

# The blackbox 3.0 Guide To New Features

## New Features

- Sequence Patterns: each sequence now supports 4 mutually exclusive patterns, labeled A through D. See [Sequence Patterns](#) below.
- Record MIDI Only Sequences directly without the need for a pad. See [Keys Screen and MIDI Sequences](#) below for more details
- Improved Song Mode
  - Use the Grab feature to create or modify a song scene.
  - Song scenes display which pads (left grid) and sequences (right grid) will be triggered. Touch a grid to edit the pads and sequences for that scene.
  - The Keep feature allows a pad or sequence to continue in its previous state when a scene is triggered.
  - New UI For Editing and Manually entering Song Scenes.
  - Song Scenes can start and continue playing clips and samples.
  - Use MIDI to Trigger Song Scenes. See [MIDI Configuration](#) below for the details.
- Revamping of MIDI Configuration in blackbox. See [MIDI Configuration](#) below for the details.
- New clock management features. See [MIDI Clock Settings](#) below for the details.

## MIDI Configuration

Goals:

- Create a clearer way to control blackbox with MIDI.
- Improve MIDI Note and clock routing options to avoid unwanted MIDI feedback
- Simplify recording into MIDI Mode sequences
- Allow MIDI triggering of song scenes
- Support MIDI Thruing to allow blackbox to better fit into a multi-instrument configuration

## Global MIDI Settings

- **Global In (MIDI channel)** (On the Tools page, MIDI tab. This used to be called “MIDI Pads.”) Use this channel to:
  - Trigger Song Scenes (notes 2-33) **NEW!**
  - Select and Trigger the previous scene (note 34) **NEW!**
  - Select and Trigger the next scene (note 35) **NEW!**
  - Trigger pads in one shot mode (notes 36-51)
  - Trigger sequences (notes 52-67)
  - Record into a Pad (notes 68-83)
  - Clear pads (notes 84-99)
  - Select the previous pad (note 100)
  - Select the next pad (note 101)
  - Play the selected pad (note 102)
  - Record to the selected pad (note 103)
  - Clear the selected pad (note 104)
  - If MIDI rec is enabled, change pad selection and initiate recording.
- **MIDI Seq (MIDI channel)** (**NEW** - On the Tools page, MIDI tab.) Use this channel to play notes into a sequence:
  - **MIDI Mode:** record notes into the selected sequence and play thru to MIDI Out channel mapped to the sequence.

- **Keys Mode:** record notes into the selected sequence. Notes on MIDI Seq channel do not play thru to the MIDI Out channel mapped to the sequence. The sequence will send notes out to the sequence's MIDI Out channel when the sequence is playing.
- **Pads Mode:** not used. Use the MIDI Global In channel instead.
- **MIDI Thruing**
  - MIDI Out: (**NEW** - On the Tools Page, MIDI Tab). This controls which MIDI signals are sent to the TRS MIDI Out port:
    - Enabled: Only send the following:
      - Notes from playing sequences that have a MIDI Out channel assigned;
      - Notes, CCs and pitch bend from the selected sequence if the sequence is in MIDI Mode and notes are played on the MIDI Seq channel.
    - USB Dvc Thru: only send the MIDI that came in from the USB Device port.
    - MIDI In Thru: only send the MIDI that came in from the TRS MIDI In port.
  - Clock output is controlled separately via the Send parameter on the Tools->Clock page.
  - Transports are sent out with the Clock signal.
- ~~MIDI Keys (channel)~~
  - **Superseded** in blackbox 3.0. New workflow is to map each pad to a different channel and change the channel on the MIDI controller to change which pad you are playing, or to use the MIDI Seq channel to record into sequences.

**Note:**

- When recording a Keys mode sequence, MIDI input received on Global In channel and channel assigned to other pads could be used to play something else, but will not be recorded.

## MIDI Clock Settings

There are two parameters on the Tools->Clock page to control how MIDI clock flows through the blackbox.

- **Receive: (renamed)**
  - **All** – blackbox will use the MIDI clock received from the MIDI In port and the USB Device port. It is best to only send clock into one of these ports at a time.
  - **USB Device** – blackbox will use the MIDI clock received from the USB Device port.
  - **MIDI In** - blackbox will use the MIDI clock received from the MIDI In port.
  - **Off** – blackbox will ignore all incoming MIDI clocks and use the internal clock.
- **Send: (new)**
  - **All** – blackbox will send MIDI clock out to the USB Device port and the MIDI Out port.
  - **MIDI Out** – blackbox will send MIDI clock out to only the MIDI Out port.
  - **USB Device** – blackbox will send MIDI clock out to only the USB Device port.
  - **Off** – blackbox will not send out a MIDI clock signal on the MIDI Out or USB Device port.

**Note:**

- blackbox will always send Clock out to the analog Clock Out port.
- Blackbox will select the highest priority clock detected in the following order of priority:
  - 1.) analog Clock Input;
  - 2.) MIDI Input;
  - 3.) Internal Clock.

## Per Pad MIDI Settings

- MIDI In: Use this pad parameter to:
  - Play a pad chromatically/sliced.
  - Record a Keys sequence for a sequence mapped to this pad. Sequence must be selected and mapped to the pad.

### Note:

- When recording a Pads mode sequence, MIDI input received on a channel assigned to an individual pad will play that pad but will be not recorded. MIDI input received on the MIDI SEQ channel is ignored. Only MIDI from the Global In channel or pad triggers from the Pads screen will be recorded.

## Per Sequence MIDI Settings

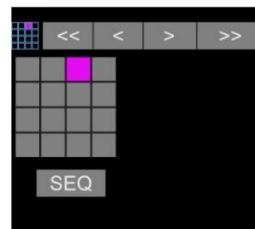
- **MIDI Out:** Each sequence will send to its designated MIDI Out channel:
  - The notes in the currently active sequence pattern when the sequence is played.
  - Additionally, if the sequence is in MIDI Mode:
    - The notes played on the Keys screen when the sequence is selected and the Keys screen has SEQ selected as the target instrument.
    - MIDI received from the MIDI Seq channel while this sequence is selected (pass thru)

## Keys Screen

### Keys Screen and MIDI Sequences

To use the Keys screen to play out to the MIDI channel mapped to a sequence in MIDI Mode:

- 1.) On the SEQS screen, select a sequence and pattern that is in MIDI mode.
- 2.) Touch Keys to open the Keys screen.
- 3.) Touch the pad selection grid in the top left corner. The selection grid appears as an overlay, with a new SEQ button below it. Touch SEQ to enter SEQ mode. The grid in the top corner is replaced with SEQ.
- 4.) Play notes on the Keys screen. These notes will be passed through to the MIDI out assigned to the selected sequence. You can also record these notes into the selected sequence pattern.
- 5.) To Exit SEQ mode, touch the SEQ button in the top left corner to open the pad selection overlay. Select a pad to play.



### Pad Selection on the Keys screen

- You can now change which pad is selected from a Pad selection grid in the top left corner of the Keys screen. When the pad selection pop-up is displayed, there is a new “SEQ” Mode button below the pads grid. Select this to play the MIDI output related to the currently selected sequence. Go to the SEQS screen to select the Sequence + Layer to play.

## Sequence Mode Autodetection

SEQs will automatically configure themselves with a few key rules:

1. The SEQ must be empty to start with (no notes on any layers)
2. The recording must be done from the touchscreen (PADS or KEYS)
3. The SEQ must not be in MIDI mode

If these conditions are met, the first note you record into a sequence will do the following:

1. Configure the SEQ to be PADS or KEYS
2. For KEYS, configure the target Pad to match the first note played.

## Sequence Patterns

Each sequence cell now has 4 patterns. All patterns in the cell have the same Sequence mode (Keys, Pads, MIDI), the same target (pad or MIDI Out), and the same quantization settings. Each layer may have a different step length and step count. Only one layer may play or be edited at a time.

To select a layer:

1. From the SEQS home screen, turn the bottom right knob to swap out the right panel for the layer selector. Touch the letter for the layer you want to play and edit. The layer is displayed in the lower right corner.
2. From the Seq Info Page (Push INFO twice from the SEQS home page), touch the layer tab across the bottom. Here you can set the step length and step count for the layer, and you are changing the layer that you are playing and editing.
3. From the SEQ Piano roll screen, you can see the selected layer in the header. We will add a selector on this screen in a future build.

## Changes to Keys Sequences

Each Keys sequence is now mapped to one pad. If you change the pad selected, the notes for the sequence will now be played on the newly selected pad.

## MIDI Only Sequences

### Setup a MIDI Only Sequence

1. Select a sequence cell on the SEQS home page.
2. Push INFO to open the piano roll screen for that sequence.
3. Touch the Sequence Mode selector button at the top of the screen, and then select MIDI from the drop down.
4. Push INFO again to open the Sequence parameters screen. Touch the SEQ tab on the bottom to open the tab.
5. Turn the top knob to select the MIDI Out parameter, then turn the bottom knob to assign the MIDI channel that will be used to send MIDI to the external device through this sequence.

### Record a MIDI Only Sequence Using the Keys Screen

1. Select the MIDI only sequence you want to record into.
2. Push the KEYS button to open the Keys Screen.
3. Touch the pad selector grid in the top left corner.
4. Touch the SEQ button at the bottom of the pad selector overlay screen. The Keys screen is now in SEQ mode. Notes played and recorded here will now be sent to the currently selected sequence. If that sequence is a MIDI only sequence, the notes will be sent out on the MIDI Out channel selected for that sequence.

### Record a MIDI Only Sequence Using an External MIDI Controller

1. First you need to select a MIDI channel that will be used to send input to sequences:
  - Push the TOOLS button. Touch the MIDI tab.
  - Set the value of the MIDI Seq parameter to the MIDI channel you will use to play and record the external sequence.
  - Set your MIDI Controller to send MIDI out on the same channel you selected in the previous step.
2. Select the MIDI only sequence you want to record into.

3. Play notes on the MIDI Controller. You will hear the notes played on the external device that is listening to the MIDI channel configured as the MIDI out channel of the sequence.
4. Push REC + PLAY to start recording. Play some notes on the MIDI Controller and they are recorded into the sequence and sent to the external device.

## Song Scenes

In song mode, you can define a series of scenes. Each scene can be configured to start or stop playing sequence layers and clips. There is also an option to have a scene “Keep” playing a sequence cell or clip that was running when the scene started while also triggering sequences and clips. The KEEP mode is useful if you want to jump around and play scenes out of order.

Each song scene displays the following information:

- The Scene Name
- The Clips that will be triggered or continued during the scene. (The left grid in the scene row)
- The Sequence layers that will be triggered or continued during the scene. (The right grid in the scene row)
- The Length of the scene (the first number after the sequence grid). This is the longest clip or sequence assigned to the scene.
- The number of times the scene will loop (The number after the X)

### Add a Song Scene

1. Push Song to open the Song screen.
2. Touch Edit then Add to create a new Song Scene after the currently selected scene.

### Assign Pads and Sequences to a Scene

1. Select a Scene to edit it.
2. Touch the grid on the left side of the scene row to open the Pad selector. Touch the cell that corresponds to the pad you want to play. Touch the KEEP button before touching the pad if you want to keep the current playback state of the pad.
3. Touch the grid on the right side of the scene row to open the Sequence selector. Touch the pattern letter you want to assign, and then touch the cell that corresponds to the sequence you want to play with that layer. You can also use the Keep button to continue playing the pattern that was playing or armed before the scene started.
4. Leave a pad or sequence cell empty to stop playing the corresponding pad or sequence when that scene starts.

### Play a Single Scene in a Loop

1. Push Song to go to the Song screen.
2. Touch the Song button at the top of the screen (next to the Loop button) to toggle Song Mode On (Blue).
3. Select the Scene you want to loop. Push the Loop button at the top of the screen to select the desired Loop mode: Loop1 will loop only the selected scene. LoopA will loop all scenes. We want Loop1 in this case.
4. Push the Play button. The selected song scene will play in a loop until you push stop or disable Loop mode. You can also touch a different Scene to start looping that scene instead.

### Play Song Scenes a Pre-Defined Number of Loops

1. Create two or more song scenes
2. Select a Scene and push the INFO button. Here you can see the Play Count parameter. Turn the bottom knob to adjust the play count.
3. Push Back and then repeat the previous steps for each scene.
4. Touch the Song button in the header to enable Song mode.

5. Make sure Loop mode is off (touch the Loop button in the header to cycle through the options. The button is gray when off.)
6. Select the top Scene you want to play.
7. Push Play. The clips and sequences assigned to the scene will play for a length equal to the number of bars equal to the Scene Length X Loop Count. After that, play will advance to the next Scene.
8. You can select a scene to jump to that scene at the next quantization break.

## Working with Scenes and Sequences

- If you are recording a sequence, and play something not related to that sequence, it will play and not get recorded, as long as song mode is off. If song mode is On, it will not play.
- You can record a sequence in song mode. However, if you want to hear what you are recording, you must add the sequence pattern to the playing scene. If you use Keep for this sequence in that scene, you can work with any of the patterns for that sequence.
- When a scene is triggered:
  - Any sequence that has a Pattern Letter assigned to the scene will be armed and triggered at the start of the scene.
  - Any pad that is active (blue) for the scene will be armed and triggered at the start of the scene.
  - Any pad or sequence that has a Keep in the scene, will retain its current armed and playback state. If the song is just starting and a sequence or clip is armed, it will start playing.
  - Any pad or sequence that has a stop (empty) in the scene, will be disarmed and stop playing at the start of the scene.
- Tips for users with LaunchPads
  - You can set up the LaunchPad in advance to work with specific MIDI Channels. This involves creating custom user modes that use different MIDI channels. You can do this [when rebooting the Launchpad](#) or using [Novation Components](#).

## Which features have been superseded with new ways of working?

- Per Pad MIDI Out. All MIDI out now comes from sequences.
- Global Keys. Use MIDI Seq with sequences mapped to Individual Pads or MIDI Outputs.
- Multiple pads used for one Keys mode sequence. You now have 4 patterns for each sequence. Each Keys sequence is mapped to a single Pad. This will require you to rearrange sequences that made use of this feature. The first four pads used in each sequence are mapped to the 4 patterns in the sequence when loading old content. Use copy and paste to move the notes to new sequences.
- Recording Song Mode sections. You can manually edit them or use the Grab feature to capture the current state as a scene.
- Starting and stopping sequences in the middle of a scene. All sequences and pads in a scene start and stop together. Use new scenes to bring elements in or out. You now have twice as many scenes (32) to work with.