

# ***Magwitch Modular Slewl***

*Eurorack Module*

*User Guide*



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## Specification

Width	6 HP
Depth	25mm
Power	+12V 30mA, -12V 25mA, +5V 0 mA
Channels	1
Inputs per channel	2 CV, 1 Signal
Outputs per channel	1
Input Signal	-10V to +10V
CV Signal	0V to 5V
Output Error	< 0.5% into 100K impedance

## Description

Slewlum is a single channel slew limiter. You connect a signal to the input and connect the output to a destination (e.g. an oscillator pitch CV input). Slewlum will then slow down the rate of change of your input signal, depending on the setting of the rate pots. Turning a **rate** pot anti-clockwise will slow down the rate of change. Slewlum can independently control the rate of rise (increasing voltage) from the rate of fall (decreasing voltage), hence the two rate pots.

Slewlum is capable of a wide range of rise and fall times, from tens of milliseconds to multiple seconds. However its upper limit is not ideal for audio frequency signals as input.

Each rate pot has an associated **CV input and attenuverter** – this will add a portion of the control voltage to the rate pot setting, the exact amount depending on the attenuverter pot setting. Increasing the CV voltage will increase the slew rate, decreasing it will reduce the slew rate.

When an attenuverter pot is vertical, no CV will be mixed. Turning clockwise gradually increases the amount of CV **added** to the rate pot setting, turning anti-clockwise gradually increases the amount of CV **subtracted** from the rate pot setting.

There are also two shape pots, one for rise and one for fall. These adjust the shape of the rise or fall slope, from exponential (pot anti-clockwise) through linear (pot vertical) to logarithmic (pot clockwise).

Finally there is an LED indicating the level and polarity of the output signal: this is **green for positive** and **red for negative**. The brightness of the LED color indicates the absolute voltage, being brighter for higher voltages.

# Examples of Use

## Glissando/Portamento

Connect the Slewlim in between a pitch CV output (e.g. from a MIDI-to-CV converter or sequencer) and an oscillator's pitch CV input. The oscillator pitch should then glide from note to note, rather than changing immediately.

Use the Slewlim rate controls to set how fast you want the oscillator to glide. You could also patch some of the pitch CV to the Slewlim's CV inputs to change the rate of glide based on note pitch, and even use the shape controls to make the glide more "swooping", or more gradual.

## AR Envelope

Send a gate signal into the Slewlim, and connect its output to a VCA, low pass gate or filter CV input. Play a note triggered by the same gate through the VCA/LPG/filter, and you should hear the latter apply itself with an attack and release that you can then adjust using the Slewlim rate and shape controls.

Patching some pitch CV into the Slewlim CV inputs can be used to make the attack and/or release change as pitch changes, e.g. to become quicker for higher pitches.

## LFO Wave Shaping

Connect a square wave LFO of around 120Hz or less into the Slewlim, and the output will be a trapezoid wave. Adjusting the rise and fall rates will change the gradient of the edges. This can be useful to provide a different "feel" to slower modulations, or to "round off" higher frequency modulations that may be causing audible "clicking".

The amount of gradient adjustment depends on the LFO frequency – the higher the frequency, the less amount of gradient adjustment can be done before the wave shape gets changed dramatically away from being a trapezoid.