

Burmester

OPERATION MANUAL

B38 LOUDSPEAKER



LOUDSPEAKER

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Dear music lover,

Congratulations on your purchase and thank you for choosing Burmester.

You have chosen a product that combines absolute fidelity and uncompromising quality with technical innovation and maximum versatility.

Before using the product for the first time, we recommend that you read through this operation manual completely so that you can make full use of the capabilities of this exceptional audiophile product. Should you still have questions, please contact your dealer or contact us directly.

We're always happy to discuss your special requests, no matter how unusual. We love a good technical challenge.

We wish you an exceptional listening experience.

Your Burmester team

ABOUT THESE LOUDSPEAKERS

The B38 loudspeaker is a three-way loudspeaker with lateral woofers mounted in a bass reflex cabinet. This "side-firing" design provides astonishing dynamic range and powerful sound – thanks to the individual loudspeakers with very large diaphragms – while still maintaining a slim and elegant appearance.

A low-midrange driver provides accurate and authentic reproduction from the upper bass range up to the high frequencies, which are then handled by an AMT tweeter. AMT stands for Air Motion Transformer with pleated diaphragms.

The B38 loudspeaker delivers clean sound at both low and very high levels, homogeneous reproduction across all timbres, and impressive spatial sound with precise imaging of instruments and voices both in width and depth. This is also made possible by the sophisticated crossover, which ensures that the woofer, midrange driver and tweeter are in perfect harmony. The crossover is contained in a separate housing at the bottom of the cabinet to protect it from outside interference. Other special features of the B38 loudspeaker include a bass switch on the rear panel and a foam cylinder for sealing the bass reflex tube, both of which can be used to adapt the bass to the listening environment and your taste.

The highlights:

- Burmester AMT tweeter (Air Motion Transformer) for particularly fine resolution and excellent level stability in the high frequency range.
- Large midrange drivers for precise and three-dimensional playback in the frequency range containing the majority of music signals.
- Powerful bass speakers for punchy but clean bass all the way down to the lowest frequencies.
- Option to adjust the sub-bass level (room adaption).
- Separate connections for the bass and midrange/treble branches enable bi-amping for maximum stability of the sound image.
- Sophisticated, vibration-damped cabinet with multi-layered walls and separate housings for midrange drivers, tweeters and crossovers.

ABOUT THIS OPERATION MANUAL

This operation manual describes how to install, connect and operate the Burmester B38 loudspeaker (hereinafter referred to as "loudspeaker," "speaker" or "B38").

Please observe the following instructions:

- ▶ Read and follow the instructions in this manual, particularly the warnings and safety instructions.
- ▶ Keep this operation manual.

Symbols and text labels used

✓	Prerequisite Indicates a requirement that must be met before a subsequent action can be performed.
▶	Action Indicates a single action.
1. 2. 3.	Sequence of actions Indicates a sequence of actions that must be performed in the given order.
↪	Result Indicates the result of an action.

Meaning of warning symbols and words

The following warnings, symbols and warning words are used in this document:

	The general hazard symbol, in conjunction with the warning words CAUTION, WARNING or DANGER, warns of the risk of serious injury. Follow all of the subsequent instructions to avoid injury or death.
	The lightning symbol, in conjunction with the warning word DANGER, warns of potentially fatal electrical voltage.
ATTENTION	The word ATTENTION indicates a hazard that could damage or destroy the device.
CAUTION	The word CAUTION indicates a hazard that poses a low or moderate risk of injury.
WARNING	The word WARNING indicates a hazard that could cause serious injury or death.

IMPORTANT SAFETY INSTRUCTIONS



- ▶ Please read the operation manual for your loudspeaker in full and keep it in a safe place.

When unpacking

- ▶ To avoid damaging the housing, do not use any pointed or sharp objects to open the packaging.

When setting up

Observe the following when setting up the device:

- Avoid exposure to direct sunlight.
- Avoid excessive heat, cold, moisture and dust.
- Do not expose the loudspeakers to dripping or splashing water, and do not place containers of liquid on the loudspeakers.
- The loudspeaker is not suitable for outdoor use.
- The surface on which the loudspeaker is installed must provide a stable base.
- Make sure that the loudspeaker is as perpendicular to the floor as possible.

When connecting

- ▶ Switch off the amplifier before connecting it to the loudspeakers.

During start-up

- ▶ Set the connected preamplifier or integrated amplifier to a low volume before switching it on.

During operation

- ▶ Do not listen for long periods at too high a volume level. Excessively loud signals can damage your hearing.

Children

WARNING

Suffocation hazard

The loudspeakers are delivered packed in a protective cover, which can pose a suffocation hazard for children.

- ▶ Keep the protective cover out of the reach of children.

The loudspeaker poses various injury risks if used improperly. Never leave your children unattended with the loudspeaker.

This device is not intended for use by children.

UNPACKING THE LOUDSPEAKERS

CAUTION

High speaker weight

The loudspeakers are heavy and may cause injury if they fall.

- ▶ The loudspeakers should only be unpacked and set up by persons who are experienced in handling heavy loads.
- ▶ If necessary, have a second person help you unpack and set up the speakers.

Unpacking

- ▶ Please check the delivery for completeness and damage. If parts of the delivery are missing or if you notice any damage when unpacking the speakers, please do not connect them and consult an authorised dealer instead.

Scope of Delivery

The following is included with delivery:

- Package with the B38 loudspeakers
- 1 operation manual
- 1 set of warranty documents
- Bass reflex plugs
- Cable bridges (pre-installed)

Packaging

WARNING

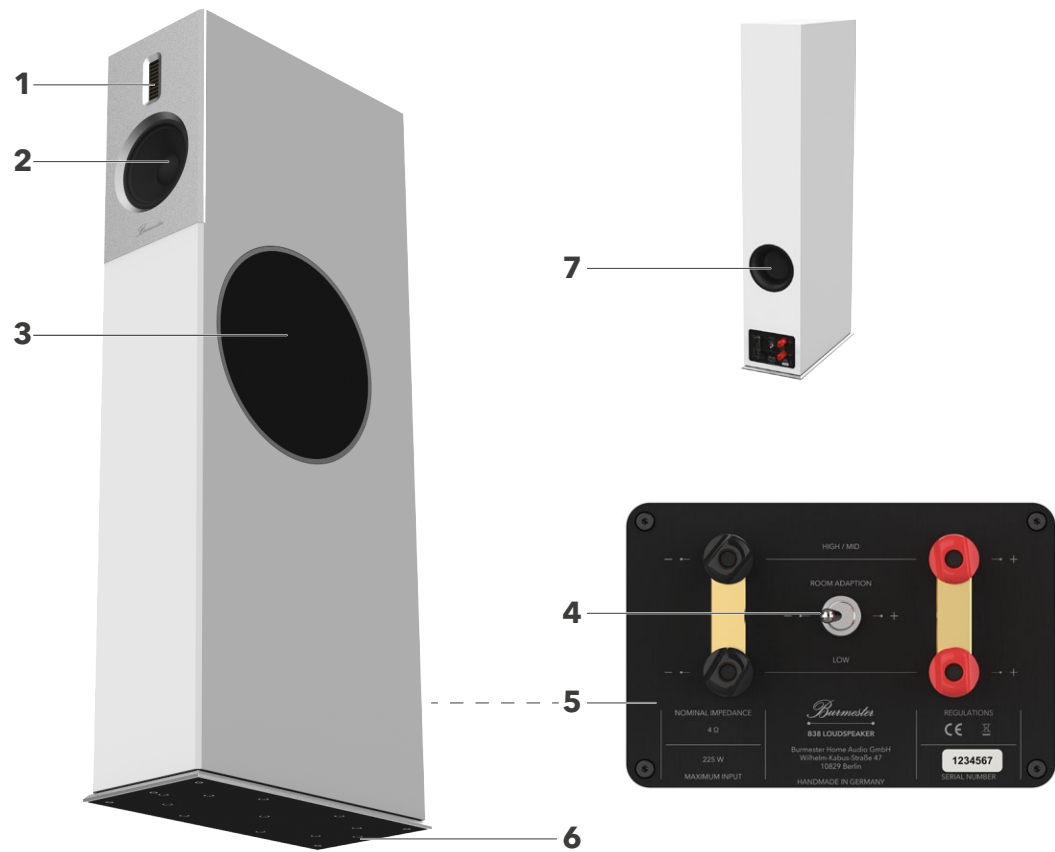
Suffocation hazard

The loudspeakers are delivered packed in a protective cover, which can pose a suffocation hazard for children.

- ▶ Keep the protective cover out of the reach of children.

We recommend keeping the original packaging for future transport, moving, etc.

OVERVIEW OF THE LOUDSPEAKER



1	AMT tweeter
2	Midrange driver
3	Woofer
4	Room adaption Switch for adjusting the bass according to the particular space.
5	Connector panel
6	Base plate
7	Port

SETTING UP THE LOUDSPEAKERS IN THE LISTENING ENVIRONMENT

Speaker Spacing

For an optimal audio experience, the loudspeakers should be placed more than 50 cm away from walls and large pieces of furniture. Otherwise, reflected sound will reach the listeners so early and with such intensity that it will significantly affect the direct sound from the loudspeakers.

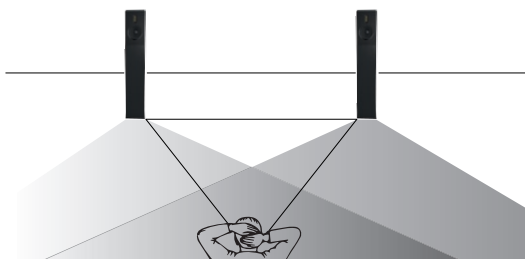
The distance between the two loudspeakers should be smaller than the distance to the listeners. The farther apart the loudspeakers are, the wider the imaginary soundstage seems, which is quite pleasant for large orchestra or choir recordings but may seem unrealistic for solo instruments and voices.

Angling the Loudspeakers

Instead of aligning the fronts of the loudspeakers parallel to the wall behind you, you can angle them inwards to direct them at the listeners. This does not change anything for the bass range, on account of the long wavelengths, but it has a significant effect on the midrange and treble frequencies. This is because angled speakers create stronger reflections off the wall behind them and slightly weaker reflections off the side walls. The imaginary stage on which the musicians are located (known as the "soundstage") thus seems to have a more precise centre and depth, while the width seems to diminish only a little. Higher notes also sound more pronounced with angled speakers, which is due to the smaller wavelengths of high frequencies.

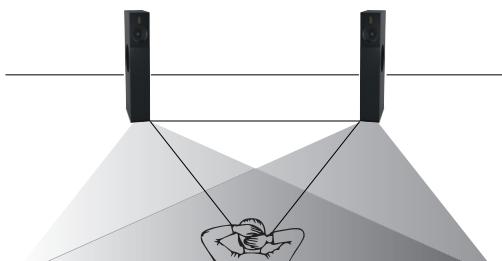
Speaker Fronts Parallel to the Wall

- Arrange the speakers facing straight ahead at a distance of about 2 to 3 metres.
 - ↳ The soundstage seems wide but less deep, and the high brilliance range sounds more subtle.



Angled Loudspeakers

- Arrange the speakers at an angle at a distance of about 2 to 3 metres.
 - ↳ The soundstage seems deep but less wide, and the high brilliance range is more powerful.



Reflections in the Listening Environment

In the midrange, an unwanted and distracting spatial phenomenon known as “flutter echo” can occur. Large reflective surfaces such as floors, walls and ceilings can cause the sound to flutter back and forth. You can easily recreate flutter echoes by clapping your hands, especially in empty rooms (the bathroom, for example).

Flutter echoes can be minimised by placing diffusers throughout the room, such as furniture or large plants that reflect sound waves in different directions. You can also use absorbers, which are materials that “swallow” sound rather than reflecting it. Common absorbers include curtains, tapestries, carpets and upholstered furniture.

In every listening environment, standing waves will also develop in the bass range. Standing waves are low-frequency sound that is reflected many times between walls, floors and ceilings, causing the bass to sound “boomy.” The frequencies (or pitches) of this booming depend on the dimensions of the room. As a general rule, however, the closer the speakers and the listeners are to the walls of the room, the louder the booming usually seems. For this reason, the loudspeakers and the listeners should be 50 cm or more away from all walls – and more than 100 cm in the corners of the room.

ADJUSTING THE BASS ON THE B38

The standing waves mentioned above can considerably impair playback in normal living rooms, especially between 35 and 70 Hz, that is, in the sub-bass range. However, the B38 can reduce the “one-note” or booming effect of these standing waves. There is usually a drop in level between the boom frequencies in a room, which the B38 can fill in if necessary.

Such room adjustments can be made using the switch near the binding posts on the back of the cabinet, as well as the foam cylinder for the bass reflex tube. The sub-bass is most powerful when the switch is in the “+” position and the reflex tube is open. When the cylinder is inserted into the reflex tube and the switch is moved to “-”, the level in the critical range is significantly reduced. You can also achieve an intermediate effect by moving the switch to “-” and positioning the cylinder more or less deep in the bass reflex tube, or moving the switch to “+” and removing the cylinder from the tube.

You should try out the various configurations to determine which is best for your listening environment. With the loudspeakers in their final position, test how the different configurations affect the sound in the precise location where you will listen. This is easier to do with a helper or two rather than alone. It is certainly worth the effort.

CONNECTING THE LOUDSPEAKERS

- ▶ Before connecting the loudspeakers, please also read the operation manuals for the components you plan to connect.
- ▶ Pay attention to the correct polarity: red = positive, black = negative

WARNING

Hazardous voltage at the binding posts

Hazardous voltages may be present at the binding posts during operation.

- ▶ Before connecting the loudspeaker, switch off all components of your music system and do not switch them on until you have made all the connections properly.

ATTENTION

Damage due to faulty connections

A short circuit or a faulty connection can damage the loudspeakers and other components.

- ▶ Switch off the power amplifiers before connecting the loudspeakers. This will prevent possible short circuits caused by cables that are not yet connected at both ends.
- ▶ Connect the cables to the loudspeakers first, then to the power amplifiers.
- ▶ Connect the speaker cables only to the appropriate binding posts of a power amplifier. Never insert the speaker cables into a power outlet, as this will destroy the loudspeakers.

Connection cables

Burmester recommends using cables with a large cross-section to connect the loudspeakers to the power amplifier. A large cross-section allows you to maintain the damping factor of the power amplifiers for optimal control of the loudspeakers. Best results are achieved by using original Burmester speaker cables, which have the same electrical and tonal characteristics as the internal wiring of Burmester loudspeakers and amplifiers.

These cables have been optimised and tested for the loudspeakers.

ATTENTION: The insulation on your selected speaker cable must match that of the original Burmester loudspeaker cable and must have a flame rating of at least VW-1.¹

Binding Posts

The binding posts used on this loudspeaker are milled from a solid piece of oxygen-free copper (OFC). The posts are also gold-plated to prevent oxidation and are proven to deliver reliable function and excellent sound. The solid binding post bridges are also made of gold-plated OFC copper and have a conductor cross-section of approximately 55 mm², which reduces unwanted contact resistance to a minimum.

¹ Flammability class VW-1 (vertical wire burn) according to UL 1581.EN

Attaching the Binding Post Bridges

1. Switch off the power amplifier.
2. Completely loosen the binding posts by turning them anticlockwise.
3. Place the bridge on the binding posts.
4. Re-tighten the binding posts by turning them clockwise.



Removing the Binding Post Bridges

1. Switch off the power amplifier.
2. Loosen the posts completely by turning them anticlockwise.
3. Remove the bridge.
4. Re-tighten the binding posts by turning them clockwise.



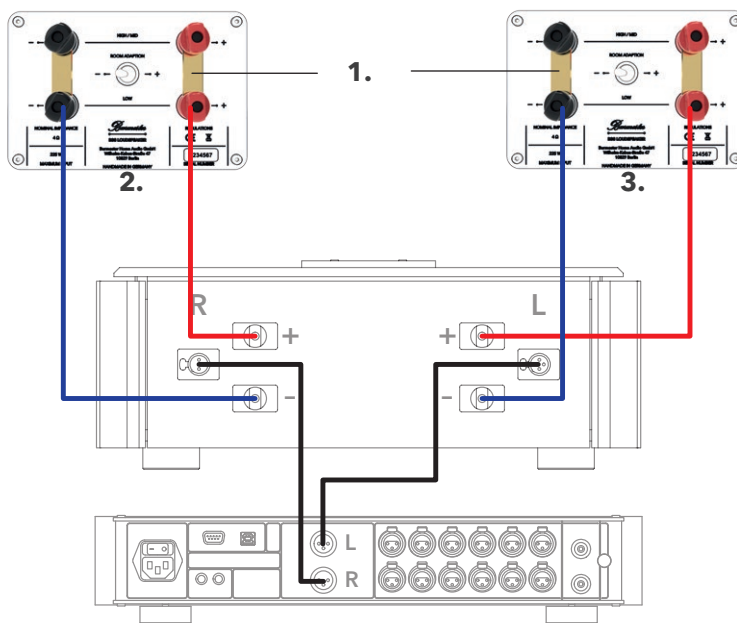
Correct Polarity

- When connecting the loudspeakers, make sure that the connections have the correct polarity. It is important that you make all connections in phase:
 - positive output of the power amplifier = positive input of the loudspeaker
 - negative output of the power amplifier = negative input of the loudspeaker

NOTE: Connecting the two channels out of phase causes poor bass and diffuse playback. If you are unsure, please ask your dealer.

Classic Connection

This is the most common connection method. With this method, each channel on the power amplifier is connected to a loudspeaker via a 2-pole cable. A two-channel (stereo) amplifier is therefore required for stereo playback.

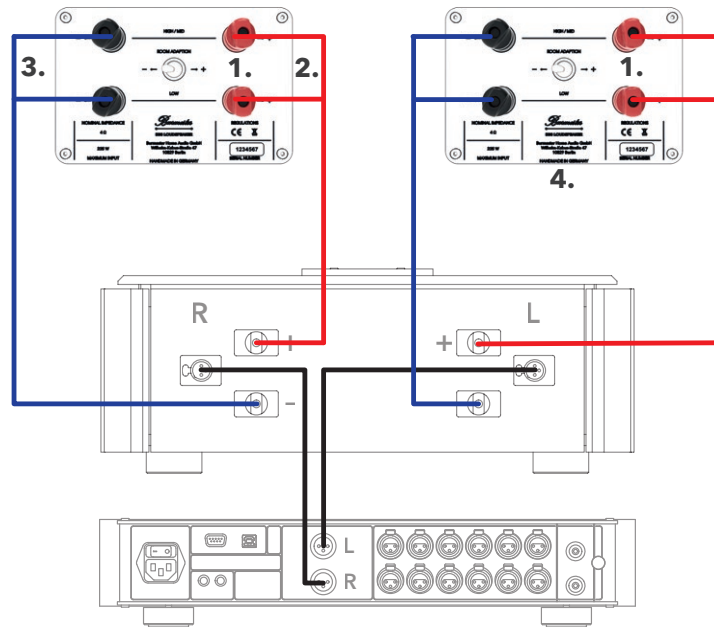


Connect the loudspeakers as follows:

1. The loudspeakers are delivered with binding post bridges already installed. Make sure that the bridges are connecting the bass binding posts (LOW) to the midrange/treble posts (HI/MID) above them.
2. Connect the right loudspeaker to the amplifier's right output.
3. Connect the left loudspeaker to the amplifier's left output.

Bi-wiring Connection

With bi-wiring, the loudspeaker's woofer and midrange driver/tweeter are separately connected to a single power amplifier channel. For stereo playback with bi-wiring, you therefore need only a two-channel (stereo) amplifier. Bi-wiring offers acoustic benefits over the classic connection method.



Connect the loudspeakers as follows:

NOTE:

You can use either one two-core or two single-core speaker cables to connect the speaker and amplifier.

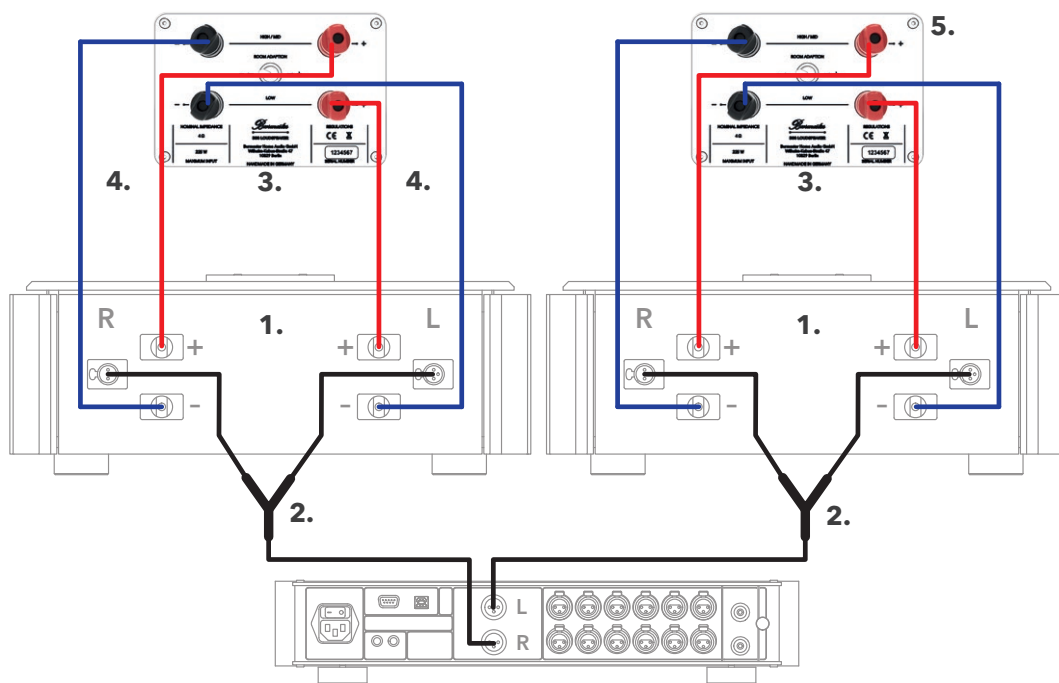
1. Remove the bridges between the bass binding posts (LOW) and the midrange/treble posts (HI/MID) located above them.
2. Connect the two positive poles (red) on the right loudspeaker to the positive terminal on the amplifier's right output.
3. Connect the two negative poles (blue) on the right loudspeaker to the negative terminal on the amplifier's right output.
4. Connect the left loudspeaker to the amplifier's left output in the same way.

Bi-amping Connection

While bi-wiring merely splits the signal paths to the loudspeaker, bi-amping connects the woofer and the midrange driver/tweeter to their own power amplifier channels. Bi-amping provides even further benefits in terms of sound quality, as the power amplifier channel for the midrange driver/tweeter is relieved of the high power requirements of the woofers. However, this type of connection also requires double the number of power amplifier channels. Speakers can be bi-amped either vertically or horizontally.

Vertical bi-amping

When using two-channel (stereo) amplifiers, vertical bi-amping involves connecting one amplifier to each loudspeaker. One channel controls the woofer, while the other channel controls the midrange driver and tweeter. The advantage of this configuration is that the amplifiers are located close to the loudspeakers, so only short loudspeaker cables are required.



Connect the loudspeakers as follows:

1. Place the two stereo amplifiers near the loudspeakers.
2. Connect the preamplifier to the stereo amplifiers as shown above. You will need two Burmester bi-amp adapters or adapter cables, which are available separately. Please contact your specialist dealer.
3. Remove the bridges between the bass binding posts (LOW) and the midrange/treble posts (HI/MID) located above them.
4. Connect the right speaker's woofer to the left output of the amplifier and the midrange driver/tweeter to the right output.

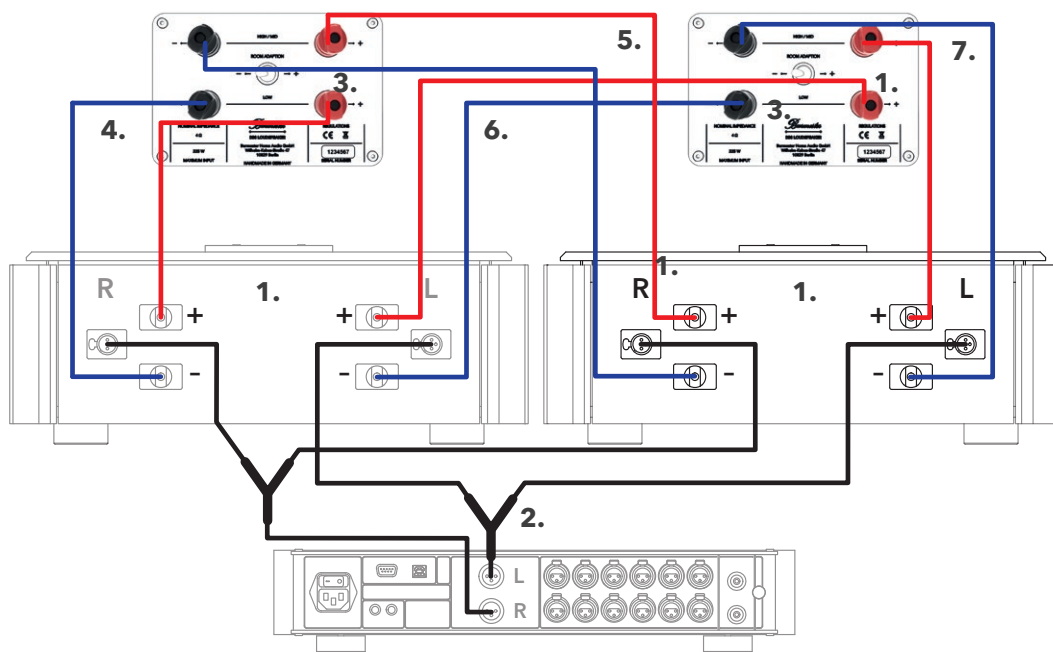
NOTE:

You can also connect the woofer to the right amplifier output and the midrange driver/tweeter to the left output.

5. Connect the left loudspeaker to the second amplifier in the same way.

Horizontal Bi-amping

When using two-channel (stereo) amplifiers, horizontal bi-amping involves connecting one amplifier to the woofers of both loudspeakers and one amplifier to both midrange drivers/tweeters. The advantage of this configuration is that the amplifier for the midrange driver/tweeter (important for sound quality) is relieved of the high power requirements of the woofer. The disadvantage is that it requires the same cable lengths as for the classic connection method and bi-wiring.



Connect the loudspeakers as follows:

1. Place the two stereo amplifiers equidistant from the loudspeakers.
2. Connect the preamplifier to the stereo amplifiers as shown in the figure. You will need two Burmester bi-amp adapters or adapter cables, which are available separately. Please contact your specialist dealer.
3. On the speaker's connection panel, remove the bridges between the bass binding posts (LOW) and the midrange/treble posts (HI/MID) located above them.

Right loudspeaker:

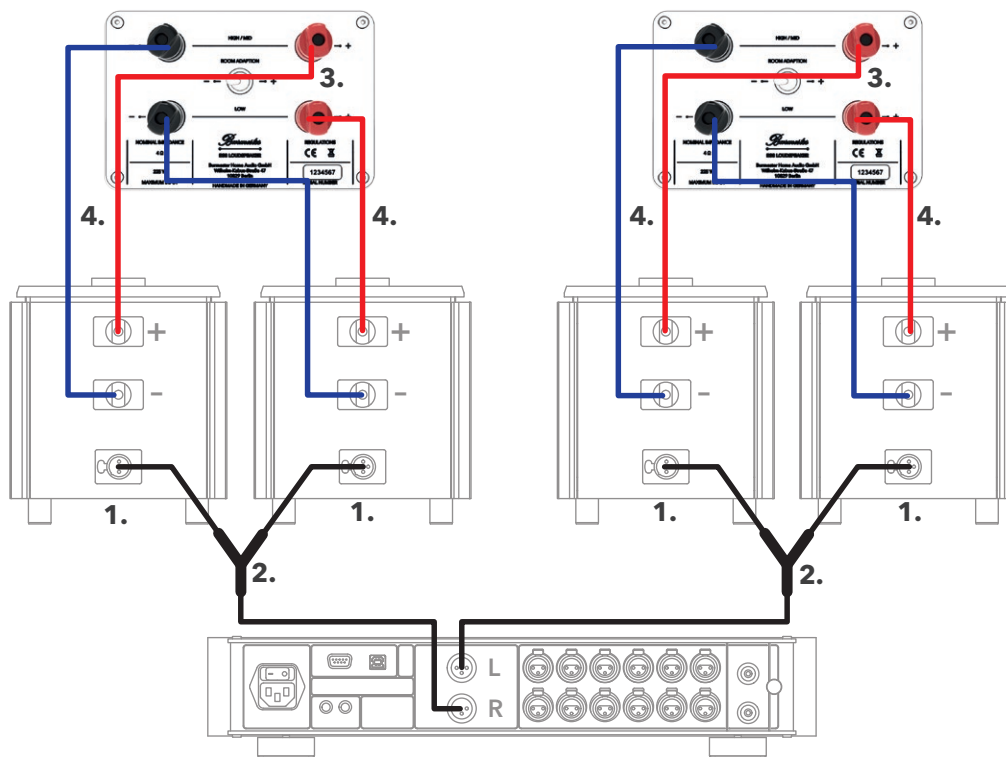
4. Connect the woofer to the right output of the right amplifier.
5. Connect the midrange driver/tweeter to the right output of the left amplifier.

Left loudspeaker:

6. Connect the woofer to the left output of the right amplifier.
7. Connect the midrange driver/tweeter to the left output of the left amplifier.

Bi-amping with Mono Power Amplifiers

Mono power amplifiers combine the advantages of vertical and horizontal bi-amping: they offer short cable lengths while also relieving the midrange/treble power amplifiers of the high power requirements of the bass range. This configuration requires four mono power amplifiers.



Connect the loudspeakers as follows:

1. Place two mono power amplifiers near each loudspeaker.
2. Connect the preamplifier to the mono power amplifiers as shown above. You will need two Burmester bi-amp adapters or adapter cables, which are available separately. Please contact your specialist dealer.
3. On the speaker's connection panel, remove the bridges between the bass binding posts (LOW) and the midrange/treble posts (HI/MID) located above them.
4. Separately connect the woofer and midrange driver/tweeter of each loudspeaker to the outputs on the mono power amplifiers.

OPERATING THE LOUDSPEAKERS

ATTENTION

Incorrect wiring or excessive level

Incorrect wiring or levels that are too high can damage the components of the system.

- ▶ Before switching on the system, check all cable connections for correct polarity (plus, minus).
- ▶ After changing cable connections, slowly increase the volume until you are sure that everything is connected correctly.



CAUTION

High-intensity sound

Loud output signals can damage your hearing.

- ▶ Set the connected amplifier to a low volume before switching it on.
- ▶ To prevent hearing loss, avoid listening at high volumes for long periods of time.

NOTE:

All the chassis used in this loudspeaker have been burned in and matched in pairs using a computer-aided measuring system. Nevertheless, like all mechanical systems, the loudspeakers need a certain break-in time before they can achieve their full acoustic potential.

MAINTENANCE, REPAIR AND CARE

ATTENTION

Damage to the surface

Liquids and chemical agents can damage the surface of the housing.

- ▶ Ensure that no liquids get into the loudspeakers.
- ▶ Do not use chemical agents when cleaning.

DISPOSAL



German law stipulates that this device must not be disposed of with household waste (grey bin, yellow bin, compost bin, paper or glass), but must be handed in at municipal collection points or to voluntary recycling programmes.

WARRANTY

Burmester provides a five-year warranty on its loudspeakers. For the warranty to be valid, the loudspeaker must have been properly connected and operated without overloading, the mechanical integrity of the loudspeakers must not have been comprised and the warranty application must have been properly submitted.

The warranty is voided in the case of unauthorised modifications, such as removal of the chassis, or if the loudspeaker is opened.

TROUBLESHOOTING

Problem	Typical cause	Solution
There is no sound coming from one or more speakers.	The electronics are not switched on	▶ Switch on the amplifier and/or the audio source.
	Short circuit or open circuit in the wiring	Skilled persons: ▶ Check the wiring and fix any problems.
The sound has poor bass or is spatially diffuse.	Incorrect wiring polarity for one channel	▶ Swap the positive and negative cables on the amplifier for the channel in question.

SPECIFICATIONS

Design principle	Three-way bass reflex
Weight (per device)	51.5 kg
Width	210 mm
Height	1165 mm
Depth	460 mm
Power rating ¹	225 W
Sensitivity at 2.83 V/1 m	86 dB
Nominal impedance	4 Ω
Frequency response +/- 3 dB	37 - 33,000 Hz
Tweeter	Air Motion Transformer
Midrange driver	17 cm glass fibre
Woofer	32 cm paper sandwich
Crossover frequencies	150 Hz / 2400 Hz

¹ Long-term maximum power rating according to DIN EN 60268-5 section 17.3.

Subject to technical changes without notice

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