



Sound Shower® AA-160e / AA-160mm Operation Manual

1. PRODUCT DESCRIPTION

The Panphonics Sound Shower AA-160e and AA-160mm audio amplifiers are capable to drive Sound Shower elements and provide high-quality directional audio. They are also offering multiple controlling options that can be operated locally or remotely. Some of technical features are:

- *Automatic calibration for any particular installation environment*
- *Automatic Volume Control function*
- *Integrated equalizer optimizing lower frequencies for audio amplifier AA-160MM*

2. QUICK START INSTRUCTIONS



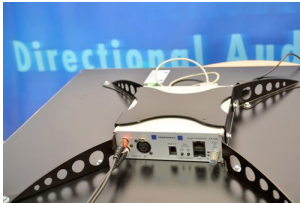
1. Make sure you have all equipments



3. Connect D-connector to amplifier



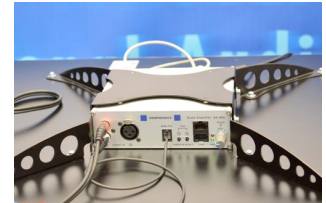
4. Connect power to amplifier



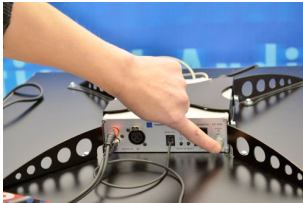
5. Connect RCA cable to amplifier



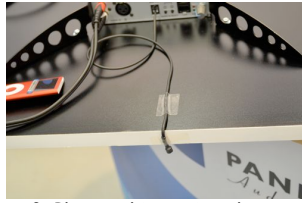
6. Connect media player to RCA



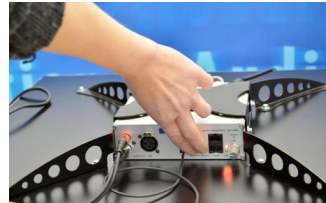
7. Connect ambient microphone to amplifier *(Green LED starts blinking when powered)*



8. Push Volume Knob if green LED does not flash even when powered

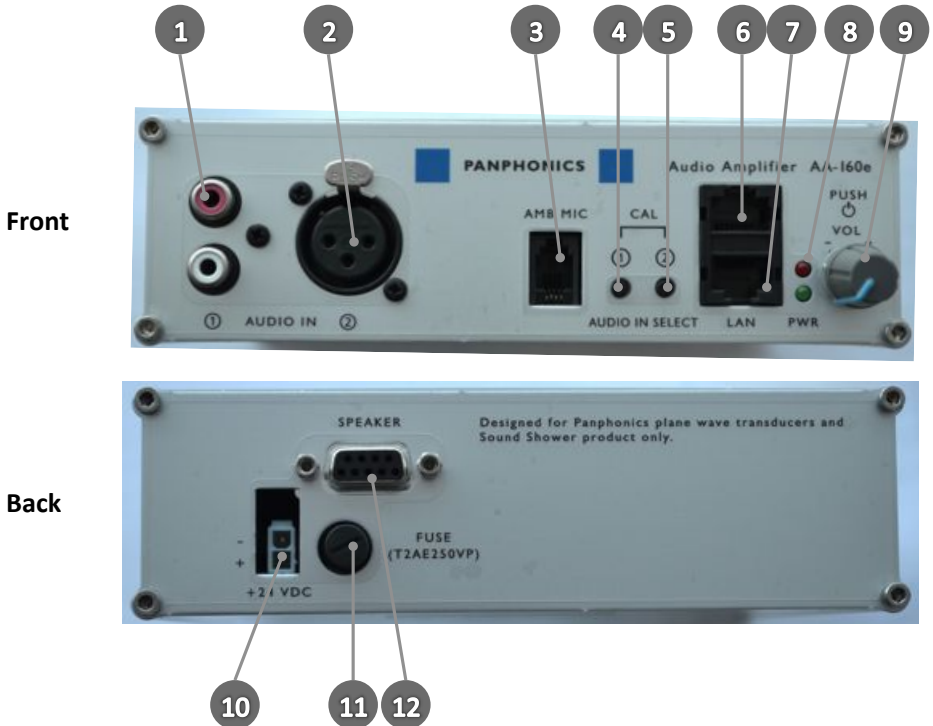


9. Place ambient microphone to the desired spot



10. Press calibration buttons simulatnously to set ambient control

3. INTERFACE & LOCAL CONTROLS IN AA-160 AMPLIFIER

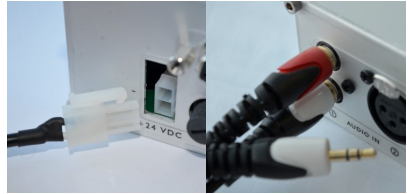


1. RCA inputs (Mono Sum) - This is the default audio source input
2. XLR input (Balanced) - Balanced input for advanced connections
3. Ambient Microphone Input
4. Input selector for RCA (default)
5. Input selector for XLR
6. LAN Ethernet port 1
7. LAN Ethernet port 2
8. Power and command indicator LEDs
9. Volume knob / standby ON/OFF (push at the tip of the knob)
10. Power input connector (+24 VDC)
11. Fuse (T2AE250VP)
12. Speaker out connector (9 pin D-sub)

4. CONNECTING AUDIO SOURCE AND POWER SUPPLY UNIT (PSU)

Connect the provided Power Supply Unit (PSU).

Connect audio source to amplifier signal input with suitable cable (not provided). There is two alternative signal input route possible with general 2x RCA connectors or 1x XLR connector.



Input source can be selected by pressing the "Input selector buttons". Button 1 (the one closer to MIC connector) selects the RCA input. Button 2 is used for selecting the XLR input as the signal source.

5. CALIBRATING AUTOMATIC VOLUME CONTROL

Panphonics Automatic Volume Control feature adjusts the volume according to the ambient noise level. The built in calibration routine automatically detects the effects of the surrounds and takes these into account when making the adjustments. Automatic Volume Control algorithm monitors the background noise level and starts to increase the volume after the noise exceeds the set base level. This enables an efficient adjustment of the volume level keeping the audio at a clearly audible yet comfortable level.

Calibration must be carried out before attempting to make use of the Automatic Volume Control -feature. Successful calibration allows the unit to function in an optimal way producing the best results. It is of the essence that the speaker is correctly installed and setup in its actual operating position before calibration is carried out.



Please note that the near proximity on the front of the speaker must be kept clear from any items during calibration. Also note that the person calibrating the unit must not stand in front (or directly beneath) the speaker.

Calibration can be started in two ways, either by pressing both of the Input selector buttons (4 & 5) simultaneously or by issuing a 'amb calibrate' command (described in the Remote Control for advanced users -manual). The calibration signal consists of a short burst of noise. After the noise signal the algorithm performs analysis and sets the algorithm parameters and basel level setting accordingly. Ambient Control feature is enabled after calibration and the unit is ready to operate.

Please note that the calibration routine needs to be carried out again should there be any major changes in the surroundings of the speaker!

Please note that the calibration noise is played at relatively high volume and can be extremely painful right under the loudspeaker!

6. TROUBLESHOOTING

If the sound cannot be heard

- Check that power supply unit is connected and the amplifier is in operational mode (not in standby when the green led is blinking)
- Check audio cable connection and audio media is played
- Check audio input selector according used input. The default input is RCA. To change the input see the Section 2. Controls & Connections.
- Check audio output cable that it's fully inserted and locked properly in amplifier
- Please check audio output cable is inserted in loudspeaker

* FACTORY SETTINGS

Factory settings can be restored by keeping the Volume Knob (9.) and both Input selector buttons (4) & (5) pressed at the same time while connecting power to the unit.

7. SPECIFICATIONS

Amplifiers

| | AA-160e | AA-160mm |
|-------------------------------|--|-----------------------|
| Electrical Properties | | |
| External Power Supply | +24 V DC, 2.5 A | |
| Input impedance, XLR | 10 kOhm | |
| Input impedance, RCA | 200 kOhm | |
| Input voltage, XLR | 1.6 Vp-p | |
| Input voltage, RCA | 1.32 Vp-p | |
| Rated Output | 160 V rms (135 nF load) | |
| S/N Ratio | > 70 dB | |
| THD | < 0.05 @ 75% Rated Output | |
| Network Interface | | |
| Physical Ethernet | 100BASE-T, UTP cat 5E, 2 x RJ45 Ethernet (Bridged) | |
| Application | Telnet | |
| Default IP address | 192.168.1.111 | |
| Network mask | 255.255.255.0 | |
| Default Password | passu | |
| Audio Properties | | |
| Output Frequency | min. 250 Hz - 16 kHz | Below 100 Hz - 16 kHz |
| Operational Conditions | | |
| Temperature Range | 0°C - 40°C (32°F - 72°F) | |
| Physical/Weight | | |
| AA-160 Dimensions (HxWxD) | 48 mm x 161 mm x 163 mm (1.89" x 6.34" x 6.42") | |
| AA-160 Weight (net) | 0.8 kg (1.8 lbs) | |
| Colour | Anodized Aluminium | |

8. TERMS OF WARRANTY

Panphonics Oy warrants to the original purchaser that this Panphonics Oy's product (the "Product") will be free from defects in materials, design or workmanship, on the following terms and conditions:

Panphonics Audio Elements have been tested at the place of manufacture in accordance with the quality control of Panphonics Oy. Each notice of defects in the Product will be compared to the quality control record of the said Product. This Limited Warranty does not include deviations in audio performance characteristics of the Product if the performance characteristics entered into the quality control record have been correct and the purchaser cannot provide positive proof to the contrary, for example, inadequate transportation procedures.

1) The period of warranty will be six (6) months from the date the original purchaser took possession of the Product, or should have taken possession of the Product if the receipt of the Product was delayed due to a cause attributable to the purchaser. In case the original purchaser sells or otherwise assigns the Product to a new owner/user, the period of warranty will continue unaltered until the end of the original period of warranty.

2) This Limited Warranty is valid and enforceable only in the following states: European Community, Norway, Iceland and Switzerland.

3) During the period of warranty Panphonics Oy or its authorized maintenance service will either repair the defective Product or replace it with a new Product, at Panphonics Oy's option. Panphonics Oy will return the repaired Product or deliver a new Product to the purchaser in working order. All replaced parts and equipment will become the property of Panphonics Oy.

4) This Limited Warranty does include mechanical defects of the Product and

significant deviations between technical data and performance characteristics of the Product.

5) The repaired or replaced Product will not be given extended or additional period of warranty.

6) This Limited Warranty does not include defects caused by normal tear and wear. In addition, this Limited Warranty will not be valid if:

- i) The defect was due to
 - a. The use of the Product either contrary to instructions or otherwise negligently;
 - b. The Product being exposed to moisture, steam, extreme temperature or environment, or rapid changes in such, or corrosion or oxidation with corrosive materials, liquids or gasses or other way highly corrosive environment;
 - c. The Product being altered, connected to another product, opened or repaired without authorization or the Product being repaired with spare parts not approved by Panphonics Oy;
 - d. The Product being misused or installed incorrectly; or
 - e. The Product having been in on an accident or been exposed to the elements or spilled over with food or liquid, or been affected by chemical substances or other events beyond the scope of influence of Panphonics Oy, including but without limitation to labour dispute and every other event Panphonics Oy cannot reasonably be expected to overcome, for example fire or other natural catastrophe, war, rebellion, seizure, monetary exchange control, mandatory legislation, orders of authorities, refusal of export license, scarcity of transportation, general scarcity, restrictions in the use of power, and defects and delays of subcontractor's delivery caused by the above-mentioned causes unless the damage has been direct consequence of a defect in material or design or workmanship;

ii) The purchaser has not informed Panphonics Oy or its authorized maintenance service about the defect

within thirty (30) days from the occurrence of the defect during the period of warranty;

iii) The Product has not been returned to Panphonics Oy or its authorized maintenance service within thirty (30) days from the occurrence of the defect during the period of warranty;

iv) The serial number of the Product has been transferred, removed or damaged, or any number has been altered or is impossible to read;

v) The defect was caused by the malfunction of an electronic appliance not provided by Panphonics Oy;

vi) The defect was caused as a consequence of the Product being used with an accessory, which was not manufactured, approved or provided by Panphonics Oy, or the Product was

connected to such accessory, or the Product was used for other purposes than instructed, or the Product has been connected to such electronic system, which does not operate customarily compared to the normal use of the Product;

vii) The defect was caused as a consequence of an acoustic or electric overloading of the Audio Element.

7) In order to be able to invoke this Limited Warranty, the purchaser must

provide either

i) Readable and unaltered original sales receipt/warranty card, which clearly sets out the name and address of the seller, the date and place of the purchase, the type of the Product and serial number, or alternatively

ii) Readable and unaltered original sales receipt, which brings out the same information if produced to the seller/supplier of the Product.

8) The purchaser's rights against Panphonics Oy based on defects or defective functions of the Product are limited to this Limited Warranty. This Limited Warranty will supersede all other oral, written, statutory (unless mandatory), contractual and other warranties and liabilities. In no event will Panphonics Oy be liable for unforeseen, incidental, consequential or indirect damages or expenses. Should the purchaser be a company or other legal person, Panphonics Oy will not be liable for direct damages or expenses. Unless it is contrary to mandatory provisions of law, the purchaser will be finally responsible for product liability.

9) Any amendment or supplement to the terms of this Limited Warranty is binding on Panphonics Oy only if Panphonics Oy has beforehand accepted in writing to the amendment or supplement. The defective Product must be shipped to Panphonics Oy on the purchaser's expense.

9. MAINTENANCE

The equipment is turned off by disconnecting mains power by removing the power supply unit from the mains socket. Notice that disconnecting the power plug from the loudspeaker does not disconnect main power from the power supply unit. The Panphonics Sound Shower does not need periodical maintenance.

10. IMPORTANT SAFETY INFORMATION

1. Panphonics Sound Shower loudspeaker is designed to be used with supplied power source only.
2. Disconnect unit from main voltage before making any connections.
3. Read all documentation before operating your equipment.
4. Follow all instructions.
5. Do not remove the rear cover. No user serviceable parts inside.
6. Make sure power outlets conform to the power requirements.
7. Do not operate the unit on a surface or in the environment which may impede the normal flow of air around the unit.
8. Do not use the unit near high heat or moisture producing devices. Device is for inside use only.
9. Do not drive the input with a signal level greater than that required to drive equipment to full output.
10. Do not spill water or other liquids into or on the unit.
11. EQUIPMENT SHOULD BE INSTALLED AND SERVICED BY A SKILLED PERSON ONLY.
12. The product label is located on the loudspeaker rear plate.

Manual for remote control of AA-160 amplifiers is downloadable only from Panphonics website:

<http://www.panphonics.com/media-downloads/>