

## INSTALLATION INSTRUCTIONS MODELS C35, C55, C75, C95

# KEF

## KEF C-SERIES



Recording technology has greatly advanced in recent years. Digital recordings possess a wider dynamic range than ever before. Reduced background noise reveals more fine musical detail. To realise the full potential of these recordings a new breed of speaker is demanded.

What are the characteristics which this new breed of speaker should have?

**A WIDE DYNAMIC RANGE** requires a loudspeaker of high efficiency, coupled with adequate power handling and low distortion.

**LOW COLOURATION** is achieved by freedom from spectral distortion both on and off axis, and by freedom from structural resonances in the enclosure and drive units, allowing fine musical detail to be reproduced with clarity and accuracy.

**STABLE STEREO IMAGING** requires exceptionally close matching between left and right-hand loudspeakers, with uniform on and off axis response, under all conditions.

**PLEASING APPEARANCE.** Speakers are necessarily part of the furniture in the home, and must truly be 'lived with'. Industrial design, compatible with the engineering demands, should therefore ensure that the loudspeaker looks as elegant and unobtrusive as possible. It should also give of its best in all rooms irrespective of their shape and size, allow flexibility of positioning, and operate with as wide a range of associated electronics as possible, whilst extracting the best from each.

It is to fulfill these requirements that your new KEF C-Series loudspeakers have been designed.

### Introduction

Since its formation in 1961 KEF has pioneered many innovations in loudspeaker technology and design. Your new C-Series loudspeakers contain the latest of these advances — the KEF Uni-Q Driver.

This 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.

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 with a much smoother response being maintained off-axis, where most people listen, than before.

Because the high and low frequency sound sources in KEF's Uni-Q systems are coincident, the speakers' output is dispersed symmetrically in all planes. You can lay the C35 and C55 horizontally on a bookshelf without sacrificing sound quality. Unlike most other co-axial systems, the high frequency unit does not obstruct the bass unit in any way. Thus accurate stereo information is maintained over a much wider area than with conventional speaker systems.

### Unpacking, Handling and Aftercare

Unpack the speakers carefully. We suggest you retain all the packaging in case you need to transport the speakers at a later date.

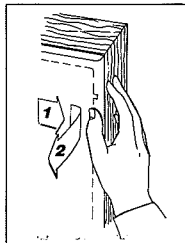
With the amplifier switched OFF, place the loudspeakers in their anticipated listening position and connect them to your equipment observing polarity (see section on Speaker Connections).

Play a selection of recordings with which you are familiar, listening for sound balance, inner detail and stereo imaging. Allow yourself time to get used to the sound of your new speakers in your listening room.

The cabinets should be treated with the same care with which you would treat fine furniture. Use of a good quality wax polish is recommended.

If you need to brush the grille cloth please remove the grille before doing so.

The speaker grille is an injection-moulded frame which clips on to the sides of the die cast housing of the Uni-Q Drive Unit. To remove the grille, feel for the indents on the inside edge of the grille frame, approximately 130mm (5") and 350mm (14") from the top. With your thumb between the two indents, spring the grille frame outwards on one side only, at the same time pulling it forward. DO NOT try to remove the grille by pulling forward from the top.



### Room Positioning and Listening Window

#### C35 C55

These models are designed primarily for use on a shelf although they may be used on a stand or other support with perfectly satisfactory results. Both may, if circumstances dictate, be placed on their side with no loss of sound quality or stereo information. The speakers should ideally be placed with the centre of the Uni-Q Driver at, or near, the ear height of a seated listener. The KEF Uni-Q Driver's symmetrical dispersion and well-maintained off-axis response make this height less critical than with other non coincident source loudspeakers. To avoid cabinet vibrations being transmitted to the shelf it can be a good idea to separate the speaker from the shelf either by small rubber feet or a thin foam-rubber pad.

#### C75 C95

Designed to be placed on the floor, these two models are supplied with separate screw-in pointed feet and caps to give added stability on thick carpet. The four transit screws on the base of the speaker should be removed and replaced with pointed feet, placing a washer between the foot and cabinet. The plastic caps can be fitted if the speaker is to be used on a tiled or hardwood floor. The pointed feet should be screwed up tight, they should not be used for levelling purposes, and under no circumstances should the speakers be operated with screw holes open.

The tonal quality and clarity of the reproduction, and above all, the sharpness of the stereo image, are determined by the sound that reaches the listener directly, without reflection from walls, floor or ceiling.

Reflection from walls, windows, mirrors even the TV set can spoil stereo definition. Large items of furniture can cause absorption of midrange and high frequencies.

As a general rule floorstanding loudspeakers should be placed about 1m from the nearest side wall and 50cm from the rear wall, and angling them inwards slightly can be beneficial. The distance between the speakers, and their distance from the listener is also important. Spacing the speakers between 2 (6' 6") and 4 (13') metres apart will allow the images to develop fully, and you should sit at a distance at least equal to, and preferably greater than, the distance between them.

Considerable changes can be made to the sound of your hi-fi system by altering the position of the loudspeakers sometimes by only a few inches. Changing the angle at which they are placed can significantly affect the focus of the stereo image.

The listening room is the most variable and unpredictable element in the hi-fi chain and it cannot be emphasised too strongly that the only way to achieve optimum performance is through many hours of critical, aware listening both on speech and music, whilst adjusting the speakers' position.

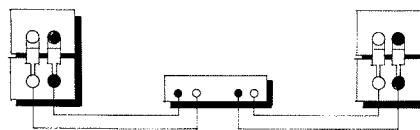
### Speaker Connections

These KEF C-Series models are fitted with a specially designed gold-plated terminal block which will accept either bare wire, 4mm 'banana' plugs, spade connectors or double 4mm plugs on 3/4in. centres. If you use bare wire, strip 20mm (3/4in) of insulation, twist it tightly together with clean fingers, push the wire through the hole in the terminal and screw it up TIGHT. Make sure there are no stray strands of wire which can cause a short circuit between the two terminals, the terminal block is designed to prevent this happening. If 4mm 'banana' plugs are used, choose a good quality sprung or expanding type, making sure the cable is properly connected and that the plugs fit tightly into the sockets. Normal polarity of

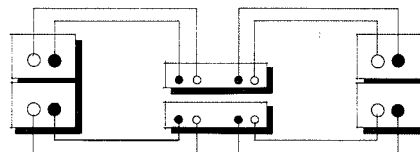
connection (amp positive/red to speaker positive/red and amp negative/black to speaker negative/black) should be observed.

C95 is fitted with two sets of input terminals linked by a gold-plated strap. Removal of this strap will allow the MF/HF and LF sections to be connected separately, either to separate power amplifiers driven from the same pre-amplifier (known as bi-amping) or by a parallel connection from one amplifier (bi-wiring). Bi-amping will also, if the power amplifier has a separate sensitivity control, allow low frequency output level to be adjusted separately. Connection to C95 may be made in the following ways:

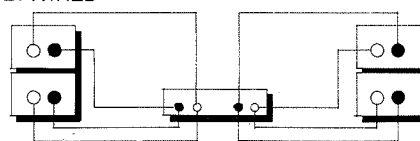
#### NORMAL



#### BI-AMPLIFIED



#### BI-WIRED



N.B. All connections should be made with the equipment switched OFF. Only switch ON once all connections have been made and are secure.

Correct polarity is vital to the proper operation of the system. Once you have made the connections described above you can check the polarity in the following manner:

Place the two loudspeakers close together facing each other about 5-7cm (2"-3") apart. Play a recording which has plenty of deep bass such as an organ solo, operating both simultaneously with the amplifier switched to 'mono'. Repeat the test after changing over the connections on ONE loudspeaker. Correct polarity is indicated by firm, full bass. When polarity is incorrect, the bass will be noticeably much weaker. To ensure identical output from both channels, keep the speakers facing each other and having established correct polarity as above, again reverse the connections on ONE loudspeaker. Using the same piece of music, and keeping the signal in 'mono', rotate the balance control on your amplifier on either side of 'centre'. You will hear a point at which the signal almost disappears. At this point the output from both loudspeakers is the same. In an ideal symmetrical listening set-up this should be the setting adopted, (don't forget to correct the polarity change you have just made!). You may need to use the balance control to compensate for an 'off-centre' listening position, or asymmetrical speaker positions within the room. The Uni-Q systems' imaging capabilities are outstanding and it is worthwhile spending some time in achieving the correct balance between the two speakers from your normal listening position.

Always try to keep the cable run from amplifier to speakers as short as possible to minimise power and high frequency losses, although in most domestic hi-fi systems this should never become a serious problem.

The table (A) shows the maximum length that can be used in various gauges without audible effect on speaker performance. As a general guide good audiophile speaker cable has a cross section of approx. 4mm<sup>2</sup>. Colour coded cable is recommended to assist checking polarity.

Always use cables of equal length to both speakers even if the actual length of the cable run is shorter than the other the excess cable should be folded neatly, concertina fashion and secured with a cable tie or elastic band.

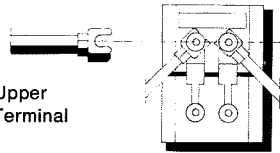
The importance of good, clean tight connections to your loudspeakers cannot be over-emphasised.

It is good practice occasionally to remake all connections. In the case of wrapped connections, cut off the old wire and strip the insulation back to expose fresh.

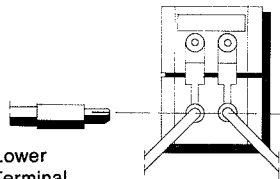
**CAUTION:** Certain exotic types of cable have high capacitance which can cause instability with some amplifiers. If in doubt, select a cable from the foregoing tables, or consult your Dealer.

C95 only.

Spade Connector: Upper Terminal

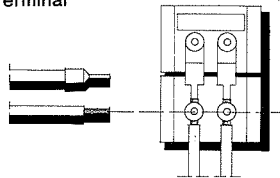


4mm plug



Lower Terminal

Pin Bare Wire



### Amplifier requirements and power handling

In KEF literature and on the back of these instructions is listed a suitable range of amplifier power outputs to match models in the KEF C-Series. Conditions of use (room size, type of programme, preferred listening level) and the nature of the loudspeaker/amp interface, vary so widely that it is not possible to lay down hard-and-fast rules about amplifiers and the loudspeakers they drive.

KEF loudspeakers are built to rigorous standards of quality and consistency, and the upper limits of the amplifier requirements shown are those which any KEF loudspeaker should handle without distress or damage under average domestic listening conditions. Higher amplifier powers may be used on material having a wide dynamic range, but care should be taken to avoid abnormal conditions such as switch-on surges or gross distortion, either of amplifier or loudspeakers, resulting in power peaks greatly in excess of the ratings specified. The lower power limits of amplifiers are those necessary to give a reasonable output level under domestic conditions. Remember always that a small amplifier is likely to run out of power and into distortion well before the volume control is at its maximum particularly with bass and treble boosted. Loudspeakers can be more easily damaged in this way than by large peaks of short duration delivered by a large amplifier.

### SERVICE INFORMATION

Loudspeakers are inherently reliable and rarely give trouble. It is important to remember that faults arising in any part of the reproducing system will be heard via the loudspeakers and therefore when faults occur, careful and analytical diagnosis will be required to locate the actual source of trouble. Loudspeakers cannot generate hiss or hum. Spurious noises of this type generally originate in the electronic sections of the equipment or even in the programme source itself. Faults in a loudspeaker will be audible on all programme sources. A fault which is evident only when playing discs but not, for example, when using the radio tuner, is not likely to originate with the loudspeakers.

Service problems should be discussed in the first place with the dealer from whom the goods were originally purchased. Generally warranty claims are best handled by your dealer. However, in case of difficulty, contact:

Customer Service Department, KEF Electronics Limited, Tovil, Maidstone, Kent, ME15 6QP. Telephone: 0622 672261. Telex: 96140.

This precision engineered KEF product is guaranteed against faulty material and workmanship for a period of five years from the date of original purchase subject to the following restrictions.

- 1 This warranty is only valid in the country of purchase.
- 2 That the equipment has not been disassembled, modified or tampered with by any person than an expressly authorised representative of KEF Electronics Limited.
- 3 That the equipment has not been abused or operated in conjunction with unsuitable or faulty apparatus.
- 4 That the equipment has not suffered mechanical damage or derangement in transit.

Should service be required, notify the dealer from whom you purchased the equipment and have him arrange onward shipment to KEF ELECTRONICS LIMITED or an authorised agent if he confirms the need for factory attention. Do not despatch goods without prior agreement of KEF or their authorised agents.

If asked to return products for inspection and/or repair, pack carefully, preferably in the original cartons and return prepaid. Insurance is recommended as goods are returned at owners' risk. KEF or their authorised agents cannot be held liable for loss or damage in transit. Packing and insurance and freight on the return journey will be paid by KEF if warranty work proves to be necessary. Failure to register in no way limits or invalidates the warranty, but in the event of service being required, delay may result since our Service Department cannot begin warranty work until the original sale has been verified.

### FOR THE USA

This KEF loudspeaker is warranted to the original purchaser against original factory defects in material or workmanship for a PERIOD OF FIVE YEARS FROM THE DATE OF ORIGINAL PURCHASE.

### What we will do

Should your KEF loudspeaker fail to function properly because of a manufacturing defect, KEF will repair or replace it free of charge. If the product is still defective after a reasonable number of attempts by the warrantor to remedy the defect, you may elect a refund of the purchase price or replacement without charge. Before a refund or replacement can be made, the product must be free of all liens and other encumbrances.

### How to obtain service

Should service be required, contact the dealer from whom you purchased the equipment and have him arrange onward shipment to KEF Electronics Limited or an authorised agent. Ship the product prepaid, only after receiving written authorisation and instructions from the dealer.

Include a written description of the claimed defect, and your original sales slip or other proof of ownership and date of purchase.

We strongly recommend that speakers be packed in their original cartons and packing material and that all shipments be insured. (KEF cannot be responsible for loss or damage in shipment.) Packing, insurance and return freight will be paid by KEF if work covered under the warranty is necessary.

### What is not covered

This warranty does not cover a loudspeaker system which has been:

- 1 damaged while in your possession;
- 2 overloaded, abused, misused or operated with faulty or unsuitable equipment.

IN NO EVENT SHALL THE WARRANTOR BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, whether damages result from breach of express or implied warranties, tort, negligence or otherwise.

Some states do not allow exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

If you have any questions about this warranty and your dealer has not been able to assist you, please contact:





KEF Electronics of America Inc, 14120-K Sullyfield Circle, Chantilly, VA22021. Telephone: (703) 631 8810. Telex: 510 100 2304

### OWNER REGISTRATION INFORMATION

Please complete and return the product safety registration card within 14 days of purchase. Failure to register does not invalidate your warranty; but in the remote event any safety hazard develops with this product, your registration card will facilitate our notifying you promptly.

A	Wire Type	Resistance per Metre	Length for 0.2Ω
	area mm <sup>2</sup>		
	0.75	46.0	4.3
	1.0	34.5	5.8
	1.25	27.6	7.2
	1.5	23.0	8.7
	2.5	13.8	14.5
	4.0	8.6	23.3
	6.0	5.7	35.1
	10.0	3.4	58.8
USA	AWG		
	18	42.2	4.7
	16	26.4	7.6
	14	16.5	12.1
	12	10.4	19.2
	10	6.5	30.8
	8	4.1	48.8

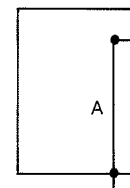
## Specifications

Model	C35	C55	C75	C95
Description	2-way bookshelf	3-way bookshelf/ free standing	3-way floor standing	3-way floor standing
Drive units	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: 200mm(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 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	64Hz—20kHz 54Hz	60Hz—20kHz 48Hz	57Hz—20kHz 47Hz	50Hz—20kHz 39Hz
Maximum output (see note 2)	108 dB	109 dB	112 dB	112 dB
Characteristic sensitivity level (see note 3)	88 dB	90 dB	91 dB	90 dB
Amplifier requirements (see note 4) into 8 ohms into 4 ohms	10—100W 20—150W	10—100W 20—150W	10—100W 20—150W	10—150W 20—250W
Nominal impedance	4 ohms	4 ohms	4 ohms	4 ohms resistive
Enclosure type	Closed box	Passive radiator	Closed box	Coupled cavity
Internal volume litres cu in	11.9 726	20.2 1232	29.3 1787	LF 33.3 MF 10.9 LF 2031 MF 665
Net weight kg lb	4.8 10.6	7.2 15.8	12.9 28.4	18.9 41.6
Dimensions mm in	376h x 246w x 206d 14.8h x 9.7w x 8.1d	479h x 246w x 256d 189.h x 9.7w x 10.1d	720h x 246w x 256d 28.4h x 9.7w x 10.1d	870h x 246w x 316d 34.3h x 9.7w x 12.4d

### Reference (listening) Axis

The symmetrical dispersion of the Uni-Q Driver means that good sound reproduction will be obtained IN ANY DIRECTION, even when the listener is seated well off axis.

Measurements given below indicate the height of origin of the reference axis measured from the bottom of the cabinet. The axis is perpendicular to the speaker baffle; (ie: horizontal) and passes through the centre of the drive unit.



Height A is:

- C35 256mm (10 $\frac{1}{8}$ " )
- C55 359mm (1'2 $\frac{1}{8}$ " )
- C75 600mm (1'11 $\frac{7}{8}$ " )
- C95 750mm (2'6"

ie: 120mm (4 $\frac{3}{4}$ " ) below the cabinet top on all models.

Features and specifications subject to change without notice. Uni-Q is a trademark of KEF. Patents pending.

#### 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.



KEF ELECTRONICS, LTD., Tovil, Maidstone, Kent ME15 6QP. Telephone: (0622) 672261. Telex: 96140. Fax: 0622 50653. Distributed in the U.S.A. by: KEF Electronics of America Inc., 14120-K Sullyfield Circle, Chantilly, VA 22021 Telephone: (703) 631-8810. Telex: (510) 100 2304 Fax: (703) 830-7625.