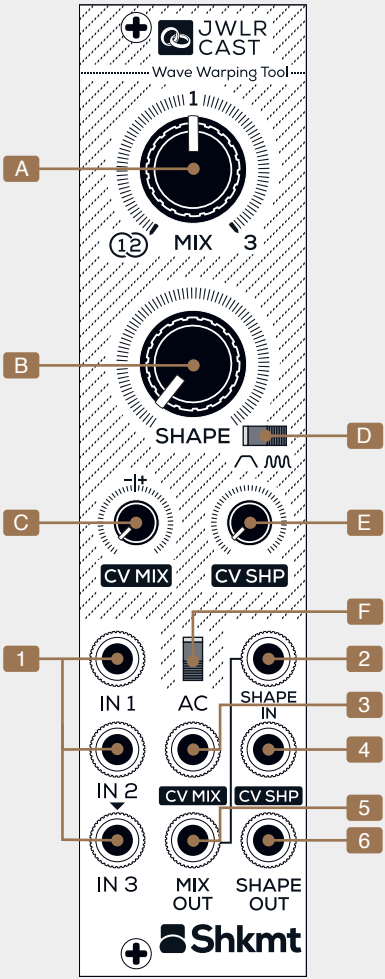
Shakmat Jeweler Cast

- 6HP Eurorack Module
- Built & designed in E.U.
- www.shakmat.com


JWLR
CAST
Wave Warping Tool
1
MIX
3
SHAPE
CV MIX
CV SHP
IN 1
AC
SHAPE
IN
IN 2
CV MIX
CV SHP
IN 3
MIX
OUT
SHAPE
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A
B
C
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1
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6

Introduction

The Jeweler Cast is a genuine wave craftsman: it melts, bends, and chisels all types of signals, audio, or CV. Composed of two independent sections, the Mix, and the Shaper, the Jeweler Cast combines a ring modulator, a crossfader, a wavefolder and a distortion. Thanks to its tool ensemble, this fully analog yet compact module can manipulate basic waveforms and complex signals in infinite ways.

- A Mix potentiometer
- B Shape potentiometer
- C CV mix potentiometer
- D Distortion/Wavefolding switch
- E CV Shape potentiometer
- F AC/DC switch

- 1 Inputs
- 2 Shape input
- 3 CV mix input
- 4 CV shape input
- 5 Mix output
- 6 Shape output

Installation

The Jeweler Cast requires a standard 2x5 pin eurorack power cable. Make sure the red stripe on the cable matches the -12V side of the Jewel Cast power header.

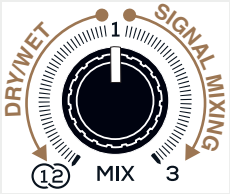
Mix section

The Mix potentiometer [A] is a complex crossfader that blends three different sources :

Middle postion is the signal inserted in input 1.

Clockwise from the middle position, the potentiometer crossfades between inputs 1 and 3.

Counterclockwise from the middle position, it crossfades between input 1 and the result of ring modulation between inputs 1 and 2. The ring modulator is diode-based, giving a more vintage sound than the classic four-quadrant multipliers.



Simply: the left range of the potentiometer acts as a dry/wet for the ring modulator, while the right range allows signal crossfading.

INFO

Input 3 is normalized to input 2 for easy patching!

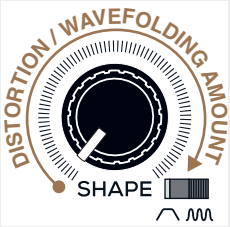
The mix parameter can be CV controlled [3] and has an attenuverter [C] to set the amplitude and the phase of the controlling signal.

Shape section

This section is normalized to the output of the mix section. It has two modes, selected via the Shape switch [D]: distortion and wavefolding. Fully counterclockwise, the Shape potentiometer [B] provides a fully dry signal.

The distortion is something between an overdrive and a clipper. The potentiometer [B] crossfades between the dry and distorted signals while adding more gain. Fully clockwise, any waveform is almost turned into a square wave.

The wavefolder is a 6-stage serial folder. It can slightly add harmonics at lower settings by overdriving any signal. At higher settings, it works best with low harmonic signals such as sine or triangle waveforms.



The shape parameter can be controlled by CV via the Shape CV input [4] which can be attenuated with the Shape CV control attenuator [E].

Both modes of the Shape section can mangle any signal but have been designed to work best with 10V peak-to-peak signals. For use with external signals, use a gain module upstream.

AC Switch

The module handles DC components and very low frequencies by default, which opens the door to CV mangling. The ring modulator will act as a CV multiplier, the Mix section can crossfade between modulation sources, and the Shape section can easily twist LFO waveforms.

When working with audio range signals, we advise you to turn the AC switch **[F]** on to remove the DC component on the outputs. This gives better results on feedback patches or if you want to ensure that you are within the -5 to +5V range.

Patch Ideas

Jeweler Cast was initially designed to mix and process two VCOs. With a few knob turns, it makes it possible to merge, ring mod, wavefold, or distort the VCO outputs without changing your patch.

But why limit yourself there?
Below are a few ideas to get you going.

• **Dry wet folding:** wavefolding sounds fantastic but tends to enhance the highest part of the spectrum while removing the fundamental frequency, which sucks the life out of bass sounds. To remediate, send a sine waveform in input 1 of the Mix section and in the Shaper section while in wavefold mode. Send the output of the Shaper section in input 3 of the Mix section and monitor the output of the Mix section; you get a blend of the higher harmonics of the wavefolder and the fundamental frequency.

• **AM–ring modulation combo:** CV controls can be modulated at audio rate! This allows you to create a combo of AM and ring modulation using three different waveforms. Send the first one to input 1 of the Mix section, the second to input 2, and the third to the CV Mix. Set the mix potentiometer around 10 o'clock and the mix CV potentiometer around 3 o'clock and listen to the Mix Out

• **Ring modulation with dry and wet signals:** You can create original waveshapes using the ring modulator, fed by a waveform sent to input 1 and the same waveform processed by the shaper section sent to Mix input 2.

• **Simple VCA:** The Mix section can be used as a simple linear VCA when using only input 1. Set the Mix potentiometer fully clockwise, and modulate the mix parameter with its attenuverter between fully counterclockwise and noon, based on your CV source.

Specifications

Size	Audio inputs & outputs
6 HP	-5 to +5V
Depth	CV inputs
21 mm	-5 to +5V
Current Draw	CV outputs
75 mA @ +12V	-5 to +5v
65 mA @ -12V	

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