



# Sound Shower® Operation Manual

## PRODUCT DESCRIPTION

The Panphonics Sound Shower is a monophonic active loudspeaker equipped with a Panphonics amplifier and Panphonics audio elements. The loudspeaker is designed to produce sound pressure levels up to over 85dB, exact maximum value depending on the size of the product. The integrated amplifier is optimized to handle the reactive load of the Panphonics audio elements. The Sound Shower can be connected directly to a program source, a preamplifier or a mixing system.

The Sound Shower is ideal for applications where a well defined audio footprint is needed. The Sound Shower can create a clearly focused audio beam without spreading the sound even in quiet spaces or for longer distances. The Sound Shower is equipped with an active monitoring system which continuously measures the ambient noise level and adjusts the volume level accordingly. This feature can be switched on or off.

## TECHNICAL DESCRIPTION

### Audio and electrical properties

- Frequency range: 400 Hz – 16 kHz (-6 dB/oct.)
- Maximum output sound pressure level: over 85 dB
- Automatic volume control relative to changes in ambient noise level (can be disabled)
- Virtual bass feature (can be disabled)
- Operation principle: Bridged mono (internal stereo to mono conversion)
- Input impedance (audio IN): 100 kΩ
- Input voltage (audio IN): 50 mV – 2 V maximum, adjustable gain
- Input (audio IN): 3,5 mm stereo jack, unbalanced
- Output for external device: 5 V / 100 mA DC, USB A type connector
- Adjustable input gain
- Power indicator led (green)
- Audio output overdrive (clip) indicator led (red)
- Power supply: External 24 V DC power supply.
- Output plug diameter 2,1 mm / 5,5 mm (center / out).  
Use only power units supplied by Panphonics Oy.

### Physical dimensions and properties

MODEL	SIZE (L x W x H)		WEIGHT		AUDIO FOOTPRINT* (LxW)	
	mm	Inch	kg	lbs	m	Ft
<b>600x200</b>	600x204x34	236 x 8.0 x 1.3	1.2	2.6	15 x 5 horizontal	50 x 15 horizontal
<b>1000x200</b>	995x204x34	394 x 8.0 x 1.3	1.8	4.0	25 x 5 horizontal	80 x 15 horizontal
<b>1200x200</b>	1195x204x34	47.0 x 8.0 x 1.3	2.0	4.5	1.5 x 2.0	5 x 7
<b>1800x200</b>	1790x204x34	70.5 x 8.0 x 1.3	2.8	6.2	2.0 x 2.0	7 x 7
<b>2400x200</b>	2385x204x34	93.9 x 8.0 x 1.3	3.6	8.0	2.5 x 2.0	8 x 7
<b>3000x200</b>	2980x204x34	117.3 x 8.0 x 1.3	4.5	10.0	3.0 x 2.0	10 x 7
<b>600x600</b>	600x600x34	23.6 x 23.6 x 1.3	2.5	5.5	1.5 x 1.5	5 x 5

\*) Audio footprint size depends on the installation height and orientation of the Sound Shower. The example audio footprints listed for Sound Shower models 600 x 200 and 1000 x 200 are for installations where audio output is directed horizontally to produce an audio corridor, for example from above a plasma screen. The other audio footprints are for vertical installations where the loudspeaker front surface is positioned downward to aim the audio output to a limited area as typically desired for example in passages, restrooms, or waiting zones.

### Colour

White, black or aluminium gray. Covering canvas is changeable.

### Customs codes

HS-code 851821, CN-code 8518.21.00

### MAINTENANCE

The Panphonics Sound Shower does not need periodic maintenance. If needed the cover canvas may be changed by gently pulling the canvas out and placing a new canvas. The canvas is gently pushed under the frame. It is held in place by springs under the audio elements.



If the canvas is moved during shipping or installation it can be easily straightened out by pressing down gently with your hand holding fingers out and pulling the canvas towards the edges and back under the edge.

### TROUBLE SHOOTING

- No sound, green power led is not lit -> Check that the power unit is properly installed into a wall socket and the power plug is fully inserted into the amplifier power inlet
- No sound, power led on -> Make sure audio is playing and that the audio source is properly connected to the Sound Shower. Also check that the source is not on "mute"
- Very weak sound -> check the gain dip switch position, input sensitivity setting and volume setting (press volume up repeatedly). There are detailed instructions for adjusting the signal level on this manual.
- Buzzing noise in sound -> check that only stereo plugs are used and that they are all fully inserted.

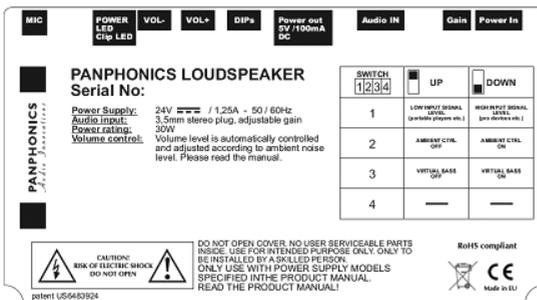
## IMPORTANT SAFETY INFORMATION

1. The active Panphonics Sound Shower loudspeaker is designed to be used with supplied power source only. Power source models listed in technical description.
2. Disconnect unit from mains voltage before making any connections.
3. Connect the power supply first to the amplifier, only then to mains voltage.
4. Read all documentation before operating your equipment.
5. Follow all instructions.
6. Do not remove the rear cover. No user serviceable parts inside.
7. Make sure power outlets conform to the power requirements.
8. Do not operate the unit on a surface or in an environment which may impede the normal flow of air around the unit.
9. Do not use the unit near high heat producing devices.
10. Do not drive the input with a signal level greater than that required to drive equipment to full output.
11. Do not spill water or other liquids into or on the unit.
12. EQUIPMENT SHOULD BE INSTALLED AND SERVICED BY A SKILLED PERSON ONLY. Always fix the loudspeaker securely so that it cannot fall on anyone. Sound Shower is not suitable for in-wall mounting.
13. The product label is located on the loudspeaker rear plate.

## USING THE SOUND SHOWER

Rear plate items, left to right:

- Microphone for ambient noise measurement
- Power LED (green) and Clip LED (red)
- Volume down
- Volume Up
- Dip switches
- 5V / 100mA DC power out (e.g. for a portable media player)
- Audio IN (3,5mm stereo plug), maximum signal level 2 volts AC
- Gain adjustment
- Power in



Audio source is connected to the audio IN socket with a 3,5mm stereo jack. Audio source may be any source with output level from 50 mV to 2 V. In case of connected audio player the normal audio cable with 3,5mm stereo jacks provided by the user should not be longer than 3 meters. This is for the installation to meet the strict EMC regula-

tions with high frequency disturbance well over audible audio frequency also. External 24V DC power source is connected to the power IN connector. Use only the power supplies provided by Panphonics Oy.

## Dip switches

There are four dip switches on the Sound Shower. Switches 1 to 3 are in use, number 4 is not used. The dip switches are used to select correct input gain setting for either a low or high level input signal, to turn the ambient control feature on/off and to turn the virtual bass feature on/off.

## 5V DC output

The Sound Shower is equipped with a power output for mp3 players and similar devices that can take their operating power from a USB port. The USB-type connector on the Sound Shower will not transmit any data. It only provides 5 V of DC for the players.

Remove non rechargeable batteries before connecting your device to the power out connector.

The power output is specified at 5V/100mA DC.

## Adjusting input gain

To get the maximum level out of the Sound Shower without overdriving it or causing distortion to the sound, follow this procedure to set the input sensitivity of the Sound Shower to an optimum level. This is only done when the loudspeaker is set up for the first time or if the driving device is changed to another model.

1. Adjust the volume of the driving device (pre amplifier, mixing console, CD-player etc.) to its maximum setting. If it is known that some lower volume setting will be the maximum used, adjust the source to this volume setting.
2. Adjust the volume on the Sound Shower to the maximum by pressing the volume up button repeatedly until the volume level does not increase any more. One press of a volume button will adjust the volume by approximately 1dB. The total amount of these adjusting steps is 40.
3. Adjust the input gain of the Sound Shower so that the clip led flashes only very randomly during playback of the audio media. If the clip led flashes continuously or is lit, adjust gain to a lower value. To increase gain turn the adjustment screw clockwise. Do not use excessive force.
4. If the sound is clipping and distorted even with very low gain setting, switch the input sensitivity dip switch to the low gain position. The Sound Shower has two input sensitivity levels that are chosen with the dip switch number one.
5. The working principle of Virtual Bass feature is to transfer the audio signal energy from between 70 - 200Hz to higher frequencies to increase the perceived level of low frequency sounds. Readjusting the signal gain level may be necessary after changing Virtual Bass feature on or off with dip switch number.

When gain is correctly set the Panphonics Sound Shower will not clip even when driven with maximum volume setting of the driving device. Correct gain setting will give out maximum SPL without distortion.

In daily use it is not necessary to adjust gain on the Sound Shower. Volume level is adjusted either by the audio source or with the volume adjustment buttons on the Sound Shower. Adjusting volume level at the source will affect all the

Sound Showers driven with that source. Adjusting volume locally on the Sound Shower will only affect that particular loudspeaker.

The Sound Shower 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 mains power from the power supply unit.

## Setting the desired volume level

Set the Sound Shower to a desired volume level by pressing the volume up and down buttons. To change the level by several steps, press the button repeatedly. Holding the button down will only change the volume by one step. For adjusting, use the same media that will be played after set-up.

When setting the volume level it is important to remember that sound reflects from all hard surfaces. To avoid unnecessary reflections that spread the sound adjust the volume level so that the media is easily heard and understood at the wanted area, but not any louder.

## Automatic volume adjustment

The volume level may be automatically adjusted to compensate ambient noise level changes. The automatic ambient noise level monitoring enables keeping the perceived volume at a desired level. This option may be enabled or disabled by using the dip switch number two on the Sound Shower. When enabled the Sound Shower will monitor the ambient volume level and adjust the volume level automatically to compensate.

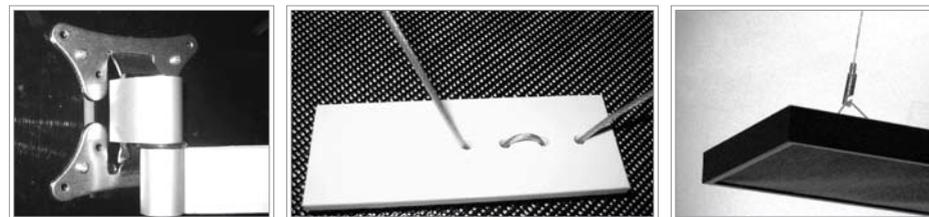
After the desired volume level is set with the volume level buttons on the Sound Shower, the Sound Shower will measure the ambient noise level during the next pause in the media and use these values as reference. The ambient noise reference will be averaged over 12 second periods. The best results are obtained when the ambient noise is relatively static. The ambient noise reference level will be measured every time after the volume level is adjusted. After the reference ambient noise level has been measured, the volume level will be automatically adjusted if a change in the ambient noise level is detected. The ambient noise level is only measured when there is no media played. This is to avoid mixing the audio signal with the ambient noise.

If the used media has no pauses (a few second silences), it is advisable to stop the media for a while after setting the volume level in order for the loudspeaker to be able to measure the reference ambient noise level.

In case the ambient noise level increases very quickly, the change is discarded by the Sound Shower. This is to prevent raising the volume level during announcements or other short audio events that suddenly raise the ambient noise level very high for a moment. If the ambient noise level stays at this higher level for over 30 seconds Sound Shower will interpret it as a non-temporary change and will adjust the volume accordingly.

To avoid pumping the volume level up and down, the volume level change is restricted to approximately 2 dB at one measurement loop which corresponds to two adjustment steps (equivalent to two volume button presses).

## INSTALLATION



Panphonics recommends that the Sound Shower is installed utilizing a VESA 100 compatible bracket (not included). The Sound Shower is equipped with M4 threads in the VESA 100 pattern on the center of rear cover.

Another recommended means to install the Sound Shower is hanging it from the ceiling utilizing the included hanging connection items. Measure the needed length for the metal wire. Cut the required two lengths from the 5 m (16.4 ft) metal wire. One end of the wires should be twisted through the holes in the acryl wire locks that are placed e.g. on top of a suspended ceiling. The wire is then taken through the ceiling tile to the underside where the Sound Shower will be attached.

Insert the metal hangers to the other end of both lengths of wire. To insert the hanger unscrew the lock on the other end of the hanger. First, insert the wire through the lock, then through the hanger. Finally tighten the lock so the wire won't slip.

To adjust the wire length, unscrew the lock on the hangers and press down the threads on the hanger to allow moving the hanger up or down on the wire.

Take care in aiming the narrow audio beam when positioning the speaker to reach your intended audio zone. Always fix the loudspeaker securely so that it cannot fall on anyone. Installation should be carried out by a skilled person. The speakers are not suitable for in-wall mounting.

**For further information or any questions,  
please contact Panphonics customer service.**

**Panphonics**  
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## 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 Oy's 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. Panphonics Oy's products are sensitive to mechanical and environmental damage.

**1)** The period of warranty will be twelve (12) 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)** 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.

**3)** This Limited Warranty does include mechanical defects of the Product and significant deviations between technical data and performance characteristics of the Product.

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

**5)** This Limited Warranty does not include defects caused by normal wear and tear. 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;

**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 labor dispute and every other event Panphonics Oy cannot reasonably be expected to overcome, for example fire or other natural

catapstrophe, 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.

**6)** 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.

**7)** 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 contrary to mandatory provisions of law, the purchaser will be finally responsible for product liability.

**8)** 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.

**Panphonics Oy**  
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