KEF C SERIES

THE KEF UNI-Q TWO-WAY DRIVER:

Proof that the best sound is purely coincidental.

THE KEF C SERIES

Featuring the KEF Uni-Q™ Two-Way Driver.

For over 20 years, music lovers and audiophiles demanding the best possible value have turned to the KEF C Series. Today's C Series reflects this tradition, and more. Four out of six new models incorporate the KEF Uni-Q Driver, a brilliant new design that unifies woofer and tweeter in a single, integrated module.

C95. The world's first truly coincident source driver coupled with the world's most advanced bass loading. Clad in grain-matched wood veneers, the C95 is an elegant tower with prodigious capabilities. Its KEF Uni-Q 2-way Driver (details further on) combines a 200 mm (8 inch) woofer and 25 mm (1 inch) tweeter on a single chassis. The woofer and tweeter not only share the same axis, but have acoustic centres in the same plane. And as both units have the same directivity in the crossover region, you experience pinpoint stereo imaging with reduced colouration throughout a broader area of your listening room.

From the award-winning KEF Reference 104/2, the C95 inherits Coupled Cavity Bass Loading. A 200 mm (8 inch) unit mounted vertically inside the cabinet is loaded at the front by a tuned cavity. Bass energy is vented immediately below the main drive unit by a duct that is specially contoured for minimum turbulence. You get the efficiency of a reflex system with the superior transient behaviour of a sealed box.

Conjugate Load Matching presents the amplifier with the simplest load—pure resistance. You get higher listening levels with less amplifier strain. A separate set of connecting terminals lets you bi-amplify the C95, driving the bass unit separately. All told, the C95 stands as another tour de force from KEF.

C75. Accuracy, extended bass and unobtrusive good looks. Despite its high performance, this handsome floor-standing loudspeaker occupies only 0.06 m^2 (just over half a square foot) of floor space. The C75 is a three-way two unit system using the same KEF Uni-Q Driver as the prestigious C95. For extended bass, high efficiency and high output, the C75 incorporates a second 200 mm (8 inch) polymer cone bass unit on a matching die-cast chassis. The C75 offers an attractive combination of accuracy, musicality, and extended bass response.

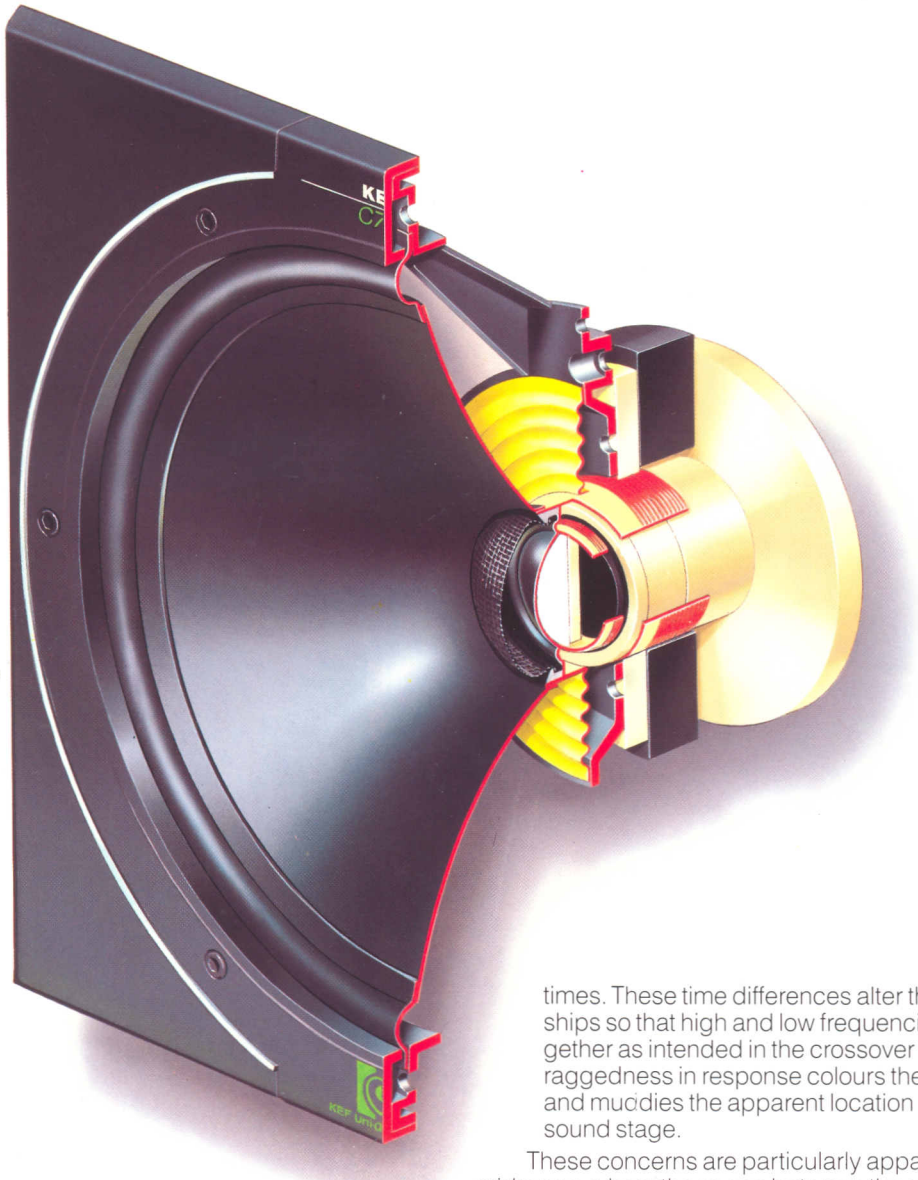
C55. Superlative performance; superb value. The C55 combines a KEF Uni-Q Driver with a polymer cone 200 mm (8 inch) passive radiator that extends bass to an impressive 48 Hz (−6 dB). Mounted in matched die-cast housings, the passive radiator and KEF Uni-Q Driver are covered by a clip-on injection moulded grille specially profiled to minimise 'tunnel' effects. Whilst small enough for bookshelf mounting, the C55 will perform equally well if placed on a low table or stand. The KEF Uni-Q driver's symmetrical dispersion means mounting height, vertical or horizontal placement are not critical to the sound.

With a sensitivity of 90 dB (2.83 V, 1 m), the C55 will take a moderately sized amplifier to near-concert volume levels. As an upgrade to your existing music system or the centre-piece of a new one, the C55 is ideal.

C35. Unprecedented: a bookshelf speaker actually designed for bookshelves. It is ironic that the sound of most bookshelf speakers changes when they are placed on their side, as so many bookshelves dictate. This is due to the speakers' asymmetrical directivity. Thanks to the KEF Uni-Q Driver, the C35 achieves symmetrical dispersion both horizontally and vertically. Either way, you'll hear superior stereo sound throughout more of your listening room.

C25. The latest embodiment of the 'mini-monitor.' KEF has been at the forefront in eliciting superb sound from tiny loudspeakers since the days of the first 'mini-monitor.' The C25 is a new expression of this great tradition. Bass is provided by KEF's new B160, a 160 mm (6½ inch) cone driver with lightweight polymer diaphragm. This bass unit plus the new 19 mm (¾ inch) metal dome tweeter produce impressive volume levels, good bass extension and uncommon accuracy. The C25 is the ideal choice for music lovers assembling their first high-quality music system.

C15. Compromised on space? No need to compromise on sound. Small enough to hold in the palm of your hand, the C15 is more than capable of satisfying, full range sound. There is no compromise on build quality, either. The KEF C15 incorporates a 110 mm (5 inch) polymer cone bass unit with die-cast chassis, 19 mm (¾ inch) metal dome tweeter, and recessed, gold-plated terminals. The tweeter's fluid cooling and the bass unit's high-temperature voice coil handle up to 60 watts (programme) and produce listening levels in excess of 100 dB.



A NEW DIRECTION IN SOUND:

The KEF Uni-Q Story.

Nearly all loudspeaker designers agree with the theory that a speaker's sound should appear to radiate from a single point. The obvious solution is a single driver to handle the full range of musical frequencies. Unfortunately, diaphragms that move sufficient quantities of air for bass are usually not small or fast enough for treble. And drivers small enough to handle treble can't produce powerful bass.

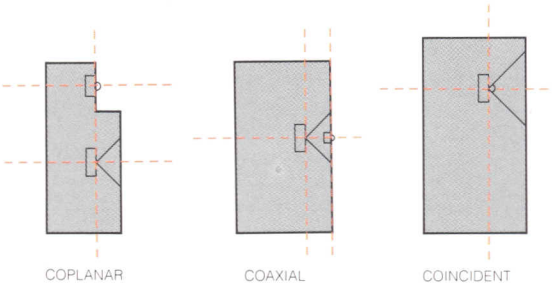
These practical concerns mean that nearly every speaker produces sound from separate drive units: a woofer for the low frequencies, a tweeter for the highs. This simple division of labour can have immediate and profound effects on the sound:

- *Sound quality that varies from one listening position to another.* With bass and treble drivers, the directivity factor, or 'Q' of the tweeter rarely matches that of the woofer in the crossover region. As a result, the tonal balance will shift as the listener moves off the loudspeaker's axis. For many speakers, sitting in a specific 'sweet spot' is the only way to ensure uncoloured sound.
- *Interference effects in the crossover region.* Whenever two sound sources radiate the same frequency, they create areas of unwanted reinforcement and cancellation. Such interference effects at the mid/high frequency crossover are quite audible and change from one listening position to another.
- *Time delay.* The distance from tweeter to listener can only equal the distance from woofer to listener along one listening axis. As a result, at most listening positions, sounds from different drive units arrive at different times. These time differences alter the phase relationships so that high and low frequencies no longer add together as intended in the crossover region. The resulting raggedness in response colours the 'first arrival' sound and muddies the apparent location of instruments in the sound stage.

These concerns are particularly apparent in the upper midrange, where the space between the drive units on the baffle is comparable to the wavelength of sound at the crossover frequency (about 100 mm or 4 inches at 3 kHz, for example). Time delay does not present a problem at the lower crossover frequency of three-way systems, due to the longer wavelengths involved (about 1 meter or 40 inches at 300 Hz, for example).

The Search for Solutions.

The problems of driver placement can hardly be described as new. For years, the goal of many of the best loudspeaker designs has been to overcome these obstacles. For example, the stepped baffles on the front of KEF's Reference Models 105, 105.2, 105.4 and 107 place the acoustic centre of



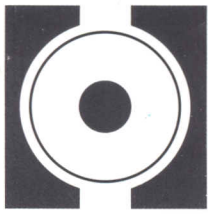
WHILE PREVIOUS DESIGNS HAVE BEEN EITHER COPLANAR OR COAXIAL, THE KEF UNI-Q DRIVER IS COINCIDENT.

every drive unit on a single plane. This physical arrangement ensures the phase consistency of first arrival sound. The same function is performed electronically by the crossover network of the KEF Reference 104/2, providing an excellent, albeit expensive solution.

Other speaker designers have placed the tweeter on the same axis as the woofer. These concentric designs typically have smooth off-axis frequency response. But many of them make no attempt to place the acoustic centres on the same plane. The tweeter sits in front of the woofer, or behind, and proper phase relationships are not maintained. Moreover, designs that locate the tweeter in front can also result in blockage of sound as the tweeter interferes with the woofer.

KEF brings it all together.

A radical new KEF design combines woofer and tweeter into a single chassis. Not only has KEF placed the woofer and tweeter *on the same axis*, their acoustic centres are also *in the same plane*. In addition, the profile of the woofer cone modifies the directivity factor, or 'Q' of the tweeter, so that both drive units have *the same directivity in the critical crossover region*. This unification of woofer and tweeter 'Q' lies behind the new unit's name: the KEF Uni-Q Driver.



KEF Uni Q™ Technology

Incorporated in four of KEF's new C-Series Loudspeakers, the KEF Uni-Q Driver yields immediate and readily audible sonic benefits. Because the KEF Uni-Q Driver eliminates the sharp discontinuity in 'Q' in the crossover region, proper tonal balance is not confined to a single 'sweet spot' in your listening room. Listening is extended to a far broader area. Because the sound arrives in phase, KEF Uni-Q brings the sound source into the sharpest possible focus. On properly recorded music, KEF Uni-Q reveals the location of each musical voice in the stereo image with pin-point accuracy.

The symmetrical design of KEF's Uni-Q Driver means that its dispersion is equally good on both the vertical and horizontal planes. You can lay the C35 horizontally on a bookshelf without sacrificing sound quality.

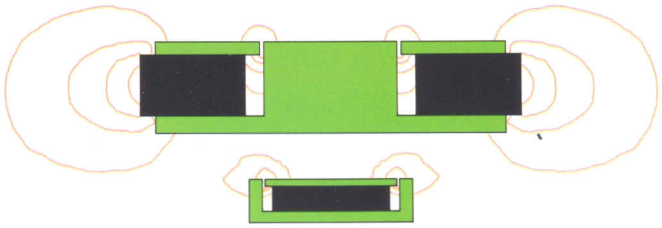
New Magnet Technology.

The KEF Uni-Q concept is so simple, one might wonder why it hasn't been done before. In fact, the KEF Uni-Q Driver has only been made possible by the use of a recently-discovered, highly efficient magnetic alloy, Neodymium-Iron-Boron.

KEF'S COSTLY NEODYMIUM-IRON-BORON TWEETER MAGNET AT LEFT EXERTS AS MUCH EFFECTIVE FLUX AS THE CONVENTIONAL MAGNET AT RIGHT.

The new alloy has ten times the energy product of conventional ferrite. At up to ten times the cost of its ferrite equivalent, Neodymium-Iron-Boron had previously been restricted to esoteric computer and aerospace applications.

Extensive computer analysis of magnet structures has enabled KEF to design a Neodymium-Iron-Boron tweeter magnet assembly which occupies less than 1/10th the volume of its ferrite equivalent. This advanced development in motor technology has enabled the entire tweeter assembly to be made small enough to be placed inside the bass unit's voice coil, precisely where the acoustic centres of the two drive units are truly coincident. Thus, KEF have created the world's first true coincident drive source, matched in time, space, and directivity.



THANKS TO COMPUTER-AIDED FINITE ELEMENT ANALYSIS OF THE TWEETER MAGNETIC CIRCUIT, KEF'S NEODYMIUM-IRON-BORON DESIGN ACHIEVES PERFORMANCE EQUIVALENT TO A MUCH LARGER CONVENTIONAL RING MAGNET.

Quality to the Last Detail.

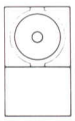
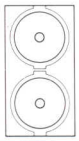
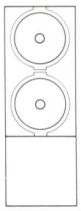
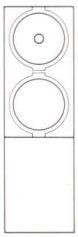
In other respects, the KEF C Series retains all the advantages that have made KEF loudspeakers world famous for over 20 years. Polymer woofer diaphragms ensure superior unit-to-unit consistency. Fluid cooling on every tweeter means KEF C Series speakers can safely handle today's more powerful amplifiers. Highly rigid, die-cast drive unit chassis contribute to long operating life.

As an added touch of quality, the input terminals of all C Series models are gold-plated for maximum conductivity. The terminals accept heavy-gauge wire, 4 mm banana plugs and dual banana plugs on 19 mm (¾ inch) centres. Even KEF's clip-on grilles are better: they're carefully shaped to minimise 'tunnel' effect. The grilles for speakers equipped with KEF Uni-Q drivers fit directly onto the driver frame. When the grilles are off, there's no unsightly fixing hardware visible.

ALL INPUT TERMINALS ARE GOLD-PLATED FOR MAXIMUM CONDUCTIVITY.

For over two decades, the KEF C Series has represented the most highly refined loudspeakers at the best value. With their innovative materials, handsome cabinets, and the stunning advancement embodied in the KEF Uni-Q Driver, KEF's new C Series is destined to carry that tradition well into the 1990s.

Specifications

Model	C15 	C25 	C35 	C55 	C75 	C95 
Description	2-way bookshelf	2-way bookshelf	2-way bookshelf	3-way bookshelf/ free standing	3-way floor standing	3-way floor standing
Drive units	HF: metal dome 19mm (0.75") coil dia fluid cooled LF: 110mm (5") 32mm (1.25") coil dia diecast chassis	HF: metal dome 19mm (0.75") coil dia fluid cooled LF: 160mm (6.5") 32mm (1.25") coil dia diecast chassis	Uni-Q LF/HF driver  HF: polymer dome 19mm (0.75") coil dia fluid cooled Ne-Fe-B magnet LF: 200mm (8") 32mm (1.25") coil dia diecast chassis	Uni-Q LF/HF driver  HF: polymer dome 19mm (0.75") coil dia fluid cooled Ne-Fe-B magnet LF: 200 mm (8") 32mm (1.25") coil dia diecast chassis Passive radiator 200mm (8") diecast chassis	Uni-Q LF/HF driver  HF: polymer dome 25mm (1") coil dia fluid cooled Ne-Fe-B magnet LF1: 200mm (8") 38mm (1.5") coil dia diecast chassis LF2: 200mm (8") 38mm (1.5") coil dia diecast chassis	Uni-Q MF/HF driver  HF: polymer dome 25mm (1") coil dia fluid cooled Ne-Fe-B magnet MF: 200mm (8") 38mm (1.5") coil dia diecast chassis LF: 200mm (8") 32mm (1.25") coil dia coupled cavity loaded
Frequency range (see note 1) ±3 dB −6 dB	68 Hz – 20 kHz 57 Hz	65 Hz – 20 kHz 55 Hz	64 Hz – 20 kHz 54 Hz	60 Hz – 20 kHz 48 Hz	57 Hz – 20 kHz 47 Hz	50 Hz – 20 kHz 39 Hz
Maximum output (see note 2)	100 dB	106 dB	108 dB	109 dB	112 dB	112 dB
Characteristic sensitivity level (see note 3)	85 dB	87 dB	88 dB	90 dB	91 dB	90 dB
Amplifier requirements (see note 4) into 8 ohms into 4 ohms	10 – 50 W 20 – 80 W	10 – 70 W 20 – 110 W	10 – 100 W 20 – 150 W	10 – 100 W 20 – 150 W	10 – 100 W 20 – 150 W	10 – 150 W 20 – 250 W
Nominal impedance	4 ohms	4 ohms	4 ohms	4 ohms	4 ohms	4 ohms resistive
Enclosure type	Closed box	Closed box	Closed box	Passive radiator	Closed box	Coupled cavity
Internal volume litres cu in	3.5 214	6.8 415	11.9 726	20.2 1232	29.3 1787	LF 33.3 MF 10.9 LF 2031 MF 665
Net weight kg lb.	3.2 7.0	4.1 9.0	4.8 10.6	7.2 15.8	12.9 28.4	18.9 41.6
Dimensions mm in	265 h x 180 w x 150 d 10.4 h x 7.1 w x 5.9 d	340 h x 205 w x 175 d 13.4 h x 8.1 w x 6.9 d	376 h x 246 w x 206 d 14.8 h x 9.7 w x 8.1 d	479 h x 246 w x 256 d 18.9 h x 9.7 w x 10.1 d	720 h x 246 w x 256 d 28.4 h x 9.7 w x 10.1 d	870 h x 246 w x 316 d 34.3 h x 9.7 w x 12.4 d

Notes:
1. Measured at 2m on reference axis.
2. Maximum spl on programme peaks under typical listening conditions.
3. Measured at 1m on reference axis for pink noise input of 2.83V rms (anechoic conditions).
4. Amplifier requirement figures are intended only as a guide. As a general rule, buy the biggest amplifier you can afford within the specified range and use it with care. It is easier to damage the loudspeaker by using a small amplifier driven into distortion by too much volume with bass and treble boost, than by using a larger amplifier which has power in reserve. If in doubt, ask your dealer.

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