Audio Note

AZ-THREE

LOUDSPEAKERS

OWNER'S INFORMATION

Audio Note

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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

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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: -

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AZ-THREE LOUDSPEAKERS

The AZ-THREE is a floor standing, rear loaded, folded quasi parabolic horn design with a rear facing mouth, and uses two drive units per cabinet. It is very efficient and offers the amplifier an easy ‘load’, making it highly suitable for our range of superior quality, low powered valve amplifiers.

As a company, our main aim is to design and manufacture equipment that provides the maximum sonic performance for the price, and to achieve this we use many unconventional solutions. In our quest to deliver an affordable, compact, high sensitivity, wide frequency response loudspeaker to suit ‘real world’ rooms, we reinvestigated and re-evaluated the main principles of rear loaded horn cabinet design. This research, coupled with our expertise in driver, cabinet and crossover development, has resulted in a loudspeaker that not only redefines the quality / price relationship, but more importantly offers an emotionally engaging performance that is quite in a class of its own.

If you examine the vast majority of conventional loudspeaker designs, you will discover that they have very poor acoustic impedance characteristics, resulting in low efficiency. In contrast, a correctly designed horn loaded system allows the acoustic impedance to be optimized for the driver across several octaves, resulting in higher efficiency and better dynamic power transfer from the amplifier.

However, horn designs are not without their challenges, and one of the greatest problems is physical size. For a simple horn the lower cut-off frequency is directly proportional to the effective diameter of the mouth; a cut-off frequency at - 3dB of 50Hz, would require a horn with a mouth area of 3.8 square meters.

Clearly unsuitable for most domestic purposes!

So, we had to find a method of reducing the size requirement whilst maintaining the low frequency response. By re-configuring the size and shape of the rear horn flare, the (increasingly capacitive) throat impedance is off-set to a point below the cut-off frequency. This, combined with positioning the loudspeaker in close proximity to a corner further reduces the radiation impedance, and effectively increases the bass horn moth area by a factor of around x16 (x8 when placed against a rear wall), which provides a substantial boost at low frequencies.

As with all Audio Note (UK) loudspeakers, no corners have been cut in terms of component and driver quality despite the modest price of the AZ-THREE. Both the woofer and tweeter are the high quality units found in the AN-E, and are combined with a heavy-duty crossover featuring air core inductors, Audio Note (UK) silver plated speaker terminals and Audio Note (UK) AN-D internal wiring.

AZ-THREE LOUDSPEAKERS continued…

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 AZ-THREE 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.

Once unpacked, locate the 8 threaded spikes and locking nuts.

Add a locking nut to each spike.
Screw the spike / nut assemblies into the four threaded bolt holes located in the base of each loudspeaker. Adjust the spikes so that each loudspeaker stands roughly level once placed on a flat surface. Final leveling can be carried out once a suitable position offering the most acceptable bass and stereo presentation has been found.

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 rear ported enclosure of the AZ-THREE 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).
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.

UNPACKING AND INSTALLATION continued…

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.

Adjust the spikes in the base of each loudspeaker, making sure that all four are contacting with the floor and that the enclosure does not ‘rock’ or ‘wobble’.
If the loudspeakers are positioned on a carpeted floor, make sure that each spike thoroughly pierces the carpet and makes contact with the solid floor surface beneath.

Lock the spike in position with the lower locking nut. ‘Finger tight’ is usually enough, but feel free to use an appropriately sized spanner / wrench to lock the nuts in place.

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

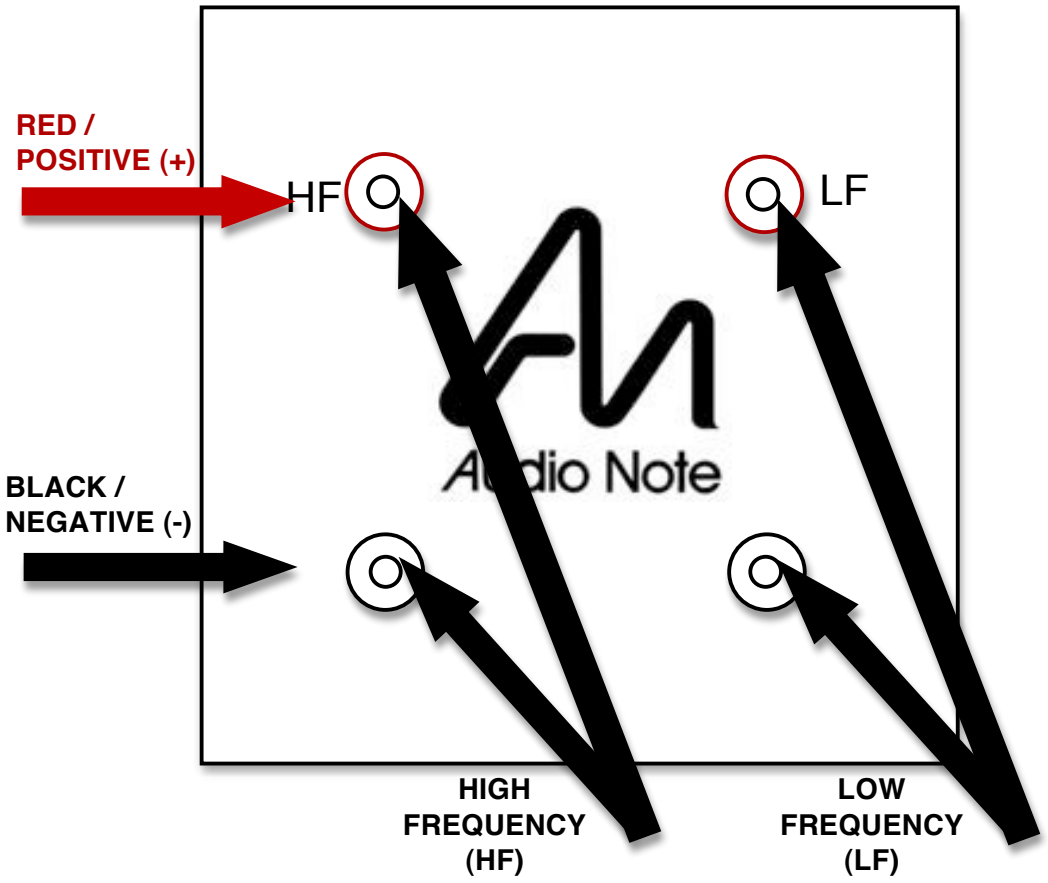
As we design all our speakers to be primarily used with good valve amplification the AZ-THREE will always perform at its best when partnered with a suitably composed Audio Note (UK) system.
However, it will also give good results when partnered with a wider range of valve and transistor amplifiers.

CONNECTION

BEFORE ATTEMPTING TO CONNECT THE AZ-THREE 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 AZ-THREE 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.
Viewed vertically, the two on the LEFT are for **HIGH FREQUENCY** (**HF**).
The two on the RIGHT are for **LOW FREQUENCY** (**LF**).
Each binding post is colour coded either **RED** or **BLACK**.
The **RED** binding posts (top two) connect to the **RED / POSITIVE** (often marked '**+**') loudspeaker outputs on your amplifier.
The **BLACK** binding posts (bottom two) 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 AZ-THREE 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 AZ-THREE 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 AZ-THREE, 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 AZ-THREE 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 AZ-THREE 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 AZ-THREE will be revealed.

We expect the AZ-THREE 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 AZ-THREE 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 AZ-THREE 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

CHARACTERISTIC IMPEDANCE	6 Ohms
SENSITIVITY	94dB for 1 Watt at 1 meter
FREQUENCY RESPONSE	40Hz to 20Khz, +/- 6dB in room
MINIMUM AMPLIFIER POWER	7 Watts RMS per channel
MAXIMUM AMPLIFIER POWER	125 Watts (unclipped) RMS per channel Peak
DRIVER COMPLIMENT	8” paper cone, foam surround bass driver 1” polyamide dome tweeter
UNIT WEIGHT	24 KG
SHIPPING WEIGHT (ORIGINAL PACKAGING)	27 KG
UNIT DIMENSIONS	1000mm (h) x 280mm (w) x 320mm (d) per loudspeaker
SHIPPING DIMENSIONS (ORIGINAL PACKAGING)	1050mm (h) x 330mm (w) x 380mm (d) per loudspeaker
NOTE	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 covers 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: -

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