



**AN-E**

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

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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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## AN-E MODELS

AN-E/D	1" tweeter & 8" standard paper bass driver with copper voice coils, 94 dB efficient, AN-D internal copper speaker cable, internal crossover, copper inductors, chipboard / MDF cabinet, Black Ash real wood veneer.
AN-E/D HEMP	1" tweeter & 8" standard efficiency Hemp bass driver with copper voice coils, 94 dB efficient, AN-D internal copper speaker cable, internal crossover, copper inductors, chipboard / MDF cabinet, Black Ash real wood veneer.
AN-E/LX	1" tweeter & 8" standard paper bass driver with copper voice coils, 94 dB efficient, AN-LEXUS-LX internal copper cable, internal crossover, copper inductors, Birch ply cabinet, real wood veneers.
AN-E/LX HEMP	1" tweeter & 8" standard efficiency Hemp bass driver with copper voice coils, 94 dB efficient, AN-LEXUS-LX internal copper cable, internal crossover, copper inductors, Birch ply cabinet, real wood veneers.
AN-E/LX HE	1" tweeter & 8" high efficiency Hemp bass driver with Silver voice coils, 97.5 dB efficient, AN-LEXUS-LX internal copper cable, internal crossover, copper inductors. Birch ply cabinet, real wood veneers.
AN-E/SPe	1" tweeter & 8" standard paper bass driver with copper voice coils, 94 dB efficient, AN-SPe internal Silver cable, internal crossover, copper inductors. Birch ply cabinet, real wood veneers.
AN-E/SPe HEMP	1" tweeter & 8" standard efficiency Hemp bass driver with copper voice coils, 94 dB efficient, AN-SPe internal Silver cable, internal crossover, copper inductors. Birch ply cabinet, real wood veneers.
AN-E/SPe HE	1" tweeter & 8" high efficiency Hemp bass driver with Silver voice coils, 97.5 dB efficient, AN-SPe internal Silver cable, internal crossover, copper inductors. Birch ply cabinet, real wood veneers.
AN-E/LX HE Signature	1" tweeter & 8" high efficiency Hemp bass driver with Silver voice coils, 98 dB efficient, 1.5 meter bi-wired AN-LEXUS-LX copper cable from cabinet to crossover, copper inductors with Audio Note (UK) copper foil capacitors in external non-magnetic aluminium chassis.
AN-E/SPe HE Signature	1" tweeter & 8" high efficiency Hemp bass driver with Silver voice coils, 98 dB efficient, 1.5 meter bi-wired AN-SPe Silver cable from cabinet to crossover, copper inductors with Audio Note (UK) copper foil capacitors in external non-magnetic aluminium chassis.
AN-E/SPe SE Signature	1" tweeter & 8" high efficiency Hemp bass driver with Silver voice coils, 98 dB efficient, 1.5 meter bi-wired AN-SPe Silver cable from cabinet to crossover, Audio Note (UK) Silver inductors with Audio Note (UK) copper foil capacitors in external non-magnetic aluminium chassis.
AN-E SPx SE Signature	1" tweeter & 8" high efficiency Hemp bass driver with Silver voice coils, 98 dB efficient, 1.5 meter bi-wired AN-SPx Silver cable from cabinet to crossover, Audio Note (UK) Silver inductors with Audio Note (UK) copper foil capacitors in external non-magnetic aluminium chassis.
AN-E/SPx Alnico	1" tweeter & 8" Hemp bass driver with Silver voice coils and custom made ALNICO magnets on tweeter and woofer, 95dB efficient, AN-SPx internal Silver cable. Internal crossover with copper inductors and custom made polyester capacitors. Birch ply cabinet, real wood veneers.
AN-E SEC Silver	1" tweeter & 8" Hemp bass driver with Silver voice coils and custom made ALNICO magnets on tweeter and woofer, 95dB efficient, AN-SOGON-LX internal Silver cable. Internal crossover with Silver inductors and custom made polyester capacitors. Birch ply cabinet, real wood veneers
AN-E SEC Signature	1" tweeter & 8" Hemp bass driver with Silver voice coils and custom made ALNICO magnets on tweeter and woofer, 96dB efficient, 1.5m bi-wired AN-SOGON-LX Silver cable from cabinet to crossover. Audio Note (UK) Silver inductors, with Audio Note (UK) copper foil capacitors in external non-magnetic aluminium chassis.
AN-E SOGON	All Silver crossover with Audio Note (UK) Silver foil capacitors, each crossover is an external MEISHU size aluminium chassis containing 12 and 15kgs of pure AN(UK) <sup>TM</sup> Silver foil in the capacitors. Inductors made from silk insulated AN(UK) pure Silver wire, adjusted to the closest tolerances possible (+/- 0.1 dB between each speaker in the pair). Both the handmade tweeter and Hemp woofer are equipped with AlNiCo magnets and Audio Note (UK) silver voice coils. 1.5m bi-wired AN-SOGON LX Silver cable from cabinet to crossover.
AN-E Speaker Stand	10" high mass black sprayed steel speaker stand. Self assembly, designed for filling with fine sand or metal shot material to maximise mass
AN-E Speaker Stand with internal crossover	Optional for all speakers with external crossovers to house the large copper foil capacitors used in all the SIGNATURE versions of the AN-E speakers, except for AN-E SOGON where the silver capacitors are too large to fit within the cavity available

## AN-E LOUDSPEAKERS

Congratulations on your purchase of the Audio Note (UK) AN-E loudspeakers. We hope and expect them to give you many years of musical enjoyment and trouble-free listening.

The majority of the high-end audio marketplace is occupied by ill-conceived low-efficiency loudspeaker systems. These designs usually consist of several less-than-ideally-matched drivers and a very complex crossover, crammed into a cabinet that exhibits the tonal and textural qualities of reinforced concrete. Their designers are blinded by the dogmatic quest for high sound pressure levels and flat response.

But what of the other factors which are essential for emotionally involving music reproduction? What about coherence, full natural micro - as well as macro - dynamics, inner detail?

What about *LIFE*?

What about *EMOTION*?

Sorry, they're just not part of the "High Performance Audio" design brief. And *Music* suffers for it.

The design of the AN-E Loudspeaker, by contrast, follows an altogether different philosophy. It calls for a cabinet that complements the chosen drive units, rather than fighting against them. Instead of trying to *kill* the resonances, we tailor the cabinet to place them in frequency bands where they *aid* and *enhance* the operation of the drive units, culminating in a loudspeaker system that makes the most of the preceding amplifier's output.

The material choice for the cabinet is an area where a great deal of research and development has taken place. Over the years, we have tried many different materials and combinations, a time consuming endeavour culminating in the current design, which utilizes the highest quality Russian Birch ply for the entire cabinet. Bracing and internal damping is kept to a minimum and strategically applied to help, not hinder the drivers.

The ported cabinet has been designed to be placed close to room boundaries, where the bass performance is augmented significantly by the additional reinforcement offered by the nearby walls. In this position, it will outperform any similarly sized speaker regardless of origin, thanks in part to the shallow cabinet / wide baffle shape which gives the drivers the best possible operating conditions, allowing them to perform as if they are mounted in a virtual wall. This provides the most undisturbed sound field with the widest and most even dispersion possible from a real world cabinet shape.

The crossover is simple, essentially first order, hardwired and incorporates air-cored chokes and selected bipolar and polypropylene capacitors (either copper foil or silver foil, depending on model.) The internal cabling consists of either 99.99% pure copper or 99.99% pure silver Audio Note (UK) wire, depending on the exact model. (See specifications.)

## AN-E LOUDSPEAKERS continued...

Consistent performance is a major issue in loudspeaker design and unfortunately all drive units vary slightly 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, to within 0.4dB; to the best of our knowledge, no other loudspeaker manufacturer achieves such close matching and tests 100% of its production.

Another much overlooked area of loudspeaker design is the material choice for the drivers.

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, 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.

In addition, 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.

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 AN-E loudspeakers. Choose a clean, clear location to unpack them. Be aware that each loudspeaker is heavy; before attempting to unpack or lift them, check their 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 each loudspeaker and its stand.

For optimal tonal balance, the AN-E should be used on a spiked, high mass stand, around 24 - 27cm (10 inches) in height (available separately), so that the tweeter is positioned at roughly ear height for the chosen listening position.

The ported enclosure of the AN-E 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.

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.

If you experience any difficulty positioning your AN-E 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 AN-E 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 (internal crossover models)

**BEFORE ATTEMPTING TO CONNECT THE AN-E 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 AN-E 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.

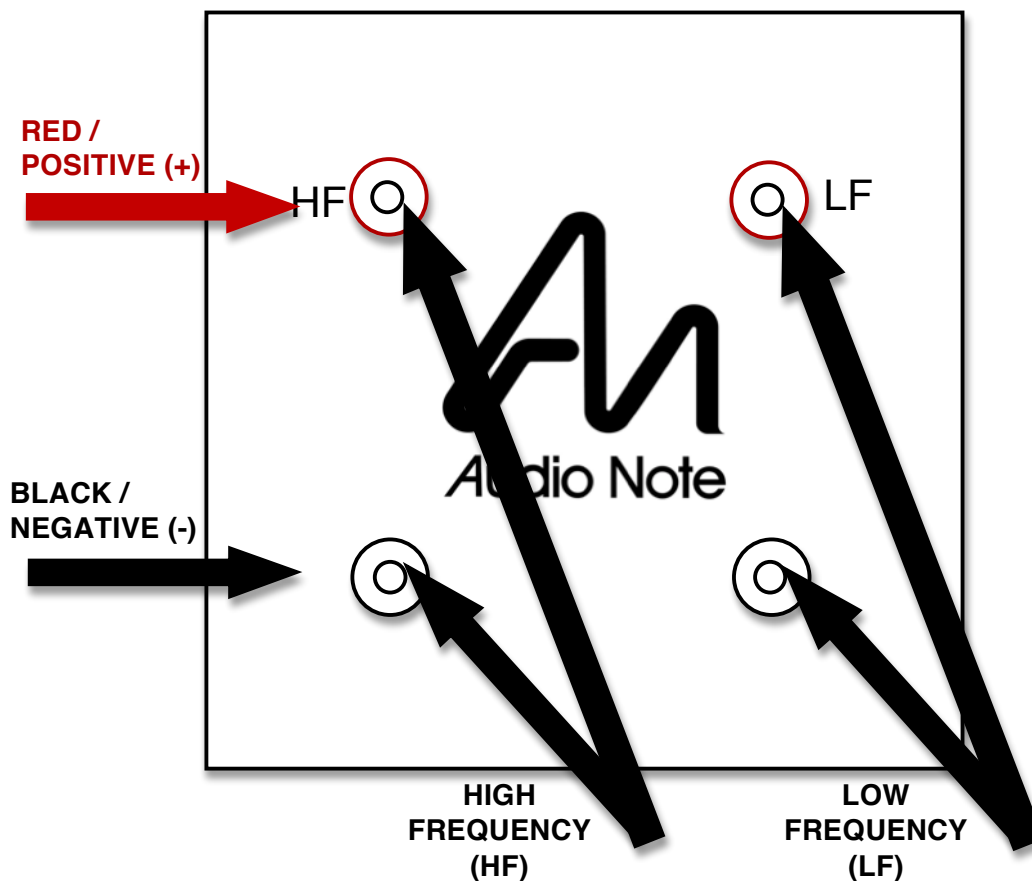
Viewed vertically, the two on the LEFT are for **HIGH FREQUENCY (HF)**.

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 (internal crossover models) continued...

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 AN-E 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 AN-E 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 AN-E, 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.*

## CONNECTION (external crossover models)

**BEFORE ATTEMPTING TO CONNECT THE AN-E CROSSOVER 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 AN-E crossover without stretching or pulling tightly; it is always better to have a loudspeaker cable that is too long rather than too short! It is also vitally important to ensure that the crossover chassis is positioned close enough to the AN-E so that the connecting cables between the 'speaker cabinet and the crossover are not stretching or pulling tightly.

***Ensure that each external crossover is connected to its matching AN-E!***

On the rear of each external crossover chassis are four pairs of binding posts, eight in total.

The four on the LEFT (labeled 'IN') are for connection from the amplifier to the crossover.

The four on the RIGHT (labeled 'OUT') are for connection from the crossover to the loudspeaker.

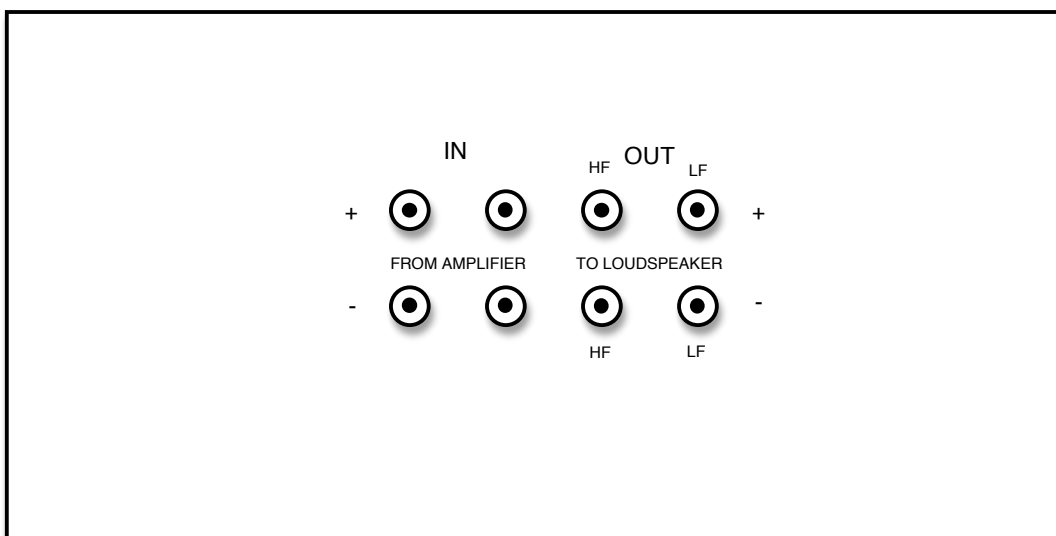
Each binding post is colour coded either **RED** or **BLACK**.

The **RED** binding posts (top) connect to the **RED / POSITIVE** (often marked '+') loudspeaker outputs on your amplifier / connecting cables to the AN-E.

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

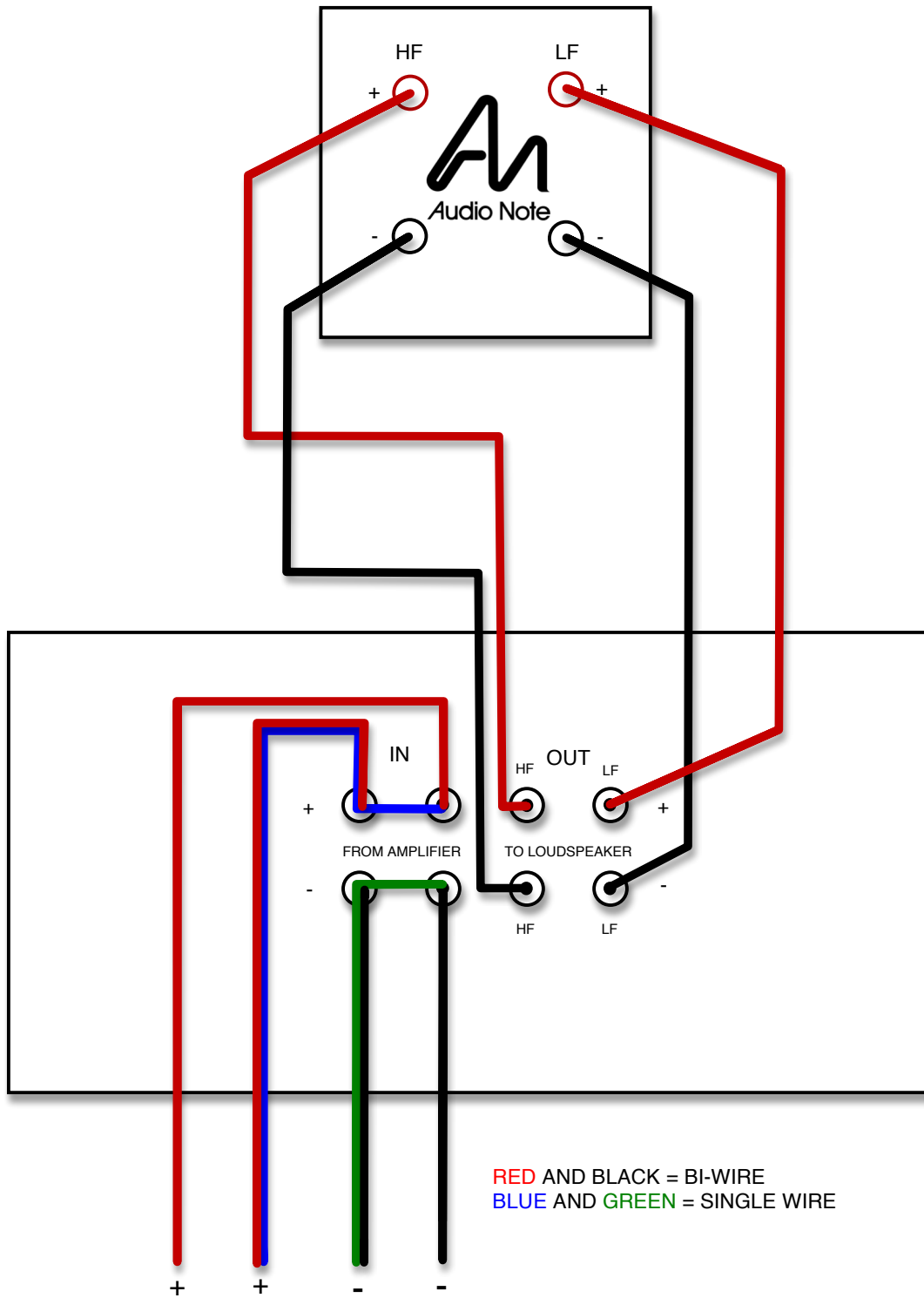
As with the internal crossover models, it is possible to connect the external crossover to the amplifier in either single wired or bi-wired operation, or to bi-amplify. Please refer to the descriptions of both operating methods in the 'internal crossover models' section. Your Audio Note (UK) Dealer will be pleased to advise you further, should you have any questions.

### EXTERNAL CROSSOVER CONNECTIONS



# CONNECTION (external crossover models) continued...

AN-E CONNECTION PANEL



LOUDSPEAKER CONNECTIONS FROM AMPLIFIER

## 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 you're AN-E 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 AN-E 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 AN-E will be revealed.

We expect the AN-E 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 AN-E 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 AN-E 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 (for 1 Watt at 1 Meter)</b>	94dB Standard Efficiency models 97.5 to 98dB High Efficiency models 95 to 96 dB Alnico models
<b>FREQUENCY RESPONSE</b>	18Hz to 23Khz, +/- 6dB in room
<b>MINIMUM AMPLIFIER POWER</b>	7 Watts RMS per channel
<b>MAXIMUM AMPLIFIER POWER</b>	150 Watts (unclipped) RMS per channel Peak
<b>DRIVER COMPLEMENT</b>	8" foam surround bass driver, with paper or Hemp cone, standard, HE or Alnico magnet, copper or silver voice coil (model specific)  1" silk dome tweeter, standard or Alnico magnet, copper or silver voice coil (model specific)
<b>UNIT WEIGHT</b>	23 KG approximate (per 'speaker, internal crossover models)
<b>SHIPPING WEIGHT (ORIGINAL PACKAGING)</b>	26 KG approximate (per 'speaker, internal crossover models)
<b>UNIT DIMENSIONS</b>	790mm (h) x 360mm (w) x 270mm (d) (per loudspeaker, internal crossover models)
<b>SHIPPING DIMENSIONS (ORIGINAL PACKAGING)</b>	890mm (h) x 460mm (w) x 370mm (d) (per loudspeaker, internal crossover models)
<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 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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