swissonic

24 Bit / 96 kHz Stereo AD / DA converter   HAD-1

User manual
This manual contains important information on the safe operation of the product. Read and follow the safety advice and instructions given. Retain the manual for future reference. If you pass the product on to others please include this manual.

Safety instructions

Intended use
This product is meant to be used for the passive attenuation of line level audio signals. Any other use or use under other operating conditions is considered to be improper and may result in personal injury or property damage. No liability will be assumed for damages resulting from improper use.

Danger for children
Ensure that plastic bags, packaging, etc. are disposed of properly and are not within reach of babies and young children. Choking hazard! Ensure that children do not detach any small parts from the product. They could swallow the pieces and choke!

Where to use the product
Never use the product
• in conditions of extreme temperature or humidity
• in extremely dusty or dirty areas
• at locations where the unit can become wet

General handling
• To prevent damage, never use force when handling the product.
• Never immerse the product in water. Just wipe it with a clean dry cloth. Do not use liquid cleaners such as benzene, thinners or flammable cleaning agents.

Operating elements
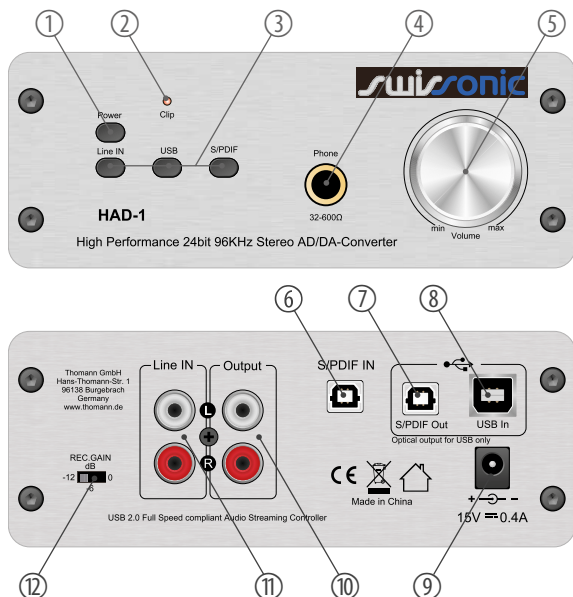
1. On- / off switch
2. Clip LED: Indicates overload and prompts you to lower the REC.GAIN switch (rear panel) to a lower gain level.
3. Input selector switch: Line IN, USB, S/PDIF.
4. Stereo headphones socket (1/4" jack): If this socket is used, there is no signal at the RCA output.
5. Volume control.
6. S/PDIF In (optical): Digital input for signals at up to 96 kHz sampling rate of devices such as CD or DVD players.
7. S/PDIF Out (optical): The S/PDIF output supports digital surround multichannel formats such as AC3 / DTS. The volume can not be adjusted on the HAD-1 and must be controlled on the external signal source.
8. USB In: Connect computer for digital content playback to the USB input.
9. Connector for external power supply (supplied) that must provide 15 V ⎓ at 400 mA (positive pole inside ⊖–●–⊕).
10. Stereo RCA connector for analogue signal output.
11. Stereo RCA connector for analogue signal input.
12. REC.GAIN: Switch to adjust the input sensitivity to the signal source (0 dB, -6 dB, -12 dB).

Using the product

1. Connect an analogue signal source whose signals you want to digitize and / or listen to via headphones to the Line IN jacks (⑪).
2. Connect the S/PDIF Out socket (⑦) or the USB port (⑧) to the digital inputs of the devices to which the signals are to be applied.
3. Connect digital signal sources whose signals you want to convert to analogue and / or listen to via headphones, to the optical S/PDIF IN socket (⑥) or the USB port (⑧).
4. Connect the output sockets (⑩) to the analogue inputs of the devices to which the signals are to be applied.
5. Connect stereo headphones to the 1/4" phone jack (④). The recommended headphone impedance is between 32 Ω and 600 Ω.
6. Connect the power supply cable to the 5 V ⎓ 0.4 A socket (⑨). Plug the power adapter into a properly wired power outlet.
7. Use the input selector switches (③) to select the desired input.
8. Adjust the volume of the headphones output with the volume control (⑤).
9. Set the input sensitivity with the REC.GAIN switch (⑫) according to the signal strength. When the clip LED (②) lights up, set the switch to a lower level (-6 or -12).

Technical specifications

S/PDIF playback resolution	24 bit / 96 kHz (max.)
USB playback & recording resolution	16 / 24 bit @ 32 /44.1 / 48 / 96 kHz
Frequency response	20 Hz – 20 kHz (± 0.5 dB)
Signal-to-noise	-95 dB (A-weighted) / line out (RCA)
Max. line output level	7.5 Vrms (THD <1 %)
Line output Impedance	100 Ω
Total harmonic distortion	Line input < 0.01 % Digital input < 0.05 %
Headphones output level	1 % THD @ 1 kHz (max.), 224 mW (32 Ω), 241 mW (56 Ω), 130 mW (300 Ω), 76 mW (600 Ω)
Operating voltage	15 V ⎓ / 0.4 A
Dimensions (W × H × D)	150 mm × 57mm × 141 mm
Weight	approx. 0.9 kg

For the transport and protective packaging, environmentally friendly materials have been chosen that can be supplied to normal recycling. Ensure that plastic bags, packaging, etc. are properly disposed of. Do not just dispose of these materials with your normal household waste, but make sure that they are collected for recycling. Please follow the notes and markings on the packaging.

This product is subject to the European Waste Electrical and Electronic Equipment Directive (WEEE) in its currently valid version. Do not dispose of your old device with your normal household waste. Dispose of this product through an approved waste disposal firm or through your local waste facility. Comply with the rules and regulations that apply in your country. If in doubt, consult your local waste disposal facility.