

KEF Uni-Q Technology



KEF Q-SERIES



For thirty years KEF has proved to be a worthy holder of the title 'The Speaker Engineers'. Time and again, highly advanced and innovative engineering techniques coupled with the most exacting attention to detail at every level and stage of production has ensured that KEF has led the world with a succession of major advances in loudspeaker design and technology. The KEF 'Q' Series is no exception.

Why 'Q'

KEF's Uni-Q two-way coincident-source drive unit is incorporated into all three 'Q' series models. This unique drive unit combines both tweeter and bass/midrange units into one single chassis. This radical KEF development allows the sound from both units to reach the listener's ears at the same time, bringing readily audible benefits in terms of transparency, image stability and more natural sound reproduction. Uni-Q speakers are highly versatile in use. Being less affected by differing room acoustics, they will operate well in a wide range of placements and listening positions. Furthermore, an advanced and innovative design feature, unique to KEF ensures that all three Q-Series models share quite exceptionally low levels of cabinet colouration, even at high volumes.

A more detailed explanation of Uni-Q technology will be found on the reverse of this leaflet.



Q60

Fast, well controlled bass performance with accurate, detailed, midrange and the capability to play at realistic levels with modest power requirements sums up the remarkable Q60. Designed for stand mounting 400-450mm (15"-18") high, a 200mm (8") Uni-Q bass-mid unit, with 25mm (1") NIB magnet tweeter centrally placed, is loaded by a 20 litre reflex enclosure, 18mm (3/4") thick. Careful bass alignment makes the Q60 tolerant of positioning, with the ability to recreate the life-like three-dimensional qualities of well recorded music in almost any environment.



Description of Q60	2-way bookshelf
Frequency range ± 3 dB (measured at 2m on reference axis)	60Hz-20kHz (-6dB 45Hz)
Maximum output (measured spl on programme peaks under typical listening conditions)	110 dB
Characteristic sensitivity level (measured at 1m on reference axis for pink noise input of 2.83V rms [anechoic conditions], Q60 corrected for wall mounting)	90 dB
Amplifier requirements into 8 ohms	10-100 W
Nominal impedance	8 ohms
Enclosure type	Reflex
Internal volume	19.8 litres (0.7 cu.ft.)
Net Weight	7.2kg (15.8lb)
Dimensions	479h x 246w x 274d (mm) 18.9h x 9.72 x 10.8d (in)



Q80

The Q80 is a floorstanding speaker of relatively compact dimensions. It is designed for the listener who needs big speaker performance without big speaker dimensions.

In addition to the 200mm (8") Uni-Q unit, a passive radiator of the same diameter smooths, extends, and increases bass output. Adjustable, lockable, spiked or capped feet allow the Q80 to be located firmly on the floor, with optimum stability on any surface, enabling the Uni-Q unit's outstanding imaging capability to be fully exploited.

All three 'Q' Series models are fitted with heavy-duty twin gold-plated terminals suitable for bi-wired or bi-amplified use.

An easy 8-ohm load offers the amplifier no driving problems, and the Q80's high sensitivity allows lifelike levels of up to 110dB, an outstanding figure for a speaker of Q80's size.



Description of Q80	2-way floor standing
Frequency range ± 3 dB (measured at 2m on reference axis)	57Hz-20kHz (-6dB 40Hz)
Maximum output (measured spl on programme peaks under typical listening conditions)	110 dB
Characteristic sensitivity level (measured at 1m on reference axis for pink noise input of 2.83V rms [anechoic conditions])	89 dB
Amplifier requirements into 8 ohms	10-125 W
Nominal impedance	8 ohms
Enclosure type	Passive Radiator
Internal volume	33.8 litres (1.9 cu.ft.)
Net Weight	14.5kg (32lb)
Dimensions	855h x 246w x 274d (mm) 33.6h x 9.7w x 10.8d (in)



Q90

For those wanting the additional headroom and freedom provided by a full three-way system, the Q90 is the speaker of choice. This reflex-loaded floorstanding speaker is a no-compromise design, with a bold, dynamic and truthful performance. The 200mm (8") unit, loaded by its own 11.7 litre (0.4 cu.ft.) sealed enclosure, gives wide open soundstaging, with outstandingly natural reproduction of voices and strings – the 'difficult' areas of sound reproduction.

The reflex-loaded polymer-cone bass unit delivers powerful, extended but quick-sounding bass, with high output and power handling capability.

Twin gold-plated terminals allow bi-wired or bi-amplified operation. Adjustable, lockable feet give high stability on any surface, and ensure that the Q90's exceptional dynamic qualities and midrange transparency are not compromised.

With all this, the Q90 has a small 'footprint' – less than one square foot of floor space – is elegantly proportioned and easy to integrate into any listening room or hi-fi system.

Compatibility, flexibility, and high performance are the keynote features of the KEF Q90.



Description of Q90	3-way floor standing
Frequency range ± 3 dB (measured at 2m on reference axis)	40Hz-20kHz (-6dB 35Hz)
Maximum output (measured spl on programme peaks under typical listening conditions)	112dB
Characteristic sensitivity level (measured at 1m on reference axis for pink noise input of 2.83V rms [anechoic conditions])	89 dB
Amplifier requirements into 8 ohms	10-150 W
Nominal impedance	8 ohms
Enclosure type	Reflex
Internal volume	MF 11.7 litres (0.4 cu.ft.) LF 33.4 litres (1.18 cu.ft.)
Net Weight	18.7kg (41.1lb)
Dimensions	890h x 246w x 319d (mm) 35h x 9.7w x 12.5d (in)



A New Direction In Sound

The 'Q' Factor – or why speakers sound different in different rooms

The Uni-Q principle, developed by KEF engineers, realises the long-held ambition of loudspeaker designers to create the drive unit where all the sound radiates from a single source.

'Q' is the measure of a loudspeaker's directivity – how it beams its sound towards the listener. It is this factor which very largely determines how a loudspeaker will sound in any given room.

When we listen to live music we hear each instrument, a trumpet, say, from one discrete point in space, together with a proportion of the sound reflected from around the hall or room. With reproduced sound however, a single drive unit does not exist which will reproduce the entire audible spectrum. Most loudspeakers employ two or more drive units, separated from each other. So now different parts of the trumpet come from two different locations – and at slightly different times.

Because the directivities of the two units do not match at crossover, the sound is different at different listening positions. The tonal balance shifts as the listener moves. Sit off-centre and the trumpet becomes muted, the singer catches a cold. Listeners in different positions, or in different rooms can hear a coloured and out-of-focus soundstage.

Using Neodymium-Iron-Boron, a newly developed magnetic alloy which has ten times the energy product of conventional ferrite, KEF designers have engineered a tweeter assembly small enough to be located in the neck of the bass unit's cone, **precisely** at the point where the sound sources, the acoustic centres, of the two units coincide.

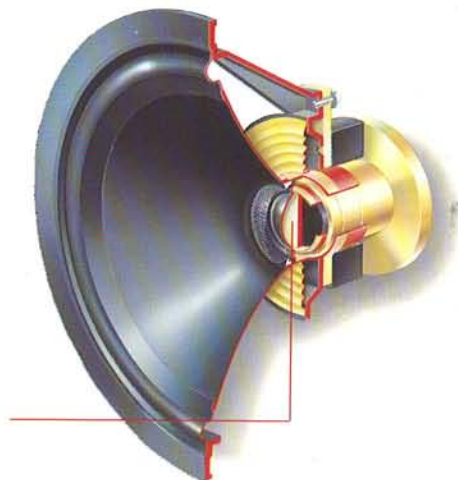
The direct and reflected path-lengths from both units to the listener's ear are now the same. Correct phase relationships ensure that high and low frequencies add up correctly to produce the desired response.

With Uni-Q, not only has KEF placed the woofer and tweeter on the same axis, their acoustic centres are also **in the same plane**. The directivity of both units is identical. The trumpet is back in one piece, unmuted, and the singer's centrestage, in perfect health.

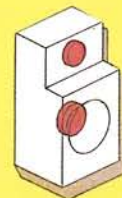
The unification of woofer and tweeter 'Q' lies behind the revolutionary unit's name – the KEF Uni-Q Driver. More accurate sound, in more locations, and from more listening positions is the keynote of Uni-Q.

Amplifier Requirements

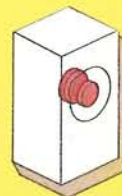
Amplifier requirement figures are intended only as a guide. As a general rule buy the biggest amplifier you can afford within the specified range and use it with care. It is easier to damage the loudspeaker by using a small amplifier driven into distortion by too much volume with bass and treble boost, than by using a larger amplifier which has power in reserve. If in doubt, ask your dealer.



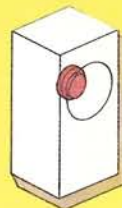
Previous designs have been coplanar or coaxial. The KEF Uni-Q is coincident.



Coplanar



Coaxial



Coincident

KEF Audio (UK) Limited,
Eccleston Road,
Tovil, Maidstone,
Kent ME15 6QP UK
Tel 0622 672261
Fax 0622 750653

KEF Electronics of America,
1701 Touchstone Road
Colonial Heights
VA 23834
Tel (804) 520 7200
Fax (804) 520 7260

