

Phonitor 3 DAC

Headphone amplifier, monitoring controller
and DAC with 120V technologie



Manual

More information: spl.audio



Getting started

Read the safety instructions starting on page 11.

Make sure that the mains voltage of the Phonitor 3 DAC corresponds to the voltage of your region and that the fuse has the correct value for the selected voltage (see specifications on page 8.)

The power switch on the back of the Phonitor 3 DAC must be in the off position. (Off = 0 / On = I).

Connect the supplied power cord to the power connector of the Phonitor 3 DAC and to a power outlet.

If the supplied power cord does not match your mains socket outlet, please contact your dealer.

The devices that are to be connected to the Phonitor 3 DAC must be switched off.

Connect the outputs of your analog sources to the analog inputs of the Phonitor 3 DAC. Please use appropriate audio cables (XLR).

Audio cables not included in the scope of delivery.

Connect the outputs of your digital sources (e.g. Mac or PC, CD player) to the digital inputs of the Phonitor 3 DAC using appropriate digital audio cables (USB, S/PDIF coaxial, S/PDIF optical, AES/EBU).

Digital audio cables not included in the scope of delivery.

For operation on Windows® computers, please download and install the latest driver from the [spl.audio](#) page under the “Driver” section. Since the USB port is Apple Class 2 compliant, Macs, iPhones and iPads do not require additional drivers.

Connect audio cables between the Phonitor 3 DAC and following amplifiers or active monitors (XLR).

Audio cables not included in the scope of delivery.

Connect headphones to the headphone outputs of the Phonitor 3 DAC.



Warning: Never connect a mono jack to the stereo headphone jack and make sure that the plug is fully inserted, otherwise a short circuit might damage the amplifiers.

Power on

Switch on the power switch on the rear panel of the Phonitor 3 DAC (On = I).

The VU meters light up.

Power off

Switch off the power switch on the rear panel of the Phonitor 3 DAC (Off = 0).

The VU meters no longer light up.

Source selection



Use the Source switch to select an analog or digital input source.

Phonitor Matrix settings



With the Matrix switch you can activate the Phonitor Matrix – with the Center function (All) or without (Cr/A). In the Off position, the Phonitor Matrix is deactivated.

The Phonitor Matrix creates a speaker-like listening experience on headphones, by mixing the left and right signals, each delayed (interaural time difference) and attenuated (interaural level difference), to the corresponding opposite side.

Crossfeed



With the Crossfeed switch you can adjust the interaural level difference. The level difference is comparable to the influence of different room sizes and their reflection and absorption characteristics. The interaural level difference is frequency-corrected because the sound is reflected and absorbed by the head in a non-linear fashion.

Angle



With the Angle switch you adjust the interaural time difference which is related to the placement of the speakers. The interaural time difference is frequency-corrected because the sound is reflected and absorbed by the head in a non-linear fashion.



Center



When activated (Matrix switch = All) you control the intensity of the center signal with the Center switch. If the stereo width is narrowed through changes in Crossfeed and Angle (so as to correspond to your actual loudspeaker setup), the phantom center may likely sound too intense while mixing on headphones. You normally would counteract by lowering the center signals in the mix. However, listening to that mix on loudspeakers the phantom center appears to quiet.

Attenuating the center allows the center signal to be adjusted back to the appropriate ratio of volume in relation to the stereo signal when mixing on headphones, so that the phantom center gains the correct volume in relation to the stereo signal during speaker playback.

Mono/Stereo



By using the Stereo switch you can switch the audio signal to Stereo, Stereo with Laterality control and Mono. In Mono mode, both stereo channels are summed.

The mono signal maintains the same loudness, because both stereo channels are each reduced by 6 dB.

Solo



With the Solo switch you can monitor the left or right channel of the stereo signal individually. In Off position you hear the stereo signal. Set the Solo switch in position L to hear only the left channel and in position R to hear only the right channel.

With Solo activated you hear the selected channel only on the respective side – this is called “Solo-in-Place”. However, if you like to hear the selected channel on both sides set the stereo switch to mono. This allows you to immediately detect, for example, whether the mid and high frequencies are similar.

Phase Ø



With the phase inversion switch the phase of the left or right channel can be inverted (180°).

TIP: By using the mono/stereo and L/R phase inversion switch in combination, it is also possible to only monitor the center or side signal (M/S). When the switch is set to “Mono” and phase inversion is active for L (or R), only the side signal is played back. If the phase inversion is switched off, the mono signal corresponding to the “M” signal is played back.

Laterality



Laterality refers to the deviation of sound perception to either side of the ears. With the Laterality control you can compensate perceived volume differences between channels that may be due to a hearing impairment. This control differs from conventional balance controls. If one channel is attenuated, the other one is increased at the same time. This means that, e.g. when hard left, the level of the left channel increases by 2.25 dB while the right channel is attenuated by 2.25 dB. This control has a narrower range than conventional balance controls. Its resolution is very fine, which means it can be precisely adjusted.



Set the Stereo switch to Laterality to control the laterality.

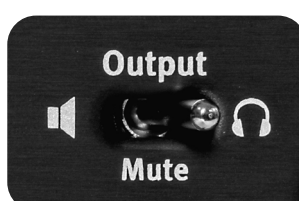
L/R Swap



This function inverts the stereo image. Left becomes right and right becomes left.

This is especially important and extremely time-saving, when you are monitoring samples in video dubbing that should match a scene with direction of movement. If the direction is not correct, you usually have to load the sample into the DAW to switch channels. Before you can judge whether the sample matches the image. With the L/R Swap function, this is no longer necessary. You can now adjust the direction of movement on the Phonitor 3 DAC while pre-listening the sample library.

Output selection



The Output switch allows you to route the selected source signal to the desired output – headphones or speakers (XLR audio outputs on the rear panel).

In the center position (Mute), no signal reaches the outputs.
The VU meters light up red.



VU Meters

The VU meters display the input levels for the selected source. The meter indicates levels from -20 dB to +5 dB.

0 dB corresponds to +4 dBu.

The ballistics of the VU meters guarantee an optimal visual perception. The time calibration of the VU meters complies with the requirements of the BBC.

The rise time up to 0 dB is about 300 ms.

VU Cal



With the VU Cal switch you can lower the sensitivity of the VU meters by 6 dB or 12 dB. This way the display range can be adapted to higher input levels.



DIP switch

With the DIP switches on the rear of the device, the following basic settings can be chosen:

DIP switch 1: ON = Headphone output is increased by +12 dB.

DIP switch 2: ON = Preamp Out with Phonitor Matrix

The Phonitor Matrix is activated for the XLR outputs Preamp Out.

DIP switch 3: ON = Preamp Out becomes Direct Out (without volume control)

The selected input signal is fed to the XLR output without changing the volume or other parameters (except phase inversion).

DIP switch 4: ON = Direct Out with Phonitor Matrix

The Phonitor Matrix is activated for the Direct Out XLR outputs.

Specifications

Analog inputs & outputs; XLR (balanced)

Maximaler Ein- und Ausgangspegel	32.5 dBu
Input impedance (XLR)	22 k Ω
Output impedance (XLR)	75 k Ω
Common mode rejection (1 kHz)	-82 dB
Frequency range	10 Hz – 100 kHz
THD + N (0 dBu, 1 kHz)	0.0009 %
Noise (A-weighted)	-102 dBu
Crosstalk (1 kHz)	-95 dB
Dynamic range	134.5 dB

Digital inputs: DAC768 (optional)

AES/EBU (XLR), PCM sample rate:	44,1/48/88.2/96/176.4/192 kHz
Coaxial SPDIF (Cinch), PCM sample rate:	44,1/48/88.2/96/176.4/192 kHz
Optic SPDIF (Toslink F06), PCM sample rate:	44,1/48/88.2/96/mit Glasfaser < 1m: 176.4/192 kHz
USB (B), PCM sample rate:	44,1/48/88.2/96/176.4/192/352.8/384/705.6/768 kHz
USB (B), DSD over PCM (DoP), sample rate:	2.8 (DSD64), 5.6 (DSD128), 11.2 (DSD256) MHz
0 dBfs calibrated to	15 dBu

Standard Headphones Output, 6.35 mm (1/4") TRS Jack

Wiring	Spitze = links, Ring = rechts, Schaft = GND
Source impedance	0.18 Ω
Damping factor (40 Ω)	180
Frequency range	10 Hz – 100 kHz
Crosstalk (1 kHz)	-91 dB
THD + N (1 kHz, 0 dBu)	0.0003 %
Noise (A-weighted)	-102 dBu
Output power (1 kHz, 1% THD, 250 Ω)	2 x 5 W
Output power (1 kHz, 1% THD, 32 Ω)	2 x 1 W
Dynamic range	134.5 dB

Internal Linear Power Supply with Shielded Toroidal Transformer

Operating voltage for analog audio	+/- 60 V
Operating voltage for relays and LEDs	+ 12 V

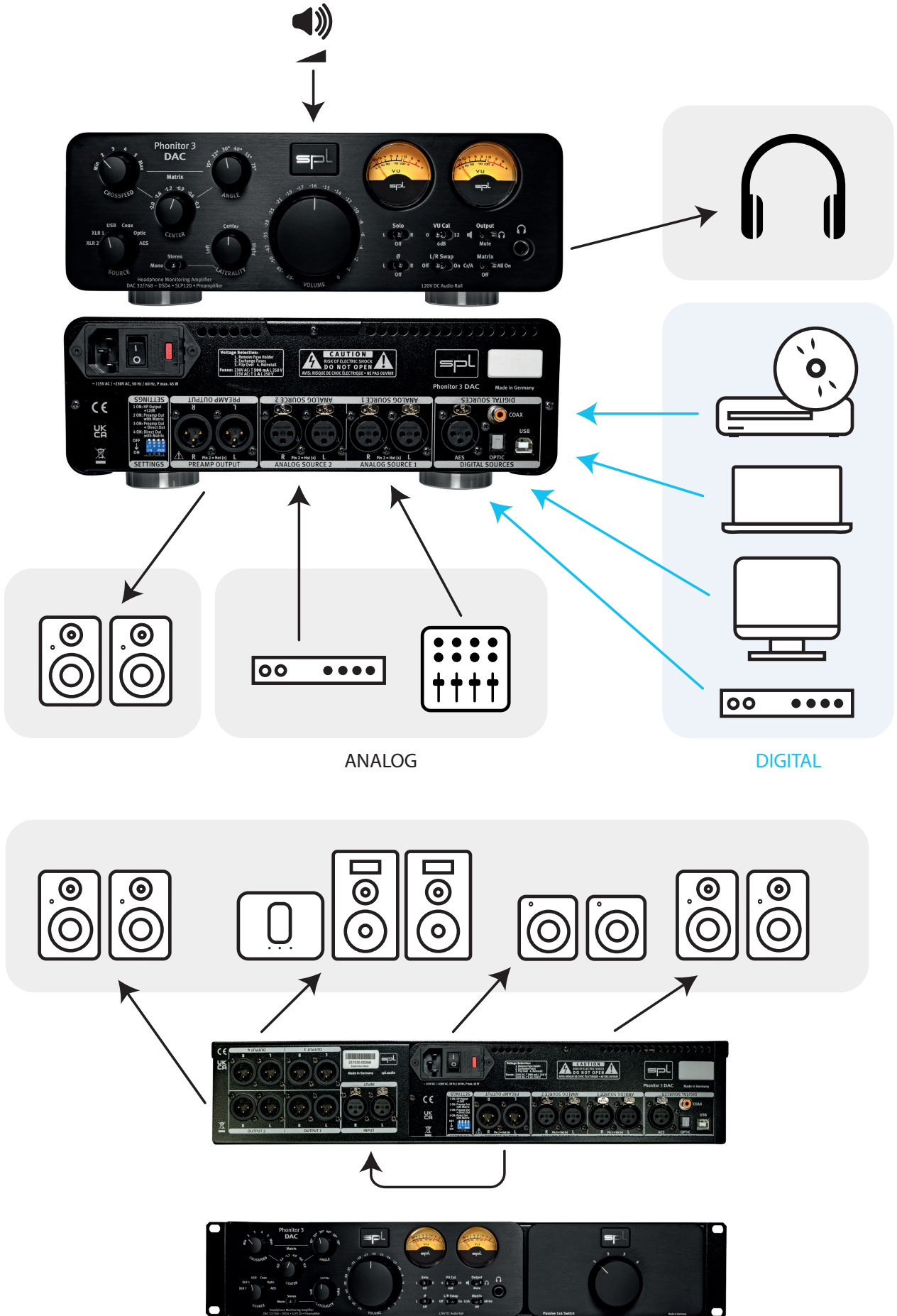
Mains Power Supply

Mains voltage (selectable, see fuse chamber)	230 V AC / 50; 115 V AC / 60 Hz
Fuse for 230 V	T 0.5 A
Fuse for 115 V	T 1 A
Power consumption	max. 40 VA

Dimensions & Weight

W x H x D (width x height incl. feet x depth)	278 x 100 x 300 mm
	11 x 4 x 11.78 inch
Unit weight	4.15 kg
	9.15 lbs
Shipping weight (incl. packaging)	5.5 kg
	11.9 lbs

Reference: 0 dBu = 0.775V. All specifications are subject to change without notice.



Security Advices

Before starting up the device:

- Read thoroughly and follow the security advices.
- Read thoroughly and follow the Quickstart.
- Observe all warning instructions on the device.
- Please keep the user manual as well as the security advices in a safe place for future reference.



Warning

Always follow the security advices listed below to avoid serious injuries or even deadly accidents due to electric shocks, short circuit, fire or other dangers. The following are examples of such risks and do not represent an exhaustive list:

Power supply/Power cord

Do not place the power cord near heat sources such as heaters or radiators and do not excessively bend or otherwise damage the cord, do not place heavy objects on it, or place it in a position where anyone could walk on, trip over, or roll anything over it.

Only use the voltage indicated on the device.

Only use the supplied power cord/plug.

If you intend to use the device in an area other than in the one you purchased it, the included power cord may not be compatible. In this case please contact your dealer.

Be sure to connect the device to an appropriate mains socket outlet with a protective grounding connection. Improper grounding can cause electrical shock.

Do not open

This device contains no user-serviceable parts. Do not open the device or attempt to disassemble the internal parts or modify them in any way. If it should appear to be malfunctioning, turn off the power immediately, unplug the power cord from the mains socket outlet and have it inspected by a qualified professional.

Water warning

Do not expose the device to rain, or use it near water or in damp or wet conditions, or place anything on it (such as vases, bottles or glasses) containing liquids which might spill into any openings. If any liquid such as water seeps into the device, turn off the power immediately and unplug the power cord from the mains socket outlet. Then have the device inspected by a qualified professional.

Never insert or remove an electric plug with wet hands.

Fire warning

Do not put burning items, such as candles, on the unit. A burning item may fall over and cause a fire.

Lightning

Before thunderstorms or other severe weather, disconnect the device from the mains socket outlet; do not do this during a storm in order to avoid life threatening lightning strikes. Similarly, disconnect all the power connections of other devices, antenna and phone/network cables which may be interconnected so that no damage results from such secondary connections.

If you notice any abnormality

When one of the following problems occur, immediately turn off the power switch and disconnect the electric plug from the mains socket outlet. Then have the device inspected by a qualified professional.

- The power cord or plug gets frayed or damaged.
- The device emits unusual smells or smoke.
- An object has fallen into the unit.
- There is a sudden loss of sound during the use of the the device.



Caution

Always follow the basic precautions listed below to avoid the possibility of physical injury to you or others, or damage to the device or other property. These precautions include, but are not limited to, the following:

Power supply/Power cord

When removing the electric plug from the device or an mains socket outlet, always pull on the plug itself and not the cord. Pulling the cord may damage it. Unplug the device from the mains socket outlet when the device is not used for a while.

Location

Do not place the device in an unstable position where it might accidentally fall over.

Do not block the vents. This device has ventilation holes to prevent the internal temperature from rising too high. In particular, do not place the device on its side or upside down. Inadequate ventilation can result in overheating, possibly causing damage to the device or even fire.

Do not place the device in a location where it may come into contact with corrosive gases or salty air. This may result in malfunction.

Before moving the device, remove all connected cables. When setting up the device, make sure that the mains socket outlet you are using is easily accessible. If some trouble or malfunction occurs, immediately turn off the power switch and disconnect the plug from the mains socket outlet. Even when the power switch is turned off, electricity is still flowing to the product at a minimum rate. When you are not using the device for a long time, make sure to unplug the power cord from the wall mains socket outlet.



Connections

Before connecting the device to other devices, power down all devices. Before power on or off the devices, set all volume levels to minimum.

Only use appropriate cables to connect the device with other devices. Make sure that the cables you use are intact and comply with the electrical specifications of the connection. Other connections can lead to health risks and damage the equipment.

Handling

Operate the controls and switches only as described in the manual. Incorrect adjustments outside safe parameters can lead to damage. Never use excessive force on the switches or controls.

Do not insert your fingers or hands in any gaps or openings of the device.

Avoid inserting or dropping foreign objects (paper, plastic, metal, etc.) into any gaps or openings of the device. If this happens, power down immediately and unplug the power cord from the mains socket outlet. Then have the device inspected by a qualified professional.

Do not expose the device to excessive dust or vibrations or extreme cold or heat (such as direct sunlight, near a heater or in a car during the day) to prevent the possibility of causing damage to the housing, the internal components or unstable operation.

If the ambient temperature of the device suddenly changes, condensation can occur (if for example the device is relocated or is affected by a heater or air conditioning).

Using the device while condensation is present may result in malfunction. Do not power on the device for a few hours until the condensation is gone. Only then it is safe to power on.

Cleaning

Disconnect the device from your mains socket outlet before cleaning.

Do not use any solvents, as these can damage the chassis finish. Use a dry cloth, if necessary, with an acid-free cleaning oil.

Disclaimer

Windows® is a registered trademark of Microsoft® Corporation in the United States and other countries. Apple, Mac and Macintosh are trademarks of Apple Inc., registered in the U.S. and other countries.

The company names and product names in this manual are the trademarks or registered trademarks of their respective companies.

SPL and the SPL Logo are registered trademarks of SPL electronics GmbH.

SPL cannot be held responsible for damage caused by improper use or modification of the device or data that is lost or destroyed.

Notes on Environmental Protection



At the end of its operating life, this product must not be disposed with regular household waste but must be returned to a collection point for the recycling of electrical and electronic equipment.

The wheeled bin symbol on the product, user manual and packaging indicates that.

For proper treatment, recovery and recycling of old products, please take them to applicable collection points in accordance with your national legislation and the Directives 2012/19/EU.

The materials can be reused in accordance with their markings. Through reuse, recycling of raw materials, or other forms of recycling of old products, you are making an important contribution to the protection of our environment.

Your local administrative office can advise you of the responsible waste disposal point.

This directive only applies to countries inside the EU.

If you wish to discard devices outside the EU, please contact your local authorities or dealer and ask for the correct method of disposal.

WEEE-Reg-No.: 973 349 88