modules for VCV Rack

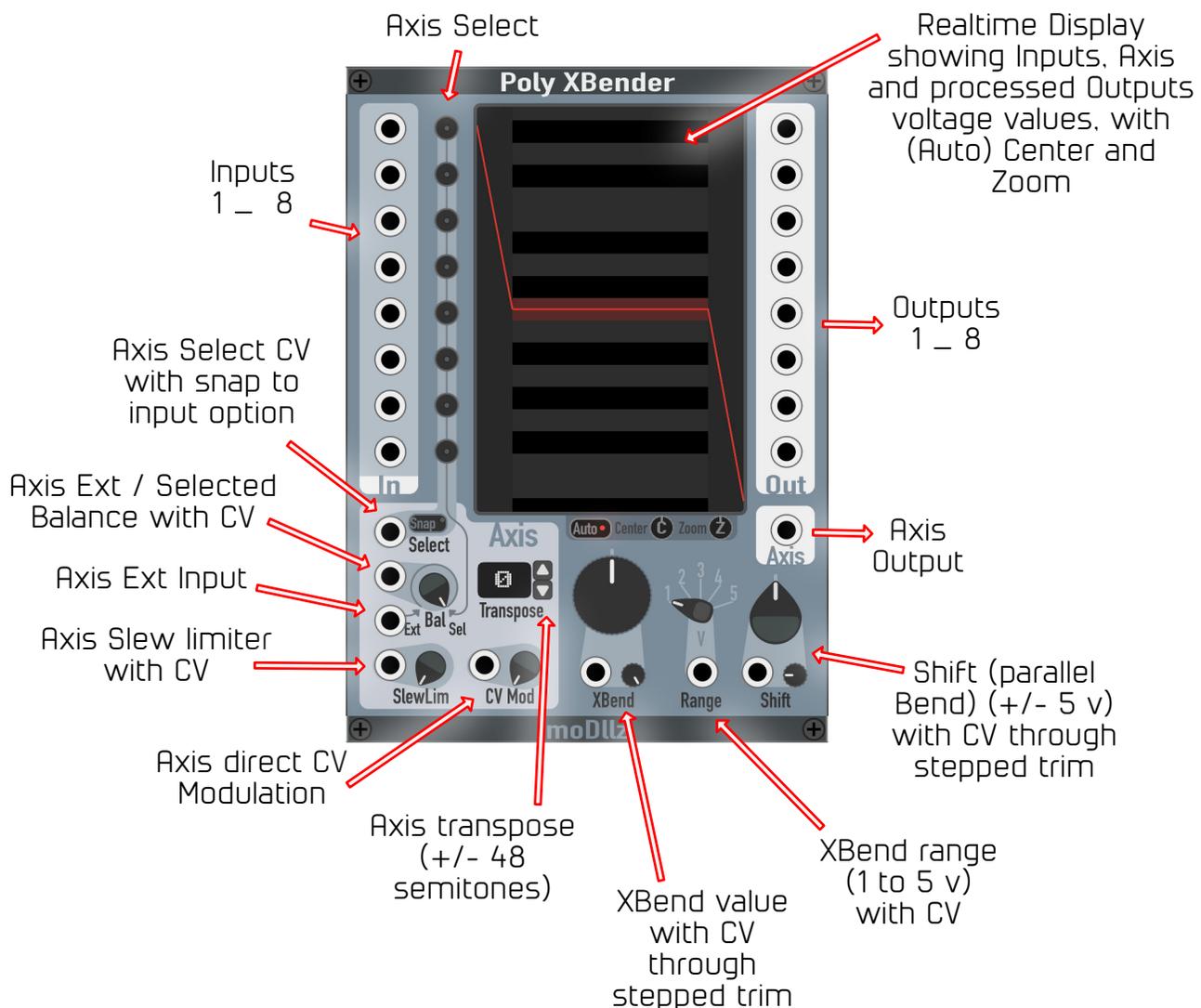# Poly XBender

Multi Signal Axis Modulator

In this module all the input signals are processed according to an Axis signal and a XBend value. The XBend value is a factor of the difference between the Axis and the Input Signal.

*Output = Input + (Axis – Input) * XBend*

At 0 xBend there is no change. From >0 to <1 all signals converge to the Axis. At 1 all signals match the Axis. After that (XBend >1) the signals diverge from the Axis (they double their difference every 1v).

On negative XBend values the signals also diverge (to the other way) from the Axis doubling their difference every -1v.

The Axis can be selected from any of the inputs, or from a dedicated input (with balance mixing between the two options). It also can be modulated, transposed and slew-limited (gradually changing to its new value when updated)

Axis Select

Realtime Display showing Inputs, Axis and processed Outputs voltage values, with (Auto) Center and Zoom

Inputs 1 _ 8

Axis Select CV with snap to input option

Outputs 1 _ 8

Axis Ext / Selected Balance with CV

Axis Ext Input

Axis Slew limiter with CV

Axis Output

Shift (parallel Bend) (+/- 5 v) with CV through stepped trim

Axis direct CV Modulation

Axis transpose (+/- 48 semitones)

XBend value with CV through stepped trim

XBend range (1 to 5 v) with CV

Example of 5 signals from a
MIDI to CV module, displaying
the corresponding values
The second input is selected as
Axis (red Line) for XBending

The display automatically
(or manually) zooms and
aligns to center

5v cv applied to
the XBend, with 1v
Range: All output
signals match the
Axis (Input 1).
CV input is 24
step-trimmed

XBend Range
increased to 2v.
The output signals
diverge from the
Axis, ending up
"mirrored" from
their inputs

Range
increased
to 5v

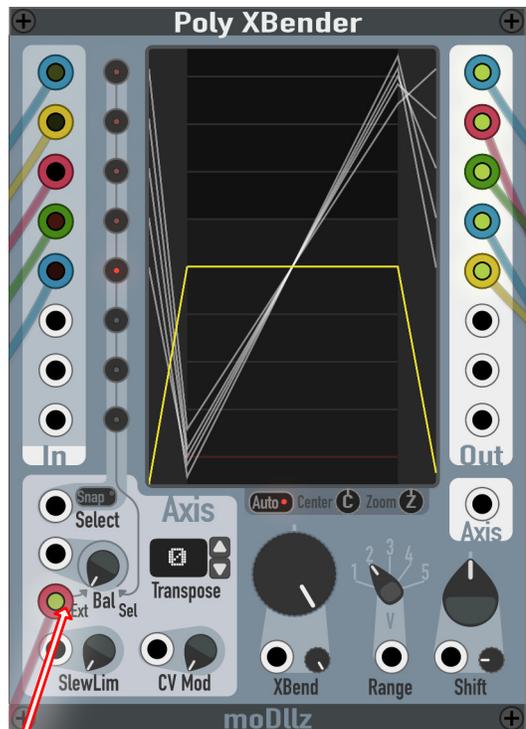Same signals but Axis
changed to input 4

Axis can be selected from CV continuously (crossfading inputs) or snapped to inputs

Axis can be balanced (with Knob or CV) between Selected (from inputs) and External (from dedicated input)

Here the Axis Balance is close to 50% (Axis line color is blended accordingly)

Axis Balance at 100% External (Axis Line turns Yellow). External is 4v so outputs get stretched up. Autozoom zooms out.
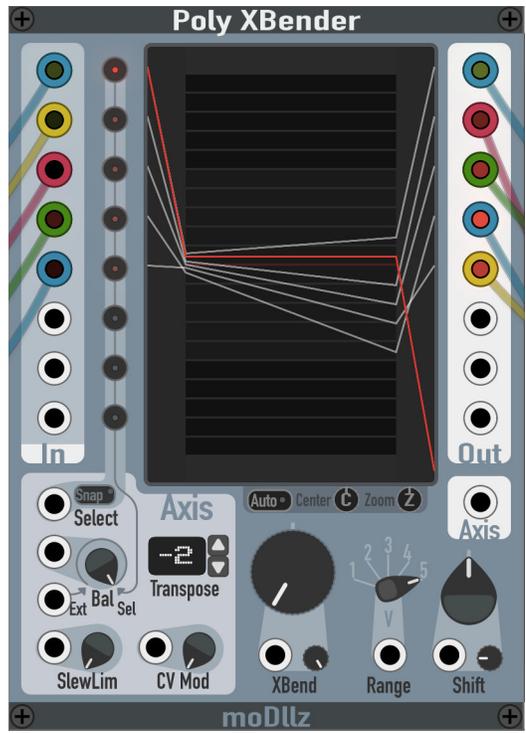
The Axis can be shifted with stepped Transpose and direct CV Modulation

Outputs can also be directly shifted (regular Pitch Bend) with dedicated Knob or CV with stepped trim

Example of XBending to negative value (5v Range). The outputs diverge from the Axis (input 3)

Example of full Zoom out to +/- 12v (Auto-Zoom off)