Professional Fidelity

Mastering Grade Listening



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Performer s800 – User Manual

Stereo Power Amplifier

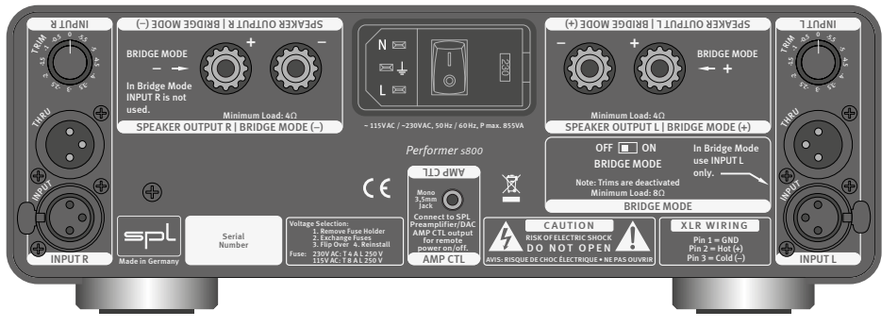
Welcome

and thank you for choosing the Performer s800.

The Performer s800 amplifier is an ultra-compact power amplifier that delivers 2 x 285 W to 4 ohms loudspeakers. In bridge mode it delivers 450 W into 8 ohms.

VOLTAiR technology is what we also call the SPL 120V Rail Technology within the Professional Fidelity series. This makes the Performer s800 an outstandig device in terms of dynamic range, signal-to-noise ratio and headroom delivering an exceptional sound experience with invincible serenity, transparency and realness.





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Getting started

Read thoroughly and follow the instructions as well as the security advices of the Quickstart which is enclosed in the scope of delivery! You can also download the Quickstart here.

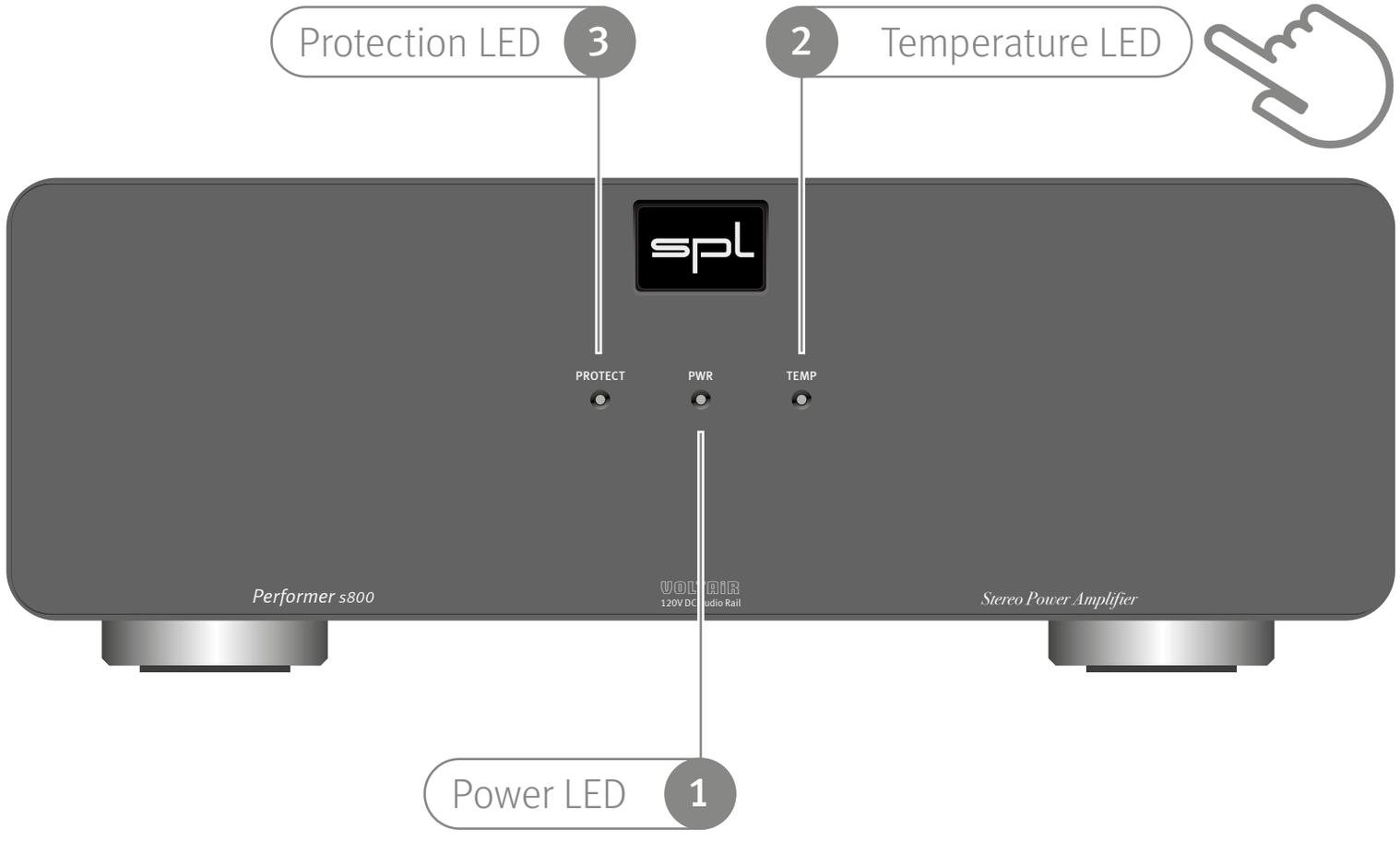
By pressing the -Button you get to the table of contents.

By pressing the -Button you get to the front view of the unit.

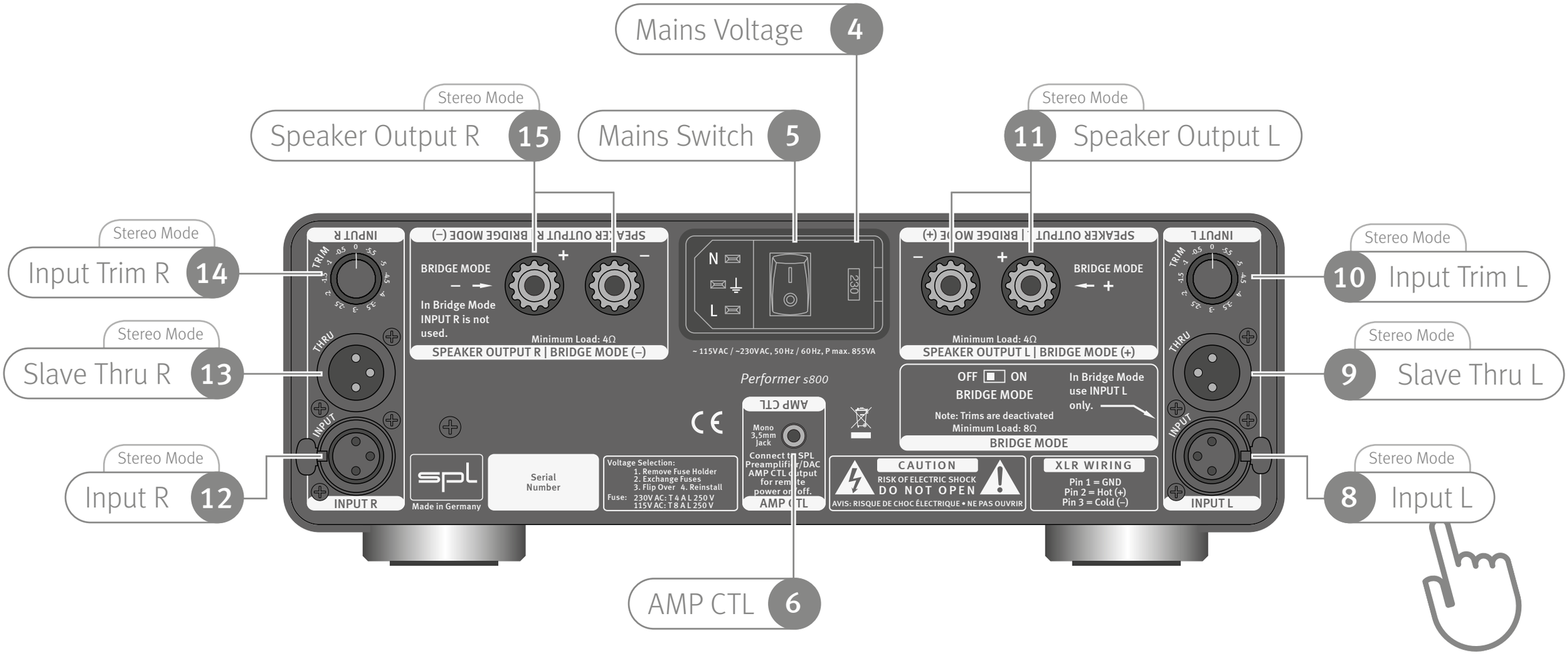
By pressing the -Button you get to the rear view of the unit.

By pressing the -Button you get to the previous content.

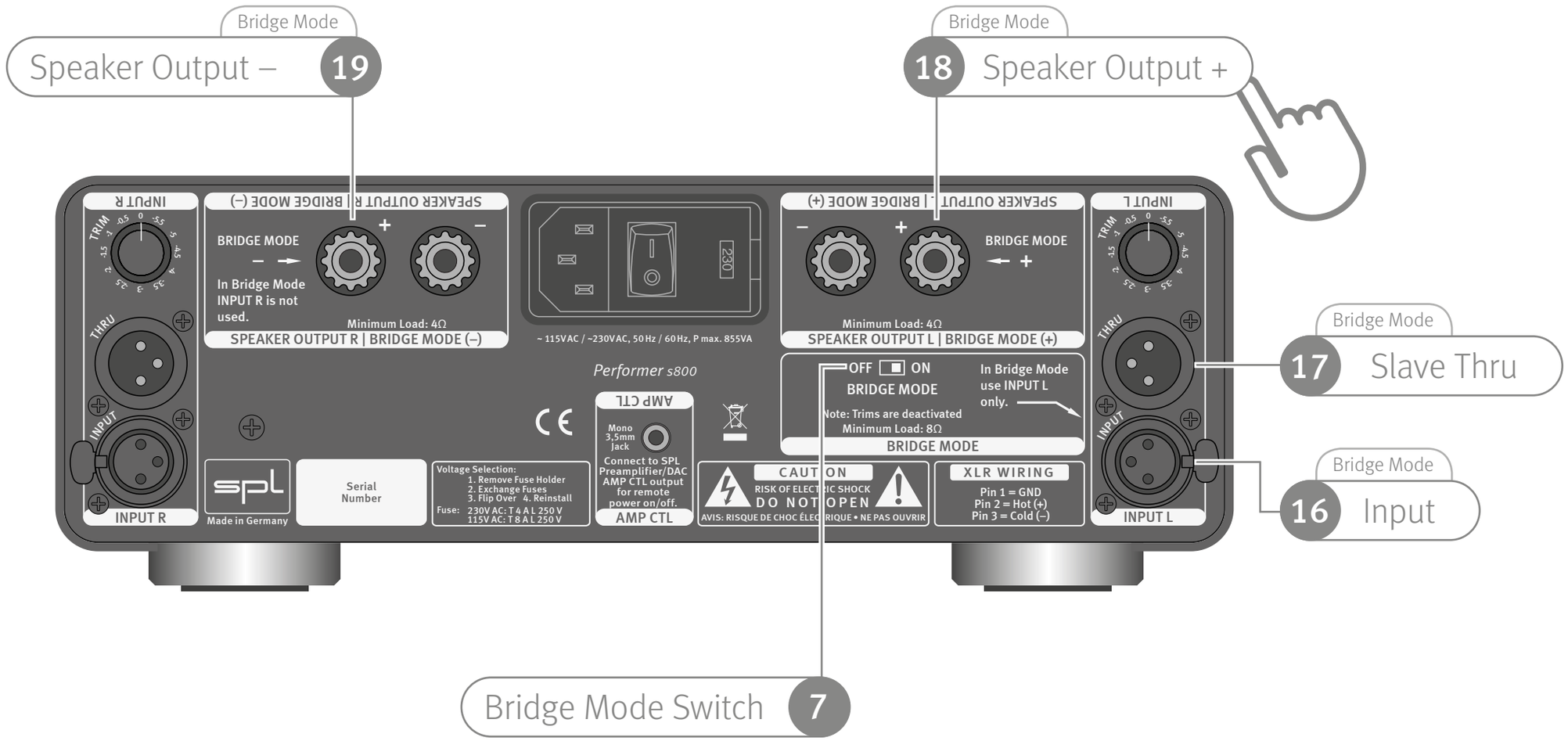
Front view


Protection LED
3
2
Temperature LED
spl
PROTECT
PWR
TEMP
Performer s800
VOLTAIR
120V DC Audio Rail
Stereo Power Amplifier
Power LED
1

Rear view (Stereo Mode)



Rear view (Bridge Mode)



VOLTAiR – 120V Rail Technology

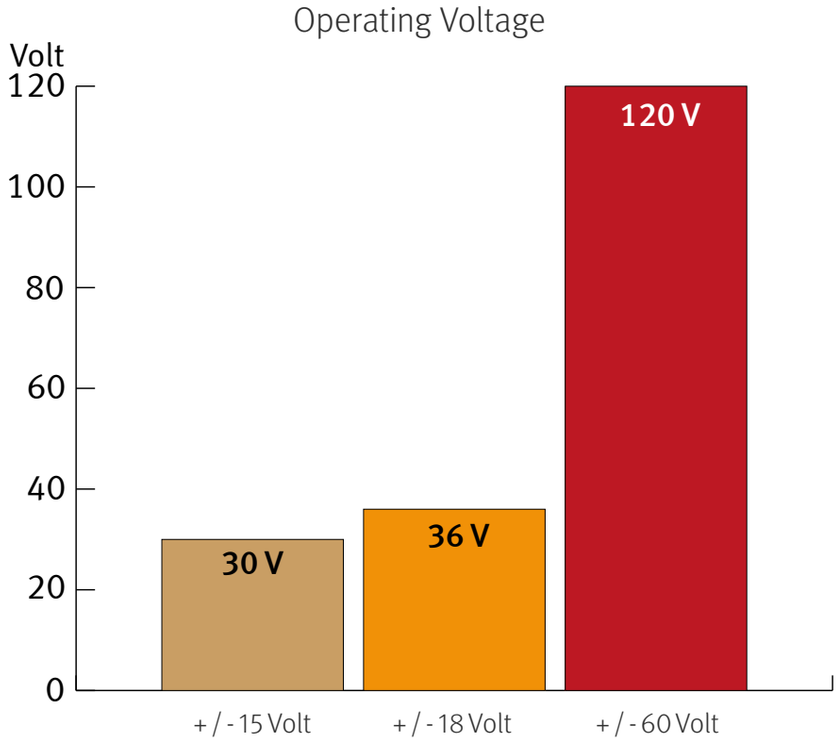
VOLTAiR is the synonym for our 120V Rail Technology within the Professional Fidelity series. The audio signals are processed with an unequalled +/-60V DC, which corresponds to twice that of discrete operational amplifiers and four-times that of semiconductor operational amplifiers.

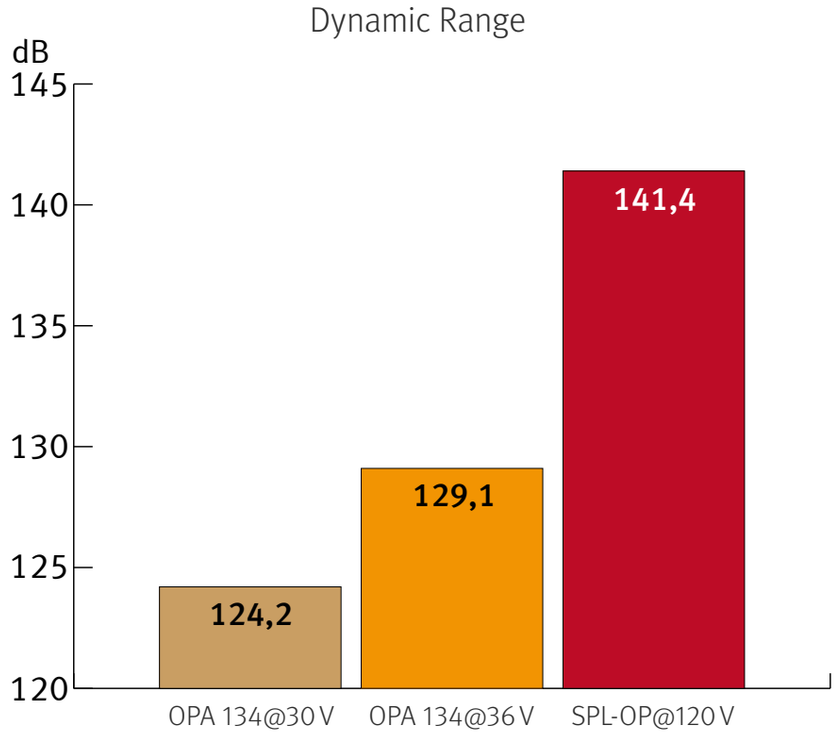
VOLTAiR Technology reaches outstanding technical and sonic performances. Technically especially in terms of dynamic range and headroom and sonically especially in reproducing the finest details and delivering a totally relaxed sounding audio experience. Music sounds absolutely natural.

Comparisons

These diagrams show how our VOLTAiR Technology compares to other circuits.

The direct relation between operating level and maximum level is fundamental for the classification: the higher the operating level, the higher the maximum level a circuit can handle. And since virtually all essential acoustic and musical parameters depend on this relation, a higher operating voltage also has a positive impact on the dynamic range, distortion limit and signal-to-noise ratio.

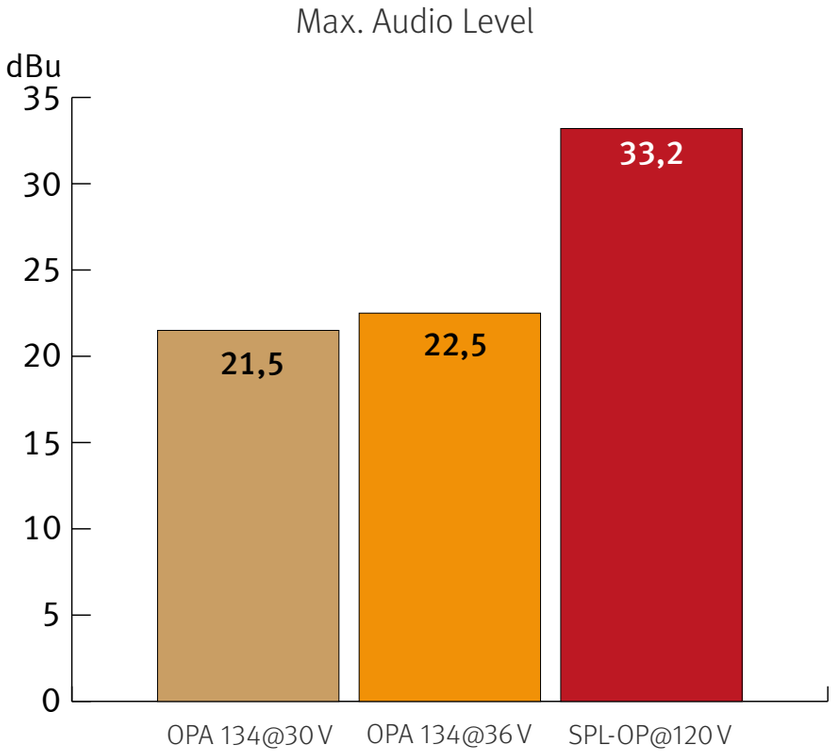


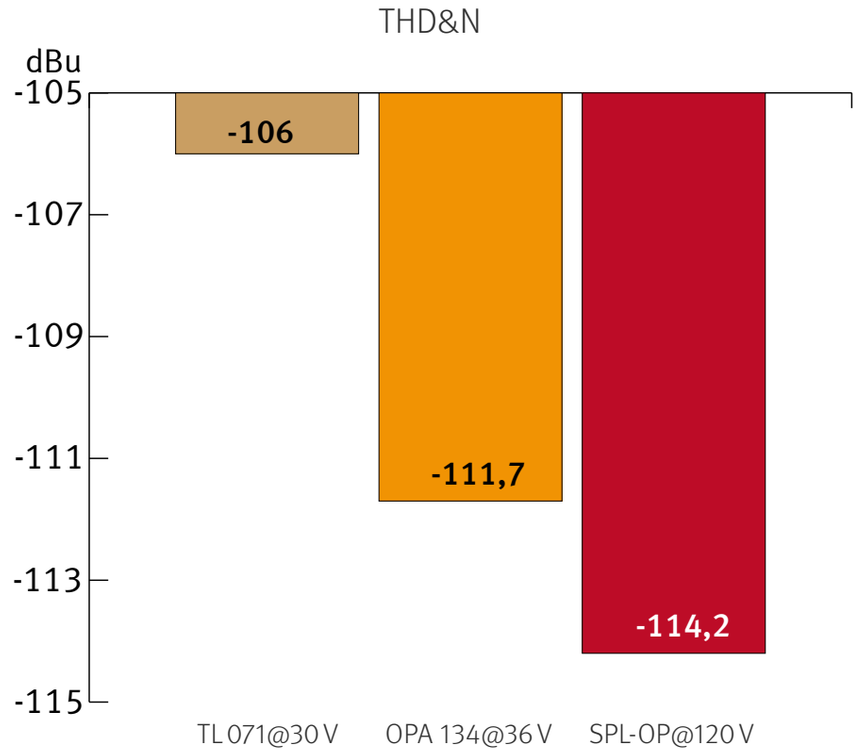


Do bear in mind that dB scales do not represent linear but rather exponential increases. A 3 dB increase corresponds to doubling the acoustic power, +6 dB correspond to twice the sound pressure level, and +10 dB correspond to twice the perceived loudness.

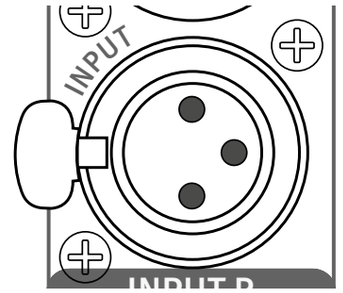
When it comes to volume, the VOLTAiR Technology exhibits a performance, in regard to maximum level and dynamic range, that is twice that of common components and circuits given that its values are approximately 10 dB higher.

THD measurements show a difference of more than 3 dB compared to the OPA134 at 36 V — in terms of sound pressure level, that corresponds to an improvement of more than 50%. The operating level most commonly used for audio equipment is +/- 15 volts.





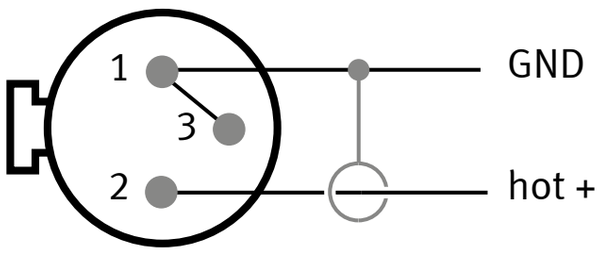
Inputs



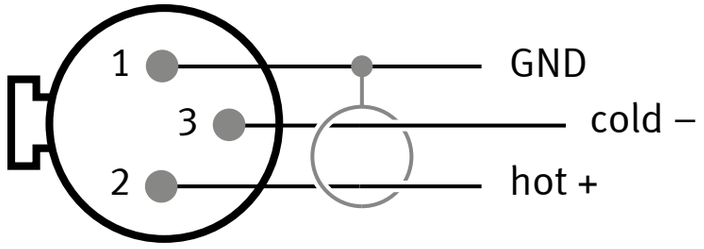
The Performer s800 is equipped with XLR inputs (8, 12) for balanced connection to a pre-amp. Full output power (2 x 285 W RMS into 4 ohms or 2 x 185 W RMS into 8 ohms) is performed at +6 dBu at the input.

For unbalanced connection with e.g. RCA output connect Pin 3 to Ground in the external connector.

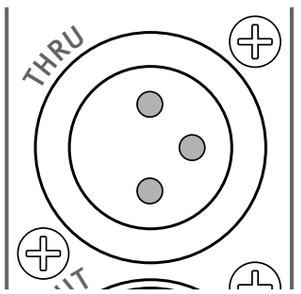
unbalanced



balanced

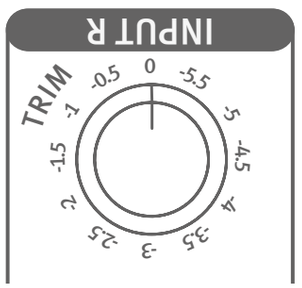


Slave Thru



The input is passively fed to the SLAVE THRU (9, 13) output for bi-wiring applications.

Trim



The input can be lowered with the TRIM switch (10, 14) from 0 dB to -5.5 dB in 0.5 dB steps. This is helpful if you want to use multi speaker sets or speakers in a bi-wiring application. It allows to level speakers with different efficiency to equal loudness.

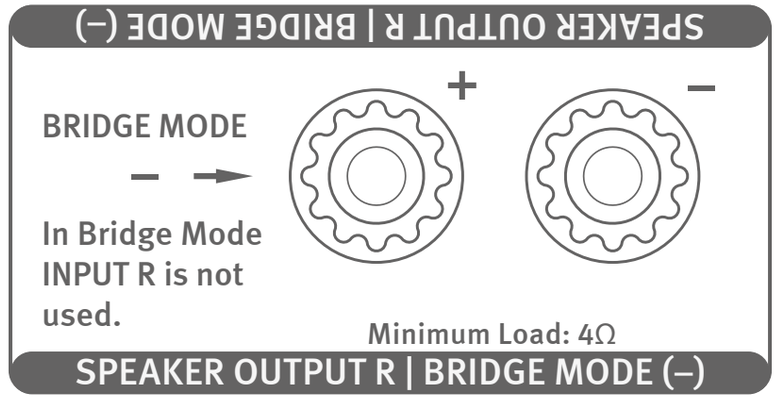
Bridge Mode

In bridge mode only the left input is used. The right input and the trim switches are deactivated.

Speaker outputs

You can connect 4 or 8 ohms loudspeakers to the speaker outputs (11, 15) in stereo mode. In bridge mode you can connect 8 ohms loudspeakers to the speaker outputs. You can either use the ø4 mm cable hole (screwable) or the banana plugs of the gold-plated loud-speaker binding posts.

Make sure not to mix up the polarity of the loudspeaker outputs.



Bridge Mode

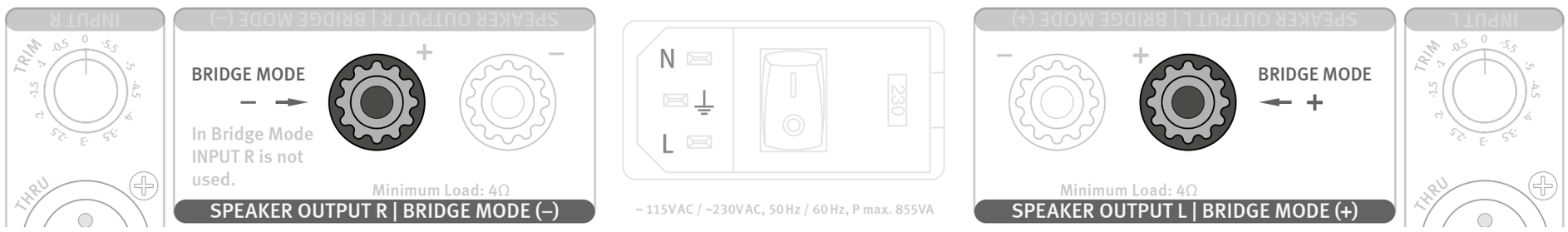
The Performer s800 can be operated in bridge mode to combine both channel amps for maximum power (450 W RMS into at least 8 ohms). **Only use the left input then**.

- Set the BRIDGE MODE (7) switch to ON.

  OFF ON
  BRIDGE MODE

  Warning: Power down the Performer s800 with the mains switch (5) before you activate the BRIDGE MODE switch.

In bridge mode you only connect a single loudspeaker with at least 8 ohms to the Performer s800 power amplifier. Use the positive binding post (+) of the left speaker output to connect to the positive (+) input of the speaker. Use the positive binding post (+) of the right speaker output to connect to the negative (–) input of the speaker.



In bridge mode both the Trim switch and the right input are deactivated.

Protection circuits

The Performer s800 has protection circuits against DC (direct current) voltage at the output and against overheating.

DC Protection

If DC is detected at the outputs, the Performer s800 automatically switches off. DC voltage can be an indication for a defective power stage. The PROTECT LED (2) on the front indicates that the protection circuit is activated and the power stage has been switched off.

The Performer s800 does not automatically switch on again. It needs to be switched off manually with the mains switch (5). Wait at least one minute before switching the Performer s800 on again.

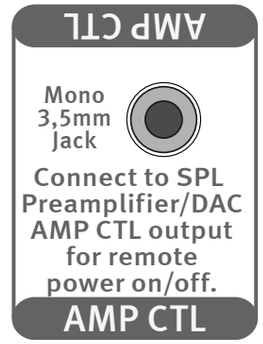
If the Performer s800 repetitively switches off due to a DC detection please contact your dealer.

Overheating protection circuit

At about 70° C at the heat sink, the Performer s800 will switch off. After the temperature has fallen below 55° C, the amplifier automatically switches on again. The TEMP LED (2) on the front indicates the overheating.

AMP CTL (Amplifier Control)

If you use the Performer s800 via AMP CTL with a SPL Phonitor x or SPL Director as a pre-amp, the Performer s800 can be switched between standby and operation together with the Phonitor x or the Director. Therefore you only have to connect the AMP CTL jacks (6) with a 3,5 mm mono mini jack cable.



Warning: Use only SPL Phonitor x or SPL Director for amplifier control.
Never connect other devices to the AMP CTL jack.

Specifications

Line Inputs & Line Outputs

- Neutrik XLR, balanced, Pin 2 = (+)
- Input impedance: 10 kohms
- Input trimming: 0 dB to -5.5 dB in 0.5 dB steps
- Input sensitivity: +6 dBu
- Output impedance (Slave Thru) is defined by the connected device
- Crosstalk: -110 dB (@1 kHz)

Speaker outputs

- 2 pairs binding posts with ø4 mm cable hole (screwable) and banana plug; fully encapsulated

Output power

- 2x 285 W RMS into 4 Ohm
- 2x 185 W RMS into 8 Ohm
- 1x 450 W RMS into at least 8 Ohm in bridge mode

Output voltage

- 74 V Peak-to-Peak (stereo)
- 180 V Peak-to-Peak (bridge)
- 35 V RMS (stereo)
- 86 V RMS (bridge)

Output impedance

- ‹ 0.031, 20 Hz to 20 kHz (stereo)
- ‹ 0,043, 20 Hz to 20 kHz (bridge)

Damping factor

- › 300, 20 Hz to 20 kHz, at 8 ohms (stereo)
- › 190, 20 Hz to 20 kHz, at 8 ohms (bridge)

Frequency response

- 9 Hz to 100 kHz +0, –0,03 dB
- ‹ 9 Hz to 200 kHz +0, –3 dB

Signal-to-noise ratio

- › 118 dB (wide-band, unweighted, referred to full power output)
- › 123 dB (A-weighted)

Gain

- 26 dB (stereo)
- 32 dB (bridge)

Total harmonic distortion

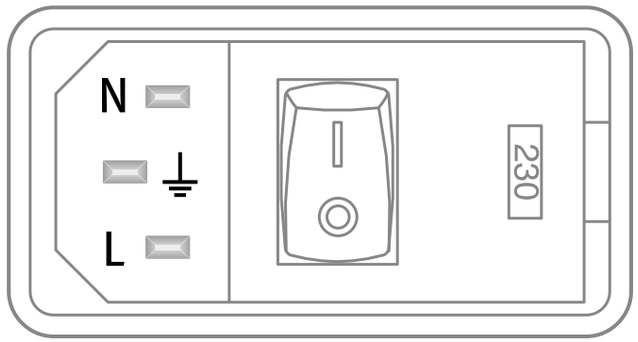
- ‹ 0,03% at 1 kHz, at 185 W, 8 ohms
- ‹ 0,19% at 20 kHz, at 185 W, 8 ohms
- ‹ 0,011% at 1 kHz, at 450 W, 8 ohms
- ‹ 0,12% at 20 kHz at 450 W, 8 ohms

Internal Voltage

- +/- 60 V

Power supply

- Mains voltage: 230 V AC / 50 Hz; 115 V AC / 60 Hz
- Fuses: 230 V: T 4 A; 115 V: T 8 A
- Power consumption: max 900 VA
- Idle power consumption: 40W
- Standby power consumption: 0.3 W



Dimensions (incl. feet)

- (WxHxD) 10.94 x 3.94 x 13 in (278 x 100 x 330 mm)

Weight

- 28.22 lbs (12.8 kg), unit only
- 30.87 lbs (14.0 kg), shipping

Important Notes

Version 1.1 – 08 /2016

Developer: Bastian Neu

This manual includes a description of the product but no guarantee as for specific characteristics or successful results. Unless stated otherwise, everything herein corresponds to the technical status at the time of delivery of the product by SPL electronics GmbH. The design and circuitry are under continuous development and improvement. Technical specifications are subject to change.

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Declaration of CE Conformity

CE The construction of this unit is in compliance with the standards and regulations of the European Community.