

Art
TWO



User Manual

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1 Safety instructions



Danger! If the warning is not heeded there is a risk of immediate danger leading to serious injury or death.



Note! If the warning is not heeded there is a possible risk of danger that could lead to minor injury or damage.



These notes give you useful additional information.

Please read this guide carefully and follow every step stated in relation to getting started. Also heed and follow all warnings and safety notices!

- The stability (especially that of large loudspeakers) is heavily dependent on the nature and condition of the floor. Carpet floors can considerably reduce stability. Even a knock of relatively moderate force can cause a loudspeaker to fall over and therefore carries a risk of injury for any people or animals in the vicinity. The stability can be significantly improved by using the spikes supplied with the product. However, care is called for when fitting these, as there is a risk of injury from the sharp tips of the spikes and a possibility of damaging floor.
- Loudspeakers must under no circumstances be used as seats or climbing aids (ladder substitutes)!
- For putting/setting up the speakers use only loudspeaker stands, wall fixtures or products designed for the purpose.
- Please note that any tables, shelves or boxes on which the products are placed must be moved very carefully in order to avoid any damage or injuries due to them toppling over. When wall mounting, particular care should be taken to ensure that all components are adequately and securely screwed in place. Additional safety devices (chains, etc.) should be fitted.
- When choosing the loudspeakers' location, take heed of the fact that this should be dry and not too cold. Permanently high air humidity and strong sunlight (UV radiation) can cause your loudspeakers to age prematurely and consequently impair their functionality. Protect this product from splashes. Please make sure that nothing containing liquids (e.g. a vase) is placed on top of the speakers. Do not set up the loudspeakers close to any source of heat, such as electric fires, radiators or ovens.
- Do not put any source of open flame, e.g. lit candles, onto the equipment.
- Very high volume levels over a prolonged period can have harmful effects on the user's health.
- In the event of overloading of the loudspeakers and excessively high volume levels it is not wholly impossible that individual components on the frequency-separating filters or even individual loudspeakers may burn out. In particularly unfavourable situations it is even possible for a fire to start inside the loudspeaker if it is operated at its limits unattended.
- At high volume levels voltages of 30–50 volts can be present at the loudspeaker terminals and components. When they are in use, be certain therefore to avoid touching any of the loudspeakers' uninsulated connection contacts.

- Also, due to the risk of injury, never put your hands or arms into the sound emission openings (bass reflex ports).
- Never open up the speaker yourself. Please leave the servicing of your product solely to people authorised to do this. Servicing is necessary in the event of any kind of damage, i.e. in the event of damage to the loudspeaker jacks, after the penetration of any liquids, after any objects have fallen onto a speaker or after it has itself fallen over.
- To clean the speakers without harming them it is best to use the micro-fibre cloth supplied with them. If the speakers are particularly dirty, use a moist cotton cloth. Aggressive cleaning agents must not be used!
- Keep the packaging for any potential future transportation.
- Passive loudspeakers, such as ArtTwo, must not be connected to the electrical mains, as this leads to damage to the speakers and to all connected devices.
- Please avoid putting any of the following down on the loudspeakers: credit cards, audio or video cassettes, other magnetic storage devices, etc. The information stored on them could be destroyed. Magnetic tape devices should also not be used in the immediate proximity of either speaker.

Warning note about the beryllium tweeter – highly toxic!



The MASTER series and the ART series use a tweeter fitted with a beryllium calotte. While in its solid form beryllium is harmless, in this form of use you should nevertheless take heed of certain special precautionary rules in order to avoid any unnecessary damage or risks.

- The beryllium calotte should under no circumstances be subjected to any form of abrasion.
- If the calotte becomes damaged, you should immediately stick on a large piece of adhesive tape in order to completely cover the entire front of the tweeter. Contact your dealer and inform them about the situation, so that a trained technician can replace the damaged tweeter with a new one.
- If the calotte is physically damaged in any way and breaks into loose pieces, collect these up carefully using adhesive tape, put them into a sealed container or bag and send this back to your dealer. The dealer will dispose of the material properly.
- Be certain not to breathe in any beryllium dust! Avoid any skin contact!

2 Unpacking and checking

First check the loudspeakers for any damage incurred in transit and to make sure that no accessories are missing.

The originally packed loudspeaker boxes contain the two loudspeakers and the following accessories:

- ✓ 4 x cable jumpers
- ✓ Manual
- ✓ Gloves
- ✓ Microfibre cleaning cloth



If after unpacking them, you notice any damage caused in transit, do not under any circumstances start using the loudspeakers. Please get in touch immediately with your dealer.

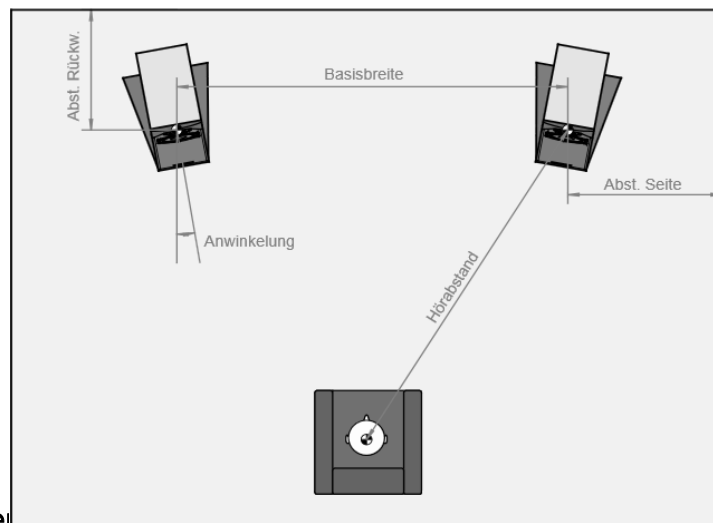
When the loudspeakers are transported in cold weather, it is possible that condensation may form on the metallic surfaces. Therefore let the speakers acclimatise for a few hours in a heated room.

3 Setting the speakers up

Spatial acoustics is a complex subject, on which some very good and detailed literature is available from specialist retailers. More precise details would go beyond the scope of this manual. Using the following basic knowledge, you will, however, quickly achieve good results.

In essence, the arrangement of the loudspeakers within the room as well as the latter's shape, furnishings and fixtures have a decisive influence on the sound quality. The aim is to achieve a balanced frequency response and good spatial reproduction at the spot where the listener is positioned.

We would encourage you to experiment a bit with the set-up of the loudspeakers and the listening position. The drawing below shows the basic loudspeaker set-up. Even minor shifts or angling in of the loudspeakers can produce an audible improvement in the reproduction.



Recommendation	
<u>Basic width</u>	> 2 metres
<u>Distance from wall - side / to rear</u>	> 0.5 metre
<u>Listening distance</u>	> 2 metres



- The speakers should be set up in such a way that there is no risk of them toppling over or of tripping over a cable.
- Pick a stable, level surface.
- Ensure that the surrounding area is dry and free of dust.
- Avoid proximity with any sources of heat and with direct sunlight.
- Do not put any heavy objects on top of the cables or loudspeakers.
- Make sure that the loudspeakers sit firmly on the surface in order to avoid any vibrations.

A few tips and recommendations for fully utilising the acoustic potential:

- Position the loudspeakers within the room as clear of any obstructions as possible. Wherever possible, the distance from the walls should be at least 0.5

metre. If you are able to do so, position the loudspeakers on the long side of the room. This minimises the influence of any reflections.

- Set up the loudspeakers in such a way that the listening position and the pair of speakers form an equilateral or at least an isosceles triangle.
- When setting up, make sure that the distance from the loudspeakers to the listener is at least two metres.
- By angling the speakers in towards the listening position you may also achieve acoustic benefits.



These notes serve merely as a recommendation.

For any given room and listening position it is well worth experimenting with the set-up. The performance of the loudspeakers naturally benefits from the level of quality of the attached components and the accessories being used. Qualified spatial acoustics experts can help you with your planning and thus improve the results still further.

4 Spikes

Spikes are primarily used to ensure a stable, low-resonance set-up. The small contact area of the spike tips achieve a link to the floor or speaker stand and ensure that the loudspeaker sits stably in its set-up position.

Floors that are vibratory and have a tendency to resonate, i.e. typical older hall and parquet floors, are an exception to the above recommendation. Any connection of the loudspeaker to the unsuited flooring here would increase the tendency to boom in the bass range and also not provide the desired stability.

In these situations use either spikes with tips pointing up (available as an option), which physically achieve a decoupling from the floor or use shock-absorbing pads (e.g. rubber pucks), as offered in their range of accessories by your Hi-Fi retailer.



Take care when positioning the spikes under the loudspeakers: there is a high risk of the speaker toppling over, as on the ArtTwo there are no slots or any other provisions made for the use of spikes.

5 Running in

All Hi-Fi components, especially high-quality loudspeakers like the ArtTwo, require a certain running-in time to deploy their full acoustic qualities.

During this time, mechanical parts of the loudspeaker chassis in particular, such as surrounds and diaphragms, increasingly lose an initial stiffness that they have due to the manufacturing process. Over the course of the first c. 20–100 hours of total playing time, the sound gains as a result in subtlety, pliancy and warmth. On a good system this development can be clearly noticed.

6 Connection to the amplifier



Increased attentiveness is called for in the case of some valve amplifiers that possess differing load impedances with different output terminals. Please proceed in such cases in accordance with the amplifier manufacturer's guidance.

Your new loudspeaker can essentially be used connected to any amplifier with a load impedance of 4 ohms. All popular Hi-Fi amplifiers generally fulfil this requirement.

Your loudspeaker is fitted with a bi-wiring connection terminal. This creates several different connection options.

1. Single-wiring (see point. 6.1, page 10)
2. Bi-wiring (see point. 6.2, page 11)
3. Horizontal bi-amping (see point. 6.3.1, page 12)
4. Vertical bi-amping (see point. 6.3.2, page 13)

Between amplifier and loudspeakers there is, however, a series of interactions that are very important for a truly perfect interplay.

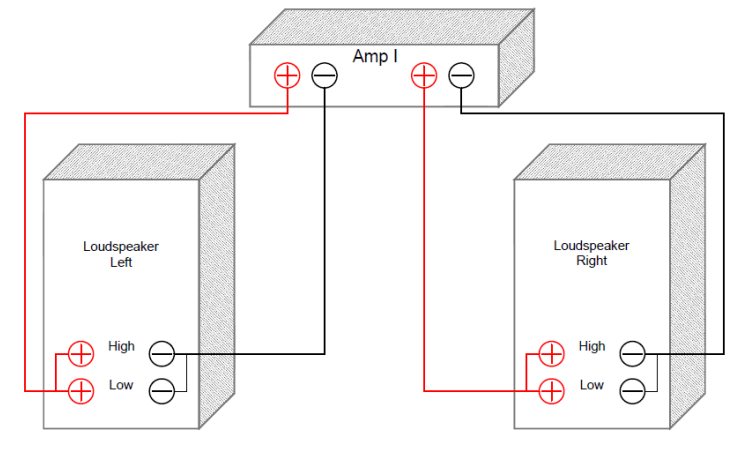
You should therefore give due attention to the subject of loudspeaker cable, as indeed you did to your choice of new loudspeakers.

With our Audiodata **LS CU 4** loudspeaker cables, we offer within our a product range an expedient solution in what has become a very cluttered cable market.

6.1 Single-wiring connection option



For connecting the loudspeaker cables and/or cable jumpers, turn off your amplifier. Ensure that both loudspeakers are correctly wired up and connected in phase. Never join '+' and '-' connections together, as depending on its design this can seriously damage your amplifier.



1. On both loudspeakers connect the cable jumpers supplied to the connection terminals for 'High' and 'Low'.
 - a. To do this, connect the plus low frequency connection (red) to the right-hand speaker's plus high frequency connection (red).
 - b. Then, connect the minus low frequency connection (black) to the right-hand speaker's minus high frequency connection (black).
2. Using the right channel's plus cable (red), connect your amplifier's right-hand plus terminal '+' to the plus connection '+' on your right-hand speaker.
3. Using the right channel's minus cable (black), connect your amplifier's right-hand minus terminal '-' to the minus connection '-' on your right-hand speaker.
4. Proceed as above in the same way with your left-hand channel's loudspeaker.

6.2 Bi-wiring connection option

Bi-wiring is a term used to describe a connection variant for loudspeakers where separate cables are used for the signals of the low-frequency range and of the high-frequency range. With this variant low- and high-frequency range each have one terminal and are each connected to the amplifier with one cable.

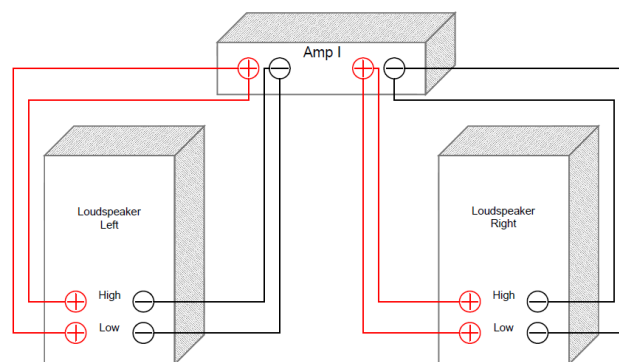
From an acoustic perspective, the bi-wiring method offers some clear advantages. As a result of the separation of the low- and high-frequency range, powerful low-frequency pulses no longer influence high-frequency structures conveyed at the same time. The sound gains in this way in detail resolution and depth. The musical rendition also gains greater peace and serenity.

Ideally use cables of the same type and length for the low- and high-frequency range (ideally our Audiodata LS CU 4), as otherwise there is a danger of inhomogeneity. If your power amp has only one pair of connection terminals per channel, connect both the low-frequency cable and the high-frequency cable to these terminals on the amplifier.

If the power amp has two pairs of connection terminals per channel (speaker A/B), you can also connect in each case one cable to one pair of terminals respectively. In this case you must always remember when using the loudspeakers to switch on both speaker connections (A+B) on the amplifier.



Any bi-wiring operation with cable jumpers in use is ineffective!
Remove the cable jumpers between low- and high-frequency range.
Keep hold of the cable jumpers for any future re-use.



1. Remove **all** cable jumpers from the loudspeakers
2. Connect the right-hand channel's plus low frequency cable (red) to your amplifier's right-hand positive terminal “+” and to the plus low frequency connection ‘+’ on your right-hand speaker.
3. Connect the right-hand channel's plus high frequency cable (red) to your amplifier's right-hand positive terminal “+” and to the plus high frequency connection ‘+’ on your right-hand speaker.
4. Connect the right-hand channel's minus low frequency cable (black) to your amplifier's right-hand negative terminal “+” and to the minus low frequency connection ‘+’ on your right-hand speaker.
5. Connect the right-hand channel's minus high frequency cable (black) to your amplifier's right-hand negative terminal “+” and to the minus high frequency connection ‘+’ on your right-hand speaker.

6. Proceed as above in the same way with your left-hand channel's loudspeaker.

6.3 Bi-amping connection option

Bi-amping is a term used to describe a connection variant for loudspeakers where separate cables and separate amplifiers are used for the signals of the low-frequency range and of the high-frequency range.

The speaker's low- and high-frequency range each have one connection terminal and are each connected to the respective amplifier with one cable.

From an acoustic perspective the bi-amping connection option is the best variant. As a result of the separation of the low- and high-frequency range, powerful low-frequency pulses no longer influence high-frequency structures conveyed at the same time. The sound gains in this way even more clearly in detail resolution and depth. The musical rendition also gains greater peace and serenity.

For the low- and high-frequency range it is best to use cables of the same type (ideally our Audiodata LS CU 4) and length and identical power amps, as otherwise there is a danger of inhomogeneity.

There are two types of bi-amping operation:

- Horizontal bi-amping
- Vertical bi-amping

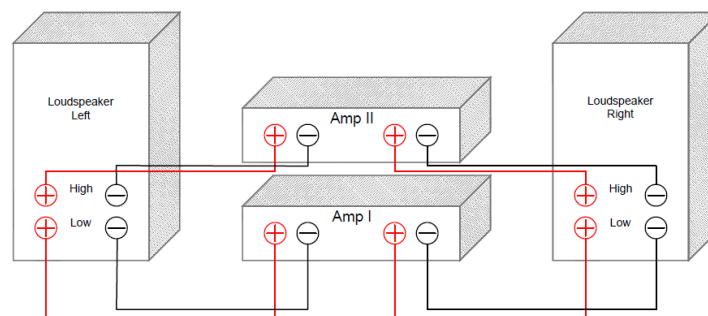
Which variant you choose has no effect on the acoustic experience.



Any bi-amping operation with cable jumpers in place is very dangerous, as it can lead to the amplifiers short-circuiting.

The connection must be carried out very carefully. Mistakes can have very serious consequences.

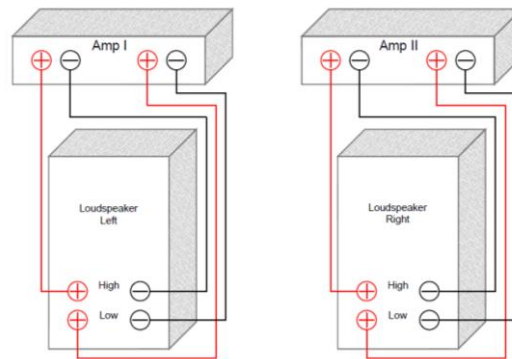
6.3.1 Horizontal bi-amping



1. Remove **all** cable jumpers from the loudspeakers
2. Connect the right-hand channel's plus low frequency cable (red) to your amp 1's right-hand positive terminal “+” and to the plus low frequency connection ‘+’ on your right-hand speaker.
3. Connect the right-hand channel's plus high frequency cable (red) to your amp 2's right-hand positive terminal “+” and to the plus high frequency connection ‘+’ on your right-hand speaker.
4. Connect the right-hand channel's minus low frequency cable (black) to your amp 1's right-hand negative terminal “-” and to the minus low frequency connection ‘+’ on your right-hand speaker.

5. Connect the right-hand channel's minus high frequency cable (black) to your amp 2's right-hand negative terminal "+" and to the minus high frequency connection '+' on your right-hand speaker.
6. Proceed as above in the same way with your left-hand channel's loudspeaker.

6.3.2 Vertical bi-amping



1. Remove **all** cable jumpers from the loudspeakers
2. Connect the right-hand channel's plus low frequency cable (red) to your amp 2's right-hand positive terminal "+" and to the plus low frequency connection '+' on your right-hand speaker.
3. Connect the right channel's plus high frequency cable (red) to your amp 2's left-hand plus terminal '+' and to the plus high frequency connection '+' on your right-hand speaker.
4. Connect the right-hand channel's minus low frequency cable (black) to your amp 2's right-hand negative terminal "+" and to the minus low frequency connection '+' on your right-hand speaker.
5. Connect the right channel's minus high frequency cable (black) to your amp 2's left-hand minus terminal '-' and to the minus high frequency connection '-' on your right-hand speaker.
6. Proceed as above in the same way with your left-hand channel's loudspeaker.

7 Cleaning and care

- Do not under any circumstances use aggressive cleaning agents, methylated spirit, thinners, petroleum or similar. Such cleaning agents can damage the cabinet surface.
- Ideally remove dust and minor marks with the micro-fibre cloth included.
- Rub off more stubborn marks using a damp cloth. Make sure that no fluid gets into the loudspeaker.
- Subsequently wipe down the surfaces at once with a soft, dry cloth, without exerting any pressure.

8 Technical data:

Construction

2-way loudspeaker with a coaxial chassis

Bass reflex cabinet

Multiplex multilayer board construction with wall damping by means of inner chambers filled with steel balls

Different high-quality cabinet materials matched for optimum resonance

Chassis

1 bass/mid-range driver, Ø 175 mm, magnesium membrane,

1 coaxial tweeter, Ø 25 mm, beryllium membrane

Connection

Bi-wiring terminal panel

Crossover frequency

2500 Hz

Frequency range

40–25.000 Hz

Weight

15 kg

Dimensions (W x H x D)

215 x 460 x 385 mm incl. spikes

Impedance

Nominal value 8 ohms

Pair alignment

+/- 0.5 dB (left/right loudspeaker)

Power rating

100 watts sine wave

Efficiency

87.5 dB (1 Watt/1 m)

Finishes

Cabinet and baffle: varnished in your choice of colour or

cabinet in all available wood veneers,

baffle always varnished

Guarantee period

36 months full guarantee

Subject to technical changes.

9 Guarantee declaration

- The guarantee period begins upon purchase of the product and is valid only for the first owner.

- During the guarantee period we will rectify any deficiencies that are demonstrably due to defective materials or fabrication errors. It will be our choice as to whether we replace or repair the defective parts. No further claims, in particular in relation to price reduction, cancellation, compensation or consequential losses, will be entertained.
- You must not tamper with the product.
- When wishing to claim on the guarantee, please first contact your specialist retailer. Should it prove necessary to send the product to us, please ensure
 - that it is sent in undamaged original packaging
 - and that the purchase receipt is enclosed.
- The following are not covered by the guarantee:
 - Consumables
 - Damage caused in transit, visible or invisible (complaints about any such damage must be made to the courier firm without delay)
 - Scratches to metal parts, loudspeaker covers, etc. (complaints about any such defects must be made directly to your dealer within five days of purchase)
 - Faults that have arisen due to incorrect set-up, connection or operation, undue loading or external violence
 - Incorrectly repaired or modified appliances opened by anyone other than us
 - Consequential damage to third-party devices
 - Reimbursement of costs where damage has been repaired by a third party without our prior agreement