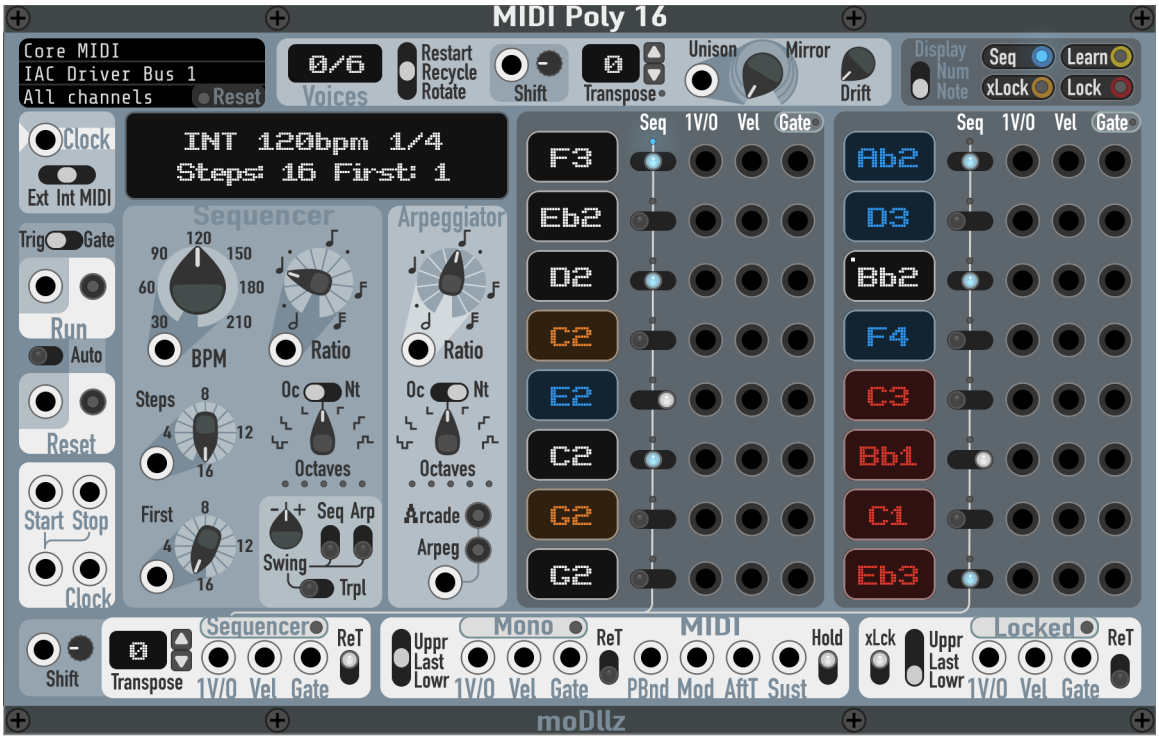
modules for VCV Rack

MIDI Poly 16

Poly & Mono MIDI to CV interface + Sequencer + Arpeggiator

This module converts MIDI notes (and basic controllers data) to CV, providing up to 16 independent “voices”. It also has independent Mono output sections for played notes (lowest, highest or last played note) with Arpeggiator, Locked (memorized) notes, and a 16 step Sequencer.



The incoming MIDI notes are dynamically assigned to 16 “Pads”, with independent 1V/Oct, velocity and gate outputs each.

The Pads display the Note name (or MIDI note number), and briefly show the Velocity value when receiving a new note. (Pads can be clicked for quick preview of their output)

The Pads work in 4 different modes, (displayed in different colors.)

The dynamic or "live" Polyphonic mode is the default setting. In this mode the Pads just "play-through" the incoming notes.

In Sequencer mode, the Pads are played by the Sequencer. They ignore the incoming MIDI notes, thus reducing the number of “live” [Poly] available "voices".

To enable/disable Sequencer mode, engage the

button and click the desired pad.

In this mode, notes are assigned to the Pads using the

function.

When Learn is engaged, a clicked Pad goes into “learning" mode, awaiting for the next MIDI note. After receiving the note, the Pad saves it and goes back to its previous state.

While on “learning state” the Pad note can be changed with the transpose buttons from the Voices panel (note that the display stays on its value)

In Locked mode, the Pads are "locked" to the assigned note, so they play when the incoming MIDI note matches. The incoming note also plays normally through the [Poly] pads.

To enable/disable Locked mode, engage the

button and click the desired pad. Locking a Pad will also reduce the number of "live" [Poly] available voices.

In Locked mode, notes are also assigned using the

function.

Locked Exclusive mode is similar to [Locked], but in this case, the matched note does NOT play through the [Poly] pads. This basically mutes that note from the Poly "live" section.

To enable/disable Locked Exclusive mode, engage the

button and click the desired pad.

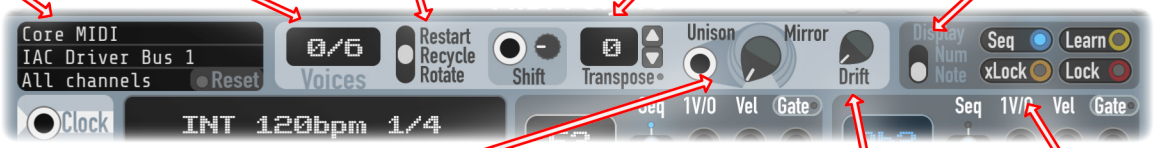
Poly Voices Played of total Available (depending on Pad modes)

Poly Pads Voice assignment modes:
Restart: use first available
Recycle: repeat last used and continue to next avaliable
Rotate: use next available

Poly 1v/o outputs Transpose or Shift +/- 48 semitones and CV in with stepped trim (Notes display without transpose on the Pad)

Pad display modes: Note names or MIDI note number

MIDI input settings and Reset



Poly Bender : > Unison > Mirror

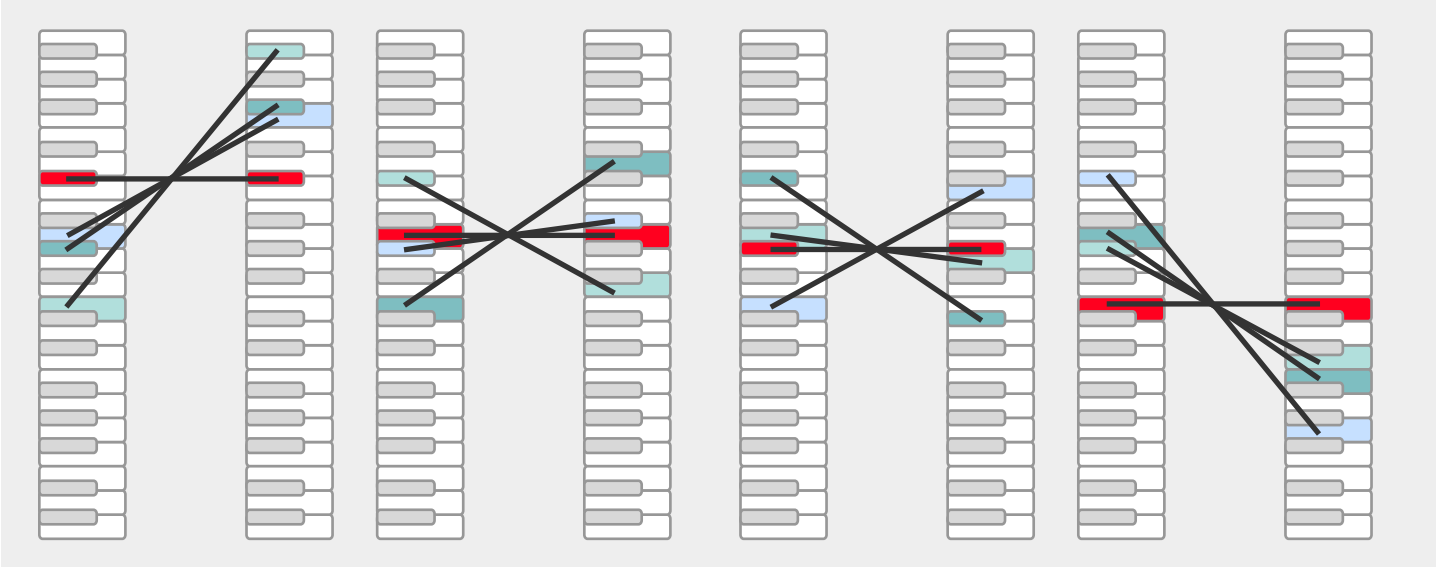
Pad modes assignment buttons

Each of the playing Poly notes is modulated up or down to match the Mono note (which is automatically selected according to the Mono output voice setting Upper/Last/Lower played) (see next page)

Unison occurs at halfway. After that the modulation continues until reaching the mirrored note interval (with the Mono note being the axis)
If a CV 0-10v input is connected, the Knob controls the Range of modulation (0v is zero , 10v is Knob value)

Drift applies slow random ramps to all the 1/Voct outputs, simulating a non-stable analog signal

Poly Bender example: Here's a chord (E3 G#3 A3 C#4) processed with the Poly Bender, with different Mono settings. At half way all notes match the Mono note. Then they continue up/down until the mirrored chord



Mono Upper (Highest from Poly =C#4)		Mono Last (Last note played from Poly. = A3)		Mono Last (Last note played from Poly. = G#3)		Mono Lower (Lowest note from Poly. = E3)	
C#4	A#4	C#4	D4	C#4	C4	C#4	E3
A3	F#4	A3	Bb3	A3	Ab3	A3	C3
G#3	F4	G#3	A3	G#3	G3	G#3	B2
E3	C#4	E3	F3	E3	Eb3	E3	G2

More info: https://www.facebook.com/dllmusic/videos/10155837031103787/

Sequencer Outputs with Gate mute for easier workflow (mute is not saved)

Mono from Poly Outputs (with Gate mute) and MIDI controllers

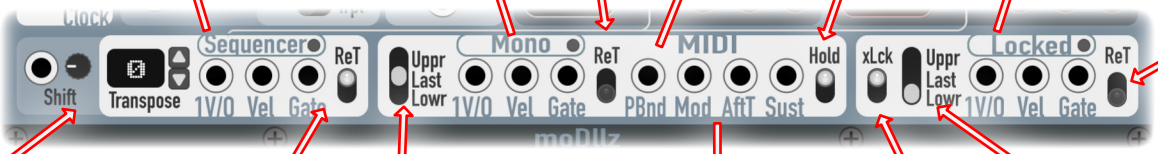
Gate Re-Trigger

Hi-Res Pitch Bend +/- 5v

Sustain notes hold

Locked Pads Mono Outputs (with Gate mute)

Gate Re-Trigger



Sequencer 1v/o Output Shift +/- 48 semitones and CV in with stepped trim

Gate Re-Trigger on every step

Mono output "voice" from Poly Pads **Upper** bound **Last** played or **Lower** bound

Modulation CC1, Channel Aftertouch and Sustain CC64

include xLock Pads on Locked outputs

Mono output "voice" from Locked Pads **Upper** bound **Last** played or **Lower** bound

BPM: 20 to 240 snapped to integer values. When added CV input is present values are not snapped

Sequencer & Arpeggiator Clock Ratios:
Half | Qrt dotted | Half Triplet | Qrt | 8th dotted | Qrt Triplet | 8th | 16th dotted | 8th Triplet | 16 th | 16 th Triplet | 32nd | 32nd Triplet
+ CV inputs

Pad Sequencer routing
Don't play (mute Step)
Play on Sequencer Output
Play on Sequencer and Pad Outputs

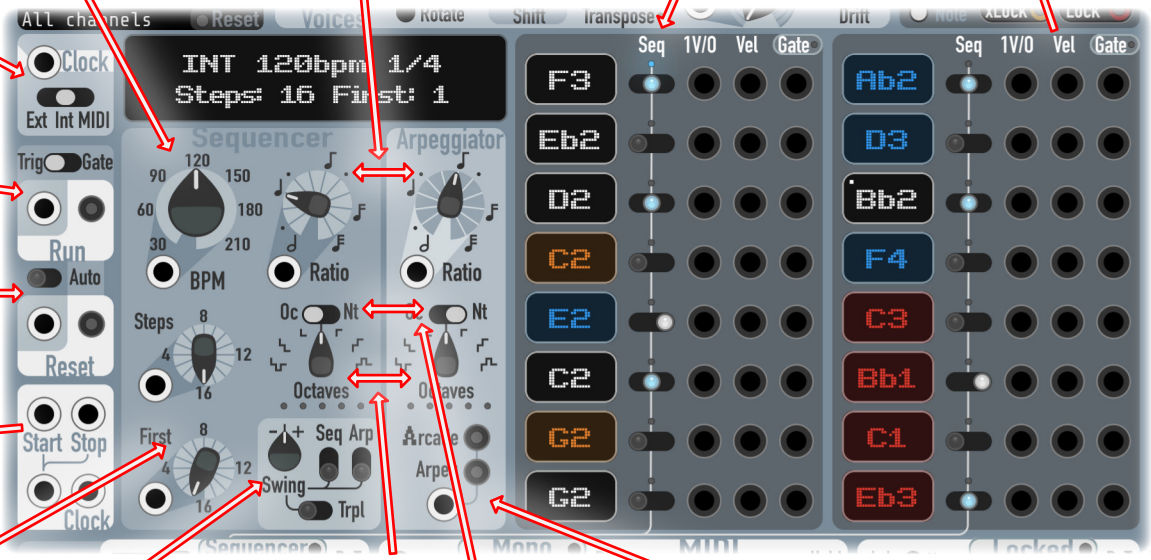
16 x Pad Outputs (with Gate mute)

Clock Source & EXT clock input

Run Sequencer with external Trigger/ Gate input

Reset Sequencer to first step + Auto Reset on Run option

Start & Stop Triggers and Clock Outputs



Sequencer number of **Steps** and **First** step (offset) with CV inputs

+ or - swing for Sequencer / Arpeggiator, relative to ratio selected. Option to apply swing to **Triplets**

Sequencer / Arpeggiator Octaves cycler
0 -1 -2 -1
0 -1 -2
0 -1
0
0 +1
0 +1 +2
0 +1 +2 +1

Cycle mode
Octaves first then notes, or
Notes first then octaves

Arpeggiator for Mono output (with Ratio and Octave cycler)
Arcade mode (fast scan independent from BPM) with CV in