



KEFR&D

XIO

Technology Summary

Introduction

An all-in-one solution to cinematic sound



As televisions evolve to become ever slimmer and visually advanced, their onboard speakers are increasingly limited in what they can deliver. For discerning, space-conscious consumers, the soundbar package has become the go-to solution. Yet the core tenets of high-fidelity audio remain unchanged: achieving exceptional sound still demands purposeful engineering, comprehensive system design, precision components, and an unwavering attention to detail.

XIO is more than a response to modern listening demands—**it's a breakthrough**. Drawing on decades of acoustic innovation, XIO integrates key technologies from KEF's award-winning product portfolio, each re-engineered for the all-in-one form factor. Where existing solutions fell short, brand-new solutions have been developed in service of delivering the uncompromising standards of true HiFi performance.

At its core are twelve proprietary loudspeaker drivers, precisely tuned and meticulously integrated, to deliver an authentic 5.1.2-channel experience. Supported by a suite of purpose-built DSP algorithms, these drivers work in concert to reproduce a wide range of multichannel audio formats with remarkable clarity, depth and spatial realism, all from a single, elegant enclosure.

This technology brief outlines the advanced acoustic architecture, innovative engineering and groundbreaking features that define XIO, revealing how KEF's HiFi legacy has been seamlessly distilled into a truly modern solution for immersive home entertainment.



Acoustics

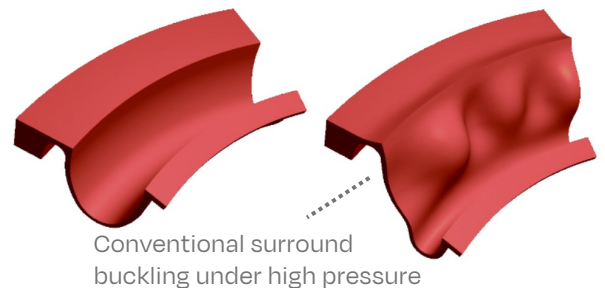
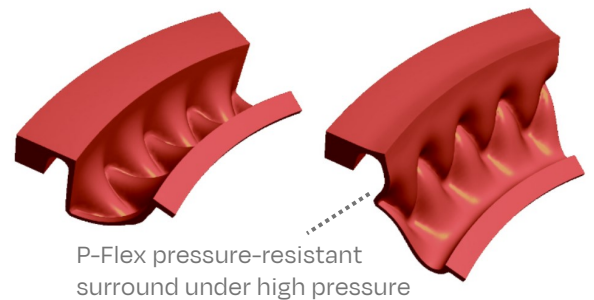


P185 LF Driver

Producing deep, authoritative bass requires moving a significant volume of air; a principle summed up by the adage: *"there's no replacement for displacement"*.

XIO incorporates four P185 2"x7" racetrack LF drivers, delivering a total radiating area equivalent to four traditional 4" drivers from a slim, space-efficient form factor. Paired with their long-throw capabilities, XIO produces the full range of deep bass without the need for an external subwoofer. Engineered for power, linearity and durability, the P185 drivers feature a precision-profiled aluminium cone and KEF's P-Flex pressure-resistant surround, key technology debuted in KEF's award-winning KC62 compact subwoofer.

To further enhance performance, the P185 drivers are arranged in a force-cancelling configuration, an approach also used in the KEF KC92 subwoofer. By mounting the drivers back-to-back, mechanical vibrations are effectively suppressed, preserving clarity while eliminating unwanted resonances and reducing disturbance to nearby surfaces. The result: clean, impactful bass that far exceeds XIO's physical footprint.



Force-cancelling LF arrangement



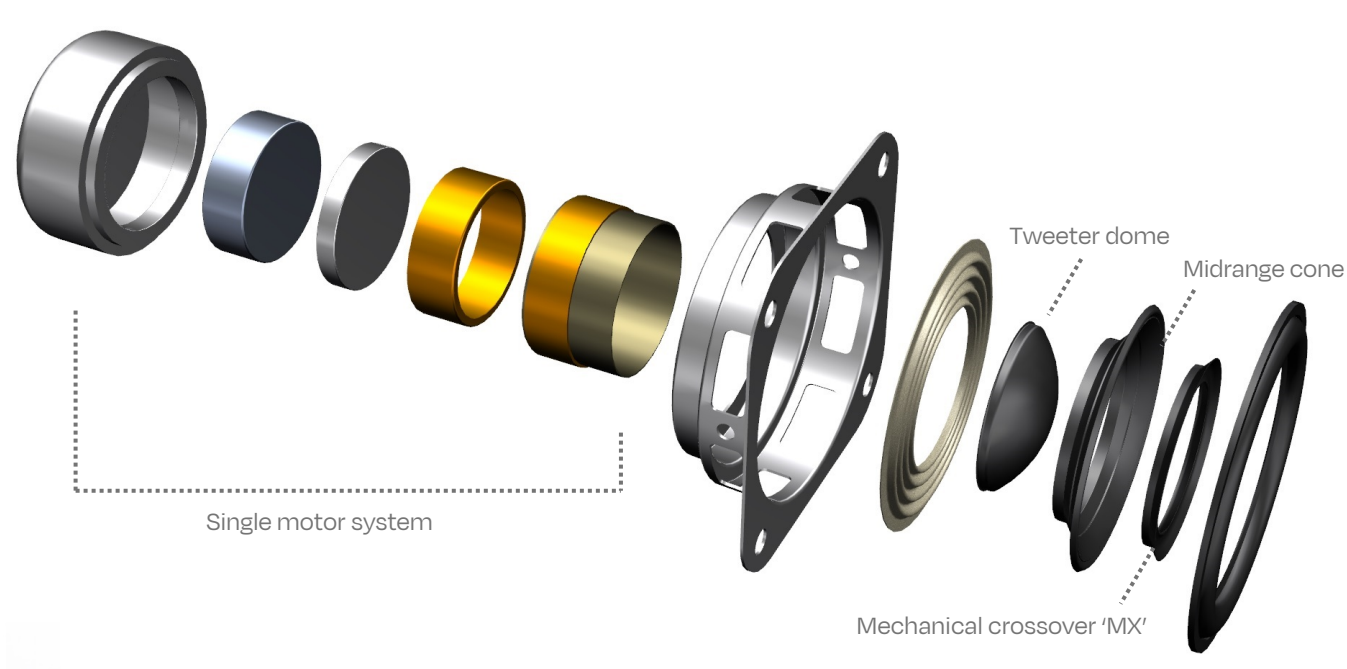
Uni-Q® MX

Since 1988, the Uni-Q® driver array has been the cornerstone of KEF's driver technology. The approach of packaging the midrange driver and the tweeter into one co-incident driver array offers a distinct acoustic advantage of closely aligning their acoustic centres to the same point in space. This facilitates ideal point source behaviour across their combined operational bandwidth, which in effect encompasses most of the audible frequency range.



The Uni-Q MX follows the same principle but introduces a unique *mechanical crossover*, the 'MX', where a single voice coil drives both the midrange cone and tweeter dome. At low frequencies, they move together as a single, 2" drive unit; as the frequency rises, the mechanical crossover decouples the dome from the cone, allowing the tweeter to operate independently for optimal high-frequency performance.

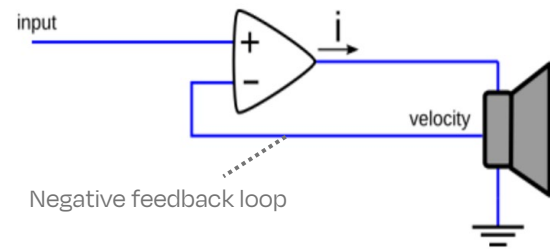
This innovative design preserves Uni-Q's signature matched directivity and time alignment advantages while reducing the driver's physical footprint and complexity. A high-performance neodymium motor and long-throw voice coil provide the necessary power and control for an extended linear response, making Uni-Q MX the ideal full-range driver for the critical main channels in XIO.



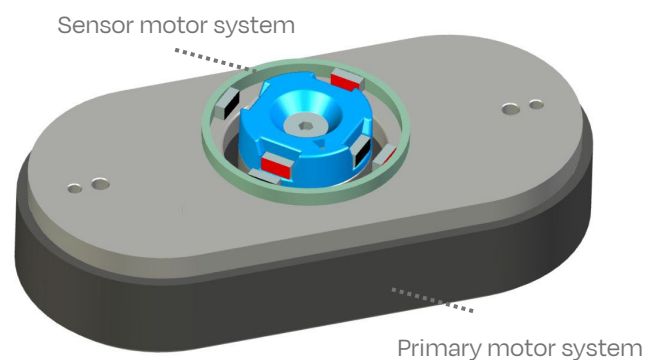
VECO Technology

In an ideal loudspeaker, the velocity of the driver should linearly follow the electrical signal applied to its terminals. In practice, however, loudspeakers deviate significantly from this ideal due to inherent non-linearities that arise from a range of factors including voice coil current, temperature and the mechanical position of the coil within the magnetic gap; each contributing to measurable distortion.

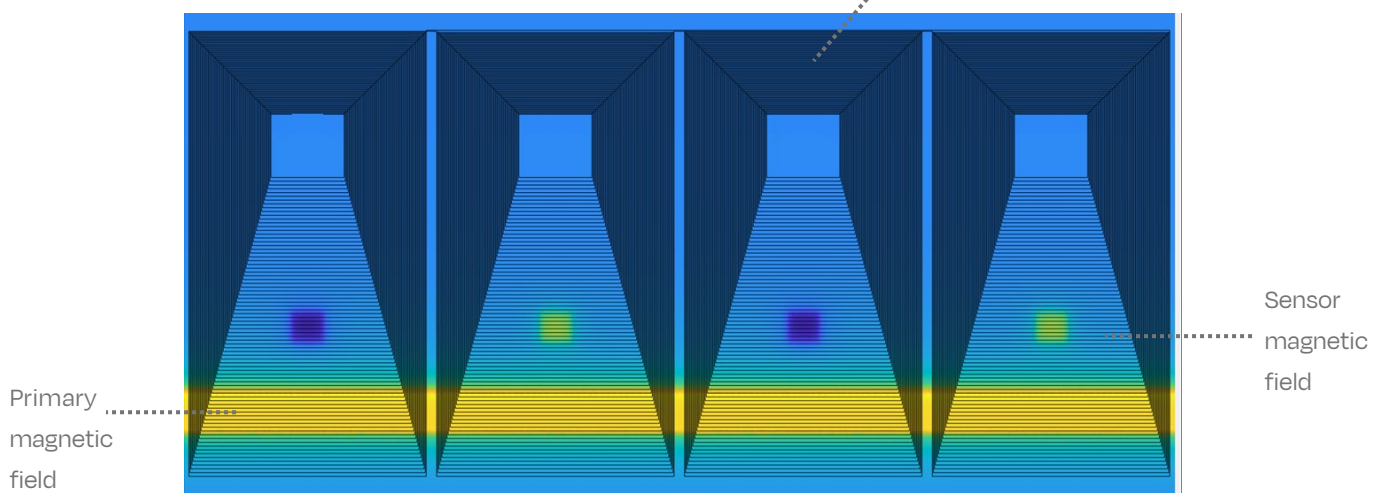
Velocity Control (VECO) Technology addresses these deviations by employing a brand-new, patent-pending, instantaneous velocity sensing system. At its core, is a sensing coil printed on a flexible PCB, replacing the conventional former of the primary coil, that measures the instantaneous velocity of the primary coil within an independent magnetic circuit. This information is fed back to the amplifier in a negative feedback loop to pre-compensate for the non-linearities before the driving signal is applied to the driver terminals.



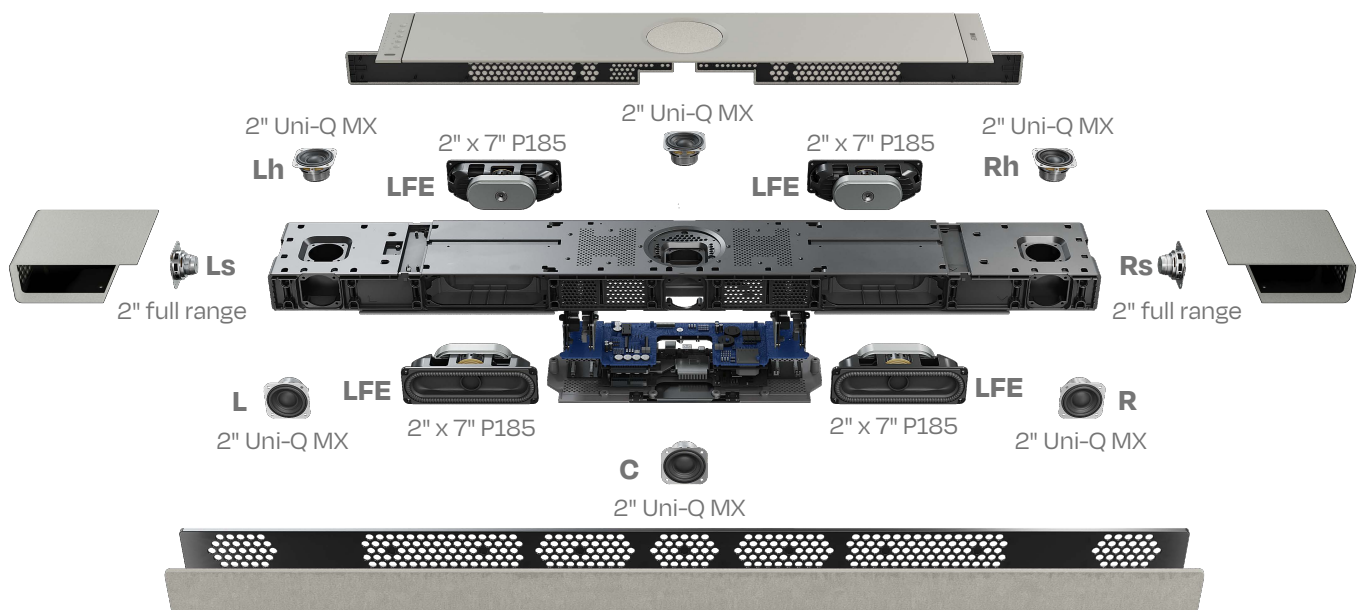
By directly controlling the movement of the LF drivers in this way, XIO delivers measurably more accurate, deeper bass with significantly reduced harmonic and intermodulation distortion, in the order of 15dB, over conventional small-box systems. This is the key to true HiFi performance from a small-box system.



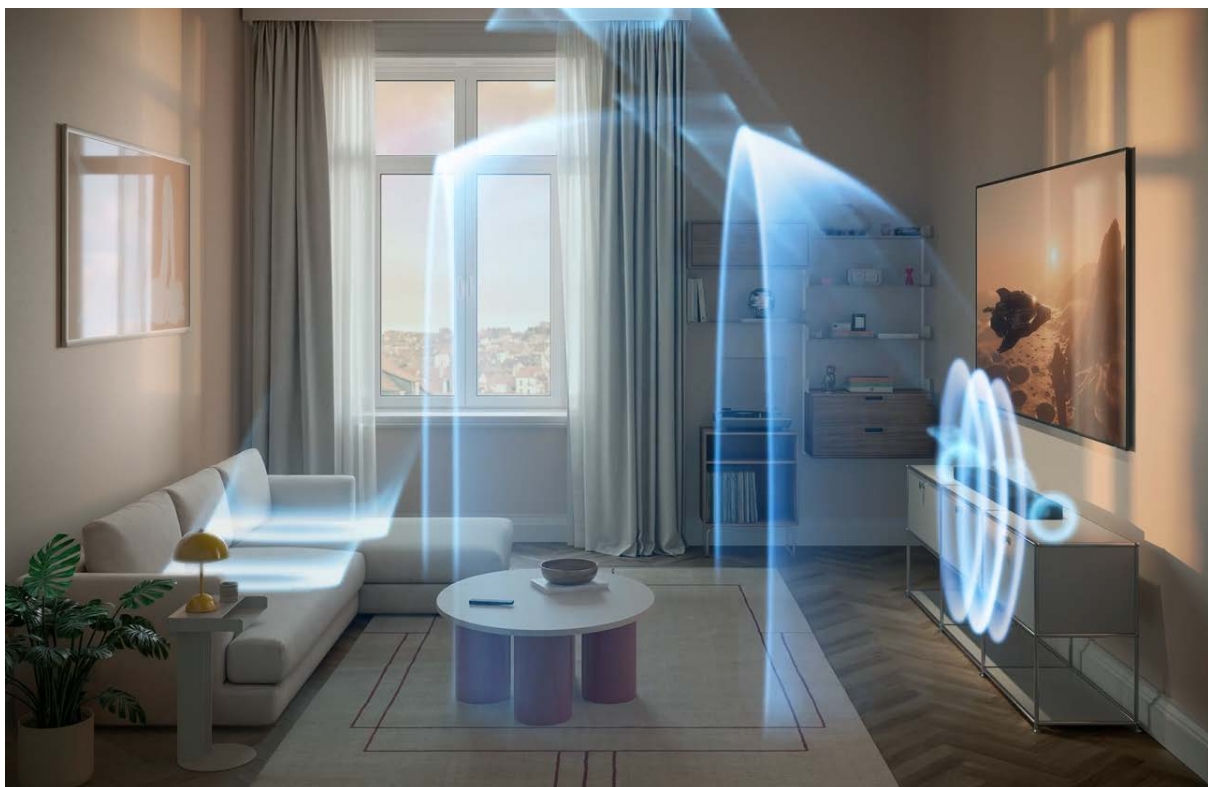
Flexible PCB sensing coil



5.1.2 Channel Configuration



XIO is a fully integrated multichannel loudspeaker system incorporating six 2" Uni-Q Mx, four 2" x 7" P185 LF drivers and two 2" full range drivers, arranged in a 5.1.2 configuration. Each driver is optimised for its specific operating range and is powered by a dedicated high-output amplifier channel to deliver a coherent full range listening experience in a variety of audio formats.

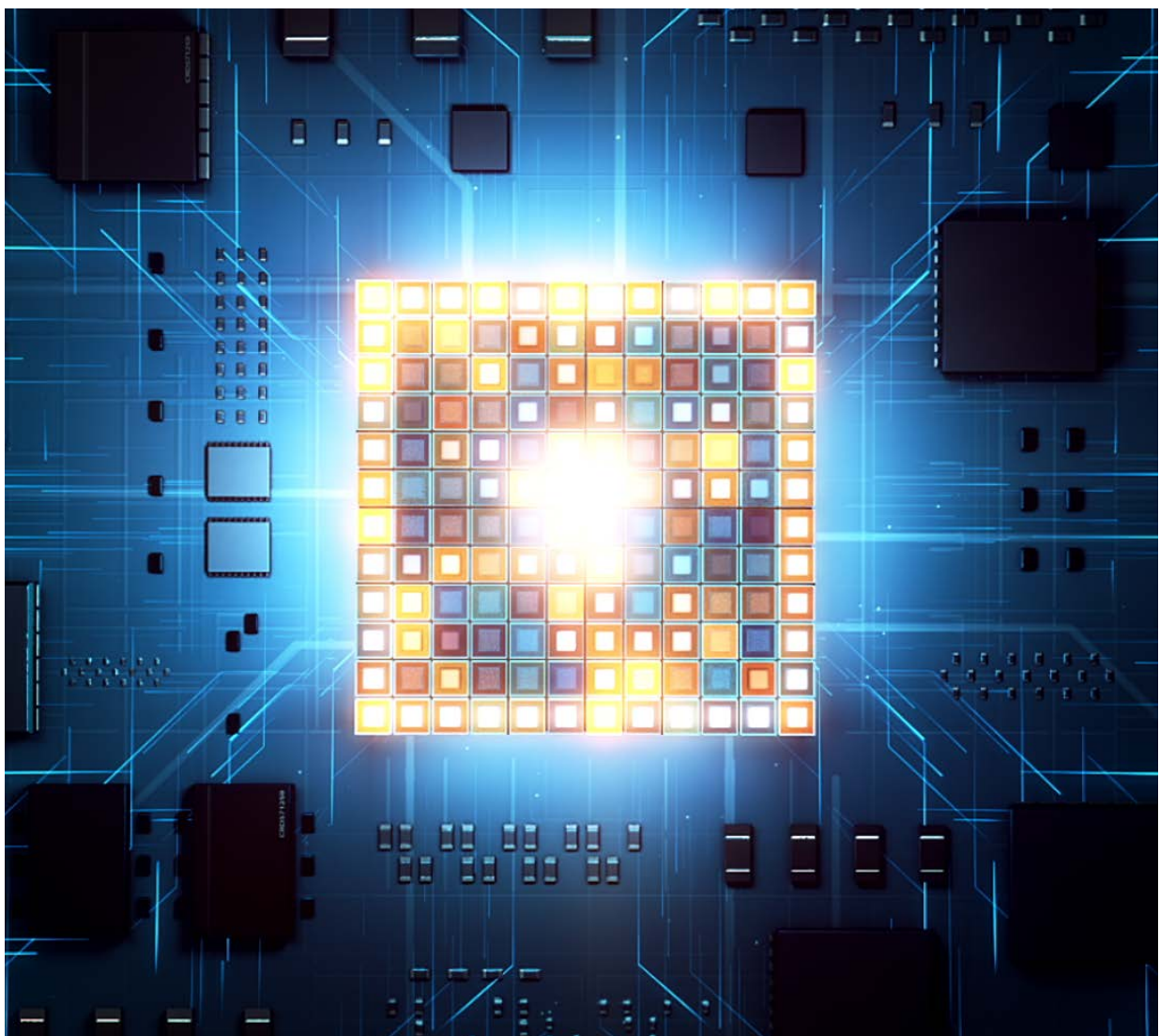


Features



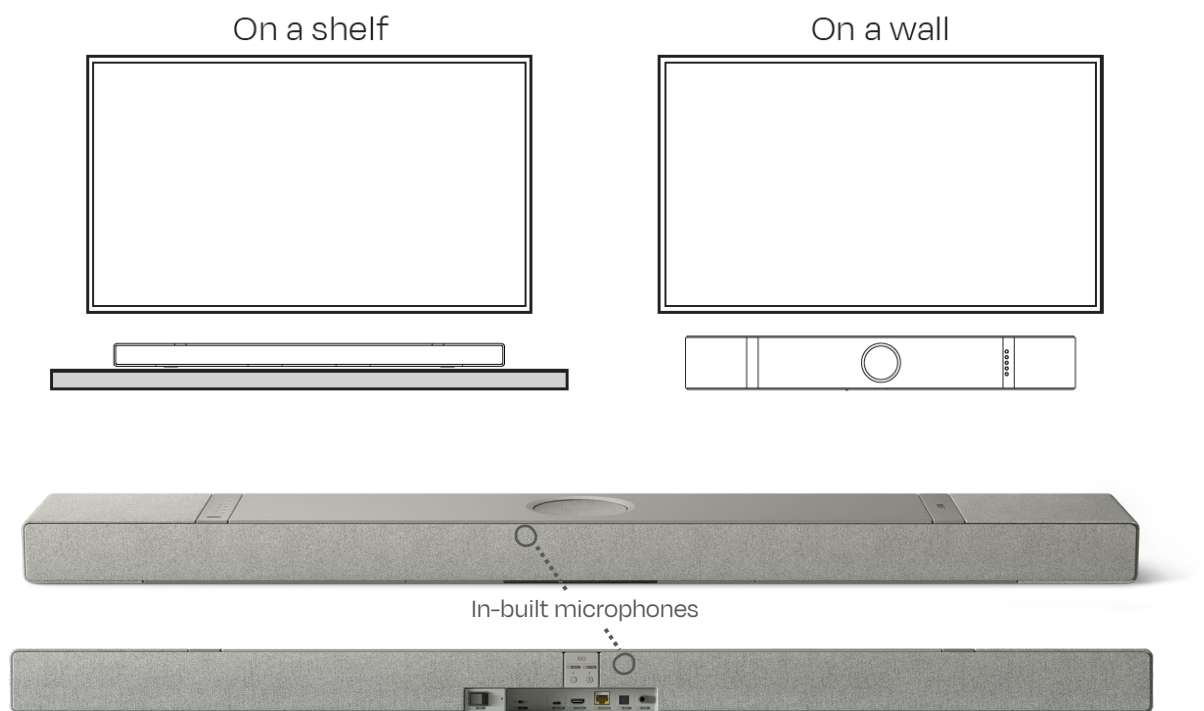
Music Integrity Engine® (MIE) for Cinema

Building on a robust acoustic foundation, MIE harnesses a suite of purpose-built DSP algorithms to maximise XIO's performance in a range of key areas including headroom management, dynamic bass control, and signal fidelity. For the first item, MIE runs on a brand-new in-house DSP platform, offering extremely precise signal control and rapid processing across the entire signal processing chain. The new platform focuses on multichannel sound delivery and introduces native support for multichannel processing, virtualisation and adaptive placement technology. In-built audio enhancement algorithms give users further control over their listening requirements with a choice of voice, dialogue and night mode presets to customise their listening.



Intelligent Placement Technology (IPT)

XIO is designed to deliver consistent, high-quality output regardless of the way it is placed, whether on a shelf or a wall. Equipped with on-board sensors, XIO can instantly detect changes in its orientation. In response, MIE initiates an automatic channel reassignment sequence to ensure optimal performance tailored to the specific orientation. Dual on-board microphones can also be activated to further assess the live environment, including nearby surfaces such as walls or furniture. Based on this real-time information, MIE applies EQ adjustments to preserve XIO's intended sound signature.



Multichannel Spatial Audio: Dolby ATMOS, DTS:X and more

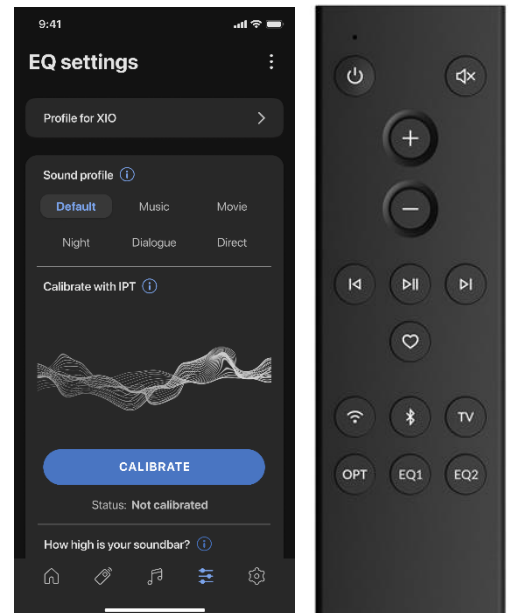
Designed for immersive, cinematic sound, XIO natively supports leading spatial audio formats including Dolby Atmos, DTS:X and Sony 360 Reality Audio. Beyond native multichannel playback, XIO includes a selection of advanced virtualisers to up mix mono and stereo content, taking full advantage of its twelve on-board drivers across multiple configurations.



Sound Profiles with KEF Connect

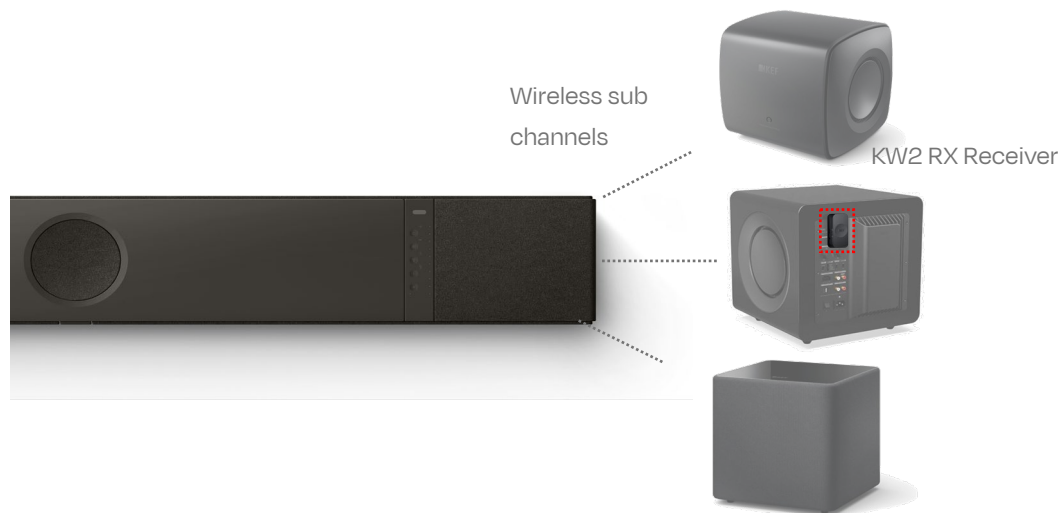
XIO introduces a range of powerful new features accessible through the KEF Connect app, designed to enhance flexibility and streamline the user experience. Among these features are *Sound profiles*, a collection of pre-tuned virtualiser presets tailored to common listening scenarios. These profiles can be switched instantly via the KEF Connect app or using the customisable EQ buttons on the C2 remote control.

Sound profile	Description
Default	KEF's signature virtualiser profile designed for a balanced audio experience to suit most content and listening scenarios
Music	Designed for music, this profile enhances tonal richness, spaciousness and vocal clarity
Movie	Immersive cinematic profile with enhanced spatial cues
Night	Ideal for late-night listening, this profile adjusts the sound profile to maintain clarity without disturbing others
Dialogue	Enhanced speech intelligibility and clarity without distractions
Direct	Audio output without any native virtualisation



Wireless Subwoofers – KW2 RX Receiver

XIO features a built-in KW2 wireless transmitter, allowing seamless connection to multiple KEF subwoofers via KW2 receivers; no cables required.



When paired with the recommended crossover settings in the KEF Connect app, users can easily create a more expansive and powerful home cinema experience without any hassle from cables or manually tweaking crossover settings in the app. For those using third-party subwoofers, the KW2 receiver also includes a 3.5mm stereo analogue output, enabling standard wired line-level connectivity.



Specifications



Specifications



Silver Grey



Slate Black

Model	XIO
Dimensions (HWD)	70 × 1210 × 165 mm (2.8 × 47.6 × 6.5 in.)
Weight	10.5 kg (23.1 lbs)
Drive units	HF/MF: 6 x 50 mm (2 in.) Uni-Q MX driver HF/MF: 2 x 50 mm (2 in.) full range driver LF: 4 pcs of 50 x 180 mm (2 x 7 in.) P185 driver supported by VECO
Amplifiers	HF/MF: 8 x Class D LF: 4 x Class D
Max SPL measured at 1m	102 dB
Frequency response (±3dB) measured at 85dB/1m	34Hz - 20kHz

Connectivity	
Input	HDMI 2.1 eARC TOSLINK Optical USB Type C (service) RJ45 Ethernet (network)
Outputs	Wireless Subwoofer output RCA Subwoofer output
Wireless connectivity	KEF Connect AirPlay Google Cast UPnP Compatible Bluetooth 5.3
Streaming services	Spotify via Spotify Connect Tidal via Tidal Connect QQ Music via Qplay Amazon Music Qobuz Deezer HIGHRESAUDIO Internet Radio Podcast...and more *Depends on services availability in different countries
Supported formats	Dolby Atmos, DTS:X, 360 Reality Audio, MPEG-H, FLAC, WAV, AIFF, ALAC, AAC, WMA, MP3, M4A, LPCM and Ogg Vorbis *Depends on support of the source device
Supported resolution	HDMI eARC up to 192 kHz/24 bit Network up to 384 kHz/24 bit Optical up to 96 kHz/24 bit *Depends on source resolution
Number of channels	Up to 5.1.2
Wi-Fi Network Frequency Band	2.4 GHz / 5 GHz/ 6 GHz
Wi-Fi network standard	IEEE 802.11a/b/g/n/ac/ax IPv4, IPv6

Power	
Amplifier output power	820 W (Instantaneous total power rating)
Power input	100 – 240VAC 50/60Hz
Power consumption	400 W (Maximum operating power) <2.0W (ECO mode standby power) <0.5W (Non WiFi mode)

