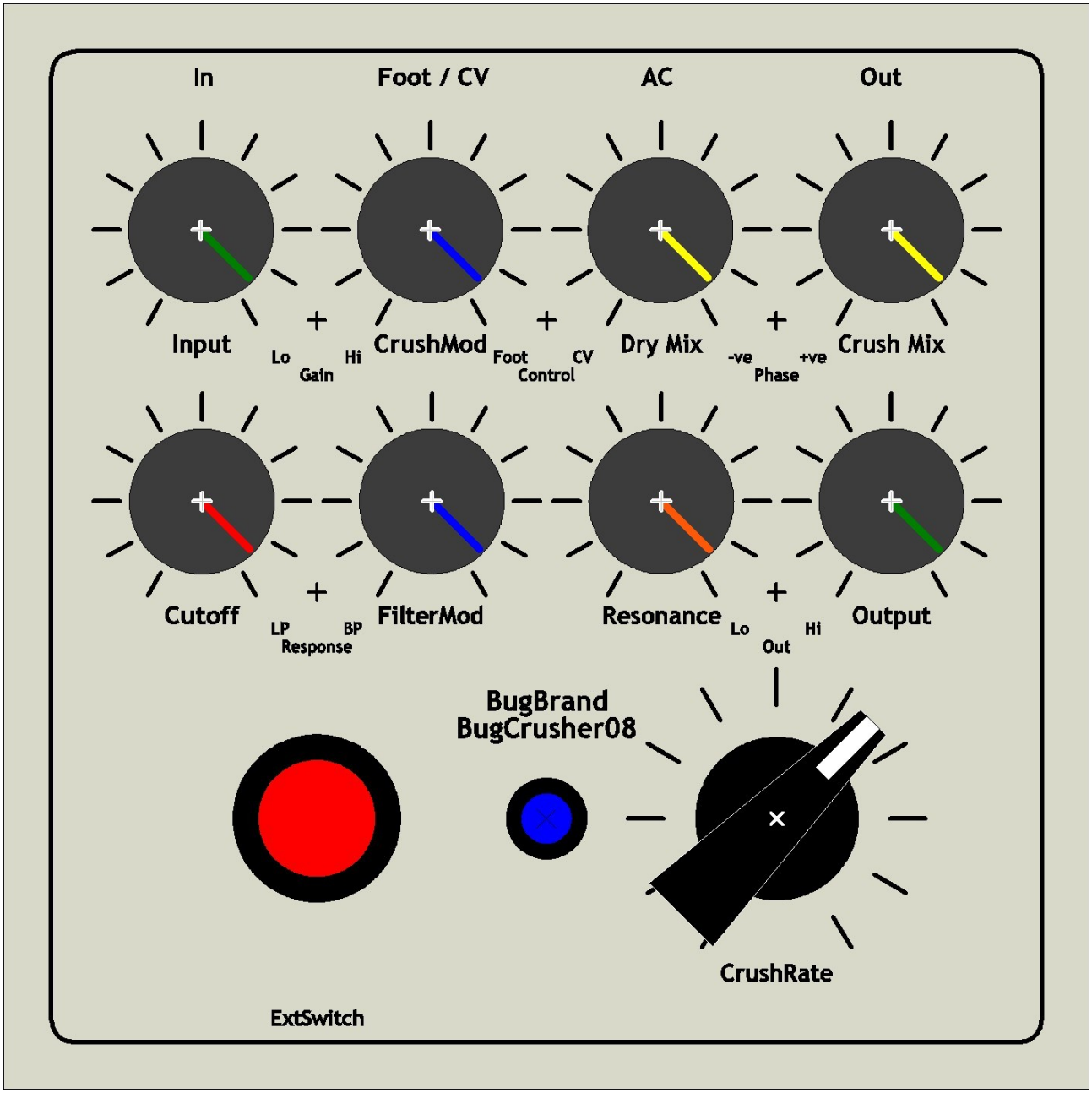


BugBrand
BugCrusher08

BUGBRAND

This version of the BugCrusher is a powerful desktop Sample Rate Reducer followed by a Resonant Filter. The heart of a BugCrusher is based on a Sample & Hold circuit running at audio rates (its *not* a bit-crusher!). Due to the number of features, please refer to the block diagram on the last page and read through this manual before use. Be wary when switching switches – in particular with the Input / Output levels – because these can cause large changes in the volume!

Input Preamp:
The BugCrusher is designed for use both with high level Line signals or low level mic / guitar signals. Use the Gain switch to select the input gain range (Lo for line level, Hi for guitars etc) and then adjust the input level control to suit – keeping the level low will avoid distortion, but driving it can add some extra sonic gnarl.
The input socket is an unbalanced mono ¼" jack – the ring connection is grounded so that the pedal can work ok with a dynamic mic connected with a balanced cable.

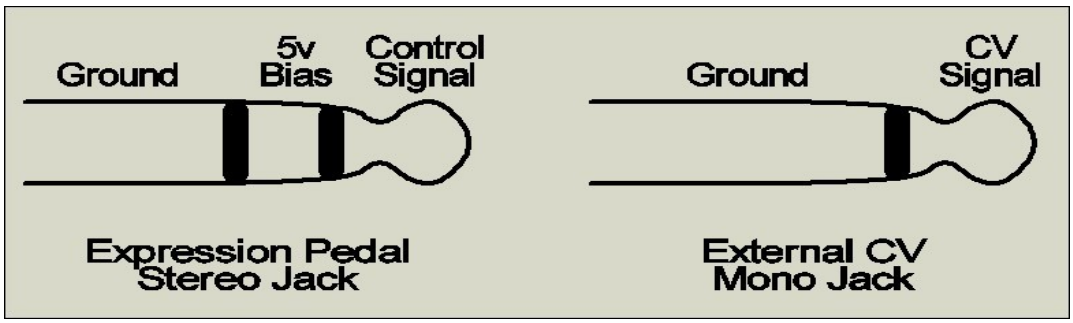
Voltage Controlled Crusher:
The voltage controlled Crusher is the heart of the BugCrusher. Adjust the master crushing rate with the *CrushRate* dial and then apply variable depth of modulation from an external CV / Foot source (see below) with the *CrushMod* dial.

Pre-Filter Mix:
As the Crushing effect can be quite intense, it is nice to be able to mix in the dry input signal. You can also turn down the crushed sound so that only the dry signal passes to the Filter. The *Phase* switch inverts the crushed signal so that when you mix in the dry input you get some cancellation of the signals – setting the phase to inverted (-ve) and mixing in the dry signal will give a kind of high pass filter effect (try it out!). Note that you won't hear any audible difference unless you're mixing together the dry *AND* crushed signals.

Voltage Controlled Filter:
This is a 12dB State Variable Filter design offering LoPass or BandPass responses and variable resonance. The main filter cutoff is set by the *Cutoff* dial and then variable modulation can be applied with the *FilterMod* dial.

Output Control:
The output has switched attenuation so that it can be used feeding a guitar amp without overloading. For devices such as amps that expect a low level, switch the output to *Lo* and switch it to *Hi* for line level (eg mixer) operation.

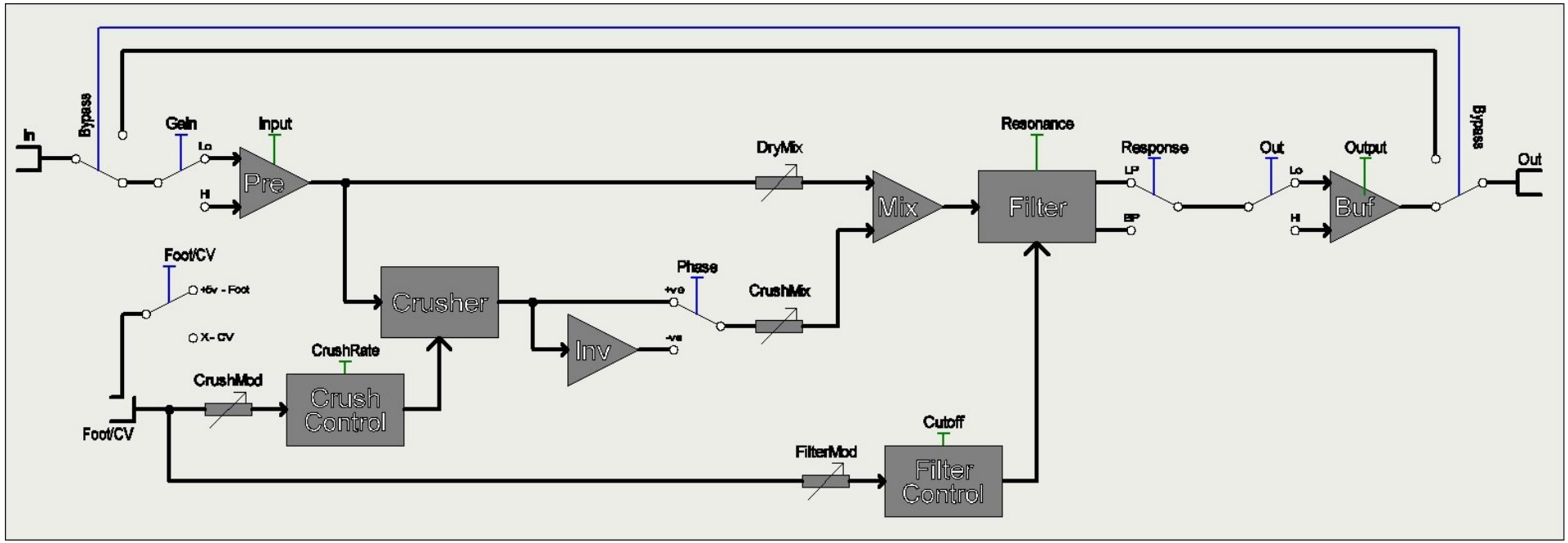
Foot / CV Modulation:
The voltage controlled elements of the Crusher and Filter circuits allow them to be modulated with external signals – the *Foot/CV* switch selects between a CV signal (standard +/- 5v range) from an analogue synth or an external expression pedal. Selecting the *Foot* option connects a +5v bias to the socket's ring connection (stereo jack plug connection). For *CV* option the ring connection is left open and will typically be used with a mono input jack – avoid using a mono jack while the switch is set to *Foot* as this will short the 5v bias source to ground (not good!).



Bypassing:
Electronic true-bypass is controlled by the big red bypass button – this is not designed for foot operation! If you require stompable switching then use a standard momentary action footswitch (normally open – short to ground operation) plugged into the *ExtSwitch* socket.

Power:
Only use the BugCrusher with its supplied 12v AC adaptor – note that this is an AC adaptor rather than the more usual DC. A DC supply will not work! If you lose or break the supplied adaptor then get in contact for a replacement.

If you have questions, please get in touch: tom@bugbrand.co.uk


In
Bypass
Gain
Lo
Hi
Input
Pre
DryMix
Mix
Resonance
Filter
Response
LP
BP
Out
Lo
Hi
Output
Buf
Bypass
Out
Foot/CV
+5v - Foot
X - CV
Crusher
Phase
+ve
-ve
CrushMix
Inv
CrushRate
CrushMod
Crush Control
Foot/CV
Cutoff
FilterMod
Filter Control