

# KEF C SERIES MC60

## INSTALLATION INSTRUCTIONS

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 C60 has been designed.

### Unpacking, Handling and Aftercare

Spread the carton flaps completely. Lay the carton on its side and turn it upside down.

Lift the carton upwards off the loudspeaker and put it and the packing pieces to one side. We suggest you retain all the packaging in case you need to transport the speakers at a later date.

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. Careful attention to the suggestions contained in this manual should ensure they operate properly within your chosen system.

Your KEF C60 loudspeakers have been designed to a very high standard of performance and are supplied in matched pairs of real wood veneer cabinets.

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

It is normal for walnut cabinets to darken and rosewood to lighten with the passing of time, but locations in direct sunlight should, if possible, be avoided.

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

### Room Positioning and Listening Window

The KEF C60 is designed to be mounted on a stand 30-40 cms high.

This ensures that the ears of a listener seated 3m (10') from the loudspeaker are on the axis, at a height of 1.2m (4') above floor level. Accurate stereo information is maintained over a wide area both horizontally and vertically, see diagram.

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 nearby walls, windows, mirrors, even the TV set can spoil stereo definition by confusing the primary image. Large items of soft furniture can cause absorption of midrange and high frequencies.

As a general rule 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 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 relative to the walls, 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

The terminals fitted to the KEF C60 will accept either bare wire or 4mm 'banana' plugs. If you use bare wire you will need to strip 20/25mm ( $\frac{3}{4}$ "-1") of insulation — 12.5mm ( $\frac{1}{2}$ ") is not enough! — twist it tightly together with *clean* fingers, and having previously unscrewed the terminal, wrap the wire clockwise around 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. If 4mm 'banana' plugs are used, you should 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 black to speaker black) should be observed.

**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—7.5cm (2"—3") apart. Play a recording which has plenty of deep bass such as an organ solo, operating both speakers 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.

Keep the speakers facing each other and, after establishing 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. KEF C60's 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 choice of cable to use with KEF C60 is less critical than with most other loudspeakers owing to the resistive nature of the load it presents to the amplifier. The total resistance however, should not exceed 0.2 ohms.

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 approximately 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 in the room is different. If one 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 dealers.

### Amplifier requirements and power handling.

The KEF C60 will give its optimum performance on programme material having a wide dynamic range when driven by an amplifier capable of delivering up to 200 watts into a 4 ohm resistive load. In practice this means an amplifier whose output rating is 100 watts into an 8 ohm load. KEF C60 can however be driven to perfectly adequate domestic listening levels by an amplifier rated at as little as 25 watts. The C60 is a high-efficiency system capable of achieving very high volume levels without distress, and of sustaining short term amplifier output peaks in excess of 300 watts.

If KEF C60 is used with your existing amplifier you will almost certainly find that you need a lower volume setting than you have been used to, and the dynamic range you hear (dynamic range is the difference between the loud and soft parts of the music) will be greater. This, coupled with the imaging capability and overall balance of the KEF C60, will enable you to hear more musical detail, and perceive more about how, and where, the recording was made.

### Record Suggestions

The importance of listening tests in setting up your hi-fi system has been emphasised in these instructions. Use records having good tonal balance with good imaging qualities, covering as wide a range of music and voice as possible. To assist your setting-up, and add to your musical enjoyment, KEF recommend the following records, in either analogue or CD (where available) format.

Rachmaninov/Saint Saens	Rhapsody/Piano Concerto 2	Philips 410 052
Brahms	Piano Concerto 2	Decca 410 199
Debussy	Preludes	Denon 38C37
de Falla	Three Cornered Hat	Decca 410 008
Rachmaninov	Symphonic Dances	Decca 410 124
Canteloube	Auvergne Songs	Decca 410 004
Laurie Anderson	Mister Heartbreak	Warner 925 077
Peter Gabriel	Four	Charisma 800 091
Elton John	Superior Sound of	DJM 810 062
Rickie Lee Jones	Rickie Lee Jones	Warner 256 628
Joe Jackson	Body and Soul	CBS 6500
Thomas Dolby	The Flat Earth	EMI 85930

A general check on system performance can also be carried out using one of the many test discs available. One such, which is particularly simple to use is 'The Enjoyment of Stereo' by John Borwick, EMI SEOM 26.

### 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.

### For the USA

This KEF loudspeaker is warranted to the original purchaser against original factory defects in material or workmanship for a PERIOD OF TWO 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 for 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

A	Wire Type area mm <sup>2</sup>	Resistance per Metre m Ω	Length for 0.2 Ω m
	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
U.S.A.	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

### 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.

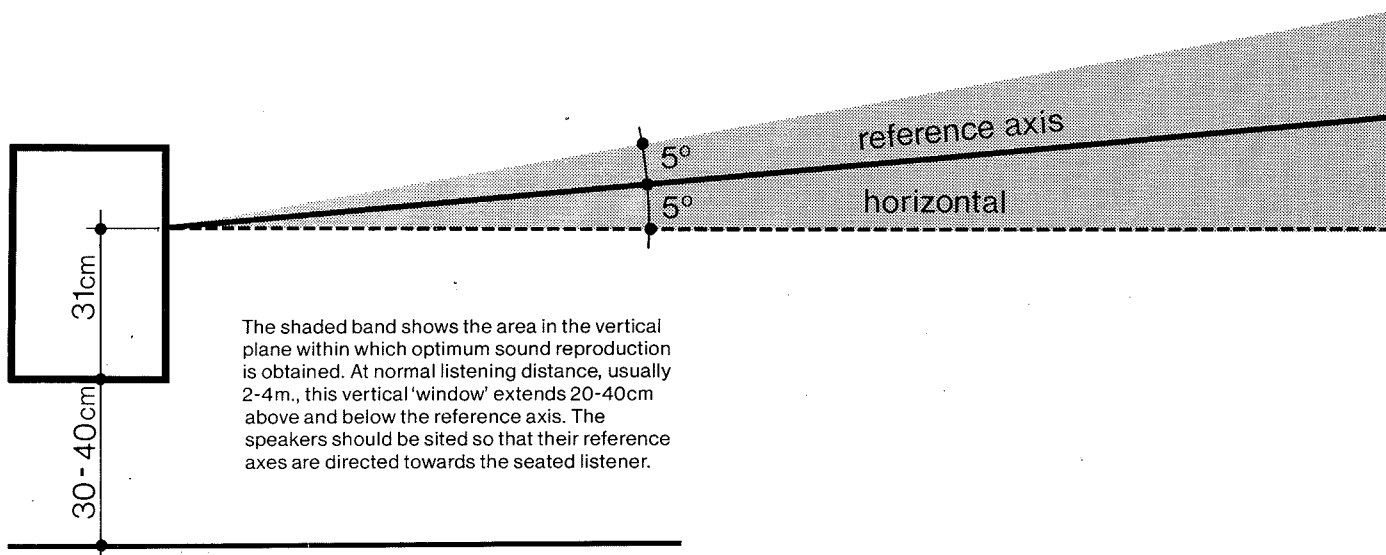
## SPECIFICATION

Type	SP3056
1. Frequency Range	$\pm 3\text{dB}$ 66Hz-20kHz -6dB at 55Hz
2. Max. Output	110dB
3. Characteristic Sensitivity Level	89dB
4. Amplifier Requirements	10-100W into $8\Omega$ 20-200W into $4\Omega$
Nominal Impedance	$4\Omega$ resistive
Enclosure Type	Closed box
Internal Volume	24L
Net Wt.	12.0kg 26.4lb
Dimensions	470h x 250w x 312d mm 18.5 x 9.8 x 12.3 in
Conditions of Use	Free standing on stand 30-40cm high Matching KEF stands are available
Features	Matched real wood veneers. Die cast chassis. Conjugate load matching
Finish	Walnut, rosewood, black ash matched real wood veneers

### Specification notes

1. Measured at 2m on reference axis in free field conditions.
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. The amplifier requirements 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 a loudspeaker by using a small amplifier driven into distortion by too much volume with bass and treble boost, than by using a large amplifier which has power in reserve. If in doubt, you should always ask your dealer for advice.

KEF reserves the right to incorporate developments and amend specifications without prior notice, in line with continuous research and development.



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