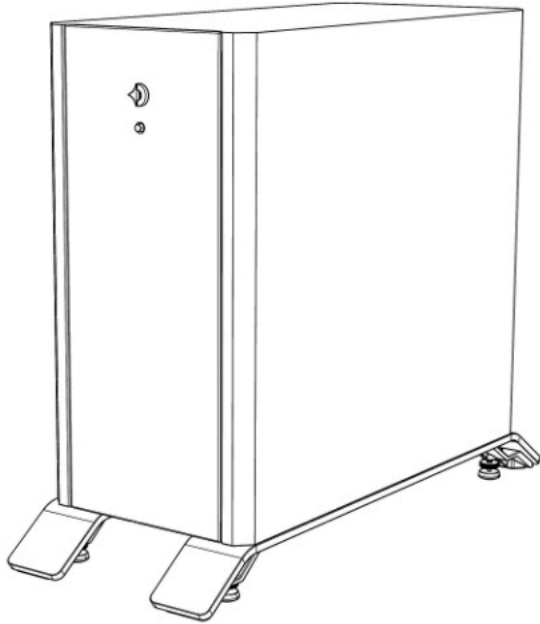




avantgarde
ACOUSTIC



User Manual

TWIN SUB

Version 1.0

INTENSE.
DYNAMIC.
THRILLING.

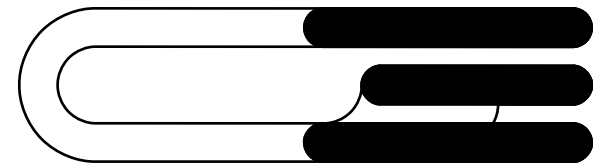


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SAFETY INFORMATION

CAUTION

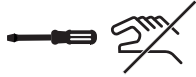


To prevent fire, shock or damage, do not expose the components to rain or moisture.



Conditions for operation:

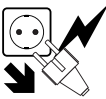
room temperature 5 – 35° C
humidity 10 – 75%



It is intended to alert the user of the presence of uninsulated "dangerous voltage" within the products enclosure. To avoid electrical shock, do not open the cabinet of the components.



Excessive sound pressure levels might cause serious damage to your health. Do not turn up the volume of the loudspeaker system too loud!



Should any solid object or liquid fall into the cabinet of the components, unplug the unit and have it checked by qualified personnel before operating it any further.



Unplug the components of your system from the wall outlet and antenna if they are not to be used for an extended period of time. To disconnect the power cord, always pull on the plug and never on the cord directly. Never touch the plugs with wet hands.



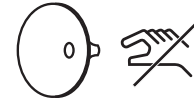
Only have the system installed and repaired by authorized personnel.

These loudspeakers are designed for the playback of audio signals. **PRIVATE USE ONLY** Any misuse, especially commercial operation, will invalidate the warranty.



SAFETY INFORMATION

PRECAUTIONS ON INSTALLATION



Do not carry the speakers by the horns.



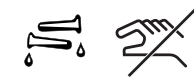
Place the loudspeakers on a flat floor with a load-bearing capacity that adequately supports the weight of the loudspeakers.



To prevent internal heat build-up in the components, place units in a location with sufficient air circulation. Do not install the speakers in a location near heat sources such as radiators, or in a place subject to direct sunlight, excessive dust, or mechanical vibration.



Connect everything securely. Always insert the cables and plugs fully into the jacks. A loose connection may cause hum pick-up and can damage the system. Use only high-quality cables with self-tightening banana speaker and RCA or XLR plugs.



To avoid damaging the finish, never use alcohol, paint thinner or aggressive cleaners to clean the components.



Read this operators manual thoroughly before operating the speaker system.









OPERATING VOLTAGE



The amplifier can be powered from main voltages of 90-250 volts with a mains frequency of 50-60 Hz.

CONTENT OF PACKAGES

Per TWIN SUB

1 x		Wooden crate containing one TWIN SUB
1 x		Power cable (3m)*
1 x		Speaker cable between TRIO G3 and TWIN SUB <i>(only for TRIO G3 passive version with TWIN SUBs)</i>
1 x		XLR cable between TRIO G3 and TWIN SUB <i>(only for TRIO G3 iTRON version with TWIN SUBs)</i>
4 x		Spikes
4 x		Protective puck (with center recess) for the TWIN SUB spikes, to prevent damage to sensitive floors
4 x		Same as above, but increased height, allowing the subwoofer to be pushed all the way up to the TRIO (tweeter side)
1 x		User manual <i>(for TRIO G3 & TWIN SUB)</i>

* The number of TWIN SUBs and cables depends on the quantity ordered.

UNPACKING

TWIN SUB



Please note the considerable weight of the loudspeaker during un-
packing and setup!

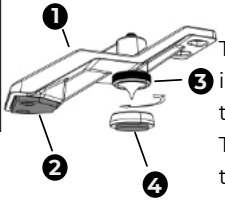
We strongly recommend having at least one additional person as-
sist with this process.

- ① Unscrew and remove the top cover of the wooden crate.
Be aware that some screws may be hidden under the red "Caution"
tape.
- ② Loosen and remove the externally screwed-in wooden beam "A".
- ③ Bring the crate into an upright position, so the subwoofer is stand-
ing on its transport wheels and can be carefully rolled out.

ADJUSTABLE FEET

TWIN SUB

The TWIN SUB rests on 4 spike absorber elements ❶ with integrated synthetic felt pads ❷. These protect the underside of the base frame during setup and alignment.



The spikes ❸ are included in the accessory box and can be screwed into the indicated positions (the unit is delivered with transport casters pre-installed).

To install them, carefully tilt the subwoofer to one side and screw the spike fully into the opposite corner.

Then, manually unscrew the spikes gradually until they lift the subwoofer off the floor, effectively decoupling it from the surface. Depending on your floor type, you may want to place the protective pucks ❹ underneath the spikes.

By adjusting the height of each spike individually, you can also precisely level the subwoofer or fine-tune its vertical tilt.

If needed, the taller pucks can be used to allow positioning the subwoofer closer to the TRIO's tweeter side.

ROOM PLACEMENT

TWIN SUB

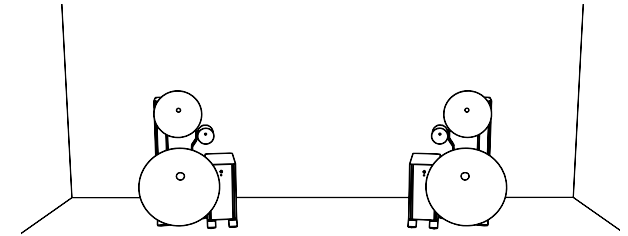
The positioning of the subwoofers typically depends on the room's geometry, existing furniture, and interior design considerations.

The illustrations below show several example configurations for possible subwoofer placement.

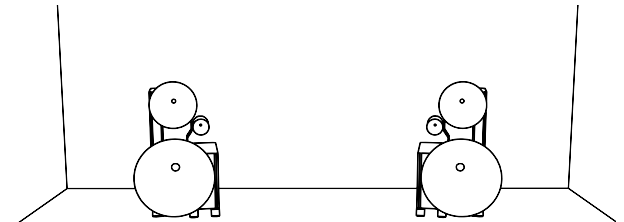
Both stereo operation (one subwoofer reproduces both stereo channels) and dual-mono operation (one subwoofer per stereo channel) are taken into account.

Stereo operation requires the least space, while dual-mono operation offers advantages in terms of bass pressure buildup, more even bass distribution—especially in acoustically challenging or very large rooms—and increased headroom.

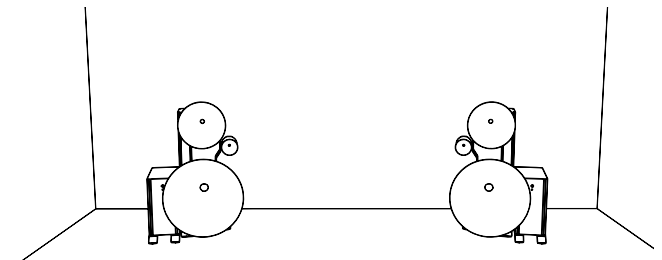
Example 1

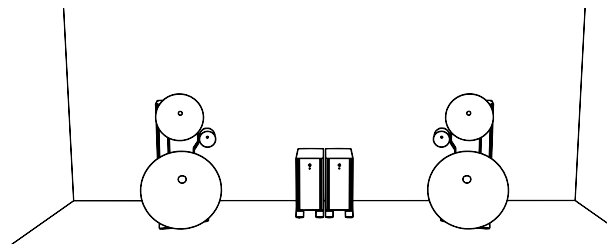


Example 2

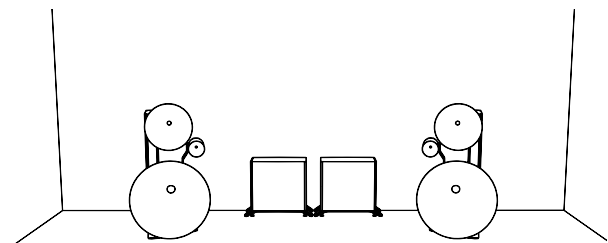


Example 3

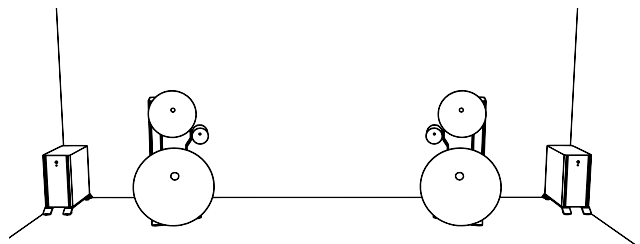




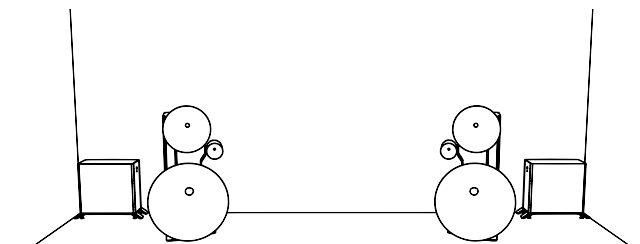
Example 4



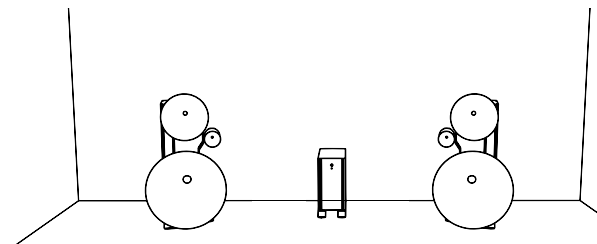
Example 5



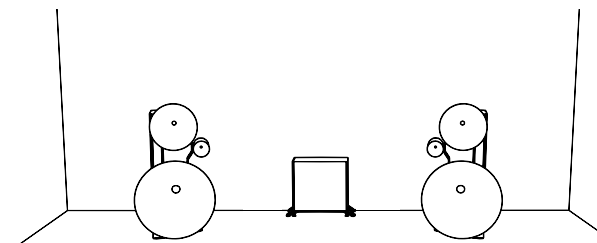
Example 6



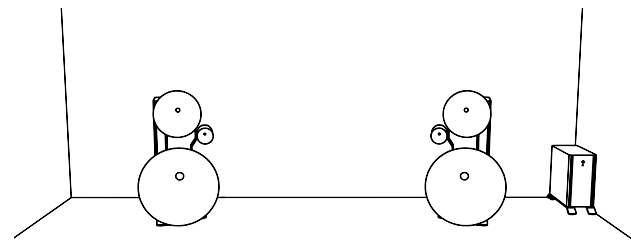
Example 7



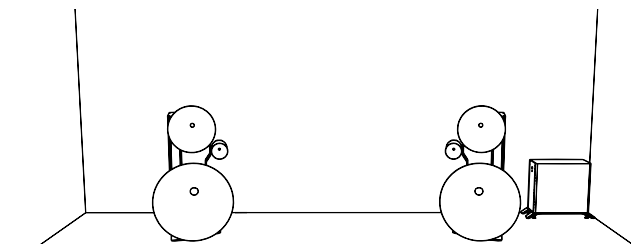
Example 8



Example 9



Example 10



Example 11



SAFETY PRECAUTIONS

ON INSTALLATION



Before wiring the subwoofer, make sure all devices are switched off and disconnected from the power supply. For safety, unplug all power cords from the sockets.



Never operate the devices with unused (unconnected) input sockets!

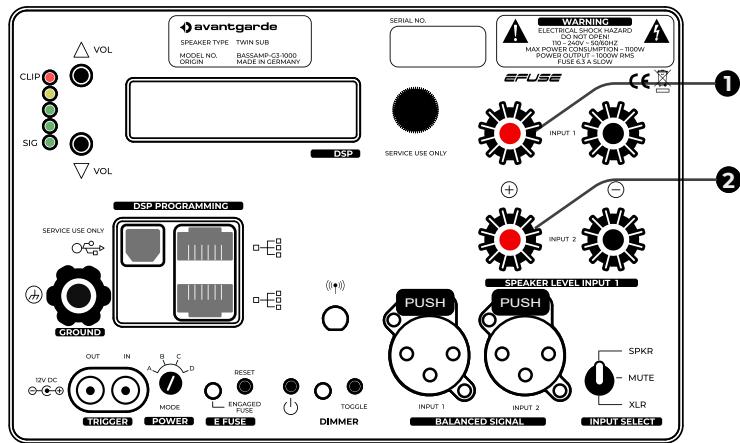


Pay close attention to the polarity of the speaker cables. Never reverse "+" and "-" connections. Incorrect polarity can degrade sound quality and may damage the amplifier or the subwoofer's active power module.

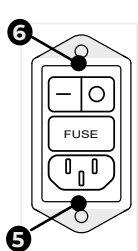
Do not short-circuit the positive and negative terminals of the speaker cables.

Use high-quality cables with solid speaker connectors (e.g., spade connectors, banana plugs, etc.).

CONNECTION – DSP SUBWOOFER AMP SPEAKER INPUTS

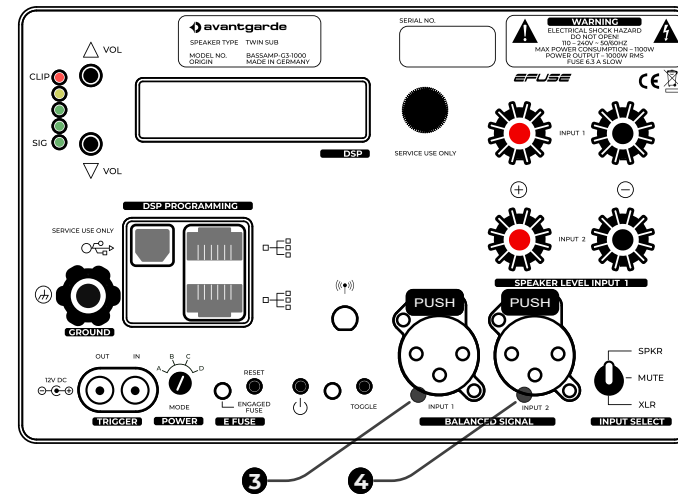


- ① When connecting via speaker cables, the subwoofer is driven by an external power amplifier. To do this, connect the speaker output of the power amplifier to the speaker inputs of the subwoofer using standard speaker cables.
- ② The TWIN SUB can be operated in either of the following configurations: Stereo configuration - both channels are routed to a single subwoofer using INPUT 1 ① and INPUT 2 ②. Dual-mono configuration - each subwoofer reproduces a single channel using INPUT 1 ①.



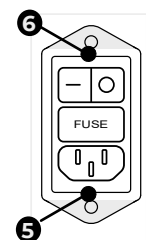
- ③ Only after completing the signal connections, connect the components to the power inlet ⑤ and switch on the DSP subwoofer amplifier using the power switch ⑥.

CONNECTION – DSP SUBWOOFER AMP XLR INPUTS



The line-level inputs feature balanced XLR connectors. The pin configuration follows the EIA RS-297-A standard: PIN 1 = GND, PIN 2 = HOT, PIN 3 = COLD. Never use cables with a different pin configuration! Doing so will degrade sound quality and may damage the amplifier and/or the active power modules of the subwoofers.

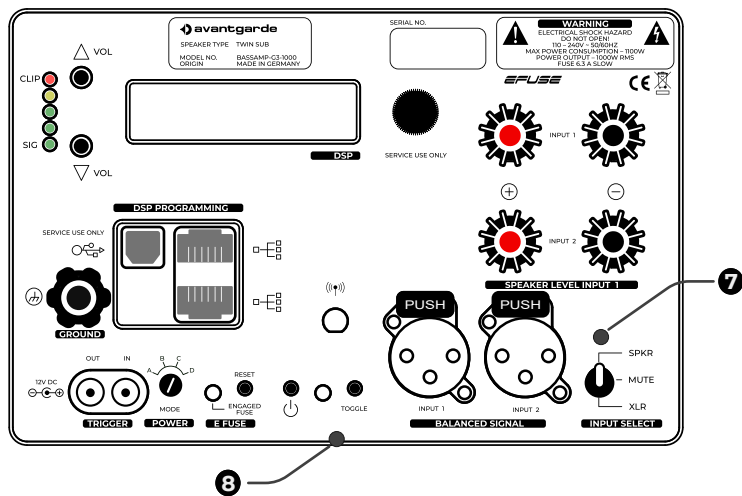
- ① When connecting via XLR cables, the subwoofer is driven by an external preamplifier. To do this, connect the line-level output of the preamplifier to the balanced line-level input of the subwoofer using XLR cables.
- ② The TWIN SUB can be operated in either of the following configurations: Stereo configuration - both channels are routed to a single subwoofer using INPUT 1 ③ and INPUT 2 ④. Dual-mono configuration - each subwoofer reproduces a single channel using INPUT 1 ③.



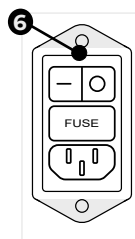
- ③ Only after completing the signal connections, connect the components to the power inlet ⑤ and switch on the DSP subwoofer amplifier using the power switch ⑥.

OPERATION – DSP SUBWOOFER AMP

MAIN POWER SWITCH, INPUT SELECT SWITCH & LED BRIGHTNESS

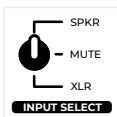


MAIN POWER SWITCH



The main power switch **6** has an "0" OFF position and a "1" ON position. Set the switch to ON to operate the subwoofer. If the subwoofer will not be used for an extended period, set the switch to OFF to fully power down the system.

INPUT SELECT SWITCH



The speaker-level and balanced inputs can be used in parallel. Use the Input Select switch **7** to choose the active input.

The Input Select switch **7** also includes a MUTE position, which silences the inputs. This can be useful for troubleshooting (e.g., when dealing with humming or noise).

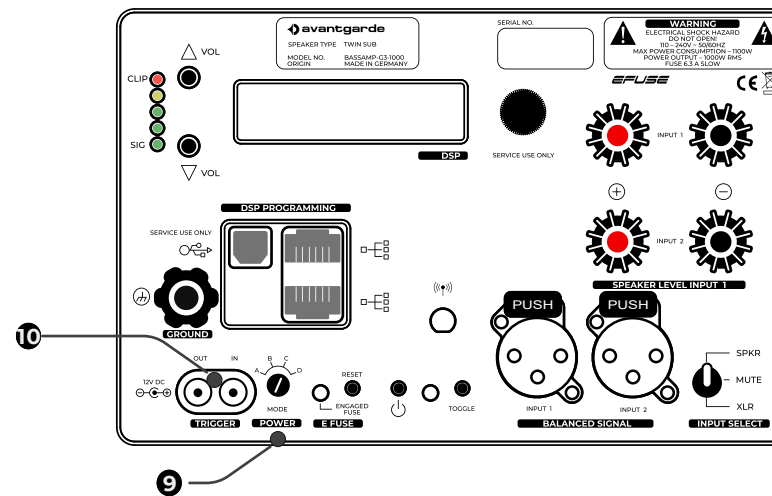
LED BRIGHTNESS ADJUSTMENT



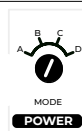
The brightness of the LED light can be adjusted by pressing the DIMMER TOGGLE button **8**. There are 8 brightness levels to choose from.

OPERATION – DSP SUBWOOFER AMP

POWER MODE SETTINGS



POWER MODE SWITCH



The POWER MODE switch **9** allows you to select different power-on/power-off modes. Use a screwdriver to toggle between modes.

MODE A Subwoofer is switched on via the main power switch. Recommended, for example, when using remote-controlled power outlets.

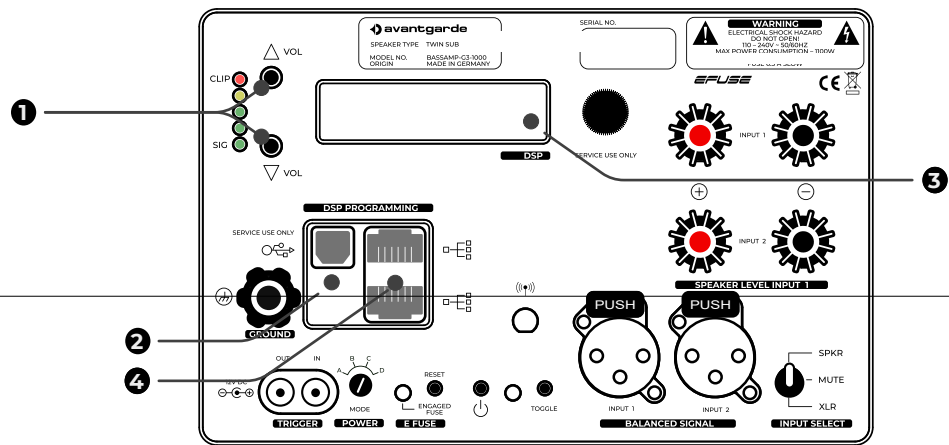
MODE B Subwoofer automatically turns on when a 12V DC trigger signal is detected at the trigger input **10**. It automatically switches off when the 12V trigger signal is turned off.

MODE C The illuminated push button on the front panel of the subwoofer is used to switch between ON and STANDBY.

MODE D ON and STANDBY switching via remote control (optional future accessory).

OPERATION – DSP SUBWOOFER AMP

DSP VOLUME CONTROL



The bass response of the subwoofer is influenced by the room and the subwoofer's placement. Depending on its position, the bass may be either amplified or attenuated. To compensate for these effects, the first step is to adjust the overall bass volume.

- ① Press the VOL▲ button ①, to increase the bass volume, or the VOL▼ button ① to decrease it. The current volume level is shown on the display ③.

OPERATION – DSP SUBWOOFER AMP

DSP SOFTWARE INSTALLATION



Additional settings can be configured using the Avantgarde Control Software.

The software, available for Windows and macOS, can be downloaded from the website: www.avantgarde-acoustic.de.

LAN CONNECTION TO PC

- ① The DSP subwoofer amplifier features 2 x LAN ports ④, allowing multiple subwoofers to be daisy-chained via LAN cables.
- ② Connect the LAN ports ④ of all DSP subwoofer amplifiers (left and right channels) using standard LAN cables (CAT5/6/7/8).
- ③ Then connect the remaining free LAN port ④ of one of the DSP subwoofer amplifiers to the LAN port of your computer or to the LAN port of your Wi-Fi router. The Avantgarde Control Software installed on your computer or laptop will automatically detect and display all available subwoofer amplifiers.

USB CONNECTION TO PC

The USB port ② is reserved exclusively for service purposes by the manufacturer.

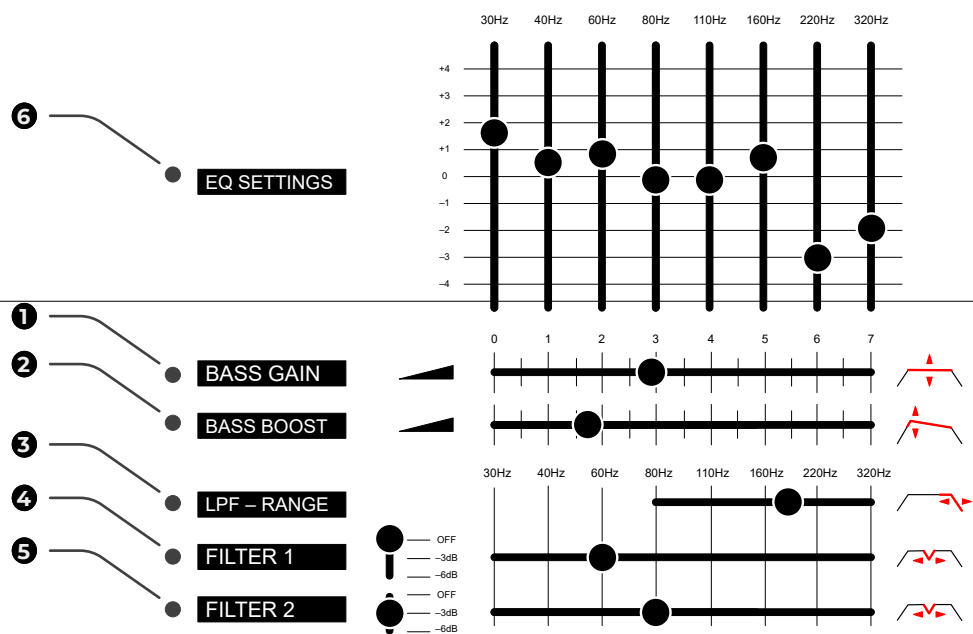
IMPORTANT!



The LAN and USB ports are not intended for connecting music sources!

OPERATION – DSP SUBWOOFER AMP

DSP USER INTERFACE

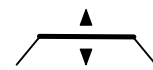


The illustration above shows the graphical user interface, which becomes available for each subwoofer individually after installing and launching the software.

All changes made within the Avantgarde control software are immediately audible through the speaker. This makes it easy to monitor adjustments by ear and fine-tune them as needed.

OPERATION – DSP SUBWOOFER AMP

DSP SETTINGS



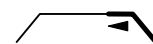
The BASS GAIN slider **1** adjusts the overall volume level of the subwoofer.



The BASS BOOST slider **2** increases low-frequency reproduction below 45 Hz. This allows you to shape the bass response from "linear" to "fat."



For custom frequency adjustments, use the 8-band Equalizer **6**. Each band can be boosted or cut by up to 4 dB. This enables you to tailor the bass response to specific sound profiles (linear, techno, disco, pop, etc.) or to reduce broad-band room resonances.



The LPF-RANGE slider **3** sets the subwoofer's upper crossover frequency. In the factory default setting, this crossover is optimized for a seamless transition to the TRIO G3 system—the subwoofer's frequency range blends smoothly with the TRIO's midrange horn. This setting can also be used to fine-tune the system's tonal balance.

1a) For TRIO G3 systems: A higher crossover frequency causes some overlap between the subwoofer and the midrange horn, resulting in a "warmer" and "fuller" sound character, especially for voices and instruments.

1b) For other loudspeakers: When the TWIN SUB is used purely as a deep bass extension, the LPF slider should generally be set to the lowest possible frequency (80 Hz), and the satellite speaker should—if possible—be high-passed at the same frequency.

2) For TRIO systems: When the crossover is set to a lower frequency, a small gap can occur between the subwoofer and midrange frequency ranges. This shifts the tonal balance toward a more "dynamic & punchy" sound.

OPERATION – DSP SUBWOOFER AMP

DSP SETTINGS



FILTER 1 & 2 ④ ⑤ are narrow band “notch” filters with a negative gain of -3dB or -6dB . These filters can be used to eliminate unwanted narrow band resonance frequencies of the room.

Use commonly available frequency sweep apps to detect the position (Hz) of possibly occurring room resonances. Or play bass heavy music through your system and slowly slide the FILTER set at -6dB upwards until the “boominess” improves.

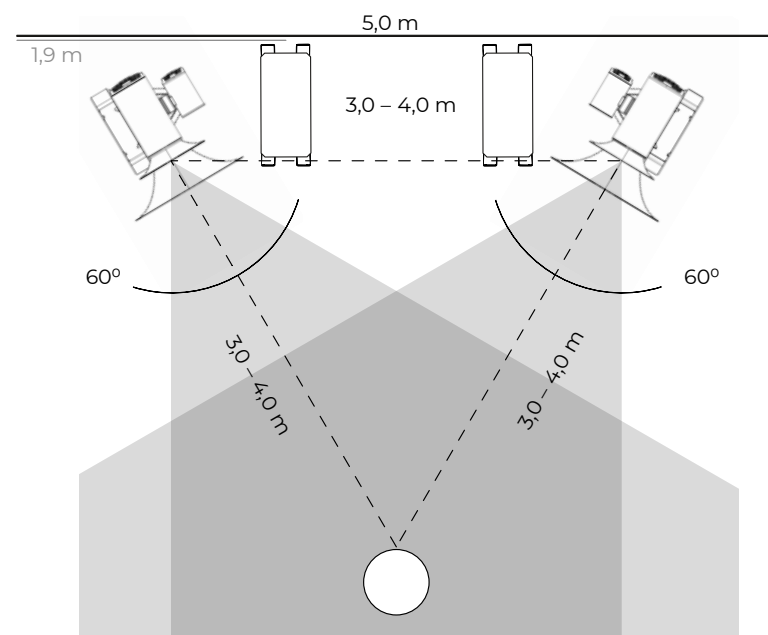
FINE TUNING

ROOM PLACEMENT

As illustrated on pages 12 and 13, the TWIN SUB can generally be positioned quite flexibly. However, if you have some freedom regarding placement, the following tips can help achieve better sonic integration.

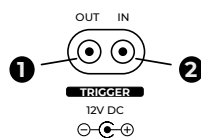
If possible, avoid positioning the TWIN SUB more than approximately 1.5 meters farther (or closer) to the listening position than the satellite speakers. This helps prevent frequency cancellations in the crossover range between the subwoofer and the satellites.

If the room has acoustically challenging proportions—such as a square floor plan—placing the subwoofer asymmetrically relative to the center of a wall can offer sonic benefits. This is because wall reflections will then occur at slightly offset timing, reducing their tendency to resonate or cancel each other out. A general guideline is to use the Golden Ratio, which divides the wall length in a ratio of 1:1.618. For example, on a 5-meter-wide wall, the TWIN SUB would be placed at a point dividing the wall into segments of 1.9 and 3.1 meters.



MISCELLANEOUS

12V DC TRIGGER



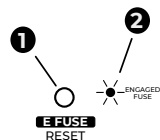
The 12V DC TRIGGER sockets of the Twin Sub electronics feature an “IN”-socket ❶ and an “OUT”-socket ❷. This way it is easily possible to remotely switch ON/OFF additional devices (additional Twin Subs etc.) by simply daisy-chain the 12V trigger signal.

🔑 Wiring can be made with mono or stereo jack cables.

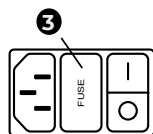
E-FUSE



All Avantgarde electronics are equipped with a state-of-the-art electronic protection circuit. This E-FUSE continuously monitors the unit and in the event of a fault immediately interrupts the flow of current with unrivaled precision & speed and thus protects the device from damage.



When the E-FUSE has tripped, the current flow will be interrupted and the device stops operating. The red engaged fuse LED ❷ will illuminate. Press the E-FUSE RESET button ❶ to reset. If the E-FUSE keeps tripping, a permanent malfunction has occurred. Disconnect the device from the mains and get it serviced by your dealer.



All Avantgarde electronics are equipped with a mains ON-OFF power switch that includes an external fuse holder ❸. To avoid any kind of sound degradation caused by conventional fuses, the accessories include gold-plated copper bolts that can replace the glass fuses used in the factory and thus eliminating any sound degradation at this point. NOTE: The certified final tests during final assembly are performed with glass fuses in place, therefore these are also installed as standard in the delivery status. For whatever reason this copper bolt may at any time be replaced by a conventional 2.5 amp slow blow glass fuse.

SONSTIGES

FUTURE UPGRADES *(optional future upgrade only).*



Your system has already been equipped with a wifi antenna port to support future upgrades. This includes remote control signals and receiving OTA (over the air) update files for the firmware of the built-in controller chipset. The antenna is included with the accessories.

CLEANING

CLEANING OF HIGH GLOSS LACQUER SURFACES



We recommend to regularly clean high gloss color-coated surfaces (for front panels) with a dry soft fabric (duster).

To remove finger prints and dirty spots we recommend the use of glass detergent.

To remove small scratches we recommend the use of automotive waxes and polishing compounds for cars. Please proceed carefully and strictly follow the cleaning instructions of the manufacturer.

Avoid scratching the front panels with dirty fabrics and never use aggressive detergents or abrasives!

CLEANING OF VENEER AND SATIN-FINISHED SURFACES



We recommend to regularly clean veneer and satin-finish coated surfaces (for ex. subwoofer body) with a dry soft fabric (duster) or a soft brush.

To remove finger prints and dirty spots we recommend the use of glass detergent.

 Do not use waxes or polisher!

CLEANING OF METAL SURFACES

Clean the powder coated and anodized surfaces of the frame parts with a regular duster or slightly moisted (i.e. by glass detergent) piece of cloth.

WARRANTY

TWIN SUB REGISTRATION

Register your Twin Sub(s) and receive an extension of your factory warranties for 1 year at a time as the first owner.

- 1 Please fill out the warranty card:

name:

street:

city:

serial no.

serial no. subwoofer

purchase date:

dealer:

- 2 Take a photo of the completed warranty card with your cell phone.
- 3 Send the photo by mail using the QR code to:
"info@avantgarde-acoustic.de"



WARRANTY

Avantgarde Acoustic Lautsprechersysteme GmbH warrants that the products are free from defects attributable to faulty manufacture. The warranty is limited to ten (10) years for the stability of the connecting elements (between metal, wood and plastic parts, including the horns), five (5) years for the color coating and the drivers, and two (2) years for all electronic components.

All products Avantgarde Acoustic have been thoroughly checked before shipping. In the case of problems, please check the following:

1. This warranty begins on the date of original purchase and may be enforced only by the original purchaser. Please keep the original dated sales slip as proof of warranty coverage. The warranty period is not effected by warranty services provided within the warranty period.

2. Expect as specified below, this warranty covers all defects in material and workmanship in this product. Our liability for any defective product is limited to repair or replacement of the products, at our option. Any implied warranties, including warranties of merchantabilities and fitness for a particular purpose, or damages based upon inconvenience, loss of use of the product, or commercial loss, or any other damages are not covered by this warranty.

3. Any modification, alterations or changes to the product are strictly prohibited.

4. In case of defects, please contact at first your dealer. If at the sole descretion of Avantgarde Acoustic it is necessary to ship the product to the manufacturer, please make sure that:

- The product is carefully packed and shipped in its original shipping box.
- The Avantgarde Acoustic warranty card is filled out and added to the product or, alternatively the original invoice from the dealer or a proof of online product registration in the Avantgarde Customer Club.
- The product is shipped free of charge to us, e.g. you must pay all shipping charges (ex. Freight, insurance etc.).

WARRANTY

5. The following are not covered by this warranty:

- Regular inspections, tuning, repairs or replacement of parts which are attributable to normal wear and tear.
- Damage occurring during shipment of the product. All transport claims must be presented to the carrier.
- Damages or scratches on the surface of the product (ex. Housing, horns, metal parts, color coating etc.). These claims must be presented within 3 days after the date of original purchase with your dealer.
- Damage resulting from incorrect placement, faulty connections, improper operation. Damage resulting from failure to follow instructions supplied with the product.
- Damage resulting from accident, misuse, abuse, neglect, electrical surges, lightning or other acts of God.
- Damage resulting from repair or attempted repair by anyone other than Avantgarde Acoustic or an authorized Avantgarde Acoustic dealer.
- Consequential, secondary or subsequent damages to other third party appliances.

6. Some states do not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply to you.

7. Register your new speaker on our website and receive an extension of your factory warranties by 1 year.

www.avantgarde-acoustic.de

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