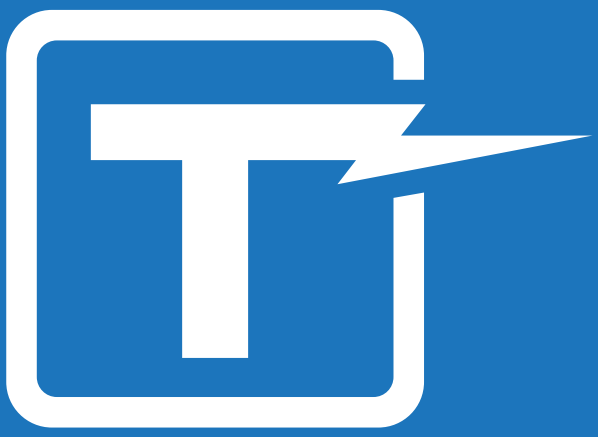

TIPTONE AUDIO DEVICES

BC-4K STEREO VCA BUSS COMPRESSOR

OPERATOR'S GUIDE

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WWW.TIPTONEAUDIO.COM
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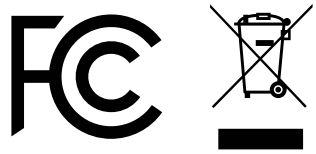
THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

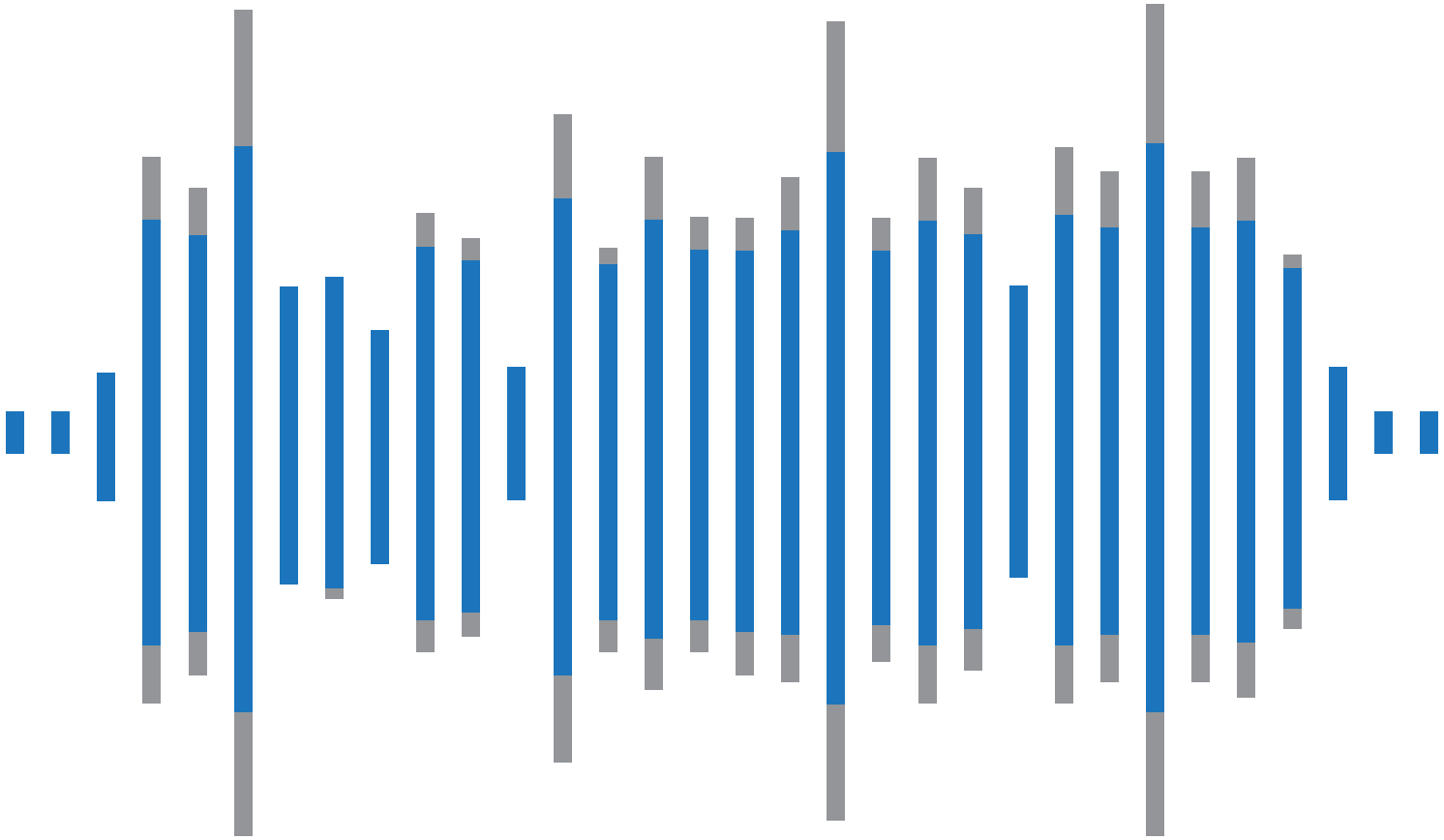


General

We are pleased to present the **BC-4K**, an exceptionally versatile and robust dynamic range compression unit, meticulously crafted in the spirit of the esteemed console compressors that defined the sonic landscape of the 1980s and beyond. Utilizing a classic voltage controlled amplifier (VCA) design, this compressor delivers precise and musical dynamic control. Whether employed as a line-level device in a studio setting or as an instrument-level processor on a pedalboard, this compressor is equipped with the requisite tools to deliver professional-grade results. Built to meet the rigorous demands of both live performance and studio recording, the **BC-4K** combines durability with superior audio fidelity. Its timeless design and modern functionality make it an indispensable tool for audio professionals seeking to enhance their sound with classic VCA compression characteristics.

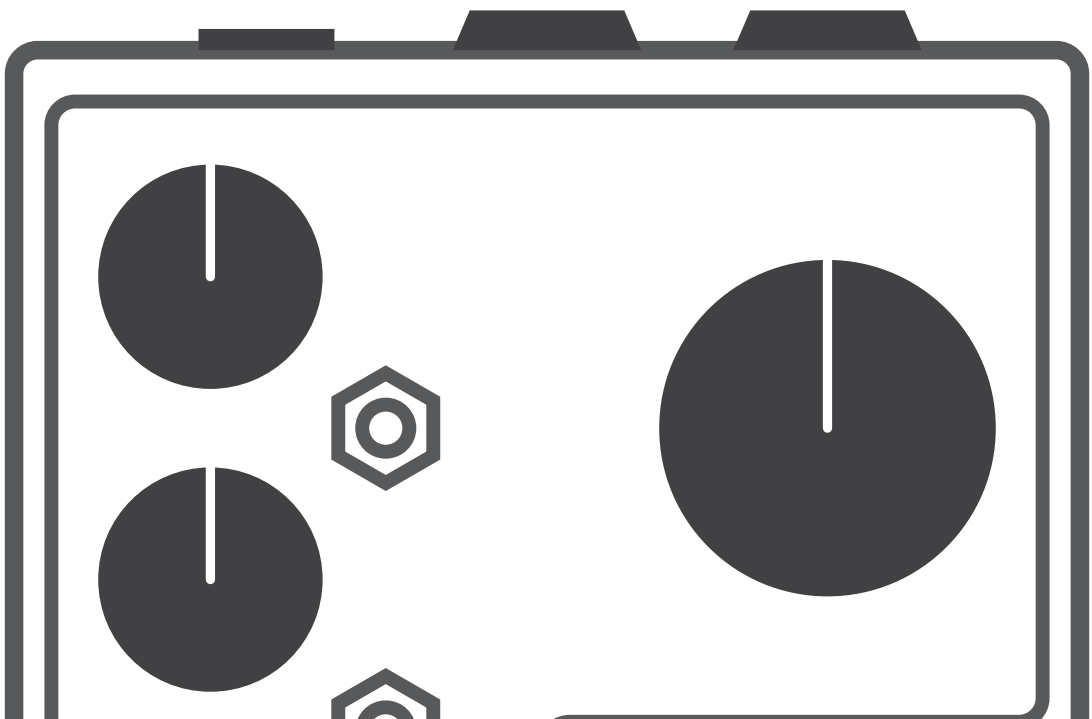
Specifications

Power Supply	9VDC center-negative
Current Draw	275mA
Input Impedance	1 MΩ
Output Impedance	< 200 Ω
Frequency Response	20 Hz-20 kHz (± 0.5dB)
Compression Ratios	2:1, 4:1, 10:1
Attack Time	1-50 milliseconds
Release Time	0.1 - 1.2 seconds
S/C Filter Frequency	160 Hz
Make-Up Gain	-5dB to +25dB



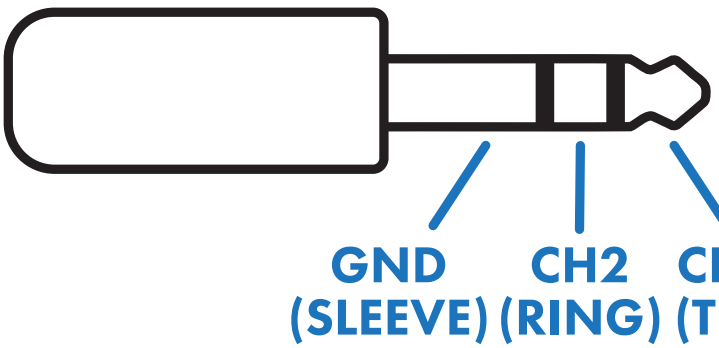
POWER

The **BC-4K** requires a 9VDC center-negative power supply with at least 300mA of current. Internally, the voltage is boosted to ±15V, which provides ample headroom for line-level signals.



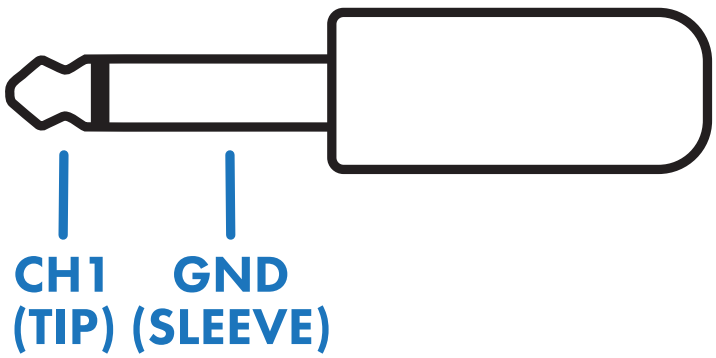
INPUT/OUTPUT

The **BC-4K** is equpped with two 1/4" TRS jacks, and can be used in mono or stereo.

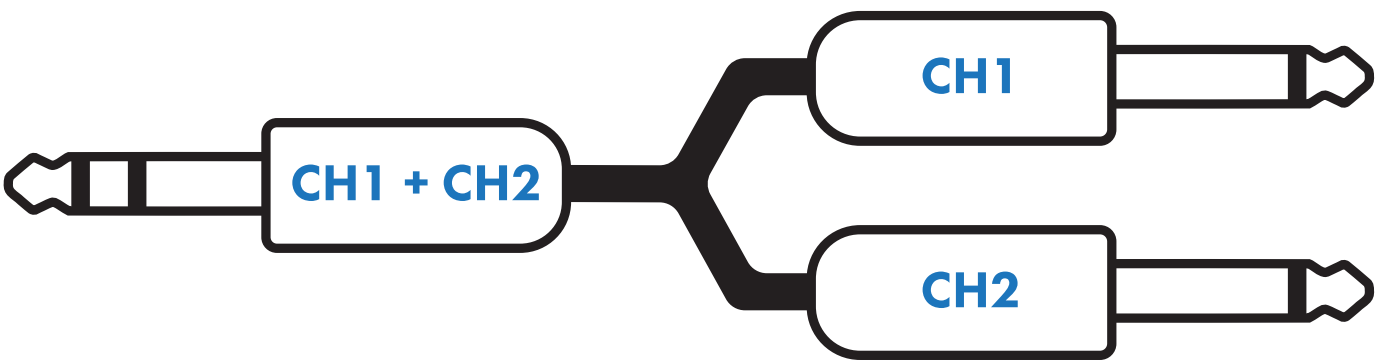


For operation with stereo signals, use TRS cables.

For operation with mono signals, use TS cables.



A stereo splitter cable may be required to interface with devices that use dual-mono jacks.

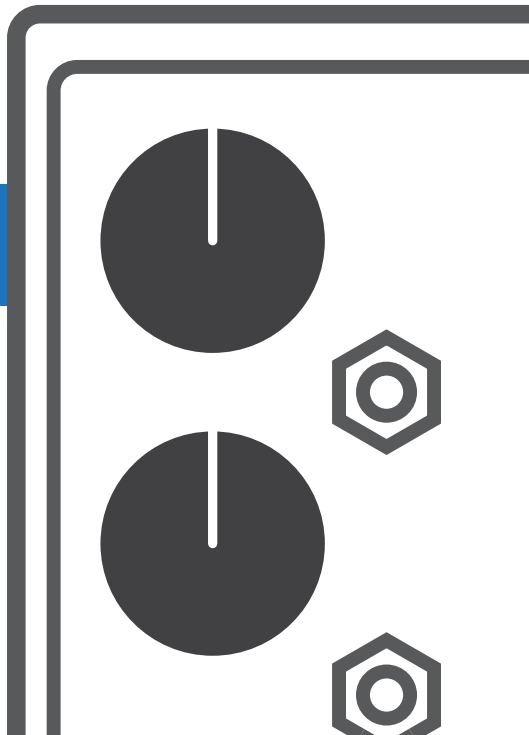


THRESHOLD

Controls the level at which compression is applied. Signals above this level are reduced in gain. The threshold range is made to be very wide in order to accommodate any input signal. Turning the knob up will result in less compression, and turning the knob down will result in more compression.

RATIO

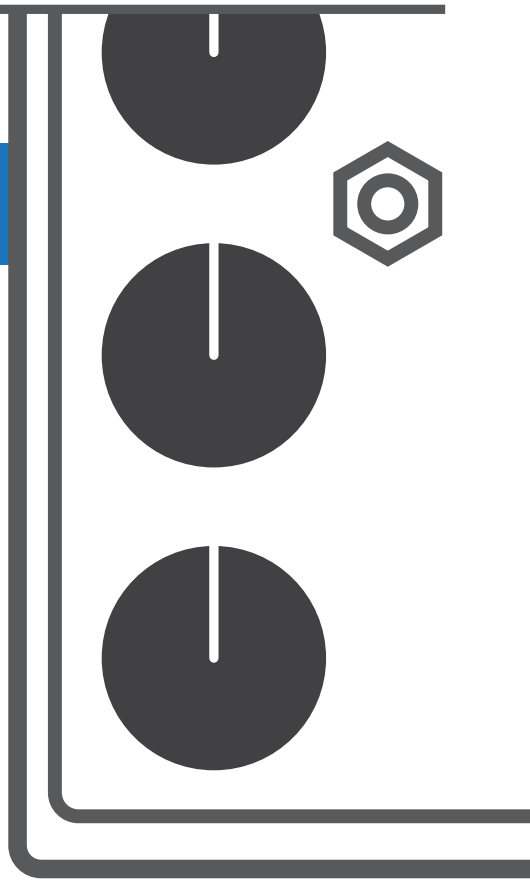
Selects the desired compression ratio, which is the proportional amount that gain will be reduced, in decibels, when level exceeds the threshold setting. Selections are available for ratios of 2:1, 4:1, and 10:1.



ATTACK

Adjusts the time it takes for the signal to become fully compressed when input level increases above the threshold, ranging from 1-50 milliseconds.

Controls



S/C HPF

Places a 6dB/octave high-pass filter centered at 160Hz in the sidechain circuit. This reduces the influence of low frequency material on the amount of compression applied.

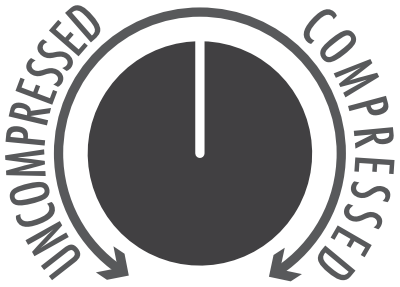
IN ▲ ▽ OUT

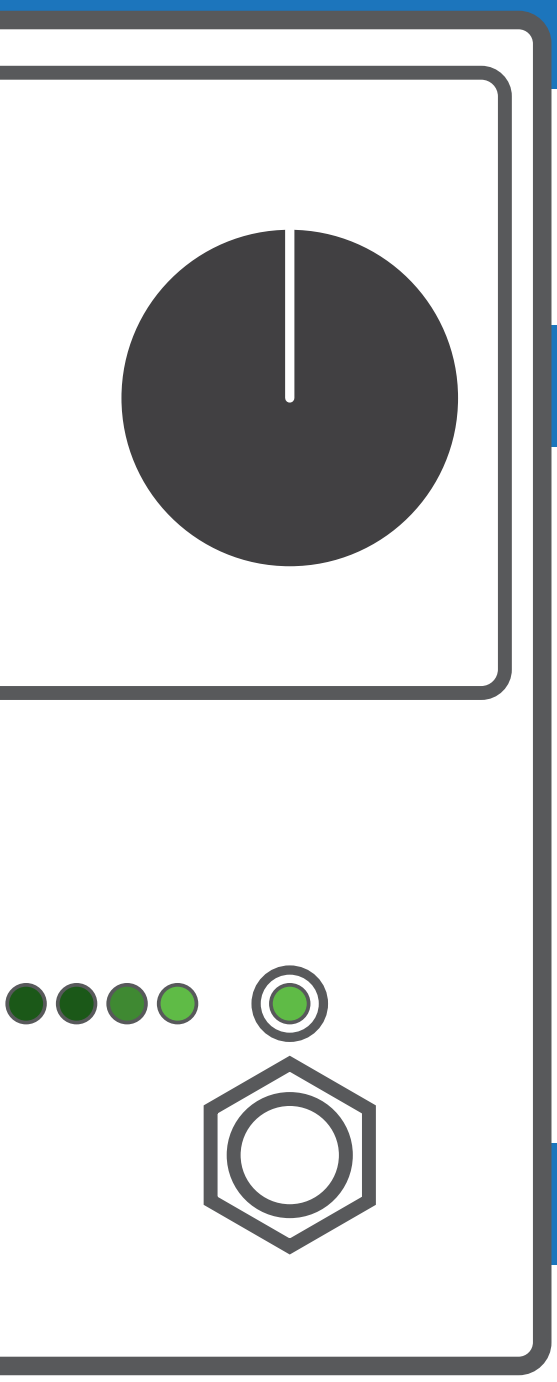
RELEASE

Adjusts the time it takes for the reduced gain of a compressed signal to be returned towards unity in response to decreases in input level, ranging from 0.1-1.2 seconds.

MIX

Controls the balance between the compressed signal and the uneffected input signal.





MAKE-UP GAIN

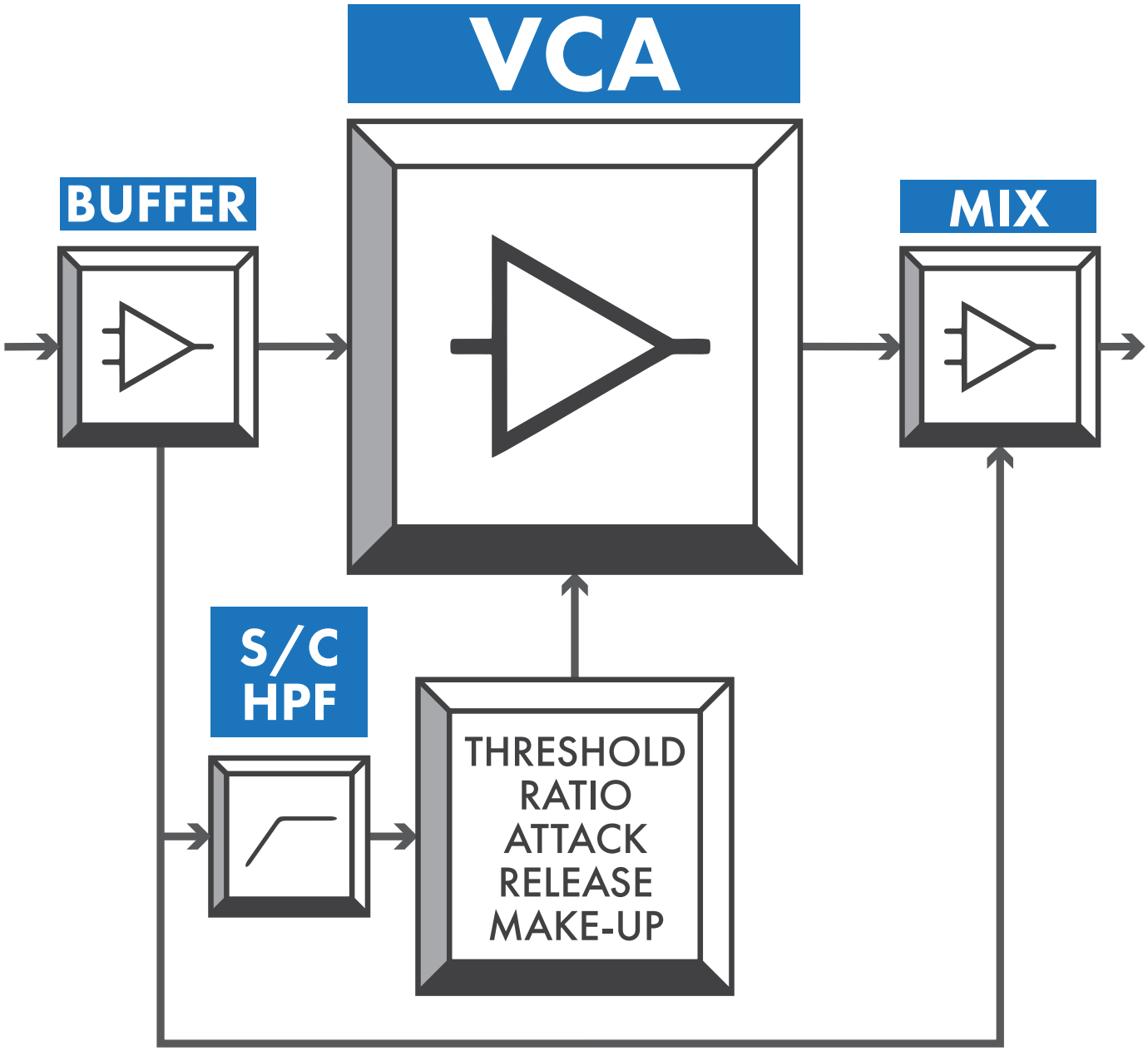
Compensates for the gain reduction caused by compression

METER

The 4-LED meter tracks the amount of compression applied to the signal at any given time. The brightness of each LED is modulated for increased resolution. Each fully-lit LED represents 2.5dB of gain reduction, for a total of 10dB. Reduction past 10dB is possible, but all LEDs will remain fully lit.

BYPASS

Relay-controlled true bypass with a soft-touch switch. The LED is illuminated when the effect is engaged.



BLOCK DIAGRAM

RECOMMENDED PROCEDURE

1. Adjust the threshold to begin compressing the signal. Use the gain reduction meter to monitor compression levels.

2. Fine-tune attack and release times to suit the audio source.

3. Select the appropriate ratio for the desired amount of compression.

4. Engage the sidechain HPF if low frequencies are causing unwanted compression.

5. Readjust the threshold if necessary.

6. Adjust the make-up gain to maintain a consistent output level.

7. Blend the wet and dry signals using the mix control for parallel compression.

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