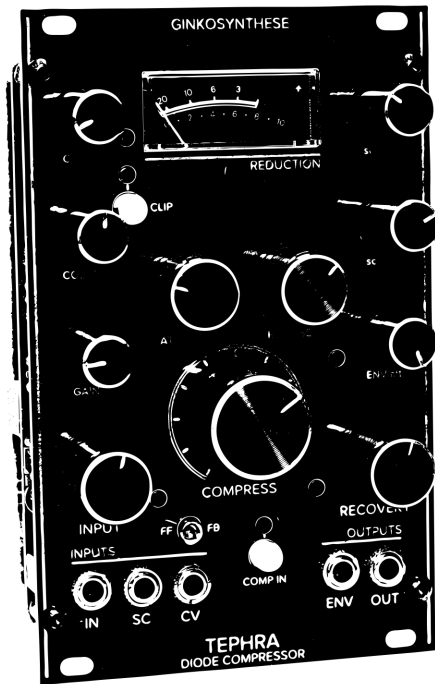


Tephra is fragmental material produced by a volcanic eruption regardless of composition, fragment size, or emplacement mechanism.
(wikipedia.org/wiki/Tephra)



TEPHRA

DIODE COMPRESSOR

TEPHRA # /150*
Designed by Jan Willem Hagenbeek
Handmade in The Hague
The Netherlands
Riso print by Stelcilwerck

*only 130 will be available for sale

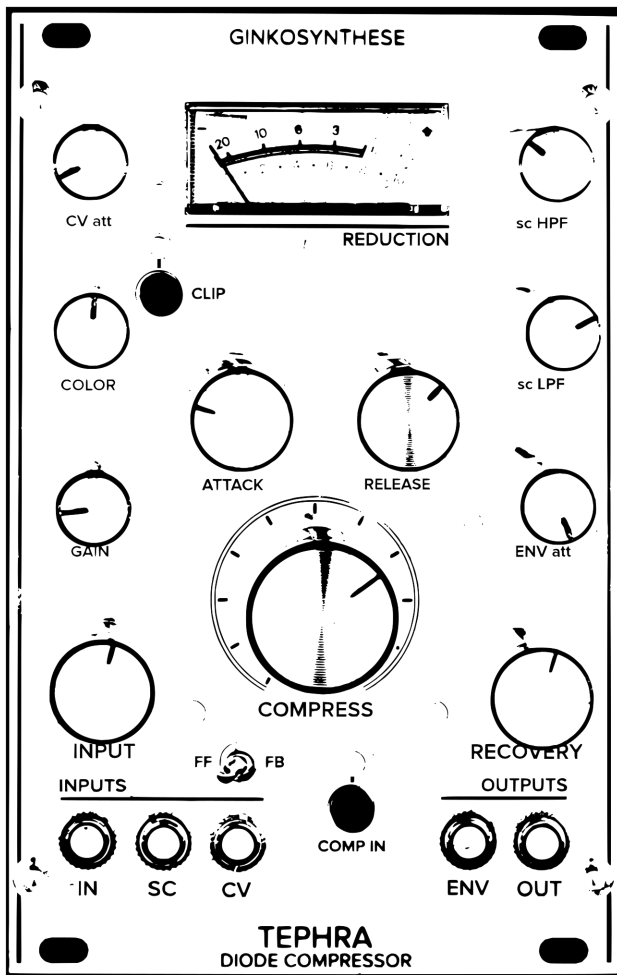
The TEPHRA is a diode bridge based compressor for eurorack with a novel circuitry and a classic sound! The compressor is not a clone of any compressor in the world and is build around an unique schematic which is designed with countless hours of trial and error and many hours of finetuning. This schematic was designed for the MAGMA compressor but further expanded and tweaked for the TEPHRA. The diode bridge compression gives it an unique character.

There are many different ways to shape the sound with the TEPHRA, it can be set smooth as a master compressor, it can pump aggressively, it can bring extra warmth or smash everything with a rounded distortion. The controls on the frontpanel will give you control over every little detail in your sound. On the next pages you will learn more about how to use your TEPHRA in different settings and how to set it up.



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INPUTS

IN: audio input
 SC: side chain audio input
 CV: side chain CV input

CONTROLS

INPUT: audio input attenuator
 GAIN: input* gain boost
 COLOR: tilt eq
 CLIP: soft clip/limiter engage switch
 CV att: attenuator on CV input
 ATTACK: side chain envelope attack time
 RELEASE: side chain envelope release time
 COMPRESS: amount of compression
 ENV att: attenuate CV from envelope follower
 sc LPF: lowpass filter on side chain audio
 sc HPF: highpass filter on side chain audio
 RECOVERY: sets output volume
 FF/FB: feed forward / feed backward switch
 COMP IN: engage / bypass compressor

OUTPUTS

ENV: envelope CV output
 OUT: audio output

* The GAIN and COLOR are linked together and can be set to boost the input or the output of the compressor with a switch (drive) on the back. This will change the character of the compressor.

How to set up your TEPHRA

The TEPHRA is a multipurpose compressor which can be used on individual instruments, drums or on the end of the chain. It is important to understand what the compressor does to get everything out of the module.

GAIN staging

The compressor has an internal envelope follower which is reactive to the amount of gain fed into the module. More gain does not necessarily mean more compression as you might lose dynamics. To set the input gain correct, dial in the INPUT knob till the LED starts to flash only on the loudest parts. Everything above this volume will get a more distorted character which can bring a nice crunchy flavour to the sound if desired. This can be pushed further with the GAIN knob when the drive is set at pre (switch on the back). Use the COLOR knob to accentuate more highs or boost more low frequencies. The compressor will react different on different color settings.

Put the ENV att knob completely clockwise and check if the LED next to this knob lights up. This means the envelope follower generates a CV signal. If the LED does not light up you might need to change the side chain high- and lowpass filter. The HPF and LPF form a bandpass filter together, but can also filter away the complete audio from the side chain when not set correct. Start with sc HPF fully anticlockwise and sc LPF fully clockwise.

If you turn the COMPRESS knob fully clockwise the audio will get more compressed when the envelope follower generates a CV signal.

The output gain is set with the RECOVERY knob. To check if the output volume is the same level as the input volume, turn on and off the compressor with the COMP IN button. Note that more compression needs more recovery gain.

CV control

The CV input is parallel to the CV generated by the envelope follower. Use an external CV source to add more texture to the sound.

ATTACK RELEASE

The CV signal of the envelope follower can be shaped with the ATTACK and RELEASE knob. Play around with different settings and listen what it does with the sound. A fast attack and short release can make the sound more aggressive and nervous. For processing drums a fast attack removes more of the transients while a long attack makes the compressor do less with the sound. A good start is the attack knob around 9 o'clock and search from there to the best setting. The release time is depending on the BPM of the drums, just play around to find the setting you like most. For mastering and processing synth sounds a slower attack might work better to your taste.

FF/FB

Most compressors are or feedforward or feedback compression. The TEPHRA can do both! To understand why one of the two settings sound better on your material you should understand what the difference is between FF and FB. FF and FB are the point where the internal envelope follower gets its audio signal from the circuit. In FF setting the envelope follower gets the audio signal directly from the audio input. In FB setting the envelope follower gets its audio signal after the compressor. In general FF is a more direct and aggressive way to compress and more suitable on drums while FB is more "organic" and better on the end chain or synth sounds.

CLIP

The TEPHRA has a soft limiter clipping circuit to remove peaks from the output signal. The amount of clipping is dependent on the gain staging. More gain means a more fuzzy sound. To just tame the sound make sure you set the gain staging right and it will just only remove some peaks.

Technical details

Width: 16HP
 Depth: 22mm
 +12V: 39mA
 -12V: 33mA