



Musical Composition x Modular Generation

by Path Set and Joop van der Linden

Our Story

JPEvo is Joop and Path's self-Evolving sequencers filled with composition techniques with modular aesthetics.

Harness sequencers that can react to your melodies like a jazz musician improvising on compositions.

Blend rhythmic subdivisions with weighted note pools to author or randomize rich melodies that mutate over time.

Your companion awaits...

Modules

JPEvo has three sequencers:

Evo Endless - Bounce endlessly between eight different note pools in an always evolving sequence. Page 21 to 25.



Evo Cycle - Evolving melodies that cycle back to their starting point. Page 11 to 15



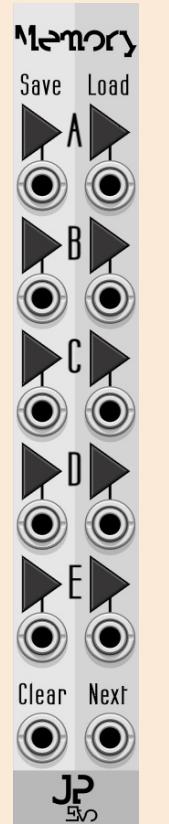
Evo Mirror - Flip flop between two parallel eight-step sequences. Page 16 to 20.



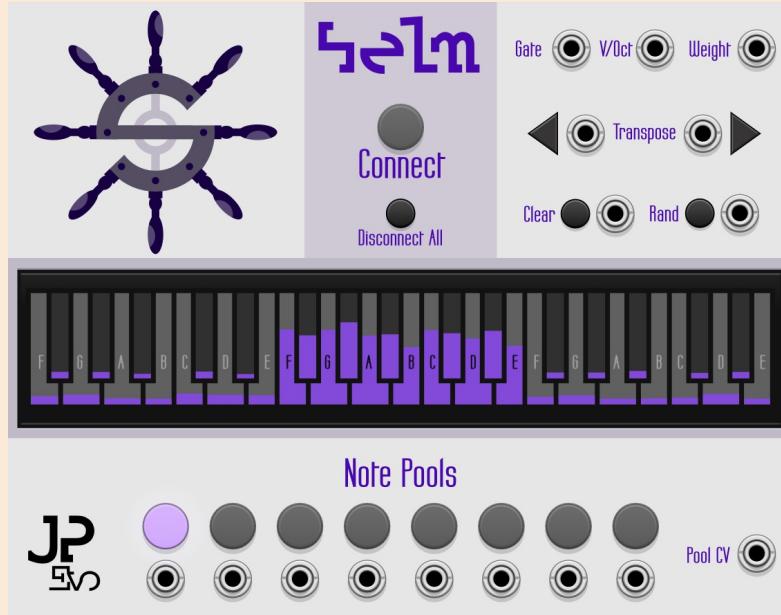
Modules

JPEvo also has an expander and utility module:

Memory - Expander
for any main JP
sequencer. Five CV
controllable save
slots for sequences.
Page 26.



Helm - Dedicated extended note pool control that can be connected to multiple JP sequencers at once, including those with no keyboard. Page 27 to 28.



Tip: Mix and match expanders between JPFree JPLab & JPEvo.

כוננה: Note תחובות

Tip: These concepts apply to all main sequencers in JP plugins.

Note Pool

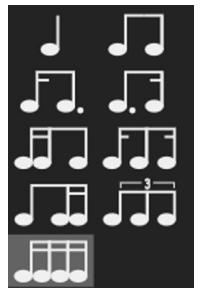


These are the notes the sequencer uses. Left click to add a note. Right click to remove it. Each note has a weight you can set by clicking and dragging the note. The weight controls how frequently the note appears when CV is randomized.

Note Block



One beat of the sequence. Each note block can contain up to four notes in one of nine different subdivisions. Left click to cycle forward through the options. Shift + Left click to cycle backwards. Right click to see all options and select one.



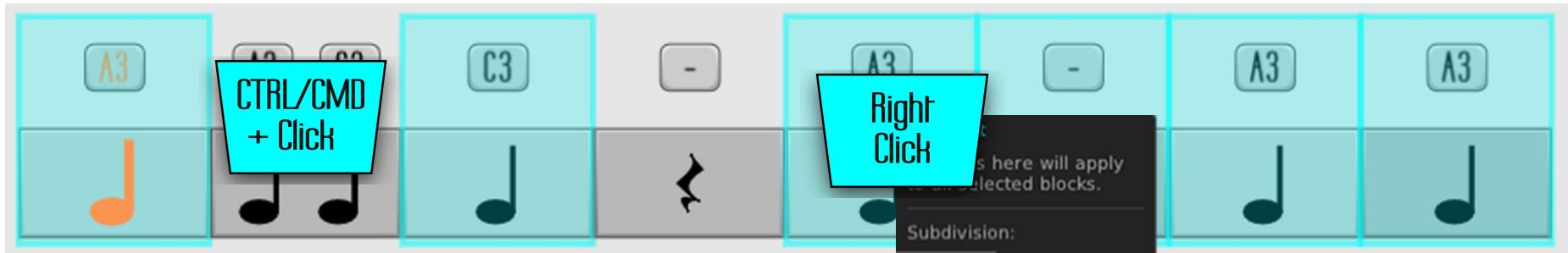
Note Button



Each note in the sequence has a note button. Click to bring up a keyboard where you can select a note. Use the slider at the top to set microtonal notes. You can also add Rests and Ties. Ties can only be set on the first note in a block. Rests can also be set directly by shift clicking a note button. Finally there is an Auto Advance button that you can use for quick note entry.

Common: Bulk Selection

Tip: Copy and paste between any main sequencers in JP plugins.



Select multiple blocks for easy editing using
Ctrl + Click / [Cmd on Mac]

TIP: When pasting blocks, only selected blocks are pasted over

TIP: Pasting smaller number of blocks than selected will repeat the pattern.

TIP: Right Click unselected blocks to modify one block at a time.

Right Click any selected blocks to copy, paste, randomize, or shift.

Common: Clock Mode

Gate Mode

In this mode the input clock is expected to be a consistent square wave with a peak of 2v+ and a vally of 0v. Each full cycle of the clock one whole note block is played.

If an inconsistant clock is used the modules will do their best to keep up, but will likely be a few cycles behind.

The duty cycle of the square wave is ignored.

Phase Mode

In this mode the clock input is expected to be a triangle wave from 0v to 10v. Other signals that are similar to a triangle wave can create interesting rhythms and clock lengths.

Note that in order for the note block to advance, the input signal has to drop from above 9v to below 1v in a single frame.

Tip: To avoid skipping the first note block, use Impromptu Clocks and turn on On Start > Send Reset Pulse.

Common: Right Click Menu

Clock Settings

Gate Length - How long each **Gate** output is high.

Swing - Add swing to each Note Block.

Clock Mode - Switch between a typical clock and a phase clock.

Randomize - Allows you to randomize CVs or Rhythm of the sequence.

Shift & Shuffle - Allows shifting and shuffling of the sequence. Behavior is similar to Shift & Shuffle expander.

Set Rhythm - Sets every note block to the same subdivision.

Note Pool - Set or Edit the note pool.

Custom - Set note pool using a keyboard.

Presets - Pick from several presets scales and root notes.

Shift - Shift notes by semitones.

Randomize - Randomize the note pool.

Clear - Clears the note pool

Copy/Paste - Copy or Paste the note pool to the clipboard.

Copy/Paste - Portable Copy and Paste

Sequence - Copy and Paste sequences between any JPLab sequencers and other sequencers supporting the [portable format](#).

These are interoperable with the bulk selection's copy and paste tool as well.

Note Pool - Copy and Paste the current note pool between any JPLab modules.

L-Var and **Invert Mode** are explained on the next two pages.

Permitted Rhythm Evolutions - Lets you set which rhythm options can be selected for evolutions.

Fill Remaining Sequence - Randomly fills in all note blocks not active, using note blocks that are active.

Expanders - Easy way to add expanders.

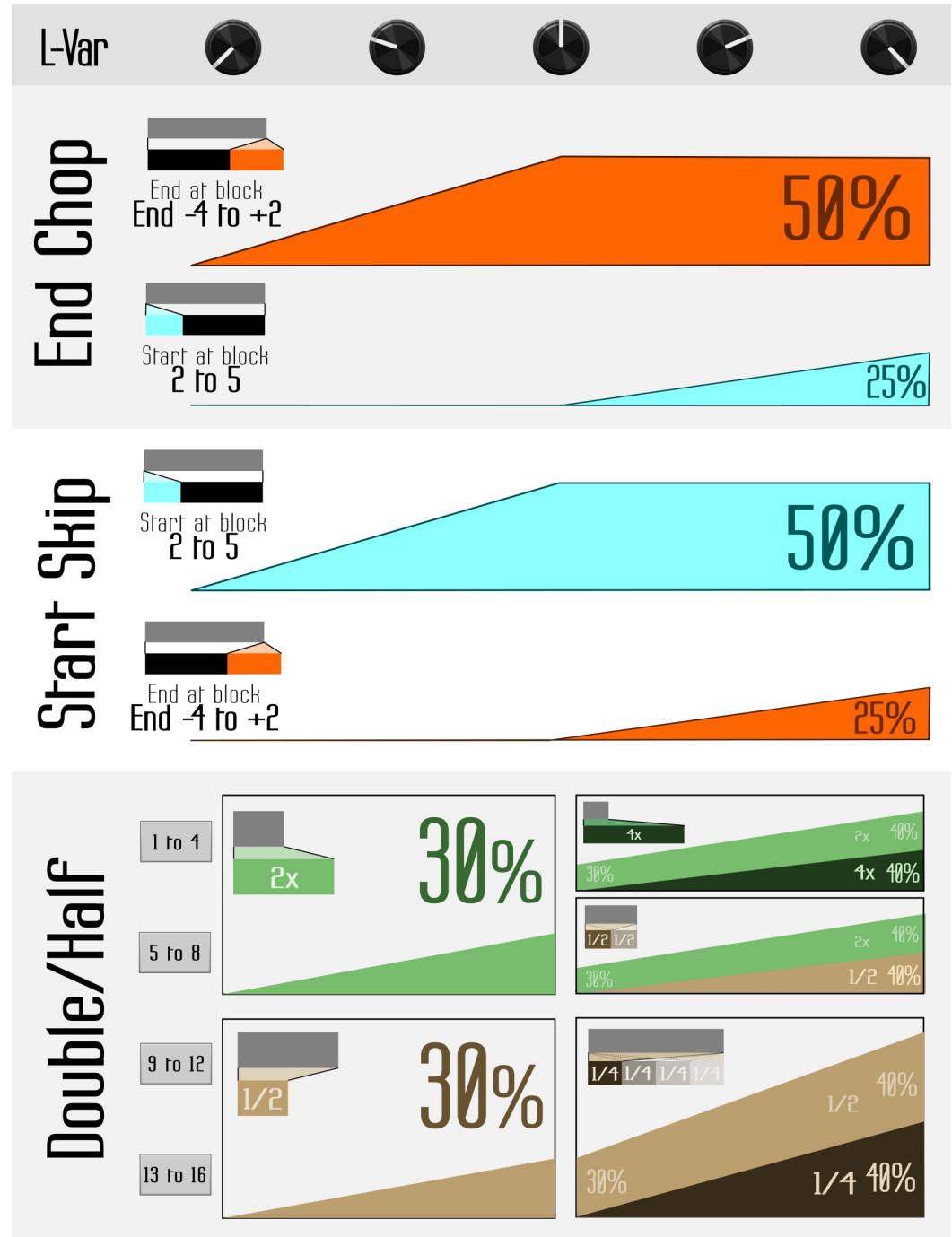
Common: L-Var

L-Var - Adds a chance the length of the sequencer is different. LVar has three different modes accessible through the right click menu.

End Chop - In this mode the end of the sequence can be -4 to +2 note blocks long. Past 12 o'clock the Start Skip effect also has a small chance.

Start Skip - In this mode the sequence sometimes starts on the 2nd to 5th note block. Past 12 o'clock the End Chop effect has a small chance.

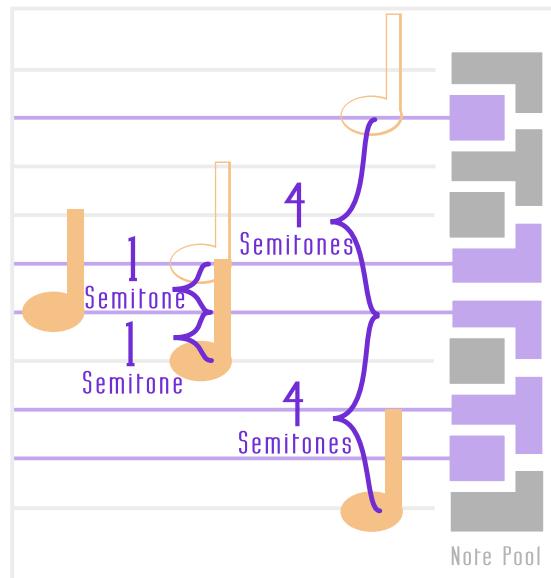
Double/Half - In this mode the length of the sequence can be doubled, halved, quartered or quadrupled.



Common: Invert Mode

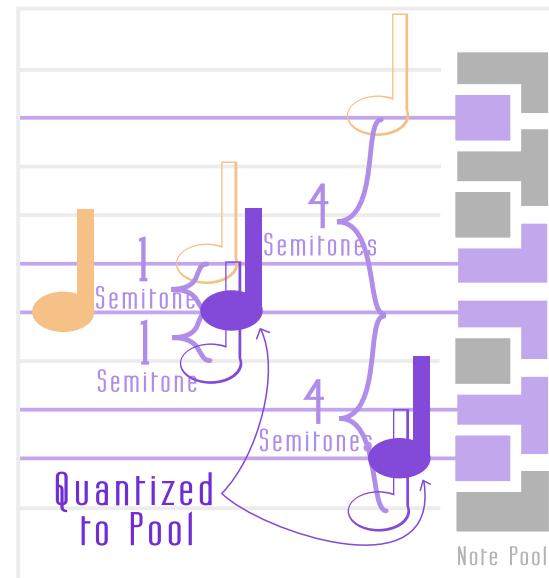
JPEvo Modules have three different modes for measuring interval distance. Change which mode is active from the right click menu.

Semitones



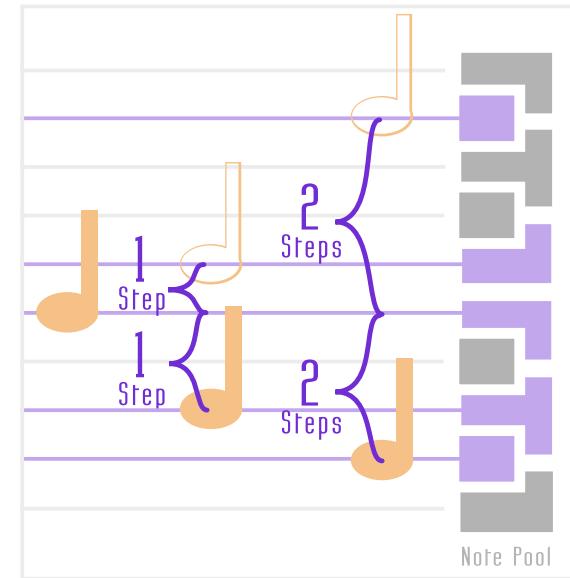
Distance is measured in
Semitones.

Quantize



Distance is measured in
Semitones. Then notes are
quantized to the Note Pool.

Steps



Distance is measured by
steps in the note pool.

Evo Cycle

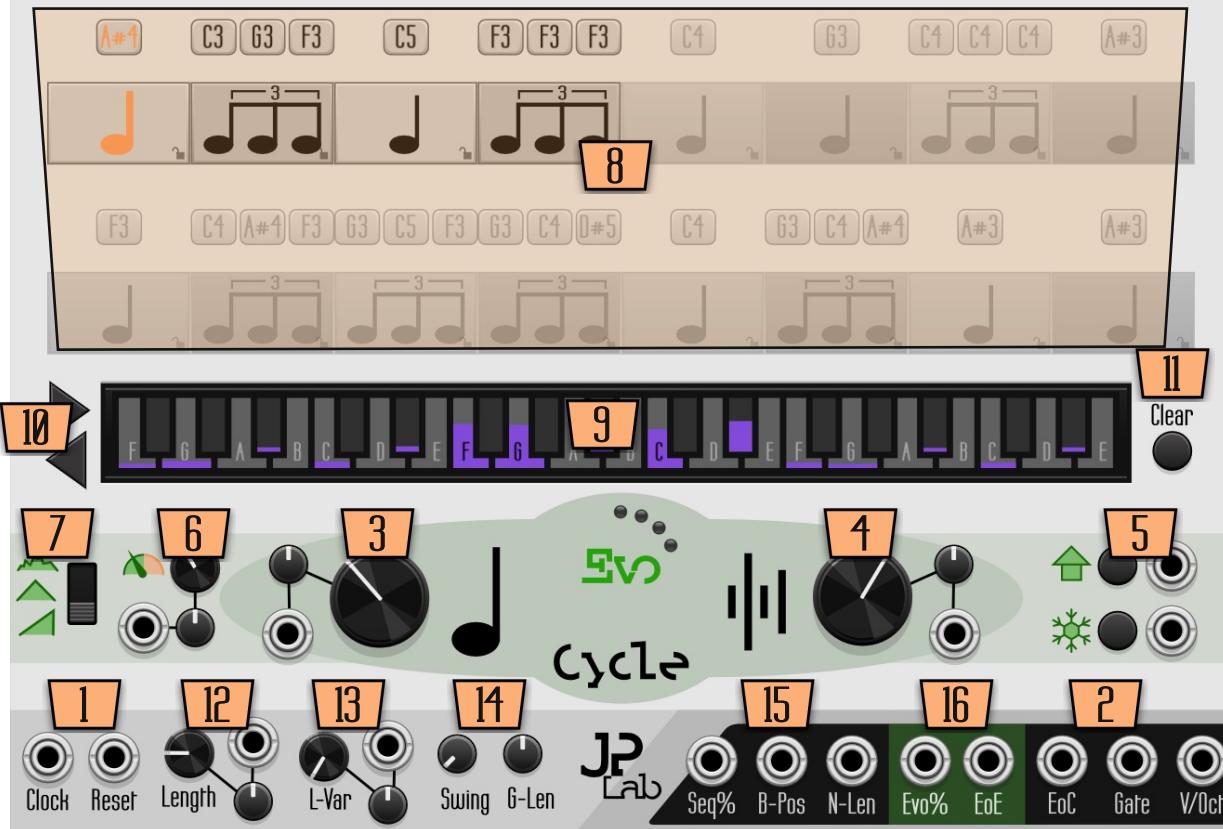
Evolving melodies that cycle back to their starting point.

The screenshot displays the Evo Cycle application interface. At the top, there are two rows of note heads and corresponding velocity bars. The first row consists of notes A#1, C3, G3, F3, C5, F3, F3, C4, G3, C4, C4, C4, and A#3. The second row consists of notes F3, C4, A#4, F3, G3, C5, F3, G3, C4, D#5, C4, G3, C4, A#4, A#3, and A#3. Below these rows is a piano-roll style timeline showing note onsets and durations. A large green oval highlights the central control area, which includes a central clock icon, two knobs labeled 'Length' and 'L-Var', and a slider labeled 'Evo'. To the left of this central area are icons for 'Clock' and 'Reset'. To the right are icons for 'Seq%', 'B-Pos', 'N-Len', 'Evo%', 'EoE', 'EoC', 'Gate', and 'V/Oct'. The JP Lab logo is visible at the bottom center.

Quick Start



1. Add Modules: JW's **Simple Clock**, JPLab's **Evo Cycle**, VULT's **uOPULUS** and VCV's **AUDIO**.
2. Connect Modules as shown above.
3. Randomize **Evo Cycle**
4. Turn up **Note Mutation** and wait for notes to evolve.
5. Turn up **Rhythm Mutation** and wait for the rhythm to evolve.



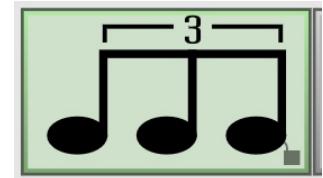
1. **Clock** - Advances one Note Block.
Reset - Resets to first Note Block.
2. **V/Oct** - Volt/Octave signal for the current note.
Gate - High when a note is playing.
EoC - End of Cycle gate.
3. **Note Mutations** - Add more chance that the notes will evolve with each cycle.
4. **Rhythm Mutations** - Add more chance that the rhythm will evolve each cycle.

5. **Clear Evolution** - Removes all note and rhythm evolutions.
Freeze Sequence - Prevents any note or rhythm evolutions when active.
6. **Max Evolution** - What percent of blocks can evolve before clearing evolutions.
7. **Evolution Mode** - Controls how evolution progresses: Linear, Ping-Pong, & Jitterbug.

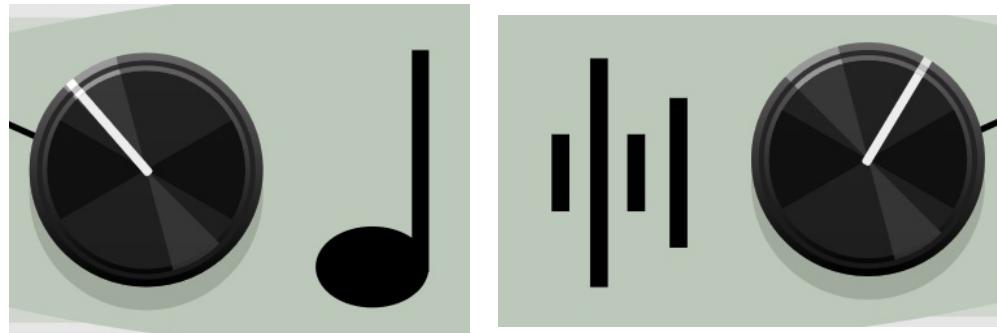
8. **Note Blocks** - 16 Note Blocks.
[Shift] Left click a block to change the rhythm.
Click a note to set value. Click and drag to set voltage.
9. **Note Pool** - Click a note on the keyboard to add/remove it from pool and sequence. Drag up/down to add more or less of that note.
10. **Transpose Note Pool Up/Down** - Shifts notes on keyboard left/right.
11. **Clear** - Clears the note pool.
12. **Length** - Controls the number of Note Blocks active in the sequence. CV range is 0v-5v.
13. **L-Var** - Adds chance of change in sequence length each cycle. CV range is 0v-5v. See page 9 for more details.
14. **Swing** - Swing for each Note Block.
Gate Length - How long Gate output is high.
15. **Sequence Percent** - Increases from 0v to 10v over a whole cycle.
Block Position - Increases from 0v to 10v over a single block.
Note Length - Outputs the length of the note that is currently playing. Range is 0v-10v.
16. **Evolution Percent** - Increases from 0v to 10v as evolutions are added.
Evolution End - Gate when evolution ends.

EvoCycle: Evolutions

Evo Cycle can modify its own sequence through Evolutions. Evolutions are displayed as green note blocks.



Evolutions are added by the two large knobs. The left knob increases the chance of mutations adding new voltages. The right knob increases the chance of mutations to the rhythm.



You can also lock specific Note Blocks using the lock icon in the lower right of the note block. This prevents the note block from changing.



Tip: You can lock mutated note blocks to keep discovered parts of the melody you like.

EvoCycle: Evolutions

The Evolution Mode and Max control how mutations are added and removed:



1. **Linear** - Evolutions are added until the Max percentage is reached. And then melody resets and starts evolving again.



2. **Ping-Pong** - Evolutions are added up to the max, then the process is reversed slowly removing evolutions.



3. **Jitterbug** - Evolutions are sometimes added, sometimes removed.

The right click menu has options for Note & Rhythm Mutation Knob. These options allow fine grain control over each effect the large knobs can have:

Note Mutation Knob

1. **New CV** - Adds new CV values from the note pool.
2. **Play Backward** - Plays the sequence in reverse.
3. **Invert** - Inverts the distance between notes played.
4. **Shift** - Shifts all blocks forward or backward up to 5 positions.

Rhythm Mutation Knob

1. **Borrow** - Pulls the rhythm from another note block in the sequence.
2. **Mutate** - Slightly changes the rhythm of a note block based on its current rhythm.
3. **Randomize** - Picks a new rhythm at random.

Evo Mirror

Flip flop between two parallel eight-step sequences. Or play them both!

The screenshot displays the 'Evo Mirror' software interface, featuring two parallel sequencer tracks. Each track has its own set of controls and visual representations.

Top Row:

- Left side: A green 'Evo' logo, a green triangle icon with a small orange circle, a black cylinder icon, a black knob with a green arrow, a green power button, a green circular button, a green rabbit icon, a black knob with a green arrow, and a black knob with a green plus sign.
- Middle row: A series of gray buttons labeled with note values: A3, E4, G3, G3, G3, A4, G3, G3, C4, C4, A3, C4, E4, A3, E4, D4.
- Bottom row: Eight musical note icons representing different note heads and stems.

Middle Section:

- Mirror:** A dial labeled 'Mirror' and 'WILLOW' with a switch and a control port.
- Sequencer Pattern:** Two rows of eight step-like icons representing the sequence patterns for each track.
- Control Knobs:** A row of four black knobs labeled 'N-Len', 'Gate', 'CV', 'N-LEN', 'GATE', 'CV', and 'CA'.
- Bottom Row:** A series of gray buttons labeled with note values: A3, E4, A3, E4, G3, A4, G3, G3, C4, C4, A3, C4, A3, A2, D4, A3.

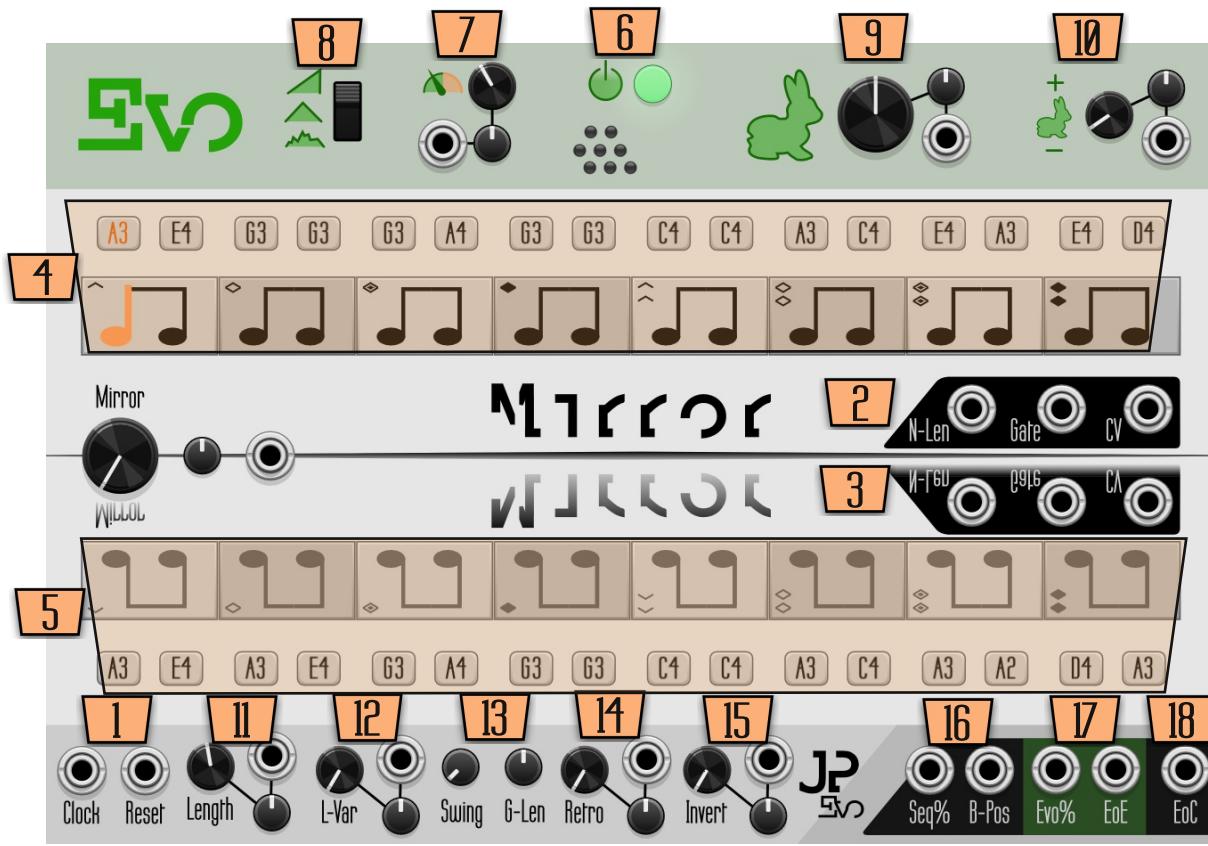
Bottom Row:

- Left side: A row of four black knobs labeled 'Clock', 'Reset', 'Length', and 'L-Var'.
- Middle section: A row of four black knobs labeled 'Swing', 'G-Len', 'Retro', and 'Invert'.
- Right side: A black 'JP' logo, a green 'Evo' logo, and a row of four black knobs labeled 'Seq%', 'B-Pos', 'Evo%', 'EoE', and 'EoC'.

Quick Start



1. Add Modules: JW's **Simple Clock**, JPLab's **Evo Cycle**, VULT's **uOPULUS** and VCV's **AUDIO**.
2. Connect Modules as shown above.
3. Randomize **Evo Mirror**
4. Turn up **Mirror** to about 9 o'clock and watch the blocks randomly flip across the mirror.
5. After a while, turn on **Evolutions** to slowly copy note blocks around for variety.



- Clock** - Advances one Note Block.
Reset - Resets to first Note Block.
- V/Oct** - Volt/Octave signal for the current note.
Gate - High when a note is playing.
Note Length - Outputs the length of the note that is currently playing. Range is 0v-10v.
- Mirrored Outputs** - Plays the notes on the opposite side of Mirror.

- Note Blocks** - 8 Note Blocks. (Shift) Left click a block to change the rhythm. Click a note to set value. Click and drag to set voltage.
- Parallel Note Blocks** - 8 parallel Note Blocks used by Mirror.
- Mirror Chance** - Chance that blocks will get flipped with parallel blocks.
- Evolution On** - Turn on to allow extra evolutions of the sequence over time.
- Max Evolution** - What percent of blocks can evolve before clearing evolutions.

- Evolution Mode** - Controls how evolution progresses: Linear, Ping-Pong, & Jitterbug.
- Evolution Rate** - How fast evolutions happen.
- Evolution Variation** - Adds variability to how fast evolutions happen.
- Length** - Controls the number of Note Blocks active in the sequence. Set this to 9 or higher to use the parallel note blocks as an extended sequence. CV range is 0v-5v.
- L-Var** - Adds chance of change in sequence length each cycle. CV range is 0v-5v. See page 9 for more details.
- Swing** - Swing for each Note Block.
Gate Length - How long Gate output is high.
- Inversion Chance** - Chance that notes will play inverted.
- Retrograde Chance** - Chance that the sequence will play in reverse.
- Sequence Percent** - Increases from 0v to 10v over a whole cycle.
Block Position - Increases from 0v to 10v over a single block.
- Evolution Percent** - Increases from 0v to 10v as evolutions are added.
Evolution End - Gate when evolution ends.
- EoC** - End of Cycle gate.

EvoMirror: Evolutions



Unlike the other sequencers in JPEvo, EvoMirror only evolves blocks by copying other blocks inside the sequencer. While this can be more limiting it can also allow greater control over how the sequence evolves over time. To more easily tell where the block is borrowed from, each block has a unique symbol on the left. Also when a block is borrowed, the block on the other side of the mirror is also borrowed.

Normal evolutions are displayed as green note blocks.

Sometimes more temporary evolutions are added. These are displayed as purple note blocks.



The Evolution Mode and Max control how mutations are added and removed:



1. **Linear** - Evolutions are added until the Max percentage is reached. And then melody resets and starts evolving again.



2. **Ping-Pong** - Evolutions are added up to the max, then the process is reversed slowly removing evolutions.



3. **Jitterbug** - Evolutions are sometimes added, sometimes removed.

EvoMirror: Right Click Menu

In addition to the common right click menu options found on page 8, EvoMirror has the following specific options:

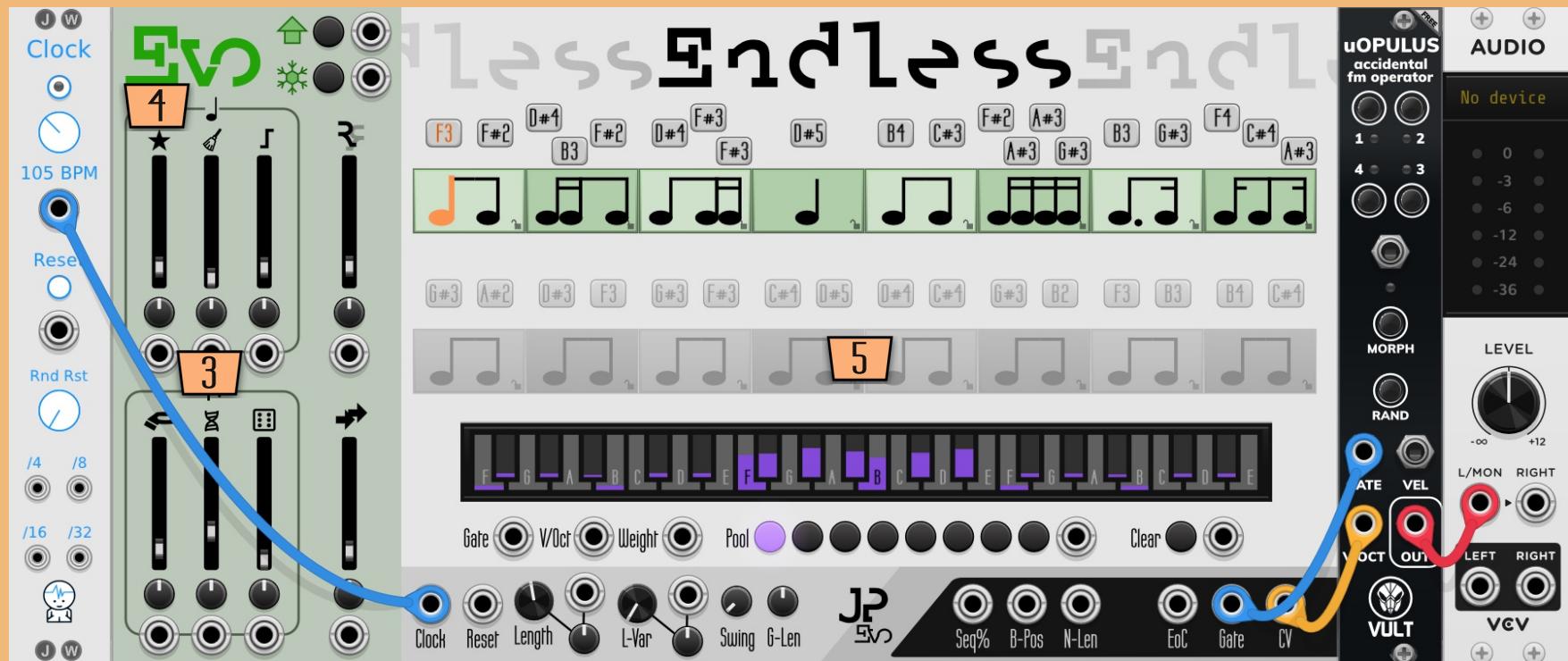
Flip Rows - Swaps the upper/first eight note blocks with the lower/last eight note blocks.

Evo Endless

Bounce endlessly between eight different note pools in a always evolving sequence.



Quick Start



1. Add Modules: JW's **Simple Clock**, JPLab's **Evo Endless**, VULT's **uOPULUS** and VCV's **AUDIO**.
2. Connect Modules as shown above.
3. Slide the **Mutations** fader up to about a quarter
4. Slide the **New CV** fader up to full
5. Add 4 to 8 notes to the note pool and wait, it will take little bit for notes to start playing.



- Clock** - Advances one Note Block.
- Reset** - Resets to first Note Block.
- V/Oct** - Volt/Octave signal for the current note.
- Gate** - High when a note is playing.
- EoC** - End of Cycle gate.
- Note Pool** - Click a note on the keyboard to add/remove it from pool and sequence. Drag up/down to add more or less of that note.
- Mutation Faders** - Chance of mutation each cycle. Details on next page.

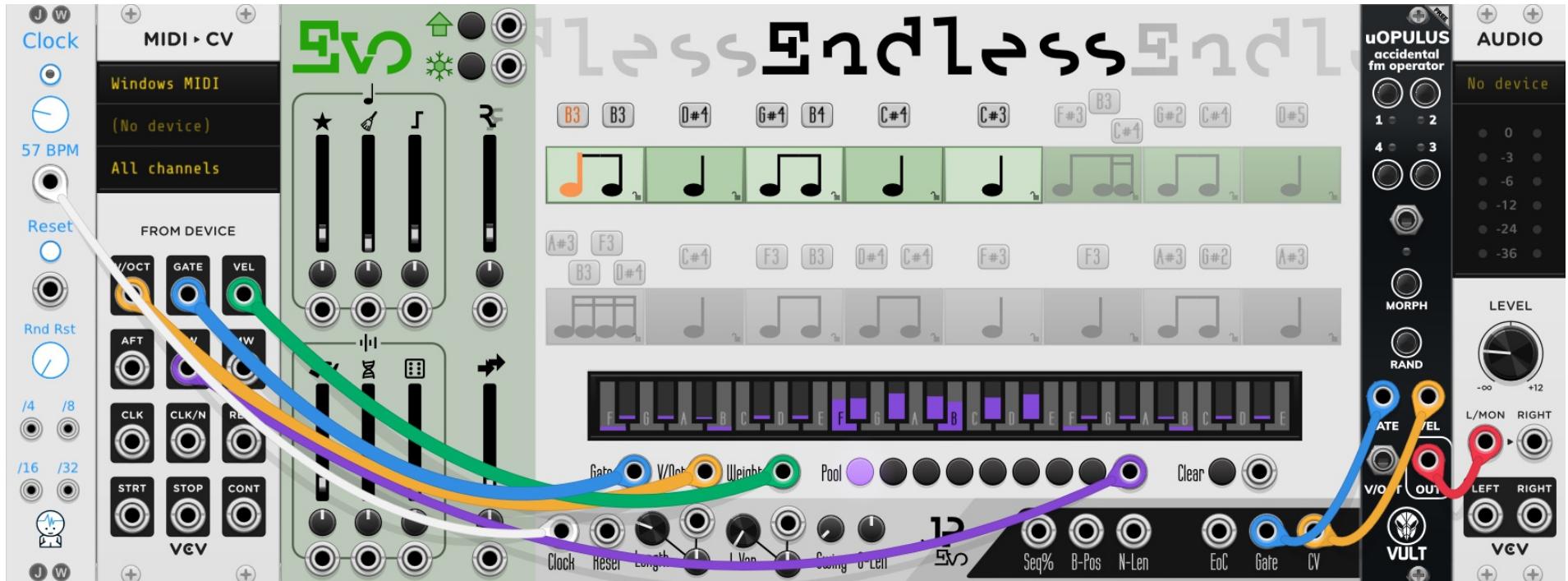
- Clear Evolution** - Removes all note and rhythm evolutions.
- Freeze Sequence** - Prevents any note or rhythm evolutions when active.
- Note Pool** - Click a note on the keyboard to add/remove it from pool and sequence. Drag up/down to add more or less of that note.
- External Keyboard inputs** - Add or remove notes to the pool. When Gate is high, add/remove CV & Weight to the Note Pool. Supports polyphony. Weight is optional & controls how many are added.

- Note Pools** - Store 8 note pools. Buttons select active note pool. Click again to randomize sequence. CV selects note pool. 1v-1.99v selects pool 1, etc.
- Clear** - Clears the current note pool.
- Length** - Controls the number of Note Blocks active in the sequence. CV range is 0v-5v.
- L-Var** - Adds chance of change in sequence length each cycle. CV range is 0v-5v. See page 9 for more details.
- Swing** - Swing for each Note Block.
Gate Length - How long Gate output is high.
- Sequence Percent** - Increases from 0v to 10v over a whole cycle.
Block Position - Increases from 0v to 10v over a single block.
Note Length - Outputs the length of the note that is currently playing. Range is 0v-10v.

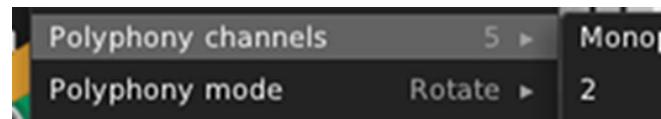
Endless: Evolutions

-  **New CVs** - Pick a new random note from the current note pool.
-  **Fix Notes** - Change any note not in the current note pool to be one from the pool.
-  **Invert** - Play some notes inverted. See page 10 for details.
-  **Borrow** - Update a block to have a rhythm matching another block.*
-  **Mutate** - Shift the rhythm of a block to be slightly different.*
*Will generate new notes if the new rhythm has more notes.
-  **Random** - Pick a totally random rhythm for a block.*
-  **Backwards** - Play the sequence backwards.
-  **Shift** - Shift unlocked blocks forward or backward one

Example 1: MIDI Input

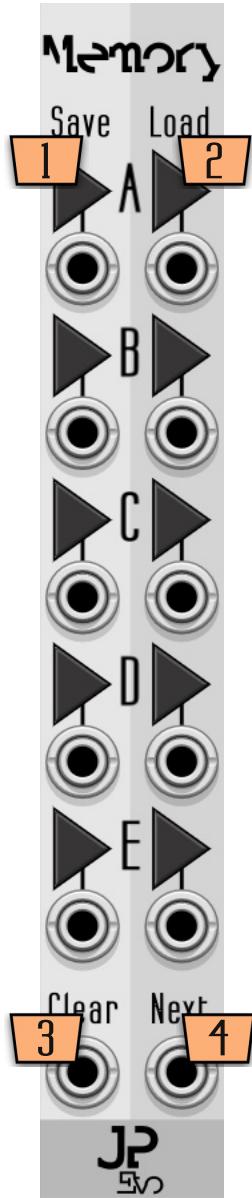


EvoEndless can be controlled using a MIDI device as shown above. Notes played on the device are toggled in the current Note Pool. Use a CV knob or Mod Wheel to switch between note pools.



Don't forget to increase the Polyphony Channels on the MIDI CV Module using the right-click menu.

Memory - Expander



Memory gives you five CV controllable save slots for sequences and note pool.

1. **Save** button and trigger will save to that memory slot. Use the "What to Save" right-click menu to control what is saved.
2. **Load** button and trigger restores everything saved in that memory slot.
3. **Clear All** trigger clears all five memory slots.

More clear options are in the right-click menu.

4. **Extra CV Mode**. Three different functions in one port. Click the label or use the right click menu to cycle between modes:

Next - loads the next slot in rotation each time the CV goes high.

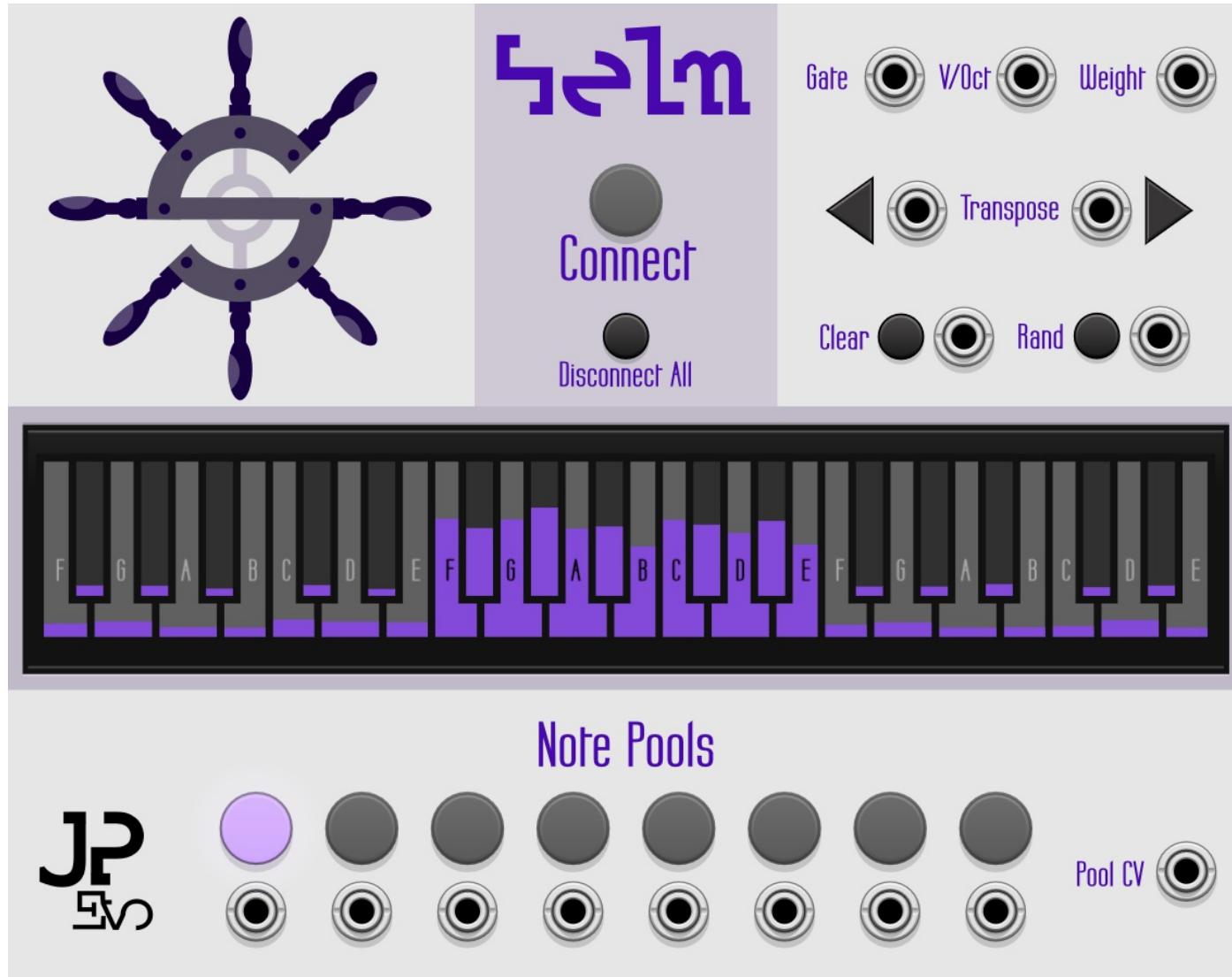
Rand - loads a random slot each time the CV goes high.

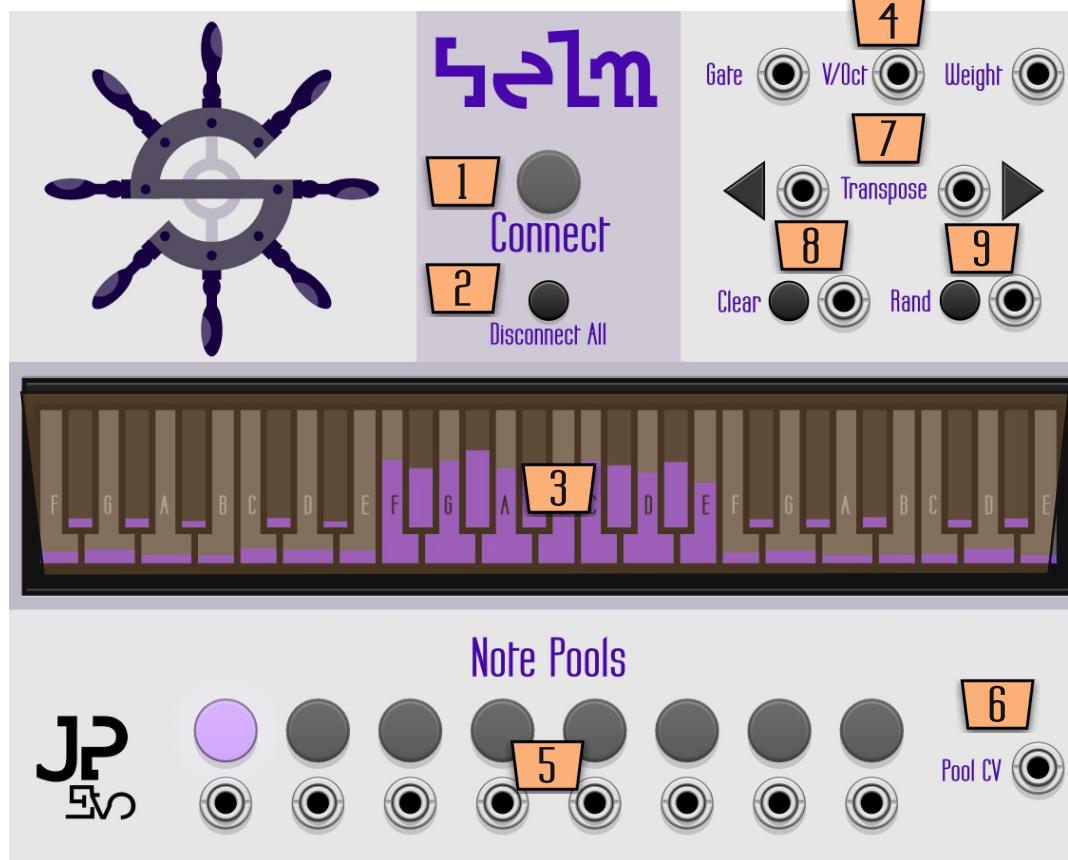
Addr - maps control voltages to slots. 1v-1.99v maps to slot A, 2v-2.99v maps to slot B, etc. Whenever the voltage moves into a new range, that memory slot is loaded.

TIP: Sequence Addr to create phrases!

Helm - Utility

Dedicated and extended note pool control that can be connect to multiple JP sequencers at once, including those without a keyboard on the panel.





1. **Connect** – Toggles connect mode. In connect mode you can click any JP sequencer to toggle its connection to this Helm.
2. **Disconnect All** – Press this to instantly disconnect all JP sequencers from this Helm.
3. **Note Pool** – Click a note on the keyboard to add/remove it from pool and sequence. Drag up/down to add more or less of that note.
4. **External Keyboard inputs**. Add or remove notes to the pool. When Gate is high, add/remove CV & Weight to the Note Pool. Supports polyphony. Weight is optional & controls how many are added.
5. **Note Pools** – Store 8 note pools. Buttons select active note pool. Each button has its own dedicated CV trigger.
6. **Note Pool Select CV** – CV selects note pool. 1v-1.99v selects pool 1, etc.
7. **Transpose** – Transpose the current note pool up or down one semitone.
8. **Clear** – Clear the current note pool.
9. **Rand** – Randomize the current note pool.

Links

JPEvo

[VCV Library Page](#)

Manual - This PDF

JPLab

[VCV Library Page](#)

Manual

JPFree

[VCV Library Page](#)

Manual

Path Set

[Other VCV Plugins](#)

Joop van der Linden

[Spotify](#)

[Website](#)