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Above Mission ZX Series speakers in gloss black finish

Mission ZX delivers vibrant spectrum of sound

Flagship hi-fi loudspeaker collection conveys the full gamut of musical colour and emotion with advanced drivers, innovative design and eye-catching contemporary style

Cambridgeshire, England – Legendary British loudspeaker brand Mission has launched its finest-ever range of loudspeakers. The ZX Series represents the pinnacle of Mission's current line-up, joining the multi-award-winning speakers from the entry-level LX Series and mid-level QX Series.

ZX builds on the success of QX, taking key elements and enhancing them across the board. New drive units, motor systems and crossover networks were developed for the project, wrapped in a smoothly curved, impeccably finished cabinet with an abundance of technical detail. The speakers' sole mission is to deliver music with a combination of dynamic power, energy and finesse that engages the listener like no others at the price, embodying Mission's traditional adage since the 1970s: "Music is the master. Technology is the slave."

The ZX Series comprises eight models: two standmount speakers (ZX-1 and ZX-2), three floorstanders (ZX-3, ZX-4 and ZX-5), two home cinema centre speakers (ZX-C1 and ZX-C2) and a surround speaker for on-wall siting (ZX-S).



Grand piano Mission ZX-3 floorstanding speakers look resplendent in 'piano black' lacquered finish

A tweeter worth tweeting about

The vast majority of hi-fi loudspeakers on the market utilise a tweeter with a domed diaphragm. While these can reach a high level of performance if made to a high standard, there is an inherent flaw in their design – the voice coil, the element that imparts musical energy to the diaphragm, is connected only to the outer circumference of the dome. This means that the dome's centre is not connected to the drive system and therefore is not under direct control.

When examined using laser interferometry, the centre of a typical tweeter dome can be seen to move in anti-phase to the rest of the dome – this is called 'cavitation', because the centre of the dome looks as though it is sinking into a cavity while the rest of a dome is moving forwards. This can be controlled to a degree by using doping on the dome, but the problem is never entirely overcome.

The Mission Ring Dome treble unit found in every ZX Series model addresses this issue. Unlike traditional dome tweeters, the centre of the textile dome is fixed, and the voice coil is attached partway down the dome. This forms the dome into two rings with the voice coil in the centre, enabling it to drive the dome more accurately and efficiently.

The result is lower distortion and superior performance at frequencies up to 30kHz and beyond. Transient performance is dramatically improved, as is musical detailing, particularly of instrument overtones and harmonics, enabling the full character of instruments and voices to be conveyed with outstanding clarity.

Rearward radiation from the Mission Ring Dome unit vents into an enclosed chamber filled with damping material, acting like a dedicated 'cabinet' for the high-frequency unit. Resonances are absorbed and the back pressure on the dome is greatly reduced, allowing the unit to deliver accurate musical detail right down into the midrange.

Driving the music home

Some years ago, Mission pioneered DiaDrive bass/midrange drive units, where the usual cone and dust cap arrangement is replaced by a seamless curvilinear diaphragm. This is directly driven by a secondary sub-cone connected to the voice coil, improving the efficiency of drive and providing superior control of the diaphragm.

Mission has steadily improved DiaDrive since pioneering the design, culminating in its ultimate form in the ZX Series. The seamless diaphragm is made from an advanced aluminium matrix, while the sub-cone is vented to remove trapped air behind, thus reducing resonance and improving midrange clarity.

The smoothly dished diaphragm is coupled to a distinctive inverted surround, connected not at its edge but part way down the cone, which serves to damp travelling waves moving towards the diaphragm's outer edge. The inverted surround has a vented cover to control its spurious output, which further contributes to the speakers' clear and accurate midrange output to beyond 3kHz.



ZX spectrum Mission's Ring Dome treble unit and smoothly dished DiaDrive bass/mid drivers deliver a delightfully vivid performance across the frequency spectrum

Brace yourself

The ZX Series DiaDrive units benefit from large, powerful magnet systems to deliver punch and transient attack that allows the diaphragm to follow the musical waveform accurately. This level of transient performance results in considerable power being exerted by the driver motor systems and it is critically important that these motors, which are surrounded by the magnet, are held stable. Put simply, the diaphragm should be the only part that moves; the magnet should remain entirely static.

To achieve this, Mission has built special bracing systems inside the ZX Series cabinets that precisely locate and brace the drive unit magnets. This ensures that the DiaDrive diaphragms respond accurately

to the musical waveform, resulting in greater sonic impact, thrilling dynamics and accurate bass detail, right down to near-subsonic frequencies.

Specially made damping material is strategically placed internally to absorb unwanted energy within the cabinets. This works in tandem with slot-shaped reflex ports exiting at the rear of the cabinets; the flair of these ports is serrated, which helps to smooth the high-pressure airflow, while the asymmetric shape breaks up the 'chuffing' sound that can be produced by ordinary circular ports. These ports augment the bass drivers and contribute to the speakers' taut, well-defined bass and transient clarity.



Bringing up the rear ZX Series speakers' exemplary build and finish continues around the back, where the distinctive slot-shaped port can be found

Driver inversion for musical immersion

There are two sizes of DiaDrive units in the ZX Series – one with a 130cm diaphragm used throughout the range, the other with a 165mm diaphragm reserved for the bass drivers in the largest floorstander, the ZX-5. In the case of the ZX-1 compact standmount model, the DiaDrive unit is positioned according to Mission's Inverted Driver Geometry (IDG) – the bass/mid driver is sited above the treble unit rather than below, to aid time-alignment.

This unusual arrangement has been a Mission trademark since the 1980s. Placing the bass/mid driver closer to ear level with the treble unit positioned beneath helps to equalise the path lengths from the two drivers' acoustic centres, so that the sound waves coincide at the listener's head height.

The other stereo models, from the ZX-2 to the ZX-5, extend IDG to a full D'Appolito array, siting the treble unit between a pair of DiaDrive units – one above, one below. The ZX-2 and ZX-3 are configured as two-way speakers, with both DiaDrive units covering bass and midrange. The ZX-4 and ZX-5 add additional bass drivers in a three-way configuration, with separate drivers dedicated to low and midrange frequencies.

While focus is often placed on the design of a speaker's drive units, not every manufacturer fully addresses the critical importance of the crossover network. This filters the audio signal and directs different frequencies to the correct drive unit, thus ensuring the drivers work in perfect harmony. The best crossovers are simple in terms of signal path but sophisticated in their circuit design; Mission's IDG configuration aids this design by ensuring the path lengths from bass/mid and treble units is partially equalised by the time the transients from each driver arrive at the listener's ears.

Months of testing was undertaken to deliver crossover networks of the highest quality to compliment the ZX Series' driver configurations, starting with technical measurements in Mission's state-of-the-art anechoic chamber and ending with fine tuning of each crossover component by ear, using a wide variety of musical styles and sources. The result is seamless integration between the drive units, so that the speaker behaves as a single, coherent music-making system.

Music is a performance, not merely a group of notes. ZX Series speakers not only deliver exemplary clarity and detail, they also capture the essence of the performance – its energy and atmosphere. Whatever music you play, you are guaranteed a thrilling sonic ride thanks to Mission's sophisticated, hi-tech design that comes together to create a wonderfully cohesive musical whole. That original slogan has never been more apt: "Music is the master. Technology is the slave."

The Mission ZX Series is available from the end of November, beautifully finished in a choice of gloss-lacquered black or white. RRP's are as follows:

ZX-1: £599 per pair	ZX-3: £1099 per pair	ZX-5: £1599 per pair	ZX-C1: £499
ZX-2: £749 per pair	ZX-4: £1299 per pair	ZX-S: £599 per pair	ZX-C2: £599



Monochrome set The choice of black or white gloss finish adds to the sense of cutting-edge contemporary style, whether it is the ZX-3 floorstander (top) or the ZX-2 standmount model

Specifications	ZX-1	ZX-2	ZX-3	ZX-4
Speaker type	2-way standmount	2-way standmount	2-way floorstander	3-way floorstander
Enclosure type	Bass reflex	Bass reflex	Bass reflex	Bass reflex
High-frequency driver	38mm Ring Dome	38mm Ring Dome	38mm Ring Dome	38mm Ring Dome
Bass/mid driver	130mm DiaDrive	130mm DiaDrive (x2)	130mm DiaDrive (x2)	N/A
Midrange driver	N/A	N/A	N/A	130mm DiaDrive
Bass driver	N/A	N/A	N/A	130mm DiaDrive (x2)
Sensitivity (2.83v @ 1m)	88dB	89dB	90dB	90dB
Recommended amp power	25-100W	25-150W	25-150W	25-150W
Nominal impedance	8 Ohms compatible	8 Ohms compatible	8 Ohms compatible	8 Ohms compatible
Frequency response (+/-3dB)	52Hz-24kHz	45Hz-24kHz	42Hz-24kHz	40Hz-24kHz
Bass extension (-6dB)	46Hz	40Hz	38Hz	35Hz
Crossover frequency	2.6kHz	2.4kHz	2.4kHz	530Hz; 2.7kHz
Dimensions (HxWxD)	300x240x350mm	420x240x350mm	1025x240x350mm	1075x240x350mm
Weight (each)	7.6kg	9.4kg	20.4kg	24.6kg

Specifications	ZX-5	ZX-S	ZX-C1	ZX-C2
Speaker type	3-way floorstander	2-way surround	2-way centre	2.5-way centre
Enclosure type	Bass reflex	Closed box	Bass reflex	Bass reflex
High-frequency driver	38mm Ring Dome	38mm Ring Dome (x2)	38mm Ring Dome	38mm Ring Dome
Bass/mid driver	N/A	130mm DiaDrive (x2)	130mm DiaDrive (x2)	130mm DiaDrive (x2)
Midrange driver	130mm DiaDrive (x2)	N/A	N/A	N/A
Bass driver	165mm DiaDrive (x2)	N/A	N/A	130mm DiaDrive (x2)
Sensitivity (2.83v @ 1m)	91dB	88dB	89dB	90dB
Recommended amp power	30-200W	25-150W	25-150W	25-150W
Nominal impedance	8 Ohms compatible	8 Ohms compatible	8 Ohms compatible	8 Ohms compatible
Frequency response (+/-3dB)	36Hz-24kHz	120Hz-24kHz	48Hz-24kHz	48Hz-24kHz
Bass extension (-6dB)	30Hz	100Hz	45Hz	42kHz
Crossover frequency	570Hz; 2.5kHz	2.7kHz	2.5kHz	430Hz; 2.1kHz
Dimensions (HxWxD)	1155x265x400mm	285x335x185mm	180x600x300mm	180x880x300mm
Weight (each)	31.2kg	8.6kg	12.6kg	17.6kg

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 British and European 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 more than 40 years ago.

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