Venos

Stereo Bus Compressor

Manual

Version 1.0

Index

Version 1.0 – 2025/12

Developer: Wolfgang Neumann

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 and user manual by SPL electronics GmbH.

The design and circuitry are under continuous development and improvement. Technical specifications are subject to change.

Package Contents

Venos Stereo Bus Compressor

Power cord

Manual

The Venos Stereo Bus Compressor is available in two different colors.

Black: Model 2000

Red: Model 2004

Do consider keeping the original packaging. It can come in very useful whenever you need to transport your gear. If there is ever the need to send it in for repair, the original packaging guarantees a safe shipment.

The SPL Venos Stereo Bus Compressor was developed and manufactured in Germany.

Operating Principles of a Compressor

The basic operating principles of a compressor/limiter can be easily explained.

The level of an audio signal is reduced according to the specified Attack time and Ratio whenever it exceeds a given threshold. This reduction ceases when the Release time elapses, while the compressed signal is amplified with the Make-Up Gain.

Compressors basically differ from each other in the technology used. This technology – tubes, opto, FET, or VCA – is what gives a compressor its particular character. Some units sound soft and silky, some sound pounding, while some others make sound fatter, and there are those that make sound clearer, harder or more percussive. The trick resides in how the unit is technically designed, in the signature of the maker. Different compressors with the exact same settings might work and sound completely different. They provide different sounds for different applications and music styles.

Venos Stereo Bus Compressor

Adding size, depth and impact to a stereo signal has never been easier. The Venos stereo bus compressor is based on the same design as many legendary vintage tube compressors. Venos expands this impressive sonic signature with two revolutionary hyper-compression modes, opening up new dimensions of sound. With SPL 120V technology this sound is crowned to king of dynamics.

The News

The Venos stereo bus compressor is basically a variable bias tube compressor. Venos works on the principle of a bias-controlled remote cutoff tube, but expands the sonic versatility of this concept with the new hyper-compression modes “Focus” and “Punch”.

Great Sound in a blink

Once the ideal input level is dialed in, comparing diff erent parameter settings works like a charm. The parameters have been fine-tuned in countless listening sessions to make the compressor intuitive to use. All parameters are set using switches or detented potentiometers. A single control element manages both, the left and right channel, allowing for easy recall!

Installation

First Steps

Read the safety instructions starting on page 19. Make sure that the mains voltage of the Venos corresponds to the voltage of your region and that the fuse has the correct value for the selected voltage (see specifications on page 18). The power switch on the back of Venos must be in the off position. (Off = O / On = I). Connect the supplied power cord to the power connector of Venos 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 Venos must be be switched off . Connect your devices with appropriate audio cables (XLR) to the inputs and outputs of Venos.

Audio cables not included in the scope of delivery.

Power On

Switch on the power switch on the rear panel of the Venos (On = I).

The illumination in the VU meter lights up.

Power Off

Switch off the power switch on the rear panel of the Venos (On = I).

The illumination in the VU meter no longer lights up.

Ground Lift switch to avoid ground loops

On the rear panel of the Venos (see details on page 9) is also a “GND LIFT” (Ground Lift) switch to avoid any ground loops. Ground loops take place when gear connected in the same network have different potentials.

The GND LIFT switch disconnects the equipment ground from the service ground to avoid such problems. The Ground Lift function is activated (= equipment ground disconnected) when the switch is depressed.

Tube Warm-Up

Venos includes tubes in the signal path. We recommend to have a warm up period for the the tubes of around 30 minutes. The sound and compression characteristics of Venos might change a little bit especially within the first 15 minutes after powering the device on.

Where to start

The operation of the Venos strongly depends on the input signal. Normally the following start values are a good starting point:

Attack: Position 2 or 3 (clockwise from “fast”)

Release: Position 1 or 2 (clockwise from “fast”)

Rectifier: LED

Mode: Linear

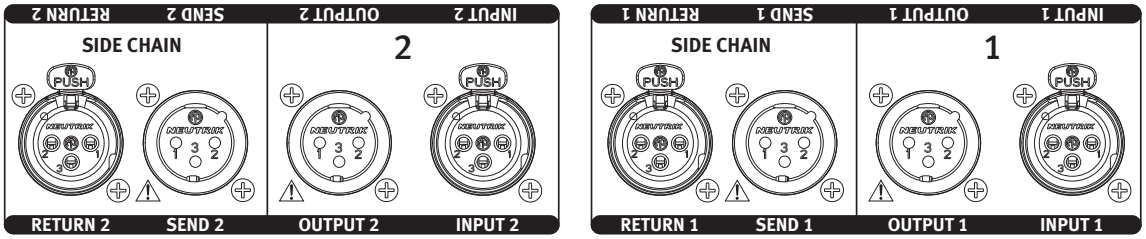
Tube Bias: 20

Threshold: 20

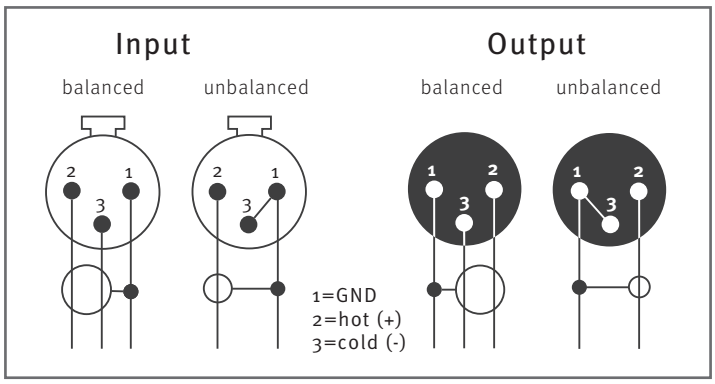
Cabling: Rear Side

XLR inputs and outputs

We used exclusively Switchcraft/Neutrik XLR input and output plugs and jacks to guarantee perfect connectivity in the studio. These plugs and jacks provide an optimal connection thanks to their electromechanical design and large contact surface.



The image shows the XLR connectors pinout. They are balanced and have three conductors or wires. Conductor 2 (Pin 2) corresponds to the (+) or hot Signal.



The signal transmission is electronically balanced.

In case an unbalanced connection is necessary, the correct polarity of the conductors needs to be observed.

Cabling: Rear Side

1 Input

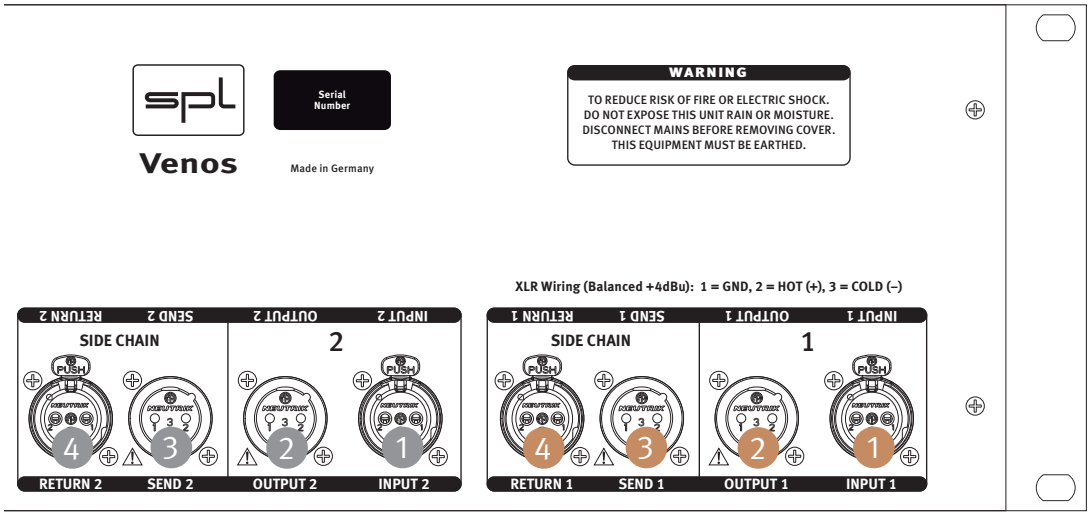
2 Output

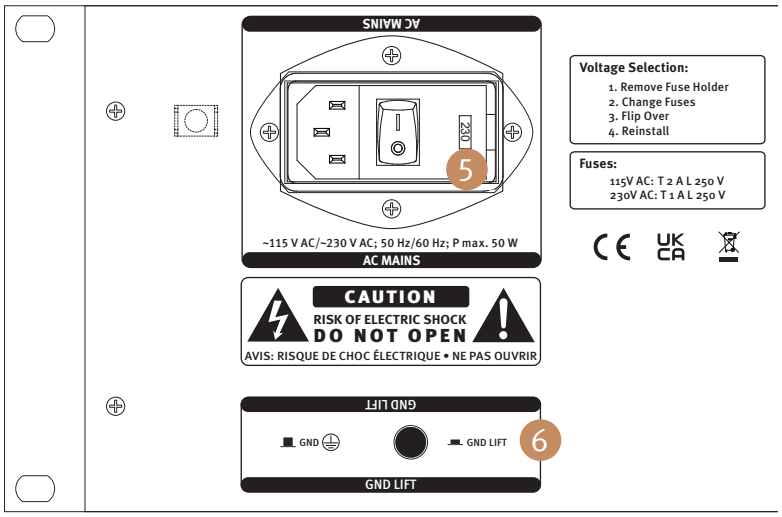
3 Side-chain Insert Send

4 Side-chain Insert Return

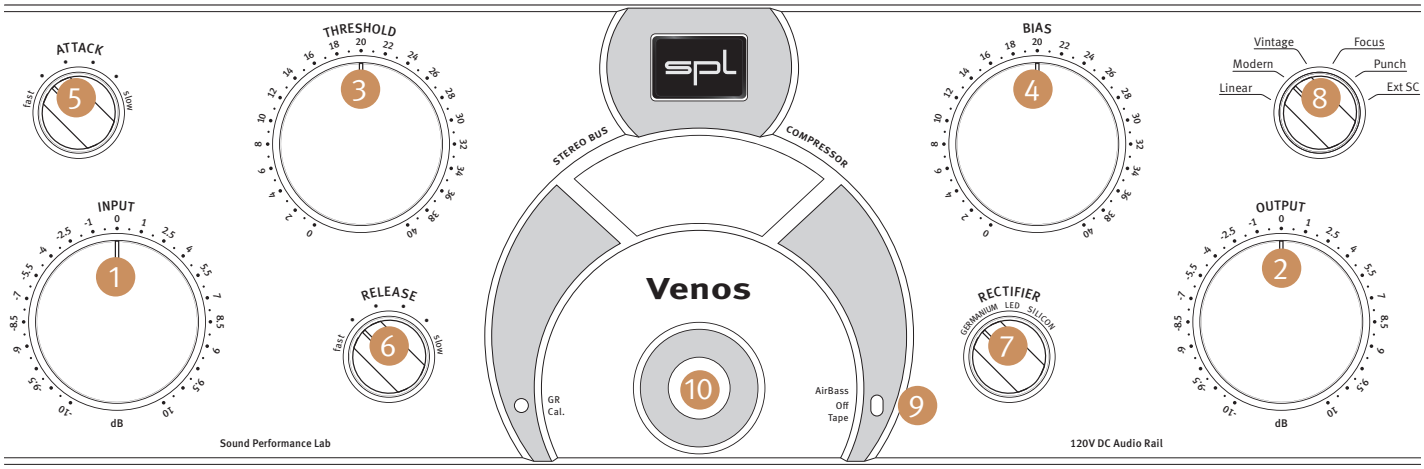
5 Voltage

6 Ground Lift





Control Elements



1 Input

2 Output

3 Threshold

4 Tube Bias

5 Attack

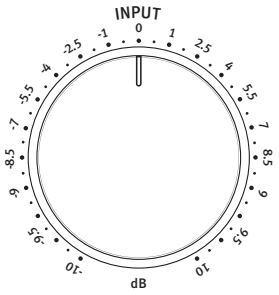
6 Release

7 Rectifier

8 Modes

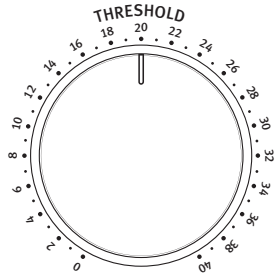
9 AirBass / Bypass / Tape Roll-Off

10 Active switch



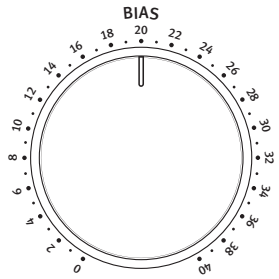
Input

The input level is adjusted via a detented potentiometer in 41 steps, within a control range of +/- 10 dB.Increasing the input level results in more intense compression.



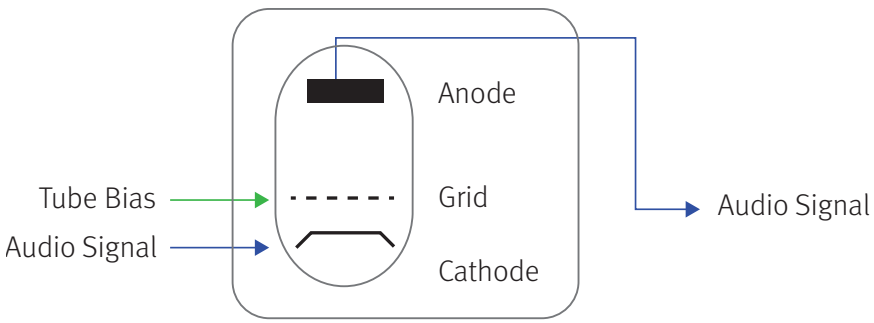
Threshold

Threshold determines the level beyond which the compressor starts with processing. The compressor begins to compress the signal once the set threshold value has been exceeded. The Threshold parameter of the Venos can be adjusted in 41 steps with the detent potentiometer.



Bias

The tube bias can also be adjusted in 41 steps using a detented potentiometer. The bias of a tube is the voltage present on the tube‘s grid. The higher the voltage, the less signal makes it from the cathode to the anode of the tube, which means the compression is stronger. The modulation of the bias is the sum of the Input, Threshold, Rectifier, Mode, Attack, and Release parameters.



Control Elements

Attack

Attack determines the response time of the compressor. Put simply, it is the time that the compressor needs to respond once a signal is above the threshold. It indicates how long it takes the compressor to perform 63% of its work. The Attack time can be adjusted in six steps, from Fast to Slow.

Medium Attack times
To get an inconspicuous compression, set a middle-of-the-road Attack time and then reduce it carefully until you can hear some distortion.
Right at that moment you should go back a bit and you will have reached an ideal compromise.

Longer Attack times
If you want to use the compressor to shape sound and to highlight the attack phase of an instrument, you should use longer attack times.

Long Attack times and short Release times
The use of extremely long Attack times and shorter Release times is called Leveling, because the compressor then hardly reacts to to any level changes and always keeps the signal at the same level. That way, short dynamic changes in the music are not affected, only long-term volume variations are processed.

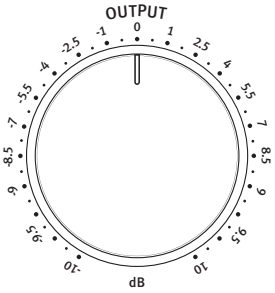
Release

The counterpart of the Attack is Release. The Release parameter determines how fast the compressor eases processing the signal.
To be precise, it determines the time in which 63% of the reduced gain is restored. Similarly to the Attack time, the Release time can also be set in six steps from Fast to Slow. Likewise, exact Release time settings are not possible. Once again, there are no constant values, since the Release time depends on the rest of the parameters, too.

Although the Attack and Release times can be considered fixed intervals, the control-time behavior and operating mode of the tubes is very different depending on the music. That is why these values should not be considered absolute values.

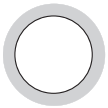
Rectifier

The tube stage in the Venos is controlled by a rectifier circuit.
Venos offers three different diode control characteristics, generated by germanium, silicon, and LED diodes. The rectifier circuits influence the attack and release times.



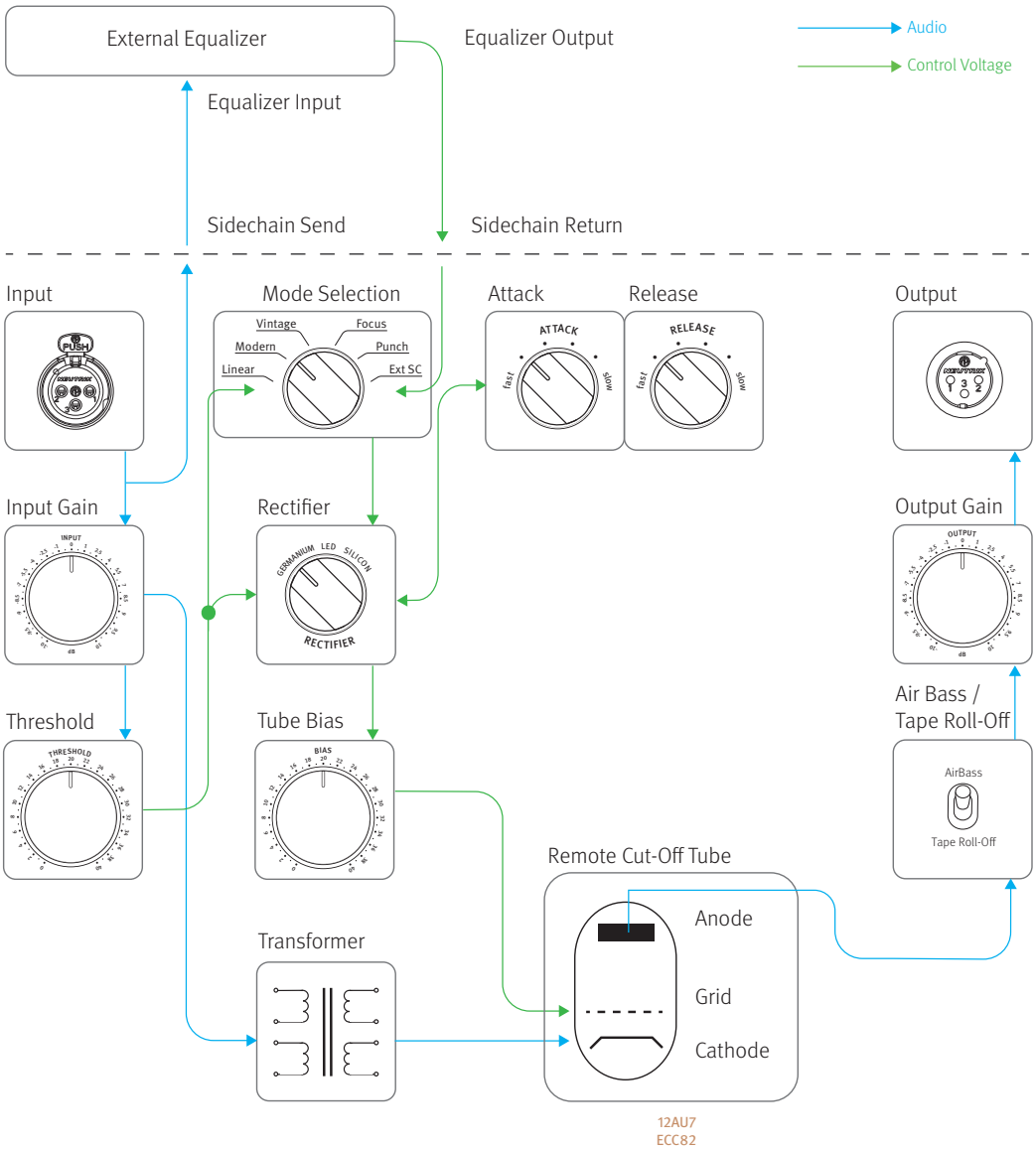
Output

The output level can be adjusted in 41 steps within a control range of +/- 10 dB using a detented potentiometer. This allows the audio level to be increased again after compression or the output level to be adjusted to subsequent devices.



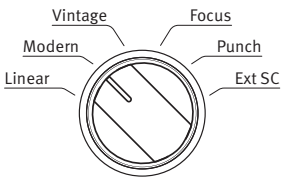
Active

Pressing the big, round Active switch turns on the Venos Stereo Bus Compressor (switch lights up).



Control Elements

Modes

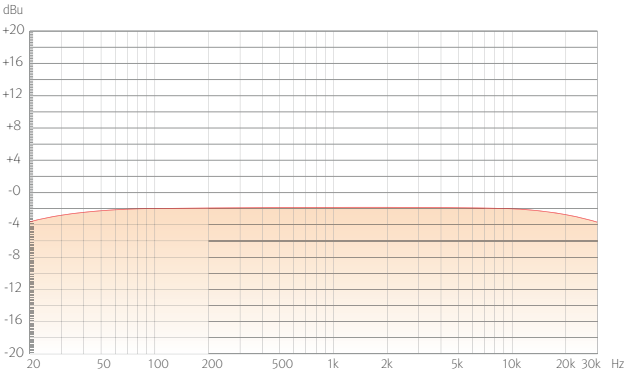


The modes change the behavior of the compressor in regard to the input signal. The first three off er various analog filters (side-chain filters) in the signal path (not in the audio signal), enabling frequency-selective compression.

Focus and Punch are innovative hyper-compression modes. The last mode activates an insert in the signal path, allowing the control signal to be influenced by external devices or signals.

Linear

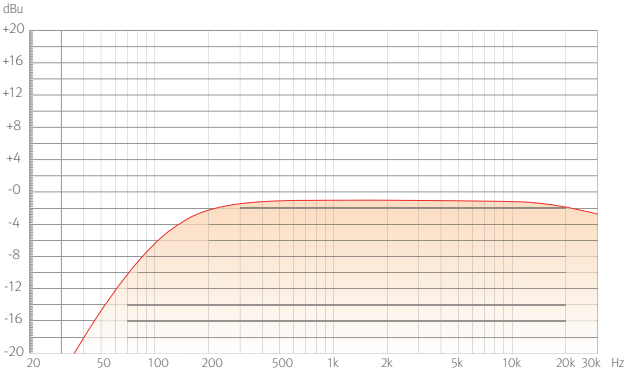
If the first mode (Linear) is selected, only one capacitor is integrated in the signal path to filter out frequencies below 20 Hz. Consequently, the compressor does not respond to these low-frequency signals.



Linear

Modern

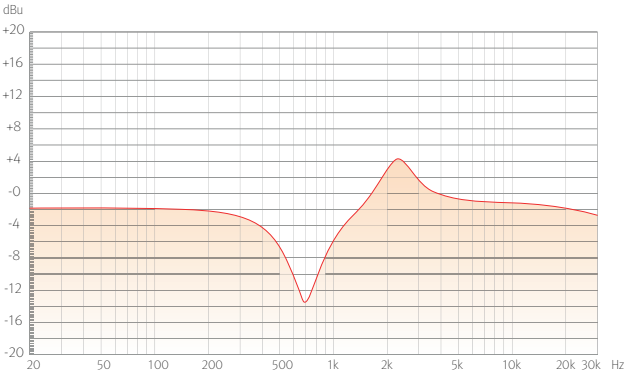
The second mode (Modern) integrates an analog bandpass filter into the signal path. According to the filter, the compressor does not respond to low and particularly high frequencies in the signal. This type of sidechain filter is often used in modern music mixes.



Modern

Vintage

The third mode (Vintage) integrates an analog filter into the signal path with a filter curve empirically created by developer Wolfgang Neumann.

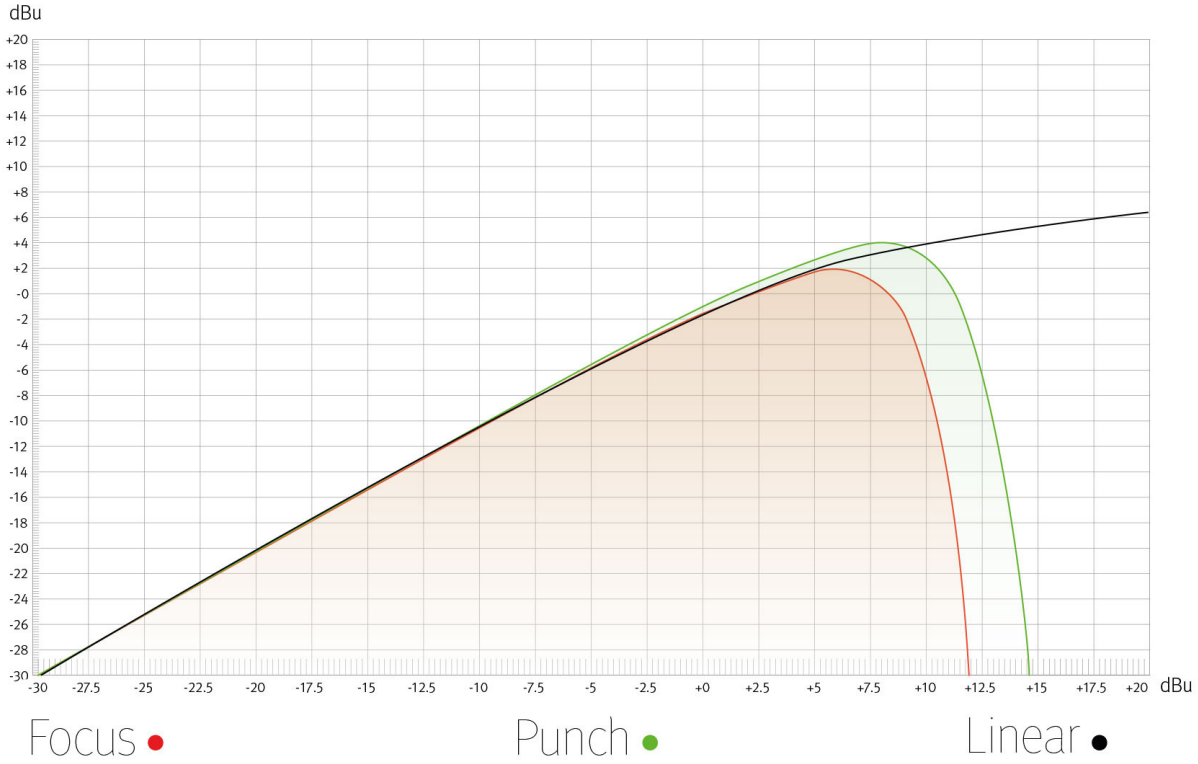


Vintage

Focus and Punch

The two modes, Focus and Punch, offer a lot more! With these modes, no frequency response-adjusting filter is used in the signal path. A special circuit enables a new compression behavior for variable-bias tube compressors. In these two modes, Venos becomes a completely diferent bus compressor! The compressor characteristic curve drops after reaching its maximum.

At this peak, a particularly powerful, energy-packed type of compression is created. This compression behavior is often referred to as negative compression, as the ratio becomes negative. Since we don't have a fixed ratio with a variable bias tube compressor, we refer to the Focus and Punch modes as hyper-compression modes.



Focus

In Focus mode, Venos grips much tighter and focuses on the midrange, but still makes the signal big and lively.

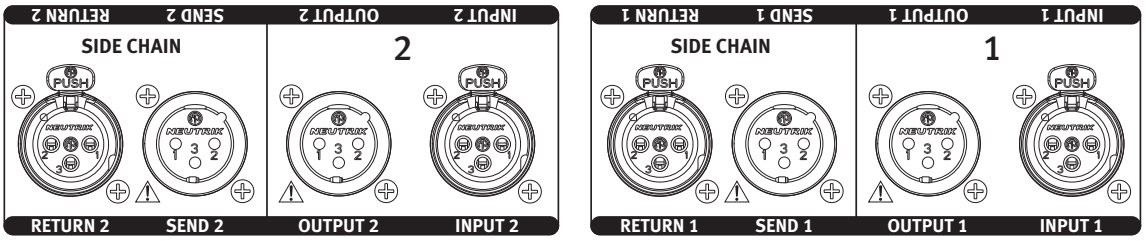
Punch

In Punch mode, Venos gives the music a punch like you've never heard before from a variable-bias tube compressor. However, the signal does not become unpleasant, but simply shines with power.

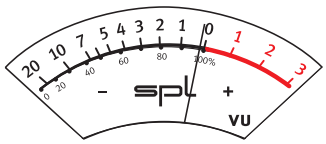
Control Elements

The Side Chain Insert – Ext SC

When Ext SC mode is selected, a signal can be looped into the side-chain insert on the rear panel of the device to control the Venos. The send and return stages are balanced and are provided as inputs and outputs in the form of 3-pin XLR jacks.

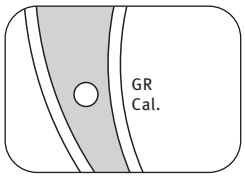


The signal can, for example, be sent via the send output to an active or passive equalizer in order to manipulate the frequency response there. This signal can be fed back into the Venos via the return input. Venos now responds to the signal processed by the external equalizer. It is also possible to feed a signal from another source into the return input – it does not necessarily have to be the signal from Venos. This means that a completely independent signal can also influence the compression in Venos. There are no limits to your creativity here.



VU meter

The big black VU meter indicates the gain reduction. In other words, it shows the amount of dB by which the level is reduced by compression.

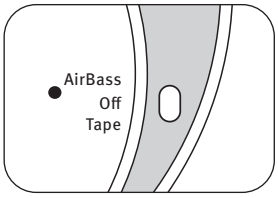


GR Cal.

The GR Cal. trimmer can be used to calibrate the gain reduction display in the VU meter.

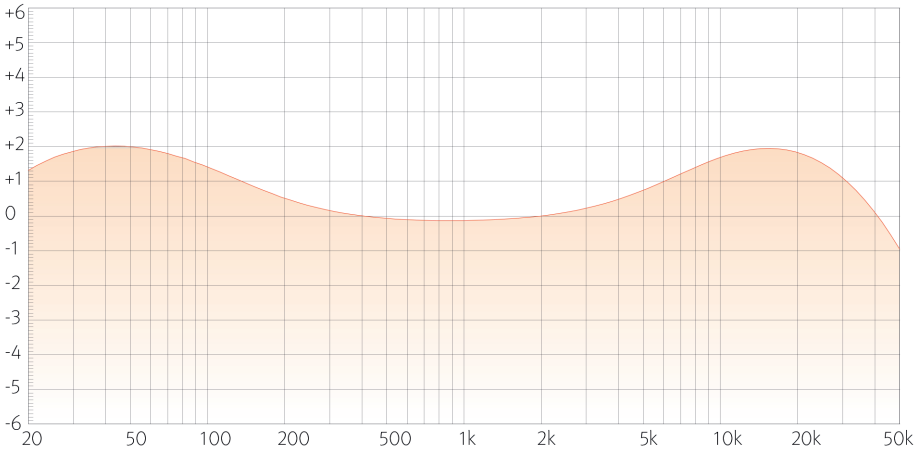
The final equalizer – AirBass and Tape

Venos features the popular analog passive SPL equalizer presets AirBass and Tape. The three-position switch allows you to choose between the two EQ settings or to turn this function off. These filters are located in the audio signal path and are connected behind the compression stage, but still before the output level control.



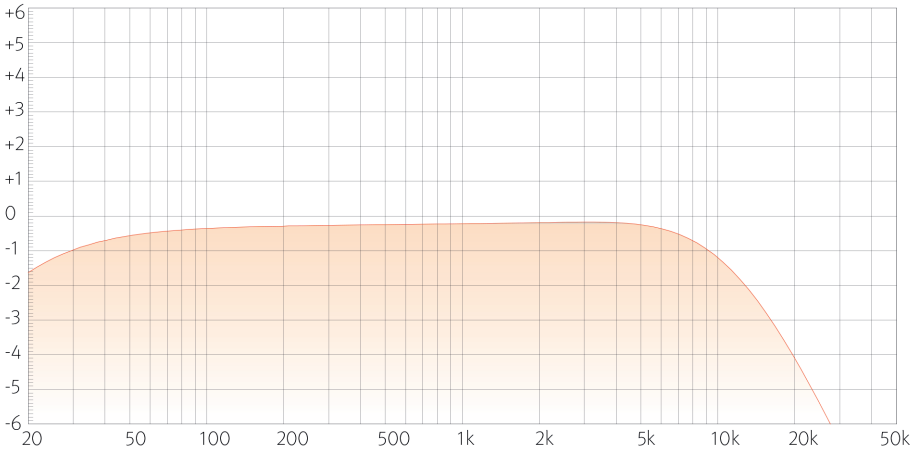
AirBass

The AirBass filter increases low and high frequencies by approximately 2 dB..



Tape

The Tape Roll-Off filter emulates the typical frequency response of a tape machine.



Specifications

Maximum input & output gain	+32.5 dBu
Input impedance	20 kΩ
Output impedance	75 Ω
Common mode rejection (0dBu, 1kHz)	‹ 80 dB
Frequency range (-3 dB)	10 Hz–40 kHz
Crosstalk (1 kHz)	-108 dBu
THD (+10 dBu)	0.002 %
Noise (A-weighted)	-98 dBu

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

Mains voltage (selectable, see fuse chamber)	230 V AC / 50; 115 V AC / 60 Hz
Fuse for 230 V	T 1 A
Fuse for 115 V	T 2 A
Power consumption	max. 47 VA

Dimensions

Standard EIA 19 Inch Housing/3U	482 x 132 x 300 mm approx. 19" x 5,2" x 12.25"
Weight	8,75 kg / 19.3 lbs

Before starting up the device:

- Read thoroughly and follow the security advices.
- Read thoroughly and follow the this manual.
- 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.

Security Advices

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.

XLR output connector

Touching the open pins of the XLR output connector may result in an uncomfortable feeling.

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

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 wheelie 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

Contact

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Sohlweg 80
41372 Niederkrüchten
Germany

Follow us on our Blog, Youtube, X, Instagram and Facebook:

Website & Blog: www.spl.audio

Facebook: facebook.spl.audio

Instagram: instagram.spl.audio

X: x.spl.audio

Videos: youtube.spl.audio

If a Venos Stereo Bus Compressor should ever might need service, a recalibration or a tube change after many years of intensive use, this is no problem at all. Especially tubes are wearing parts that may need to be replaced or recalibrated after a longer period of use.

Requests for service, repairs and spare parts:

help.spl.audio

Declaration of CE Conformity

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

Template settings

Artist: Engineer:

Album: Track(s) /Group:

Title: Date: