

# ATOM 2

PIANO ROLL 2



# Manual

v1.3

app version  
**2.0.10**



# Thank you for purchasing Atom Piano Roll 2 ❤️

Atom2 is a new breed of modular MIDI sequencer. It combines class-leading piano roll sequencing and MIDI editing with the capabilities of a clip launcher that always stays in perfect sync with your project. This flexibility means Atom2 can fit into and augment almost any existing production workflow.

Here are just some of the many different ways you could use this plugin...

## MIDI Editor

- Create MIDI patterns with touch, Apple Trackpad or Apple Pencil.
- Import and edit MIDI files created in other apps, or from commercial packs.
- Use step input mode to write melodies or arpeggiated one step at a time.

## Clip Launcher

- Atom turns your MIDI patterns into launchable clips that work with any MIDI controller.
- Build up live sets for clip launching.
- Native support for Novation Launchpad controllers means Atom2 automatically connects and configures your device.

## Record MIDI, MPE & CC

- Capture performances and automation in real time and export your patterns as MIDI files.
- Record MIDI and MPE data generated by other MIDI plugins and sequencers.
- Export MIDI files to the Files app or your cloud storage of choice.

## Composition Aid

- Scale modes and flexible grid settings help you write beautiful melodies and complex poly-rhythmic patterns.
- Superimpose the patterns of other clips as ghost lanes to help you write harmonies and counterpoint melodies.

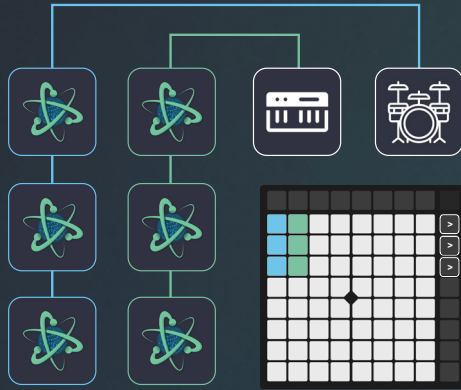
## Polyrhythmic Looper

- Construct complex polyrhythms by taking advantage of custom time signatures and grid fractions.
- Atom2 always stays in perfect time, regardless of which exotic time signature and speed your clips are set.

## ...and more

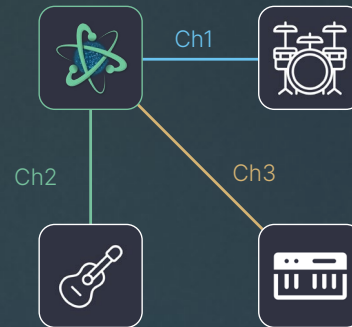
- A scripting playground that lets you customize your workflow with code.
- A Swiss-army knife of possibilities when working with MIDI.
- Use Atom as its own clip sequencer for full modular mayhem.

# New ways to use Atom2



## Atomic Clip Launcher

Multiple single-pattern Atoms, arranged into tracks and slots, and (optionally) triggered via a compatible controller.



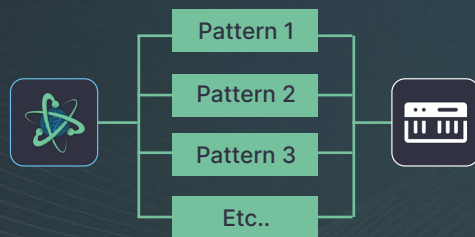
## Multi-channel Sequencer

Atom outputs MIDI notes to more than one MIDI channel, allowing one Atom to sequence multiple instruments at once. *NB This method does not support MPE.*



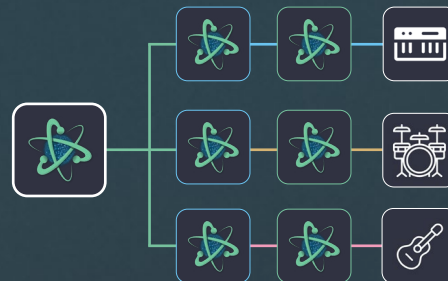
## MPE Sequencer

A single Atom sending MPE MIDI to a compatible MPE instrument. Note that MPE requires the use of all 16 MIDI channels for one instrument.



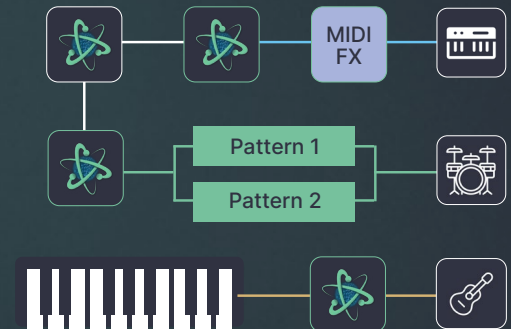
## Pattern Switcher

A single Atom with multiple switchable patterns which can be configured to respond to MIDI notes, CC, program change etc.



## Orchestrator

A single Atom orchestrating the launch states and pattern changes of other Atoms.



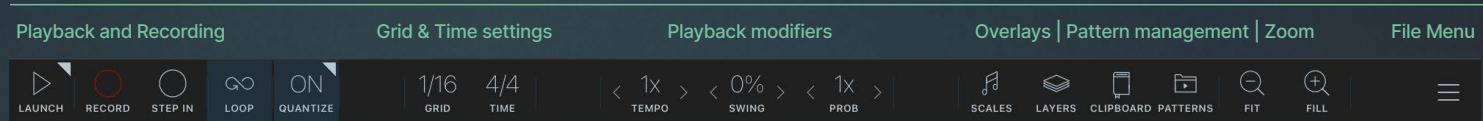
## Hybrid

A setup that either mixes any of the other methods described, or creates new ones, perhaps including branching signals and/or MIDI FX.



# Interface

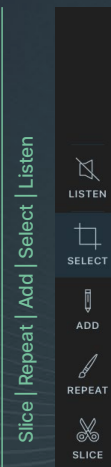
## Main Toolbar



## Clip Settings



## Note Tools



**Ruler / Loop Markers**

The Piano Roll / Note Grid displays a piano roll with a ruler at the top showing loop markers (1.2, 1.3, 1.4, 2., 2.2, 2.3, 2.4, 3., 3.2, 3.3, 3.4). The grid shows notes for various pitches (C5, B, A#, A, G#, G, F#, F, E, D#, D, C#, C4, B, A#, A, G#, G, F#) across the piano roll. A quantize panel is visible at the bottom of the grid.

**Quantizing all notes. Make a selection to only process some notes.**

Quantize Strength: 100%

Quantize Options: WHOLE NOTE, HALF NOTE, QUARTER NOTE, 8TH NOTE, 16TH NOTE, 32ND NOTE, 64TH NOTE, TRIPLET, QUINTOLET, SEPTOLET, NONUPLET, UNDEC, TREDEC, OTHER RATIO (÷16).

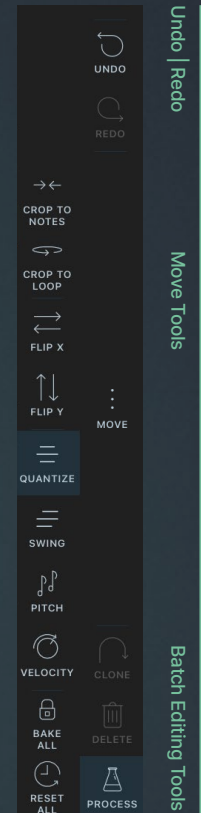
Quantize Settings: NOTE ON (checked), NOTE OFF, NOTE DURATIONS.

Quantize Actions: KEEP, BAKE.

Piano Roll / Note Grid

Panel Overlays (e.g. Quantize panel)

## Process Toolbar








## The Grid



# Universal Gestures

These gestures work with **any tool** selected (unless specified)



## The Grid

-  Pinch to **zoom in/out**.
-  Two-finger drag to **pan the grid**.
-  Long-press background to start a **marquee selection**.
-  Tap background to **deselect** all currently selected notes.
-  Double-tap background to **select all notes** (except when using Add/Repeat).





## Playhead

-  Tap any blank space on the grid (within the loop braces) to **set the playhead position**.
-  (In audition mode) tap anywhere on grid to **set the playhead position** and **audition all intersected notes**.







## Notes (unselected)

-  Tap a note to **select** that note.
-  Long-press a note to **add** or **remove** it from the current group selection.

## Notes (selected)

-  Tap a single selected note to **delete** that note. NB - *grouped notes can only be deleted with the 'Delete' button*.
-  Drag a selected note (or the inner-rectangle of group selection) to **move** notes around on the grid.
-  Drag left/right edges of note selection to make the duration of those notes **longer** or **shorter**.
-  Long-press a group of notes to **set left/right loop markers** to fit around the selected group.

## Ruler / loop braces

-  Long-press the loop brace to **select all notes within loop**.
-  Double-tap anywhere to **set loop markers around the nearest full bar**.
-  Double-tap within loop markers to **expand loop to fill all bars**.
-  Tap and drag within loop markers to **slide the loop section** left/right.
-  Tap and drag outside the current loop marker to **draw a new loop section**.
-  Double-tap left or right marker to **expand it fully** in either direction.

# Note Tools

Atom has four main editing tools and a listen/audition toggle. All tools have been designed to work equally well with touch, Apple pencil, mouse or trackpad.



## Select

Makes it easier to make note selections and move notes around the grid safely in the knowledge that you will not accidentally draw any new notes by mistake.



**Tap & drag** to make a **marquee selection** (note - must begin from an empty grid space).



**Double-tap the select tool** to **select all notes** in the active pattern, incl. notes outside the loop braces.



## Add\*

Draw notes at grid size (tap) or custom length (hold & drag). All drawn notes observe the current grid and quantize rules. Disable the **snap** setting in the quantize menu if you prefer to draw notes off-grid.



**Tap an empty space** to **draw a new note** with length based on the current grid setting.



**Tap & drag on empty space** to **draw a note with custom length**.



## Repeat

Behaves exactly like the Add tool except that tap and drag does not elongate your note but instead creates a row of repeated notes based on the current grid size.



**Tap an empty space** to **draw a new note** with length based on the current grid setting.



**Tap and drag an empty space** to **draw a row of repeated notes** based on the grid settings.



## Slice

Slices through notes like a vertical laser beam. Very handy for trimming the uneven tails of recorded chords. After dividing notes, the tails are automatically selected to make it quick and easy to delete them.



**Tap and drag vertically** to **create a vertical slice guide**. Once released, all intersected notes are separated in two.



## Listen / Audition

Toggles whether or not you hear note previews when you draw or select notes on the grid. With Audition enabled, drawing new notes or making note selections will trigger a short audition note. Selecting a large group of notes with audition enabled will preview them all simultaneously. You can also audition your chords by moving the playhead so that it intersects a vertical stack of notes.

### \*Add tool (long-press menu)

Long-pressing the Add tool reveals a hidden menu that lets you choose which **MIDI channel** newly-drawn notes are assigned to, and also lets you set the **default velocity** for drawn notes.



# Clip Launching Basics

All Atom2 instances begin as an un-launched clip. If you draw a few notes onto the note grid and then press play in your host it might look like nothing is happening. This is because each clip is waiting to be **launched**.

Launching is how you start and stop clips in sync with the host timeline and other Atom2 clips. You can trigger clips at any time during playback, and Atom2 will automatically postpone playback of the clip until the next available sync point.

To get a better understanding of how Atom2 syncs clips with your host, you need to understand a concept called **Quantum timing**.

## What is Quantum timing?

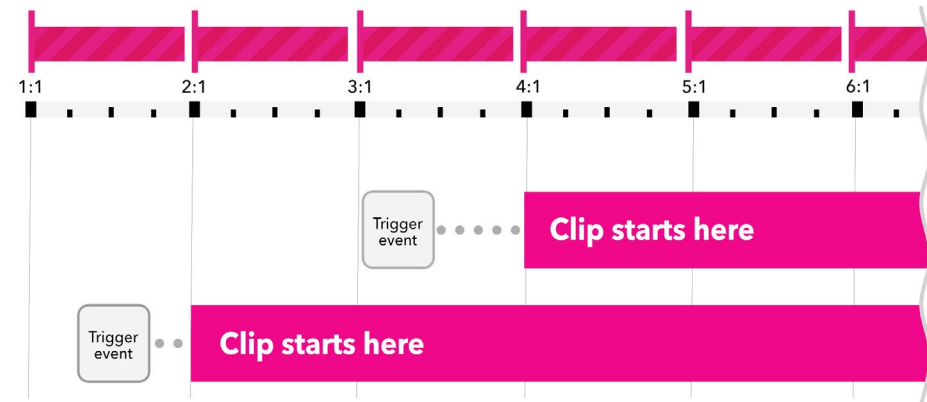
Atom2 uses quantum timing to determine when each of your clips should launch, so that they always stay in sync with the host and any other synced Atom2 clips.

Quantum timing is a way of thinking about your host's timeline as blocks of time, measured in beats or bars. Quanta always start counting from the beginning of your host's timeline.

The settings that determine a clip's sync settings (and quantum values) are the **Trigger Beat** and **Release Beat** settings. Both can be found in the **Advanced Launch Menu**, which is accessed by long-pressing the Launch button (see pages 13-15).

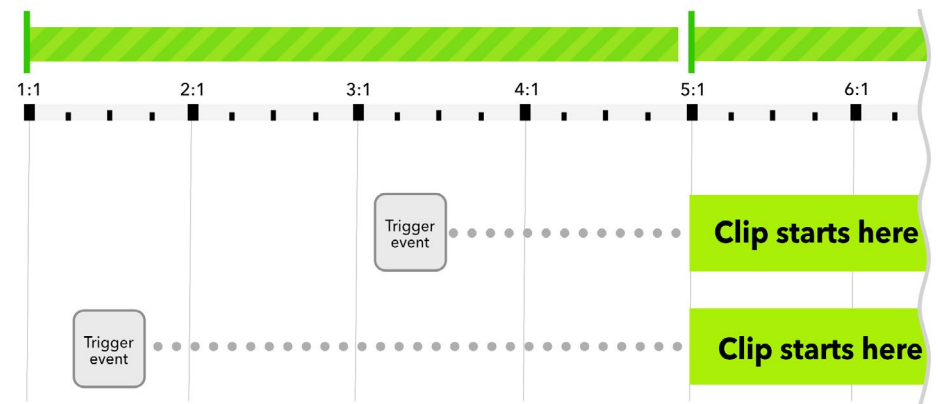
### Default Sync Settings (Trigger beat: 4)

The clip begins playing at the start of the next whole bar (4-beat quantum)



### Custom Sync Settings (Trigger beat: 16)

The clip begins playing at the start of the next 4-bar segment (16-beat quantum)



# Connecting a compatible Launchpad Controller

Atom2 automatically recognises and connects with any of the current Novation Launchpad mk3 controllers. This includes the **Launchpad X**, **Launchpad Mini mk3**, and **Launchpad Pro mk3**.

To start using a compatible Launchpad controller with Atom2, simply connect it directly to your iPad and Atom2 will take care of the rest. No custom routing is required.

*Note - additional controllers may be supported in future updates. Alternatively, you can learn how to add support for your own controller with a custom script.*



*If your iPad has a lightning port (instead of USB-C) your Launchpad will need to be connected via a Lightning-to-USB3 adaptor, and will also require power from your iPad charger in the adaptor's lightning port.*

Feature	MIDI Controller	Launchpad X Launchpad Mini mk3 Launchpad Pro mk3
Clip Launching	✓	✓
Note and Step Input	✓	✓
Pattern Switching	✓	✓
Scene Launching	✗	✓
Auto-grid layout	✗	✓
Matching Color LEDs	✗	✓
Auto-routing	✗	✓
Track Mute / Solo	✗	✓
Record Arm	✗	✓ (except Mini mk3)



## Using other MIDI controllers

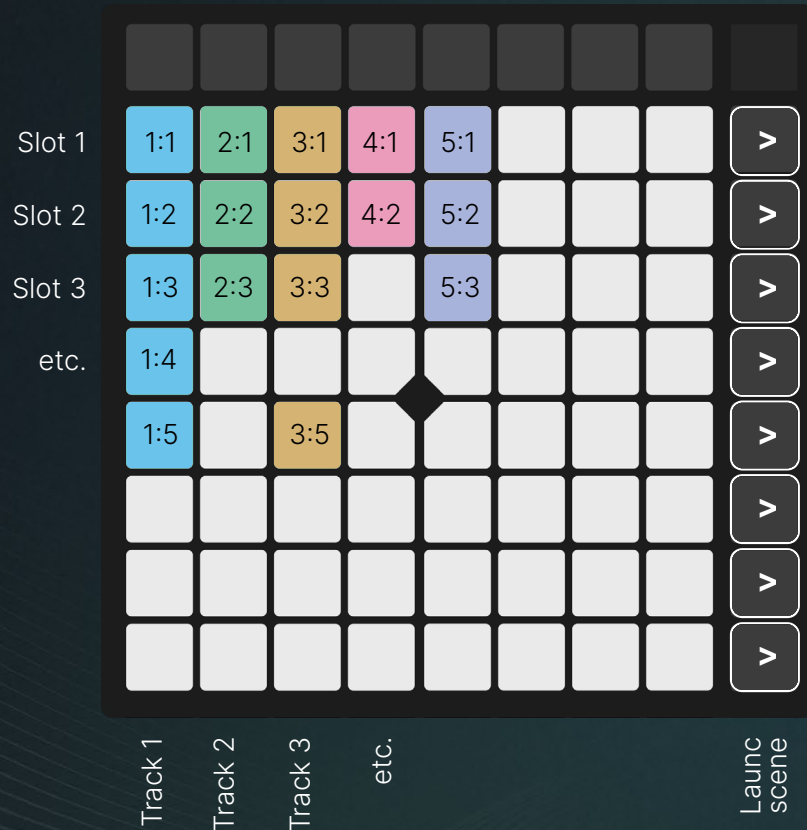
Atom2 clips can also be launched and controlled with any other MIDI controller or source or MIDI data, such as keyboards and non-launchpad pad controllers. However, using an 'unscripted' controller means you will need to manually configure and manage all MIDI routings between your controller and each Atom2 clip via your host's MIDI routing.



# The basics of controlling Atom2 with a supported Launchpad

Atom2 includes native support for **Novation Launchpad Mini Mk3**, **Launchpad X** and **Launchpad Pro Mk3** controllers.

*Note - scripted support requires iOS 13+ and also requires iCloud Drive to be enabled in your iPad preferences.*



## Clip launching

When using a supported Launchpad controller, you can launch and unlaunch Atom clips individually or in groups at the touch of a button.

Clips arranged on the same slot (row) can be triggered together as a group using the 'scene' triggers along the right edge of the controller.

*NB - The launch conditions of each clip depend on the way they are individually configured (see page 18).*

## Pad assignment

**Atom2 automatically assigns each instance of Atom2 (clip) to a different pad on your controller.**

Pad assignment can be overridden manually by adjusting each clip's **track** (column) and **slot** (row) settings from the clip menu (see page 16).

If you are using AUM as a host for Atom2, you can also re-assign pads on your controller by physically moving Atom2 nodes inside your AUM project. For example, sliding an Atom2 node up/down will update that clip's slot

setting, and sliding a MIDI channel left/right will update the track settings for all clips loaded on that MIDI channel.

*NB - you can also use empty nodes in AUM as vertical spacers (see the gap between 3:3 and 3:5 in the diagram).*

## Auto-routing

**Atom2 automatically routes MIDI from your launchpad into whatever clip is currently open and in focus.**

No more fumbling around with the MIDI matrix to constantly connect and disconnect the controller from each Atom2 instance. Simply open the UI for any Atom2 clip in your project and the MIDI from your compatible Launchpad will be routed into it, ready for auditioning notes and recording patterns.

## Custom modes

All three Launchpad controllers also feature several custom modes. These modes are configured by each user manually using Novation's Components website or desktop app ([novationmusic.com/en/components](https://novationmusic.com/en/components)).

## Interested in creating your own scripts or adding support for other controllers?

If you're familiar with JavaScript you can learn more about how hardware scripts are made by opening **Readme.md** in the Atom2 scripts folder in your iCloud drive, or by visiting [github.com/victorporof/atom](https://github.com/victorporof/atom)

# Controlling Atom2 with a Launchpad Mini mk3

## Session mode

As soon as Atom detects a connected Launchpad Mini it will set the device into **Session** mode, which is where you will see all your clips arranged into columns (tracks) and rows (slots) and color-coded according to the clip colors.

Your Launchpad is now primed and ready to launch individual clips, either by tapping the individual pads which correspond to each Atom clip, or launching an entire row (or 'scene') by tapping the pads along the right-hand side of the device.

If you have more clips that can fit onto the pad grid, use the ▲▼◀▶ buttons in the top left corner to pan the launchpad pad view in the corresponding direction.

## Function Row (Stop/Solo/Mute)

If you tap the **Stop/Solo/Mute** button (bottom-right) the bottom row of pads will cycle through the colors yellow, red and blue.

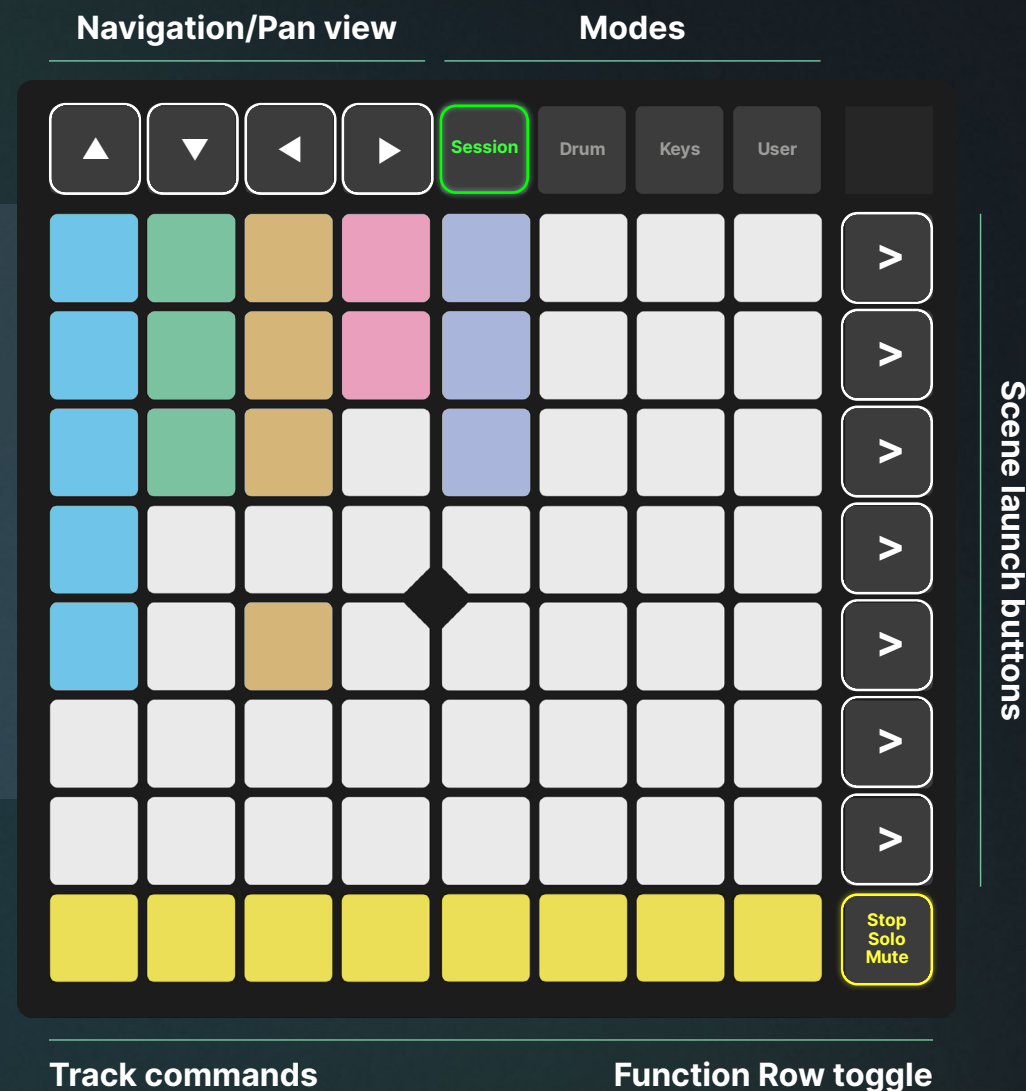
When one of these modes is enabled the bottom row of pads have the following effect:

**red** - **Stop** the selected track

**blue** - **Solo** the selected track

**yellow** - **Mute** the selected track.

Pressing the Stop/Solo/Mute selector a fourth time will return the pads to normal clip-launching behaviour (no colour).



## What! no record arm?

Unfortunately, due to a lack of buttons and modes, the ability to toggle Record Arm is not natively supported on the Launchpad Mini Mk3. However, the feature can be mapped to a pad in one of your own **custom modes**, or by writing your own custom hardware script.

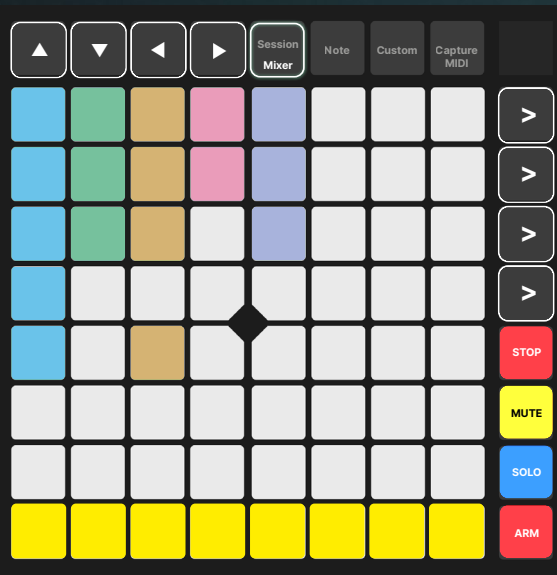
# Controlling Atom2 with a Launchpad X

## Session mode

As soon as Atom detects a connected Launchpad X it will set the device into **Session** mode, which is where you will see all your clips arranged into columns (tracks) and rows (slots) and color-coded according to the clip colors.

Your Launchpad is now primed and ready to launch individual clips, either by tapping the individual pads which correspond to each Atom clip, or launching an entire row (or 'scene') by tapping the pads along the right-hand side of the device.

If you have more clips that can fit onto the pad grid, use the ▲▼◀▶ buttons in the top left corner to pan the launchpad pad view in the corresponding direction.



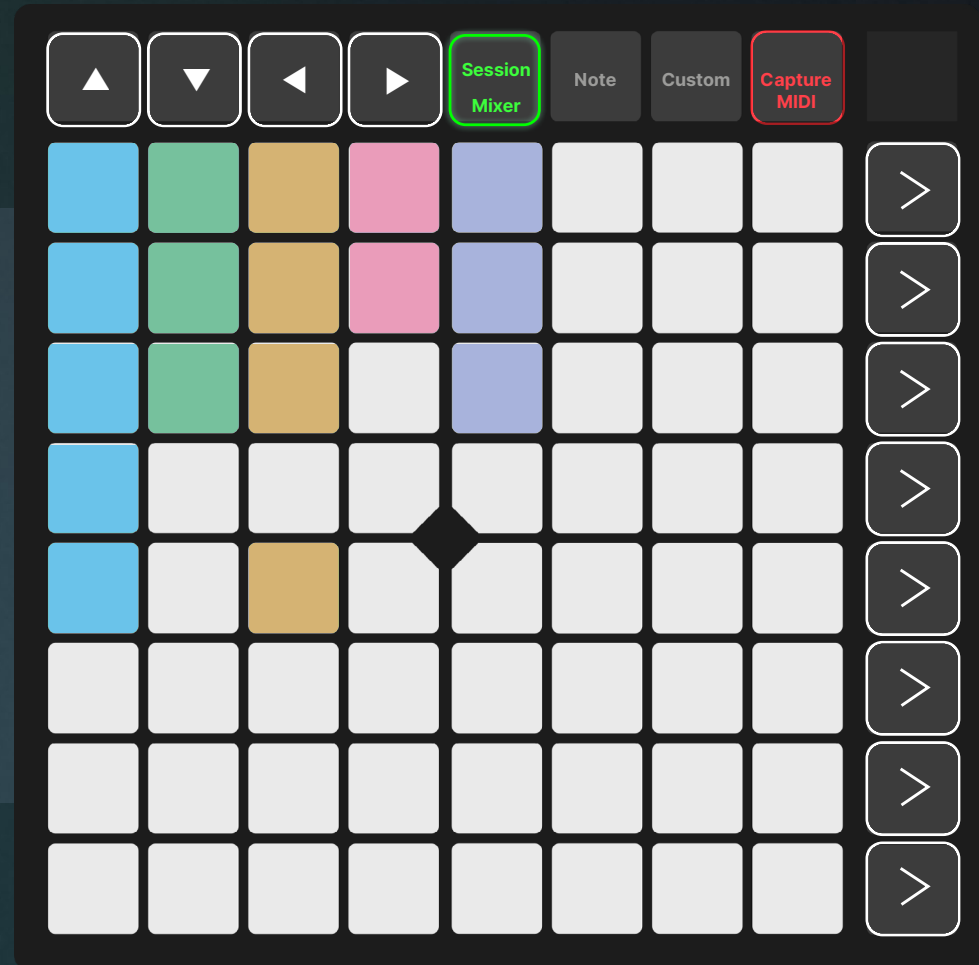
Function Row

Function Modes  
(Stop/Mute/Solo/Arm)

## Mixer mode

Pressing the Session button a second time puts the Launchpad X into **Mixer mode**.

In this mode the bottom row of pads is used to **Stop / Mute / Solo / Arm** their corresponding tracks, depending on which mode is selected via the mode selectors in the bottom-right corner.



Scene launch buttons

## Record Arm

You can toggle record arm for the currently active clip by tapping the **Capture MIDI** button.

*Note this works even if the clip is hidden, provided the midi from your launchpad is still routed into the clip.*



# Controlling Atom2 with a Launchpad Pro mk3

## Session mode

As soon as Atom detects a connected Launchpad Pro it will set the device into **Session** mode, which is where you will see all your clips arranged into columns (tracks) and rows (slots) and color-coded according to the clip colors.

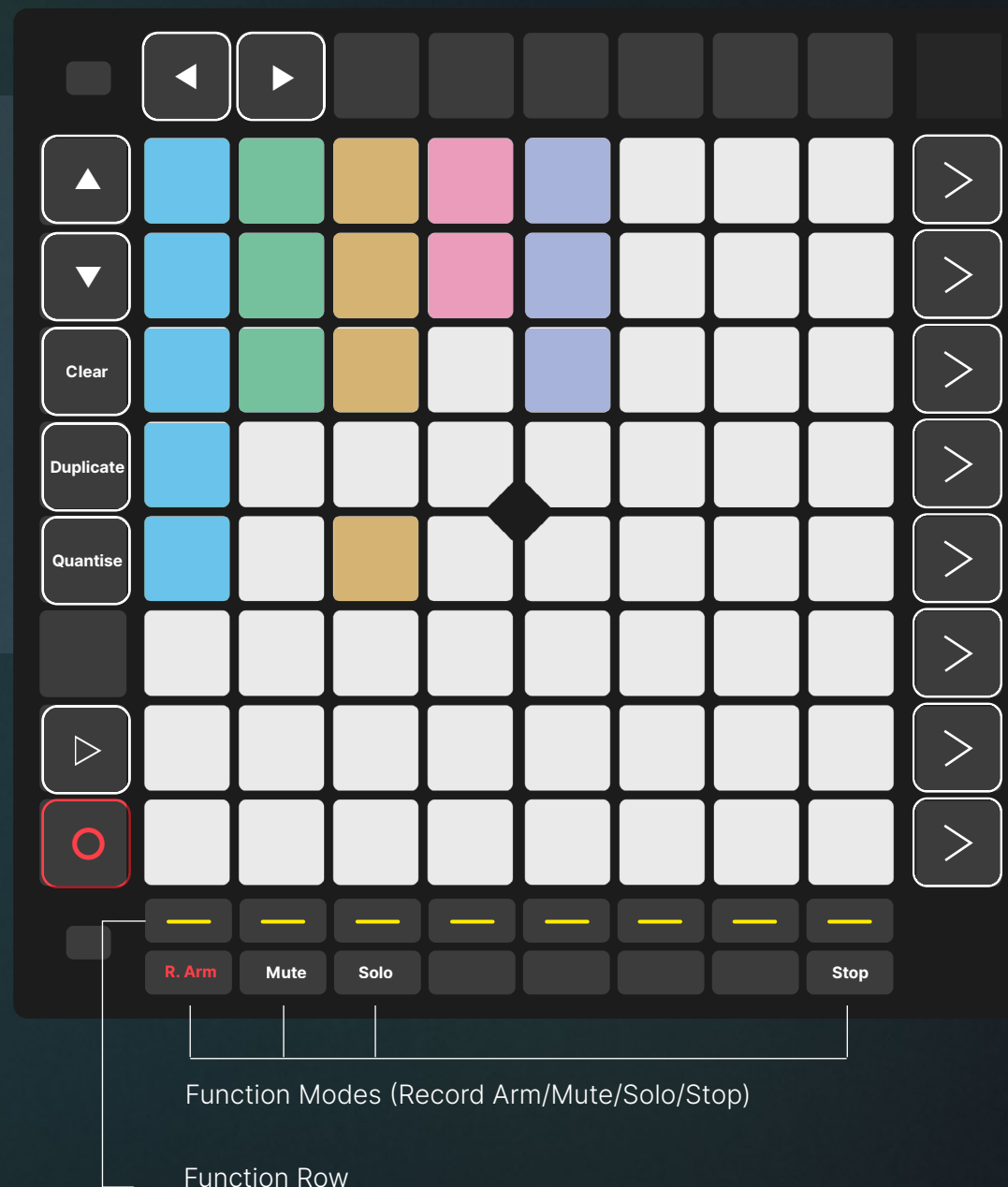
Your Launchpad is now primed and ready to launch individual clips, either by tapping the individual pads which correspond to each Atom clip, or launching an entire row (or 'scene') by tapping the pads along the right-hand side of the device.

If you have more clips that can fit onto the pad grid, use the ▲▼◀▶ buttons in the top left corner to pan the launchpad pad view in the corresponding direction.

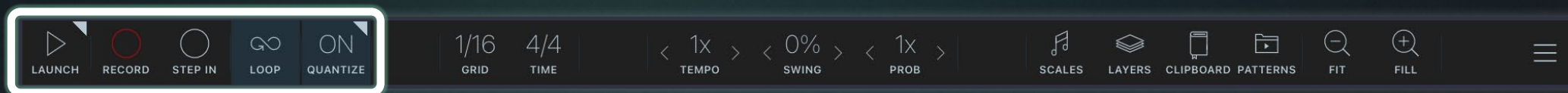
## Supported Function buttons

The following Launchpad Pro function buttons are supported:

- **Clear / Duplicate**  
Hold either button then tap a pad to clear (or duplicate) the active pattern for that clip.
- **Quantise**  
Toggle record quantise ON/OFF
- **Record Arm / Mute / Solo / Stop**  
Tap any of these four buttons to set the function row above to the corresponding mode (highlighted yellow on the diagram, right). Tapping any of the function row buttons applies that command to the corresponding track.



# Top Toolbar : Playback and Recording



## Playback and Recording

### Launch

Triggers the clip to launch. Note that the precise timing of when the clip launches depends on your host's current song position and the clip's Trigger Beat setting. The default setting is for clips to play in sync with the next full bar.

**Long-press** to access the **Advanced Launch Settings** (see pages 17-19).

### Loop

Turns looping ON/OFF. The position and size of the loop section is set using the loop markers and loop brace in the ruler that sits above the note grid.

Note - clips will always begin playing from the left loop marker and end at the right loop marker regardless of whether loop mode is ON or OFF.

### Record

When record arm is enabled, all incoming MIDI notes (on all MIDI channels) are recorded to the grid. Recording is only possible while a clip is launched. Unlaunched clips will not record MIDI. Remember to route MIDI into the clip using your host's MIDI routing controls.

Note - If you are using a native-supported controller (e.g. Launchpad X) Atom2 will automatically route all MIDI from that controller into the recording clip as long as you leave its UI window open. If you want to record with the window closed, you will have to manually route midi input to the clip using the host routing.

### Step Input

When enabled, any incoming MIDI notes are recorded onto the grid in a sequential pattern. This technique is useful for programming arpeggios and common drum patterns.

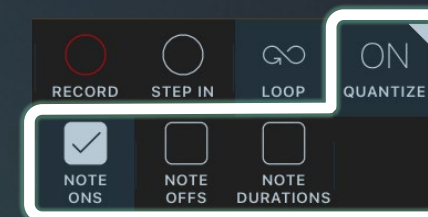
- The length of each note is determined by the current grid settings.
- Chords are currently not supported in step input mode. Pressing two or more notes together will create multiple note steps.

### Quantize

Tap to enable input quantize or long press to see further options, input quantize is governed by current grid size and the options available via long-press.

Note that quantize is applied to notes non-destructively. So if you record a pattern with quantize switched on, you can remove the applied quantize from your notes via the quantize panel in the process menu.

**Long-press** for advanced quantize settings (see box, right).



### Advanced Quantize Settings (long press)

#### Note ONs

When ticked, quantise only affects the Note ON position, aligning the beginning of notes to the grid.

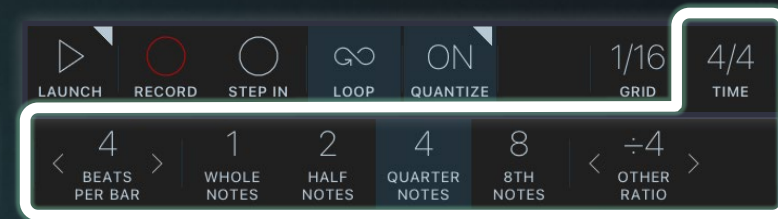
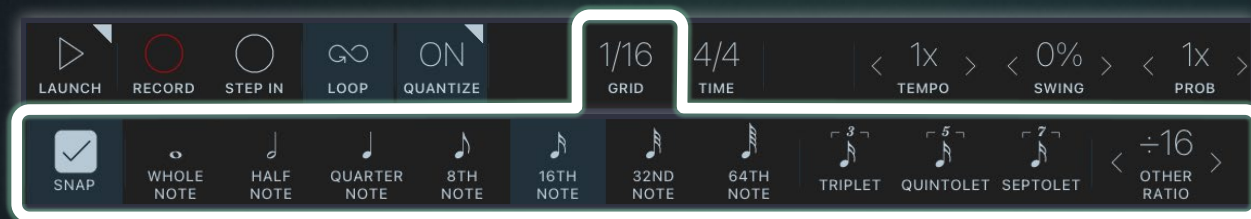
#### Note OFFs

When ticked, quantise only affects the Note OFF position, aligning the ends of notes to the grid.

#### Note Durations

When ticked, quantise only affects duration of notes, ensuring lengths are a consistent with the current grid size.

# Top Toolbar: Grid and Time Settings



## Grid

Grid settings primarily affect the arrangement of the horizontal marker lines on the grid, which in turn have a direct effect on how note snapping behaves when you move, resize or draw notes.

Setting the grid also affects a few other things: positioning the playhead, moving loop markers, quantize and swing (when using the 'grid' option), and the length of each note when using step input mode.

### Snap

Switched ON by default. When enabled, moving, resizing, and drawing new notes will be constrained to the current Grid settings.

Unticking this box enables unrestricted movement, resizing and drawing of notes on the grid.

### Grid presets

Set to 1/16 by default. There are seven standard grid presets ranging from whole note (1/1) to 64th notes (1/64).

### Tuplets (Triplet/Quintolet/Septolet)

Ticking any of these 3 options applies this triplet transformation to whatever grid preset you currently have selected.

For example, selecting a 1/16 grid and then enabling Triplets results in a grid of 16th Triplets (1/24).

### Other ratio

This control gives you complete control over grid divisions, and overrides the other grid settings in this panel. So if you want your grid in 10th notes, 13th notes, or any other ratio, you can set that right here.

## Time

Time signature determines how bars are divided in the grid, and the speed at which the playhead moves across the notes in your pattern.

### Beats per bar

Sets the number of beats in each bar of your pattern. *Double-tap resets to 4.*

### Sub-division presets

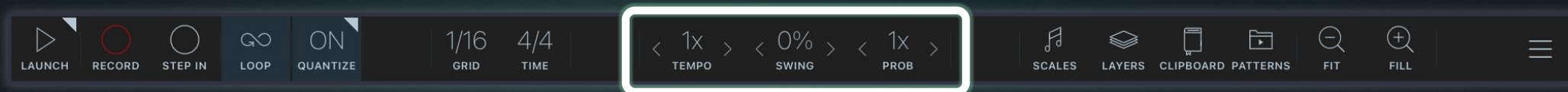
Four preset options let you quickly set the most common subdivisions meter length.

### Other ratio

Just as with the Grid settings, the time signature can also be set to any ratio. And yes, that means you are finally free to compose in 7/9 time.



# Top Toolbar: Playback Variables / Overlays & Pattern Management



## Playback Variables

### Tempo

The Tempo multiplier lets you change the clip speed in relation to the host BPM.

For example, a setting of 0.5x plays your clip at half speed, and a value of 2x will be double the speed of the host tempo.

### Swing

Sets a global swing amount that applies for all notes in the pattern. This swing applied uses the default 1/16th swing and, unlike the per-note swing, this type of swing cannot be changed.

*Note that applying global swing has no visual impact on notes in the grid.*

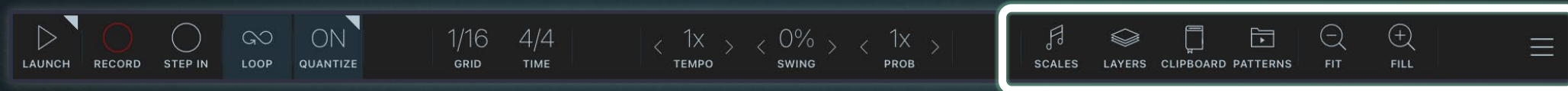
### Probability

Set a global probability for the notes in the clip.

Probability of each notes is calculated once and remains persistent for each successive play through and loop. The probability of each note is not recalculated when the pattern loops.

The only way to re-seed the probability of each note is to re-adjust the slider value to a different amount.

Probability has no visual impact on notes in the pattern.



## Overlays

### Scales

Opens the **Scales overlay** (see page 17) which lets you select a scale mode which affects the note grid and behavior of the Pitch process panel.

### Layers

Opens the **Layers overlay** (see page 18) which gives you the power to view other clips as ghost lanes.

### Clipboard

Opens the **Clipboard panel** (see page 19) which lets you store and reuse note snippets that are shared between clips, projects and across hosts.

### Patterns

Opens the **Patterns panel** (see page 16) which lets you create an infinite number of alternative versions of your patterns. *Note - if you import a multi-channel MIDI file, each channel will be loaded as a separate pattern in this list.*

### Fit / Zoom out

Zooms the note grid out sufficiently so that all notes are visible on-screen.

### Fill / Zoom in

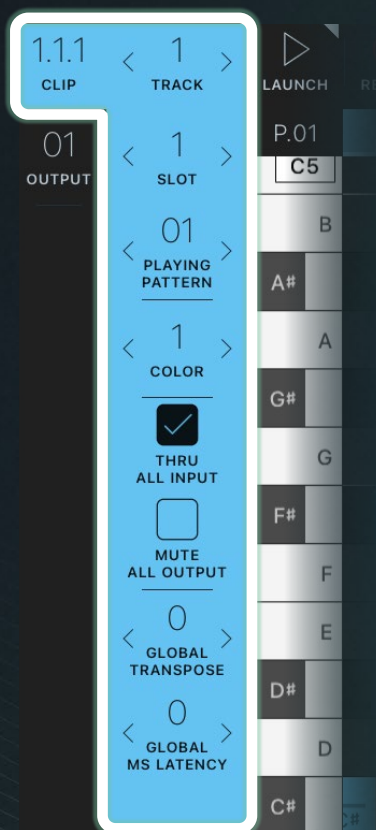
Zooms the note grid in so that the currently selected notes fill the available space.

### File Menu

Open the **File Menu** (see page 20).

# Clip Menu

The Clip menu determines how each clip gets assigned to a column (track) and row (slot) when launching clips with a natively-supported Launchpad controller. This menu also contains several other useful global parameters.



**Note** - If you are using AUM, you'll also notice that re-positioning clips up/down the FX chain also updates their slot numbers relative to the other clips on the track. You will also notice that moving MIDI channels left/right changes the track settings for all clips on that channel. You can also use blank FX slots as vertical spacers.

## Track and Slot Assignment

Each time you load a new clip Atom2 auto-assigns that clip's track, slot and color values based on its best guess at where it thinks the clip belongs. You are free to manually override these clip settings at any point

### Track No.

Tracks are how clips are organised into columns in AUM or on your compatible hardware controller so that they can be treated as a mutually-exclusive stack of patterns.

Under normal circumstances, launching another clip from the same track will unlaunch any other clips on currently playing on that track. You can override this behaviour by changing the clip's choke settings in the Advanced Launch Menu.

### Slot No.

Slots help you arrange your clips into rows (or 'scenes') on your hardware controller so that you can create linked groups of clips (also known as a 'scene') that can be launched together with a single button press.

## Playing Pattern

Lets you control which of the patterns in this clip is currently paying. Patterns can also be switched via MIDI notes, MIDI CC, velocity and program change commands. See the page 16 for more info.

## Color



The color of a clip affects both its on-screen appearance and the LED color that shows on supported Launchpad controllers. Color is usually bound to a clip's track number, but you are free to override clip colors manually.

There are 9 colors to choose from, but experienced users are able to customise this palette using CSS.

## Global Parameters

### Thru All Input

Determines whether incoming MIDI is passed through to output or not. Disabling Thru input - which is ON by default - is useful when creating clips that are triggered by a MIDI note, as it ensures that only the notes contained within this clip are heard, and not the sound of the trigger note itself.

## Mute All Output

Mutes the MIDI output of this clip.

Mute can also be triggered ON/OFF via a supported Launchpad controller.

## Global Transpose

Transposes all MIDI generated from this clip by  $\pm X$  semitones. Affects both incoming MIDI and notes in the active pattern, (Range:  $\pm 120$  semitones).

*NB. Changing the global transpose has no visual effect on the notes in the active pattern. Recorded notes will always be captured at their pre-transposed pitch, and then have the global transpose applied during playback.*

## Global MS Latency

Offsets the clip playhead by  $\pm X$  milliseconds (up to 10,000ms). This setting can be used to compensate for hardware or software latency, or used in a totally creative way.



# MIDI Settings

The MIDI settings panel lets you control how the notes in your clip is output as MIDI. It is also the place where you can enable MPE mode, and has some essential controls for when working with multi-channel patterns. *For more information about Patterns, see page 21.*



Clips can be set to one of three modes: **MPE**, **Funnel** or **Filter**.

## MPE Mode (default)

Notes each have their own individual MIDI channel assignment, and are output on their own MIDI channel.

For example, the first note of the pattern might be CH1 and the next note CH2.

## Funnel Mode

In Funnel mode, all notes in the pattern are output in a single stream to one or more MIDI channel(s) that have been enabled for output.

Funnel mode ignores the MIDI channel assignments of individual notes, and cannot be used for MPE.

## Filter Mode (default)

This is the mode to use if you want sequence multiple instruments with a single Atom2 clip.

Also known as **multi-channel mode**, each MIDI note has its own MIDI channel assignment, and only outputs to that specific MIDI channel.

This means you are able to have different MIDI patterns output to several different MIDI channels all at once, allowing you to sequence drums, bass, and melody all from one single Atom2 clip.

## Channel commands

**Tip:** long-pressing show or lock buttons on any of the channels will toggle exclusivity. Give it a try.

## Output ON/OFF

Toggles MIDI output for this channel ON/OFF.

## Show ON/OFF

Toggles visibility of the MIDI notes assigned to this channel ON/OFF.

## Lock ON/OFF

Toggles locking of MIDI notes assigned to this channel.

## Recording MIDI & CC Automation

Atom2 will accurately record performances from your MIDI controller or the output generated by other apps and plugins (such as other MIDI FX). All recordings are sample accurate and include all MIDI CC and automation data.

To start recording, simply route the source of your MIDI (either controller or plugin) into any Atom2 clip and then enable recording in that clip.

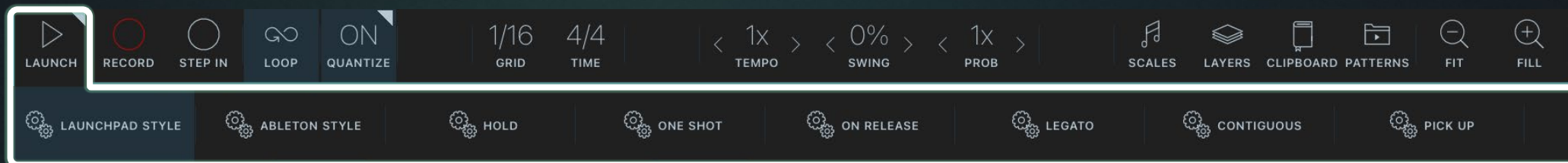
## MIDI Recording Notes

- **Recording only happens when a clip is launched. Unlaunched clips still pass incoming MIDI thru to output, but the notes will not be written onto the grid.**
- **Although MIDI CC is recorded in Atom2 patterns, it is not currently possible to view or edit the CC data. This feature will be added in a future update.**



# Advanced Launch Settings

(1 of 3)



## Launch Presets

There are eight different launch presets that give you quick access to the most common launch modes. Selecting a preset automatically configures the settings in the rows below, without you having to know precisely what each of them does. However, power users can observe (and override) all of the individual settings after the initial preset has been applied.

### Launchpad Style 1-bar sync

Emulates behavior of the Launchpad iOS App. This means clips start with the first note on, and then stop with the second note on. You can think of this as a 'toggle mode'.

### Ableton Style 1-bar sync

Emulates Ableton Live-style clip launching. This means the clip starts when receiving a matching note on, and re-launches from the beginning if it receives a repeat note on. The trigger and release beats are both set to 4 which means that clips will sync-start and sync-stop in sync with each bar (4 beats).

### Hold Instant

Clip begins playing whilst note on is held, and then unlaunches/stops when the note is released. Trigger beat and trigger release values are set to 0, which means this clip launches immediately when pressed. Stop on host scrub is also enabled to make this mode more compatible with linear DAWs like BeatMaker3.

### One Shot Instant

Enables one-shot launching. Starts with note on, and does not stop until it reaches the end marker. Pressing note on during playback jumps back to the start again. Trigger Beat and

Release Beat values are set to 0 so that launching is always instant.

### On Release 1-bar sync

Creates a clip that launches on Note OFF. Enables some highly creative pattern chain set-ups.

### Legato 1-bar sync

Legato mode is identical to Launchpad Style, but with Loop with Legato enabled. This means any notes that extend beyond the right loop marker boundary are not abruptly cut when the pattern loops around.

### Contiguous 1-bar sync

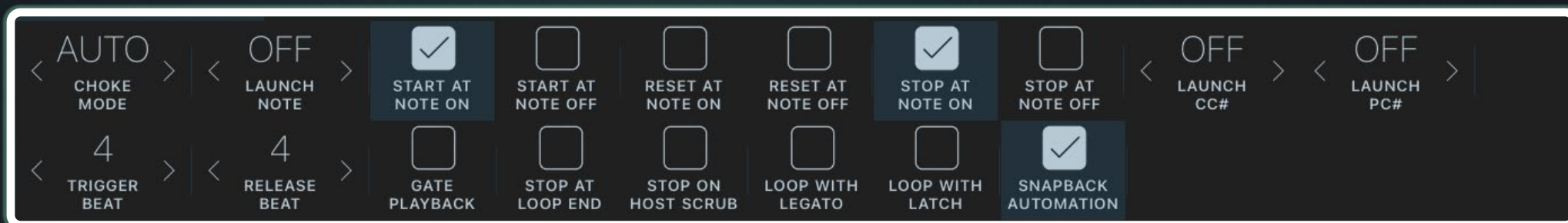
The pattern runs silently in gated mode until launched, upon which clip will un-mute in time with the start of the next full bar.

### Pick up Instant

The pattern runs silently in lock-sync with the host until launched, upon which the pattern is immediately unmuted. This mode is especially useful for clips that need to be launched mid-way though, such as a pattern that includes an anacrusis or lead-in at the tail end.

# Advanced Launch Settings

(2 of 3)



## Choke Mode

Choke mode defines the clips exclusivity in relationship to other clips within the same track.

- **Auto (default)** means that the clip chokes when triggered by a Launchpad controller, but doesn't choke when triggered on-screen or via another method.
- **OFF** means the clip NEVER chokes other clips on the same track, regardless of how it was triggered. Useful for layering clips.
- **ON** means the clip ALWAYS chokes the other clips on the same track, even when they are launched manually on-screen.

## Launch Note

If you are not using a compatible Launchpad controller, you can use this setting to tell the clip to launch when it receives a specific MIDI note ON, and unlaunch when it receives Note OFF. The range covers the full 10 octaves from **C-1 to G9**, and the trigger note will work on any MIDI channel. *Double-tap to reset.*

## Trigger beat

Sets the sync quantum, measured in beats, which determines when the clip launches in sync with the host and other Atom clips. The default value of 4 means the clip will always launch at the start of the next full bar (4 beats = 1 bar in 4/4 time). *Double-tap to reset to 4. Range: 0-64.*

*Note - if you compose in a non-4/4 time signature, you will need to adjust this value accordingly*

## Release beat

Works just like trigger beat (above), except that this setting determines how this clip stops playback in sync with the host. **Range: 0-64.**

## Start at Note ON / Note OFF

Instructs this clip to play from the left loop marker whenever it receives a corresponding Note ON or Note OFF signal. The precise timing of when the clip begins playing is determined by the Trigger Beat setting.

## Reset at Note ON / Note OFF

Once a pattern is already playing, this option determines whether the clip should restart from the beginning each time it receives a corresponding Note ON or Note OFF signal. The timing of restarts still depends on the Trigger Beat setting.

## Stop at Note ON / Note OFF

Instructs the clip to stop when it receives a corresponding Note ON or Note OFF. The precise timing of when the clip stops is determined by the Release Beat setting (see below).

## Launch CC#

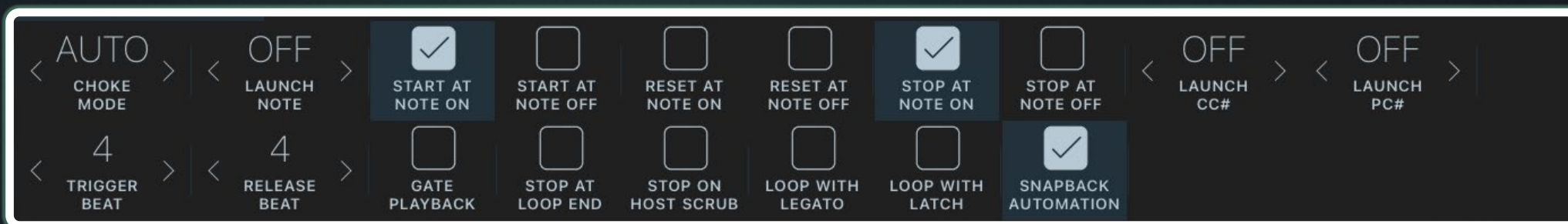
Similar to Launch note (above) this setting lets you set this clip to launch whenever it receives a specific MIDI CC signal (Range: **CC0-CC127**). The trigger will work from any incoming MIDI channel.

*Note - MIDI CC does not provide a Note OFF signal, so any launch settings that depend on Note OFF (such as Hold mode) are not fully compatible with MIDI CC launching. Double-tap to reset.*



# Advanced Launch Settings

(3 of 3)



## Launch PC#

PC = Program Change

Sets this clip to launch based on an incoming program change signal. Values range from 0-127, or OFF.

## Gate playback

When this setting is enabled, the playhead loops continuously through the pattern in perfect sync with the host, except no notes are heard until the clip is actually launched.

Upon launching, the clips resumes playback from its current playhead location, instead of playing the clip from the start each time it launches.

## Stop at loop end

This setting tells the clip to unlaunch and stop as soon as it reaches the end loop marker. It is useful for setting up one shot recordings that do not loop and one shot clips that only play once.

## Stop on host scrub

Tells Atom2 to stop this clip whenever it detects that the user has moved ('scrubbed') the host playhead. Without this setting launched clips would continue to loop indefinitely after the user moves the project playhead to a different part of the song timeline.

## Loop with legato

When enabled, any notes which extend beyond the loop brace will play for their full duration, instead of being truncated as the pattern loops around. This gives a more natural feel to looped melodies.

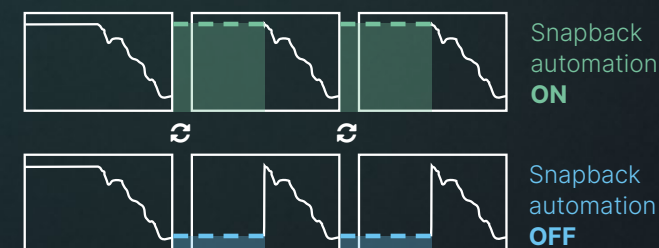
## Loop with latch

Similar to loop legato, but in this case any notes that extend beyond the loop marker are sustained indefinitely, and only release when the clip is stopped. This mode is also known as 'drone mode' and it can be useful for building layered drones.

## Snapback automation

When snapback automation is enabled, Atom2 automatically reverts any automated parameters back to their initial values each time the pattern loops. This 'home' value is calculated based on the first automation value recorded in the pattern.

For example, let's say you have a 2-bar pattern, and in the second bar you record a CC automation that ramps the filter cutoff down from 100 to 20. With Snapback automation ON, the filter will be reset back to a 'home value' of 100 each time the pattern loops, but with snapback automation OFF the filter cutoff remains at 0 each time it loops, and stays there until the original automation data takes control again.

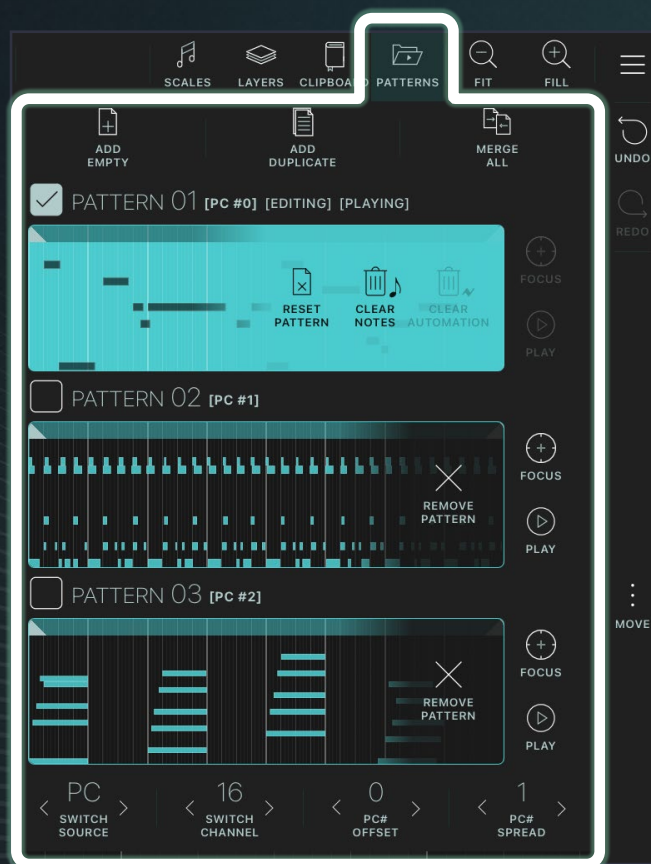




# Patterns Panel

Only one pattern can be playing at any one time, but playback and display (focus) are fully decoupled, which means you can edit a pattern while a different one is playing.

Each pattern can have its own time signature, length and loop markers. All other clip settings (e.g. launch mode, tempo, swing etc.) are shared across all patterns in the stack.



The Patterns panel lets you create additional versions, takes or variations of your clip. You can use either use them as a scratchpad for your ideas, or have Atom2 switch patterns on the fly via incoming MIDI, CC, or other signals.

## Pattern Functions

- **Add empty** - Adds a new blank pattern matching the length and loop settings of the active pattern.
- **Add duplicate** - Add a new identical copy of the active pattern.
- **Merge all** - Creates a new pattern at the bottom of the stack that merges all MIDI notes from all existing patterns.

## Non-focused Pattern Actions

- **Remove pattern** - Deletes that pattern from the Patterns panel.

## Focused Pattern Actions

- **Reset Pattern** - deletes all notes in the pattern and restores time signature, length and loop to default (4/4, 2 bars)
- **Clear notes** - removes all MIDI notes from the active pattern but leaves the time signature, length, loop markers untouched plus any recorded automation data.
- **Clear automation** - Removes all automation data from the pattern, but leaving all notes and settings untouched.

## Pattern Switching

The bottom of the Patterns panel is where you can configure the conditions under which Atom2 will automatically advance through, or switch directly to, different patterns in the stack.

Pattern change triggers can be via **MIDI note**, **MIDI CC**, **Velocity**, or **Program Change**.

After picking your preferred method, you can set more specific settings for each mode, such as the MIDI channel to listen on and offset and spread amounts. **Note - this is an advanced feature, so user experimentation is strongly encouraged.**

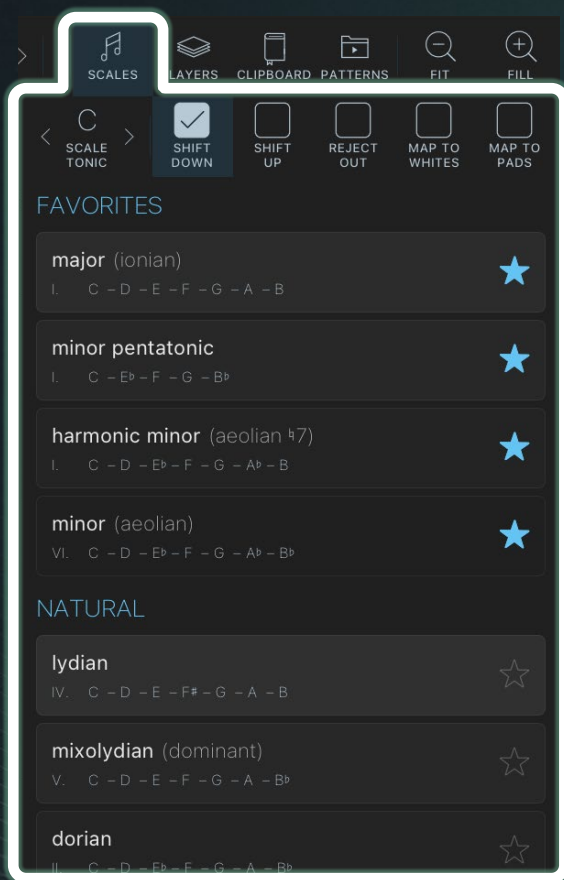
## Automatic pattern switching in Drambo

When using Atom2 inside Drambo, clips will automatically advance patterns whenever Atom2 detects a change of scenes in Drambo.

*Note - if you have less patterns than you have scenes in Drambo, Atom2 will cycle around once it reaches the end of the pattern list.*

# Scales Panel

Selecting a scale from the scales panel shades the note grid to show which notes are in-scale, and also affects how incoming MIDI notes are recorded (forcing them to conform to scale according to the chosen adjustment mode).



**Note** - Scale settings only affect incoming MIDI notes. If you want to apply a scale to an existing pattern or selection of notes, you will need 'apply' the scale to your notes non-destructively using the **Pitch panel** in the Batch Editing toolbar.

## Scale Tonic

Sets the tonic (or key/root) note that each of the following scale options will be based on.

## Adjustment modes

### Shift Down / Shift up

Any incoming MIDI note that is not within scale is shifted down/up to the closest available in-scale note.

### Reject out

Any incoming MIDI notes that are not in scale are rejected (not recorded).

### Map to whites

Maps the currently selected scale to the white keys on your MIDI controller, so that it is only possible to play notes in the current scale.

### Map to pads

Works the same as Map to whites, but this time the notes of the scale are mapped to the pads on your controller.

## Scale list

A scrollable list of all available scales, grouped by type, with a shortlist of user favourites at the top.

## Included scales

### natural

- major (ionian)
- dorian
- phrygian
- lydian
- mixolydian (dominant)
- minor (aeolian)
- locrian

### melodic

- melodic minor (ionian b3, jazz minor)
- dorian b2 (phrygian b6)
- lydian augmented (lydian #5)
- lydian dominant (lydian b7, overtone)
- melodic major (mixolydian b6, hindu)
- locrian #2 (aeolian b5)
- altered (locrian b4)

### harmonic minor

- harmonic minor (aeolian b7)
- locrian #6
- major augmented (ionian #5)
- romanian minor (dorian #4)
- phrygian dominant (phrygian #3, spanish)
- lydian #2
- altered diminished (locrian b4 b7)

### harmonic major

- harmonic major (ionian b6)
- dorian b5 (locrian #2 b6)
- altered b5 (phrygian b4)
- lydian diminished (lydian b3)
- mixolydian b2
- lydian augmented #2 (lydian #2 #5)
- locrian b7

### double harmonic

- double harmonic major (gypsy)
- lydian #2 #6

- ultraphrygian
- double harmonic minor (hungarian minor)
- oriental
- ionian #2 #5
- locrian b3 b7

### persian

- persian
- ionian #2 #6
- ultraphrygian b3
- tōdi thaāt (todi raga)
- lydian #3 #6
- mixolydian augmented #2
- chromatic hypophrygian inverse

### neapolitan minor

- neapolitan minor (balinese)
- lydian #6
- mixolydian augmented
- romani minor (aeolian #4)
- locrian dominant
- ionian #2
- ultralocrian b3

### neapolitan major

- neapolitan major
- leading whole tone (lydian augmented #6)
- lydian augmented dominant
- lydian dominant b6 (lydian minor)
- locrian major (arabian)
- altered dominant #2 (half diminished b4)
- altered dominant b3

### flamenco

- flamenco (major-phrygian)

### enigmatic

- enigmatic (scala enigmatica)

### octatonic (8 notes)

- whole-half diminished
- half-whole diminished (messiaen's mode #2)

### modal hexatonic (6 notes)

- major hexatonic
- minor hexatonic

### whole tone (6 notes)

- whole tone (messiaen's mode #1)

### augmented (6 notes)

- augmented (minor-third half-step)
- six tone symmetric

### prometheus (6 notes)

- prometheus
- tritone (6 notes)
- tritone (petrushka chord)

### blues (6 notes)

- minor blues
- major blues

### pentatonic (5 notes)

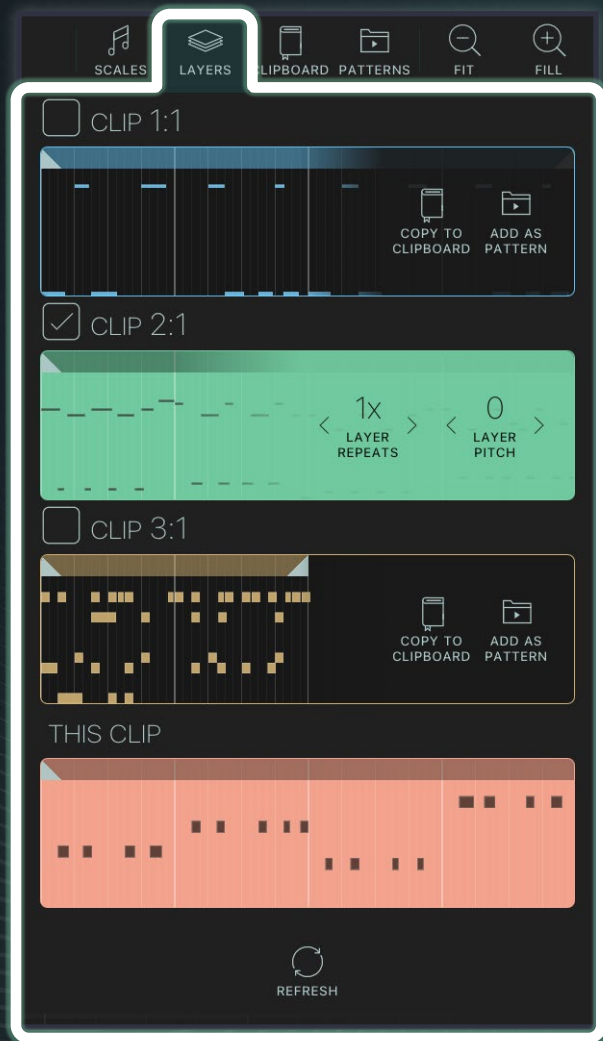
- pentatonic minor
- pentatonic major
- egyptian (suspended)
- man gong (malkos raga, bbb)
- ritsusen (yo, bb)



# Layers Panel

The Layers panel gives you the ability to superimpose the active patterns from one or more other clips as ghost lanes, making it easier to compose complimentary and counterpoint rhythms, chords and melodies.

In addition to giving you x-ray vision across multiple clips, the layers panel is also a very effective way to exchange patterns across multiple Atom2 instances. For example, let's say you've written a melody in Clip 1:1 and want an editable copy of that melody in Clip 2:1, you can open the layers panel in 2:1, find Clip 1:1 and either copy to clipboard or add it as a new pattern.



## Unselected Clip Controls

### Toggle On/Off

The tick-box in the top-left corner toggles visibility of the clip as a ghost lane.

### Copy to clipboard

Copies the contents of this layer into the shared clipboard.

### Add as pattern

Adds a duplicate copy of the clip into the patterns list of the current clip.

## Selected Clip Controls

### Layer Repeats

Sets the number of times this pattern repeats when ghosted. This is useful when layering a short looped pattern over a longer melody line.

### Layer Pitch

Offsets the pitch of the ghosted notes in this pattern by  $\pm X$  semitones.

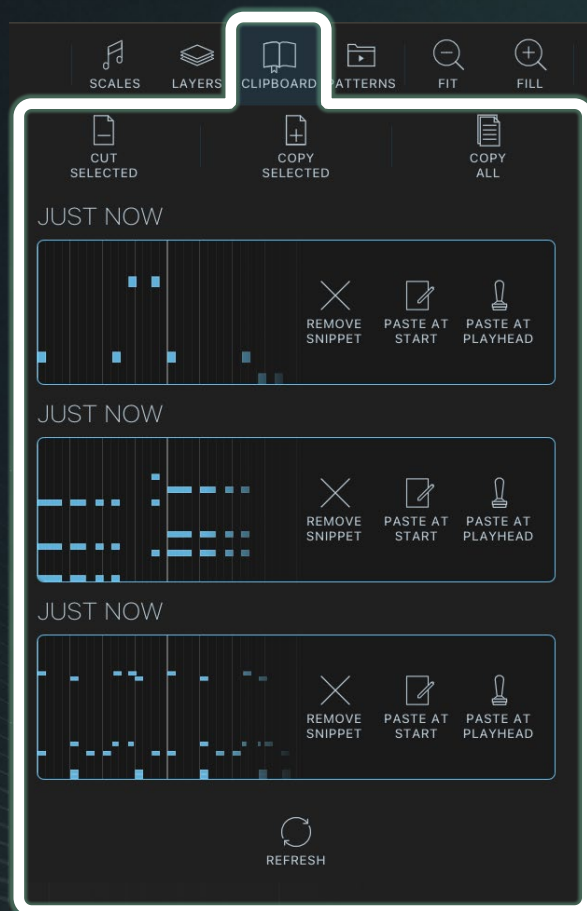
## Refresh

The refresh button checks for new clips that may have just been created in another instance of Atom2.



# Clipboard Panel

The magic clipboard lets you store note snippets that become available in all other Atom2 instances, including those in other projects/hosts. Snippets are permanently stored until they are deleted by the user.



## Selected note actions

### Cut selected

Cuts the selected notes from the active pattern and inserts them into the clipboard as a new snippet.

### Copy selected

Copies the selected notes from the active pattern and inserts them into the clipboard as a new snippet.

### Copy all

Copies all notes from the active pattern (within the loop markers) and inserts them into the clipboard as a new snippet.

## Clipboard actions

### Remove snippet

Removes the snippet from the list.

### Paste at start

Inserts the snippet at the start of the pattern (as defined by the left loop marker).

### Paste at playhead

Inserts the snippet at the current playhead position.

*You can position the playhead by tapping on the timeline ruler. The playhead can only be positioned if the pattern is not launched/playing.*

## Refresh

The refresh button checks for new clipboard entries that may have just been created in another instance of Atom2 (or other host).

# File Menu



The File Menu lets you import/export/share clips or MIDI files, change settings and styles, toggle hardware connections or access the Atom2 manual.

## Manual

Opens the Atom2 manual (this document) in a floating window. The manual is a living document that will be continuously updated over time. *Note - accessing the manual requires an internet connection.*

- A PDF copy is available from [tinyurl.com/Atom2Manual](https://tinyurl.com/Atom2Manual)
- A low-color printable version is here: [tinyurl.com/Atom2PrintMan](https://tinyurl.com/Atom2PrintMan)

## Import MIDI

Opens the iOS file browser and lets you import any MIDI file. If the file contains multiple channels, a separate pattern will be created for each one. *Note - you can flatten all patterns using the Merge All command from the Patterns panel.*

## Export MIDI

Opens the iOS share dialogue so you can export the current active pattern as a standard MIDI file that can be used in any other app.

## Open Clip

Opens the iOS file browser to find and load any saved Atom2 clips.

## Share Clip

Opens the iOS share dialogue to save and share any clips.

## Set Dark Mode / Set Motion

Lets the user sets Dark Mode to **Auto / Dark / Light** and UI animations **Auto / ON / Reduced**.

## Set Config

Select a config file from the list of available options. Config files contain various settings and defaults (like button sizes, or quantization being turned on by default). *Note - the config for any other existing clips will not be changed unless you reload your project.*

## Set Style

Select a style from the list of available options. Styles affect the colors, fonts, notes, grid and the entire interface. *Note - the styling of any other existing clips will not be changed unless you reload your project.*

## Toggle Scripts

Toggle scripts on or off from the list of available options. Scripts are available for you add and modify in Atom's "Controllers" directory, and at the moment they enable hardware integration with external controllers or other apps with a virtual MIDI port.

Enabled scripts run when you first instantiate a new Atom, or when you

reload them. Enabling/disabling a script will toggle integration with the specified controller or app.



See the **README.md** file in the "Atom" folder for documentation about how to write a script.

## Reload UI

Forces Atom2 to redraw the app UI.

## Clear History

If your Undo/Redo buttons ever stop responding you can use this command to reset the undo buffer.

## Installing styles, configs, scripts

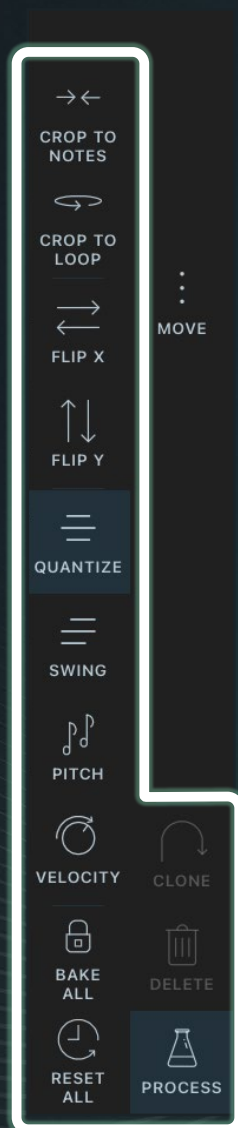
You can install new configs, styles and/or scripts by dragging them onto any Atom2 window from the Files app, Safari, or any other app that supports drag gestures (e.g. when opened side-by-side).

All files are stored in the "Atom" folder in your iCloud folder. You can share or delete any unwanted configs, styles and scripts from there. Note that the built-in files cannot be permanently deleted, and will reset to default the next time you use the app if you delete them.



# Batch Editing Toolbar

The Batch Editing toolbar provides a number of different ways for you to process groups of notes in your patterns. Most of these processes are applied to notes non-destructively - indicated by a small dot in the top-right corner of the note - which means that can be readjusted or removed if you later change your mind.



## Clone

Clones the currently selected group of notes, with the cloned copy inserted immediately following the original.

*Note - If a cloned copy would extend beyond the end loop marker, the clone is truncated at that point.*

## Delete

Deletes the currently selected group of notes.

## Crop to notes/selection

Takes the currently selected note(s) and crops any notes outside the selected range. The cropped group of notes is then shifted to the start of the pattern and the loop markers are adjusted to encapsulate the new sequence.

## Crop to loop

Takes the currently selected loop section and crops all notes outside this range. Once cropped, the loop section is shifted to the start of the pattern.

## Flip X / Flip Y

Flips the arrangement of all selected notes either on the horizontal axis (left to right) or vertical axis (top to bottom).

## Quantize

Open the **Quantize panel**.

## Swing

Open the **Swing panel**.

## Pitch

Opens the **Pitch panel**, and also the Scales panel for convenience.

## Velocity

Open the **Velocity panel**.

## Bake All

Applies all non-destructive processes to the selected notes. If no notes are selected this bakes all notes in the current active pattern.

## Reset All

Returns all selected notes to their 'as recorded' state, removing any non-destructive processes such as quantize, pitch, velocity. If no notes are selected, this button resets all notes in the active pattern.

## Move Toolbar(s)

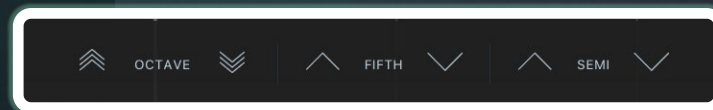
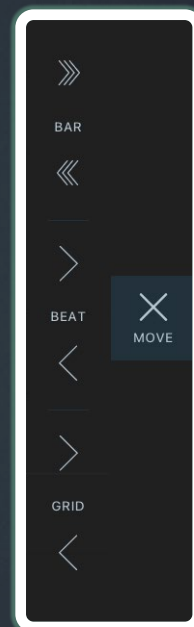
The Move Toolbar opens two button panels on the right and bottom edges of the grid. These panels give you access to a range of nudge commands that can be used to move and transpose single notes or groups of notes on the grid in fixed units.

## Nudge commands

Nudges the selected notes forward or back by a **full bar**, **whole beat**, or **single grid division** (as it is currently defined).

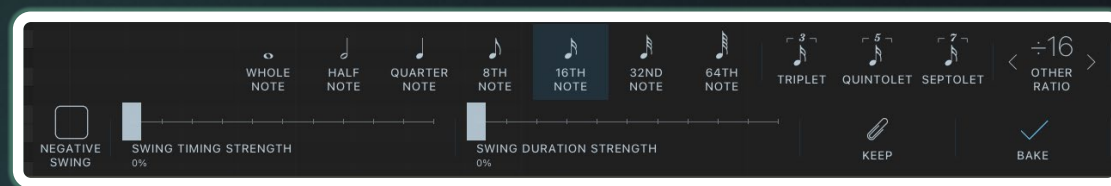
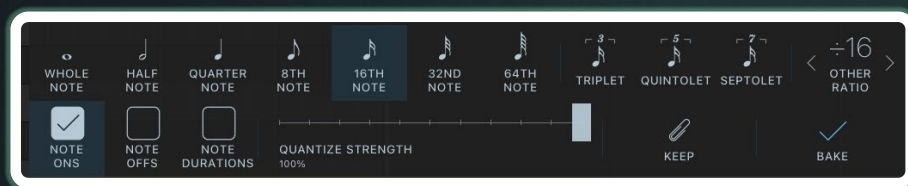
## Transpose commands

Transposes the selected notes up or down by an **octave**, **fifth** or **semitone** whilst retaining each note's precise timings.





# Quantize / Swing Panels



## Quantize Panel

The Quantize panel offers a deep selection of non-destructive quantize controls that can either nudge or force your notes into one of many different quantization grids.

### Note divisions

Presets for Whole note, Half note, Quarter, 8th, 16th, 32nd, and 64th note quantize let you quickly select from the most common grid divisions.

### Tuplets

(Triplet/Quintolet/Septolet)

Selecting one of the 3 triplet modes applies this to the currently selected grid division. For example, applying triplets to 1/16th gives you 1/24th quantize.

### Other Ratio

Lets you override the existing settings and set a completely arbitrary grid division ratio.

### Note ONs

Applies quantize to the start of your selected notes.

### Note OFFs

Applies quantize to the ends of your selected notes.

### Note Duration

Applies quantize to the duration of your selected notes.

### Quantize Strength

Sets the amount of movement between selected notes original position and the closest grid division.

### Keep

Stores any changes made non-destructively, changes can be adjusted further by reopening the panel.

### Bake

Stores any changes made destructively and resets all controls in panel to default position.

## Swing Panel

The Swing panel controls behave in a similar way to those for quantize, except that swing is only applied to Note ONs, has a variable duration slider, and can also be applied negatively.

### Negative Swing

Toggle between positive and negative swing modes for the current note selection. When enabled, swing nudges notes to the left instead of the right.

### Swing Timing Strength

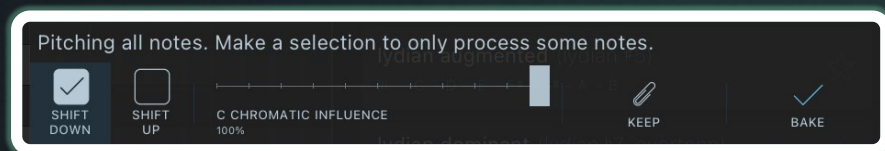
Sets the amount of swing that is applied to the selected notes.

### Swing Duration Strength

This slider shortens – or in negative mode, extends – the lengths of affected swing notes to compensate for note overlaps or gaps created by the repositioning of notes.

**See Quantize Panel (left) for a description of all the other controls in the Swing Panel.**

# Pitch / Velocity



## Pitch Panel

The pitch panel lets you non-destructively nudge existing notes on the grid so that they conform to the currently selected scale (via the Scales panel).

### Shift Down / Up

Determines whether out of scale notes should be shifted down or up into the next in-scale pitch. Note - you can't have both settings enabled at once.

### Influence

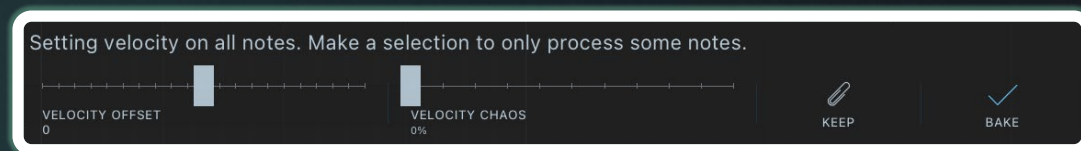
Acts like a note magnet. At lower settings only the notes that are closest to in-scale pitches will be shifted. At 100% all notes are affected.

### Keep

Once you are happy with the settings on this panel, pressing the Keep button will leave the settings applied to your notes as a non-destructive process.

### Bake

Lets you bake the current settings, making all of the new note pitches permanent.



## Velocity Panel

The Velocity panel lets you offset the velocity values of your selected notes as a non-destructive process. You can also apply a variable degree of velocity chaos which humanises the values.

### Velocity Offset

Applies Velocity offset to the current selected group of notes. The offset amount ranges from -127 to +127.

### Velocity Chaos

Determines the amount of Velocity chaos applied to the selected group of notes. A low value gives a small amount of random variation, whereas a high value will result in a more erratic range of high and low velocity values.

Note that per note chaos is only calculated when the chaos slider is first released. The values do not reseed/recalculate each time the pattern plays or loops.

### Keep

Once you are happy with the settings on this panel, pressing the Keep button will leave the settings applied to your notes as a non-destructive process.

### Bake

Lets you bake the current settings, making all of the new note velocities permanent.