



**Fredenstein**  
*Professional Audio*

**V.A.S.**  
**Compressor**  
**Operating Manual**

## Fredenstein V.A.S. Compressor

The V.A.S Compressor is single channel FET compressor with Stereo link capability. It incorporates Fredenstein's proprietary Reverse-Mancini FET architecture for increased linearity and noise performance. In addition, the output stage consists of our high performance OPA2 discrete operational amplifier coupled to a high quality American-made steel core transformer.

As all Fredenstein products, the OPA2 is not a copy of an older design, but a completely new circuitry manufactured in SMT technology. Matched and integrated dual input transistors guarantee vastly improved specifications compared to older designs. The OPA2, following the tradition of well known manufactures, is socketed and can be exchanged without tools. The industry standard pin-out makes it compatible with many manufactures. To achieve the highest sonic performance, no polarized capacitors, electrolytic or tantalum, are deployed in the signal path.

Overall the V.A.S Comp supports a wide variety of different sounds from smooth and clean to aggressive and smashed. As a truly flexible compressor, it features rotary controls for Input Gain, Attack Time, Release Time, Compression Ratio, Side-Chain Bandwidth, Make-up Gain, and Wet-Dry mixing as well as illuminated switches for Bypass, Stereo link, and Side-Chain filter.

Controlling the operation of the V.A.S. Comp is very easy due to its separate 12 LED Gain-Reduction and Output-Level meters. Gain reduction is indicated ranging from 1 to 16 dB and the output-level in the range from -30 dB to +20dB (0 dB = +4 dBu).

Other professional features are a hard bypass when powered off and a three second turn-on delay to suppress pops, as well as a remote Bypass function in Stereo link mode. Only one Bypass switch has to be engaged to put both units in Bypass mode for easy Stereo sound comparisons with or without compression.

For easy touring and recording around the world, the V.A.S. Comp has a built-in universal power supply ranging from 90Vac to 240Vac, 50 -60 Hz.

As all Fredenstein products, the V.A.S. Comp is designed by a German-American team and manufactured in Taiwan.

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## Installation:

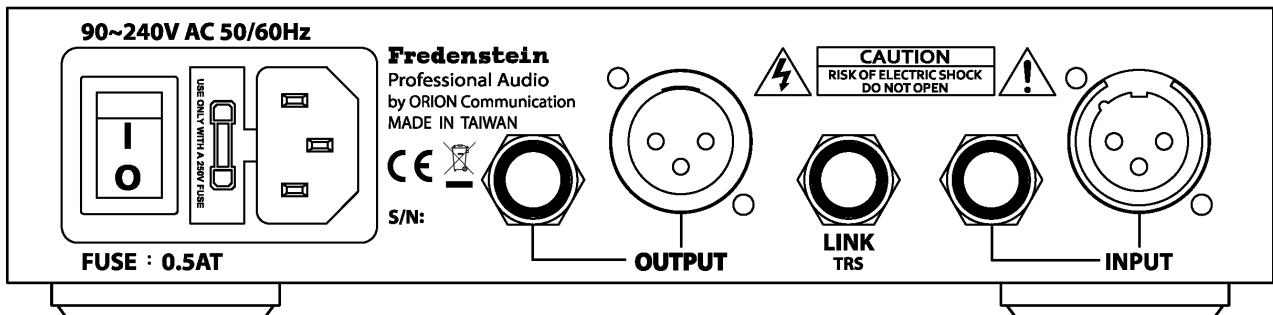
### Electrical Safety Warnings:

**Do not open the enclosure, hazardous voltages are present inside!**

**There are no user serviceable parts inside.**

**If you need to replace the mains fuse, make sure the replacement has the same rating (0.5AT 250V).**

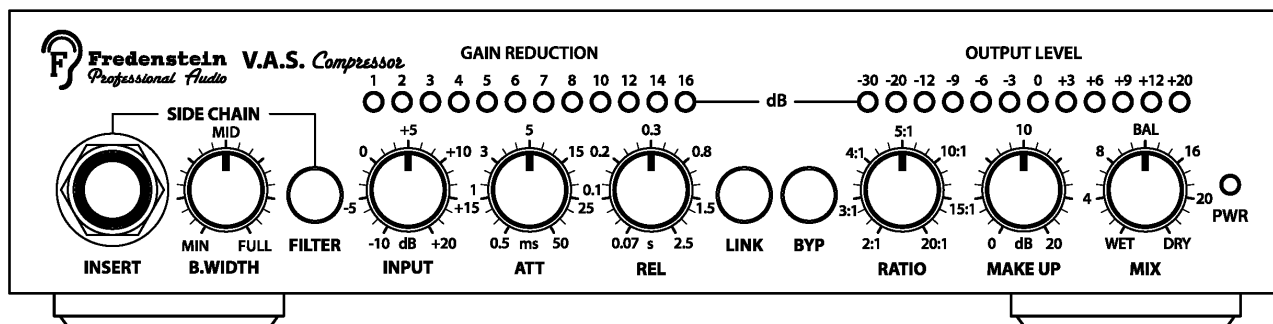
## Rear View:



Please connect your audio inputs and outputs first to the XLR or TRS connectors located on the back panel. If you own two V.A.S. Comps, please insert a standard TRS cable into link connectors on both units. Connect the mains cable to the V.A.S. Comp and then to a grounded mains outlet. The power ON/OFF switch is located on the back panel near the power cable connector (IEC). After the unit is powered on, the PWR indicator on the front panel will be illuminated.

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## Front View:



## Rotary Controls:

- B-WIDTH : Side-Chain Filter control, fully clockwise no filter, counter clockwise 2KHz to 20KHz Bandwidth
- INPUT GAIN : Sets the line level gain in the range from -10 to +20dB
- COMP ATTACK : Sets the attack time of the compressor  
Range from 0.5 to 50ms
- COMP RELEASE : Sets the release time of the compressor  
Range from 70ms to 2.5s
- COMP RATIO : Sets the compression ratio  
Range from 2:1 to 20:1
- MAKE-UP : Output level control of the compressor  
Range from off to 0dB to +20dB
- MIX : Output-Mixer, turn the control all the way counter clockwise and only the compressed signal is present on the output (wet position), all the way clockwise, only the input signal is present at the output (dry position)

## Switches:

- FILTER : When the switch is lit (green), the side-chain filter is active, if not lit, no filter is active and the position of B-WIDTH potentiometer does not matter
- LINK : When lit (blue), it enables the Stereo linking of two V.A.S. Comps when a TRS link cable is inserted on both units and both LINK switches are turned on. Both channels will have identical gain reduction to avoid shifting of the Stereo balance.
- BYPASS : When the switch is lit (orange), the V.A.S. Comp is in bypass mode. A hard bypass connects the input and outputs. If Link is turned on on both units and a link cable is inserted, the Bypass function of the second unit will follow the first. Please note, that in Bypass mode the gain reduction and output meters are still active.

## Connectors:

- INSERT : Standard TRS insert connector (Ring = Output, Tip = Input) to insert effect equipment or inject different signals into the side-chain

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## Operation:

Like most FET compressors, the Fredenstein V.A.S. Compressor features a fixed threshold. The compression depth is controlled by changing the input gain. Increasing the input gain will cause the compressor to apply an increased gain reduction. The compressor Make-up control is used to compensate for the gain reduction. The maximum compressor Make-up gain is 20 dB.

The ATTACK TIME and RELEASE TIME controls define how fast the compressor reacts and how fast it falls back after the signal is lower than the threshold. The perfect values are depending on the instrument and the sound you want to achieve.

The COMP RATIO control sets the relationship between input and output level for signals above the threshold and can be varied from 2:1 to 20:1. A ratio of 20:1 is considered a limiter.

A special feature of the V.A.S Comp is its integrated output mixer which dramatically boosts the versatility of the device and so called dry/wet mixes can be performed (also called parallel compression). The dry signal (uncompressed) and the wet signal (compressed) can be mixed together in any relationship to achieve special sounds.

The side-chain filter allows to exclude frequencies from being compressed, e.g. to avoid pumping on bass drums.

With the optional rack mount kit, two V.A.S. devices can be mounted together to form a 19 inch 1U enclosure (table feet need to be removed).

## Technical Data:

Frequency Response	:	20 Hz – 20,000 Hz, +/- 1dB
Make-up Gain	:	+ 20 dB
Distortion	:	< 0.05%
SNR	:	90 dB (at 0dB make-up gain)
Input Impedance	:	> 4 KOhm
Max. Input Level	:	+ 26 dBu
Output Impedance	:	600 Ohms
Max. Output Level	:	+ 26 dBu
Input Attenuator	:	- 20 dB
Side-Chain Filter	:	6 Hz to 2KHz (sweepable)
Attack Time	:	0.5 ms to 50 ms
Release Time	:	70ms to 2.5s
Compression Ratio	:	2:1 to 20:1
Mains Voltage	:	90 Vac to 240 Vac, 50 – 60 Hz
Power Consumption	:	25W max.

## Dimensions:

L x H x D (with feet)	:	200 mm x 51 mm x 170 mm
L x H x D (without feet)	:	200 mm x 44 mm x 170 mm
Weight	:	1300 g

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