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*Above Mission 750 classic 'bookshelf' speaker with walnut wood finish*

## Bookshelf classics

**A new speaker with classic 'bookshelf' appeal – meet the classy, compact Mission 750**

*Cambridgeshire, England* – After launching the iconic 770 loudspeaker in 1978 and more compact 700 two years later, speaker specialist Mission continued its journey to become a dominant force in the British hi-fi industry. It played a key part in the popularisation of more diminutive models – so-called 'bookshelf' speakers – in the 1980s and '90s, delivering speakers that were easy to accommodate, impressively engineered and eminently engaging to hear.

Mission has recently delved into its rich archive to reimagine early triumphs – specifically, the 770 and 700 – to great acclaim. The revival of these classic British speakers is not simply appealing to the nostalgia of music lovers of a certain age; in their new, re-engineered form they are exceptional speakers by modern standards, enchanting a new generation as their predecessors did decades ago.

2024 sees another retro-inspired speaker join Mission's ranks – the Mission 750. Unlike the 770 and 700, this is not an update of a prior model plucked from Mission's past but a new design, sporting classic influences that celebrate Mission's illustrious heritage.

Measuring 355x216x270mm (HxWxD), the new Mission 750 is a classic 'bookshelf' speaker – a compact format that has brought Mission great renown across the decades. Its industrial design sits perfectly alongside the re-engineered 770 and 700 in Mission's current range, inspired by the white baffles and distinctive logo that adorned the company's early designs from the 770 onwards. But, like their modern-day counterparts, the original 770 and 700 were larger models; only later did speakers of the new 750's compact size become a cornerstone of Mission's range.

The success of the current re-engineered versions of the 770 and 700, which launched in 2022, has generated demand for a smaller model that fuses the same classic design features with modern construction techniques and technologies. And so, the Mission 750 was born.



*Left* The new 750 fuses classic 'bookshelf' industrial design and retro Mission styling with state-of-the-art performance

### **Driver inversion for musical immersion**

A distinctive feature of the Mission 750 is its inverted driver arrangement. Until the Mission 700 arrived in 1980, two-way dynamic speakers were invariably designed with the tweeter at the top and the main driver below. The 700 pioneered a different approach, placing the treble unit below the mid/bass driver. This configuration, known as IDG (Inverted Driver Geometry), became a signature Mission feature and is a cornerstone of the company's designs to this day – including the new 750.

IDG aids 'time alignment' – by placing the mid/bass driver closer to ear level with the treble unit positioned beneath, the path lengths from the two drivers' acoustic centres are equalised so that the sound waves coincide at the listener's head height. This improves stereo imaging and contributes to the speakers' seamlessly coherent and transparent sound.

If you're thinking this is simply a matter of inverting the speaker cabinet, think again. Every aspect of the industrial and mechanical design requires precise calculations to ensure optimal positioning, spacing and alignment of the drive units, in conjunction with the crossover design.

### **Poly... put the metal on**

The 750's mid/bass cone is fashioned from polypropylene, the use of which in commercial loudspeakers was pioneered by Mission. However, this new 135mm cone is loaded with minerals to

make it stiffer than regular polypropylene diaphragms, yielding fast, tight bass that enables the listener to hear exactly how bass instruments are being played. From the power of hard-driving metal, dance or indie, to the intricacy of a string quartet, this new cone delivers the pace, extended response and low colouration to capture the music's energy, character and detail.

The entire mid/bass driver is constructed to the same high-end standard as the larger units created for the re-engineered 770 and 700, incorporating a specially designed motor system and a rigid die-cast chassis. Great care has been taken to marry a low-density nitrile surround to the diaphragm, to match its impedance and reduce reflections from the cone edge.

The cabinet and precisely profiled rear-firing reflex port are tuned to a very low frequency, avoiding the 'one note bass' that is typical of some bass reflex systems. Bass extends powerfully and cleanly to below 42Hz in room, impressive for a speaker of this size.



*Left* The design oozes Mission heritage, with its IDG driver configuration, white front baffle and classic Mission logo

### Let's get high

Mission's early designs focused on midrange performance because this is where the strength of hi-fi reproduction from vinyl records lay. For today's digital sources and superior turntables, the performance of a speaker at the frequency extremes is considered of equal importance to the midrange. The 750's treble unit incorporates a lightweight, damped, 28mm microfibre dome with an ultra-smooth response, backed by a damped rear chamber that pushes the fundamental resonance well below the crossover region.

The quality of this high-frequency unit marries perfectly with the mid/bass driver to ensure evenness of character throughout the range of the whole speaker. Some treble units can sound detailed but overly bright and insistent; others can sound smooth but lack crisp clarity. The 750's high-frequency performance is both smooth *and* detailed, a seamless extension of the musical whole.

### Networking skills

When it comes to designing crossover networks, today's software-based mapping and measuring techniques allow Mission to perfect the balance between bass and midrange and adjust the crossover

to the treble unit by mapping the acoustic crossover slopes with extreme accuracy. Even so, the choice of EQ and crossover for the 750 involved hundreds of hours of listening sessions using a wide variety of music before the final crossover was settled upon.

The circuit was then mapped out using very short signal paths and accommodating high-quality components such as super-transparent polypropylene capacitors and air core inductors. The resulting transparency to musical detail ensures the thrilling emotion of music is fully conveyed, whilst maintaining a seamless transition between the drive units.

### **Brace yourself**

The drivers and crossover are housed in a real-wood veneered cabinet, featuring a twin-wall sandwich of high-density MDF and particle board bonded by a layer of high-damping adhesive. This results in a cabinet with panel resonance well below audibility, allowing the drive units to do their job unsullied by cabinet-induced colouration at all frequencies.

Internal bracing adds strength to the front baffle, creating a mechanical support that aids the dynamic performance of the mid/bass unit and reveals the micro-dynamics of the musical performance. This is complemented by layers of acoustic damping fibre, strategically placed to absorb reflections inside the cabinet without overdamping the bass quality.

'Bookshelf' is a traditional term for speakers of this size but, as always, it is advisable to position them on dedicated speaker stands for optimum performance. As the 750 is a typically sized standmount speaker there are plenty of options available, including Mission's own Stance stands which have an RRP of £129 per pair.



*Left* Placing a pair of 750s on dedicated speaker stands such as the Mission Stance ensures they are positioned at the correct height and aids acoustic performance

### **Peter Comeau comments**

Mission's Director of Acoustic Design is Peter Comeau, a man whose designs for the brand stretch back to the 1990s. Speaking about the new Mission 750, Comeau said:

“Although the 750 is not based on a specific model from the past, its size marks it out as a classic ‘bookshelf’ design, while its white baffle and distinctive logo evokes Mission’s early years when the company took the loudspeaker world by storm. Its name echoes this period too; Mission’s founder, the late Farad Azima, was famously fond of the number seven, which is why the three-digit model names of so many Mission speakers began with this number.

“The 750 fits into Mission’s current range as a compact speaker for those who admire the much acclaimed 770’s retro design and captivating sound but are unable to accommodate it physically and financially. Much of its design has trickled down from the larger speaker – it uses the same treble unit and mid/bass driver engineering, albeit redesigned to suit the 750’s more compact form. Its multi-layer cabinet construction is similar too, adapted to achieve optimal acoustic performance across the frequency range from a smaller physical design.

“The result is an effortlessly expressive ‘bookshelf’ – or ‘standmount’ – speaker that belies its compact size. The techniques and technologies harnessed to create the 750 are cutting-edge, but as always with Mission this technology is used purely to capture the emotional power of music – in line with the company’s moto, ‘Music leads, technology follows’.”

Classically styled yet technically advanced, the Mission 750 ‘bookshelf’ speaker is available from mid-April in a choice of walnut or black wood veneer, at an RRP of £899 per pair.



*Above* The new Mission 750 (centre) is significantly smaller than the current 770 (left) and 700 (right), whilst sharing similar styling, construction and driver technology



SPECIFICATIONS	MISSION 750
Speaker type	Two-way standmount
Enclosure type	Bass reflex (rear ported)
Treble driver	28mm microfibre dome
Mid/bass driver	135mm mineral-loaded polypropylene cone
Sensitivity (2.8V @ 1m)	86dB
Nominal impedance	6Ω (8Ω compatible)
Recommended amp power	25-100W
Frequency response (+/-3dB)	48Hz-20kHz
Bass extension (-6dB)	42Hz
Crossover frequency	2.4kHz
Cabinet volume	12.2L
Dimensions (HxWxD)	355x216x270mm
Weight (each speaker)	9kg

## MISSION

Mission has built a world-class reputation for advanced audio design since the company's formation in Huntingdon, Cambridgeshire in 1977, with an engineering-led approach to product development that has resulted in some of the most popular and iconic loudspeakers ever devised.

Three things have always characterised Mission speakers. First, the cabinets and drive units use innovative materials and sport a distinctive, modern appearance. Second, the sound they produce is fast, detailed and engaging. Third, they deliver excellent sonic and material value for money.

Today, Mission continues to stretch the boundaries of what can be achieved at specific price points, pioneering technologies to create fresh, new designs. The brand now benefits from the unrivalled manufacturing facilities and global reach of parent company IAG, with all the component parts of every speaker made in-house. Yet the company's roots remain firmly entrenched in Huntingdon, where much of Mission's design, servicing and technical support work is still carried out. This, coupled with a design team brimming with homegrown talent, ensures Mission speakers remain as impressive today as they were when the company first established itself at the forefront of the burgeoning British audio scene almost half a century ago.

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