

KEF REFERENCE SERIES
MODEL 103/4



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Model 103/4 is a floor standing loudspeaker system incorporating the most advanced acoustic engineering techniques. A three-way system, the 103/4 employs four drive units and has a very high sensitivity, a high output capability and an outstanding power handling capacity. Its versatility and bass performance may be further enhanced by using KEF's optional equaliser, the KUBE 200.

Combining all of KEF's recent research in moving coil loudspeaker technology with established KEF Reference Series characteristics such as consistency, reliability and innovation, Model 103/4 presents a formidable array of features dedicated solely to the accurate reproduction of music and stereo images.

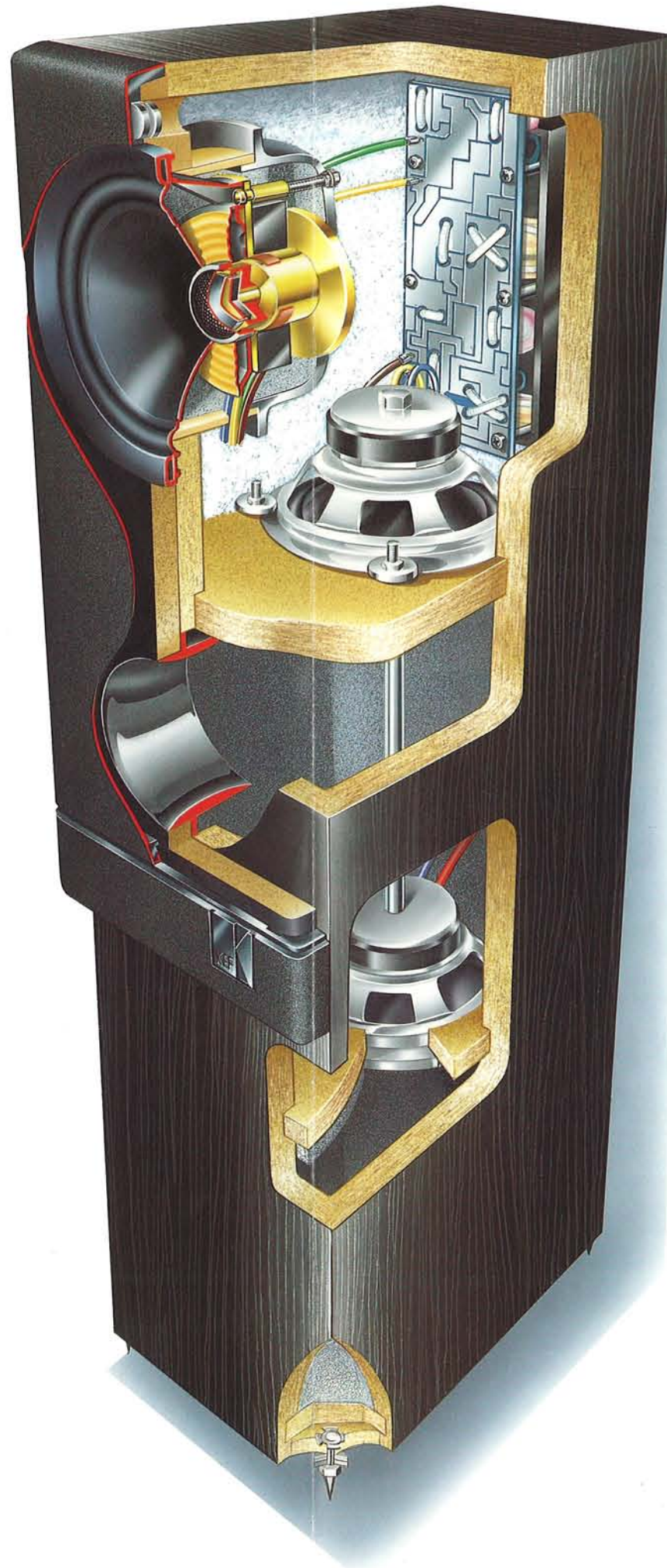
Model 103/4 combines KEF's revolutionary Uni-Q driver design producing superior definition and stereo imaging, with KEF's Dual Coupled Cavity woofer system for powerful bass output with high efficiency. Naturally, KEF has included in the design of the 103/4 other attributes of excellence which distinguish the company's famous Reference Series, including Conjugate Load Matching. This unique KEF feature allows any amplifier to give its very best performance with the loudspeakers.

The Uni-Q Driver

Key to the superb sound quality and overall performance of the 103/4 is the inclusion of KEF's remarkable Uni-Q two-way coincident driver. The midrange and tweeter of the 103/4 are combined, a 25mm neodymium-magnet dome tweeter being placed at the neck of the midrange cone. This radical KEF development realises the long held ambition of loudspeaker designers worldwide to create a drive unit where all the sound appears to radiate from a single point source. The use of a newly discovered magnetic alloy Neodymium-Iron-Boron, which produces ten times the energy of conventional ferrite, enables a tiny tweeter assembly to be positioned inside the bass-unit's voice coil, precisely where the acoustic centres of the two drive units coincide. This creates a full-range coincident drive source, matched in time, space and directivity. The KEF Uni-Q driver is therefore free from the frequency response and dispersion discontinuities at the crossover point that usually result from separating the woofer and tweeter; the effects of room reflections are minimised because the sound reaches the listener in phase; clarity, stereo imaging, and the sound of strings and voices, in particular, are greatly improved.

The Dual Coupled Cavity Woofer System

Model 103/4 incorporates two 160mm woofers mounted in double coupled cavity configuration and linked with a force cancelling rod. This metal rod couples and thereby cancels the drive units' identical, but opposing, mechanical vibrations, whilst reducing distortion. Linking the woofers also



prevents the transfer of energy to the main enclosure, a cause of the delayed resonances which often give rise to 'boxy' colouration thus reducing musical clarity. Model 103/4's entire bass output is radiated by a smoothly contoured duct placed below the Uni-Q unit. This acts as an air diaphragm of very low mass, with an effective diameter similar to that of the midrange unit. Thus directional characteristics match, ensuring exceptionally smooth acoustic integration throughout the entire frequency range.

Conjugate Load Matching

This technique, developed by KEF for implementation into the design of the world famous Reference Series, is designed to make the amplifier's job easier by simplifying the load it has to drive. In Model 103/4's crossover network conjugation minimises the impedance variations normally presented to the amplifier in conventional circuits. This reduces the reactive load, ensuring optimum power transfer with minimum distortion. In addition to easier driving, conjugation brings with it another important advantage – a significant reduction in the deleterious effect on the speakers' frequency response of the interaction between the speaker impedance and the combined effect of cable and amplifier impedance. This is of particular importance where long runs of speaker cable are required, and makes the choice of connecting cable less critical, ensuring a more consistent performance under all conditions. Further, each pair of model 103/4's is assembled from drivers and crossovers which have been computer selected for identical sensitivity and response. Every pair of 103/4's is matched to KEF Reference Series standards – ie less than 0.5 dB difference in response between each speaker.

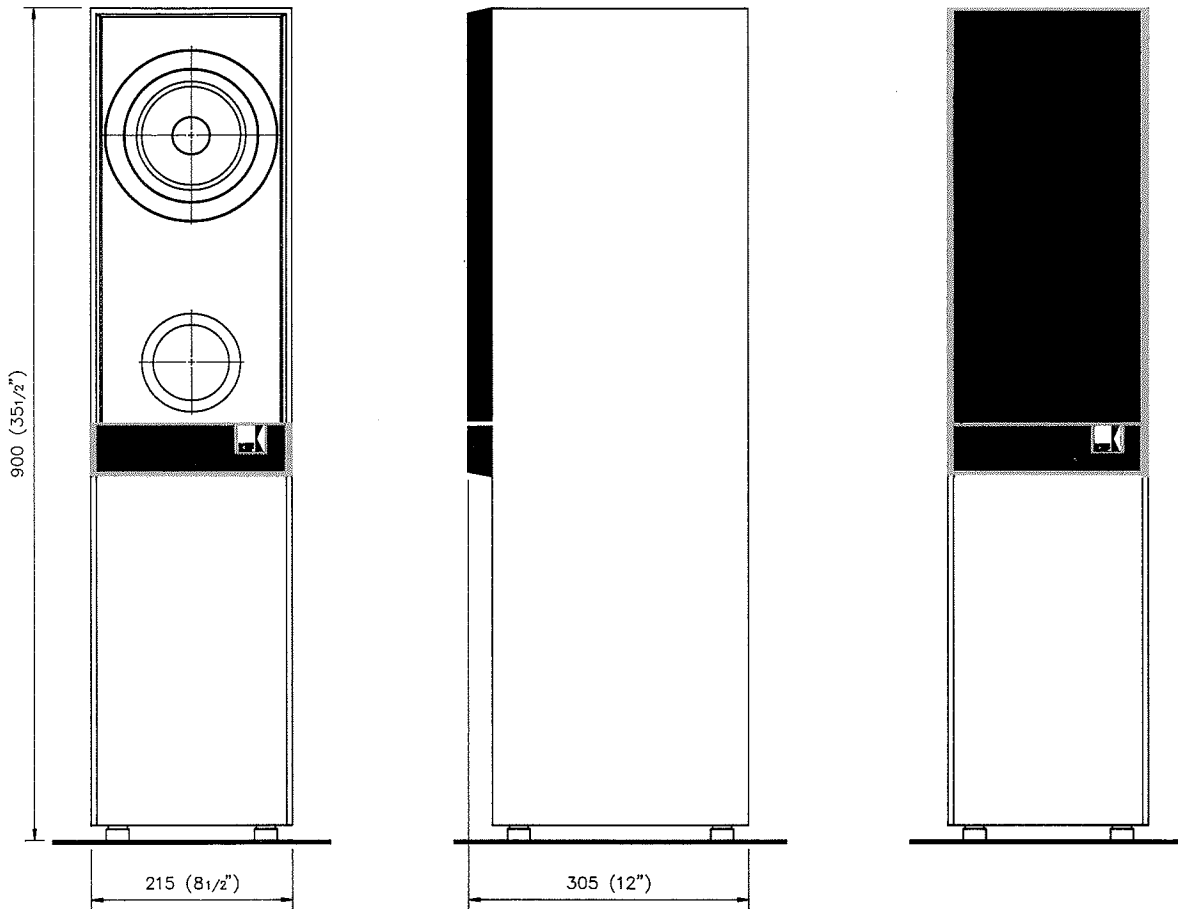
Reference Series Craftsmanship

Model 103/4 enjoys the same standard of craftsmanship and finish found in all KEF Reference Series loudspeakers. The baffle is computer-routed from solid MDF, painted dark grey, with the single 160mm Uni-Q driver unit flush rebated into the baffle and fitted with a moulded trim ring. The lightweight moulded grille frame is held in place by high-strength magnets. With the grille removed there are no fixings visible for either the grille or the driver. Two pairs of heavy duty three-way gold plated input terminals are provided, allowing the system to be bi-wired or bi-amped, with optimum signal transfer whichever cable termination is used.

The KEF Reference Series 103/4 offers exceptionally high quality reproduction, faithful to the original recording. Superbly crafted and finished it will grace and enhance any listening room both with its appearance and its sonic performance.

This performance may be further complemented by adding the KEF KUBE 200 active equaliser which extends bass response to 20Hz (-6dB) and offers precise control of the speaker's acoustic balance, largely independent of location or room furnishings.

Specifications



Model	103/4		
Type	SP3131		
Effective Frequency Range	50Hz – 20kHz ± 2.5 dB, -6 dB at 38Hz measured at 2m on reference axis		
Directional Characteristics	Flat within 2dB from 50Hz – 17kHz up to 30° off reference axis in any direction		
Maximum Output	112dB spl on programme peaks under typical listening conditions		
Characteristic Sensitivity Level	91dB spl at 1m on reference axis for pink noise input of 2.83Vrms band limited 50Hz – 20kHz (anechoic conditions)		
Amplifier Requirements	50 – 200W into 4 ohms		
Impedance	4 ohms		
Internal Volume		32 litres	(1952 cu in)
	MF/HF	1.25 litres	(76 cu in)
Net Weight	18.1kg 40lbs		
Dimensions h x w x d	900 x 215 x 305 mm 35½ x 8½ x 12 in		
Height of Origin of Reference Axis	135mm (5½ in) below top surface of cabinet		
Angle of Reference	Horizontal		



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