

# AE1

*40th Anniversary*

## OWNERS MANUAL



**ACOUSTIC ENERGY**  
*for the love of music*

## INTRODUCTION

*The legend continues...*

Welcome to the AE1 40th Anniversary Edition.

Loudspeakers are sensitive to installation so 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 loudspeakers perform optimally.

Following this introduction, the manual is divided into sections covering installation, positioning, connection, listening, specifications and warranty information. We recommend that you read at least the first four of these sections carefully before installing and using your AE1 40th Anniversary loudspeakers.

The AE1 40th Anniversary is a relatively delicate precision engineered product that can be damaged by inappropriate handling. Please take care when unpacking or moving the loudspeakers not to touch either of the drivers. Damage to a driver will at best degrade performance and at worst result in complete failure.

The packaging should be retained for future use.

## ONLINE MANUAL

For ease of use and for translation purposes the following information can also be found on the Acoustic Energy website by scanning the QR Code below.



## ABOUT ACOUSTIC ENERGY

Acoustic Energy was founded in London, England in 1987 with the creation of the now-legendary AE1 loudspeaker. The AE1 redefined what was possible from a compact enclosure by setting new audio performance standards for dynamics, power and clarity previously unheard of outside larger, high-end speakers. These design principals have remained enshrined in the company ethos to this day...

All Acoustic Energy loudspeakers are subject to our rigorous design-process and carry the same DNA that's run through each product range for decades. At prototype stage new designs are voiced through an exhaustive listening process, with electroacoustic measurement used to verify each step. They're then benchmarked against our historical references mirroring the dynamics, transparency, tonal accuracy and above all musical involvement necessary to warrant the Acoustic Energy marque.

From inception Acoustic Energy has garnered hundreds of awards and accolades from the world's Hi-Fi press. These and many other endorsements with critical acclaim from journalists around the globe help secure our proud, pedigree status as one of the most highly regarded brands in the audio industry today.

British owned and run, the company has been based in the heart of the beautiful Cotswolds, England since 1995. As music lovers, its directors combine over 100 years-experience and knowledge in the audio industry with a passion for creativity, performance, quality and customer loyalty as core brand values.

Once becoming an Acoustic Energy owner, you're beginning an audio journey that'll provide decades of listening pleasure, whether new to our brand or upgrading. You're also buying into an exclusive club with the assurance of British design and engineering at its very best, backed by an industry-leading warranty support programme, all created... *for the love of music.*

## THE AE1 40TH ANNIVERSARY

In 1987, the loudspeaker world was shaken by the arrival of the Acoustic Energy AE1 – a compact monitor that defied the norms of that time. The AE1 was a revelation: a small speaker that delivered the kind of dynamic range, clarity, and bass extension typically reserved for much larger enclosures.

The original AE1 was born from the vision of a compact speaker that could deliver studio-grade performance without compromise. It was a bold departure from the boxy, inefficient designs of the time – and it worked. The AE1 became a staple in studios and audiophile systems alike.

Now, decades later to celebrate 40 years of this ground-breaking loudspeaker, we're proud to launch the AE1 40th Anniversary Edition bringing that legacy into the modern era – with cutting-edge engineering and timeless design.

Designing the new AE1 was no easy task. Not only was it a design classic but all the original parts have been out of production for some time, so we had to start from scratch.

With the sound of this speaker and its reputation for very high performance already well established, there was no room for wild variation from the original design. Each element had to be crafted to sound the same as the old, and while we smoothed off some of the rougher edges, it was with a very light touch so as not to destroy what was great about the original design. This speaker had to meet the approval of the many AE1 fans around the globe whilst also appealing to a new customer who may not be steeped in the tradition.

So we allowed ourselves a few modernisations weighed carefully to be at no detriment to the original. The fundamentals of the high mass, high stiffness, straight sided cone driven by high BL motor, housed in a small, strong, heavy cabinet with classic twin front ports, paired to a metal dome tweeter, are the defining elements of this speaker.

A completely new tweeter design was developed specifically to match the performance of the original, which has been long out of production. Featuring a larger 29mm voice coil, it supports a slightly larger aluminium dome to lower distortion through a greater radiating area when compared to the more usual 25mm dome. Whilst the dome profile is ultra-shallow to provide excellent bandwidth, it also features a large rear chamber to keep the fundamental resonance low and help absorb rear energy. Plus, like the original, this tweeter is ferrofluid cooled and damped to give greater power handling, dynamics and lower thermal compression.

The new woofer was also developed to specifically match the characteristic sound of the original. The new cone is slightly larger, conforming to modern 125mm woofer standards, whilst the greater radiating area offers slightly higher efficiency, lower

distortion and the ability to move more air. The cone design was the key element to the original woofer and fundamental to the original speaker's success, producing a very natural midrange, great power handling and dynamics for its size. So we retained the straight sided aluminium profile and a little used forming process known as 'spinning' as opposed to the more usual pressing method. The cone itself is then further strengthened by a thick, hard anodised ceramic layer coating on both sides... effectively forming a sandwich.

Beneath the trademark aluminium 'pointy' dust cap, the new woofer further features a thermally conductive aluminium voice coil with a very powerful motor structure. However, one modern improvement we allowed ourselves was the addition of an aluminium shorting ring in the motor structure. This dramatically reduces the distortion caused by motional variation in the voice coil's inductance. We designed this woofer around a 5 Ohm DCR instead of the original 7 Ohms which was partly responsible for its reputation to require higher power amplification to drive it. Therefore, the new AE1s are easy to drive and require less power.

Drawing inspiration from the luxury 'Signature' version of the original speaker, the crossover uses low order filters and high-quality components to achieve a very natural 'live' dynamic sound. We've balanced this latest version to be enjoyed more within a typical home audio, domestic environment rather than the studio monitor original. So it has a warm natural midrange, good bass weight for its size, forgiving high frequencies and exceptional punch throughout its operating range.

All these drive unit and crossover enhancements are housed inside a luxuriously finished cabinet. Coated in ten layers of high gloss black paint or walnut wood veneer, the cabinet has been tuned to match the characteristic sound of the original AE1. The cabinet has been upgraded to include our RSC material which has been successfully applied in all of our high-performance models from Corinium down to the 300 series. By increasing the cabinet stiffness compared to our usual formula, we've captured the sound of the original concrete lined cabinets without any of the production drawbacks. Finally, since the original ports were no longer available, we've re-tooled them with some subtle tweaks, including the addition of an internal flare to reduce the distortion and allow more bass output.

Offering unparalleled levels of performance, quality and value the AE1 will sit equally comfortable in the home or the recording studio. The result is a loudspeaker with clean, uncluttered lines delivering a thrilling and powerful presentation worthy of the AE1 mark that discerning Acoustic Energy owners have come to expect for 40 years.

*The AE1 – The Legend Continues*

## UNBOXING YOUR LOUDSPEAKERS

You should always unpack the loudspeakers on a flat, level surface and allow plenty of room. Ensure the surface is clean and free from any objects that may cause the loudspeakers to mark or scratch.

Using a knife, blade or sharp implement break the tape seal along the top edges of the box.

Fold the flaps of the box to the side.

Remove the top polyfoam packaging. If the bag opening is at the top carefully cut or open the tape, pull the bag down and remove the loudspeaker. If the opening is facing down remove them from the packaging and place upright to find the opening.

Repeat the operation for the second unit.

## INSTALLATION

AE1 40th Anniversary are intended to be used mounted on speaker floor-stands relatively clear of room boundaries. Alternative, near wall mounting arrangements such as wall brackets are possible although these may result in less accurate performance. If brackets are to be used they should be as rigid as possible and firmly attached to brick built walls.

The construction style, rigidity and dimensions of the floor-stands are of critical significance to the performance of the loudspeaker. Stands should broadly follow the specification below. Your retailer or distributor will be able to offer advice.

### Recommended Floor-stand Specification

Construction style: Direct coupled pillared  
Mass loading: Preferred  
Overall height: As appropriate for the loudspeaker top panel to be just below head height when seated

### Top plate Dimensions

Minimum width: 160mm  
Maximum width: 180mm  
Minimum depth: 220mm  
Maximum depth: 240mm  
Top plate interface: Cones or spikes  
Floor interface: Floor spikes (M6 minimum)

## POSITIONING

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

If you are already familiar with the acoustic characteristics of your room, and the way speakers perform in it, you may already have a good feel for where to position your AE1 40th Anniversary loudspeakers. However, installing any new component provides a good opportunity to review an existing set-up and perhaps improvements.

The position requirements for a pair of speakers installed in a typically sized and furnished room, are as follows:

- Stood upright, tweeters uppermost
- Between 0.5 and 1.5 meters from the rear wall
- 1.0 minimum meters from side walls
- Between 2.0 and 3.0 meters apart
- Clear of corners
- Angled inward towards the primary listening position

Don't worry if, due to the architecture or layout of your room, it is not practical to follow each requirement exactly. The most important thing is to experiment with the different options that are practical and find the one that works best.

Wherever your loudspeakers are positioned it is important that each of the pair is located in a similar acoustic environment (different environments would be, say, a curtained area and a solid wall). The acoustic character of the side walls of a room in the area where the main reflection between the speakers and the listening position will occur should be similar.

Once your loudspeakers are connected 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 speakers and the rear wall will increase the level of the 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 the cost of image width and openness. Learning through experimentation how the loudspeakers behave in your room will help you find the optimum solution.

The AE1 40th Anniversary is not magnetically shielded and should be kept away from magnetically sensitive equipment or media.

## CONNECTIONS

**Before making any connections ensure that the amplifier is switched off.**

Connecting your loudspeakers to an amplifier is fundamentally a simple process. However there are some choices to be made and issues to consider concerning the cable type.

Each loudspeaker is fitted with a pair of binding-post terminals. The terminals can accept stripped wires, spade connectors or 4mm plugs. Each of these termination methods is potentially equally effective and the choice is likely to be influenced by type of speaker cable used.

### **Cable Type**

Choice of cable type will be influenced by the characteristics of other components in the system and 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 is advertised as “directional” care should be taken to ensure that its orientation is as recommended

### **Connection Polarity**

It is important when connecting speakers to ensure that each terminal is connected with the correct polarity. Positive speaker terminals should always be connected back to amplifier positive terminals. Performance will be seriously degraded if connections are made with incorrect polarity.

Take care when connecting cables not to touch the negative and positive terminals together and “short circuit” the amplifier.



## **AMPLIFIERS**

The AE1 40th Anniversary loudspeaker is a medium sensitivity speaker that demands a relatively powerful amplifier if adequate monitoring volume levels are to be achieved in an average room. A minimum of 50 and maximum of 150 Watts into 8 Ohms per channel is recommended. The AE1 40th Anniversary 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 loudspeakers so it is possible to cause damage through over-driving. Such damage can occur whatever the power rating of the driving amplifier and is not covered by any warranty. If ever the sound at high volumes becomes distorted your loudspeakers are at risk of damage. In such circumstances the volume must be reduced.

## **LISTENING**

Before using your AE1 40th Anniversary loudspeakers for the first time 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 with the sound at low levels. If you are unhappy, turn the system off and re-check the cables and connections.

Your loudspeakers may take a little time to reach normal operating temperatures and to "run-in". It is unwise therefore to make too rapid a judgement about the performance of the speakers. Your ears too will take some time to adjust to the new sound so revisiting the speaker positioning is best left for a few days.

## **CARE FOR YOUR LOUDSPEAKERS**

Cabinet veneers should be treated like all high-quality furniture. Routine dusting with a soft cloth is recommended. Do not apply any aerosol sprays directly as they could damage the drive units. Dust can be removed by use of a soft brush or other suitable domestic duster.

Do not expose the cabinets to damp, widely fluctuating temperatures or direct sunlight as the appearance and performance may suffer. Avoid contact with rough or abrasive surfaces or materials.

When not in use it is recommended to replace the magnetic cloth grilles to help prevent accidental damage.

## **WARRANTY**

Your Acoustic Energy speakers are guaranteed against original defects in materials, manufacture and workmanship for three years from the date of purchase. Please retain your purchase receipt in case of a claim.

If you register your Acoustic Energy loudspeakers online via our website ([acoustic-energy.co.uk](http://acoustic-energy.co.uk)) we will extend your guarantee, free of charge, to five years.

Under this warranty Acoustic Energy agrees to repair any defect of, 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 or 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 Acoustic Energy products purchased outside the UK should be addressed to the local importers or distributors. If you have any reason to claim under the warranty please contact your dealer in the first instance.

Please retain all the original packaging materials for possible future use.

For any sales, technical or spares enquiries please contact your local dealer or distributor.

## **TECHNICAL SPECIFICATIONS**

**Tweeter:** 29mm anodised aluminium dome

**Mid / Bass Driver:** 125mm spun/hard anodised aluminium cone

**Frequency Range:** 50Hz – 45kHz (+/- 6dB)

**Sensitivity:** 87dB/m/2.83v

**Power Handling:** 150w

**Crossover Frequency:** 2.8kHz

**Impedance:** 6 Ohms

**Design:** 2-way

**Cabinet:** 18-22mm RSC™ constrained layer HDF/bitumen construction,  
braced, twin reflex-ported

**Grilles:** Cloth, magnetic fit

**Dimensions:** 295 x 180 x 240 mm (HxWxD)

**Weight:** 7kg (each)

**Finishes:** High Gloss Walnut and High Gloss Black



# **ACOUSTIC ENERGY**

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Acoustic Energy Loudspeakers  
Units 1 - 3, Trull Farm, Trull  
Gloucestershire, United Kingdom  
GL8 8SQ

+44 (0) 1285 654432  
[info@acoustic-energy.co.uk](mailto:info@acoustic-energy.co.uk)

[ACOUSTIC-ENERGY.CO.UK](http://ACOUSTIC-ENERGY.CO.UK)