OWNER'S MANUAL

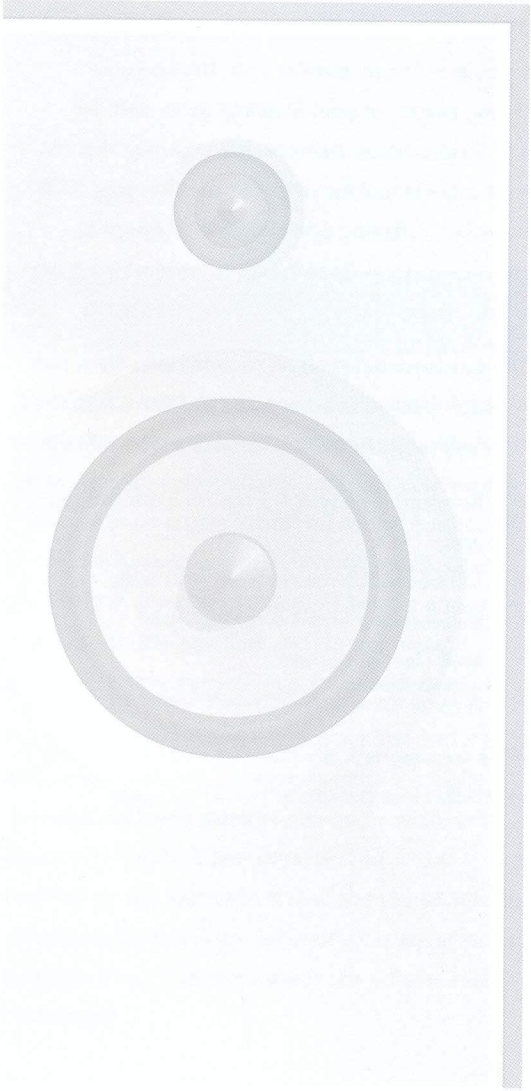
AE3

REFERENCE SERIES MKII

1. INTRODUCTION

Welcome to the AE Reference 3 Mk 2. Perhaps more than any other hi-fi product, loudspeakers are sensitive to installation. Please take a little time to read this manual and to follow, as far as practical, the installation guidelines it contains. Careful installation will help ensure that your AE3s perform to the best of their ability. Should you have any questions not covered here we are happy to try and answer them either by telephone or email. Contact information can be found in Section 11.

Following this introduction, the Manual is divided into sections covering handling, installation, positioning, amplifier compatibility, connection, listening, product history, specifications, warranty and contact information. We recommend that you read at least the first five of these sections carefully before installing and using your AE3s.



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2. HANDLING

The AE3 is a relatively delicate precision engineered product that can be damaged by inappropriate handling. It is also large and extremely heavy. Please take great care therefore when unpacking or moving the speakers. Plan any handling in advance of carrying it out - ideally with a second person to help - and do not to touch either of the drivers. Damage to a driver will at best degrade an AE3's performance and at worst result in its complete failure.

The veneer or painted surfaces should also be handled sympathetically. Any cleaning should only require a soft cloth, slightly dampened if necessary. Be wary of using any polishes or solvent based cleaning agents.

The AE3 packaging should be retained for future use.

3. INSTALLATION

The AE3 is a floor-standing loudspeaker intended to be positioned clear of room boundaries and coupled to the supporting floor through spikes. If spikes are inappropriate for your floor covering, metal protection pads, coins for example, maybe used between the spike and the floor.

Eight M8 floor spikes and lock-nuts are supplied within the AE3 packaging. The spikes and lock-nuts should be fitted to the underside of each AE3 once it has been moved near its final location. Carefully lay the speaker on its side to gain access to the tapped holes in the plinth. Screw a spike and lock-nut into each hole leaving a length of spike extending beyond the lock-nut such that once the speaker is upright the lock-nuts will "float" just above the floor covering.

Tighten three of the lock-nuts on each speaker with a 13mm spanner leaving one lock-nut finger-tight to aid adjustment once the speaker is upright in its final position. Once the final position of each speaker has been established adjust the length of the loose spike such that the speaker is vertical and does not rock. Finally, tighten the fourth lock-nut. It may be necessary to re-adjust to minimise rock once the speaker has settled on the floor.

4. POSITIONING

The position of loudspeakers within the listening room is likely to have more influence over their performance than any other aspect of their installation. It is worth spending some time experimenting with both the finer points of positioning as well as the larger scale issues of room layout.

If you are already familiar with the acoustic characteristics of your listening room and the way loudspeakers perform in it you may already have a good feel for where to position your AE3s. However, installing any new hi-fi component provides a good opportunity to review an existing set-up and perhaps make improvements.

The fundamental position requirements for a pair of AE3s installed in an average sized and furnished listening room (say 5m x 6m) are as follows:

- Between 0.75 and 1.5 metres from the rear wall.
- Minimum 1.5 metres from side walls.
- Between 2.5 and 3.5 metres apart.
- Well clear of corners.
- Angled inward by between 5 and 10 degrees.

AE3s are magnetically shielded and can be used in relatively close proximity to CRT screens.

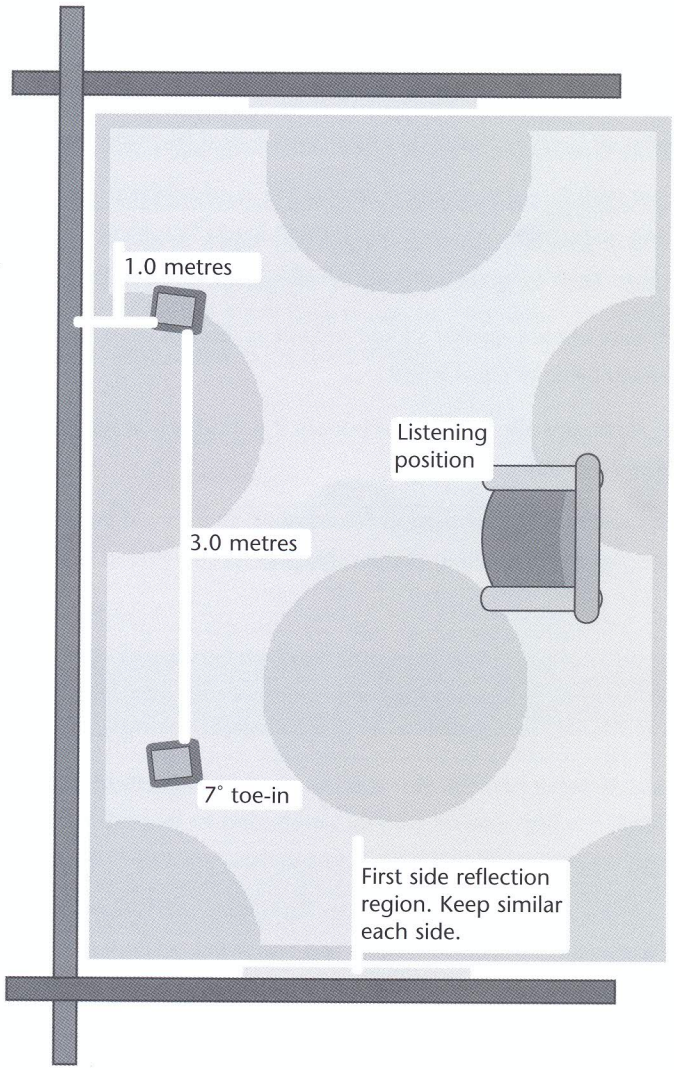
4. POSITIONING

While it is often the first instinct to position a pair of loudspeakers against the shorter wall of a rectangular room, it is often the case that a position against the longer wall will produce better results. This is because the long wall position tends to result in less prominent reflections from the side walls of the room. However, whether used against the long or short wall, it is important that each loudspeaker of the pair is located in a similar acoustic environment (different environments would be, say, a curtained area and a solid wall). Similarly, the acoustic character of the side walls of the room in the area where the main reflection between speakers and listening position will occur should also be similar. **Diagram 1** illustrates a typical layout with some of these issues highlighted.

Once the AE3s are connected (see Section 6) and working, and you begin to become familiar with their performance, it is likely to be worthwhile experimenting a little more with their positioning.

Reducing the distance between the AE3s and the rear wall will increase the level of bass and low midrange making the speakers sound warmer. The warmth however is likely to be gained at the expense of some mid-range clarity and stereo image focus and depth. Increasing the toe-in angle of the speakers may regain some image focus but again this is likely to be at a cost of image width and openness. Learning through experimentation how AE3s behave in your room will help you find the optimum solution.

DIAGRAM 1



5. AMPLIFIERS

The AE3 is a relatively low sensitivity speaker and so requires a generously rated power amplifier if relatively high volume levels are to be comfortably achieved in an average listening room. A minimum of 100 and maximum of 250 Watts into 8 Ohms per channel is recommended. AE3s offer a relatively easy load to the amplifier and do not make unusually heavy demands on its current delivery.

No overload protection systems are fitted to the AE3 so it is possible to cause damage through over-driving. Such damage can occur whatever the power rating of the amplifier and is not covered by any warranty. If ever the sound at high volumes becomes distorted your AE3s are at risk of damage. In such circumstances the volume must be reduced.

6. CONNECTING

Connecting your AE3s to an amplifier is fundamentally a simple process, however, there are some issues to bear in mind concerning connectors, connection and cable type.

Each pair of AE3s is fitted with one pair of WBT binding-post terminals. Thanks to the AE3's filter circuit layout there is no need, or advantage to be gained, from "bi-wiring". The terminals can accept either stripped wires, spade connectors, or 4mm terminals. Each termination method is potentially equally effective and the choice of termination is likely to be influenced by type of loudspeaker cable used. Your dealer, distributor or cable manufacturer will be able to offer advice.

It is important when connecting AE3s to ensure that each speaker is connected with the same polarity. The positive (left hand) terminal should be connected back to the positive terminal of the amplifier and the negative (right hand) connected back to the amplifier's negative. No damage will occur if AE3s are connected with incorrect polarity however their performance will be seriously degraded. Take care when connecting the AE3s not to touch the negative and positive terminals together and "short-circuit" the amplifier. Connections are best made with the amplifier switched off.

Choice of cable type will be influenced by the characteristics of other components in your hi-fi system and again your dealer or distributor will be able to advise. Even so, there are some simple guidelines to consider:

- Cable runs to each speaker should be kept as short as possible consistent with each being of equal length.
- Short cable runs are especially important if the cable is of relatively small cross-sectional-area.
- If the cable type is advertised as "directional" care should be taken to ensure that the orientation of the cable is as recommended.

7. LISTENING

It is wise before listening to your AE3s to make one final check of the cables and connections. If all appears well begin listening at a relatively low level to confirm that the system is operating as expected. Only increase the volume if you are happy that the sound at low levels is fundamentally as expected. If you are unhappy, turn the system off and re-check all the cables and connections.

AE3s will take a little time to "run-in", and similarly the system will also perhaps take some time to reach normal operating temperatures. It is unwise therefore to make rapid judgements about the performance of the speakers. Your ears too will take some time to adjust to the new sound, so revisiting the system set-up, loudspeaker positioning especially, is best left for a few days.

8. AE REFERENCE HISTORY

The original AE Reference, the AE1, was launched with spectacular success, early in 1988. It is best remembered for introducing an innovative metal-cone driver technology that influenced loudspeaker designers the World over.

The AE1 was primarily designed for the professional audio sector and quickly acquired a global reputation with musicians and studio engineers. However, audiophiles were also quick to discover its dynamic accuracy, transparency, precise stereo imaging and high power handling. The hi-fi market rapidly became an integral part of Acoustic Energy's growth and the AE1 was joined by further products including the original AE3.

The recently introduced AE1 Mk 3 began the re-birth of the AE Reference products by bringing new innovations and contemporary technology to a classic concept. Now, the AE3 Mk 2 extends the range of AE Reference still further.

9. SPECIFICATION

Type: Three-way, reflex loaded, side aligned floor-standing reference monitor.

Frequency Response: 42Hz to 20kHz ±2.5dB

Frequency Range: 24Hz to 30kHz @ -6dB

Power Handling: 125W peak programme

Amplifier Compatibility: 100 - 250 Watts into 8 Ohms

Maximum Level: 108dB spl at 1 metre

Impedance: Nominal 6 Ohms, minimum 4.6 Ohms

Sensitivity: 90dB for 1 Watt at 1 metre

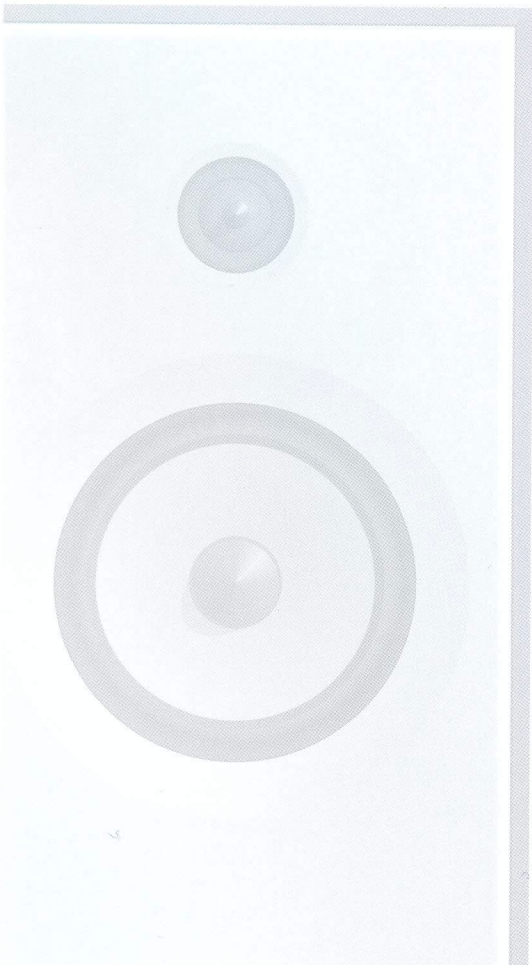
Distortion: < 0.25% @ 88dB spl above 100Hz

Recommended Toe-in: 7 degrees inward

Size (H x W x D): 990 x 185 x 290 mm

Weight: 30 kg

Acoustic Energy reserves the right to modify product specifications.



10. WARRANTY

Your Acoustic Energy loudspeakers are guaranteed against original defects in materials, manufacture and workmanship for 3 years from the date of purchase. To extend this period to 5 years (free of charge), please visit the Reference section of our website www.acoustic-energy.co.uk to register your purchase. Alternatively, you can simply complete the details below and fax a copy of this page to the number shown below.

Please retain all original packaging materials for possible future use. We suggest that you complete details of purchase now and keep this information in a safe place for future reference.

Under this warranty Acoustic Energy agrees to repair any defect or, at the company's discretion, replace the faulty component(s) without charge for parts or labour. This warranty does not imply any acceptance by Acoustic Energy or its agents for consequential loss or damage and specifically excludes fair wear and tear, accident, misuse or unauthorised modification.

This warranty is applicable in the United Kingdom only and does not in any way limit the customer's legal rights. Claims and enquiries under the warranty for AE products purchased outside the UK should be addressed to the local importers or distributors. If you have reason to claim under the warranty please contact your dealer in the first instance.

Name: _____

Address: _____

_____

Dealer: _____

Purchase Date: _____

Serial Numbers: _____

11. CONTACT

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