propellerhead

POLYSTEP SEQUENCER PLAYER

OPERATION MANUAL

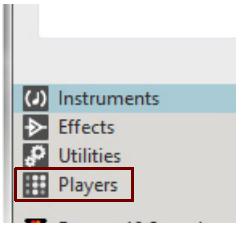
propellerhead

PolyStep Sequencer Player

Introduction

A Player is a special type of device that automatically processes, filters and generates MIDI Notes, based on input MIDI Notes, to an Instrument device in the rack. Players can also play back MIDI on their own, without any MIDI input; this could for example be note generators, like the PolyStep Sequencer Player described in this manual.

The Player devices can be found in the Players palette below Utilities in the Reason Browser:

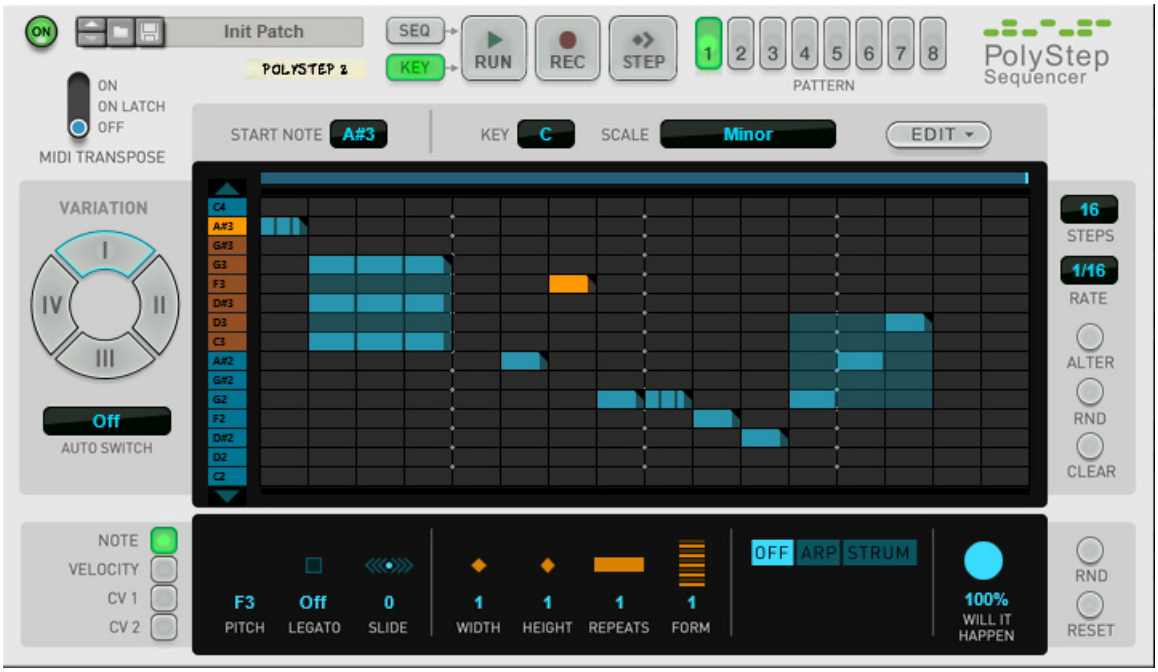


The Players palette in the Browser.

The basic idea behind Players is that you first create an Instrument device (or instrument track), then hook up one or more Player devices to the Instrument device. If the Player device is a note sequencer, like the one described in this manual, you can have it play back note lines in a desired key and scale by just playing single notes on your MIDI Control Keyboard.

For more general information about Player devices, see the “Working with Players” chapter in the Reason/Reason Intro/Reason Lite Operation Manuals, which can be accessed from the Help menu in the respective programs.

Overview



The PolyStep Sequencer Player device is a polyphonic step sequencer, ideal for controlling basically any type of instrument device. You could use it for monophonic bass lines, or for generating and playing back nice arpeggio-style monophonic or polyphonic melody lines. You can easily draw the notes - or even entire chords - in the note display.

The PolyStep Sequencer Player has the following features:

- **Polyphonic step sequencer with real-time recording, step recording - or note drawing in the display.**
- **Each note can be expanded into a "box", for playing back chords, repeats or even arpeggios and strums.**
- **Scale-based, with transpose from MIDI keyboard.**
- **Eight Patterns, which can be automated in the main sequencer using Pattern Automation.**
- **Each Pattern can have up to four Variations with automatic switching/chaining.**
- **There is also one Velocity lane and two CV lanes for controlling additional device parameters, using the Velocity and CV signal outputs on the rear panel - see "Connections".**

Working with the PolyStep Sequencer

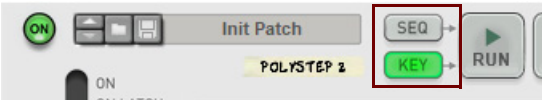
Loading and saving patches

Loading and saving patches is done in the same way as with any other internal Reason/Reason Intro/Reason Lite device. See the “Sounds and Patches” chapter in the Reason/Reason Intro/Reason Lite Operation Manual pdf for details.

Basic settings

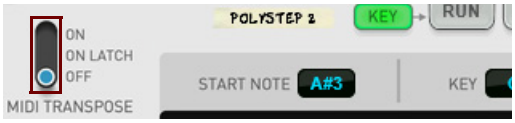
First there are a couple of basic parameters that should be set up:

Selecting Play mode



→ **Click the Seq button to have PolyStep Sequencer start playing back notes as soon as you click the Run button.**
The Run button is also synced to the Play button in the main sequencer.

Depending on the MIDI Transpose setting, you will get the following results:



- **Off: the pattern always plays back according to the actual notes in the pattern. Any incoming MIDI notes are passed on to the instrument device, allowing you to play notes over a running sequence.**
- **On: the pattern plays back transposed according to the note you are currently holding down on your MIDI keyboard/On-screen Piano Keys.**
- **On Latch: the pattern plays back transposed according to the last note you played on your MIDI keyboard/On-screen Piano Keys. If you play a new note, the pattern is transposed according to the new note.**

→ **Click the Key button to have PolyStep Sequencer start playing back notes as soon as you hold down a note on your MIDI keyboard/On-screen Piano Keyboard.**
Playback is synced to the main sequencer tempo and starts on an exact 1/16th note, just like an arpeggiator. The pattern is automatically transposed according to the MIDI note you play,

Selecting Pattern

→ **Click the desired Pattern button to select which pattern you want to work with:**

Steps

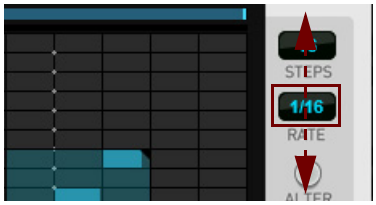
The Steps value defines after how many steps the PolyStep Sequencer device should restart the playback of the pattern.

→ **Click and drag up/down in the Steps display to select the desired number of steps.**
Range: 1-16 steps of the selected note Rate (see below)

→ **Alternatively, click or drag the step indicator sideways to change the Step value:**

! **The Steps setting is unique to each Variation of the selected Pattern (see "Variation").**

Rate

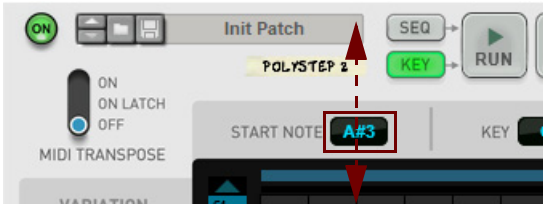


The Rate value defines the "speed" of the PolyStep Sequencer pattern.

→ **Click and drag up/down in the Rate display to select the desired pattern speed.**
Range: 1/4, 3/16, 1/4T, 1/8, 1/8T, 1/16, Shuffle, 1/16T, 1/32, 1/32T, 1/64, 1/128

! **The Steps setting is unique to each Variation of the selected Pattern (see "Variation").**

Start Note (pattern transpose)

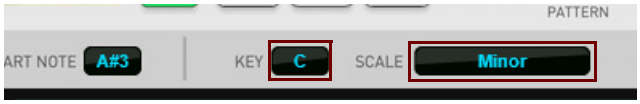


The Start Note is the very first note (or lowest note, if it's a chord) drawn in the Note Display. By changing the Start Note value in the display you can transpose the entire note pattern up or down.

→ **Click the Start Note display and drag up/down to transpose all notes recorded in the Note Display.**

← **If you want to play the PolyStep Sequencer device from a MIDI keyboard/On-screen Piano Keyboard, using the "Key" Play mode or "Seq" mode using the MIDI Transpose function (see "Selecting Play mode"), the Start Note is of no importance (since the transposition is determined by the notes you play on your MIDI Keyboard).**

Key and Scale



→ **Click the Key display and select the desired key from the pop-up menu.**
Range: C-B (12 notes)

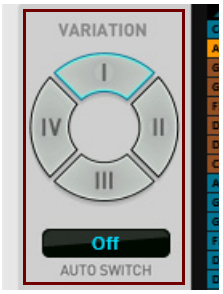
→ **Click the Scale display and select the desired scale from the pop-up menu.**
The notes in the selected Scale are then shown to the far left in the Note Display

The following scales can be selected:

Major, Minor, Lydian, Mixolydian, Dorian, Phrygian, Locrian, Harmonic Minor, Melodic Minor, Major Pentatonic, Minor Pentatonic, Hemi Pentatonic, Dim Half-Whole, Dim Whole-Half, Whole Tone, Blues, Altered, Double Harmonic, Augmented, Enigmatic or Chromatic.

! **The selected Key and Scale can be unique for each of the eight Patterns, but are common for all Variations of the Pattern (see "Variation").**

Variation



Each of the eight patterns in PolyStep Sequencer can have up to four variations. Using variations is a great way of creating alternative versions of your Pattern - for example adding fills etc. - and then switching between these variations in a number of different ways using the Auto Switch function.

1. **Click the desired Variation button to select which pattern variation you want to work with.**
Variation I is the default setting for the eight patterns, so this is probably what you will start working with. Create your pattern until you are satisfied.
2. **Click another Variation button, Variation II for example.**
Now, an empty Note Display appears. You are still working with the same Pattern as before - only in a new variation of it. Now you can add new notes and chords - or you could paste a copy of the Variation I contents using one of the Edit functions (see "Additional Pattern and Variation Edit functions" below).
3. **When you are finished with your Variations, select an automatic switch option by clicking in the Auto Switch display:**
The following auto switch options can be selected:

   Next: this automatically switches to the next Variation after one loop has been completed.

   Random: this switches to a new Variation randomly after one loop has been completed.

   I-II, III-IV: this is for making double length patterns by chaining two variations. It switches from I to II and then back to I again - or from III to IV if and then back ti III you manually select the III or IV Variations.

   I-I-I-II: this plays back Variation I three times and then switches to Variation II for one loop. Then it starts over again. Perfect for making a four loop sequence with a variation in loop 4.

▪ **You can also manually switch Variation, by clicking the desired Variation button. The Variation will then switch after the currently playing Variation has finished its loop.**

- **Note that the Variations can be automated on Parameter Automation lanes in the main sequencer.**
  The automation will then generate a trigger pulse which instructs PolyStep Sequencer to switch to the desired Variation after the current loop, and continue for as long as the sequencer is running. When the sequencer is stopped, the Pattern returns to the original Variation again.

Recording patterns

There are two ways of recording patterns from a MIDI keyboard/On-screen Piano Keys:

- **Real-time recording**
  This means that you record in real-time, just like you would in the main sequencer in Reason.
- **Step recording**
  Here you can play the notes/chords step by step, without having to care about the timing.

Recording preparations

1. **Click the desired Pattern (and Variation) button to select which pattern and variation you want to work with:**

2. **To start with a blank pattern, right click the panel background and select "Reset Device" from the context menu - or select "Reset Pattern" on the Edit menu (see "Reset Pattern").**

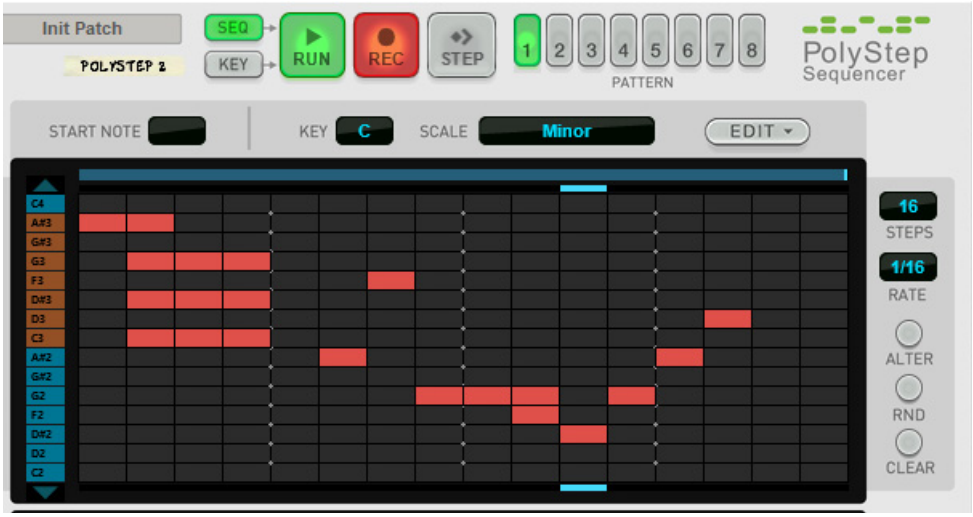
→ **It's also possible to continuously record several Variations after one another.**

If the Variation Auto Switch is set to "Next" or "I-II, III-IV" PolyStep Sequencer will automatically switch Variation when you reach the end of the current Variation. This means you can record longer sequences (up to 64 steps) in one go.

Real-time recording

1. **Click the Rec button on PolyStep Sequencer.**
   PolyStep Sequencer is now enabled for recording.
2. **Click the Play button on PolyStep Sequencer - or the Play button on the main sequencer transport panel.**

3. **Record the notes and/or chords in real-time.**
   The recorded notes/chords are displayed in red on the Note Panel:



→ **You can continue to overdub more notes for as long as the sequencer is running.**

→ **To record longer notes/chords just hold the key(s) depressed during several steps.**

4. **When you are done recording, click the Rec button on PolyStep Sequencer.**
   Recording is now disabled and the recorded notes on the Note Display turn blue.

! **The Note Display does not auto-scroll, so recorded notes might end up below/above the visible Note Display area.**

Step recording

1. **Click the Rec button on PolyStep Sequencer.**
   PolyStep Sequencer is now enabled for recording.
2. **Click the Step button on PolyStep Sequencer.**
   PolyStep Sequencer is now enabled for step recording.

3. **Record the notes and/or chords step by step.**
   As soon as you release the (last) held note(s) for a step, PolyStep Sequencer will advance one step. If you want to record a chord, you could add more notes to the chord as long as at least one key is still held down.

   The recorded notes/chords are displayed in red on the Note Panel:

- **You can continue to overdub more notes for as long as the Rec and Step buttons are active.**
- **To enter rests (non-recorded/empty steps), click the Step button without holding any keys.**
- **To record longer notes/chords, hold down the note/chord and click the Step button.**
  The notes are then extended one "box" for every click on the Step button.

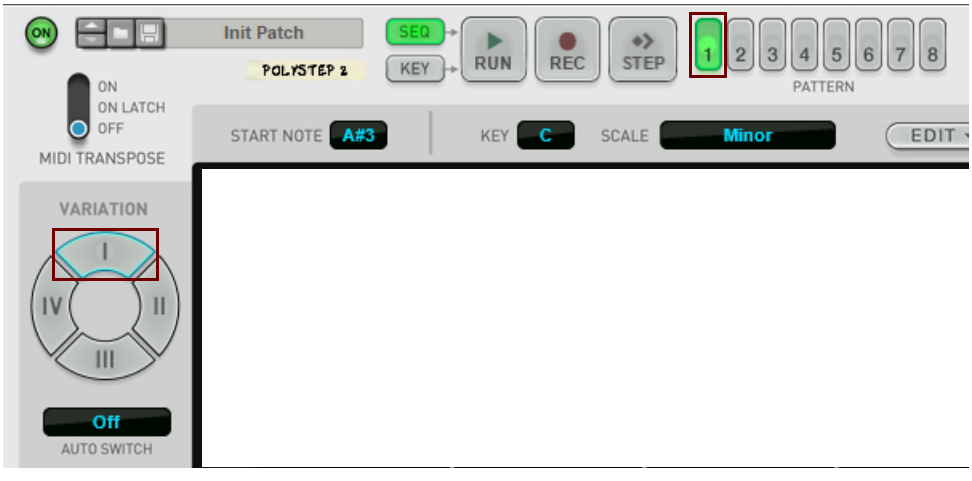
4. **When you are done recording, click the Rec button on PolyStep Sequencer.**
   Recording is now disabled and the recorded notes on the Note Display turn blue.

! **The Note Display does not auto-scroll, so recorded notes might end up below/above the visible Note Display area.**

Drawing and editing patterns

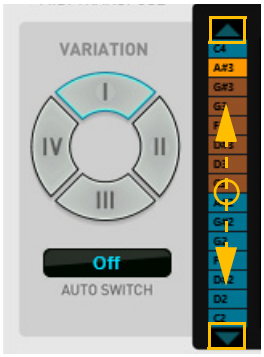
Drawing notes

1. **Click the desired Pattern (and Variation) button to select which pattern and variation you want to work with:**

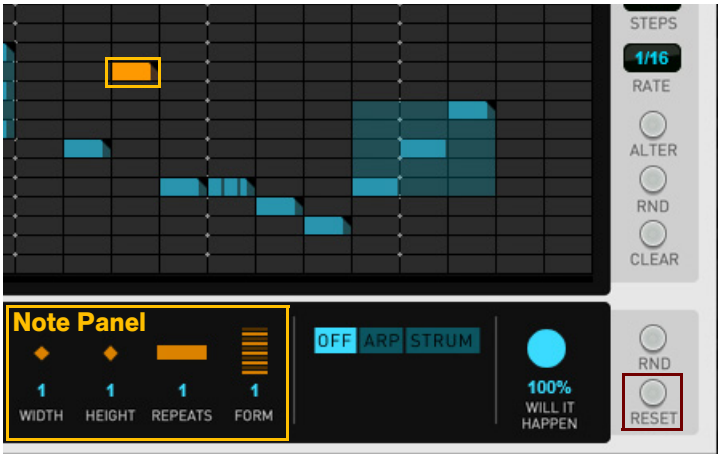


2. **To start with a blank pattern, right click the panel background and select "Reset Device" from the context menu - or select "Reset Pattern" on the Edit menu (see "Reset Pattern").**

3. **If necessary, scroll in the note range by clicking the up/down scroll buttons or by dragging the note "bar" up/down:**



4. **Double click in a box in the Note Display to enter a note/chord with the properties shown in the Note Panel.**
Alternatively, hold down [Command](Mac)/[Ctrl](Win) and click an empty note box in the Note Display.



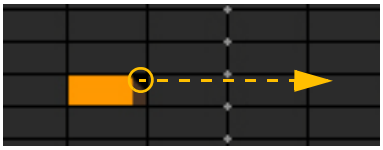
- To reset all parameters in the Note Panel to their default values, click the RESET button at the bottom to the right. This will generate single notes when you draw in the Note Display.

→ **To create longer notes that span several adjacent steps, double click, hold and drag to the right.**

- You could also have a single step play back repeats of the same note within the step, see **"Editing note Repeats"**.
- See **"Altering, randomizing or clearing Variations in Patterns"** for information about other ways of generating/altering patterns.

Changing note lengths

→ **Click and hold the upper right corner of the note and then drag sideways to change the note length:**



→ **Alternatively, select the note and then alter the Width value (see "Editing Width (note/chord length)").**

! **Note that the note length cannot be shorter than one step.**

Drawing chords

It's also possible to draw chords in one go:

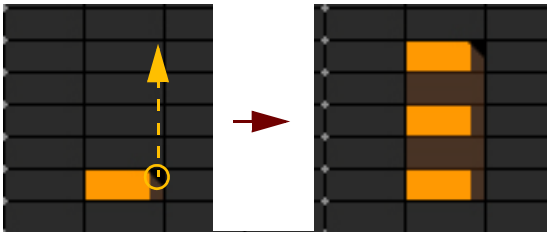
- **Double click and hold a note box in the Note Display, and then drag upwards in the Note Display to automatically create additional notes in the chord.**
  Alternatively, hold [Command](Mac)/[Ctrl](Win) and click and drag upwards.

A chord is distinguished in the Note Display by its shaded background. The resulting chord is defined by the Key and Scale (see "Key and Scale"), and Form (see "Editing chord Form") parameters.

- **To create a chord and change the note length at the same time, double click and hold and then drag both upwards and sideways.**
  Alternatively, hold [Command](Mac)/[Ctrl](Win) and click and drag upwards and sideways.

Creating a chord from a single note

- **To create a chord from a single note, click and hold the upper right corner of the note and then drag upwards:**



The resulting chord is defined by the Key and Scale (see "Key and Scale"), and Form (see "Editing chord Form") parameters.

- **To create a chord and change the note length at the same time, drag both upwards and sideways.**

- **You can also define the number of notes in the chord using the Height and Form parameters, see "Editing Height (of the "chord box")" and "Editing chord Form".**

Deleting notes or chords

- **Double click a note in the shaded chord box to delete it.**
  Alternatively, hold down [Command](Mac)/[Ctrl](Win) and click a note in the Note Display.

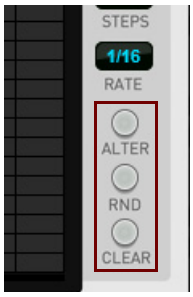
  If the note is part of a chord, the entire chord is deleted.

Moving notes or chords

- **Click anywhere on a note (or on a note in a chord), except in the top right corner, and drag the note/chord horizontally to change the position in the time line. Drag vertically to change the pitch or to transpose the chord.**
  Alternatively, select the note/chord and edit the Pitch parameter (see "Editing note/chord Pitches" below).

Altering, randomizing or clearing Variations in Patterns

The functions below apply to each individual Variation in a Pattern.



- **Click the ALTER button to alter the pitches of all notes in the Note Display.**
  The positions in time are maintained for all notes.
- **Hold down [Shift] and click the ALTER button to only alter the selected (orange) notes in the Note Display.**
- **Click the RND button to replace the current Variation with random notes.**
  The notes will have the properties currently shown in the Note Panel below, but with varying pitches (within the currently shown note range).
- **Hold down [Shift] and click the RND button to create random notes with random properties in the Note Display.**
- **Click the CLEAR button to delete all notes in the Note Display.**

Editing individual notes and chords

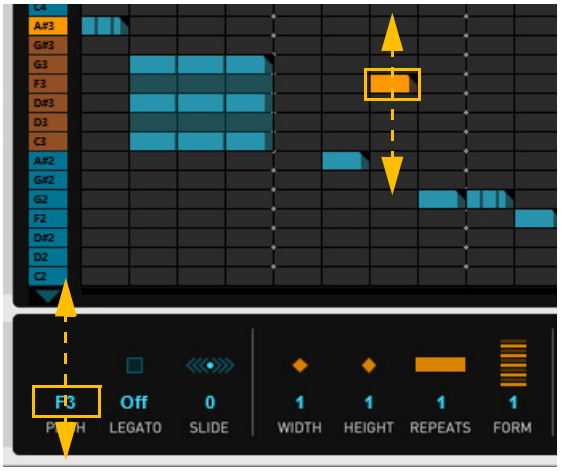
Selecting/deselecting notes/chords

- **Select a note/chord by clicking it in the Note Display.**
  The note/chord turns orange:

- **To deselect all notes/chords, click on an empty space in the Note Display.**
- **To select multiple notes/chords, hold down [Shift] while selecting the notes/chords, one by one.**
- **To deselect single notes/chords in a multi selection, hold down [Shift] while deselecting the notes/chords, one by one.**
- **To select all notes/chords in the Note Display, hold down [Option](Mac)/[Alt](Win) and click on an empty space in the Note Display.**

Editing note/chord Pitches

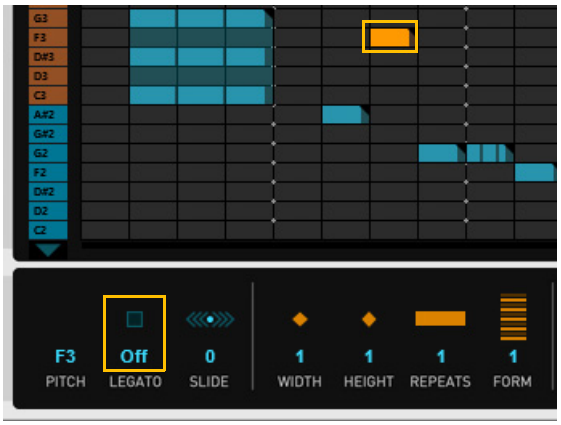
1. **Select the note(s)/chord(s) you want to changes the pitch(es) of in the Note Display.**
   To select multiple notes/chords, hold down [Shift] while selecting the notes/chords, one by one.
2. **Drag the note/chord up/down in the Note Display - or click and drag up/down in the Pitch display - to transpose the selected note(s)/chord(s):**



Editing Legato

Legato means “tying” notes together, i.e. playing several consecutive notes without releasing the previous note before playing the next one. This is mainly useful when playing back monophonic sounds and the result is that the envelope(s) of the controlled instrument device won't be retriggered.

1. **Select the note(s)/chord(s) you want to apply Legato to in the Note Display.**
   To select multiple notes/chords, hold down [Shift] while selecting the notes/chords, one by one.
2. **Click the Legato section in the display to apply Legato to the selected note(s):**



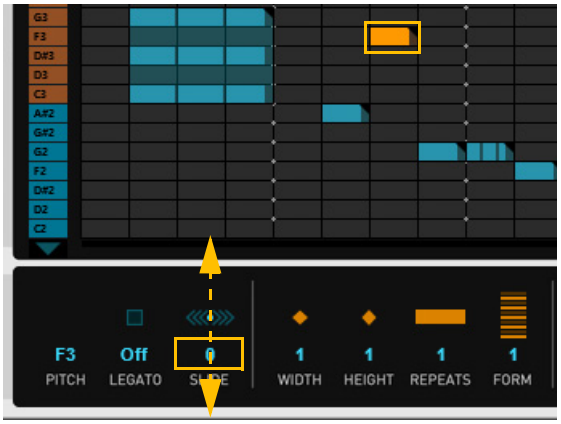
Notes with Legato applied will fill out the box in the matrix completely.

! **If you have applied a positive Slide value (see “Editing Slide”) to a consecutive note, the Legato effect might be lost (due to the “gap” between the notes).**

Editing Slide

Slide means moving notes backwards or forwards slightly in time in the Note Display. This way you could make the slided notes play back a little early or late, depending on the Slide value.

1. **Select the note(s)/chord(s) you want to apply Slide to in the Note Display.**
   To select multiple notes/chords, hold down [Shift] while selecting the notes/chords, one by one.
2. **Click and drag up in the Slide display to slide the selected note(s) back or forth in time:**



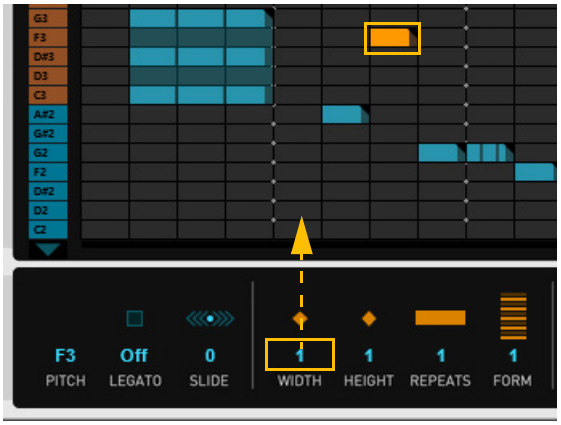
Positive Slide values move the selected notes forwards, thus delaying the start. Negative Slide values move the selected notes backwards, thus forcing them to trigger earlier.

Range: +/- 50 cents of one step (note box).

! **If you have applied Legato (see "Editing Legato") to a note preceding a note with a positive Slide value, the Legato effect might be lost (due to the "gap" between the notes).**

Editing Width (note/chord length)

1. **Select the note(s) and/or chords you want to change the width of in the Note Display.**
   To select multiple notes/chords, hold down [Shift} while selecting the notes/chords, one by one.
2. **Click and drag up in the Width display to increase the width/lengths of the selected note(s)/chord(s):**



The new note/chord width/lengths are displayed on the Note Display.

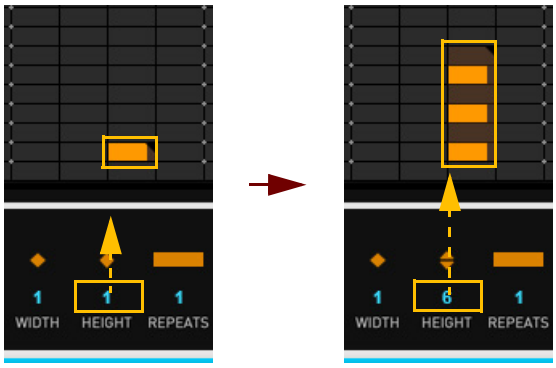
Range: 1-16 steps

Editing Height (of the "chord box")

It's possible to "expand" selected notes in the Note Display into entire chords by creating "chord boxes" from the notes.

1. **Select the note(s) and/or chords you want to change the Height of in the Note Display.**
   To select multiple notes/chords, hold down [Shift] while selecting the notes/chords, one by one.

2. **Click and drag up in the Height display to increase the number of notes in the "chord box":**



Height=1 and Height=6 respectively.

Range: 1-48 notes

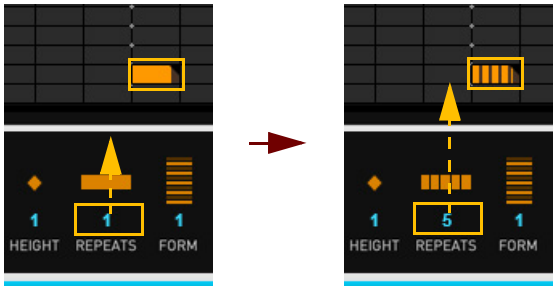
! **The note distribution in the "chord box" depends on the Key and Scale (see "Key and Scale") and Form (see "Editing chord Form") settings.**

► **You can also set the Height by dragging the note/chord handle up/down in the display, see "Creating a chord from a single note".**

Editing note Repeats

It's also possible to create notes repeats, by "slicing up" individual notes. Depending on the original length of the note, the slices will be different. Chords can also have repeats, using the same method.

1. **Select the note(s) and/or chords you want to create repeats for in the Note Display.**
   To select multiple notes/chords, hold down [Shift] while selecting the notes/chords, one by one.
2. **Click and drag up in the Repeats display to increase the number of repeats/slices:**



Repeats=1 and Repeats=5 respectively.

Range: 1-16 repeats/slices

▪ **You can also change Repeats by holding [Option](Mac)/[Alt](Win) and dragging the box handle sideways.**

▪ **If you increase the Width (note length), the number of repeats is maintained - but the "slices" become longer to fill up the new Width.**

→ **Hold down [Shift] and drag the box handle to the right to set Width and Repeats at the same time.**
This will create boxes with 1/16th notes by default; very useful!

Editing chord Form

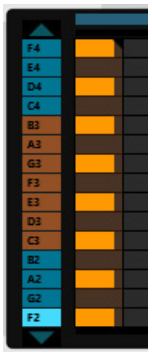
The Form parameter determines how the notes should be distributed in the chord box.

! **Note that the note distribution intervals are calculated based on the note boxes in the Note Display - and not based on the note numbers in the selected Scale. This means that the selected From might sound completely different depending on what Scale you select.**

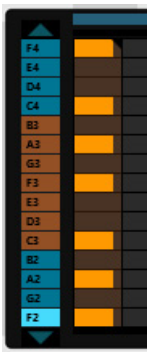
1. **Select the chord you want to change the Form of in the Note Display.**
   To select multiple notes/chords, hold down Shift while selecting the notes/chords, one by one.
2. **Click and drag up in the Form display to increase the Form number:**

- **You can also change Form by holding Option [Mac]/Alt [Win] and dragging the box handle up/down.**

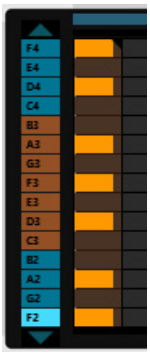
The picture below shows how the notes are distributed in a C Major scale with the (lowest) Start Note F2 for Form 1-8. Form 9-14 are shown in chromatic scale:



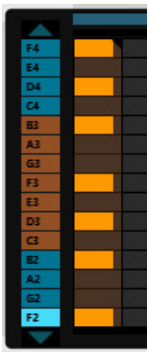
Form 1 fills every second note box, continuing upwards



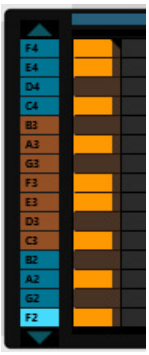
Form 2 starts over at note box 8 (the octave with a regular scale)



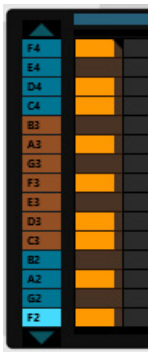
Form 3 starts over at note box 8 (the octave with a regular scale)



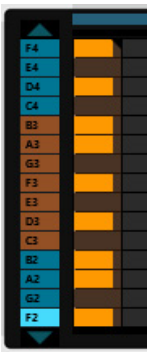
Form 4 starts over at note box 8 (the octave with a regular scale)



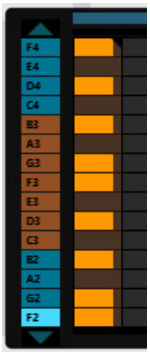
Form 5 starts over at note box 8 (the octave with a regular scale)



Form 6 starts over at note box 8 (the octave with a regular scale)



Form 7 starts over at note box 8 (the octave with a regular scale)

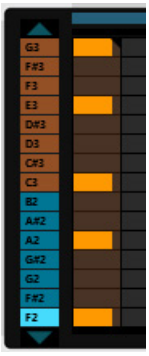


Form 8 starts over at note box 8 (the octave with a regular scale)

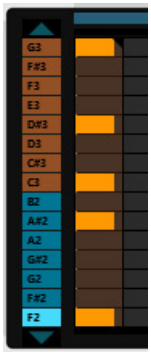
Form 9 starts over at note box 25 (the second octave in chromatic scale)

Form 10 starts over at note box 25 (the second octave in chromatic scale)

Form 11 starts over at note box 25 (the second octave in chromatic scale)



Form 12 starts over at note box 25 (the second octave in chromatic scale)



Form 13 starts over at note box 25 (the second octave in chromatic scale)

Form 14 fills every third note box (i.e. starts over at note box 13 - the octave in chromatic scale)

! **Note that Form 9-14 are made specifically for Chromatic scale.**

The tables below describe the 14 Forms:

Form	Intervals	Function (with a standard 7-tone scale)	Comments
1	1, 3, 5, 7, 9	Tertiary chord with continuing upper structure	Repeat every second note box
2	1, 3, 5	Triad	Repeat from note box 8 up
3	1, 3, 6	Triad inversion 1	Repeat from note box 8 up
4	1, 4, 6	Triad inversion 2	Repeat from note box 8 up
5	1, 3, 5, 7	Seventh chord	Repeat from note box 8 up
6	1, 3, 5, 6	Seventh, inversion 1	Repeat from note box 8 up
7	1, 3, 4, 6	Seventh, inversion 2	Repeat from note box 8 up
8	1, 2, 4, 6	Seventh, inversion 3	Repeat from note box 8 up

Form	Intervals	Function (with a chromatic scale)	Comments
9	1, 4, 8, 11, 15, 18, 22	min 7 (9, 11, 13)	Repeat from note box 25 up
10	1, 4, 8, 12, 15, 18, 22	min maj7 (9, 11, 13)	Repeat from note box 25 up
11	1, 5, 8, 11, 15, 19, 22	7 (9, #11, 13)	Repeat from note box 25 up
12	1, 5, 8, 12, 15, 19, 22	maj7 (9, #11, 13)	Repeat from note box 25 up
13	1, 6, 8, 11, 15, 18, 22	7sus4 (9, 11, 13)	Repeat from note box 25 up
14	1, 4, 7, 10	dim	Repeat from note box 13 up

Using probability

The “Will it happen” parameter can be used for setting a probability for selected notes/chords in the Note Display to be played back. Every single note/chord can have its own unique probability setting.

1. **Select a note/chord in the Note Display.**
2. **Set a probability value for the selected note/chord by dragging the filled circle down/up - or by clicking the figure and selecting from the pop-up menu.**
   The probability alternatives are as follows:

   100% (always), 90% chance, 75% chance, 50% chance, 25% chance, 10% chance, 1:4 (every fourth loop), 1:3 (every third loop), 1:2 (first time every other loop) and 2:2 (second time every other loop)

Randomizing note/chord parameters

The randomize note/chord function randomizes all note parameters for the selected note/chord, including Arp and Strums (even if they weren't used from the start). This also means that a single note might turn into a chord - and vice versa.

1. **Select a note/chord in the Note Display.**
2. **Click the RND button to randomize new note/chord properties.**
   Clicking RND again will randomize the current note/chord parameters again.

- **If no note is selected, this randomizes the values in the Note Panel which will affect the next note you create.**

→ **Hold down [Shift] and click RND to randomize the properties of all notes in the Variation.**

Resetting note/chord parameters

1. **Select a note/chord in the Note Display.**
2. **Click the RESET button to reset the note/chord to a single "one-box" note on the current note Pitch.**

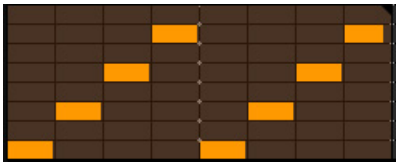
→ **Hold down [Shift] and click RST to reset the properties of all notes in the Variation.**

Creating Arpeggios

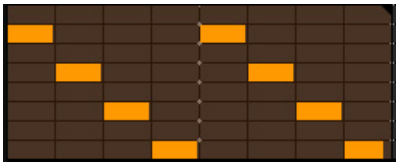
In Arp mode, chord notes are played after each other. Each chord in a pattern can have its own individual Arpeggio settings.

1. **Activate the Arpeggio function for the selected chord by clicking the ARP button.**

2. **Select the desired arpeggio playback direction by clicking any of the five direction buttons.**
   The playback directions are:



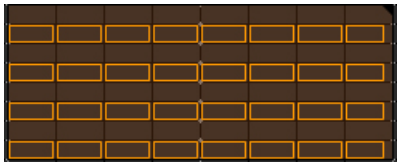
Up (from the lowest chord note to the highest).



Down (from the highest chord note to the lowest).

Up and then Down (which means the lowest and highest notes are repeated).

Up & Down (without the lowest and highest notes being repeated).



Randomized, which means there will be a new random pattern for each loop in PolyStep Sequencer.

The spacing (and length) of the arpeggiated notes depend on the Width and Repeats settings. If Repeats = 1 (single chord), the offset between the notes is 1 grid square and the note length = 1 grid square or slightly less (depending on the Legato setting).

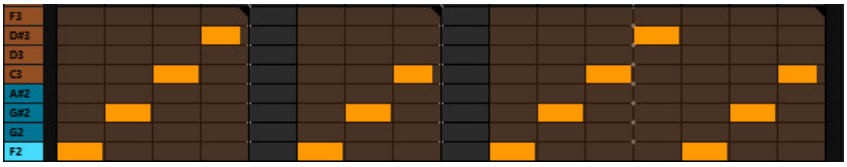
This means that the Width of the chord box determines how many chord notes are included in the arpeggio (some notes may not be played if the box is too small).

The picture below shows chords with Height=8 at different Width settings, with Arp Off and On (Up):

ARP Off

Width=4 *Width=3* *Width=7*

ARP On (Up)

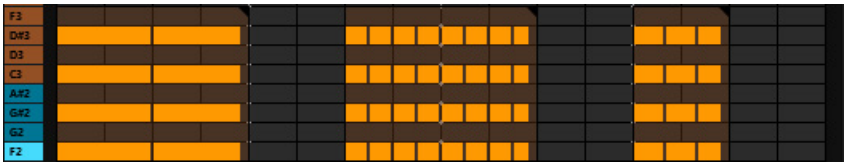


Not room for all notes. *Arpeggio starts over at step 5.*

If the Repeats value for a chord is >1 (chopped up chord), the arpeggio moves the notes so that each chord note starts at a repeat and ends before next. This means that the note offset = Width divided by Repeats and the note length is Width divided by Repeats (or slightly less depending on the Legato setting).

The picture below shows chords with Height=8 at different Width and Repeat settings, with Arp Off and On (Up):

ARP Off

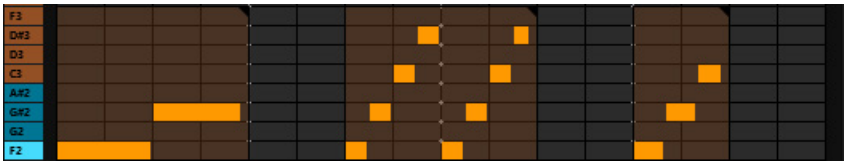


Width=4 Repeats=2

Width=4 Repeats=8

Width=2 Repeats=3

ARP On (Up)



Notes arpeggiated according to Repeats.

Arpeggio starts over at step 3.

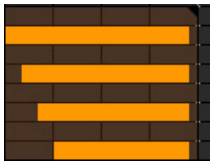
Not room for all notes.

Creating Strums

In Strum mode, the start of chord notes can be offset gradually. Each chord in a pattern can have its own individual Strum settings.

1. **Activate the Strum function for the selected chord by clicking the STRUM button.**
2. **Select the desired strumming playback direction by clicking any of the three direction buttons.**
   The playback directions are:

Up (from the lowest chord note to the highest).

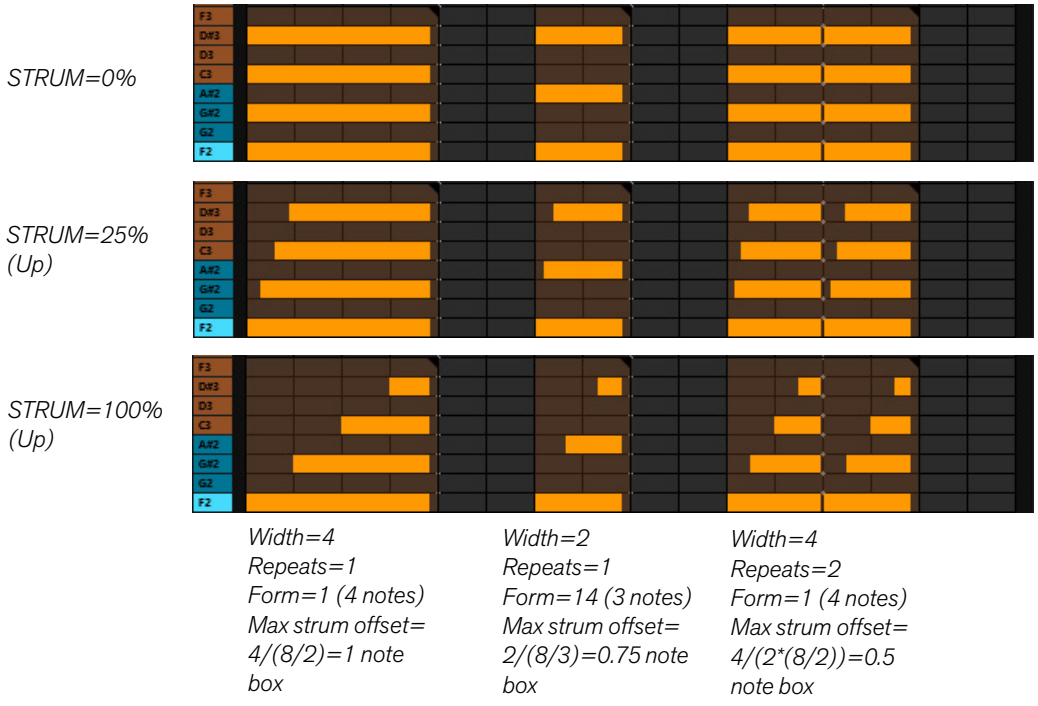


Down (from the highest chord note to the lowest).

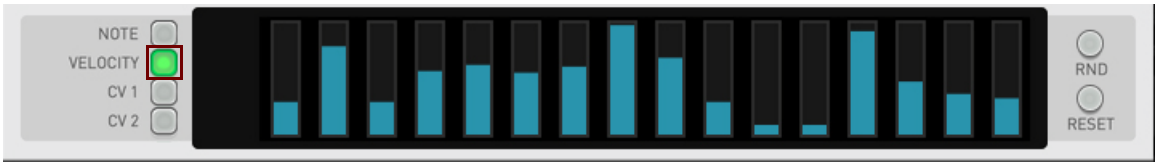
Randomized, which means there will be a new random strum order for each loop in PolyStep

3. **Set the Strum amount withe the knob.**
   The result is different depending on whether the chord has Repeats or not. With Repeats = 1 (single chord), Strum offsets the start of the following notes gradually. All note ends at the note box end. To fit all notes in the box, strum amount also takes the number of chord notes into account. Thus, max offset amount is Width/(Height/No of chord notes). With Repeats > 1 (chopped up chord), Strum offsets the note starts within each repeat. Max offset is Width/(Repeats*(Height/No of chord notes)).

The picture below shows chords with Height=8 at different Width, Repeat, Form and Strum amount settings:



Editing Velocity



- **Set the Velocity value for each of the Steps by clicking/dragging the corresponding Velocity bars.**
  This affects the velocity of the notes sent out from PolyStep Sequencer. If there are several notes on the same step, they will be sent with the same velocity. In addition, the value is sent to the Velocity CV output on the back panel, for use as an additional CV sequencer (see "Velocity output").

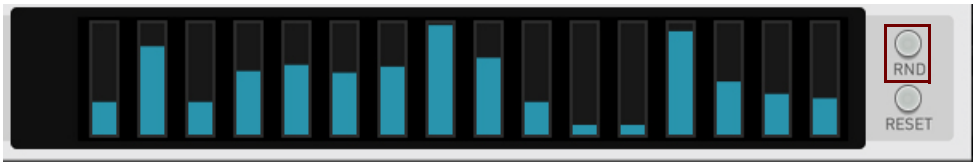
  You can also click, hold and drag sideways to change several bars in one go.

  The default Velocity is 100.

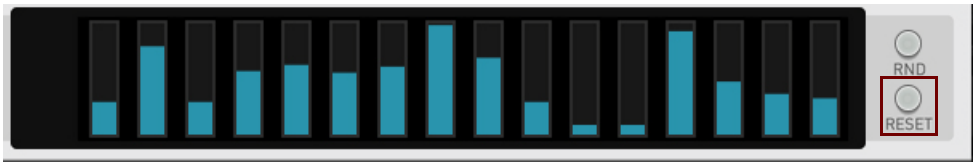
  Range: 1-127.

- **Hold down [Shift] and drag to set several bars to the same Velocity value (creating a horizontal line).**
- **Hold down [Command](Mac)/[Ctrl](Win) and drag to create a ramp.**

→ **Click the RND button to randomize the Velocity values of all steps:**



→ **Click the RESET button to reset the Velocity values of all steps to 100:**



! **Note that the Velocity settings are unique to each Variation in a Pattern.**

Editing CV

The CV values don't affect the notes but are sent out to their respective CV outputs on the back panel (see "CV1 and CV2 outputs").

→ **Set the CV value for each of the Steps by clicking/dragging the corresponding CV bars.**
You can also click, hold and drag sideways to change several bars in one go.

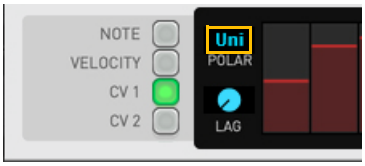
The default CV value is 0.

Range: 1-127 (Unipolar) or -63 to +64 (Bipolar).

→ **Hold down [Shift] and drag to set several bars to the same value (creating a horizontal line).**

→ **Hold down [Command](Mac)/[Ctrl](Win) and drag to create a ramp.**

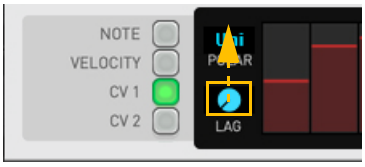
→ **Select if you want a Unipolar or Bipolar range by clicking the Polar box and selecting from the pop-up:**



Unipolar values are displayed by red bars on the CV lane.

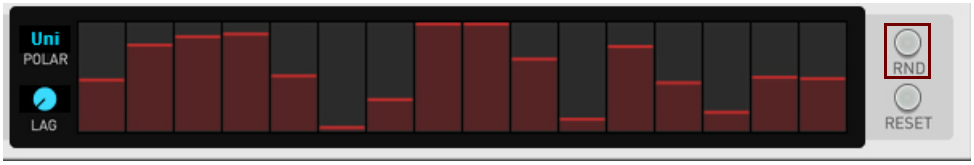
Bipolar values are displayed by green bars on the CV lane. Also, the "0" line is centered on the CV lane.

→ **Select if you want a lag (smooth transitions between the CV values) by the Lag knob dragging up/down:**

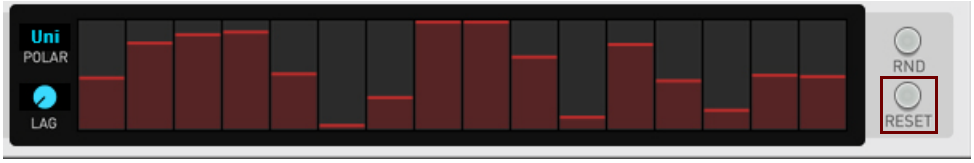


Range: 0-100%

→ **Click the RND button to randomize the CV values of all steps:**



→ **Click the RESET button to reset the CV values of all steps to 0:**



! **Note that the CV settings are unique to each Variation in a Pattern.**

Additional Pattern and Variation Edit functions

The Edit menu includes some very useful functions when working with Patterns and Variations:

→ **Click the Edit button and select any of the following functions from the pop-up menu:**

Duplicate to All Variations

This function duplicates all the notes and settings of the currently selected Variation (including any CV and Velocity data) in the Pattern and automatically pastes the data to all other Variations in the same Pattern.

Copy Notes in Variation

This function copies all the notes of the currently selected Variation in the Pattern and places on the OS clipboard. You can then select another Variation (in the same or in another Pattern) and use the Paste function on the Edit menu to paste the note data into that Variation.

Copy Variation

This function copies all the notes and settings of the currently selected Variation (including any CV and Velocity data) in the Pattern and places on the OS clipboard. You can then select another Variation (in the same or in another Pattern) and use the Paste function on the Edit menu to paste the data into that Variation.

Copy All in Pattern

This function copies all the notes and settings of all Variations (including any CV and Velocity data) in the Pattern and places on the OS clipboard. You can then select another Pattern and use the Paste function on the Edit menu to paste the data into that Pattern.

Paste

Use the Paste function to paste the data currently on the OS clipboard (from any of the Copy functions above) to the current Pattern and/or Variation destination.

Reset Pattern

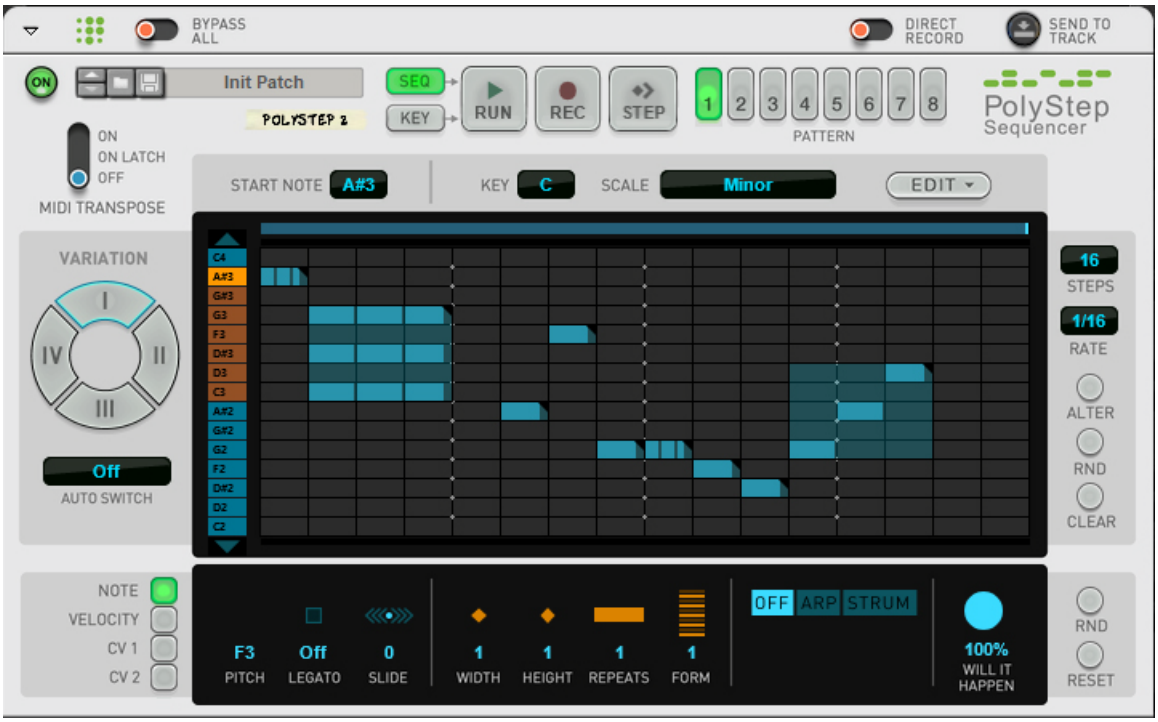
This clears the note data on all Variations in the currently selected Pattern. It also resets all Note CV and Velocity parameters to their default values in all Variations.

Rendering Pattern notes to Note clips

When you are satisfied with your sequence settings you might want to "print" the note output as individual notes into a Note clip in Reason's sequencer. By doing so, you could then open the Note clip and edit/arrange the individual notes in the clip manually.

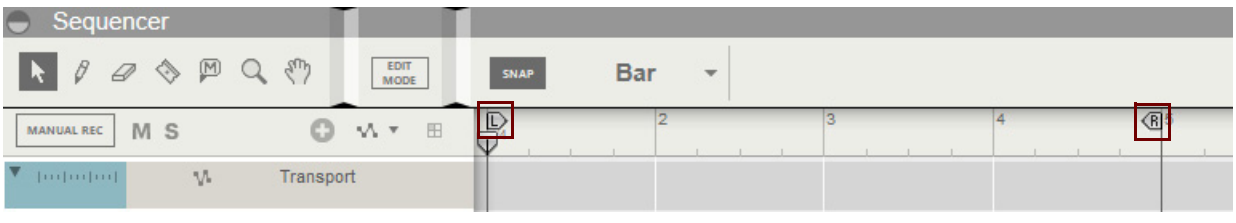
Here's an example of how to render a Pattern Variation to a Note clip in the Reason sequencer:

1. **On the PolyStep Sequencer, create a Variation in a Pattern to your liking:**



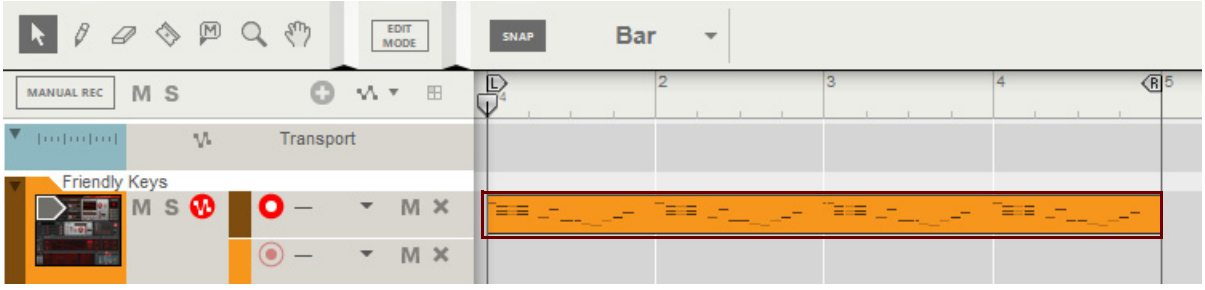
In this example, we use Pattern 1, Variation I.

2. **Set up the L and R Loop markers in the Reason sequencer.**
By doing this, you define the range in which the Note clip will be rendered:

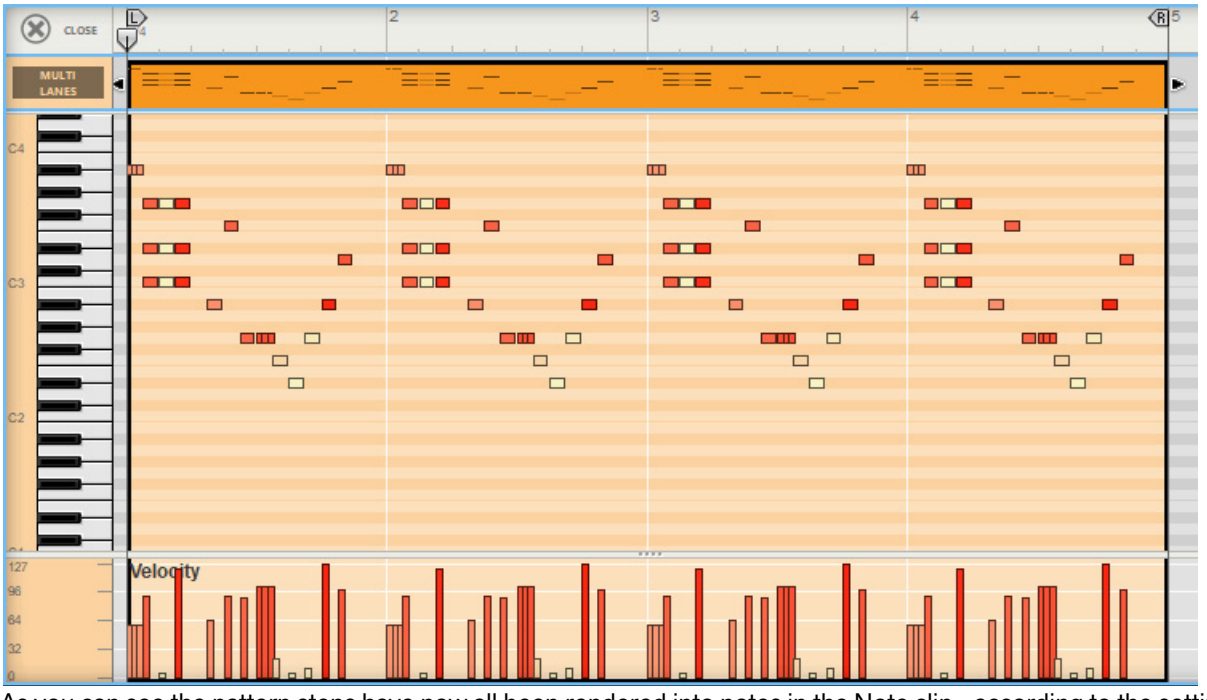


3. **Click the Send To Track button to the right above the PolyStep Sequencer device:**

A new Note clip is automatically rendered between the L and R Loop Markers on a new Note Lane on the instrument's track in the Sequencer:

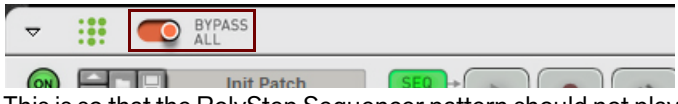


4. **Double click the Note clip to open it in Edit mode:**



As you can see the pattern steps have now all been rendered into notes in the Note clip - according to the settings of the PolyStep Sequencer Player device. The values on the Velocity lane have also been applied to the notes.

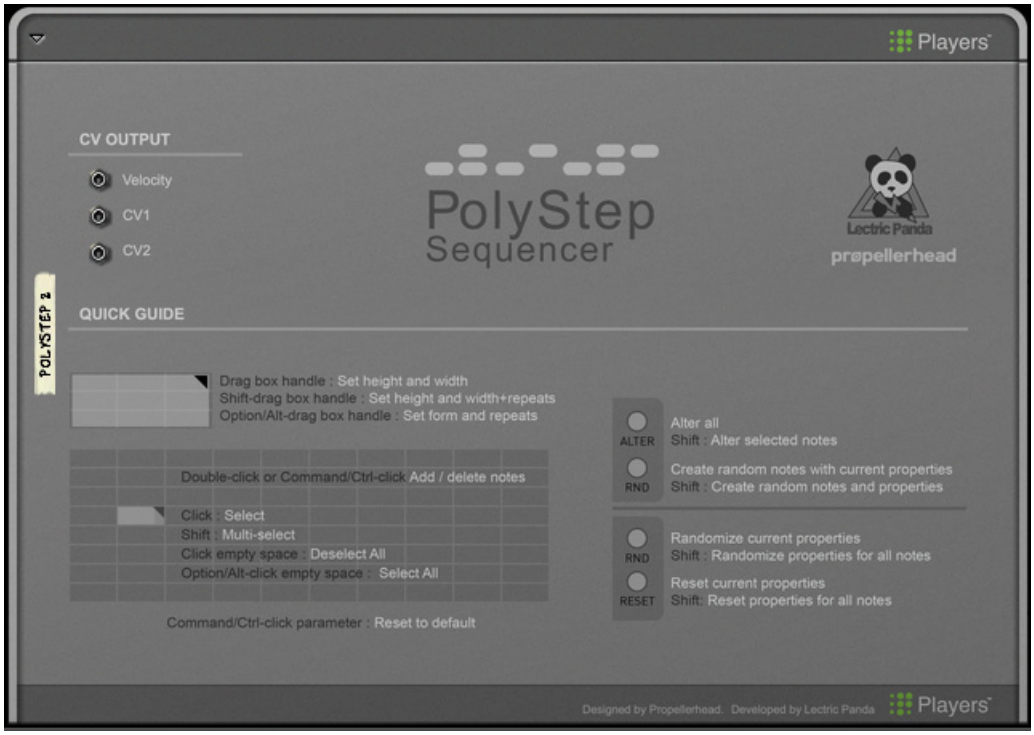
5. **When you clicked the Send To Track button in step 3 above, the Bypass All switch was automatically activated:**



This is so that the PolyStep Sequencer pattern should not play back from the Player device at the same time as you play back the rendered pattern from the Reason sequencer (since this would generate "doubled" notes, which usually sounds bad).

→ **To activate the PolyStep Sequencer's patterns again, deactivate the Bypass All switch.**

Connections



If you flip the rack around you will notice that the PolyStep Sequencer Player device features CV In and Out connectors.

► **Note that the devices you connect don't have to be in the same Device Group as the PolyStep Sequencer.**

CV Outputs

Velocity output

Connect the Velocity output to the desired CV input(s) on devices that feature this. This lets you control parameters in other devices from the Velocity lane in PolyStep Sequencer.

CV1 and CV2 outputs

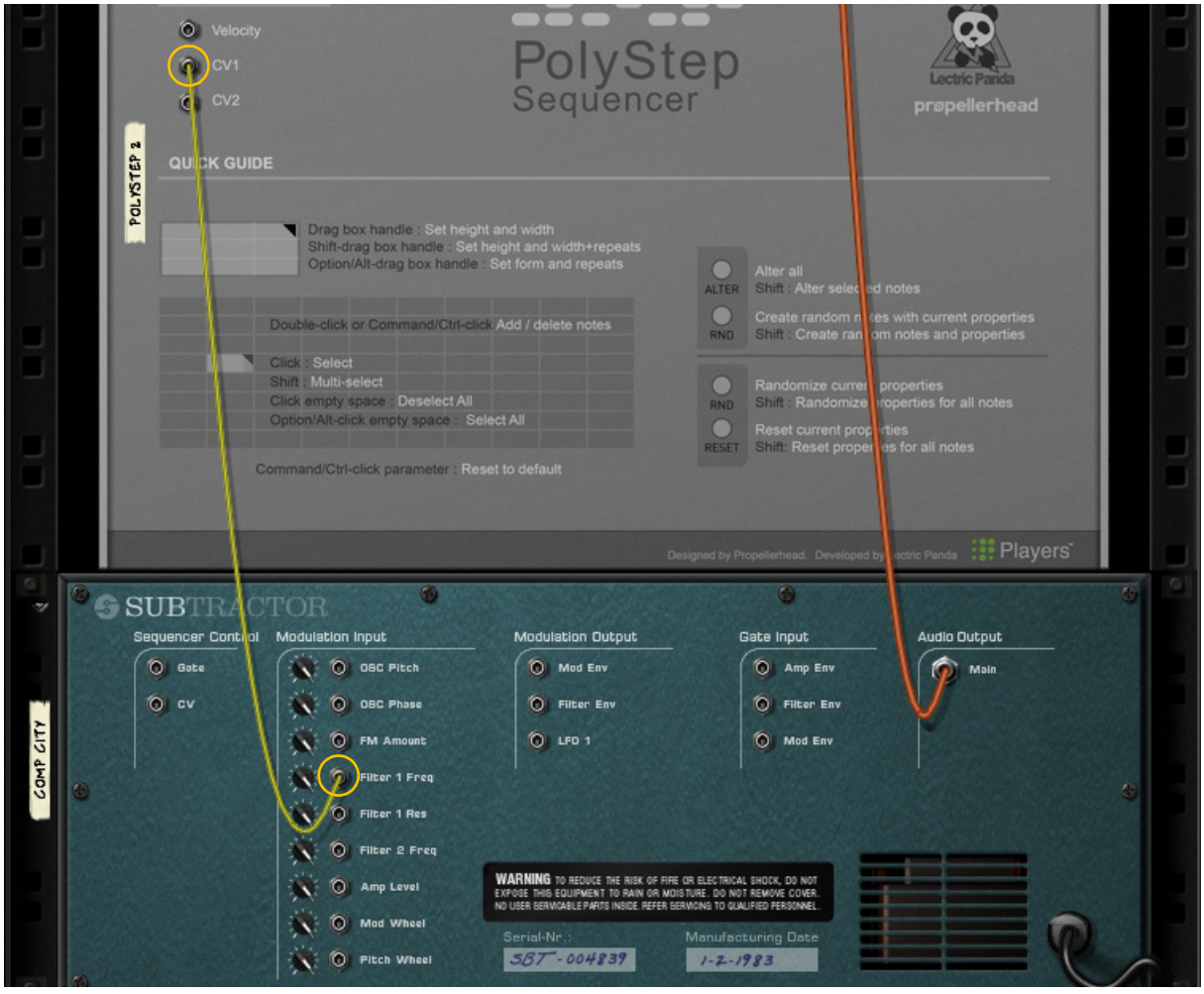
Connect the CV1 and/or CV2 outputs to the desired CV input(s) on devices that feature this. This lets you control parameters in devices from the CV1 and CV2 lanes in PolyStep Sequencer.

Tips & Tricks

Controlling instrument parameters from the Velocity and/or CV lanes

By default a Player device is set to control the MIDI notes on instrument device it's attached to. However, since the PolyStep Sequencer Player device features Velocity and CV outputs, you can control additional parameters in the attached (or other) instrument from the Velocity and/or CV lanes.

1. **Create a Subtractor device and then drag and drop a PolyStep Sequencer device onto the instrument device.**
2. **Press [Tab] to flip the rack around.**
3. **Connect e.g. the CV1 output to the Filter 1 Freq CV input on the Subtractor device.**
   The setup could now look something like this:



4. **Press [Tab] to flip the rack around to the front again.**
5. **Activate the CV1 lane and set up the levels to your liking.**
6. **Click the Key button to the left of the Run button on the PolyStep Sequencer device and start playing notes on your MIDI keyboard/On-screen Piano Keys.**
   Now, the Subtractor's Filter is controlled from the CV1 output.