

# AE1ACTIVE

OWNERS MANUAL



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**ACOUSTIC ENERGY**

## INTRODUCTION

**Thank you for purchasing the Acoustic Energy AE1 Active loudspeaker. 'AE1' is more than a model number for Acoustic Energy. Our first ever speaker wore the AE1 name and ever since then, we have had a speaker in the range that is so called. The AE1 Active is the latest speaker to wear the badge and takes the name in a different direction to its predecessors while still embodying the traits and qualities that have made them so highly regarded.**

This manual is intended to be a source of information about the speakers themselves and the materials they are supplied with, offer some advice and hints about setting them up for the best possible performance and provide some suggestions in the unlikely event you experience any problems with the product. Please retain this document and all packaging for future use.

## CONTENTS OF PACKAGING

The AE1 Active loudspeaker box contains the following items:

- 2 AE1 Active loudspeakers in transit bags
- 2 speaker grilles
- 2 IEC mains leads for mains connection
- 2 RCA interconnects (3 metre) for audio connection
- 8 isolating foam feet
- 1 pair of handling gloves
- 1 instruction manual
- 1 certificate of authenticity

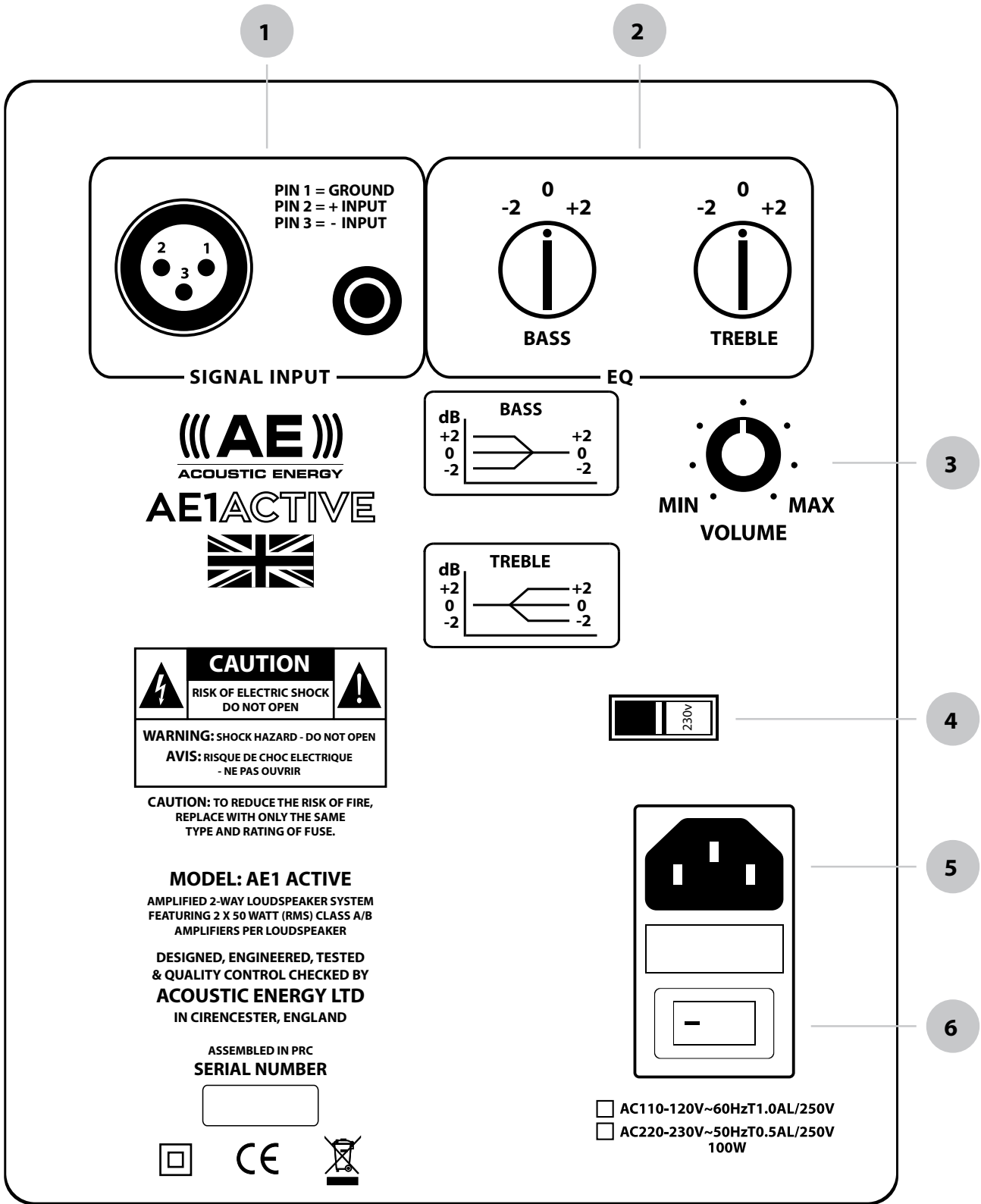
If any of these items are not present, it would be best to immediately contact your dealer.

## WHAT IS AN ACTIVE SPEAKER?

The AE1 Active differs from preceding AE1 models due to it being an active design but what does this actually mean? An active speaker is a design where the amplification that provides the power for the drivers is placed after the crossover - the device that determines what frequencies are sent to what driver. By doing this, only the frequencies relevant to that particular drive unit are amplified by an amplifier that has been configured exactly for that task. The result is a speaker that solves the balancing act of amplifier, crossover and driver at the design stage without any trial and error on the part of the owner and offers higher performance than a passive speaker of the same basic size and design.

The AE1 Active combines the amplifier and drivers into a single enclosure which has further benefits in terms of space efficiency and packaging. The drivers have received no less attention. The AE1 Active includes an all new Wide Dispersion Technology (WDT) tweeter. This incorporates a waveguide into the tweeter surround that ensures that the tweeter interacts more effectively with the room it is in. Higher frequency coverage is wider than it would otherwise be without the waveguide while lower frequencies are narrowed at the same time. This is called constant directivity and is something Acoustic Energy has been working on over the course of many years. The result is that more of these frequencies reach the listener's ear directly rather than reflected off other surfaces which increases efficiency and reduces distortion.

The mid bass driver is no less sophisticated and builds on the vast experience that Acoustic Energy has with metal drivers to create a driver that has extraordinary impact but not at the expense of the transient speed and tonal accuracy required of a truly high performance loudspeaker. The bass response of the AE1 Active is enhanced by the latest version of the slotted bass port used on a number of our speakers. The slotted profile allows for a large surface area that does not take up too much space on the speaker and also reduces the audibility of the air passing through it.



Rear connections and controls, refer to numbers and instructions opposite

## REAR CONNECTIONS AND CONTROLS

### 1 INPUTS

The AE1 Active has the option of receiving an audio signal on either an RCA or Balanced XLR input. The speakers are supplied with RCA cabling that should allow for their connection in most situations but some devices offer XLR outputs which are technically superior, so the AE1 Active has been equipped accordingly. For very long runs of cable, it is frequently better to use the XLR connection if you have the means to do so as this type of cabling is better suited to long transmission lengths.

Please note that any XLR cable used must correspond to the wiring of the connection on the AE1 Active, as marked on the rear panel.

Do not connect both inputs at the same time as this risks damage to the loudspeaker.

### 2 BASS AND TREBLE CONTROLS

The AE1 Active has a pair of adjustable controls for bass and treble. These allow for you to alter the response of the speaker in your room for best results.

The bass control adjusts between -2 and +2dB and is designed to help the speaker work more effectively relative to rear walls. If the speaker is close to a wall, the bass response will increase as a natural function of energy reflected off the wall and you can reduce the bass output to bring it back in line with the treble output.

The treble control adjusts between -2 and +2dB and is designed to help tailor the output of the AE1 Active depending on the furnishings of the room it is placed in. In a room with little in the way of furniture and bare walls, you may find that you need to reduce the treble output for an even response in room. Conversely, in very large or heavily furnished rooms, you may find that the speakers benefit from a boost to the treble output.

There are no right and wrong actions to the use of these controls and we would recommend you experiment and see what works best for you. As a fully active loudspeaker design, these trim controls have no detrimental effect on the sound quality.

### **3 VOLUME CONTROL**

The AE1 Active is fitted with a volume control that adjusts the level between zero (no output) and max (full output). This volume control serves two purposes. If you are using the AE1 Active with a device that has no volume control, you can use it to adjust the level. You can also use the volume to limit the output of the AE1 Active relative to the volume control of the connected device. This means you can either ensure that a given level cannot be exceeded either for preference or, in extreme cases, to avoid damage to the speaker.

### **4 MAINS VOLTAGE SWITCH**

The AE1 Active is fitted with a power supply that is able to operate on both a 100-120v and 220-240v mains supply. This switch is used to alter the speakers between these two voltages. The switch is protected by a cover to avoid accidental adjustment.

Any adjustment of this switch **MUST** be undertaken with the speaker disconnected from the mains.

### **5 MAINS INPUT**

This is the mains input to power the speaker. Always ensure you use a correctly certified IEC mains cable.

### **6 POWER SWITCH**

The power switch is a two position unit that completely switches the AE1 Active off. If you are leaving the speakers inactive for a sustained period, they should always be switched off before doing so.

## CONNECTION AND SETUP

The AE1 Active is designed to take an output directly from a piece of source equipment. It is possible to use a piece of equipment that has a fixed output and adjust the volume on the speakers themselves but the most effective results will be gained by using a device with a variable level output - commonly referred to as a preamplifier output. Recently, the number of items of source equipment that have volume controls and preamplifier outputs has increased considerably so there is a huge variety of possible sources for the AE1 Active. You can also use a dedicated preamplifier if you prefer which will allow for multiple pieces of source equipment to be used.

Each AE1 active speaker will need mains power and a signal from a device to function. The connection can be made either using the RCA input or the XLR connection but you should not try and use both connections at the same time. Make a single audio connection from the source equipment or preamplifier to both AE1 Active speakers.

**There is no means of looping the signal from one AE1 Active speaker to another and the speakers must not be connected together in this way.**

With power and signal connected, you should now be able to play audio. If you are using a preamplifier output to connect the speakers, you can control the level of the system from the volume control of the source equipment or preamplifier. If you are controlling the volume this way, set the volume control on the rear of each AE1 Active to maximum. If you find that this results in levels that can become uncomfortably loud too quickly, you can use these volume controls to reduce the output of the AE1 Active to have a greater degree of fine control over the volume.

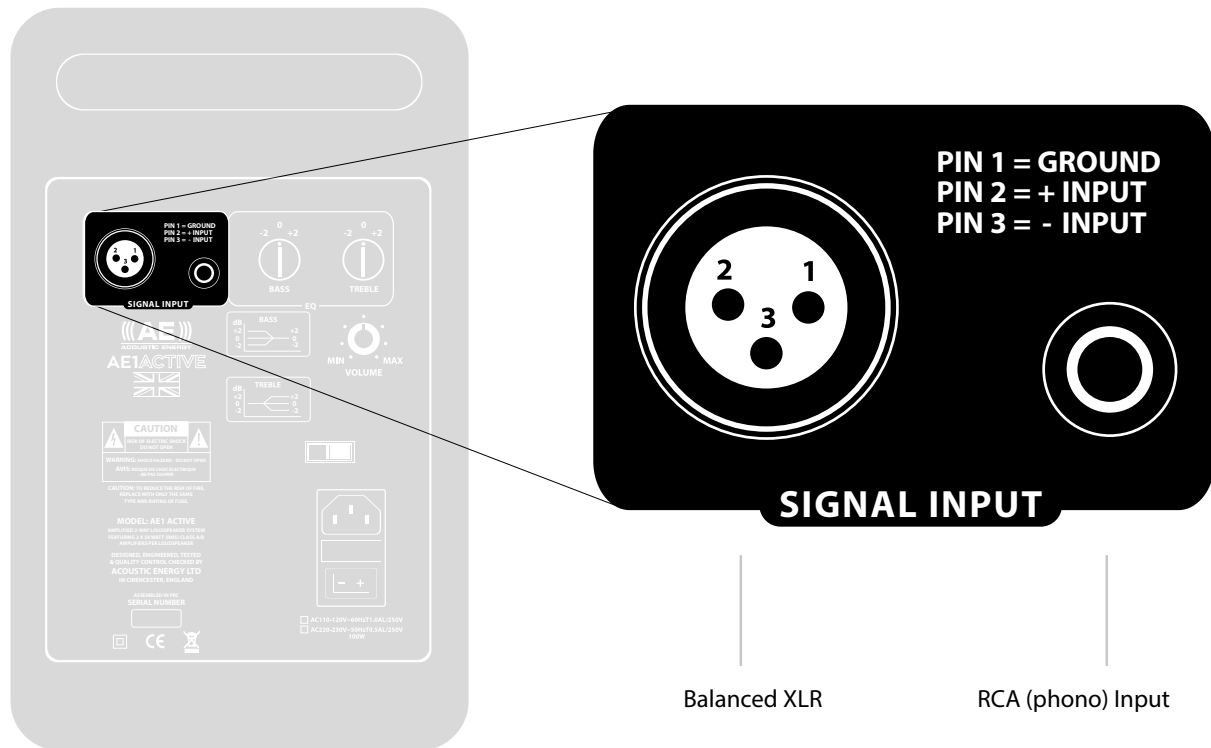
We have designed the AE1 Active to give excellent performance when used in a variety of locations and it will work well when placed on shelves or furniture. For best results however, we would always recommend using a dedicated pair of speaker stands that help to isolate the speaker and elevate it to the right height for listening- this height will vary slightly due to different requirements but should leave the tweeter of the speaker at the height of your ear when seated.

Isolating foam feet are supplied to protect the loudspeakers and surface they are placed upon, from damage and vibration. We would recommend that the foam feet are not used when placing the speakers on a dedicated stand.

Depending on how far apart the speakers are and your distance from them, it may also be worthwhile experimenting with pointing the speakers inwards so that you and the speakers form the points of a triangle and the sound is directed towards you.

We have fitted the AE1 Active with bass and treble controls that will alter the output of the speaker to reflect how close it is to walls and the size and furnishing of the room (their function is described in the 'Rear panel connections' section). It is worthwhile experimenting with these bass and treble settings to obtain the best results in your room.

The grille of the AE1 Active is acoustically transparent and designed to protect the drivers. In many domestic situations, we would strongly recommend that they are left in place.



Rear input connections using either RCA (phono) or Balanced XLR cables



## TROUBLESHOOTING

The speaker will not power on

- Check there is power available to the speaker
- Check that the rear panel switch is set to ON
- Check that the white power LED is lit (in bottom of the bass driver surround)

There is no sound

- Check there is power to the speakers and they are switched on
- Check there is power to the source equipment and it is switched on
- Check that there is an audio connection from preamplifier out of the source equipment to both of the AE1 Active speakers
- Check that the source equipment is not muted

The sound is intermittent or distorted

- Check your audio connections between the source equipment and the speakers
- Check that the levels from your source equipment are not too high and causing the speaker to cut out or distort. You can cap the volume of the system by reducing the volume via the controls on the rear panel

Volume levels are too low

- Check that the volume controls on the rear panel are not set to a low level
- Check that the source equipment has not been set to a low gain mode and that the connections are still solidly in place between source and the AE1 Active

If only one speaker exhibits a problem - try swapping it with the other speaker to see if the issue follows the speaker or stays on the same side. This will help to identify the cause of the issue and let you seek assistance for the right component.

## **WARRANTY**

Your Acoustic Energy AE1 Active speaker is guaranteed against defects in materials, manufacture and workmanship for three years from the date of purchase. Please retain all original packaging materials for possible future use.

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 or, at the company's discretion, replace the faulty component(s) without charge for parts and 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 any reason to claim under the warranty please contact your dealer or point of purchase in the first instance.

## AE1 ACTIVE SPECIFICATION

Input Sensitivity <sup>1</sup>	104dB for 1VRMS @ 1kHz
Bandwidth <sup>2</sup>	42Hz-28kHz
Horizontal coverage <sup>3</sup>	130 degrees
Vertical Coverage	120 degrees
Peak SPL <sup>4</sup>	115dB
Maximum SPL <sup>5</sup>	105dB
Amplifier	Class A/B with linear power supply.
Amplifier Power	LF: 50W HF: 50W
Crossover	3.5kHz 4th Order Linkwitz-Riley
Woofers	140mm chassis with Alu/Ceramic cone.
Tweeter	27mm Alu dome with WDT waveguide.
Cabinet	18mm MDF with bracing and damping panels.
Inputs	RCA and Balanced XLR
Controls	Volume adjust 0dB to -inf HF shelf +/-2dB LF shelf +/-2dB
Power connection	IEC C13
Voltage selection	Manual switching

### NOTES:

<sup>1</sup> Measured at 1m using pink-weighted MLS noise.

<sup>2</sup> Measured at 1m using pink-weighted MLS noise, +/-6dB limits.

<sup>3</sup> Measured at 1m using pink-weighted MLS noise, +/-6dB limits.

<sup>4</sup> Measured using a toneburst signal.

<sup>5</sup> Measured using a band limited sine sweep.



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