

Burmester

OWNER'S MANUAL

BC350 LOUDSPEAKER



SIGNATURE LINE

TABLE OF CONTENT

ABOUT THIS DEVICE	5
ABOUT THESE OPERATING INSTRUCTIONS	6
IMPORTANT SAFETY INSTRUCTIONS	7
SCOPE OF DELIVERY	8
THE CORRECT INSTALLATION POSITION	9
ADJUSTING THE FEET (SKILLED WORKERS)	10
ALIGNING THE SPEAKER	12
THE LOUDSPEAKER AT A GLANCE	13
CONNECTING THE SPEAKERS (SKILLED WORKERS)	15
Connection cable	15
Mounting the connection bridges	16
Dismounting the connection bridges	16
Correct polarity	17
The classic connection	17
Bi-amping	18
OPERATING THE SPEAKERS	19
Optimising the sound - Pure / Live mode	20
Changing the modes (skilled workers)	21
Ambience tweeter (skilled workers)	22
SERVICE, REPAIRS AND MAINTENANCE	23
DISPOSAL	23
GUARANTEE	23
TROUBLESHOOTING	23
TECHNICAL DATA	24

Dear Music Enthusiast,

congratulations on your selection and thank you for your trust.

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

Please read through these operating instructions at least once before initially installing the product so you can fully benefit from all the functions of this truly high-fidelity device. Should any of your questions remain unanswered, please contact your specialist dealer or us directly.

Talk to us about any special requests you may have – even if they seem exceptional. We love accepting technically feasible challenges.

We wish you many hours of high-fidelity listening.

The Burmester team

ABOUT THIS DEVICE

The BC350 loudspeakers are capable of reproducing music in two different tunings. Switching between the discrete crossovers, which are consistently constructed separately, allows the listener to choose between the highest attention to detail in Pure Mode and maximum level readiness when the stage is raised in Live Mode. It thus offers the opportunity, without compromise, to reproduce different focal points of the sound image depending on the music genre or listening situation.

The elaborately designed switchover is designed for minimum contact resistance and extreme current power handling. Two 32 cm basses, which are extremely portable, provide powerful bass, perfectly matched to the bass reflex cabinet, with one bass reflex tube each, two 22 cm mid-range drivers with light glass fibre papyrus cones for superior sound purity and two AMT tweeters (Air Motion Transformers) with folded foil cones for a natural-looking nuanced shine in the overtone range. A large AMT sends its sound directly to the listeners, while a smaller AMT is directed upwards in order to promote the wide-ranging nature of the music reproduction with indirect sound, if desired, in Live Mode.

Due to its high weight, the loudspeakers have been designed as stationary loudspeakers and may therefore only be moved and connected by qualified personnel. It is exclusively suitable for stationary operation.

The Highlights:

- High efficiency chassis for impressive dynamics and lowest distortion values.
- All chassis and crossovers are selected to match each other.
- Pure Mode for a pure high-end music experience.
- Live Mode for a fascinatingly vibrant sound experience.
- The body of the loudspeakers can be swivelled so that it can be adapted to your listening habits without having to be repositioned.
- Each chassis and crossover has a single cabinet to avoid mutual interference.

ABOUT THESE OPERATING INSTRUCTIONS



These operating instructions describe the operation of the BC350 speakers by the user. In addition, they provide information for skilled workers. Sections which exclusively concern skilled persons are marked accordingly in the heading. Additionally there is a coloured bar at the top of the corresponding pages. (■).

Symbols and markups used

✓	Prerequisite Indicates a prerequisite that must be fulfilled before a subsequent action can be carried out.
▶	Action Step Indicates a single action step.
1. 2. 3.	Sequence of Actions Indicates a sequence of action steps that must be carried out in the order given.
↪	Result Indicates the result of an action.

Meaning of warning symbols and words

In this document, the following warning messages, symbols and words are used:

	The general hazard symbol is used together with the words CAUTION, WARNING and DANGER when there is risk of serious injury. Follow all subsequent messages to avoid injury or death.
	The lightning symbol is used with the warning word DANGER to warn of life-threatening electric voltage.
ATTENTION	The warning word ATTENTION indicates a hazard that can lead to damage of the device.
CAUTION	The warning word CAUTION indicates a hazard that present a low or moderate threat of injury.
WARNING	The warning word WARNING indicates a hazard that can lead to death or serious injury.
DANGER	The warning word DANGER indicates a hazard that leads immediately to death or serious injury.

Please note the subsequent information:

- ▶ Read and follow the messages that are given, in particular safety and warning messages.
- ▶ Keep these operating instructions.

IMPORTANT SAFETY INSTRUCTIONS



- ▶ Please read the operating instructions for your speakers fully and keep them.

Unpacking

- ▶ To avoid damaging the housing, do not use any sharp objects when opening the packaging.

When setting up

Observe the following points when setting up:

- Avoid direct sunlight.
- Avoid excessive heat, cold, humidity and dust.
- Do not expose the speakers to any drops or splashes of water and do not put any container with liquid on the speaker.
- The speakers are not suitable for use outside.
- Only place the speakers on horizontal and load-bearing floors. Due to the high weight of the speakers, we recommend that you consult a structural engineer before installing them.

WARNING

High loudspeaker weight - Stationary operation

The speakers are extremely heavy and may cause serious injury if dropped.

- ▶ The speakers may only be unpacked and installed by a specialist who is used to handling heavy loads.
- ▶ At least three persons are required for safe unpacking and installation.

Connection

- ▶ Turn off the amplifier you are connecting to before connecting to the speakers.

Children

If not used properly, the speakers pose many injury risks. Therefore, never leave your children alone with this speaker.

This device is not intended for use by children.

SCOPE OF DELIVERY

Included in delivery:

- BC350 Loudspeaker
- Cable bridges (installed on speaker)
- Packaging for accessories:
 - Catalogue
 - Booklet "Making of..."
 - Operating Instructions
 - Guarantee certificate
 - Spirit level for aligning the speaker
 - Design drawing
 - Tool for height adjustment

THE CORRECT INSTALLATION POSITION

The spatial imaging increases as the distance between the speakers and the wall increases, while bass reproduction decreases. The BC350 loudspeakers are designed in such a way that they do not require any bass boost through placing them close to the wall. However, since rooms can behave very differently acoustically, it may be advantageous in some cases to place them close to the wall.

The distance between the two speakers should be approximately 4 m, and the space between the speakers should remain as free as possible. The distance to the listener should also be approximately 4 m.

The placement of the loudspeakers on the longer wall of a room with a rectangular base is preferable to placement on the shorter wall, and placement in the acoustically "hard" area (on smooth walls and window surfaces) of the room is preferable to placement in the acoustically "soft" area (damped by upholstered furniture, books and carpets).

Distance from rear wall: minimum 50 cm

Distance from side wall: minimum 100 cm

Loudspeakers angled towards the listening position:

- The treble increases.
- More precise soundstage and imaging.

Loudspeaker not angled:

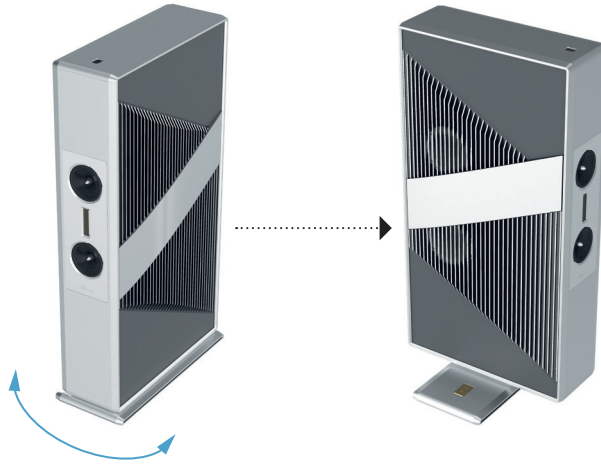
- Spatial imaging / base width increases.
- The treble decreases.

ADJUSTING THE FEET (SKILLED WORKERS)

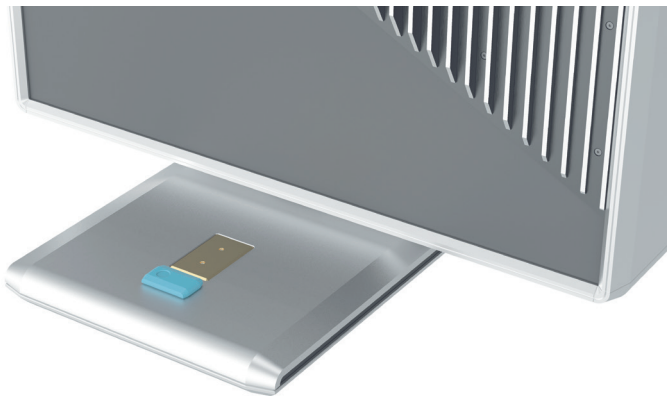
Each loudspeaker has four height-adjustable feet to compensate for any unevenness in the floor.

Procedure

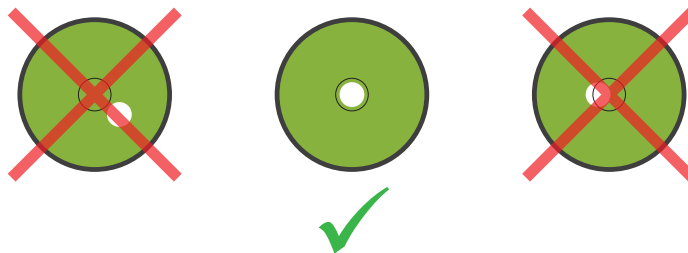
1. Turn the speaker 90° in any direction.



2. Place the spirit level as shown in the picture.



3. Turn the feet as required, until the air bubble is exactly in the middle of the spirit level. This is the only way to ensure vertical alignment of the loudspeaker. You will learn how to adjust the feet in the next sections.



Adjusting a foot upwards

You can do this with any of the feet. This is explained for one foot for illustrative purposes.

1. Position the tool as shown in the picture below.
2. Turn the tool clockwise.
↳ The foot lifts.
3. Repeat until the foot is in the desired position.

**Adjusting a foot downwards**

You can do this with any of the feet. This is explained for one foot for illustrative purposes.

1. Position the tool as shown in the picture below.
2. Turn the tool anticlockwise.
↳ The foot lowers.
3. Repeat until the foot is in the desired position.



ALIGNING THE SPEAKER

WARNING

Stability of the loudspeakers

The speakers are extremely heavy and may cause serious injury if it falls over.

- ▶ The loudspeakers may only be turned by a maximum of 15° in each direction.
- ▶ The mark on the speaker must not be outside the scale.
- ▶ Do not lean against the speakers.

CAUTION

Risk of injury

During alignment, there is a risk of crushing.

- ▶ Never turn the speaker directly on its foot.
- ▶ Never reach into the area of the foot while the speaker is being turned.

You can rotate the speakers 15° in both directions for optimal alignment. On the back, there is a scale on the foot and another mark on the speaker to help you orientate yourself. This also allows you to remember the position if you turn the speaker to another position at a later time and want to return to the old position.

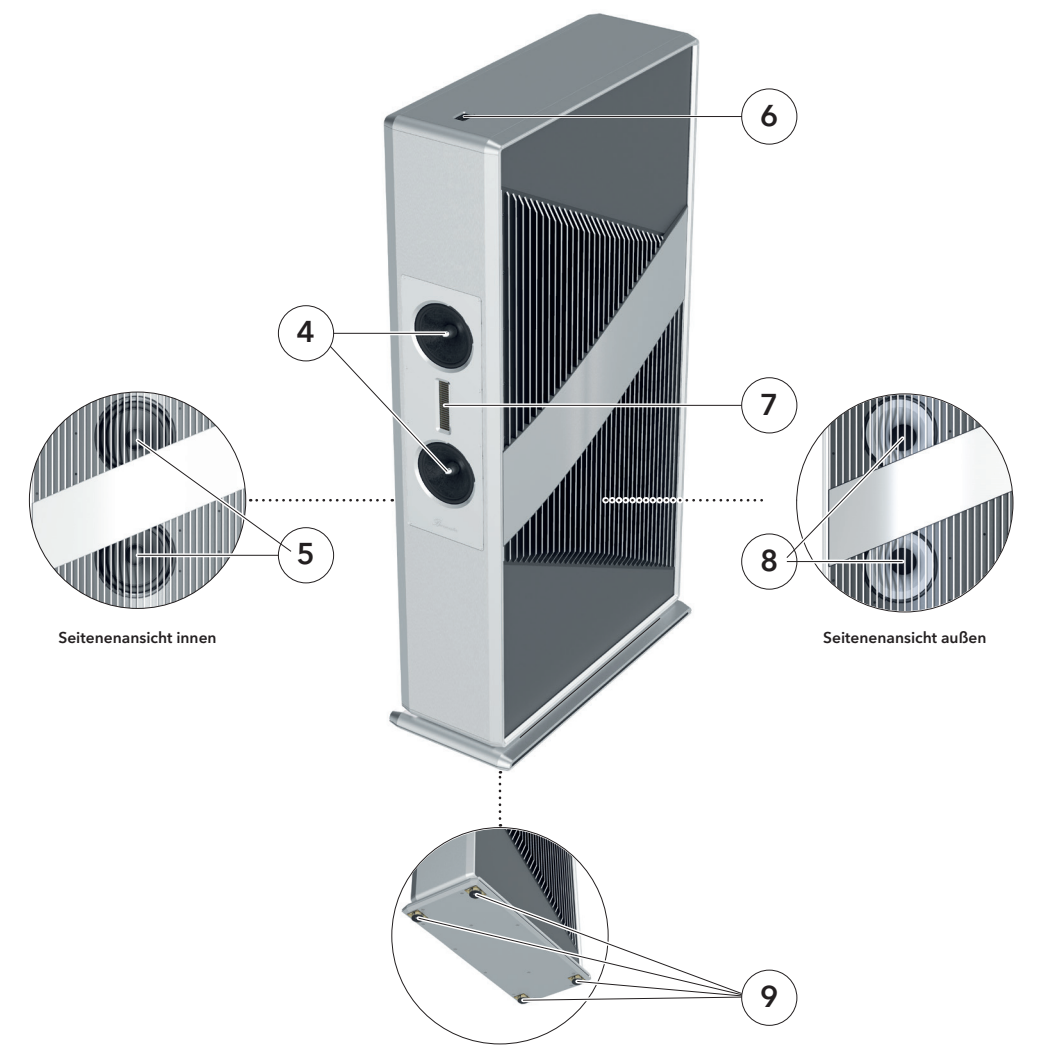


NOTE:

The scale is divided into 1° steps. The zero point and all angles divisible by five are marked by a longer line.

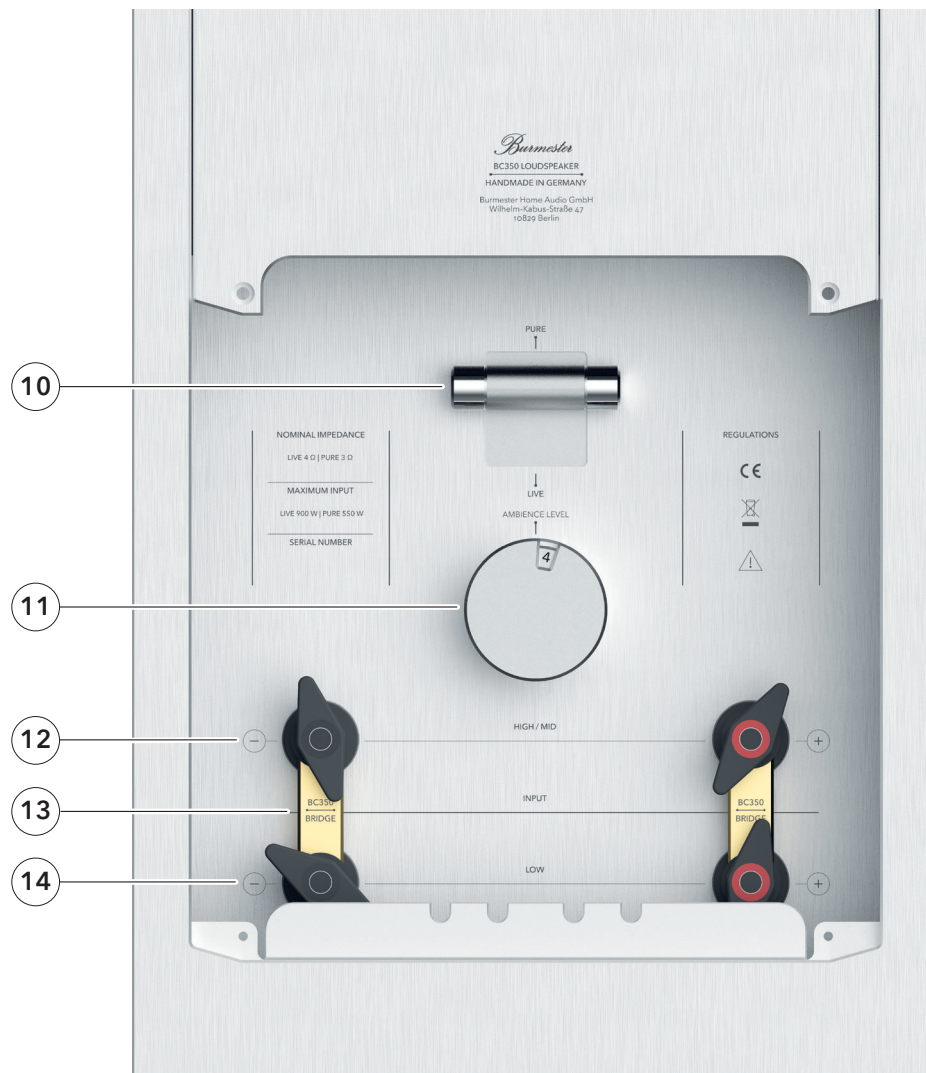
THE LOUDSPEAKER AT A GLANCE

Loudspeaker



4	Mid-range driver
5	Woofer
6	AMT tweeter (Air Motion Transformer) Upwards-emitting tweeter to amplify the room sound in Live Mode. With level adjustment knob
7	AMT tweeter (Air Motion Transformer)
8	Bass reflex tubes
9	Height-adjustable feet

Connector panel



- | | |
|----|--|
| 10 | Switch for Pure Mode / Live Mode |
| 11 | Level adjustment control for the upper AMT tweeter |
| 12 | Connection for the mid-range / tweeter unit |
| 13 | Connection bridge |
| 14 | Connection for the woofer unit |

CONNECTING THE SPEAKERS (SKILLED WORKERS)

- ▶ Note the operating instructions of the connected components before connecting.
- ▶ Pay attention to the correct polarity: red = positive, black = negative



WARNING

Dangerous voltage at the terminals

Dangerous voltages may be present at the terminals during operation.

- ▶ Before connecting, turn off all components of your stereo system and do not turn them on until you have correctly set up all connections.
- ▶ Never operate the speakers with the rear flap open.



WARNING

Crushing due to the flap.

The flap can quickly move out of its open position and cause serious injury to your hand if improperly operated.

- ▶ Make sure that the flap is locked when opening.
- ▶ Keep your hands in the danger area for as short a time as possible.

ATTENTION

Damage due to faulty connection

A short circuit or faulty connection may damage the speakers and other components.

- ▶ Turn off the power amplifiers before connecting the speakers. In this way you can avoid possible short circuits caused by cables that are not yet connected on both sides.
- ▶ First connect the cables to the speakers, then to the power amplifiers.
- ▶ Only connect the speaker cables to the appropriate terminals of an audio amplifier. Never plug the connecting cables into the socket, otherwise the loudspeakers will be destroyed.

Connection cable

Burmester recommends the use of cables with a large cross-section as the connection between loudspeaker and power amplifier. The large cross-section allows the damping factor of the power amplifiers to be maintained for optimum control of the loudspeakers. The best result is achieved by using original Burmester speaker cables, which have the same electrical and sound characteristics as the internal wiring of the Burmester speakers and amplifiers.

These cables have been optimally adapted to the loudspeaker and tested.

WARNING:

The insulation of the loudspeaker cable must correspond to the original Burmester loudspeaker cable and at least meet VW-1 requirements.

Mounting the connection bridges

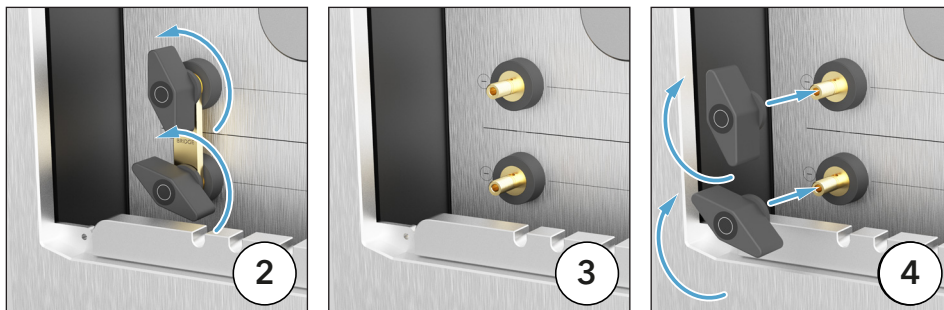
1. Switch off the power amplifier.
2. Fully loosen the negative terminals (**black**) by turning them counterclockwise.
3. Place the connection bridge on the connections.
4. Attach the negative terminals (**black**) to the negative terminal again by turning clockwise.



5. Repeat steps 2 to 4 with the positive pole terminals (**red**).

Dismounting the connection bridges

1. Switch off the power amplifier.
2. Fully loosen the negative terminals (**black**) by turning them counterclockwise.
3. Remove the connection bridge.
4. Attach the negative terminals (**black**) to the negative terminal again by turning clockwise.



5. Repeat steps 2 to 4 with the positive pole terminals (**red**).

Correct polarity

- ▶ When connecting the speakers, make sure that the polarity of the connections is correct. It is important that you establish 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: Phase-inverted connection of the two channels leads to weak bass and diffuse reproduction. In case of doubt, please ask your dealer.

The classic connection

This is the usual type of connection. Each amplifier channel is connected to a loudspeaker via a 2-pole cable. Two mono power amplifiers are therefore required for stereo playback.

To connect the speakers:

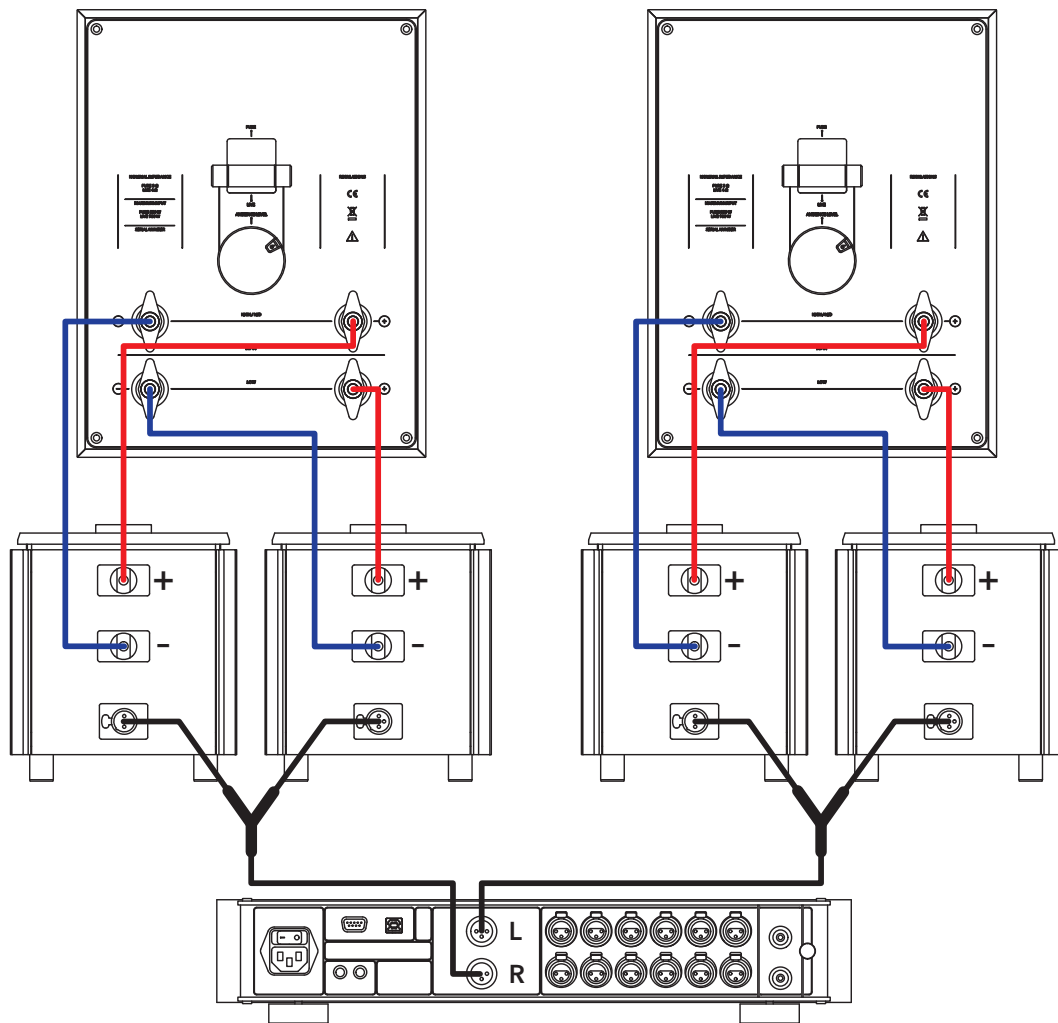
1. Switch off the power amplifier(s).
2. Make sure that the **connection bridges (13)** are inserted.
3. Attach one side of the speaker cable to the negative terminal for the **mid-range/tweeter unit (12)** (black terminal).
4. Attach the other side of the speaker cable to the negative terminal of the power amplifier.
5. Attach one side of the speaker cable to the negative terminal for the **mid-range/tweeter unit (12)** (black terminal).
6. Attach the other side of the speaker cable to the negative terminal of the power amplifier.

Bi-amping

In bi-amping, woofers as well as mid-range drivers and tweeters are connected to their own power amplifier channels. This brings significant sound advantages, as the power amplifier channel for the mid-range/tweeter unit is relieved of the high power requirements of the woofers. However, this type of connection also requires twice the number of power amplifier channels. With this type of connection, four mono power amplifiers are required.

To connect the speaker:

1. Place two mono power amplifiers near each speakers.
2. Connect the pre-amplifier to the mono power amplifiers as shown below. You will need two optional Burmester bi-amp adapters or adapter cables. Your dealer will be happy to assist you.
3. Remove the connection bridges.
4. Connect each subwoofer and mid-range / tweeter unit of the loudspeakers separately to the outputs of the corresponding mono amplifier.



OPERATING THE SPEAKERS

ATTENTION

Incorrect wiring or excessive sound levels

Incorrect wiring or excessive levels can damage system components.

- ▶ Before switching on the system, check all cable connections for correct polarity (positive, negative).
- ▶ After any new wiring, slowly raise the volume until you are sure that everything is connected correctly.



CAUTION

Sound with high intensity

Loud output signals can lead to hearing damage.

- ▶ Set the amplifier connected to a lower volume level before you turn it on.
- ▶ To prevent hearing loss, avoid hearing at high volume levels for long periods of time.

CAUTION

Voltage on the chassis

Voltage may be applied to the chassis during operation.

- ▶ Do not touch the chassis during operation.

NOTE:

All the chassis used in this loudspeaker have been burnt in and selected in pairs using a computer-aided measuring system. Nevertheless, like all mechanical systems, they require a certain break-in time before they can unleash their full sound potential.

Optimising the sound - Pure / Live mode

You can operate the speakers in two different modes to optimally adjust the sound to your needs:

Pure Mode:

For audiophile music enjoyment, the planar loudspeaker is operated in "Pure Mode". The tonal tuning here is based on the priorities of a pure high-end musical experience: authenticity, tonal balance, the highest resolution, precision and plasticity. In this mode, the front tweeter, one of the two mid-range drivers and both woofers are active. The soundstage representation allows the differentiated positioning of the individual instruments and voices, but, at the same time, captivates with its homogeneity. Sound image and speech reproduction benefit from the fantastic resolution and fine dynamic reproduction.



Live Mode:

The loudspeaker offers a fascinatingly lively sound experience in "Live Mode". Here the focus of the tuning is on dynamics, joy of playing and three-dimensionality with maximum power handling. An adjustable tweeter on the upper side of the cabinet is activated to increase the spatial sound according to individual preferences. In addition, both mid-range drivers work in parallel as per the D'Appolito principle. Thus, the membrane surface increases and load capacity and dynamics experience a significant increase. The sound in this mode is dynamic and powerful and impresses the listener with detailed resolution and the ability to reproduce even enormous volume levels distortion-free.



Changing the modes (skilled workers)



WARNING

Dangerous voltage at the terminals

Dangerous voltages may be present at the terminals during operation.

- ▶ Before opening the flap, switch off all components of your music system and switch on the components only after you have closed the flap again.
- ▶ Never operate the speakers with the flap open.



WARNING

Crushing due to the flap.

The flap can quickly move out of its open position and cause serious injury to your hand if improperly operated.

- ▶ Make sure that the flap is locked after opening.
- ▶ Keep your hands in the danger area for as short a time as possible.

Switching to Live Mode

✓ The speaker is in Pure mode.

1. Turn off the amplifier(s).
2. Remove the locking screws on the rear flap.
3. Slide the flap upwards.
4. Slide the sound mode setting lever down.
↳ The speaker is now in Live mode.
5. Close the flap again.
6. Re-tighten the locking screws.
7. Turn on the amplifier(s).
8. Repeat the procedure with the second speaker.

Switching to Pure Mode

✓ The speaker is in Live mode.

1. Turn off the amplifier(s).
2. Remove the locking screws on the rear flap.
3. Slide the flap upwards.
4. Slide the sound mode setting lever up.
↳ The speaker is now in Pure mode.
5. Close the flap again.
6. Re-tighten the locking screws.
7. Turn on the amplifier(s).
8. Repeat the procedure with the second speaker.

Ambience tweeter (skilled workers)



WARNING

Dangerous voltage at the terminals

Dangerous voltages may be present at the terminals during operation.

- ▶ Before opening the flap, switch off all components of your music system and switch on the components only after you have closed the flap again.
- ▶ Never operate the speakers with the rear flap open.



WARNING

Crushing due to the flap.

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- ▶ Make sure that the flap is locked when opening.
- ▶ Keep your hands in the danger area for as short a time as possible.

As it moves towards higher frequencies, a loudspeaker concentrates the sound field more strongly. With conventional loudspeaker systems, this results in a very precise but also sometimes cramped spatial image.

To counteract this, the BC350 is equipped with the Live mode. Among other things, an upwards-emitting tweeter is additionally activated here. This provides a wider and deeper stage, which you can adjust to your personal taste using the control on the connector panel.

Adjusting the Ambience tweeter

1. Turn off the amplifier(s).
2. Remove the locking screws on the rear flap.
3. Slide the flap upwards.
4. Use the **level adjustment control (11)** to select the desired setting between 0 and 7.
5. Close the flap again.
6. Re-tighten the locking screws.
7. Turn on the amplifier(s).
8. Repeat the procedure with the second speaker.

NOTE:

The Ambience tweeter setting only affects the Live Mode. In Pure Mode, this is disabled.

SERVICE, REPAIRS AND MAINTENANCE

ATTENTION

Damage to the surface

Liquids and chemicals can damage the surface of the casing.

- ▶ Make sure that no liquid gets into the speakers.
- ▶ Do not use chemicals to clean them.

DISPOSAL



Legislators stipulate that this device may not be disposed of in household waste (grey bin, yellow bin, green bin, paper or glass). Instead it should be handed in at a community recycling centre or at a voluntary take-back system.

GUARANTEE

Burmester offers a 5-year warranty on loudspeakers. Prerequisites for this are proper connection without overloading, mechanical integrity of the loudspeakers and sending in the warranty claim papers.

The warranty claim expires in the event of interventions, disassembly of the chassis or terminals and opening of the loudspeakers.

TROUBLESHOOTING

Fault	Common cause	Remedy
No sound is coming from one or more speakers.	The electronics are not switched on	▶ Turn on the amplifier and/or audio source.
	Short-circuit or open circuit in the cabling	Skilled workers: ▶ Check the wiring and eliminate any faults.
The sound produced is weak in bass and/or spatially diffuse.	Reverse polarity error during cabling in a channel	▶ Swap the positive and negative leads for the relevant channel on the amplifier.

TECHNICAL DATA

Principle		3-way bass reflex	
Weight (per unit)		405 kg	
Width		420 mm	
Height		1,889 mm	
Depth		1,000 mm	
Nominal power handling capacity	Pure Mode	550 Watt	
	Live Mode	900 Watt	
Sensitivity at 2.83 V / 1 m	Pure Mode	90 dB	
	Live Mode	90 dB	
Rated impedance	Pure Mode	3 Ω	
	Live Mode	4 Ω	
Transmission range (±3 dB)	Pure Mode	28 - 23,000 Hz	
	Live Mode	38 - 23,000 Hz	
IP protection class		IP20	

Reserve technical changes

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