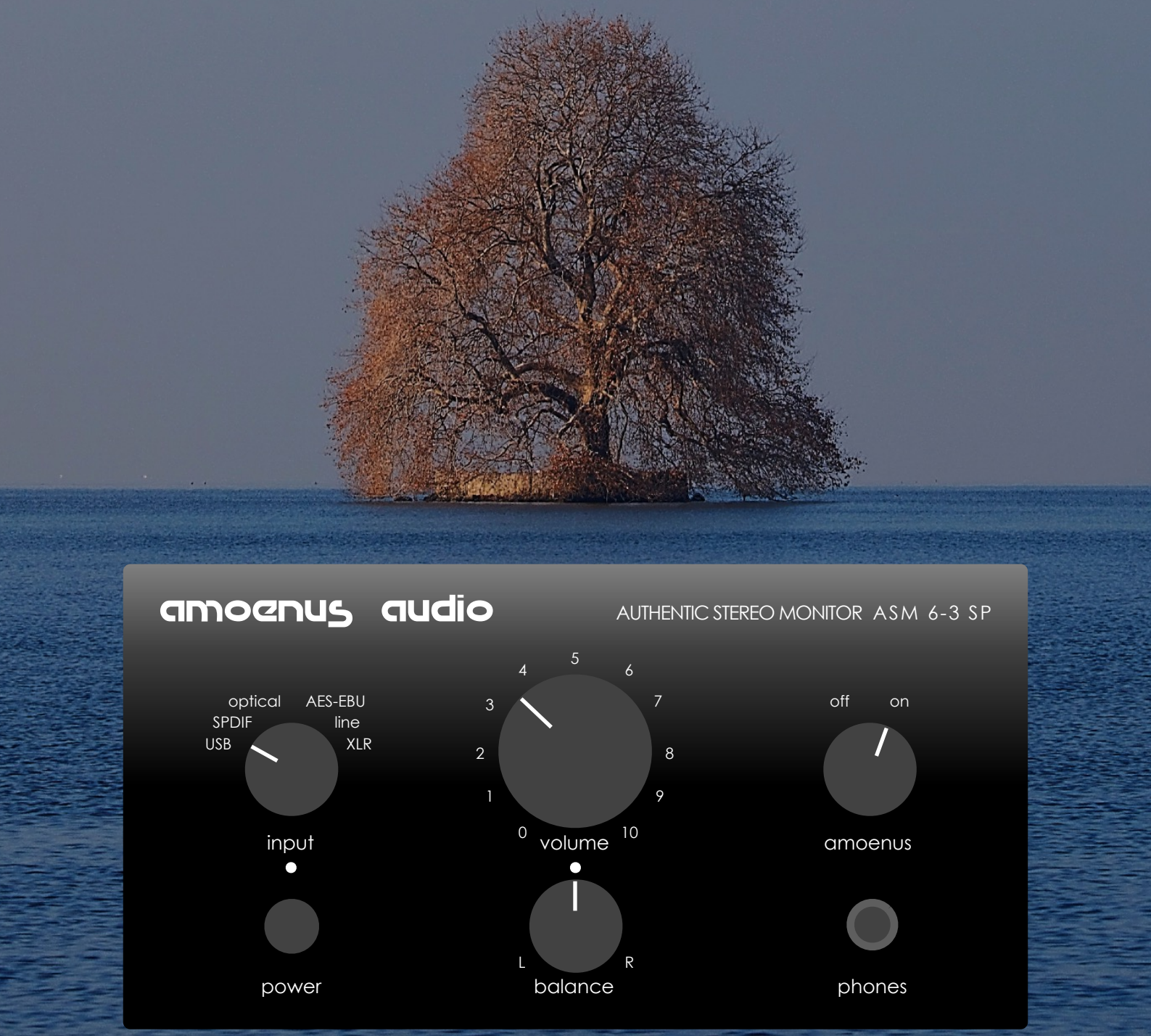
amoenus audio

AUTHENTIC STEREO MONITOR

ASM 6-3 SP



Manual ASM 6-3 SP

Foreword

The ASM 6-3 SP is a special device for playing stereophonic music. The two algorithms for an improved playback quality on speakers (**amoenus verus**) and headphones (**amoenus externus**) are unique and provide a natural and comfortable listening experience.

Despite an uncompromising audio quality the ASM 6-3 SP is quite small with a versatile but simple user interface.

This device was created out of true love for music. Therefore, I wish you many relaxing and enjoyable hours in the fascinating world of music.

Erich Meier
(founder and CEO of amoenus audio)

Actually, the operation of the ASM 6-3 SP is self-explanatory. Since there are some special features to be observed, please read this manual carefully before use.

Installation

For optimal operation and the best possible audio quality, use only the included power supply. It works with all common mains voltages (100 - 240 VAC, 50/60 Hz) and requires very little current (<0.075W) when the ASM 6-3 SP is switched off.
An internal voltage monitoring mutes the audio outputs at under-voltage (<10V) and over-voltage (>14V).

Due to the small dimensions of the ASM 6-3 SP, the device is very handy. This is very useful, especially for headphone playback.

Before you switch on the ASM 6-3 SP, all necessary inputs and outputs should be connected and the volume control must be turned to position “0”.

Inputs

USB

Connect the ASM 6-3 SP to a free USB port on your computer. Do not turn on the ASM 6-3 SP until the computer is completely started up.

Mac OS X 10.6 and later:
No special audio driver is required.
The ASM 6-3 SP is shown as "USB2-0 High-Speed True HD Audio" in the system settings "Sound" under "Output" and can be selected with a mouse click.
Further settings can be made in the program "Audio-MIDI-Setup".

Windows XP and later:
To playback high-resolution audio files (e.g. 96 kS/s or 192 kS/s) a special driver is required. For this, the computer must be connected to the Internet when the ASM 6-3 SP is connected for the first time. The System will load and install the required driver automatically.

SPDIF, optical, AES-EBU

These connectors support digital stereo signals with the appropriate format (see Technical Data ASM 6-3 SP).

If no digital signal is present or a foreign format can't be processed by the ASM 6-3 SP, the LED above the balance control flashes.

Line

Here you can connect an analogue source with line level.

XLR

This input is designed for a balanced, analogue signal with +4 dBu nominal level.

Outputs

The switching between loudspeaker (Line, XLR) and headphones is made by connecting and disconnecting the phones. Thereby the corresponding algorithms **amoenus verus** (loudspeaker) or **amoenus externus** (headphones) are activated.

Headphones

Before plugging in a headphone to the "phones" jack, turn the volume knob to position “0”.

When a headphone is connected, the Line and XLR outputs are muted.

The output has a very low impedance (0.13 Ω) and can damage headphones with an impedance <50 Ω (e.g. phones for mobile devices) at a high volume setting.

With **amoenus externus** the ASM 6-3 SP allows you to listen relaxed for a long period. Therefor you should adjust the volume to a rather low level, in order to prevent to harm your hearing.

The output is protected by a self-healing fuse against short circuit. However, you should avoid to insert a mono jack.

Line

The line output can be connected to an input of a HiFi system. The volume of the ASM 6-3 SP is bypassed. The volume has to be adjusted by the HiFi system.

XLR

This balanced output is for active speakers. The volume is adjusted with the volume control of the ASM 6-3 SP. The volume position “8” corresponds approximately to a 0 dB gain.

The outputs Line and XLR are always simultaneously active.

Input

The various audio sources are selected with the rotary switch.

Volume

The controller is located after the D/A converter and does not affect the dynamics and resolution of the digital signal processing in any way.

Balance

The center position is indicated by the LED above the controller.

In headphone mode, a channel is attenuated by a maximum of 10 dB. Thereby, possible differences in the ear-sensitivity can be compensated.

In loudspeaker mode, the maximum attenuation of a channel is 100 dB.

amoenus

The algorithm can be switched on and off.

amoenus verus

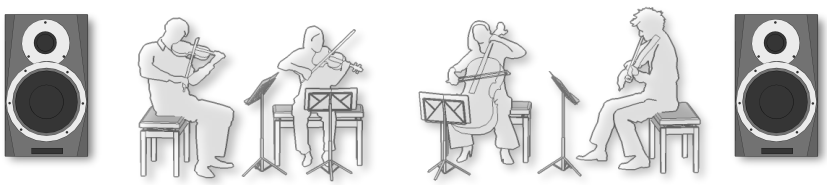
This algorithm is used for loudspeaker playback (line and XLR output).

The sound of an acoustic musical instrument is emitted over the entire area of the sound body.
Thus the different shares of the direct sound reach the ear of the listener not at the exact same time.

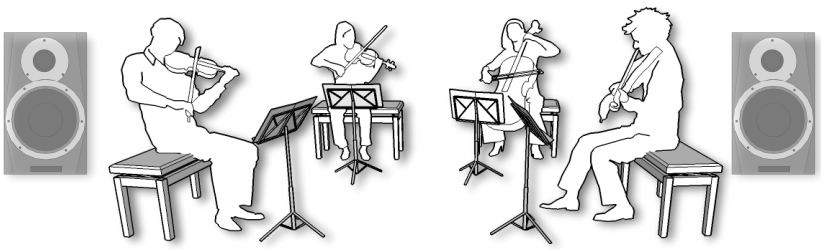
On the other hand the radiating surface of a speaker is very small. Especially in the higher frequency range, where the localisation of the ear is highly accurate, the sound is emitted virtually punctual.

The human hearing realise such differences very good.
Therefore in a blind-test it‘s quite easy to distinguish a live played instrument and the same one reproduced by a loudspeaker.
amoenus verus reconstructs the missing spatial image of the instrument and achieves amazing results:

- The sound image detach slightly from the speakers and appear three-dimensional.
- The instruments sound naturally (particularly such with a wide overtone spectrum).
- The stereo image appear tidy (better localisation of the sound sources).
- The virtual centre-channel gets the necessary presence.
- The “live“ feeling is increased.



without **amoenus verus**



with **amoenus verus**

amoenus externus

This algorithm is used for headphone playback.

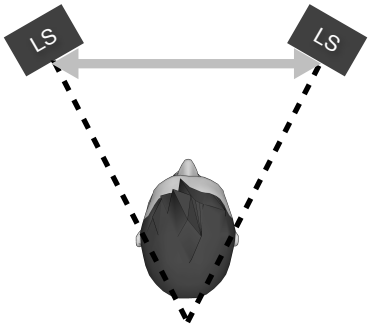
When you are listening to stereo music with headphones (as opposed to loudspeakers) you may observe several sonic degradations:

- The stereo field is stretched to an angle of 180°, as if you were sitting just in-between the speakers (also known as “in-head localisation").
- Because of the 90 ° position of the sound source, the music is perceived with a wrong tone colour.
- There‘s no depth in the sound. All sonic sources seem to be lined up between your ears and it‘s difficult to localise their position in the stereo field.

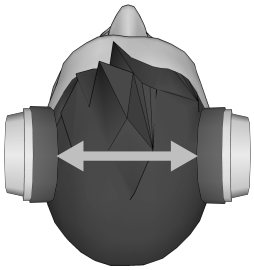
The result is an unnatural listening experience and may cause a phenomenon called “Headphone fatigue“.

The reason for this problem is quite simple:
By far the largest share of music is made (mixed) for playback on loudspeakers ideally arranged in a 60° triangle to the listener to get the most accurate sound reproduction.

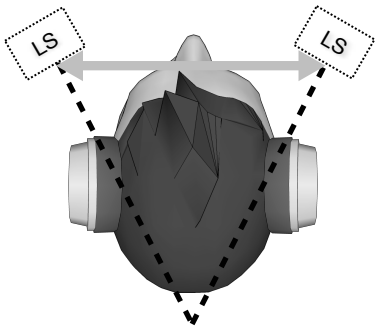
In order to achieve the original listening experience on headphones the sound of loudspeakers in a 60° triangle array has to be simulated on the phones.



ideal 60° stereo triangle listening position



listening with headphones

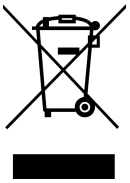


listening with headphones and amoenus externus

CE Declaration

The ASM 6-3 SP complies with all requirements and relevant directives of the European Union.

Recycling information



This electronic device must not be deposed of with haushold waste. Consumers are obligated by law to return it at the end of it's service live to the public collecting points set up for this purpose or point of sale. Details are defined by the national law of the respective country.

Important Notes

To prevent hearing loss, do not listen for a long period with high volume, especially when using headphones.

Use the ASM 6-3 SP only in a dry environment.
Clean the surface with a dry or slightly wet cloth and do not use any aggressive detergents.

amoenus audio assumes no liability for misuse of the ASM 6-3 SP.

Warranty

amoenus audio grants a product guarantee of 2 years.

Support

If you have any questions or problems, please contact support:
www.amoenus-audio.ch

Technical Data ASM 6-3 SP

Digital Input

USB:	USB Type B (female)
SPDIF:	Cinch (female) 0.5 - 2.1 Vpp @ 75 Ω
optical:	TOSLINK (female)
AES-EBU:	XLR (female) 0.25 - 8.5 Vpp @ 110 Ω
Sample Rate:	44.1 - 192 kS/s
Internal Data Format:	88.2 kS/s, 24 Bits

Line Input

Connector:	Cinch, unbalanced (female)
Impedance:	~5.3 kΩ
Max. Input Level:	+8 dBu
Frequency Range:	15 Hz - 30 kHz (< -1 dB)
Linearity:	30 Hz - 22 kHz (< ±0.2 dB)

XLR Input

Connector:	XLR, balanced (female)
Impedance:	~13 kΩ
Max. Input Level:	+15 dBu
Frequency Range:	10 Hz - 30 kHz (< -1 dB)
Linearity:	30 Hz - 22 kHz (< ±0.2 dB)

Headphone Output (amoenus off)

Connector:	6.35 mm TRS (female)
Impedance @ 1 kHz:	0.13 Ω
Max. Output Power @ 10 Ω:	2.3 W
Frequency Range:	10 Hz - 35 kHz (< -1 dB)
Linearity:	10 Hz - 25 kHz (< ±0.2 dB)
THD&N (unweighted):	< 0.005 %
Crosstalk @ 1 kHz:	< -85 dB
Noise unweighted (Vol. 8):	< -120 dB
Noise unweighted (Vol. 10):	< -105 dB

Line Output (amoenus off)

Connector:	Cinch unbalanced (female)
Impedance @ 1 kHz:	~54 Ω
Max. Output Level:	+ 8 dBu
Frequency Range:	10 Hz - 35 kHz (< -1 dB)
Linearity:	20 Hz - 25 kHz (< ±0.2 dB)
THD&N (unweighted):	< 0.01 %
Crosstalk @ 1 kHz:	< -85 dB
Noise (unweighted):	< -120 dB

XLR Output (amoenus off)

Connector:	XLR balanced (male)
Impedance @ 1 kHz:	~160 Ω
Max. Output Level @ 600 Ω:	+ 23 dBu
Frequency Range:	10 Hz - 35 kHz (< -1 dB)
Linearity:	20 Hz - 25 kHz (< ±0.2 dB)
THD&N (unweighted):	< 0.005 %
Crosstalk @ 1 kHz:	< -90 dB
Noise unweighted (Vol. 8):	< -125 dB
Noise unweighted (Vol. 10):	< -110 dB

Power Supply (GST40A)

AC Connector:	3 pole IEC320-C14
Input Voltage:	90 - 264 VAC (47 .. 64 Hz)
Efficiency (Typ.):	89.5 %
DC Connector:	P1J (2.1ø, 5.5ø, 12 mm)
Output Voltage:	12VDC / 3.34A
No load power consumption:	< 0.075 W
Dimension:	125 x 50 x 31.5 mm (L x W x H)
Weight:	280 g

Mechanical specifications

Dimension (incl. feet):	165 x 92 x 190 mm (W x H x D)
Weight (unit):	1.68 kg
Weight (shipping):	2.75 kg

Environment

Working Temperature:	0 - +45 °C
Storage Temperature:	-40 - +85 °C (10 - 95 % RH)


amoenus-audio.ch