cone bass driver

Keraform ceramic matrix bass driver

Kapton voice coil former  
Asymmetric midrange enclosure

Viscous-laminated soft dome HF unit  
Damped Driver Isolation System (D<sup>2</sup>IS)

Hard wired throughout

## construction

Enclosure

Material  
Construction  
Damping

## benefits

Eliminates cabinet coloration and structural resonance.  
Dissipates standing waves reducing coloration –  
increases effective internal volume.

Reduces inter-cavity resonance.  
Complex side panel vibration modes minimises cabinet  
boom.

Controlled cone behaviour for low distortion, powerful  
bass.

Exceptionally rigid, yet light, diaphragm material  
increases transient attack and efficiency.

Excellent high power handling and dynamic range.  
Reduces standing wave formation for low coloration  
midrange.

Highly refined, ultra-low distortion high frequency unit.  
Tweeter unit is isolated from sonically degrading baffle  
vibrations.

Ensures less signal degradation.

30mm and 19mm precision machined carcass with  
third-generation transverse-folded cabinet technology.  
MDF.

Unique transverse cabinet design.

Internal precision-machined contoured walls with fire-  
retardant polyurethane foam damping inserts, lined  
with Sonafil sound absorbent. Asymmetrically inclined  
midrange enclosure with secondary baffle  
strengthening system.

## electrical

L.F. Unit

8" (200mm) Air dried Nomex cone with 40mm voice coil  
and double layer high temperature aluminium former  
with shielded 110mm (4½") magnet.

M.F. Unit

6½" (165mm) Keraform ceramic cone with rubber  
surround and Kapton voice coil former. Shielded  
magnet.

H.F. Unit

1" (25mm) viscous-laminated soft dome, ferrofluid-  
cooled, with neodymium magnet mounted on  
mechanically damped sub baffle.

Crossover

LF Unit Phase corrected 2<sup>nd</sup> order. MF Unit Acoustic 2<sup>nd</sup>  
order. HF Unit 2<sup>nd</sup> order.

Terminals

Multi-way, gold-plated, biwirable binding posts.

## specifications

Enclosure type

3-way reflex loaded, floorstanding tower

Frequency response ±3dB

38Hz – 20kHz

Nominal Impedance

6 Ohms compatible (min. 5Ω)

Sensitivity SPL/m/2.83v

90dB

Recommended amplifier power

50-200W

Crossover frequency

120Hz and 2.5kHz

Effective volume

32 litres

Cabinet dimensions (HxWxD)

970 x 206 x 337 (mm), 38.2 x 8.1 x 13.25 (inches)

Weight

25 Kg (per speaker cabinet)

Finish

Rosewood, Beech and Black Ash

## setting up

- RUN IN for at least 24 hours before serious listening.
- Position within 20cm – 80cm of rear wall.
- Use good quality speaker cable.

Note: The recommended amplifier power rating is for undistorted power. Loudspeakers will be damaged by amplifiers overdriven into distortion, no matter what the power rating of the amplifier. For larger rooms or high listening levels it is safer to choose an amplifier with a power output near the maximum rating of the loudspeaker.