



**AX-TWO**

LOUDSPEAKERS

**OWNER'S INFORMATION**



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# CE DECLARATION OF CONFORMITY



We declare under our sole responsibility that this product is in conformity with the following standards or standardized documents:

BS EN 60065 in accordance with the regulations 73/23/EEC, 89/336/EEC (from 1 January 1997)

CE 94

Peter Qvortrup,  
Director  
Audio Note (UK) Limited  
Viscount House  
Star Road, Star Trading Estate  
Partridge Green  
West Sussex  
RH13 8RA  
United Kingdom

Tel: +44 (0)1273 830 800

Fax: +44 (0)1273 731 498



## DISPOSAL

This product must not be disposed of as normal household waste. To prevent possible harm to the environment please separate the product from other waste to ensure that it can be recycled in an environmentally safe manner. Please contact your retailer or the appropriate local government office for collection facilities.

## INTRODUCTION

Thank you for purchasing this Audio Note (UK) product. With the correct care it should give you many years of pleasure and enjoyment.

Please take the time to read all of the information in this manual before connecting your new component to an electrical supply or your system, to ensure both your safety and satisfaction.

Please note that due to our desire to continually improve products, specifications are subject to change without notice. Therefore it is important to refer to the manual that is supplied with your product for the most accurate information; manuals downloaded from our website or obtained from other sources may no longer fully apply to your product.

If you have any questions regarding the information contained within this document or your new component, please feel free to contact us: -

Audio Note (UK) Limited  
Viscount House  
Star Road, Star Trading Estate  
Partridge Green  
West Sussex  
RH13 8RA  
United Kingdom

Tel: +44 (0)1273 830 800  
Fax: +44 (0)1273 731 498  
e-mail: [info@audionote.co.uk](mailto:info@audionote.co.uk)



## AX-TWO LOUDSPEAKERS

The AX-TWO is a compact 'book shelf' design, using two drive units per cabinet to cover a very wide frequency response, given its modest dimensions. Unlike many 'book shelf' designs, the AX-TWO is relatively efficient and offers the amplifier an easy 'load', making it highly suitable for our range of superior quality, low powered valve amplifiers.

Consistent performance is a major issue in loudspeaker design and unfortunately all drive units vary slight from each other, even if they look the same and have the same basic specification.

Many loudspeaker manufacturer's will tell you that they provide "computer matched" crossovers, and whilst this may be true in one sense (each crossover may have been matched to have the exact same capacitance, inductance and resistance) this essentially "passive" method does not adequately take into consideration the mechanical and acoustic variance present in the drive units themselves, where minute differences in acoustic behaviour will result in quite substantial differences in performance and sound.

Therefore, to obtain the best possible combination of drivers and crossovers, we have developed a dynamic matching process. This ensures that each loudspeaker in a stereo pair matches a 'master curve', and also its partner.

Another much overlooked area of acoustics is the material choice for the drivers. It is vitally important that the sound and characteristics of an individual drive unit are complimentary to those of its chosen partner, so that when an instrument is reproduced by both drive units (which is almost always the case), the upper range does not sound detached from the lower range and visa versa. This is an aspect of performance that cannot be measured by even the most sophisticated test equipment; it can ONLY be judged by listening.

It has become very fashionable to use all manner of exotic materials (beryllium, diamond, carbon fibre, ceramics etc.) as cone materials in modern drivers, mainly because it gives the impression that the manufacturer in question is making great strides in their research into better sounding speakers.

The sad fact is none of these materials work as intended, as they all have their own distinct sonic signature. No instrument manufacturer in their right mind would dream of making a trumpet from carbon fibre or Beryllium for example, or a cello or violin from aluminium or plastic (not if they were serious anyway!), so no matter how the crossover is designed, this sonic signature will be present when the speaker reproduces music. It may be less obvious and audible with some types of music, but ultimately the chosen material will always imprint some of its own signature on whatever sound is reproduced.

We at Audio Note are keenly aware of this and have deliberately chosen drive units whose sonic signatures are as closely matched as possible. This has led us to favour good, old fashioned paper for the woofer cone and impregnated silk for the dome tweeter. These materials, when matched correctly, marry the low and high frequencies seamlessly, providing the best level of performance possible in the real world of acoustics.

## UNPACKING AND INSTALLATION

Please take care when unpacking your AX-TWO loudspeakers. Choose a clean, clear location to unpack them. Before attempting to unpack or lift the loudspeakers, check the weight and if necessary use more than one person so that they can be moved safely and easily.

We recommend that you retain and carefully store all of the original packing materials, in case transportation / shipping is required at a later date.

Select a suitable location for the loudspeakers. This should be a dry, dust free and level area, preferably shielded from direct sunlight and free from vibration. Also ensure that the location is stable and capable of carrying the weight of the loudspeakers.

The ported enclosure of the AX-TWO has been designed to be placed close to room boundaries (where the bass performance is augmented significantly by the additional reinforcement from the nearby walls), whether standing on a high mass stand (available separately) or lying on its side on a rigid shelf.

Some experimentation is advised when choosing a suitable location to obtain the best performance 'in room'. All rooms are different, both physically and more importantly acoustically, so there are no definitive rules regarding loudspeaker positioning. However, we generally recommend placing the loudspeakers in corners or at least against a solid rear wall; this is the best 'starting point' to work from. If bass performance is too strong, slowly move the loudspeakers further into the room, making sure that the distance between the rear and side walls remains the same for both loudspeakers.

If there is a noticeable 'hole' in the middle of the two loudspeakers, producing a pronounced 'left / right' effect, move them closer together in small increments, until a solid, central presentation is achieved.

You may also find a degree of 'toe-in' to be appropriate; angle the loudspeakers so that both front faces are visible and pointing directly towards the main listening position. A few degrees of movement in either direction – revealing more or less of the cabinet sidewalls when viewed from the listening position – may also be advantageous.

Once a suitable position offering the most acceptable bass and stereo presentation has been found, make sure the loudspeakers are level and securely positioned. The use of a spirit level for accurate levelling is advised, and a small amount of 'Blue Tack' will secure the loudspeaker cabinets to their stands or shelves.

If you experience any difficulty positioning your AX-TWO satisfactorily, please consult your Audio Note (UK) Dealer, who will be happy to assist you. Alternatively, please contact us directly.

As we design all our speakers to be primarily used with good valve amplification the AX-TWO will always perform at its best when partnered with a suitably composed Audio Note (UK) system.

However, it will also give good results when partnered with a wider range of valve and transistor amplifiers.

## CONNECTION

**BEFORE ATTEMPTING TO CONNECT THE AX-TWO TO YOUR AMPLIFIER, ENSURE THAT IT IS DISCONNECTED FROM THE MAINS SUPPLY!**

Choose loudspeaker cables that are long enough to comfortably reach from your amplifier to the AX-TWO without stretching or pulling tightly; it is always better to have a loudspeaker cable that is too long rather than too short!

On the rear of each loudspeaker are two pairs of binding posts.

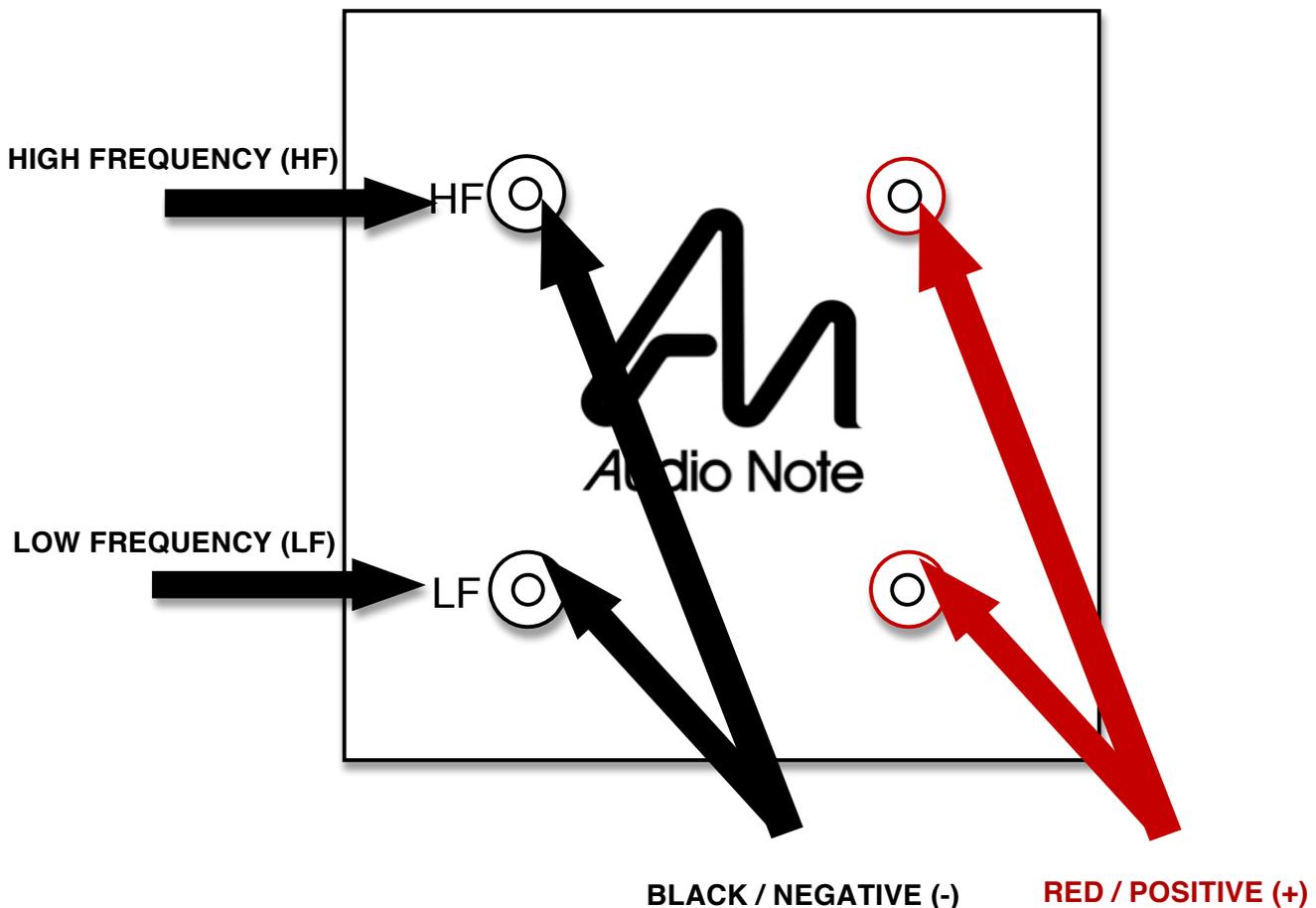
The top pair is for **HIGH FREQUENCY (HF)**.

The lower pair is for **LOW FREQUENCY (LF)**.

Each binding post is colour coded either **RED** or **BLACK**.

The **RED** binding posts connect to the **RED / POSITIVE** (often marked '+') loudspeaker outputs on your amplifier.

The **BLACK** binding posts connect to the **BLACK / NEGATIVE** (often marked '-') loudspeaker outputs on your amplifier.



## CONNECTION TO AMPLIFIER

On the rear of your amplifier, identify the loudspeaker output terminals; they should be labeled 'LEFT' and "RIGHT".

Facing your amplifier and loudspeakers, connect the left loudspeaker to the 'LEFT' loudspeaker outputs on your amplifier, and the right loudspeaker to the 'RIGHT' loudspeaker outputs on your amplifier.

If your amplifier is equipped with multiple loudspeaker output terminals, consult the manual for the unit to ascertain the appropriate connection regime.

The facility to split the crossover of the AX-TWO allows the speakers to be operated in a bi-wired or bi-amplified mode. The crossovers are split by removing the connecting links between the HF and LF terminals on the rear of the speaker.

**Bi-wiring** This involves running two sets of cables to the rear of each speaker, so that the Low Frequency (LF) section of the crossover is fed by one set and the High Frequency (HF) section by the other. Both sets of cables are attached together to the corresponding pair of terminals on the back of the amplifier.  
We strongly recommend bi-wiring the AX-TWO with a suitable loudspeaker cable from the Audio Note (UK) range.

**Bi-amplifying** This involves using two stereo or four mono power amplifiers to drive the loudspeakers. If you intend to 'bi-amp' the AX-TWO, please consult your amplifiers manual(s) for the appropriate connection regime.

**If you are in any way uncertain as to the correct method of connection for your amplifier or loudspeakers, please consult your Audio Note (UK) dealer.**

*Special Note – Make sure that all connections are tight and clean. For best results use good quality loudspeaker cables. Although it is perfectly acceptable to use cables manufactured by other companies, for best results and performance, we recommend our own Audio Note (UK) range of interconnects and loudspeaker cables. For further information, please consult your nearest Audio Note (UK) dealer, or alternatively please feel free to contact us directly.*

## OPERATION

Once all the connections are completed and checked, ensure that the volume control for your amplifier is at the minimum setting. Connect your amplifier to the mains supply, and make sure all source components are switched on BEFORE the amplifier; to protect your AX-TWO loudspeakers from damage, always make sure the amplifier is the LAST piece of equipment to be switched on and the FIRST to be switched off.

### **Bedding in**

While we fully expect your AX-TWO loudspeakers to produce beautiful music, they may not do so from the first moment out of the box. Don't be alarmed; this is perfectly normal.

Dynamic loudspeakers have a running in period, during which time the drive units "loosen up". During this period, the sound may be somewhat dry, bright and constricted. As the suspension and cone materials of both drive units "softens up", the fullness of the bass and the smoothness of the treble will start to emerge and the true sound of the AX-TWO will be revealed.

We expect the AX-TWO to have a running in period of around 100 hours, which for the average listener will take about a month, based on three hours of listening per day. This period can however vary considerably due to factors such as music types, listening volume and type of amplification used. (Loud heavy metal or Mahler symphonies are especially effective!)

If the rest of your system is of commensurate quality, you may notice that when you haven't played your AX-TWO for a week or longer, they seem to experience a lesser version of this running-in process again. Everything will be completely back to normal within 5 to 10 hours.

### **Cleaning**

No special maintenance is required for your AX-TWO loudspeakers. Use a soft, clean lint free cloth to remove any surface marks from the cabinets. For finger marks / grease, use a soft, clean lint free cloth, very lightly moistened with a solution of warm water and mild detergent. Do not use any alcohol or solvent based cleaning products, as they may damage the finish of the cabinet.

**Under no circumstances should you attempt to clean the drive units of your loudspeaker.**

Playing some loud music will displace any dust that has collected on the drive units!

## TECHNICAL SPECIFICATIONS

|   |   |
|---|---|
| <b>CHARACTERISTIC IMPEDANCE</b>                     | 6 Ohms  |
| <b>SENSITIVITY</b>                                  | 90dB for 1 Watt at 1 meter  |
| <b>FREQUENCY RESPONSE</b>                           | 55Hz to 20Khz, +/- 6dB in room  |
| <b>MINIMUM AMPLIFIER POWER</b>                      | 7 Watts RMS per channel   |
| <b>MAXIMUM AMPLIFIER POWER</b>                      | 100 Watts (unclipped) RMS per channel Peak  |
| <b>DRIVER COMPLEMENT</b>                            | 6" Paper Cone, foam surround bass driver<br>¾" dome, silk / polyamide tweeter   |
| <b>UNIT WEIGHT</b>                                  | 7 KG  |
| <b>SHIPPING WEIGHT<br/>(ORIGINAL PACKAGING)</b>     | 16 KG (per pair)  |
| <b>UNIT DIMENSIONS</b>                              | 380mm (h) x 230mm (w) x 230mm (d)<br>per loudspeaker, including grille  |
| <b>SHIPPING DIMENSIONS<br/>(ORIGINAL PACKAGING)</b> | 450mm (h) x 300mm (w) x 530mm (d)<br>2 loudspeakers packed together   |
| <b>NOTE</b>   | Due to Audio Note (UK)'s ongoing research and development program, specifications are subject to change without notice. |

## WARRANTY INFORMATION

Audio Note (UK) warrants this product to be free from defects in materials and workmanship for two years from the original date of purchase from an appointed Audio Note (UK) dealer, and agrees to cover the cost of parts and associated labour required to correct such defects, subject to terms & conditions.

This Warranty is offered to the first purchaser only.

If the product fails in normal domestic use and during the Warranty period due to the above described faults or defects, Audio Note (UK) will, at its discretion, repair or replace the item free of charge within a reasonable time once it has been returned to Audio Note (UK) or an appointed Audio Note (UK) dealer or service engineer.

Audio Note (UK) is not liable for any shipping charges incurred whilst transporting the product to or from Audio Note (UK) or an appointed Audio Note (UK) dealer or service engineer, should the item require service or repair during or after the Warranty period.

If the product must be shipped, please use the original packaging materials and include a copy of the original sales receipt along with a note explaining, in as much detail as possible, the problems you are experiencing with the unit.

**Only use a reputable Courier Service or Shipping Agent, and ensure that your product is insured during transit.**

**Any servicing, repairs or modifications not authorized by Audio Note (UK), or carried out by persons other than appointed Audio Note (UK) service engineers will invalidate any warranty.**

This Warranty does NOT cover: -

Damage sustained whilst in the possession of a shipping agent, retailer or consumer and not caused as a direct result of defects in materials or workmanship.

Damage caused by normal wear and tear.

Damage or defects caused by abnormal or unreasonable use.

Damage caused by accident, acts of nature, misuse or neglect.

Damage caused by a failure to follow the operating and installation instructions supplied with the product.

Damage caused by improper or careless cleaning.

Audio Note (UK) reserves the right to refuse warranty for any component of which the serial number has been removed, defaced or tampered with.

## CONTACT INFORMATION

If in the future your Audio Note (UK) product requires servicing, or if you require technical support or have any questions regarding this or any of our other products, please contact your local Audio Note (UK) dealer.

Alternatively, please feel free to contact us directly: -

Audio Note (UK) Limited  
Viscount House  
Star Road, Star Trading Estate  
Partridge Green  
West Sussex  
RH13 8RA  
United Kingdom

Tel: +44 (0)1273 830 800  
Fax: +44 (0)1273 731 498  
e-mail: [info@audionote.co.uk](mailto:info@audionote.co.uk)

