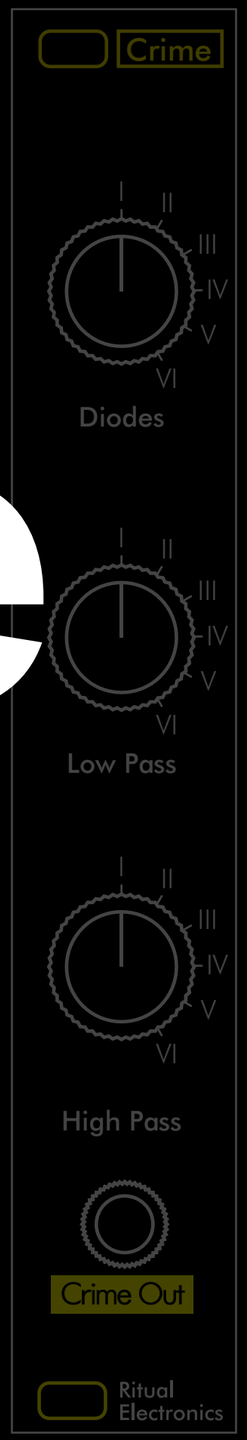
Crime

Ritual Electronics



Summary

Crime

Thank you for purchasing Ritual Electronics Crime.

Your module has been assembled with care in our studio in Marseille, France.

You can find your module on Modulargrid:
https://www.modulargrid.net/e/ritual-electronics-crime-

For any remarks and informations, contact us at:
contact@ritualelectronics.com

For video demos and patch ideas check:
https://www.youtube.com/ritualelectronics
https://www.instagram.com/ritualelectronics

Limited warranty

Ritual Electronics warrants this product to be free of defects in materials or construction for a period of one year from the date of purchase.

Malfunction resulting from wrong power supply voltages, backwards or reversed eurorack bus board cable connection, abuse of the product or any other causes determined by Ritual Electronics to be the fault of the user are not covered by this warranty, and normal service rates will apply.

During the warranty period, any defective products will be repaired or replaced, at the option of Ritual Electronics, on a return-to-Ritual Electronics basis with the customer paying the transit cost to Ritual Electronics. The return of your module is on us.

Ritual Electronics implies and accepts no responsibility for harm to person or apparatus caused through operation of this product.

Installation

Always turn your eurorack case off before installing a module.

Do not touch any electrical terminals when attaching any Eurorack bus board cable.

Crime does not have a shrouded header. Please connect it with care. Align the power cable's red stripe with the "Red" text on the module.

Ritual Electronics Crime does require 9mA on +12V, 7mA on -12V and 0mA on 5V.

You will need 4HP of free space in your Eurorack case to install Crime. The module is 25mm deep.

Crime is an expander for Miasma.
Crime can not be used without connecting it to Miasma with the included 4 pin cable.

Connection

I. Remove any diodes present in Miasma's female header on the back of the module (fig. I)

II. Connect the male end of the included cable to the Miasma's female header, black stripe must face down (fig. II)

III. Connect the other end of the cable to Crime's male header, same colour facing down (fig. II)

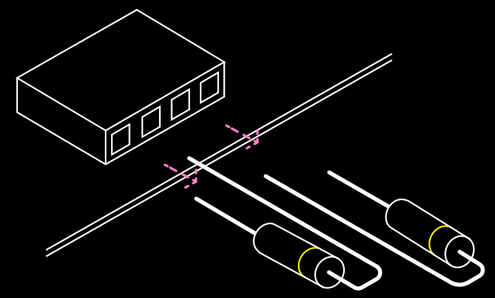


fig. I

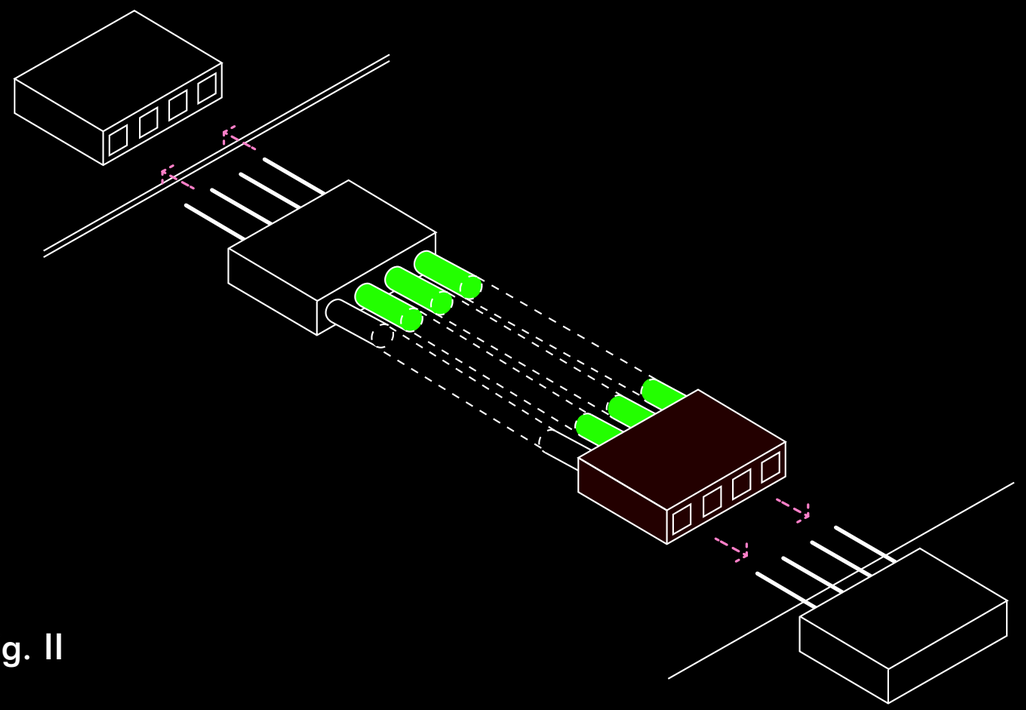


fig. II

Overview

Crime lets you chose from 6 different diodes for your Miasma, 6 different Low Pass frequencies and 6 different High Pass frequencies.

There are 5 diodes combinations you can chose from using the top rotary switch. Some give symmetrical distortions and some are asymmetrical.

Crime also has a female header on position VI for you to put your diodes of choice. You can also have this position witout diodes for extra harshness!

The Low Pass Filter in the distortion core can help tame high frequencies, specially when Miasma's feedback start to squeal.

The High Pass Filter is slightly resonant and works wonders whether it is to clean the low end or to create ear piercing noises.

Crime connects to Miasma with an included cable. It replaces the diodes in Miasma's female diode header. This way you won't have to take Miasma out of your case to change diodes and explore new distortion flavours.

Note each diode has a different voltage drop, resulting in different loudness. You can still compensate for volume changes using Miasma's level trimmer.

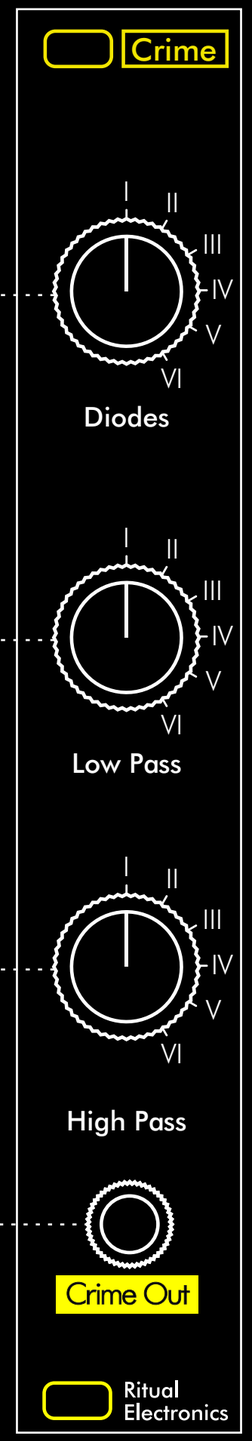
Crime controls

Diodes Rotary Switch
Chose between 5 different diodes combinations. Position VI is the module's female header - custom diodes

Low Pass Rotary Switch
Chose between 6 different low pass cutoff frequencies. Position I is fully open

High Pass Rotary Switch
Chose between 6 different high pass cutoff frequencies. Position I is fully open

Crime Out
Bypasses the additional gain stages and blend circuitry of Miasma



Diodes

You probably already messed with the included baggy of diodes sent with Miasma. With Crime you now have 6 different diode configurations on hand. They all have a different character. They are arranged from the "softest" to the hardest. The first 5 positions are as follow:

- - Position I is 3x 1N4148 diodes (the stock Miasma diodes) in an asymetrical configuration
- - Position II is 2x 1N4148 in a symetrical configuration
- - Position III is 3x BAS20 diodes in an asymetrical configuration
- - Position IV is 1x 1SS390 in an asymetrical configuration
- - Position V is 3x Blue LEDs in an asymetrical configuration

The sixth position is left for you to pick. We have installed a female header for you to slide in any diodes you want, as with Miasma's female header.
You can still use the original diode baggy and your beloved germanium diodes or coloured LEDs.
You can also leave the header empty for an extra hard position.

Low Pass

The Low Pass filter switches capacitors in the distortion's gain cell. It results in a one pole filter. Exactly where the diodes are. Different capacitor values give different corner frequencies.

This filter is very useful when Miasma's feedback starts squealing or to roll off the highs as the tone knob on a distortion pedal would.

- - Position I is neutral, no capacitor, no filtering.
- - Position II filters at 3.6 kHz
- - Position III filters at 2.7 kHz
- - Position IV filters at 1.4 kHz
- - Position V filters at 1 kHz
- - Position VI filters at 660 Hz

High Pass

The High Pass filter switches resistors in a special resonant high pass circuit*.
It works wonder to clean up the low frequencies or to generate ear piercing sounds.

The amount of resonance is frequency dependent. It means the further you go in the positions, the more resonance you have. Depending on your input signal and feedback setting the filter can self oscillate.

- - Position I is neutral, no filtering.
- - Position II filters at 75 Hz
- - Position III filters at 175 Hz
- - Position IV filters at 375 Hz
- - Position V filters at 555 Hz
- - Position VI filters at 666 Hz

* Due to Miasma's circuits I had to look for a long time to find a way to implement a HPF for Crime. For the nerds out there you can check TI's 2008 paper "A new filter topology for analog high-pass filters" on which the filter is based.

Crime Out

Crime connects to Miasma’s first gain stage, where the diodes are. The signal is then passed on several other gain stages to give it character and to round it off. Finally it goes in the Blend circuitry.
If you don’t want any of these refinements, use Crime Out.

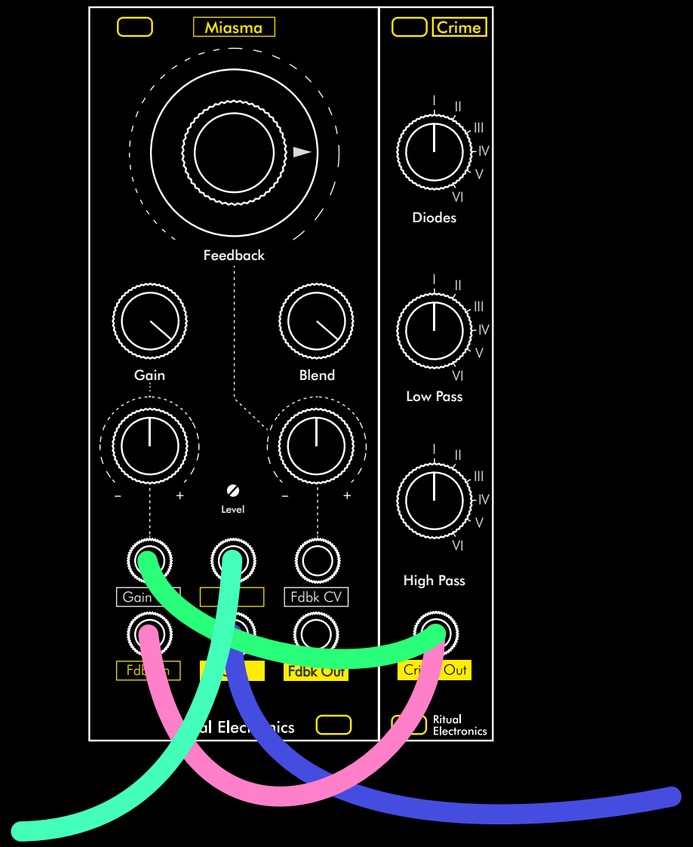
Crime Out bypasses all the bells & whistles to focus on a raw, violent and squarish signal.
Special bonus: it is a bit louder - depending on the diodes selected and your input signal this output may go up to 20Vpp!

Switching Technology

Crime's first version (2018-2020, RIP) was very primitive. Its first purpose was to change diodes without taking Miasma out of your rack.
Of course it soon started to be used as a performance tool. With one drawback. When changing diode, the rotary switch would disconnect for a fraction of a second resulting in a loud beep. I was not pleased with this. When done on loud sound systems it was a bit annoying... and potentially ear damaging.

Many solutions were tried in the 2+ years of development. We finally settled for a super fast electronic switch, controled by the original rotary switch. This way the pleasant feeling of switching remained while the electronic switch IC made sure to switch in literally no time, avoiding the beeeeeeeeeeep.

Overkill some would say (it is a lot of circuitry for such a small module) but the interaction and precision are great. Worth it, trust me.

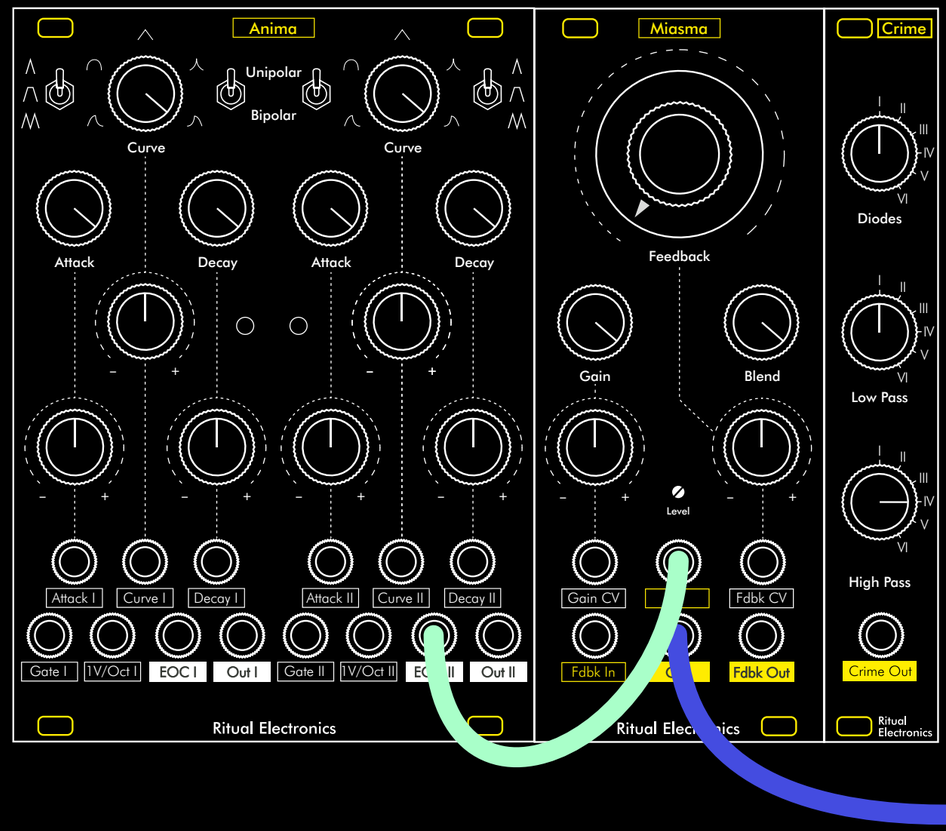


Patch #1 - Self Patching

The Crime Out can be used in the Feedback In of Miasma, or as an audio rate modulation signal for the Gain or Feedback CV inputs.

Patch notes

Crime, Crime Out ——— Miasma, CV ins
Crime, Crime Out ——— Miasma, Fdbk In



Patch #2 - Disortion ping

Since the High Pass filter in Crime is resonant, it can be pinged to create percussions. Try different cutoff frequencies, adding Low Pass filtering and feedback!

Patch notes

Anima, Trigger Out ——— Miasma, In