USER MANUAL

_KEYSTEP MK2

ARTURIA

_The sound explorers

Special Thanks

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Thank you for purchasing the Arturia KeyStep mk2!

This manual covers the features and operation of Arturia's **KeyStep mk2**, a full-featured USB MIDI keyboard controller complete with a polyphonic Sequencer, an Arpeggiator, a robust set of MIDI and CV connections, and outfitted with our new Slimkey keyboard for maximum playability in the minimum space.

In this package you will find:

- One KeyStep mk2 controller, with a serial number and unlock code on the bottom. You will need this information in order to register your KeyStep mk2.
- One USB-C to USB-A cable
- The Quick Start Guide for KeyStep mk2.

Beyond being a great Sequencer and Arpeggiator, KeyStep mk2 comes with our **Analog Lab Intro** software, that includes an impressive array of classic synth and keyboard sounds.

Also included in the purchase of your KeyStep mk2 is a free installation of **Ableton Live Lite**, a remarkably full-featured recording/sequencing application. The license number will be provided to you when you register your KeyStep mk2 on the Arturia website. Then you can download the installation file from ableton.com/live-lite.

Be sure to register your KeyStep mk2 as soon as possible! Registering provides the following benefits:

- Access to Arturia's Analog Lab Intro
- A product license key for your installation of Ableton Live Lite. You can download the installation file from ableton.com/live-lite.

Special Message

Specifications Subject to Change:

The information contained in this manual is believed to be correct at the time of printing. However, Arturia reserves the right to change or modify any of the specifications without notice or obligation to update the hardware that has been purchased.

IMPORTANT:

The product and its software, when used in combination with an amplifier, headphones or speakers, may be able to produce sound levels that could cause permanent hearing loss. DO NOT operate for long periods of time at a high level or at a level that is uncomfortable.

If you encounter any hearing loss or ringing in the ears, you should consult an audiologist.

NOTICE:

Service charges incurred due to a lack of knowledge relating to how a function or feature works (when the product is operating as designed) are not covered by the manufacturer's warranty, and are therefore the owner's responsibility. Please study this manual carefully and consult your dealer before requesting service.

Precautions include, but are not limited to, the following:

1. Read and understand all the instructions.
2. Always follow the instructions on the instrument.
3. Before cleaning the instrument, always remove the USB cable. When cleaning, use a soft and dry cloth. Do not use gasoline, alcohol, acetone, turpentine or any other organic solutions; do not use a liquid cleaner, spray or cloth that's too wet.
4. Do not use the instrument near water or moisture, such as a bathtub, sink, swimming pool or similar place.
5. Do not place the instrument in an unstable position where it might accidentally fall over.
6. Do not place heavy objects on the instrument. Do not block openings or vents of the instrument; these locations are used for air circulation to prevent the instrument from overheating. Do not place the instrument near a heat vent at any location with poor air circulation.
7. Do not open or insert anything into the instrument that may cause a fire or electrical shock.
8. Do not spill any kind of liquid onto the instrument.
9. Always take the instrument to a qualified service center. You will invalidate your warranty if you open and remove the cover, and improper assembly may cause electrical shock or other malfunctions.
10. Do not use the instrument with thunder and lightning present; otherwise it may cause long distance electrical shock.
11. Do not expose the instrument to hot sunlight.
12. Do not use the instrument when there is a gas leak nearby.
13. Arturia is not responsible for any damage or data loss caused by improper operation of the instrument.

Introduction

Congratulations on your purchase of the Arturia KeyStep mk2!

This unique keyboard controller gives you everything you need to make music wherever you and your portable tech will be. Its compact size is due in part to its Slimkey keyboard; these great-feeling keys are smaller than standard piano keys but still large enough to allow for maximum playability. But this is no toy; as with all Arturia products, it's built like a tank.

All the essential features of a keyboard controller are here, including Aftertouch, Touch Strips for Pitch Bend and Modulation, a Footswitch input and a Hold button.

The polyphonic Sequencer will capture your ideas and the Arpeggiator will unleash them. You can specify the exact feel of your music through the Spice and Gate parameters, which are instantly accessible from the front panel. And the Chord memory and Scale features will make you seem like even more of a musical monster than you already are.

KeyStep mk2 has an unlimited number of potential uses and setup options, thanks to its simultaneous USB, MIDI, CV/Gate and synchronization capabilities. There are two additional Mod connections to complement the CV and Gate outputs, allowing for even more creative options with external devices such as modular synthesizers. All the settings you need to tweak can be performed on KeyStep mk2 – no external software necessary.

KeyStep mk2 is very easy to use, so you'll probably start experimenting with it right out of the box. But be sure to read this manual completely, because in addition to covering the basics, we'll also describe several ways to integrate this little powerhouse of a controller with your system. You will find KeyStep mk2 to be a great source of musical inspiration and creativity.

Be sure to visit www.arturia.com. That's the place to go for the latest firmware and to download the MIDI Control Center. You'll also find links to our tutorials and FAQs.

We will leave the two of you alone now. You have a lot of great music to make!

The Arturia team

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1. OVERVIEW

KeyStep mk2 has been designed to make workflow as easy and intuitive as possible. Here's a quick rundown of the main functions.

1.1. Front panel overview

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2. Tempo and Transport section
3. Display and Edit section
4. Shift button and Hold function
5. Octave down/up section
6. Pitch and Modulation Touch Strips
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8. Sequencer Pattern and Arpeggio Mode selection
9. Rate settings
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1.1.1. Sequencer, Arpeggiator, Mutate, and Chord section

The upper left corner of KeyStep mk2 gives you access to an 8 voice polyphonic Sequencer, an Arpeggiator, the Mutator, and the Chord function.

You can record 4 banks of 16 **Sequencer Patterns**, making a total of 64 Sequencer Patterns. Each Pattern can be 64 steps long with up to 8 notes per step.

The **Arpeggiator** generates note patterns based on the keys you press and plays them back according to the Arpeggiator Mode setting.

Mutate adds random changes to your Sequences and Arpeggios.

The **Chord** button allows you to enter a Chord, or select a pre-defined Chord, and play it back with one finger. Entering a Chord is easy; hold the Chord button and play notes on the keyboard.

With **Shift** pressed, you are able to Save Sequences, turn an Arpeggio into a Sequence, reset transformations added by Mutate, and lock the keyboard to a certain Scale.

The Sequencer, Arpeggiator, Mutate, and Chord have lots of unique features, so be sure to read more in their respective chapters.

More on this in the Sequencer, Arpeggiator, and Chord chapters.

1.1.2. Scale

The Scale function quantizes (slims down) the notes available to make sure you stay within the key and tonality of a song. Scale works by simply redirecting those notes that don't belong to the scale you have selected. This allows you to play any key and still sound right.

Holding Shift and pressing the Chord/Scale button takes you to the finer details of Scale mode.

1.1.2.1. Global Scale

Here's where you set the Global Scale for KeyStep mk2. The Global Scale will affect everything you play on the keyboard, all Sequencer Patterns, and the Arpeggiator.

The first selection is **Off**, meaning the keyboard is in normal, chromatic mode. Any key will play as normal. When Off is chosen, the Chord/Scale button is unlit. Selecting any other Scale will turn on a blue light in the Chord/Scale button.

Selecting Type takes you through a number of scales to choose from:

- **Major**: Major scale
- **Minor**: Natural minor
- **Dorian**: Dorian (or doric) mode
- **Phrygian**: Phrygian mode
- **Lydian**: Lydian mode
- **Mixolydian**: Mixolydian mode
- **Locrian**: Locrian mode
- **Harmonic Minor**: Harmonic minor
- **Blues**: Blues scale with only 6 notes
- **Pentatonic Major**: 5 note pentatonic scale
- **Pentatonic Minor**: 5 note pentatonic, also a simplified blues scale
- **Japanese**: Another 5 note pentatonic scale
- **Gypsy**: One of several Gypsy scales
- **Arabic**: Arabic or double harmonic scale
- **Freygish**: Freygish or Phrygian dominant scale
- **User**: You can create a Scale of your own, see below

♪ User Scale is only available in Sequencer Pattern mode.

When Scale is not active, KeyStep mk2 defaults to Chromatic, the standard scale used on every western keyboard instrument.

♪ Scale will also affect the notes played by the Sequencer and the Arpeggiator.

1.1.2.2. Global Root

Here's where you set the Global Root for KeyStep mk2. The Global Root will affect everything you play on the keyboard, all Sequencer Patterns, and the Arpeggiator.

Using a Scale only makes sense if you enter the Global Root, the key of the song, for instance C, D, or F#.

Example: If you want to use a Scale suitable for a blues song in the key of E, use Blues as the Scale and E as the Global Root.

1.1.2.3. Pattern Scale

While Global Scale affects the entire KeyStep mk2, you may want to set an individual Scale for a particular Sequencer Pattern. That's what **Pattern Scale** is for.

Select a Pattern that needs its own Scale and set the Scale here.

1.1.2.4. Create a User Scale

The last Scale in the Pattern Scale list is called **User**. This is where you can create your own Scale.

When the Display says **User (Keys to edit)**, use the keyboard to play those keys you want to include in your Scale. The Display shows you the **included notes in white** and the **omitted ones in black**.

1.1.2.5. Root

While Global Root affects the entire KeyStep mk2, you can set an individual Root for a particular Sequencer Patterns.

Select a Pattern that needs its own Root. Then set the Root here.

1.1.3. Tempo and Transport section

This section sets tempo, determines the Sequence length and provides Transport functions.

The **Tempo** button (illustrated by a metronome) sets the overall tempo for Sequences and Arpeggios. The Display provides a visual count-in when you record Sequences in real-time.

The **Record** button activates step-time or real-time recording. By holding Shift, you may also toggle between the two Overdub modes – On and Off.

Sequences and Arpeggios can be stopped by pressing **Stop** button.

The **Play** button plays and pauses Sequences and Arpeggios.

With **Shift** pressed, you can set the Length of a Sequence, activate Overdubs, set MIDI channel, and chain Sequences.

More on this in the Synchronization [p.55] chapter.

1.1.4. Display and Edit section

The Display shows the current Sequencer Pattern, Arpeggio Mode, Pitch Bend and Modulation values, edit values, et cetera.

Pressing the Encoder takes you to the Global Settings department, where you can personalize MIDI, Sync, CV/Gate, Lfo, Controls, Scale, and other general settings.

The Back button takes you back through the menus. Sometimes you have to press Back several times to get up to the top level.

1.1.5. Global Settings

Pressing the Encoder knob next to the Display takes you to the Global Settings of KeyStep mk2.

1.1.5.1. MIDI Settings

The first menu in Global Settings is MIDI. Pressing the Encoder a second time takes you to the MIDI settings.

- **Output Channel**: Select MIDI Output Channel 1–16.
- **Input Channel**: Select MIDI Input Channel 1–16 or All.
- **Keyboard Play Channel**: *Auto* means that both Keyboard output and Sequencer output are on the same MIDI channel. Selecting channel *1–16* makes the Keyboard play on the selected channel and the Sequencer play on the regular output channel.
- **Send Program Change**: Sequencer Patterns can contain a Program Change command. This command can be enabled or disabled here.

1.1.5.2. Sync Settings

The second menu is called Sync. Here you can find settings for how KeyStep mk2 will behave as a sync master or slave. Synchronization has its own chapter here [p.55].

1.1.6. CV Pitch, Gate, and Mod

All settings for the CV Pitch, Gate, and Mod Outputs [p.51] at the rear are described in a separate chapter in this manual.

1.1.7. Controls

This menu deals with the Keyboard and Pedal settings.

1.1.7.1. Velocity Curve

You can set the Velocity response to match your playing style. Under **Controls**, the first menu is called **Velocity Curve**. Here you can choose between Linear, Logarithmic, Exponential curves or a Fixed Velocity value of 100. Make your selection and press the Encoder to confirm. Press the Back button twice to exit edit mode.

1.1.7.2. Aftertouch Curve

As with Velocity, you can set how Aftertouch will behave. Again, you can select a Linear, Logarithmic, or Exponential curve.

1.1.7.3. Aftertouch Sensitivity

The general Aftertouch sensitivity can be set to Low, Medium, or High. Choose one that suits your hands.

1.1.7.4. Pedal Input

The Pedal connected to the jack input on the rear panel can be either a momentary footswitch (like a Sustain pedal) or a continuous pedal (like an Expression pedal). Here's where you decide what type to use.

1.1.7.5. Sustain Polarity

If you have a momentary footswitch, plug it into the Sustain jack socket on the rear panel. If it works backwards, disconnect your KeyStep mk2 from its power source and then reconnect it. KeyStep mk2 will sense the polarity of the pedal, and it should work fine after that.

However, if your pedal still doesn't work correctly, select the appropriate setting in this menu: Normal, Inverted, or AutoDetect.

1.1.8. Miscellaneous

The last menu contains some general utility settings.

1.1.8.1. LED Intensity

You can adjust the strength of all the LEDs of this controller. Settings go from Dim via Normal to Night.

1.1.8.2. Tooltips

Tooltips can be useful, especially during your first weeks with KeyStep mk2. When you don't need more assistance, turn the tips off in this menu.

1.1.8.3. Firmware Version

Here is where you can check your Firmware Version number. You can update to newer Firmware in MIDI Control Center. Read more about updating in that Chapter.

1.1.8.4. Reset Settings

There's a facility for resetting KeyStep mk2 to its factory state. Press the Encoder and rotate it until it shows **Misc** (as in Miscellaneous). Press the Encoder again and turn it until you reach **Reset Settings**.

Press the Encoder to enter the menu and select Yes or No. This will reset all the global settings.

> ♪ Sequencer Patterns are not deleted during this reset. To reset the Patterns, long-press the Sequencer button to open Sequencer Settings, turn the Encoder all the way to the right and select "All Patterns Init"

1.1.9. The Shift button

The Shift button performs numerous tasks in KeyStep mk2. Typically, it allows you to reach the secondary functions printed in blue on the controller panel.

Example: Activate Arpeggio mode. Hold Shift and select Arpeggio Mode 3 on the keyboard. Play a chord and you will hear notes running in an up/down pattern. Or hold Shift and hit the Stop button to select MIDI channel with the Encoder.

1.1.10. Hold button

When the Hold button is lit, you can lift your fingers off the keys and the Sequencer Pattern or Arpeggio will keep playing. It will keep running until you play another note or chord, at which point the new note(s) will become a new Pattern or Arpeggio.

You may add as many as 64 notes to your Arpeggio as long as you continue to hold down at least one key. You can increase the note range by pressing the Octave -/+ buttons. The notes you play will be added to the Arpeggio at the nearest time division increment.

The same rule applies with large Arpeggios: once you release all the keys, the Arpeggio you have constructed will continue to run until you play another note or chord.

1.1.11. Octave -/+

Pressing the Octave buttons transposes the keyboard by as much as 3 octaves up or down. The farther from center the keyboard has been transposed, the brighter the buttons will shine.

After pressing one of the Octave buttons, the transposition will not occur until the next note is played.

To reset the keyboard octave range back to center, press both Octave buttons at the same time.

1.1.12. Pitch and Modulation Touch Strips

The Pitch and Mod Touch Strips are similar to the standard wheels or sticks on most synthesizers in how they work, except that you slide your finger along the track instead of moving a wheel or stick.

1.1.12.1. The Pitch Strip

The Pitch Strip has a center zone which equals no change. Moving your finger forward bends the pitch upward, and moving backward bends the note down.

When you release your finger, the Pitch Strip will snap back to zero, just like on a standard pitch wheel.

1.1.12.2. The Modulation Strip

The Modulation Strip works like a regular mod wheel, changing values from minimum to maximum. Placing your finger at the bottom of the Modulation Strip (the end closest to you) equals no modulation, and moving your finger all the way up causes maximum modulation.

But, unlike the Pitch Strip, when you lift your finger, the Mod Strip does *not* snap to zero. That is, when you take your finger off the Mod Strip, modulation continues. To end modulation, touch the Strip and drag it down to zero.

1.1.12.3. Gate

Holding Shift and sliding up and down the Pitch Bend Strip will affect the Gate length value (note length) for the current Sequence or Arpeggio.

1.1.12.4. Spice

Holding Shift and sliding up and down the Modulation Strip will add random changes to the current Sequence or Arpeggio. The further up the Modulation Strip you go, the greater the changes.

Spice adds randomization to Gate Length and Ratchet (adding multiple triggering).

> ♪ When Using Spice and playing the keyboard, make sure to release the Shift button, or you may accidentally change the Arpeggiator Mode.

1.1.13. The KeyStep mk2 keyboard

KeyStep mk2 sports a slim key keyboard with Velocity and Aftertouch (also called pressure sensitivity). In addition to acting as a musical keyboard, it offers additional control when used in conjunction with the Shift button.

1.1.14. Functionality accessed via the Keyboard

While holding Shift, you can reach numerous functions by reading the blue labels above the keyboard and pressing a key. This is how you select Sequencer Banks and Presets, Arpeggio Modes and Octave range, Clock Rate, and further Sequencer functionality.

1.1.14.1. Keyboard MIDI channel selection

You may need to match the KeyStep mk2 MIDI channel to an external device. Press the Encoder and turn it until the Display says **MIDI**. Press the Encoder and turn it until the Display says **Output Channel** or **Input Channel**. Press the Encoder again to make your selection. Press the Encoder to confirm your choice, and then press the Back button to leave edit mode.

> ♪ In the MIDI settings mentioned above you can also set **Keyboard Play Channel** and turn **Program Change** on and off.

1.2. Rear panel overview

1.2.1. CV Outputs

These outputs are normally used to send electrical signals to an external device such as Arturia's popular analog synthesizers (MiniBrute/SE, MicroBrute/SE, or MatrixBrute) or to a modular analog synthesizer.

The Pitch output is often referred to as Control Voltage or CV. The Gate output is sometimes known as a Trigger. The Mod outputs offer a second type of Control Voltage output that can be routed to a large number of destinations on the target device.

Several standards are available for pitch format and reference, legato retriggering, modulator source, voltage, et cetera. KeyStep mk2 has all these grounds covered in the CV/Gate menu under Global Settings.

More on this in the CV, Gate, and Mod chapter [p.51].

1.2.2. Pedal input

This socket allows you to connect a switching or continuous pedal for Sustain or Expression.

If you have a momentary footswitch, plug it into the Sustain jack on the rear panel. If it works backwards, disconnect KeyStep mk2 from its power source and then reconnect it. KeyStep mk2 will sense the polarity of the pedal and it should work fine after that.

1.2.3. Sync Input and Output

These jacks allow KeyStep mk2 to interface with pre-MIDI technology that is capable of synchronization, such as early drum machines by Korg and Roland. All Arturia devices featuring a Sequencer also provide Sync inputs.

> ♪ You should use stereo jacks (TRS) to get full functionality: Clock on the tip and Start/Stop on the ring.

1.2.4. MIDI Input and Output

By connecting standard MIDI cables, KeyStep mk2 can send MIDI data to external MIDI-compatible devices. In addition to MIDI note data from the keys and controller data, KeyStep mk2 can send and receive MIDI sync.

1.2.5. USB connector

This jack provides power and data connections to a computer or tablet. KeyStep mk2 can also be powered by a phone or a tablet.

An alternate solution is to use a standard USB mobile phone charger, allowing you to use your controller without a computer present.

Please make sure your charging device provides at least 5V and 1OOmA. If you are close to the device's tolerance, we recommend that you lower the LED intensity in KeyStep mk2.

If your mobile device does not supply enough power, you will need to connect a power adapter.

1.2.6. Power On/Off switch

Turn your KeyStep mk2 on and off with this switch.

2. THE SEQUENCER

KeyStep mk2 holds a total of 64 sequences, divided into 4 Banks with 16 Patterns in each.

Each Sequencer Pattern can be 64 steps long. The Sequencer is polyphonic, capable of stacking up to 8 notes per step.

You can also save and swap Patterns using the MIDI Control Center. More on that in the MIDI Control Center chapter [p.58].

2.1. What is a step sequencer?

KeyStep mk2 can record and play back music data with its Step Sequencer. Originally popular in the 1960's and 70's, step sequencers have become popular again due to the increased interest in modular synthesizers.

A step sequencer is usually *monophonic*; it will output only one note at a time. But the KeyStep mk2 sequencer is capable of stacking up to 8 notes per sequence step.

Another way the KeyStep mk2 sequencer is more advanced than a traditional step sequencer, is that it lets you transpose the sequence by playing a key on the keyboard. Most early step sequencers did not do this – the pitch of each note was set with a knob or a slider.

And as with any sequencer, a step sequencer can free the performer's hands to adjust other parameters such as filters, envelope settings or pitch on the target device while the sequencer keeps looping a pattern.

KeyStep mk2 allows you to create and carry up to 64 unique sequences wherever you go. And despite its streamlined appearance, there are lots of ways to modify your sequences during a performance. We'll cover those in this chapter.

2.2. Navigating the Sequencer

Here's a quick overview of the Sequencer functions. More detailed descriptions follow below.

The Sequencer has its dedicated **On** button in the upper left corner. When it's lit, the Sequencer is ready to use.

By holding Shift, you can change the **Length** of the Sequencer Pattern by hitting Metronome/ Length. You can **Overdub** an existing Pattern by holding Shift and hitting the Record/ Overdub button.

You choose a **Sequencer Pattern** by holding Shift and hitting a Sequencer Bank key for **Banks 1–4** and a Sequencer Pattern key for **Patterns 1–16**. All in all there are 64 Pattern slots.

Holding Shift, the keys further to the right allow you yo set the **Time Division** (step length) and rhythmic **Sub Division**.

2.2.0.1. Keyboard Play – CV behavior

- When no keys are pressed and the Sequencer is playing, the Sequencer outputs a monophonic version of the Pattern.
- Playing keys will mute the Sequencer and play a monophonic version of the multiple keys pressed, until all of them are released.

2.2.0.2. Keyboard Play – MIDI behavior

You can specify a separate MIDI channel for Keyboard Play mode, so the keys will play one MIDI channel and the Sequencer will play another channel. This can be done from the front panel.

- Press the Encoder and navigate to the MIDI menu
- Press the Encoder and move to Keyboard Play Channel
- Press again and select Auto or channels 1–16
- Press to confirm

> ♪ The **Auto** setting makes the Keyboard and Sequencer play on the same MIDI out channel. Selecting channels 1–16 makes the Keyboard play on a separate channel of your choice.

2.2.1. Other Shift + Keyboard functions

By holding Shift and selecting a key on the keyboard, you can reach various Sequencer functions.

- Shift plus **< Nudge >** moves the Pattern backwards and forwards in time.
- Shift plus **< Octave >** transposes the Pattern down and up in octaves.
- Shift plus **Double** doubles the length of the Pattern (including the events in the pattern).
- Shift plus **Quantize** ensures that all events recorded in real-time get time-corrected.
- Shift plus **Reload** loads the Pattern that was previously Saved at the currently selected Pattern slot.
- Shift plus **Clear** clears the current Pattern data (notes et cetera) while preserving the Pattern properties. So if you need to re-create a Pattern, its properties are still there.
- Shift plus **Undo** removes the last recording.

2.2.2. Selecting a Sequence Pattern

KeyStep mk2 comes with Sequencer Patterns from the factory. To play one of them, first make sure the Sequencer button is lit. Then hit a note on the keyboard or press the Play button.

To select a Sequencer Pattern, hold Shift and hit one of the lowest four keys on the keyboard. These select any of the four Pattern Banks: 1, 2, 3, and 4. Then, while still holding Shift, hit one of the 16 keys to the right to select one of the Sequencer Patterns 1–16. The Display will confirm your selection.

To select another Pattern in the current Bank, hold Shift and press any Sequencer Pattern key. As long as you stay within one Bank, there's no need to select Bank first.

2.2.3. Setting the tempo

You can set the Sequencer tempo in three ways.

1. Tap the Tempo button once and within 1 second turn the Encoder. This will allow detailed adjustment. Confirm by pressing the Encoder.
2. Tap the Tempo button at least 3 times to enter Tap Tempo mode. The display will confirm the BPM rate.
3. Long-press the Tempo button to open the Tempo menu in the Display and click the Encoder to select.

2.3. Creating a Sequencer Pattern

By default, an Initialized Sequencer Pattern has a Length of 16 steps, a Time Division of 16th notes, and a Tempo set to 120 beats per minute.

You can set a different Pattern length before you start recording. Hold Shift and hit Length and turn the Encoder to select a new Pattern length. Range: 1-64 steps. The Sequencer will stop recording when you reach the number of steps you just set.

ℹ ♪ Example: If you want to create a Pattern of 4 bars with 8th notes as the shortest steps (there can be longer steps too), set Pattern Length to (4 x 8) 32 steps and Time Division to 1/8.

In the following sections, we'll describe how to input notes in step-time and real-time.

ℹ ♪ The sequencer will not run if the Clock Source is set to something other than **Internal** or **Auto** and no external clock is present.

ℹ ♪ **Remember to save your Patterns!** Hold Shift and Sequencer/Save, then select the location by turning the Encoder. Confirm by pressing the Encoder.

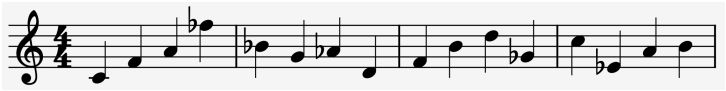
2.3.1. Step recording

This may be the best place to start while you are learning to work with the Sequencer. At the most basic level, all you have to do to create a sequence is:

- Make sure the Sequencer button is lit
- Press the Record button
- **Caution**: The next step will erase the existing sequence, unless you are in Overdub mode (Recording button is blue)
- Play one or more keys at the same time
- Lift all fingers to advance the step
- Repeat the last two steps
- When you're done, press the Stop button.

ℹ ♪ You must lift all fingers between each step in order for the sequence to move one steap ahead. If you do not lift every finger first you will keep adding notes to the same sequence step.

To hear your sequence, press the Play button. Or play the key or the first note. Or play any key to hear the Pattern transposed. The results could be something like this:



♪ The Time Div value is ignored during step recording; it only affects sequence playback.

♪ **Remember to save your Pattern!** Hold Shift and Sequencer/Save, then select the location by turning the Encoder. Confirm by pressing the Encoder.

2.3.1.1. Erasing a Sequencer Pattern

If you want to start all over and create a New Pattern from scratch, you can empty the current Pattern slot in various ways.

1. Long-press the Sequencer button. The Display will show **Pattern Init** (Initialize). Press the Encoder to confirm or Back to exit. The next Pattern you record will be as long as you decide while recording.

2. Hold Shift and press the **Clear key** on the keyboard. The Display will show Pattern Cleared. This clears the note content but leaves other Pattern settings unchanged. The next Pattern you record will be as long as the one you just erased.

♪ When you **Initialize** a Pattern, that Pattern slot defaults to 16th notes and Tempo 120. The Length of the Pattern is determined by how many steps you Record until you hit the Stop button. When you **Clear** a Pattern, that slot defaults to the properties of the Pattern you just erased in terms of Tempo, Length, and Sub Division.

2.3.1.2. All Patterns Init

If you want to remove all Sequencer Patterns in KeyStep mk2, you can do that easily in the Sequencer menu. Long-press the Sequencer button and turn the Encoder to its last position where it says **All Patterns Initialize**. Press to select, choose Yes or No and Confirm by pressing the Encoder.

2.3.1.3. Entering rests

The spaces that sometimes happen between notes are called "rests". If you want to add rests while creating a Sequencer Pattern, KeyStep mk2 provides an easy way to do it.

While entering the Pattern notes, press the **Hold** button to add a rest. Press Hold several times to add more rests.

2.3.1.4. Tie notes

It's possible to make a note hold over into the next step, or even longer. So with the Record button lit:

- Play one or more keys at the same time
- Keep holding the key(s)
- Press the **Hold** button to tie the note into the next step
- If you want the note(s) to be held even longer, press Hold as many times as you need
- Release all keys
- Repeat the process until you get the result you want

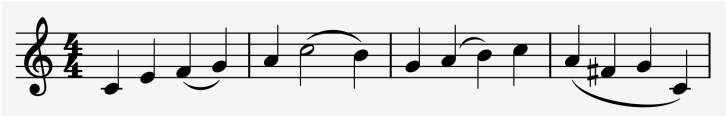
2.3.1.5. Legato notes

Legato means **playing notes with no gaps (silence) between them**. Here's how you record legato notes.

- Press the Record button
- Hold the Hold button until the end of this example
- Play one or more keys at the same time
- Release all keys to advance the step
- Play another key or chord
- Release the keys to advance to the next step
- When you have reached the end of the legato phrase, release the Hold button
- Enter more notes as desired, or press the Stop button to exit Record mode

On a mono synth, the process above will result in a "legato" response (voltage change without any gate events between the notes).

Press Play to hear your sequence. A combination of tied notes and legato notes might sound something like this:

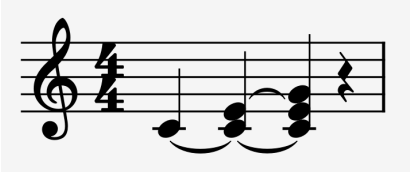


♪ You can of course mix legato and normal mode in the same Pattern. Just press the Hold button before the notes that will be played legato and release it when going back to normal mode.

Here's another example. This time we'll build a chord that sustains through 3 counts:

- Set Time Division to 1/4
- Press the Record button
- Press and hold the Hold button until the end of this example
- Play a C, then release it
- Play C and E, then release the keys
- Play C, E, and G, and then release the keys
- Release the Hold button
- Press Hold another time to add a rest
- Press the Stop button

The result will sound like this:



In the example above, for the chord to hold through the final step, you would need to set the Gate time to 90% for the sequence. Otherwise, the final step will not sound like a quarter note.

♪ If an entire Pattern will be played legato, you could also adjust Gate time by holding Shift and sliding the Bend/Gate Touch Strip up to a high value. For an entire Pattern to be played staccato (short notes), drag the Bend Strip to a low value.

2.3.1.6. Gate

The Gate time of a Seq/Arp note is the percentage of time it stays "on" before the next note happens, with 10% being the shortest time and 90% being the longest. Hold Shift and slide up and down the Pitch Touch Strip to adjust.

♪ Each sequence can have its own Gate setting.

2.3.2. About Real-time record/replace

KeyStep mk2 also allows you to record or replace the notes in a sequence while the Sequencer is looping. Here are a few things to keep in mind:

- Real-time recording won't extend a sequence; you must record within the framework of an existing sequence. So you may first want to create a sequence of the desired length using the step record mode.
- It can be helpful to have an external drum machine slaved to the KeyStep mk2 via MIDI or the Sync output *or* to slave KeyStep mk2 to the DAW. That will help you be sure where the downbeat is.

More on how to sync devices in the Synchronization chapter.

2.3.3. Real-time recording

There are two methods you can use to record in real-time.

- **Sequencer not running** (Stop mode): Press **Record**, then **Play**. The Record button will light and the sequence will begin looping. Watch the Metronome on the screen for sync reference. The notes you play 'live' will be quantized to the nearest step.
- **Sequencer running**: If the sequence is already looping, simply press the Record button and the same thing will happen; KeyStep mk2 will begin recording and replacing notes.

You can of course also record other data than notes, such as Pitch Bend, Modulation, Gate, and Spice automation.

♪ Newly recorded notes will replace the notes that currently exist at that step.

♪ **Remember to save your Pattern!** Hold Shift and Sequencer/Save, then select the location by turning the Encoder. Confirm by pressing the Encoder.

2.3.3.1. Setting the Pattern length

You may want to set the length of a Sequencer Pattern before you start recording. To do so, first make sure you're in Sequencer mode (the Sequencer button is lit). Then hold Shift and press the Metronome/Length button.

The Display will ask you to set the desired Pattern length. Turn the Encoder to adjust and press it to confirm. The next real-time Pattern you record will now have this length.

♪ While holding Shift, you can press the Length button several times to increase length by 16 steps with every button press.

2.3.3.2. Playing along with a Pattern after recording

After having recorded a real-time Pattern, the Sequencer continues looping in Record mode. You can get out of record mode but keep the Pattern looping by pressing the Record button. Now you are able to play live along with your newly created Pattern without adding any notes to it.

2.3.4. Mutate

Do you want to add some variation to your musical activities? If so, Mutate is the secret button to press.

2.3.4.1. How does Mutate work?

Play your Sequence (or Arpeggio). Press the Mutate button very briefly, and some notes will change in an unpredictable manner. Or press the Mutate button for longer, and all the notes have been shifted around.

The Display provides a helpful animation that shows the Mutate process in action

Watch the display while performing this. You'll notice how the Mutate Bar goes from left to right and back again. The position of the Bar, when you release the Mutate button, determines how much Mutate has modified the Pattern.

Notice how Mutate preserves the identity of the Pattern while notes are modified quite heavily.

♪ You can of course press Mutate several times and hear a new variation to your Sequencer Pattern every time.

2.3.4.2. How to Reset a Mutated Pattern

If you want to start the Mutate process all over again with an unmodified Pattern, hold Shift and press the Mutate/Reset button. You will be back to your initial pattern, and you can start mutating again.

2.3.5. Spice

Holding Shift and sliding up and down the Modulation Strip will add random changes to the current Sequence. The further up the Modulation Strip you go, the greater the changes.

Spice adds randomness to Gate Length and Ratchet (adding multiple triggering).

2.3.5.1. Replacing notes

As mentioned above, the notes you play while recording in real-time will be quantized according to the Recording Quantize settings. Any notes that exist in that step will be replaced with the notes you play.

So as the sequence loops, you can replace certain notes by playing new ones within the timing range of the appropriate step.

> ♪ If you want to remove the last note you recorded in real-time, you can easily get rid of it by holding Shift and pressing the Undo key. You don't even have to stop the Sequencer.

2.3.5.2. Time Division while recording

Time Division setting does not allow you to enter different step values in the middle of a sequence while recording. But you can use it to alter the relative tempo while recording.

If you are recording a difficult passage, you may want to use a different Time Division setting while recording (for example use 1/4 instead of 1/8). Just hold the Shift button and press any of the **< Time Division >** keys. The Display will confirm the current setting.

2.3.5.3. Time Division and Rate

The on-screen Metronome shows the current BPM rate. It blinks once for every 1/4 note, regardless of the Time Division selected.

You can set the Sequencer tempo in three ways:
1. Tap the Tempo button once and immediately turn the Encoder. This will allow detailed adjustment. Confirm by pressing the Encoder.
2. Tap the Tempo button at least 3 times to enter Tap Tempo mode. The display will confirm the BPM rate.
3. Long-press the Tempo button to open the Tempo menu in the Display and click the Encoder to select.

2.3.6. Adjusting the Pattern length

You can adjust the length of a sequence (from 1 to 64 steps) by holding Shift and hitting the Metronome/Length button. Use the Encoder to set the length and press it to confirm.

2.3.7. What does the Sequencer record?

The KeyStep mk2 sequencer will record certain types of data for each sequence step:

- The notes played from the keyboard
- Data that arrives via MIDI or USB
- The velocity of each note
- Rests entered by pressing the Hold button
- Each note of a Chord from Chord mode will be recorded as an independent note on the same step. So if you have a 6-note chord, it will occupy 6 notes of the 8-note maximum that a sequence step can hold.

♪ If a key is held for two or more steps a tied note will be recorded.

♪ The maximum number of notes in a Chord is 16 notes, which exceeds the limit of 8 notes per step in a Pattern. In this case, only the bottom 8 notes of the chord will be entered.

♪ If real-time record is enabled, notes will be recorded. This is convenient way to "transfer" a MIDI clip from a DAW to Keystep mk2.

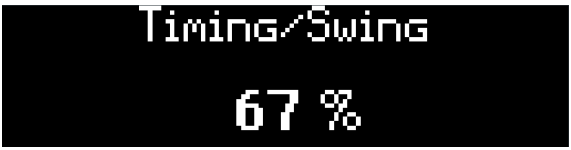
♪ If neither the Sequencer or the Arpeggiator are enabled, MIDI notes will be output on the CV out.

2.3.8. What does the Sequencer NOT record?

Here are the types of data not captured by the KeyStep mk2 sequencer:

- The duration (Gate time) of the note
- Time Division changes
- Swing percentage
- Controller data
- Notes from Chord mode that exceed the limit of 8 notes per step. Only the bottom 8 notes of the Chord will be recorded.

2.3.9. Swing



Swing introduces a "shuffle" feel to the active sequence or arpeggio. You can access the Swing setting by long-pressing the **Tempo** (Metronome) button and use the Encoder to scroll to **Swing**.

The Swing value can range from 50-75%. 50% represents equal lenth notes, while 67% makes the first note twice as long as the following one.

What the Swing setting does, is shift the timing of the notes in a sequence. Assuming the Time Division is set to 1/8, here's what will happen: As the Swing value exceeds 50%, the first 8th note is held longer and the second is played later and shorter. You'll notice the sequence starts to 'shuffle' a bit and perhaps sounds less 'mechanical' to your ear.

The maximum Swing setting is 75%, at which point the 8th notes sound more like a 3/16 note plus a 1/16 note. A swing setting of 67% will make 8th notes sound like swung notes in jazz.

Here's a graphic showing the minimum and maximum Swing values in musical notation:

♪ Each Sequence can have its own Swing setting. Arpeggio Mode has an independent Swing setting also.

2.3.10. Modifying a sequence

Now let's focus on ways to modify an existing sequence.

2.3.11. Overdub On/Off

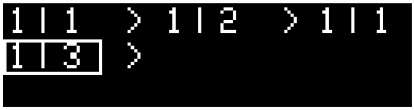
You may want to Overdub onto a Sequencer Pattern. Or you may find it useful not to be able to do so. Whatever your preference, Overdubbing can be turned On or Off by holding Shift and pressing Record. For each press on the Record knob, Overdub is turned On and Off.

> ♪ When Overdubbing, new notes are added on top of the existing ones; existing notes are not overwritten.

2.3.12. Chaining Sequencer Patterns

In KeyStep mk2 you can easily chain Patterns together. The procedure is quite straightforward.

While in Sequencer mode, hold Shift and press Chain. The Display asks you to select Patterns. Hold Shift and use the **Sequencer Bank** and **Pattern** keys to select the Patterns you wish to include in the Chain.



Here we have chained Patterns 1/1 + 1/2 + 1/1 + 1/3

The Display will show the Patterns as you proceed.

If you make an error, use the Encoder to select a Pattern, press the Encoder to select and turn the Encoder to chose another Pattern. To select a Pattern in another Bank, simply keep on turning the Encoder.

When you are done, press Back.

2.3.12.1. Editing the Pattern Chain

To edit a Pattern Chain after you've created it, hold Shift and press Chain to enter Chain edit mode. The Display will give you three options:

- **On:** Pressing the Encoder will activate and deactivate Chain play mode
- **Clear:** Press here to clear the Pattern Chain
- **Edit:** Press here to get into the edit mode described above

♪ Pattern Chains will be deleted when you turn off your KeyStep mk2.

2.3.13. Rate

Rate or Tempo or Beats Per Minute – they all mean the same thing. You can set the Sequencer and Arpeggiator tempo in three ways.

1. Tap the Tempo button once and within 1 second turn the Encoder. This will allow detailed adjustment. Confirm by pressing the Encoder.
2. Tap the Tempo button at least 3 times to enter Tap Tempo mode. The display will confirm the BPM rate.
3. Long-press the Tempo button to open the Tempo menu in the Display and click the Encoder to select.

2.3.13.1. Time Division

A Sequence that has been recorded using a particular Time Division, for example 16th notes (1/16), can be made to play back at half as fast by changing the Time Division to 8th notes (1/8).

Here's how: Hold Shift and Press any of the **Rate: < Time Division >** keys. The left arrow halves the Time Division from 1/16 to 1/8 to 1/4 to 1/2. The right arrow doubles the Time Division from 1/16 to 1/32.

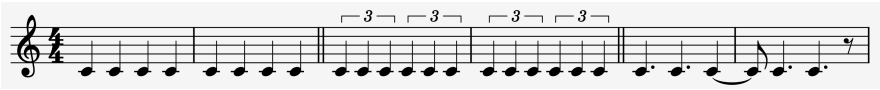
♪ You can also access Time Division by long-pressing the Tempo button. This takes you to the Timing menu. Turn the Encoder to Time Division, where you'll be able to select any Time and Sub Division ranging setting from 1/2D to 1/32T.

So, a Sequence that has been recorded with a Time Division of 1/16 can be used to play twice as fast by changing to 1/32 (32nd notes).

When changing the Time Division, the Pattern length is kept intact. That is, all recorded notes in the Pattern will be left untouched; they're only played back slower or faster. So, you could argue that the Tempo is being halved or doubled, but that's only because notes take less or more time to play.

2.3.13.2. Sub Division

The notes you have entered in a Pattern can have their Time Division **and** Sub Division edited. Holding Shift and pressing the key with the 8th note symbol (under Rate) will alter the length of the notes from (say) a 1/4 (quarter) note to a 1/4T (quarter note triplet) to a 1/4D note (quarter note dotted).



Here's how the 1/4, 1/4T (triplets), and 1/4D (dotted) Sub Divisions work

> ♪ You can also accesss Sub Division by long-pressing the Tempo button. This takes you to the Timing menu. Turn the Encoder to Time Division, where you'll be able to select **any Time and Sub Division** ranging from 1/2D to 1/32T.

2.3.14. Sequencer Edit

There are several ways to modify or edit an existing Sequence. These tweaks are found on the Keyboard under **Seq Edit**. You can access all functions by holding Shift and pressing the appropriate key on the Keyboard.

2.3.14.1. Nudge

You can move an entire Sequence Pattern backward or forward in time by Nudging it. This works when the Sequencer is running or stopped. Hold Shift and use the **< Nudge >** keys to shift your Pattern in time.

> ♪ When using Nudge, for example Nudge to the right, the whole pattern will be moved one step forward in time and the last note will jump to the start.

2.3.15. Octave

You can change the Octave of a Sequence Pattern with the **< Octave >** keys (not to be confused with the Oct – and Oct + buttons on the left panel). This works when the Sequencer is running or stopped. Hold Shift and use the **< Octave >** keys to change Octave.

2.3.16. Double

If you want to double the Length of a Pattern, hold Shift and press the Double key on the Keyboard. The Pattern will now become twice as long, and the notes will double up too.

2.3.17. Quantize

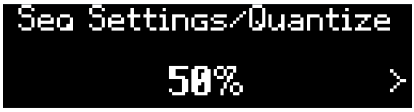
Quantizing means **correcting notes rhythmically**. You always have the choice to keep your Pattern recording exactly as it was or choose to straighten it out rhythmically after recording.

Quantize is only effective on real-time recordings, not step recordings. Long-press the Sequencer button and scroll to **Rec Quantize**. Press the Encoder to turn Quantizing during real-time recording On or Off.

The Quantize value can be easily set by holding Shift and using the **Rate: Time Division** and selecting a value, for example 1/8.

2.3.18. Quantize strength

Quantizing moves notes to the Time Division you have specified, for example to the closest 16th note. You can specify if you want all notes to be 100% corrected or only drawn 50% closer to the Time Division value. In other words, if you want the notes to become 100% or only 50% corrected (maintaining some of the original feel from your recording).



Long-press the Sequencer button and turn the Encoder to Quantize, where you can set Quantization Strength to 50% or 100%.

2.3.19. Reload

Reload loads the Pattern that was previously Saved at the currently selected Pattern slot.

2.3.20. Clear

If you want to start all over and create a New Pattern from scratch, you can empty the current Pattern slot in various ways.

1. Long-press the Sequencer button. The Display will show **Pattern Init** (Initialize). Press the Encoder to confirm or Back to exit. The next Pattern you record will be as long as you decide while recording.

2. Hold Shift and press the **Clear key** on the keyboard. The Display will show Pattern Cleared. This clears the note content but leaves other Pattern settings unchanged. The next Pattern you record will be as long as the one you just erased.

> ♪ When you **Initialize** a Pattern, that Pattern slot defaults to 16th notes and Tempo 120. The Length of the Pattern is determined by how many steps you Record until you hit the Stop button. When you **Clear** a Pattern, that slot defaults to the properties of the Pattern you just erased in terms on Tempo, Length, and Sub Division.

2.3.21. Undo

This feature allows you to remove the last recorded step(s) of a Pattern. It works a bit differently depending on recording mode. - When recording in step-time, pressing Undo will remove the last recorded note. Pressing Undo again will remove the one before that, and so on. - When real-time recording, Undo removes the note(s) recorded during the last loop. Pressing Undo again will have no effect.

2.4. Exporting and Importing Sequences

KeyStep mk2 allows you to carry 64 Patterns with you at all times. But you can store an unlimited number of sequences using the MIDI Control Center [p.58]. So be sure to back up your hard work to your computer often.

Once the sequences are safely stored on your computer, it is possible to hand-pick sets of sequences that are aimed at particular audiences or sessions.

2.5. Sequencer Settings

Long-pressing the Sequencer button takes you to the Sequencer Settings.

2.5.1. Pattern Initialize

The first item is a text saying Pattern Initialize. If you press the Encoder now, the current Pattern will be erased, so be careful!

♪ Should you accidentally initialize or erase a Pattern, you can get your Pattern back by holding Shift and pressing the key under Sequencer Edit → Reload.

2.5.2. Clear Automation

You can selectively clear Pattern Automation.

- **Clear Bend**: Press here to remove pitch bend data
- **Clear Mod**: Erase modulation data only
- **Clear Gate**: Deletes Gate Time data from a Pattern
- **Clear Spice**: Removes Spice from the selected Pattern

♪ If a Pattern doesn't include the type of data you want to remove, the Display will say "No Automation Found".

2.5.3. Quantize

Quantizing moves notes to the Time Division you have specified, for example to the closest 16th note. You can specify if you want all notes to be 100% corrected or only drawn 50% closer to the Time Division value.

2.5.4. Sequence Length

If you want to real-time record a Sequencer Pattern of a different length that 16 steps, you must enter the length in this menu. Length can be anything from 1 to 64 steps.

2.5.5. Recording Count-In

When recording in real-time, it helps to have a count-in. Turn this feature on, if you want a visual count-in before recording starts.

2.5.6. Recording Quantize

If you want to apply Quantizing (time-correcting) to your real-time recordings, turn this feature on here. The Quantize value can be set by holding Shift and pressing the **Sequencer Edit: Quantize** key.

> ♪ You can also apply Quantizing after a Pattern has been recorded. Hold Shift and use the Time Division keys on the Keyboard. Then hold Shift and use the Quantize key on the keyboard.

2.5.6.1. Record Automation

You can decide if you want to record Automation with your real-time recordings. This data can be Pitch Bend, Modulation, Gate Length, Spice, or Aftertouch. Tick Yes or No in this menu.

2.5.6.2. Use Pattern Tempo

The Tempo clock in KeyStep mk2 is somewhat generic for the entire controller. However, it's fully possible to Give a Sequencer Pattern a specific Tempo. First set a desired Tempo. Then go to this menu and select **On**. Then remember to save your Pattern.

Now, whatever Tempo is set in KeyStep mk2 (it defaults to 120 BPM), the Pattern you just saved will play at the BPM rate you entered.

There are two more settings:

- **Off**: The Pattern Tempo is only loaded when KeyStep mk2 is powered on and ignored afterwards
- **When Paused**: The Pattern Tempo is only loaded when the sequencer is not running

♪ Use Pattern Tempo has no effect when an external Clock is active.

2.5.6.3. Sequencer Wait to load

Let's assume you're playing on Sequencer Pattern and want to segue into another. This can be done in three ways.

You can reach these settings by long-pressing the Sequencer button. You will enter Sequencer Settings, where you can use the Encoder to scroll to **Wait to load**.

- **At End**: The next Pattern starts playing after the current one has come to its end
- **Instant**: The next Pattern starts playing right away
- **1 Bar**: The next Pattern starts playing after the current bar

2.5.6.4. Program Change

KeyStep mk2 has the ability to send Program Changes on a per Pattern basis. Program Change can be used to change patches on your slaved synthesizers to trigger events on another sequencer connected to the KeyStep mk2 and makes for a life changing improvement in the integration of your system.

♪ The Program Changes are saved on a per Pattern/Project basis, so make sure to save your Patterns and Project before powering off the unit, or all assignments made since the last save of the concerned project will be lost.

- **Bank MSB**: Selects MSB or MIDI Controller 0
- **Bank LSB**: Selects LSB or MIDI Controller 32
- **Program Change**: Lets you select programs 1–128

Some sound banks are larger than 128 sounds. A true program change that also selects a bank is composed of 3 MIDI messages: - CC 000 nnn (Bank Select MSB – Most Significant Byte) - CC 032 nnn (Bank Select LSB – Least Significant Byte) - Program Change nnn (MIDI Program Change message 1–128)

2.5.6.5. All Patterns Initialize

If you want to remove all Sequencer Patterns in KeyStep mk2, you can do that easily in the Sequencer menu. Long-press the Sequencer button and turn the Encoder to its last position where it says **All Patterns Init**. Press to select, choose Yes or No and Confirm by pressing the Encoder.

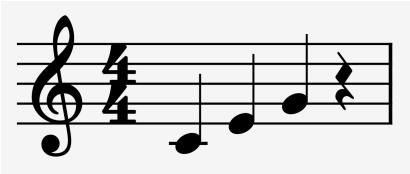
3. THE ARPEGGIATOR

One of the key components of the KeyStep mk2 is the Arpeggiator. It's a tool that's easy to learn and use and it frees your hands to do other things, like tweak the controls of effect units or a modular synth.

3.1. What's an Arpeggio?

An **Arpeggio** is a type of chord in which the notes that compose the chord are **individually sounded** in a progressive rising or descending order.

For example, if you play the component notes of a C chord – C, E, and G – **separately** (one after the other), you have created an Arpeggio.



In an Arpeggio, the order and direction of the notes is not important. The length, the speed, and the range of the Arpeggio can also be any way you want.

In short: Play a chord and the Arpeggiator turns the chord into notes that run up and down your keyboard.

3.2. Arpeggiator features

The KeyStep mk2 Arpeggiator provides lots of different ways to arpeggiate the notes you play on the keyboard. In the following sections, we'll cover these topics.

> ♪ The Record button is inactive in Arpeggiator mode.

3.2.1. Start the Arpeggiator

Before we describe each of the Arpeggiator modes, let's do a quick review of how to select a mode and start the Arpeggiator:

- Turn on the Arpeggiator by pressing the Arpeggiator button
- Hold Shift and select an Arpeggio Mode (use the keyboard keys under **Arp Mode**)
- Hold down some keys

The Arpeggiator will start playing the notes you are holding, one after the other. The order in which they are played is determined by the Arpeggio Mode.

If you like, you can activate Hold to make the Arpeggio play after you release the keys.

> ♪ The Arpeggiator will not run if Sync Receive is set to something other than **Internal** or **Auto** and no external clock is present.

All of the following examples involve holding down only 4 notes on the keyboard. But you can add up to 64 notes to your Arpeggio through clever use of the Hold button and the **Octave** –/+ buttons.

3.2.2. Setting the Tempo

You can set the Arpeggiator tempo in three ways.

1. Tap the Tempo button once and immediately turn the Encoder. This will allow detailed adjustment. Confirm by pressing the Encoder.
2. Tap the Tempo button at least 3 times to enter Tap Tempo mode. The display will confirm the BPM rate.
3. Long-press the Tempo button to open the Tempo menu in the Display and click the Encoder to select.

3.2.3. Time Division

An Arpeggio that has been created using a particular Time Division, for example 16th notes (1/16), can be made to play back half as fast by changing the Time Division to 8th notes (1/8).

Here's how: Hold Shift and Press any of the **Rate: < Time Division >** keys. The left arrow halves the Time Division from 1/16 to 1/8 to 1/4 to 1/2). The right arrow doubles the Time Division from 1/16 to 1/32.

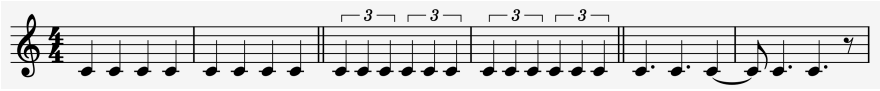
> ♪ You can also access Time Division by long-pressing the Tempo button. This takes you to the Timing menu. Turn the Encoder to Time Division, where you'll be able to select any Time and Sub Division ranging setting from 1/2D to 1/32T.

So, an Arpeggio that has been created with a Time Division of 1/16, can be used to play twice as fast by changing to 1/32 (32nd notes).

When changing the Time Division, the Arpeggio length is kept intact. That is, all recorded notes in the Arpeggio will be left untouched; they're only played back slower or faster. So, you could argue that the Tempo is being halved or doubled, but that's only because notes take less or more time to play.

3.2.4. Sub Division

The notes you have entered in a Pattern can have their Time Division **and** Sub Division edited. Holding Shift and pressing the key with the 8th note symbol (under Rate) will alter the length of the notes from (say) a 1/4 (quarter) note to a 1/4T (quarter note triplet) to a 1/4D note (quarter note dotted).



Here's how the 1/4, 1/4T (triplets), and 1/4D (dotted) Sub Divisions work

> ♪ You can also access Sub Division by long-pressing the Tempo button. This takes you to the Timing menu. Turn the Encoder to Time Division, where you'll be able to select **any Time and Sub Division** ranging from 1/2D to 1/32T.

3.2.5. Arpeggio Octaves

When playing an Arpeggio, you can easily extend its range. By holding Shift and pressing one of the 4 lowest keys marked **Arpeggio Octave 1, 2, 3, or 4**, you extend the range of the Arpeggio up to 2, 3, or 4 octaves.

3.2.6. Swing

Swing introduces a "shuffle" feel to the active Sequence or Arpeggio. You can access the Swing setting by long-pressing the **Tempo** (Metronome) button and use the Encoder to scroll to Swing.

The Swing value can range from 50–75%. 50% represents equal length notes, while 67% makes the first note twice as long as the following one.

What the Swing setting does is shift the timing of the notes in an Arpeggio. Assuming the Time Division is set to 1/8, here's what will happen: As the Swing value exceeds 50%, the first 8th note is held longer and the second is played later and shorter. You'll notice the sequence starts to 'shuffle' a bit and perhaps sounds less 'mechanical' to your ear.

The maximum Swing setting is 75%, at which point the 8th notes sound more like a 3/16 mote plus a 1/16 note. A swing setting of 67% will make 8th notes sound like swung notes in jazz.

Here's a graphic showing the minimum and maximum Swing values in musical notation:

♪ The Arpeggiator Modes share one combined Swing setting, while Sequencer Patterns can have individual Swing settings.

3.2.7. Arpeggio to Sequence

You can easily turn any Arpeggio into a Sequencer Pattern. This can be done in two ways.

Make sure the Arpeggiator is playing. Long-press the Record button **or** hold Shift and press To Seq (below the Arp button). The Display will read:

A second later, it will read:

Now the Sequencer Pattern held in RAM will be cleared and replaced with the content of the Arpeggio. The Sequencer becomes active and seamlessly plays the newly created Pattern.

You can now choose to save your new Pattern into any Sequencer location by holding Shift and pressing the Sequencer button. Then rotate the Encoder and save to the slot of your choice.

3.2.8. Mutate

Mutate adds variation to your Arpeggios by shuffling the notes around – a little or a lot.

3.2.8.1. How does Mutate work?

Play an Arpeggio. Press the Mutate button very briefly, and some notes will change in an unpredictable manner. Or hold the Mutate button longer, and all the notes will have been shifted around.

Watch the display while performing this. You'll notice how the Mutate Bar goes from left to right and back again. The position of the Bar, when you release the Mutate button, determines how much Mutate has modified the Arpeggio.

♪ The Display provides a helpful animation that shows the Mutate process in action.

♪ You can of course press Mutate several times and hear a new variation to your Arpeggio every time.

3.2.8.2. How to Reset a Mutated Arpeggio

If you want to start all over again with an unmodified Arpeggio, hold Shift and press the Mutate/Reset button. All will be back to normal, and you can start mutating again.

3.2.9. Spice

Holding Shift and sliding up and down the Modulation strip will add random changes to the current Arpeggio. The further up the Modulation Strip you go, the greater the changes.

Spice adds randomization to Gate Length, Silence, and Ratchet (adding multiple triggering).

> ♪ To remove all changes created by Spice, simply turn the Spice control down again.

3.2.9.1. Dice

When using Spice, you'll notice how the Arpeggio changes in the same way every time you turn the Spice control up. To hear new changes, you'll have to "roll the dice".

You do this by holding Shift and tap the Modulation Strip 3 times. The Display will then show **Dice Rolled**.

3.2.10. Arpeggiate the Chord memory

It is fully possible to Arpeggiate the Chord memory. Select any Chord and choose an Arpeggio Mode. Start the Arpeggiator. Now you just need to play one key to hear that Chord Arpeggiated.

3.3. Arpeggiator Modes

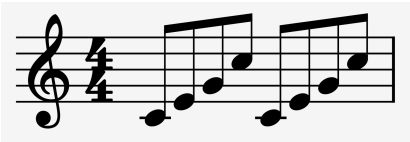
KeyStep mk2 comes with a total of 15 predefined Arpeggiator Modes plus one you create yourself. The graphics next to each Mode gives you some idea of what they sound like.

3.3.1. Arpeggiator modes 1–6

3.3.1.1. Arpeggio mode 1: Up

With the Arpeggio Mode set to **Up**, the Arpeggiator will play the held notes in order from the bottom to the top. When it reaches the top, it will start again from the bottom.

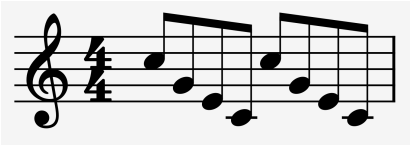
The results will sound something like this:



Arp Mode: Up

3.3.1.2. Arpeggio Mode 2: Down

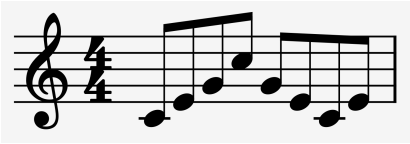
The notes you play are arpeggiated in a downward fashion and then restart from the top.



Arp Mode: Down

3.3.1.3. Arpeggio Mode 3: UpDown

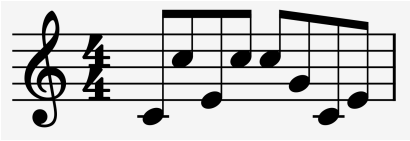
Notes play upwards and then downwards in a loop.



Arp Mode: UpDown

3.3.1.4. Arpeggio Mode 4: Random

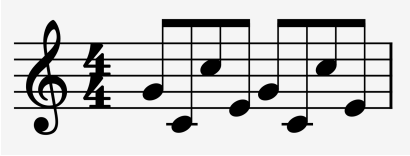
Notes are played in a random order.



Arp Mode: Random

3.3.1.5. Arpeggio Mode 5: Order

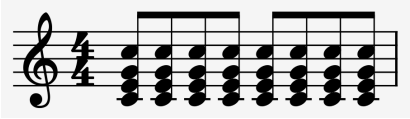
Notes will sound in the order you played them.



Arp Mode: Order

3.3.1.6. Arpeggio Mode 6: Poly

All notes held will play as a repeating chord.



Arp Mode: Poly

3.3.2. Arpeggio Modes 7–15

These Patterns are generative and will loop until you press Mutate or select another Pattern.

The Patterns differ in various ways: - **Density of notes:** Many steps do not have newly triggered notes - **Length of notes:** Some steps are silent or have tails from previous notes - **Polyphony:** The likelyhood of multiple notes triggering at the same time

Since it is impossible to give notated examples of Arpeggio Modes 7-15, here comes a brief description of each one.

- **Arpeggio Mode 7: Short 1** Full density so a trig on every step, note length 1 step, no polyphony
- **Arpeggio Mode 8: Short 2** Less density but short notes, no polyphony
- **Arpeggio Mode 9: Long 1** Even less density and short notes, no polyphony
- **Arpeggio Mode 10: Long 2** Dense with mostly short notes
- **Arpeggio Mode 11: Long 3** Dense with mostly long notes
- **Arpeggio Mode 12: Poly 1** Single notes and a few short chords with silence between them
- **Arpeggio Mode 13: Poly 2** Mostly short chords
- **Arpeggio Mode 14: Poly 3** Mostly long chords with a few single notes
- **Arpeggio Mode 15: Poly 4** Mostly long chords with long tails

3.3.3. Special Arpeggio Mode 16: User Sequence

Arpeggiator Mode 16 is a truly creative feature. It copies the last played Sequencer Pattern into slot 16 of the Arpeggiator.

Here's how it works: Select any Sequencer Pattern or record a new one. Press the Arpeggiator button and select Arpeggiator Mode 16: User Sequence. The Sequencer Pattern you just played/created will now be played by the Arpeggiator.

3.3.3.1. Setting the Arpeggio Length

You can set the length of an Arpeggio by long-pressing the Arpeggio button. The display will show "Arpeggiator Length". Click the Encoder and select anything from 1 to 64 steps.

3.3.3.2. Thoughts on "Arpeggio Mode 16: User Sequence"

- It might be a good idea to memorize the notes used in the Sequencer Pattern you just recorded and copied to Arpeggiator slot 16, if you want the Pattern to sound identical and elaborate on it.
- Using Arpeggio Mode 16 as described above will allow you to use any Sequencer Pattern, but with a big difference: While the Sequencer Pattern contains a fixed set of (recorded) notes, the User Sequence you created lets you play any notes you like with the same Pattern content.
- The Factory Sequencer Patterns that come with KeyStep mk2 get a new lease of life, when you use them with Arpeggio Mode 16.
- Arpeggio Mode 16 opens up a door for harmonic interaction. Instead of the fixed tonality of a Sequencer Pattern, you are now able to play the chords in any song using the beauty of an Arpeggio.

3.3.4. Arpeggio Retrigger

Long-pressing the Arpeggio button and turning the Encoder will take you to the Arpeggio Retrigger menu. This can be set to either On or Off.

Here's an example. With an Arpeggio length of 8 steps and the number of notes played being 3, the looping of the notes can happen in two ways:

- **Retrigger On:** The pattern will restart at the end of the 8 steps
- **Retrigger Off:** The pattern will continue playing regardless of the pattern length

Arpeggio Retrigger set to On

3.3.5. Gate

The Gate time (note length) of an Arpeggio note is the percentage of time it "stays on" before the next note happens, with 10% being the shortest time and 90% being the longest. Hold Shift and slide up and down the Pitch Touch Strip to make a selection.

> Arpeggio Mode has its own overall Gate setting, independent of the Sequencer Gate settings.

3.3.6. Build a multi-octave Arpeggio

We have established that the Hold button allows you to keep the Arpeggiator running after you take your fingers off the keys.

There's a second use for the Hold button. With Hold active, you can keep adding notes to an Arpeggio as long as you continue holding down at least one key. You can even press the **Octave** + / - buttons to access other octave ranges of the keyboard.

An example: Press the Hold button and press a few notes to start the Arpeggiator. Now you can press the Oct + button twice and tap the same note on the keyboard to create an arpeggiation with the same note two octaves apart.

> ♪ Don't forget, after you let go of the keys, the Arpeggio that's playing will be replaced as soon as you press another key.

3.3.7. Add up to 64 notes

You can add as many as 64 notes to your Arpeggio. Here's an example of how to do it.

> ♪ **Remember:** Keep at least one key down at all times until the final step.

- Press the Arpeggio button
- Press the Play/Pause button to start the Arpeggiator
- Press the Hold button
- Press one or more keys; the Arpeggio will play those notes
- Keep at least one key down and then press the Octave + button
- Add more notes to the Arpeggio from the higher octave
- Being sure to keep at least one key pressed, press the Octave – button
- Add more notes to the Arpeggio from the lower octave, and so on
- You can keep adding notes to the Arpeggio for quite a while. The limit is 64 notes

When you are done adding notes, you may release all keys. The multi-octave Arpeggio will continue until you play another key or stop the Arpeggiator.

> ♪ It is possible to let go of the original note(s) at any stage in the process as long as you keep holding down at least one of the new notes you add.

3.4. Interrupting an Arpeggio

It is possible to pause an Arpeggio and make it start again. It can be done in two ways.

- Select any Arpeggiator Mode except Random or Order (it'll be easier to hear what's happening)
- Start the Arpeggiator
- Press the Hold button
- Play a handful of keys to make a pattern

Now, there are two ways to move on.

1. Press Stop. The Arpeggio stops, and when you press Play, the Arpeggio starts from the beginning.
2. Press Pause. The Arpeggio stops. Press Play, and the Arpeggio continues from where you stopped it.

4. CHORD MODE

KeyStep mk2 has the ability to memorize a chord. You can then play an entire chord by pressing a single key on the keyboard. The chord will transpose automatically as you play different notes.

To hear Chord mode in use, just press the Chord button and press any key. You will hear a default major Chord.

4.1. Using the predefined Chords

KeyStep mk2 has a number of Chords pre-programmed. Long-pressing the **Chord** button takes you to the Preset menu. Press the Encoder again to make your selection.

- User
- Octave
- 5th
- Major Triad
- Minor Triad
- Sus 2
- Sus 4
- Major 7
- Minor 7
- Major 9
- Minor 9
- Major 11
- Minor 11

4.1.1. Creating a Chord

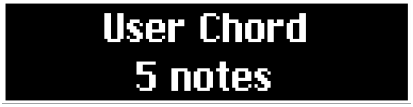
You can of course create a Chord of your own. This one will become the User Chord. Here's how you do it.

♪ **Caution:** The following procedure will erase the previous Chord and make a new one.

- Hold the Chord button
- Play some notes, simultaneously or after another
- Release the Chord button

Now, pressing one key will play back the entire Chord. Playing another key will transpose the Chord.

The first note you entered will become the root of the Chord. So, if you want to make sure a particular note becomes the root note, play that one at least slightly ahead of the others.



♪ A Chord in KeyStep mk2 can contain a maximum of 16 notes.

♪ The Chord memory is not saved when KeyStep mk2 is powered down, but it is saved when used in a Sequencer Pattern.

4.1.2. Spread

Long-pressing Chord and turning the Encoder takes you to the Spread menu. Here you can define how your playing style will affect Chord play.

- **No**: No change, Chord will be played just as you entered them or according to the Chord Presets
- **Velocity**: Play soft to make Chords smaller, play louder to create bigger Chords
- **Aftertouch**: When you use Aftertouch, Chord will trigger more notes
- **1-16**: Here you can specify how many Chord notes will be played, from 1 to 16

4.1.3. Strum (ms)

Chord notes are normally played all at once, but you can make KeyStep mk2 play in a strumming fashion, like strumming a chord on a guitar. A setting of 0 makes no change, while 500 milliseconds strums the Chord really slowly.

4.1.4. Strum (sync)

The Strumming effect described above can also be synced to the in internal or external clock. In this scenario, the strumming effect becomes tempo-dependent. So instead of using milliseconds as a reference, Sub Divisions are employed here. The settings range from Off to 1/64 to 1/4.

4.1.5. Strum Type

If Strum is in use, you can define the order of the notes. These are the options.

- **Up**: All notes are played in an ascending order
- **Alt Up**: Notes play in an ascending order but more like a 1-3-2-4 fashion
- **Down**: All notes are played in a descending order
- **Alt Down**: Notes play in an descending order but more like a 1-3-2-4 fashion

4.1.6. Voicing

This mode adds variation to the Chords. With Voicing on, KeyStep mk2 elegantly voices the chords differently to create more musical voicing during chord changes.

Example: When playing C Maj followed by F Maj, the whole chord doesn't just move a fourth up but is re-voiced more like a live keyboard player would play it. The settings Bass 1-3 add a bass note 1, 2, or 3 octaves down.

4.2. Chords and the Sequencer

You can use Chord mode and the Sequencer together, but only under certain conditions.

4.2.1. Sequencer and Chord mode

The Sequencer has a limit of 8 notes per step. Chords from Chord mode will be recorded as independent notes in the sequencer. So, if you have a 6-note chord, it will occupy 6 of the 8 note maximum that is allowed in a sequence step.

4.2.2. Chords and the Arpeggiator

The arpeggiator can be used in conjunction with Chord mode to play arpeggiated chords. The process is simple.

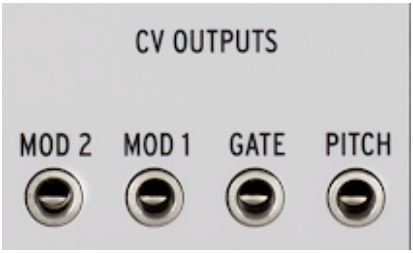
Press the Chord button and, if you like, select a Chord

- Turn on the Arpeggiator by pressing the Arpeggiator button
- Press the Arpeggiator button and play a note

That's all there is to it. And it doesn't matter whether you start the Arpeggiator first and then activate Chord mode or do it the other way around. Notes from the Chord are added to the Arpeggio.

5. CV, GATE, AND MOD FUNCTIONS

KeyStep mk2 provides direct access to some of the best music technology the world has produced since humans harnessed electricity – USB, MIDI, Sync, and CV/Gate connectors are all present on its rear panel in a space the size of a candy bar.



In this chapter, we'll focus on the features of the KeyStep mk2 CV/Gate circuitry.

5.1. Pitch and Gate signals

The CV/Gate/Mod outputs are easy to use, but since any device at the receiving can be different, you may have to tweak the settings a bit.

5.1.1. How do Pitch and Gate work?

The notes you play on the keys are translated immediately into Control Voltage (CV) and Gate signals and sent to those connectors on the back panel. Two sets of voltages are sent for each note: Pitch and Gate open/close.

Pitch corresponds to MIDI note number and Gate open/close corresponds to note on and note off, respectively. Velocity and other information can be carried by the Mod outputs (see the next section).

The Sequencer will record what you play on the keys, and upon playback send those signals to the attached device(s) through the CV/Gate connectors, just as if they had been played from the keyboard.

> ♪ When the Sequencer plays the attached CV/Gate devices, you can still play your MIDI devices from the keyboard.

5.1.2. Can my DAW send CV/Gate signals?

It is possible to send note data from a MIDI track on your DAW to the KeyStep mk2 CV/Gate jacks. Just match the MIDI channel on the DAW track to that of the KeyStep mk2 to make it happen.

There are two things to keep in mind, though:

1. CV/Gate jacks are monophonic, so if the selected MIDI track on the DAW contains polyphonic data, you won't hear all of the notes on the target device.

2. CV/Gate jacks can send only basic signals – pitch and note on/off. In other words, you won't be able to use them to control synthesizer parameters. All edits to your modular synth settings need to be made on the synth itself.

> ♪ Incoming MIDI notes are merged with the Sequencer and the internal keyboard, so there's no exclusive path between MIDI and CV)

5.2. Modulation (Mod) output

While CV Pitch produces pitch and CV Gate outputs start and end times of notes, you can further modulate the notes via the Mod 1 and Mod 2 outputs.

5.2.1. How do the Mod 1 and Mod 2 outputs work?

The Mod output connectors send voltage values generated by one of the sources inside the KeyStep mk2: Velocity, Aftertouch, Modulation Strip, Random, or Pulse. You can use this output to control volume, filter frequency, or any other function on the target device.

You can set those parameters in KeyStep mk2 by pressing the Encoder and going to the CV/Gate section. The **Mod 1 Source** and **Mod 2 Source** menus let you choose between Velocity, Aftertouch, Modulation Strip, Random, and Pulse.

5.3. Routing the signals

Typically, the Pitch (CV) output is connected to a Voltage Controlled Oscillator (VCO) and the Gate output is connected to a trigger input or a Voltage Controlled Amplifier (VCA). Each Mod output is connected to a VCA or a Voltage Controlled Filter (VCF) or both through a splitter or a patch bay. Those routings will produce the most predictable results, but you can send those signals to any parameters that will accept them.

5.4. CV Pitch/Gate/Mod specifications

Some analog synthesizers or modules have unusual implementations that are not fully compatible with the KeyStep mk2 CV Pitch/Gate/Mod signals. Please refer to their specifications before making a purchase so you can be sure the two devices will work together well.

We've designed the KeyStep mk2 to be as flexible as possible, though. You can configure the response of the CV Pitch, Gate, and Mod jacks in a number of ways.

Here are the ranges of electrical signals that can be sent by the KeyStep mk2 CV, Gate, and Mod jacks. You will find them by pressing the Encoder and selecting the CV/Gate menu.

5.4.1. CV Pitch formats

CV Pitch has two options, each with its own keyboard reference settings: - **VoltOct**: 1 Volt/ octave (O-10V) - O volt MIDI note range: C-2 to G8 - **HertzVolt**: Hertz per volt (max ~12V) - 1 volt MIDI note range: C-2 to G8 (1V reference default: CO)

5.4.2. CV Pitch Reference

This reference defines which MIDI note that sends a O (zero) Volt CV output. The options are:

- C–2, C–1, CO, C1, C2, or C3.

5.4.3. Legato Retrig

When you play two notes that overlap (the second note starts before you've stopped playing the first one), you have to decide how KeyStep mk2 should handle that Legato.

- **Off**: Second note is a continuation of the first one, with no gap or renewed envelope curve
- **Retrig**: The second note gets triggered again, that is, it is treated as a new note
- **Slide**: The first note bends to the pitch of the second note with no retrig

5.4.4. Mod 1/2 Source

In KeyStep mk2, you can specify the source for the control voltage sent out via the Mod 1 and Mod 2 CV Outputs. The options are **Velocity**, **Aftertouch**, **Modulation Strip**, **Random**, and **Pulse**.

Random is a bit special. This setting sends a uniform random value between OV and Max Voltage each time a new note is sent on the CV Output.

Pulse sends a 2 millisecond pulse signal each time a new note is sent on the CV Output.

5.4.5. Mod 1/2 maximum voltage

For compatibility with external devices, the maximum voltage sent via the CV Outputs can be set to anything from **1-10 Volts**.

5.4.6. Pitch Bend Range

Here you can specify the range of the Pitch Touch Strip. You can select any value from **1-24 semitones**.

5.4.7. Gate Format

For compatibility with devices connected to your KeyStep mk2, you can select any of the following formats sent via the CV Gate Output:

- S-trig
- V-trig 5V
- V-trig 12V

> ♪ S-trig is for compatibility with some Korg devices. V-trig is a regular voltage gate where 0V is off and 5V or 12V is on.

5.4.8. Wheel Vibrato

This is the *amount* of pitch change the Lfo will output when Modulation Touch Strip or Aftertouch is used. The range is **0.0-12.0 semitones**.

5.4.9. Vibrato Rate

Set the *rate* of the pitch change output by the Modulation Touch Strip to any value from **0.3-10 Hertz**.

6. SYNCHRONIZATION

KeyStep mk2 can be the master clock for a wide range of musical devices, or it can serve as a slave to any one of several sources.

6.1. KeyStep mk2 as a Master

By default, KeyStep mk2 is set to Auto. This means, it will act as a Master or Slave depending on whether there's an incoming clock or not.

To make KeyStep mk2 the master clock, press the Encoder wheel and turn it until the Display reads **Sync**. Press the Encoder and turn it until the Display reads **Clock Source**. Press the Encoder again and turn it until the Display says **Internal** or **Auto**. Click the Encoder to confirm. Press the **Back** button until the Display says Arturia KeyStep.

When this is the case:

- The Transport section will control the internal Sequencer and Arpeggiator
- MIDI clock messages are sent to the MIDI output and to USB MIDI
- Clock signals are sent to the Sync output. You can specify the clock output type in the Sync menu under Global settings
- The Tempo can be set by tapping the Tempo button several times or by long-pressing the Tempo button

6.2. KeyStep mk2 as Slave

To make KeyStep mk2 slave to an external clock, press the Encoder wheel and turn it until the Display reads **Sync**. Press the Encoder and turn it until the Display says **Clock Receive**. Press the Encoder again and select Internal, USB, MIDI, Clock, or Auto. Click the Encoder to confirm. Press Back until the Display says Arturia KeyStep.

When KeyStep mk2 is in Slave mode:

- The Tempo controls will not control the internal Sequencer or Arpeggiator while the external (clock) source is running
- The KeyStep mk2 Transport section will still perform as usual; you can still stop, start and pause the internal sequences and the Arpeggiator, and you can still record sequences
- KeyStep mk2 will pass the synchronization messages it receives from the external source to all three clock outputs, and will convert all clock types to MIDI clock for the MIDI and USB outputs

6.2.1. Clock Send

There is a global setting that turns Clock transmission via USB, MIDI and Sync on and off. It's found by pressing the Encoder and entering the **Clock Send** menu. The choices here are on and off.

6.2.2. Sync In/Out types

The rear side of KeyStep mk2 houses ports for **Sync In and Out**. You can configure what type of sync signal that will be used here.

To get to the Sync Types, press the Encoder and select **Sync**. Turning the Encoder takes you to **Clock Out Type** and **Clock In Type**. Now you can configure the KeyStep mk2 to send and receive one of the following types of clock signals at the Sync input and output connectors.

- 1PPQ (pulse per quarter note)
- 4PPQ
- 24PPQ
- 48PPQ
- Korg

6.2.3. Transport Send On/Off

There is a global setting for whether or not KeyStep mk2 will transmit start and stop commands. Go to the Sync → **Transport Receive** menu. When **On**, MIDI Start, Stop, Continue, Pause, and Song Position Pointer are transmitted via the USB and MIDI outputs.

6.2.4. Transport Receive On/Off

You can decide how KeyStep mk2 will behave when it receives start and stop commands. This global setting can be made in the Sync → **Transport Receive** menu.

If Transport Receive is **On**, external start and stop commands will automatically start the Sequencer or Arpeggiator. If **Off**, KeyStep mk2 won't react to external Transport commands.

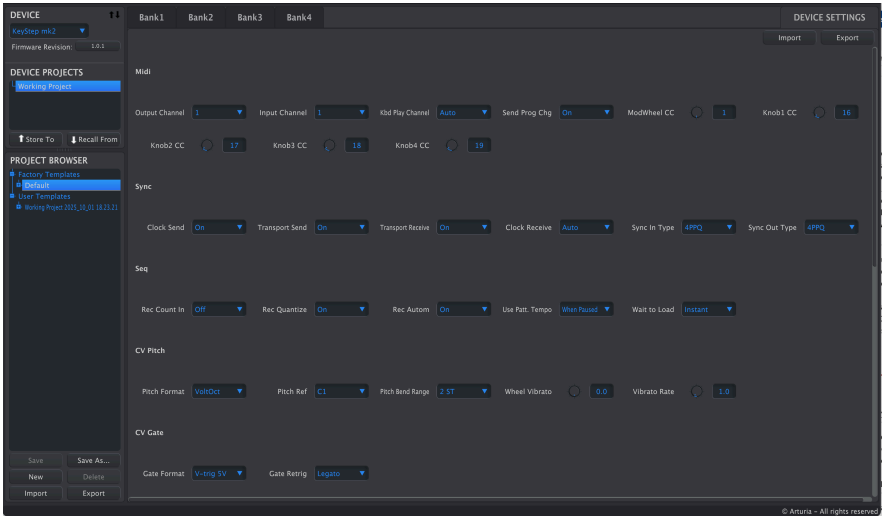
6.2.5. Clock connectors

To connect KeyStep mk2 to other devices, always use **3,5 mm TRS** cables. These are sometimes called **1/8 inch stereo jack** cables. The Clock signal is at the tip and Start/Stop at the ring.

Always used TRS cables to connect to other devices

7. MIDI CONTROL CENTER

The MIDI Control Center is an application that allows you to update and Export/Import the content of your KeyStep mk2 to a computer. It works with most Arturia devices, so if you have an earlier version of the software you'll want to download the KeyStep mk2 version. It will work with other Arturia products as well.



MIDI Control Center can be used with most Arturia devices

MIDI Control Center also mirrors everything that's going on in your KeyStep mk2. Every function in the controller is represented in the MIDI Control Center screen.

This means that virtually everything you can do on your KeyStep mk2 (except playing the keyboard), you can also do in MIDI Control Center.

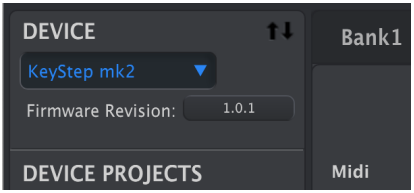
7.0.1. Installation and location

After downloading the appropriate MIDI Control Center installer for your computer from the Arturia website, double-click on the file. Then all you have to do is start the installer and follow the instructions. The process should be trouble-free.

The installer puts MIDI Control Center with the other Arturia applications you have. In Windows, check the Start menu. On a Mac, you'll find it inside the Applications/Arturia folder.

7.1. The Basics

First, make sure MIDI Control Center recognizes your KeyStep mk2. The small windows in the upper left corner of MIDI Control Center should confirm that. If not, select KeyStep mk2 from the pulldown menu.

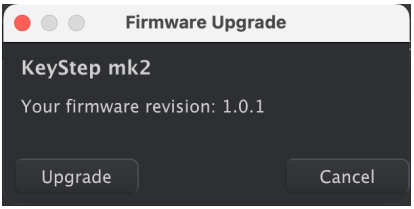


7.1.1. Device: Firmware Revision

MIDI Control Center allows you to stay updated with the latest version of the KeyStep firmware. The current version number can be seen in the small display in the upper left corner of MIDI Control Center. This number should correspond to the version number in your controller.

To find the version number on your KeyStep mk2 *device*, press the Encoder and go to the **Misc** (Miscellaneous) menu. Here you can scroll to Firmware Version, which should be identical to the one in MIDI Control Center.

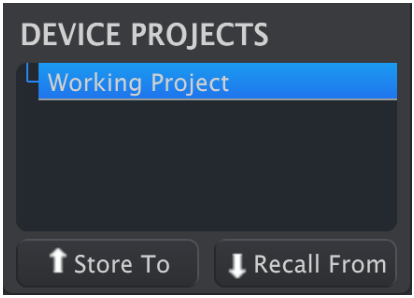
Clicking the version number display in *MIDI Control Center* will pop up a window for Firmware Upgrade. Again, your current version number will be shown.



Clicking **Upgrade** allows you to load a file with a more current Firmware revision. The file extension is .ks2fw. Select it and your KeyStep mk2 will be upgraded to the new version. You will also be able to cancel this operation, should you change your mind.

7.1.2. Device Projects

The left side of MIDI Control Center contains a list of your Projects. After a fresh install, there will only be one Project in the list.



When one of the Projects is selected from the list, MIDI Control Center can recall that Project from the internal memory of the KeyStep mk2 and place it into the User Project area in the Project Browser window. See the Updating the Global Settings [p.60] sections below for instructions about this.

To see a larger number of the Projects in the Device Projects list, move your mouse pointer to the edge of the Device Projects window until it turns into a double arrow pointer, then click and drag the window resizing button.

7.1.3. Updating settings in KeyStep mk2

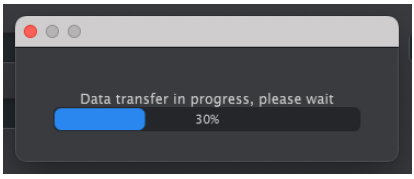
When MIDI Control Center and KeyStep mk2 are connected, any changes made to the global settings in MIDI Control Center are instantly transmitted to KeyStep mk2.

To enable this automatic updating, make sure KeyStep mk2 is not in Edit mode or playing a Sequence or Arpeggio. The Display should read Arturia KeyStep or show Sequencer or Arpeggiator info.

On the other hand, changing a setting in KeyStep mk2 does *not* automatically update anything in MIDI Control Center.

7.1.4. Sending Sequencer Pattern Banks

The Store To and Recall From buttons are used for sending Sequencer Pattern Banks between KeyStep mk2 and your computer. A progress bar shows the current transfer.



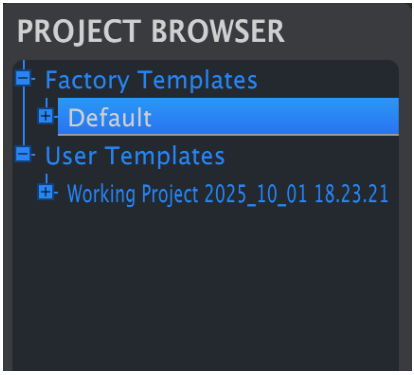
♪ The Store To transfers cannot be performed while the KeyStep mk2 is running a Sequencer Pattern or an Arpeggio.

7.1.5. Recovering the Factory Sequencer Patterns

You can recover the Factory Sequencer Patterns by selecting Factory Templates in MIDI Control Center and transmit any number of the Default Patterns to your KeyStep mk2.

7.2. Project Browser

The Project Browser shows a list of all the Projects that have been archived using the MIDI Control Center. These are divided into two main groups: **Factory Templates** and **User Templates**.

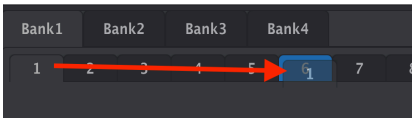


The User Templates are the ones you have recalled from the KeyStep mk2 using the MIDI Control Center. See the Updating the Global Settings [p.60] sections above for instructions about this.

A Template in the MIDI Control Center is the same thing as a Project inside your KeyStep mk2. It contains the Project-level settings, the Control mode settings, and the Patterns from all 4 x 16 Sequencers.

7.2.1. Copying a Pattern in MIDI Control Center

You can move Patterns around in MIDI Control Center, as long as you remain in the same Bank (Bank1, Bank2, Bank3, or Bank4). Simply drag the tab of a Pattern (1–16) to any other location (1–16).



7.2.2. Building a Project Library

You can build a limitless library of Projects in the User Templates area. Simply drag one of the Projects to the Project Browser window and it will be transferred from the KeyStep mk2 automatically. Then you can give it a new name if you like.

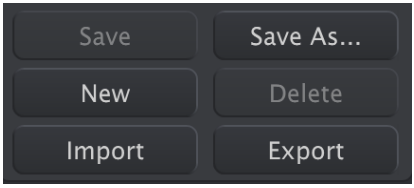
7.2.3. Revising a Template

If you'd like to modify a Template, you can drag it from the Project Browser and drop it on one of the Projects in the Device Projects area. This will send the selected Template directly into KeyStep mk2's internal memory at that Project location.

> ♪ This process will overwrite the selected Project spot in KeyStep mk2's internal memory. Be sure to save what you were doing before you transfer the file!

7.2.4. Template Utilities

Important household features can be found at the bottom of the left panel. These will help you manage your Projects.



7.2.4.1. Save/Save As...

Use these buttons to preserve an edited Template or make a duplicate as a backup. These files will appear in the Project Browser window in alphabetical order.

7.2.4.2. New/Delete

Create a new Template from the default settings with the New button. Use the Delete button to discard an unwanted Template, and it will be removed from the Project Browser window.

7.2.5. Back up your Sequences

We strongly recommend you to back up your KeyStep mk2 regularly. It's simple to do and totally free, and it can save you from some potential future headache. Use Export to save and Import to transfer sequences back to your KeyStep mk2.

7.2.6. Building a library

You can build a limitless library of Sequences in the Project Browser under the User Templates tab.

Make as many sequences as you like, wherever you are, with or without a computer attached. Then, the next time you use the MIDI Control Center, simply press the **Export** button (in the Project Browser) to transfer and save the KeyStep mk2 content to your computer.

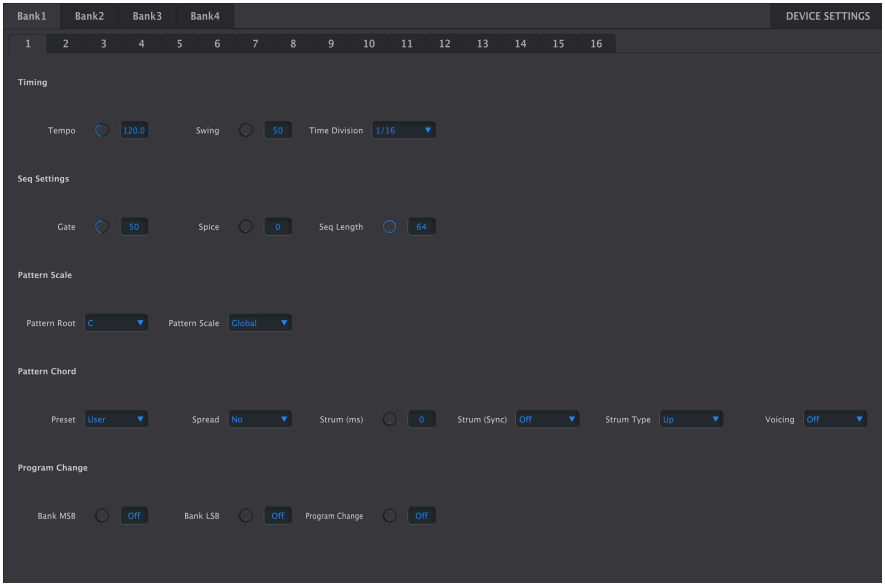
7.2.6.1. Import/Export

Use these buttons to swap Templates with other users. This will generate a file with the name of the product as an extension, for example Template for the KeyStep mk2 will have the extension .keystep.

> ♪ The Template Utility Import/Export buttons do not perform the same functions as the Import/Export buttons in the upper right corner under the Device Settings tab. The functions of those buttons are described in Device Settings [p.64] section.

7.3. Sequencer Settings page

When you first start MIDI Control Center, you are greeted by the Sequencer Settings page on the right side. It gives a clear overview for each of the settings for the 64 Sequencer Pattern slots.



The top row lets you step through **Sequencer Banks 1-4** and the second row gives you access to Sequencer **Patterns 1-16** in each Bank.

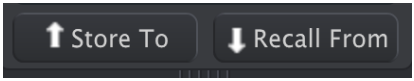
7.3.1. Recalling Sequencer Pattern settings

Each Pattern can have its own settings, for instance Scale, Tempo, Gate Time, Swing, et ectera. In the KeyStep mk2 controller, these settings are found under various menus. In MIDI Control Center, they are conveniently laid out on the Sequencer Settings page.

Start by pressing the **Recall From** button. This will send every tiny bit of information in KeyStep mk2 into MIDI Control Center. The items you see on screen now will be a copy of your controller's content.

7.3.2. Editing Pattern settings in MIDI Control Center

In some cases, editing the Pattern settings is easier on a computer. After editing parameters in MIDI Control Center, you can send your edited version back to KeyStep mk2 by pressing the **Store To** button.



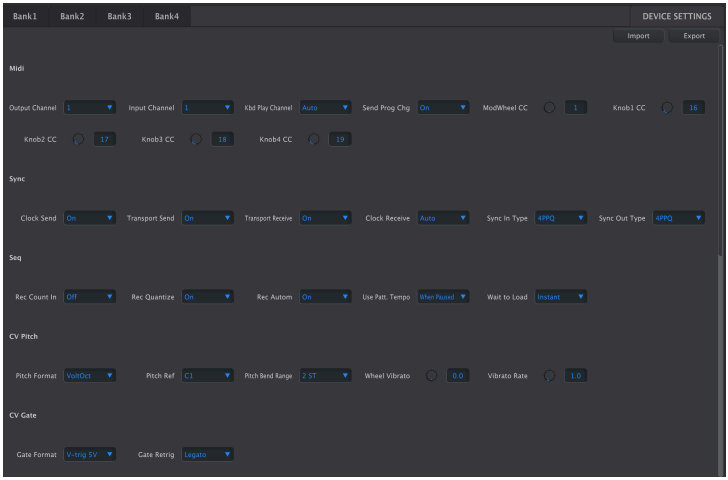
The following parameters are within easy reach in MIDI Control Center.

- **Timing**: Tempo, Swing, and Time Division
- **Seq Settings**: Gate, Spice, and Seq Length
- **Pattern Scale**: Pattern Root and Pattern Scale
- **Pattern Chord**: Preset, Spread, Strum (ms), Strum (Sync), Strum Type, and Voicing
- **Program Change**: Bank MSB, Bank LSB, and Program Change

7.4. Device Settings page

When an Arturia device is connected, MIDI Control Center will automatically pull the settings for that device into the computer.

Clicking the upper right corner in MIDI Control Center takes you to the Device Settings page. Here you get an overview of all global stettings inside your KeyStep mk2.

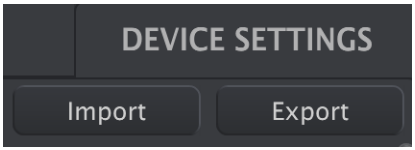


♪ Please scroll down this page to see all the content. There's a lot of info on this page.

To get back to the **Sequencer Settings page**, click on any of the Bank 1-4 buttons ion the top left.

7.4.1. Import/Export Device Settings

When the Device Settings tab is selected, you will see two buttons below the tab labeled **Import** and **Export**. The function of these buttons is to manage files containing only the Device Settings.



These buttons are different from the Template utility Import/Export buttons, which are used to generate a file containing both the Project Tab settings and the Template data such as Sequencer Patterns and the User Arpeggio.

The Device Settings files have an extension related to the product name. In other words, for the KeyStep mk2 the extension will be .keystep_ds. You can swap these files with other users or build a library of configurations for the different systems and musical environments you encounter.

7.5. Exporting your KeyStep mk2 Device Settings

To export the Device Settings from KeyStep mk2 into your computer, click the Export button. Then navigate to the appropriate location in your computer and follow the prompts to save the Device Settings file. A file selector lets you name and save your file on your computer. The file extension will be .keystep_ds.

7.5.1. Importing your KeyStep mk2 Device Settings

To import the Device Settings from your computer to KeyStep mk2, click the Import button. Then navigate to the appropriate location in your computer and follow the prompts to load in the Device Settings file.

When the Device Settings file is imported into MIDI Control Center, it is also sent to KeyStep mk2 at the same time.

The Device Settings page contains all the current global settings in KeyStep mk2.

- **MIDI**: Output Channel, Input Channel, Keyboard Play Channel, Send Program Change, ModWheel CC, Knob1 CC, Knob2 CC, Knob3 CC, and Knob4 CC
- **Sync**: Clock Send, Transport Send, Transport Receive, Clock Receive, Sync In Type, and Sync Out Type
- **Seq**: Record Count-In, Record Quantize, Record Automation, Use Pattern Tempo, and Wait To Load
- **CV Pitch**: Pitch Format, Pitch Reference, Pitch Bend Range, Wheel Vibrato, and Vibrato Rate
- **CV Gate**: Gate Format and Gate Retrig
- **CV Mod**: Mod 1 Source, Mod 2 Source, Mod 1 Max Volt, Mod 2 Max Volt, Mod 1 Curve, and Mod 2 Curve
- **Controls**: Velocity Curve, Aftertouch Curve, Aftertouch Sensitivity, Pedal Input, and Sustain Polarity
- **Scale**: Global Scale and Global Root
- **Misc**: LED Intensity and Tooltips

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This product, when installed as indicate in the instructions contained in this manual, meets FCC requirement. Modifications not expressly approved by Arturia may avoid your authority, granted by the FCC, to use the product.

IMPORTANT: When connecting this product to accessories and/or another product, use only high quality shielded cables. Cable (s) supplied with this product MUST be used. Follow all installation instructions. Failure to follow instructions could void your FFC authorization to use this product in the USA.

NOTE: This product has been tested and found to comply with the limit for a Class B Digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide a reasonable protection against harmful interference in a residential environment. This equipment generate, use and radiate radio frequency energy and, if not installed and used according to the instructions found in the users manual, may cause interferences harmful to the operation to other electronic devices. Compliance with FCC regulations does not guarantee that interferences will not occur in all the installations. If this product is found to be the source of interferences, witch can be determined by turning the unit "OFF" and "ON", please try to eliminate the problem by using one of the following measures:

- Relocate either this product or the device that is affected by the interference.
- Use power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filter(s).
- In the case of radio or TV interferences, relocate/ reorient the antenna. If the antenna lead-in is 300 ohm ribbon lead, change the lead-in to coaxial cable.
- If these corrective measures do not bring any satisfied results, please the local retailer authorized to distribute this type of product. If you cannot locate the appropriate retailer, please contact Arturia.

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EUROPE

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This product may not work correctly by the influence of electro-static discharge; if it happens, simply restart the product.