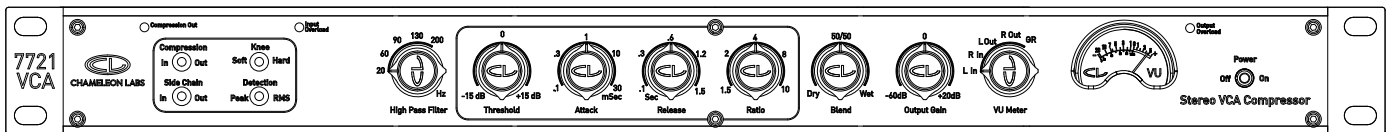


7721 VCA Stereo Compressor



User's Manual

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. This apparatus shall not be exposed to dripping or splashing, and no object filled with liquids, such as vases or beer glasses, shall be placed on the apparatus.



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure, that may be of sufficient magnitude to constitute a risk of electric shock to persons.

Le symbole éclair avec point de flèche à l'intérieur d'un triangle équilatéral est utilisé pour alerter l'utilisateur de la présence à l'intérieur du coffret de "voltage dangereux" non isolé d'ampleur suffisante pour constituer un risque d'électrocution.



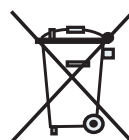
The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Le point d'exclamation à l'intérieur d'un triangle équilatéral est employé pour alerter les utilisateurs de la présence d'instructions importantes pour le fonctionnement et l'entretien (service) dans le livret d'instruction accompagnant l'appareil.

Caution: to reduce the risk of electric shock, do not remove cover (or back). No user-serviceable parts inside Refer servicing to qualified personnel

Attention: pour éviter les risques de choc Electrique, ne pas enlever le couvercle. Aucun Entretien de pieces interieures par l'usager. Confier L'entretien au personnel qualifie.

Avis: pour éviter les risques d'incendie ou D'électrocution, n'exposez pas cet article A la pluie ou a l'humidite



At the end of its useful life, this product must be carefully and correctly disposed of, and not placed in with household waste. Please contact your local, state, or national services for information regarding the safe disposal of electronic equipment.



Introduction

Congratulations on your purchase of a fine Chameleon Labs' 7721 VCA Stereo compressor. We hope that it gives you many years of reliable and high-quality service.

Your 7721 compressor has stereo inputs and outputs and uses a voltage controlled audio engine to generate the control voltage that provides the amount and type of limiting and compression you desire. It features a highly effective VU meter, a Wet/Dry control knob, Peak/RMS detection, Soft and Hard knee selection as well as Threshold, Attack, Release and Compression ratio controls.

The 7721 has been carefully constructed and individually tested for quality at our facility in Woodinville, Washington. It utilizes an ultra low noise pure, IC based topology.

We have spent three years developing the 7721 and are extremely pleased to have built this unit for your use. Although highly influenced by the famous buss compressors of the 70's, we have strived to introduce significant improvements especially in the area of increased precision for the controls, improved noise floor and a useful set of features.

Features:

- Stereo Inputs / Outputs (balanced XLR's)
- Selectable Side Chain input (balanced XLR)
- Class A/B signal chain topology
- Peak or RMS Detection
- Hard or Soft Knee Compression
- Compression In/Out Switch
- Threshold Control - (-15dB / +15dB)
- High Pass Filter (20, 60, 90, 130 and 200Hz)
- Attack (0.10ms - 30ms)
- Release (0.10s - 1.5s)
- Compression Ratio (between 1.5:1 and 10:1)

- Dry/Wet control (Full Dry CCW is full uncompressed signal, Full Wet CW is full compressed signal)
- Output Gain control (-60dB to +20dB)
- VU Meter selector control (input and outputs and gain reduction)
- Output Signal Overload LED (+4dB)

Rear Panel Features

- AC Power Input (IEC) and integral fuseholder
- XLR inputs
- XLR outputs

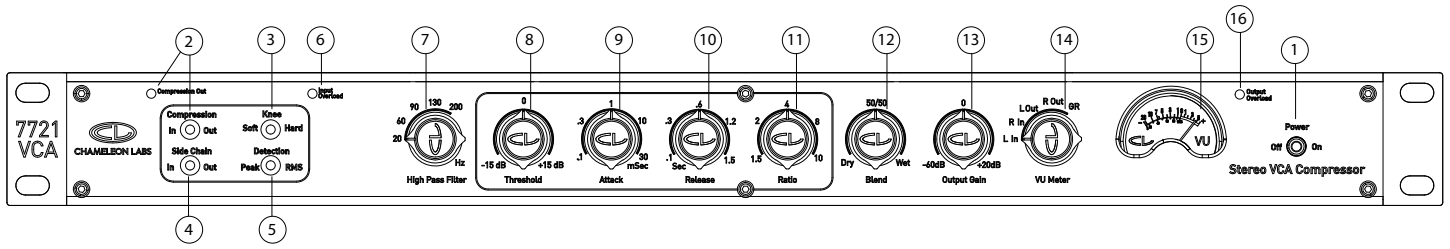
Power Supply

- Internal universal power supply

Limited Warranty

- One year

Front Panel Features



1. **Power Switch**
When all your connections to and from the preamplifier have been made, use this switch to turn the unit on or off. When the unit is turned ON the VU meter will light up.
2. **Compression**
This switch turns the compression ON and OFF. When the compression is OFF, the red Compression Out LED is ON.
3. **Knee**
Select between a Soft Knee and Hard Knee compression curve. (See Graph Page 10)
4. **Side Chain**
This switch selects the Side Chain input as the reference audio signal for engaging the compressor.
5. **Detection**
This switch allows you to select between Peak and RMS Detection. The 7721 compressor engages by analyzing the audio signal arriving at the Left and Right inputs. Peak detection engages by looking primarily at the signal "peaks". RMS detection engages by looking at the average RMS power of the signal waveform.
6. **Input Overload**
This red LED fires when the input signal reaches +4dB of signal level.
7. **High Pass Filter**
This control applies a 24dB per octave High Pass filter to the audio signal being used for engaging the compressor. Selectable frequencies are 20, 60, 90, 130 and 200Hz. This control is primarily used to keep the compressor from pumping when analyzing audio signal with high level, low frequency content. (See Graph Page 9)
8. **Threshold**
This control establishes the level at which the detector will be engaged. The threshold level can be set between -15dB and +15dB.
9. **Attack**
This control establishes the amount of time it takes the compressor to engage and trigger compression. You can select between attack times of .1 and 30 milliseconds.
10. **Release**
This control establishes the amount of time it takes for the compressor to release and return the signal to its initial gain level. The release time is adjustable between .1 and 1.5 seconds.
11. **Ratio**
This control establishes the amount of gain reduction desired which can vary between ratios of 1.5:1 (mild) and 10:1 (aggressive). (See Graph Page 10)
12. **Blend**
This control allows you to listen to an output signal that contains a "Blend" of compressed and un-compressed signal. When the knob is turned full counter clockwise (full Dry), the output signal contains only uncompressed signal. At the detent center position the signal blend is 50/50 and when the knob is turned full clockwise (full Wet) the output signal is fully compressed content. This control blends the two signals only and does not effect on the compressor settings.
13. **Output Gain**
This control allows you to boost or attenuate the output signal level between -60 to +15 dB.

14. VU Meter Control

This five position control allows monitoring of Input and Output channels as well as Gain Reduction.

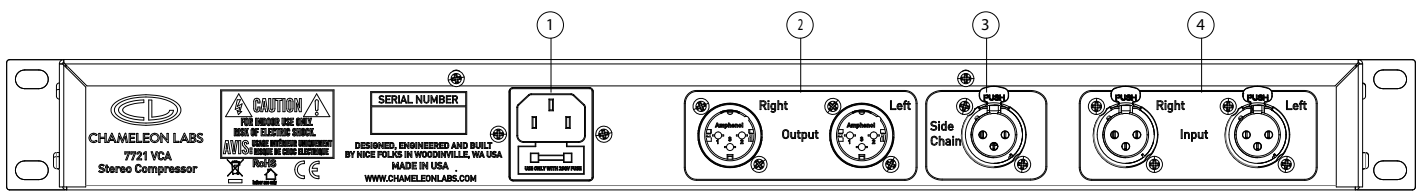
15. VU Meter

This precision VU meter shows either the input, output or gain reduction levels, depending upon the position of the VU Meter control switch (14).

16. Output Overload

This LED will light when the output levels are overloaded. Carefully adjust the Output Gain control (13) so this LED does not come on, during louder passages.

Rear Panel Features



1. AC Power Input

The unit contains a universal power supply that will operate with AC mains voltages from 100 VAC to 240 VAC at 50/60 Hz.

Connect one end of the supplied AC power cord to this input, and the other end to an AC mains supply.

The AC input has its own integral fuseholder. Before changing or inspecting the AC fuse, turn off the unit and unplug the power cord from the AC mains supply. Use only the specified fuse. If the fuse is replaced and blows again, please contact your dealer for repair. DO NOT use a larger fuse.

2. Stereo Outputs

Connect this to the line-level input section of a mixer or to other devices such as Analog to Digital converters etc.

These male XLR connectors are wired with pin 2 HOT, pin 3 common, and pin 1 ground (shield).

3. Side Chain Input

This input allows connection of a line input for use as a stand alone trigger signal for the compressor.

4. Stereo Inputs

Connect the stereo output of your line-level device to these inputs.

These female XLR connectors are wired with pin 2 HOT, pin 3 common, and pin 1 ground (shield).

Initial set up of the Model 7721

1. Mute your monitors or headphones and make your connections to the rear panel. These connections are commonly made to a patch bay panel or to a channel or bus insert on a mixer.
2. Turn ON the unit.
3. Set the Compression switch to IN position
4. Set the Side Chain to Out position
5. Set the Knee switch to either Soft or Hard
6. Set the Detection switch to either Peak or RMS
7. Set the High Pass switch to 20
8. Set the Blend control to full clockwise (Wet) position.
9. Set the Compression switch to the IN position
10. Set the Threshold control to full clockwise position (+15dB)
11. Set the Attack knob to 1ms (12 o'clock)
12. Set the Release knob to .6s (12 o'clock)
13. Set the Threshold control to full clockwise position (+15dB)
14. Set the Ratio control knob to 4:1
15. Set the VU Meter switch to Left or Right Input settings and verify that the incoming input levels are within a usable range (-10 to -3dB)
16. Set the VU Meter switch to Left or Right Output settings and verify that the output levels are at maximum usable levels within a feasible range (-10 to -3dB) using the Output Gain control
17. Set the VU Meter switch to GR (Gain Reduction)
18. Lower the Threshold level control by turning the knob counter clockwise and you hear and see Gain Reduction engaged.

Technical Specifications

General Specifications	
Noise	< 120dB with compression out Noise level is gain reduction dependent with compression engaged
Output Type	Transistor Class AB to drive 10k Ω
Maximum Output	+20 dBu into 600 Ω load impedance
Frequency Response	10Hz - 50kHz -0.5 dB
Indicators	
Meter Light	Power ON
Red	Compressor Out
Red	Output Overload
Internal Power Supply	
100 to 240 VAC (50/60 Hz)	Switch mode power supply, fully shielded Quiescent Consumption 0.5 Watts Peak Output 3 Amp
User Controlled Functions	
ON Switch	Turn Pre Amp ON - VU meter light on
Compression Switch	In / Out
Side Chain Switch	In / Out
Knee Switch	Soft / Hard
Detection Switch	Peak / RMS
High Pass Filter Switch	Provides a 24dB/octave high pass filter at 20Hz, 60Hz, 90Hz, 130Hz and 200Hz
Threshold Control	Sets Threshold level (-15dB to +15dB)
Attack Control	Sets Attack time between .1 and 30ms
Release Control	Sets Release time between .1 and 1.5s
Ratio Control	Sets compression ratio between 1.5:1 and 10:1
Blend Control	Blends the uncompressed audio signal with the compressed signal path
Output Gain Control	Provides output gain control between -60db and +20dB
VU Meter Switch	Selects VU Meter drive signal between input, output and gain reduction signal paths
Inputs/Outputs	
Stereo Inputs	IC Based Class AB Balanced Circuit
Side Chain	IC Based Class AB Balanced Circuit
Stereo Outputs	IC Based Class AB Balanced Circuit
Physical Specifications	
Depth	280mm / 11.02 inches

Height	44.5mm / 1.75 inches (1 RU)
Width	480mm / 19 inches
Weight	4.4 kg / 9.7 lbs
Box Size	
Depth	400mm / 15.75 inches
Height	150mm / 5.90 inches
Width	620mm / 24.4 inches
Weight	6.1 kg / 13.4 lbs

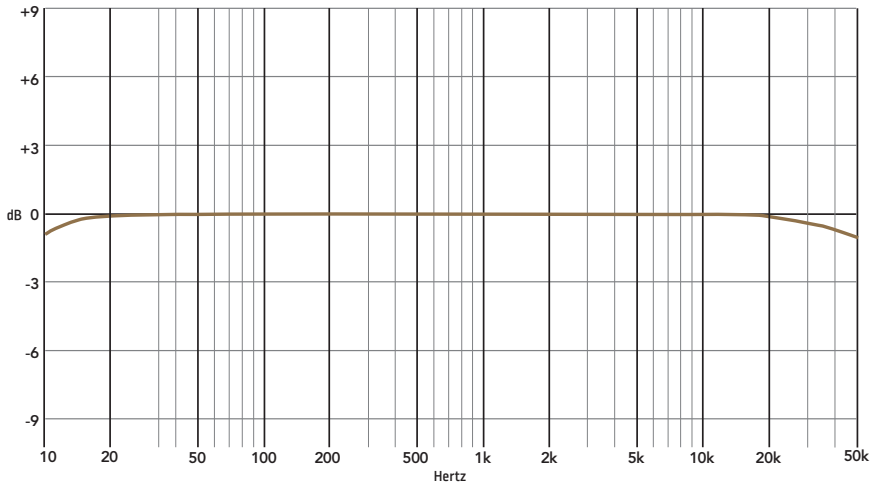
Chameleon Labs reserves the right to change these specifications at any time without notice. Not to be a pain, but to improve things in general.

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Typical Performance Graphs

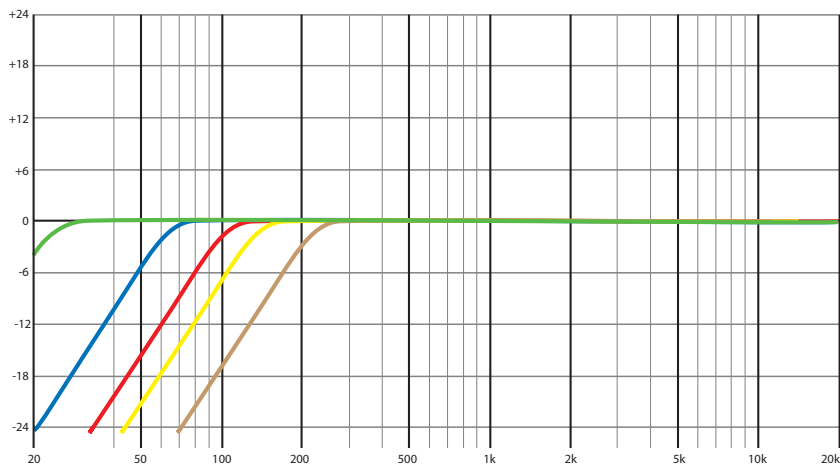
Frequency Response



Frequency Response

This graph shows the frequency response

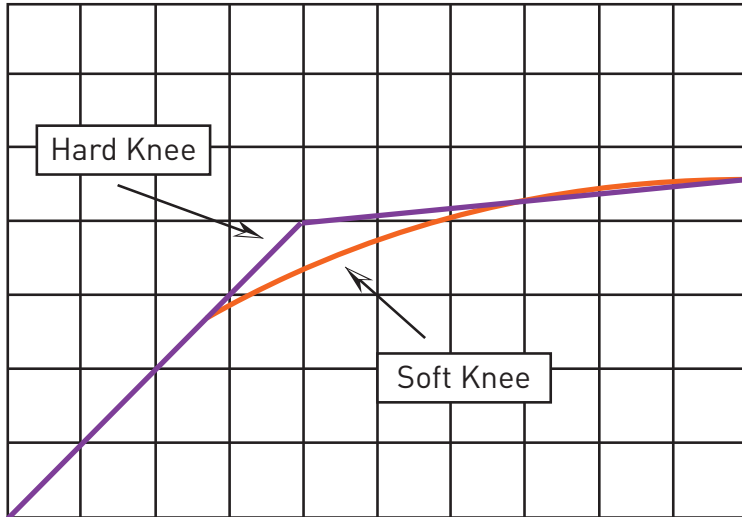
Control Signal High Pass Filter - 20Hz, 60Hz, 90Hz, 130Hz, 200Hz



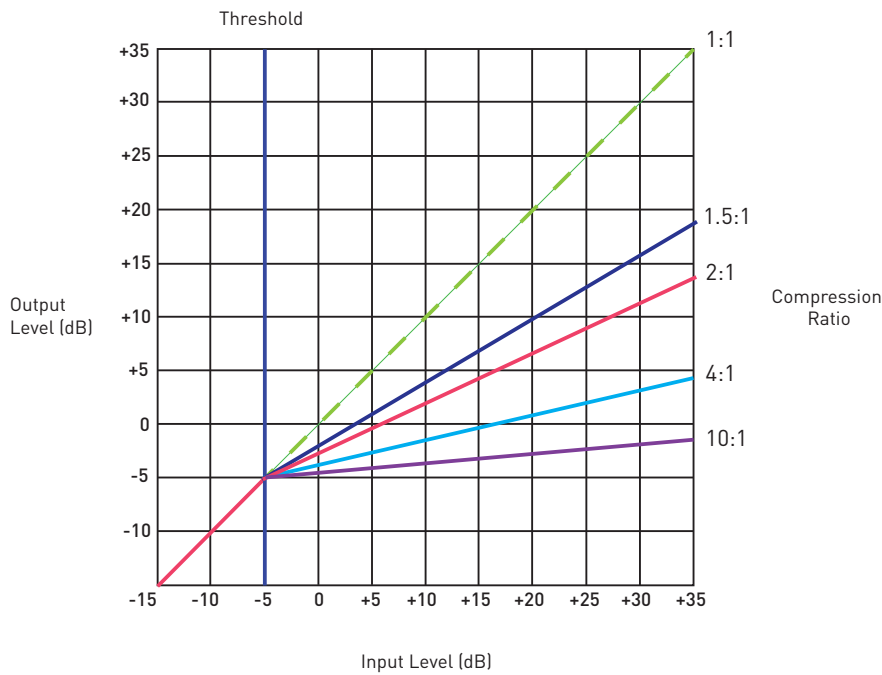
High Pass Filter

The high-pass crossover frequency can be selected from 20, 60, 90, 130 and 200 Hz.

Typical EQ Performance Graphs



Soft Knee vs Hard Knee compression curve



Typical compression curves with threshold set to -5dB, hard knee and RMS detection

Warranty and Liability

Your Chameleon Labs product is warranted to the original owner for a period of one year. Chameleon Labs guarantees this product to be free from electrical and mechanical defects and will repair or replace defective components, or replace the unit at Chameleon Lab's option. Should service be required for your Chameleon Labs product, please contact the manufacturer. Service is provided for products beyond the warranty period. Seller warrants that the goods are described in this agreement, but no other express warranty is made in respect to the goods. The entire risk as to the quality and performance of the good is with the buyer. Seller disclaims all warranties either expressed or implied, including any implied warranty of merchantability or fitness for a particular purpose, and seller neither assumes nor authorizes any other person to assume for it any liability in connection with the sale of said goods.

MODEL NUMBER -----
SERIAL NUMBER -----
DATE OF PURCHASE -----
PURCHASED FROM -----

Please visit www.chameleonlabs.com for the latest updates and technical information.