



HVA-4K

VCA STEREO BUS COMPRESSOR

USER GUIDE

HIGH VOLTAGE
AUDIO

WWW.HIGHVOLTAGEAUDIO.NET



**RISK OF ELECTRIC SHOCK
!! WARNING !!
SET AC VOLTAGE SELECTION INSIDE BEFORE USE**

HEALTH AND SAFETY

- Always read these complete instructions before operating the equipment.
- Always use a properly grounded IEC cable with this equipment and never defeat the grounding pin as this provides not only a safety ground but is required for low noise operation.
- Avoid using this equipment around stray magnetic fields. The enclosure is designed to shield the circuits from magnetic fields and radio interference and so during racking of the equipment it's important to ensure typical grounding procedures are followed.
- Avoid the use of the equipment in high temperature environments as this can degrade the performance and reduce the lifetime of the internal components.
- There are some internally accessible adjustments in this equipment. If there is a requirement to perform internal adjustments, please ensure one is comfortable with opening the equipment and performing said adjustments. Please seek qualified assistance if unsure.
- If adjustments are to be made to this equipment, please disconnect the equipment from mains power prior to opening the equipment and performing the adjustment. While we understand that some adjustments are to be made with the equipment live, any damage to the equipment as a result of dropped metal objects or liquid damage will not be covered by the warranty.

HIGH VOLTAGE AUDIO reserves the right to change the specifications or modify the designs of its equipment. Company contact information is on the last page of this manual.

VOLTAGE SELECTION AND FUSE

This equipment is capable of operating over a range of mains voltages to cater for various regions. Please ensure the correct mains voltage setting and correct fuse are used prior to connecting the equipment to mains. To avoid the risk of fire, replace the mains fuse only with the correct value.

For mains voltages from 100-120 VAC, use a T200mAL (M205 SLO-BLO only) and configure the internal mains voltage selector to display 115V. For mains voltages from 200-240 VAC, use a T100mAL (M205 SLO-BLO only) and configure the internal mains voltage selector to display 230V.

THANK YOU FOR CHOOSING

HIGH  VOLTAGE

A U D I O

Thank you for choosing products from HIGH VOLTAGE AUDIO. We expect you will be satisfied with the quality, performance and value of our products, which are made possible through careful design and construction choices.

ABOUT HIGH VOLTAGE AUDIO

HIGH VOLTAGE AUDIO is a partnership based in Australia, working out of both Melbourne and Perth. We go to every effort to accurately create the tone, feel and functionality of great outboard gear. Our work is the culmination of years of experience in sound production and electronics. Our products are built here in Australia, so our customers can have the confidence that they will purchase a product that not only sounds great, but is dependable, reliable and easy to use.

OVERVIEW



The objective behind the HVA-4K was simple: take a classic stereo bus compressor design and improve upon it.

Hand built in Australia, The HVA-4K is the next generation of our Voltage Controlled Amplifier (VCA) based Stereo Bus Compressor. It is the culmination of twelve months of work in redesigning, rebuilding and optimizing this classic circuit from the ground up. We took the best parts of our 4000 G-Series compressor and optimized these with performance and an enhanced feature set at the heart of the HVA-4K design.

We listened to engineer's feedback and we implemented the most requested features in this design. The VCA based compression is renowned for its sonic "glue", providing transparent punch and cohesion to a mix without sacrificing clarity.

NEW KEY FEATURES AND ENHANCEMENTS

BLEND Control: the blend control makes it quick and easy to apply parallel compression by adjusting the blend of dry and wet (compressed signal). This may negate the need for any complex DAW based routing.

NOTE: As both dry and wet signals are effectively combined with this control, the overall gain structure of the output signal will increase as the control is swept counter-clockwise of the wet position.

Extended RATIO Controls: We've expanded upon the typical 3 ratios to 6, including the most frequently requested 1.5:1 ratio.

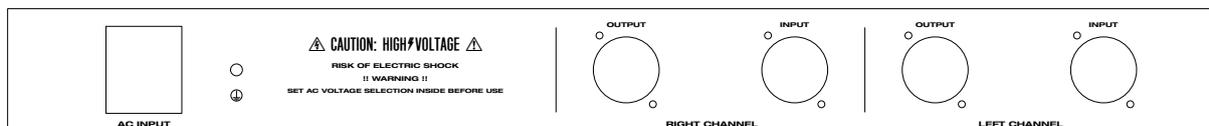
IMPROVED Signal-to-Noise Ratio (SNR): the circuit redesign and optimisation means a noise floor of -105dB or better.

FACELIFT: the feedback from engineers was that they preferred the aesthetics of our EQ-6S equalizer. We ditched the collet knobs and enlarged the front panel scales giving the HVA-4K a similar appearance to its sibling.

TRUE BYPASS: the bypass circuit was redesigned to provide a relay based bypass mechanism. This means the unit passes audio whilst powered off, and the bypass function skips the entire audio path.

User SWITCHABLE Mains Voltage: rather than a hardwired mains voltage, the HVA-4K is user switchable between 115V/230V.

REAR PANEL CONNECTIONS



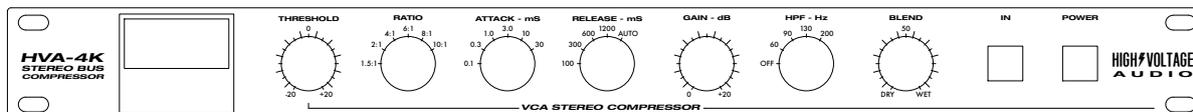
The rear panel features XLR INPUT and OUTPUT connectors for the LEFT and RIGHT channels. These connections have been wired PIN 2 HOT to conform with AES standards.

NOTE: To run in unbalanced mode, ensure your unbalanced cable ties pin 3 to pin 1 at the cable.

The AC INPUT connection is a typical 3 pin IEC power cable. You must use the correct fuse value and ensure the internal voltage selector meets the requirements for your region.

PLEASE REFER TO THE VOLTAGE SELECTION AND FUSE SECTION ON PAGE 2 PRIOR TO POWERING YOUR UNIT.

FRONT PANEL CONTROLS



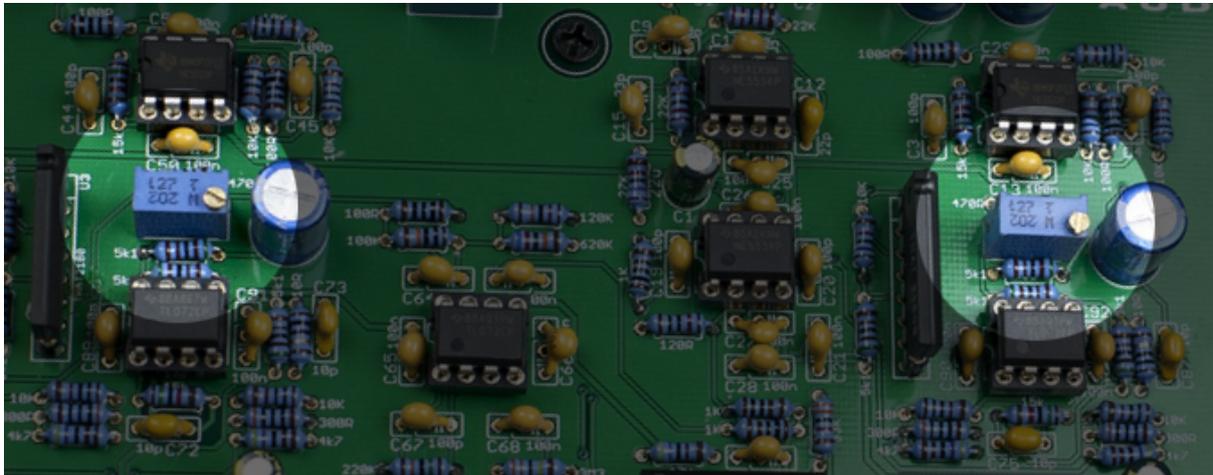
The front panel features **THRESHOLD**, **RATIO**, **ATTACK** (milliseconds), **RELEASE** (milliseconds), **GAIN** (dB), **HIGH PASS FILTER** or **HPF** (Hz) and **BLEND** controls.

The **IN** illuminated push button, when pushed in, will engage both channels simultaneously. When this push button is out and non-illuminated, both channels will be disengaged and will perform a true bypass of the equipment.

The **POWER** illuminated push button, when pushed in, will power the unit ready for use. When this push button is out and non-illuminated, the equipment is in a powered down state.

INTERNAL ADJUSTMENTS

UNITY GAIN TRIMMING



The HVA-4K has internal GAIN adjustment trimmers for both left and right channels and is calibrated before shipment. If further adjustment is required, unity gain calibration can be performed as follows:

1. Ensure the equipment is powered OFF and the IEC power cable is unplugged, but the XLR input and output cables are connected.
2. Viewing from the top of the enclosure, unscrew the two (2) Philips head screws that are located toward the rear of the case and carefully pry the lid upward; a suction cup is handy for this task.
3. Carefully plug the IEC power cable and push both **POWER** button to be illuminated.

WARNING: Live adjustments should be performed carefully by qualified personnel

4. Ensure the **BLEND** control is at **WET** (full clock-wise).
5. Ensure the **THRESHOLD** control is at **+20** and the **GAIN** control is at **0**.
6. Feed a -12 dB, 1kHz sine wave tone using a signal generator from your DAW into each channel and take a note of the signal on each channel of your DAW software where the generator is feeding the HVA-4K channels (e.g. -10.0 dBFS).
7. Now push the **IN** button to be illuminated and take a note of the DAW master output signal, reset this signal by clicking the indicated dB signal of the channel (e.g. -11.2 dBFS).
8. Adjust the trimmer for each channel separately and ensure that the master output measures the same as the the measurement taken in step 4 (e.g. -10.0 dBFS).
9. Once both channels have the same signal measure when both **IN** and bypassed, calibration is complete.
10. Carefully **POWER OFF** the unit and re-assemble by sliding the lid firstly toward the front of the unit at an angle, then dropping the rear of the lid into the enclosure. Screw the two (2) Philips head screws back into the enclosure.

SPECIFICATIONS

Ratio (6 step rotary switch)	1.5:1, 2:1, 4:1, 6:1, 8:1, 10:1
Attack (6 step rotary switch)	0.1, 0.3, 1, 3, 10, 30 milliseconds
Release (5 step rotary switch)	100, 300, 600, 1200, 2400(Auto) milliseconds
Sidechain High Pass Filter (5 step rotary switch)	OFF, 60hz, 90hz, 130hz, 200hz
Blend Control	Adjusts the balance of dry and wet (compressed signal)
True Bypass	Relay switched bypass
Noise Floor	-105db or better
THD	0.02% or better
Replacement fuses (M205)	USA (100-120VAC) 200mA Slo-Blo
	EU, AU (200-240VAC) 100mA Slo-Blo

*Specifications subject to change without notice.

WARRANTY

HIGH VOLTAGE AUDIO warrant our products with a standard warranty period of one (1) year from the date of purchase for parts and labour, subject to inspection. Products will be free of manufacturing defects. This warranty does not include damage incurred through shipment, rough user operation of the product or modifications or attempted repair by unauthorized personnel. This warranty is offered solely to the original purchaser of the product, directly from HIGH VOLTAGE AUDIO and is not transferrable. This warranty does not include shipping charges to and from HIGH VOLTAGE AUDIO.

Warranty service communication must be conducted directly through HIGH VOLTAGE AUDIO.

HIGH VOLTAGE AUDIO reserves the right to alter the design of their products and specifications without notice.

CONTACT

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