

Bento v1.6 Release Notes

Welcome to the bento 1.6 release notes. These notes cover the features and bug fixes that have been added to bento since the last official release which was 1.5.32.

OVERVIEW OF NEW FEATURES

New Features

The features listed here have more detailed usage information in the [HOW TO USE THE NEW FEATURES](#) section below.

1. **Parameter Automation:** Draw a shape on the piano roll grid to modulate one or more track parameters during a sequence. Any parameter on the modulation screen for a track can be automated.
2. **Sidechain Ducking:** you can now use sidechain to duck the audio for one track or the main audio output based on a selected trigger. Triggers include: Track Audio, Pad trigger event, Clock divisions, Audio input, and MIDI Event. Configure track level sidechain on the Config Track screen. Configure Main output sidechain on the Mixer Compressor screen.
3. **Pad Level Mutes:** Mute individual pads in a one-shot track, or individual loops in a Loop track. This allows you to temporarily remove a drum pad from a sequence or mute the audio of a loop and bring it back without missing a beat.
4. **16 Scenes per Song:** Use the Up and Down arrows to switch between the two sets of scenes. The grid to the left of Play Count shows you which set you are currently editing.
5. **Record Audio from Anywhere:** Arm the one-shot or loop you want to record into, press record, and then leave the screen to control sequences, play an instrument, tweak the FX or adjust the MIX without interrupting recording.
6. **Export Stems:** On the Song screen, select Export Stems from the menu to generate a WAV file for each TRACK and another for the full mix.
7. **New Toggle Launch mode for One-Shot and Loop pads:** In Toggle mode, the first pad trigger will start playback, and the second will stop it.
8. **MIDI Triggered Recording:** On one-shot and loop tracks, use the track's MIDI Channel to trigger recording actions.

Smaller (but still important) Feature Updates

Navigation Updates

1. Use Left and Right arrows to select the previous or next item. **NOTE: Pay attention to this feature because it changes the context of what you are editing.**
 - a. On the sequence screen, select the next or previous sequence in the track.
 - b. On the one-shot and loop bank screens, use the left and right arrows to change the selected pad.
 - c. On the Config Track screen, select the next or previous track to edit.
2. The Mixer and DJ FX screens are easier to access during live performance
 - a. Pushing MIXER will always take you to the mixer. Use the menu on the Mixer screen to access the compressor and main input sidechain settings.
 - b. Pushing FX will always take you to the DJ FX screen. Use the button in the footer to access the other FX settings.
3. Easier access to the Global and Project Settings screens
 - a. Pushing PROJ now cycles through: Project Management, Project Settings, and Global Settings.
 - b. The cycle always starts on Project Management.
4. Access FX Settings via a button on the FX Screen toolbar. Pushing FX will always take you to the FX XY performance screen.

Workflow Improvements

1. Audio Recording displays a countdown. The cell counts down to the start of a quantized or counted-in take.
2. Root Note and Scale are now on the tempo pop-up.
3. Waveforms now draw faster and don't compete for resources with audio playback. The first time bento draws the waveform for a WAV file, it saves a small overview file next to it, named <file name>.wav.pk and it uses that file to draw quickly in the future.
4. On the MIXER screen, the selected track now has a white frame around it. This makes it easier to use the MIXER screen as your main screen.
5. Swapped the positions of the battery indicator and the bars:beats counter. This makes it easier to access the menu and the Tempo pop-up reliably without hitting the other by mistake.
6. The Step Sequencer's Pad Picker now shows the pad names.
7. The External Track dashboard now has MIDI In Channel, MIDI Out Port, MIDI Out Channel and Audio Input knobs for faster configuration.
8. Dim the pads. The pad lights now adjust their brightness level when you adjust the Brightness on the TRACKS screen or Global settings screen.
9. MIDI Port routing: On the Track Config screen, choose a MIDI In Port to go with the MIDI In Channel to control which port the track listens to. Options are TRS 1, TRS 2, USB and All.
10. View and Knob Bank Selectors are now visually different from action buttons. In the screen snippet below, Event, Sequence and Automation are View Selectors,

with the Automation view selected. Clear and Undo are action buttons:



Shimmer Reverb

- New reverb modes: Room (previous type) or Shimmer (new)
- Shimmer mode will pitch-shift the reverb tail by the number of semi-tones specified by the Shift parameter.
- Use the Shim Fbk parameter to control the amount of shimmer that feeds back into the reverb.

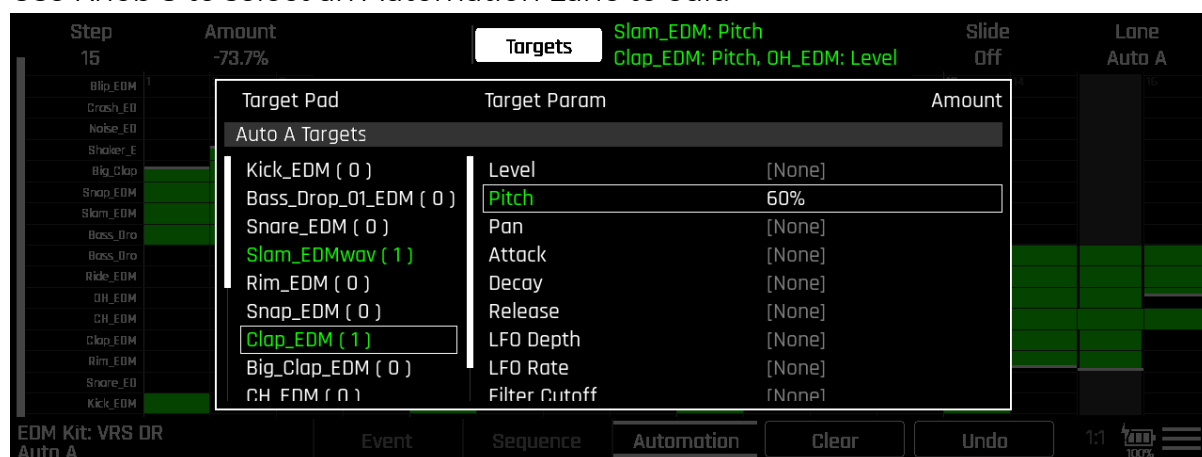
HOW TO USE THE NEW FEATURES

Parameter Automation Lanes

- Each track can have up to 4 lanes of parameter automation.
- Any parameter that is on the Modulation screen for a track can be included in an Automation Lane.
- Each sequence can have a bi-polar automation graph for each of the 4 automation lanes that is visible on the Piano Roll for the sequence.
- The automation graph will be used to modulate the parameters assigned to the modulation lane while the sequence is running.
- Automation graphs are the same length and step size as the sequence.
- When slide is off, the parameter modulation jumps between steps. When slide is on, the parameter modulation will start at the beginning of each step to gradually change to the value assigned for the next step.
- There is a parameter picker on the sequence screen where you can view the list of parameters in the lane and add or remove parameters from the list.

To Add Targets to an Automation Lane:

1. Open the Piano Roll for a sequence.
2. In the footer, tap Automation. In the sequencer's Automation view, the knob header has a **Targets** button on knob 4. The lane's current targets are listed beside it in the track color.
3. Use Knob 8 to select an Automation Lane to edit.



4. Tap Targets to open the Automation Target Chooser for the selected Automation Lane.
5. For One-Shots, Target Pads are listed on the left, with a count after each pad of how many of its parameters this lane drives. On tracks without pads the column is empty. Use Knob 1, or swipe and touch to select a Target Pad.
6. Target Params are in the middle column. Use Knob 4 or swipe and touch to select the parameter.
7. Select an Amount value in the right column. Use Knob 8 to enter an amount. Move the Amount away from [None] to assign the parameter to the lane;

move it back to [None] to remove it. The Amount controls the level of impact the automation bar will have on the parameter. Choose negative values to move the parameter in the opposite direction of the graph.

8. Tap outside the Target Chooser pop-up to close it.

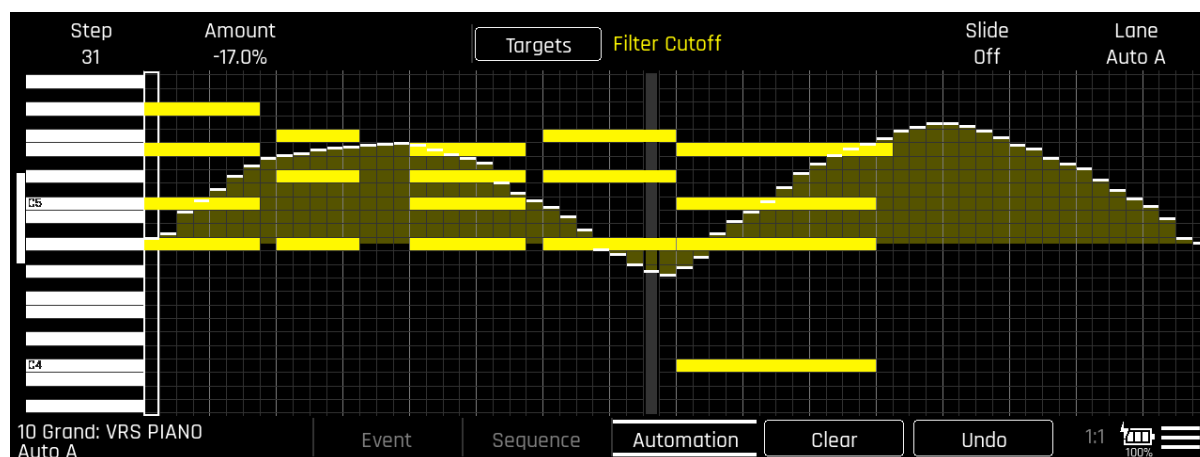
Note:

- When you add a parameter to the Automation Target list, the current Lane will be added as a modulation source to an available modulation slot, and the Amount for that slot will be set to 100.0%. There must be an available modulation slot in order to add the parameter to a Lane.

To assign parameters to an Automation Lane using the Modulation Screen

- Open the Modulation screen for the track or pad
- Select the parameter you want to add to a Lane
- Set the Source for one of the three modulation slots to Lane A, Lane B, Lane C or Lane D.
- Set the Amount for that source to the desired value. We recommend starting with 100.0%.
- To remove the assignment, change the Source for the modulation lane to a different value.

To Add Automation to the Targets Selected for an Automation Lane



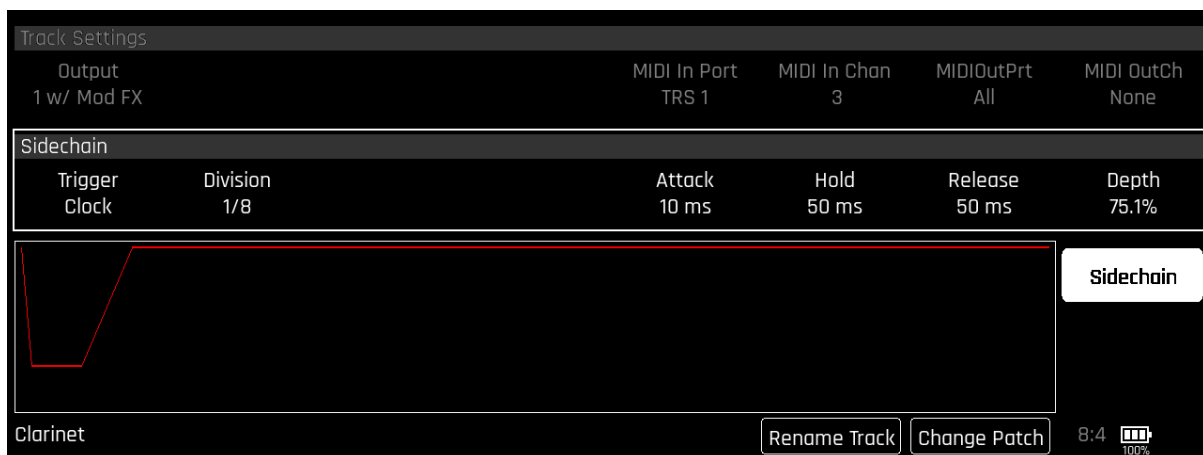
1. Open the Piano Roll for a sequence.
2. In the footer, tap Automation. In the sequencer's Automation view, the knob header has a **Targets** button on knob 4. The lane's current targets are listed beside it in the track color.
3. Use Knob 8 to select an Automation Lane to edit.
4. Tap or drag on the screen to draw the automation graph. You can also use the Step knob to choose a step to edit, and then use the Amount knob to set the

level of modulation that will applied to targetted parameters when the step runs.

Sidechain Ducking

You can now use an audio signal or other trigger event to trigger audio ducking of the signal for a track or for the entire main output.

Here's what you need to know first: you set up the ducker on the track that gets quieter. To have a kick drum push a bass line out of the way, set up the ducker on the bass track and choose the kick track as the Source.



To duck one track with the audio of another:

1. Push TRACKS and select the track you want to get quieter (the bass in the example above).
2. Tap menu->Config Track.
3. Push the Down arrow to go to the ducker knobs. The knobs are:

Row	Knob	Parameter	Description and Range
1	1	Trigger	What fires the duck. Options: Track, Pad, Clock, Audio, MIDI. The second and third knobs change with this choice (see below); the fourth knob is unused on this row.
1	2-3	Depends on Trigger	Track: Source and Threshold. Pad: Source Track and Source Pad Audio: Source and Threshold. Clock: Division. MIDI: Channel and Note.

Row	Knob	Parameter	Description and Range
2	1	Attack	How quickly the level dips when the trigger fires. Range: 1 to 20 ms.
2	2	Hold	How long the level stays down before it recovers. Range: 0 to 500 ms.
2	3	Release	How long the level takes to return to full. Range: 0 to 500 ms.
2	4	Depth	How far the level dips at full duck. Range: 0 to 100%.

4. Set Trigger to Track.
5. For Source, select the track that contains the audio that will trigger the duck.
6. Set Threshold. The ducker triggers each time the source track's level goes over the Threshold. If it doesn't trigger, try a lower Threshold.
7. Set Depth to between 60% and 80% to start. This controls how quiet the targeted track will be during the ducking.
8. Tap the Sidechain button to set it to On. The graph changes from gray to the track color.
9. Push PLAY. The playhead on the graph moves each time the ducker triggers.

Track and Audio triggers fire when their source audio crosses a **Threshold**; Pad, Clock, and MIDI triggers fire on each event. The second and third knobs on row 1 depend on the **Trigger**:

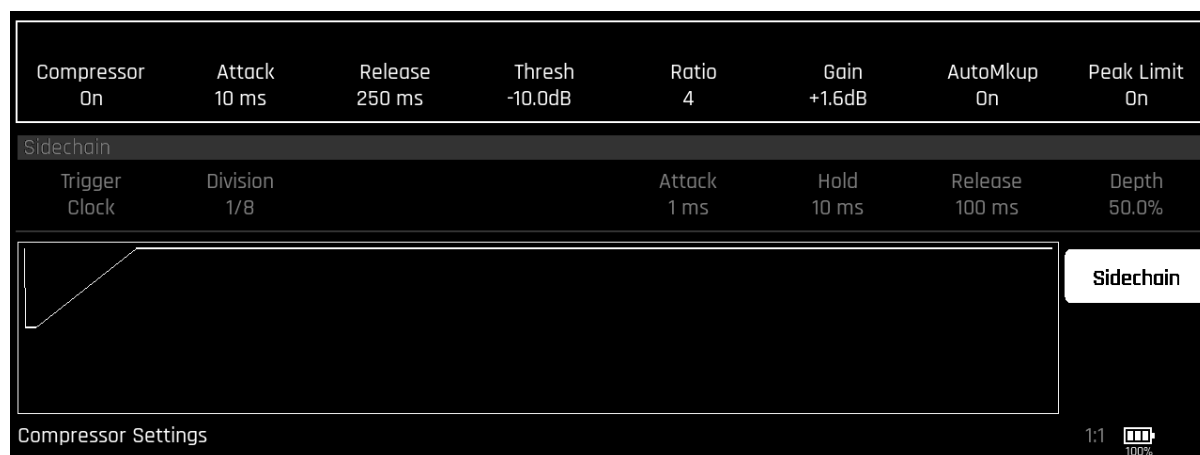
Trigger	Knob 2	Knob 3
Track	Source — the track whose audio keys the duck (Track 1–4).	Threshold — the level that track must cross to fire (0 to 100%).
Pad	Source Track — the track that holds the pad (Track 1–4).	Source Pad — the pad that fires the duck (Pad 1–16).

Trigger	Knob 2	Knob 3
Clock	Division — how often the clock fires it (1/16, 1/8, 1/4, 1/2, 1/1).	<i>(unused)</i>
Audio	Source — the audio input that keys the duck (In 1, USB).	Threshold — the level that input must cross to fire (0 to 100%).
MIDI	Channel — the channel to listen on (Omni, or 1 to 16).	Note — the note that fires the duck.

To duck a track with a one-shot Pad trigger event, a clock signal, an audio input or MIDI

Follow the same steps used to duck one track with another, but select the appropriate source and related settings as shown in the table above.

To duck the Main output:



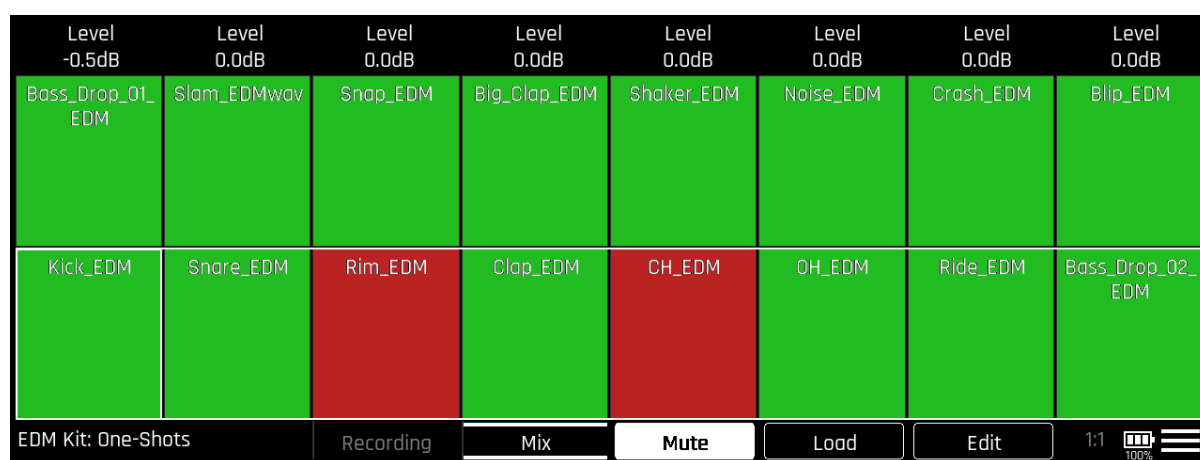
1. Push Mixer.
2. Tap menu->Compressor.
3. Use the same process outlined above to configure the sidechain options.

Note:

- Sidechain is OFF for every new track and project, so tracks sound the same until you turn Sidechain on.
- The ducker listens to the source track before its fader and mute. That means a source track still triggers ducking when you turn its fader down or mute it. You can use this to duck with a kick you don't want to hear.
- A track's Source list doesn't include the track itself.

- On an External track, the Audio Source list doesn't include the input the track is already using.
- The ducker also ducks the track's reverb and delay sends from the Mixer. Reverb and delay sends set on the instrument dashboard are not ducked.
- In MIDI mode, only notes from an external MIDI device trigger the ducker. Bento's own pads and sequencer don't trigger it. Set Channel to Omni to accept notes On any channel.
- Bento saves the ducker settings with the project, and copying and pasting a track copies its ducker settings.

Pad Level Mutes



To mute a pad or loop:

1. Select a one-shot or loop track and push INST.
2. Tap Mute in the footer to enter Mute Mode. The unmuted pads have a green background, and muted pads have a red background while in Mute mode.
3. Tap a pad on the touch screen to mute the pad. You can still use the hardware pads to trigger the unmuted pads or to arm loops.
4. Tap mute in the footer again to exit Mute mode.
5. When Mute mode is off, the muted pads have a gray background, and the unmuted pads have the usual black background.

Note:

- While in Mute mode, use the arrow buttons to select a pad to edit.
- When a pad or loop is muted, the corresponding hardware pad is dark to show that it is not playable.
- On the Step Sequencer screen, the active steps are gray for muted pads to show those steps will not trigger.
- On the Piano roll, the pad name in the row header on the left is dark gray and the steps in that row are gray to show that the pad is muted.

16 Scenes per Song

Scene Hold Off	Song Loop Off	BPM 120				Quant Size 1 bar	
1x	1x	2x	1x	2x	1x	1x	1x
INTRO	VRS 1	CHRS 1	BRK DWN	CHRS 2	BUILD	INTRO	ENX
VOCODER					4	4321	
INTRO DR	VRS DRMS	CHR DRMS	BRK DRM	CHR DRMS	BRK DRM	CHR DRMS	END DRMS
INTRO PA			BRK SYNT	CHRS SYN		INTRO PA	END SYNT
INTRO PI	VRS PIAN	CHR PIAN	BRK PIAN	CHR PIAN	VRS PIAN	CHR PIAN	END PIAN
INTRO BA	VRS BASS	CHR BASS	BRK BASS	CHR BASS	INTRO BA	CHR BASS	END BASS
4-Synth New Waves SCREENSH  Play Count Song 1:1 100% 							

The song screen now supports 16 scenes. A scene grid to left of the Play Count button shows which row of scenes is selected and which scenes are loaded.

To access the second row of scenes:

- Push the up or down arrow
- Tap the scene grid to the left of the Play Count button
- Push Left or right arrow past the end of the current row

Record Audio from Anywhere

An armed pad now stays armed when you leave the sample bank so you can trigger audio to resample, or play along while recording an external input.

- With Rec Mon on Auto, input keeps passing through on any screen while the pad is armed, counting in or recording
- Pressing REC on any screen records audio into the armed pad. The arm releases when you switch the bank to Mix view, arm another pad, unload the track, load a project, or finish a take.

Export Stems

1. Push SONG.
2. Tap menu->Export Stems.
3. Follow the prompts. Bento tells you how many stems it will export and how many times the song will play.
4. Bento plays the song once for each track and records that track by itself, with its own reverb and delay. The outputs are muted during these passes. Between passes, bento pauses for 8 seconds so the reverb and delay can fade out.
5. Bento then plays the whole song one more time and records the full mix. You can hear this pass.

Your files are in a new folder inside the project folder:

- Projects/<project name>/Stems <project name> 001/
 - <track name> - Track .wav , one file for each track
 - Song <project name>.wav, the full mix

Each export makes a new folder (002, 003, and so on).

Note:

- The export plays in real time, so it takes about (number of tracks + 1) x (song length + (8 seconds x (number of tracks 1)).
- Tracks that are muted or left out by a solo are skipped, so the stems add up to the song.
- Tracks sent to Output 2 or Output 3 export as silence.
- Stems include the master compressor, so they add up to nearly, but not exactly, the full mix.
- Don't push PLAY during the pauses between passes, or the audio ends up in the next stem.
- Tap Cancel or push STOP during an export to stop it. Bento deletes the unfinished folder.
- Bento restores your mute and solo settings when the export ends.

New Launch Mode of Toggle for One-Shot and Loop Tracks

On the dashboard for One-shot and Loop tracks, you can choose a Launch Mode for each pad. Previous options were Trigger and Gate. This release adds a Launch Mode of Toggle. When Toggle is selected, the first trigger of the pad will launch playback of the one-shot or loop. A second trigger will stop playback of the one-shot or loop. If the pad is configured to loop, it will continue to play on loop until you toggle it off by triggering it again.

MIDI Triggered Recording

Notes on a track's MIDI In channel trigger that track's pad recording actions, on one-shot and loop tracks only, and only while that track's Pad Rec option is on. Pitched track types (multisample, slicer, shredder, external) ignore these action notes and just play them.

These apply to **one-shot and loop tracks** while **Pad Rec** is on, using notes received on that track's own **MIDI In Chan**:

Notes	Action
36–51	Play pads 1 through 16 (this works whether or not Pad Rec is on).

Notes	Action
68–83	Record into pad 1 through 16.
84–99	Clear pad 1 through 16.
100	Select the previous pad.
101	Select the next pad.
102	Play the selected pad.
103	Record into the selected pad.
104	Clear the selected pad.

With **Pad Rec** off, the recording and pad-action notes (68 and up) are ignored, so you can play the pads without triggering a recording by mistake.

NOTEWORTHY BUG FIXES

Recording

1. Recording while following MIDI clock: Loops recorded while following external MIDI clock now come out right, even when the incoming clock is very different from the project tempo. This was a known issue in 1.5.39. The tempo on the screen now follows the incoming clock as soon as the external transport starts. When the external clock stops, bento keeps that tempo.
2. Bento could get stuck recording until you turned it off and on again.
3. A recording with a custom length could stop the moment it started when Count In was on.
4. Pressing REC while the transport was already running often failed to start a recording.
5. When running on battery, bento could go to sleep during a long recording which ruined the recording. Bento now stays awake while it records.
6. While a recording is running bento won't let you cut, paste over, change or delete the track or WAV you are recording into. Clearing, undoing, cutting or pasting sequences, scenes and loop groups is blocked too. Those menu items are grayed out until the recording ends. You can still do all of this on other tracks.

7. The metronome runs to the end of a take, instead of stopping when you press REC to end it.

Scenes

1. Snap Scene now saves the loops that are actually playing. Before, a snapped scene could play the wrong loops on a loop track, or none at all.
2. Pasting a snapped scene no longer replaces the name and play count of the scene you paste it into.

One-Shots and Loops

1. Copying and pasting a pad now keeps the pad's own settings: beat count, loop mode, reverse, polyphony, quantize, sync and mute. Before, these were reset to their defaults.
2. Muted loops now show as gray in the Loop Group editor.
3. The VU meters on muted and unmuted pads now have a white outline, so they're easy to see on red and green pads.
4. Loop tracks no longer come back armed to play when a project loads.
5. **Toggle-mode loops that played to their tail now restart on the next press.** With Launch = Toggle and Loop off, a loop that ended on its own left the track believing it was still playing, so the next press stopped an already-silent voice.

WAV screen

1. Unload now works on the WAV screen for Slicer and Shredder tracks. It also clears the slice markers.
2. Rename WAV now works on the WAV screen, and the new name shows up right away.
3. Loading a WAV into a Slicer or Shredder track after unloading its old WAV now works.

Other

1. **Step Sequencer:** Halve, Clear and Undo menu options now work.
2. **DJ FX:** Echo 2 is now available in the Live B slot.
3. **Reverb:**
 - a. Edits are remembered per style, so it is easy to switch between styles.
 - b. The reverb tail is allowed to finish while frozen or bypassed.
 - c. Sweeping the reverb Style or Mod FX type knob no longer produces noise
4. **Reduced light bleed between the top and bottom rows of hardware pads.**
5. **Slicer:** You can now place slices near the start and the end of the file even when zoomed out.
6. **Shredder tracks were silent on outputs 2 and 3.** You can hear them now.
7. **Issue with Bad Audio when first booting up has been fixed.**
8. **An external controller sending MIDI transport will no longer reset the unit repeatedly.**

9. **Charging a powered-off unit could stall around 40–55%.**
10. **Reverb:** Each reverb style now remembers its own Time and Level, along with its other settings.
11. **Granular:** The buttons on the granular config screen now work when there is no WAV loaded. • Long files: A loop too long to fit in memory no longer reloads all of its audio from the microSD card on every pass. • Project browser: Columns that are partly off the left edge of the screen now show their text.
12. **Long files:** A loop too long to fit in memory no longer reloads all of its audio from the microSD card on every pass.
13. **Slicer:** Loading a sliced WAV over another sliced WAV no longer keeps the old slices.
14. **FX:** The X/Y pads' Live A and Live B settings survive a project load. Releasing Hold returns the cursor to the center.
15. **Analog clock out is a clean 50% duty cycle at every PPQ**, and 24 PPQ no longer drops pulses.

Known Issues

1. Automation for Loop Groups has not been implemented.
2. Can't record into a Loop track if USB is the sync source while Count in is enabled.
3. When using MIDI to initiate recording using note number 103, you have to send note number 104 to clear the pad first in some cases.
4. When using MIDI to initiate recording, note number 103 starts recordings but does not stop them.
5. Change Patch > 'New' does not retain sequences. If you select an existing patch with a compatible sequence type when changing patches, the sequences are retained.
6. On the Scene screen, the left and right arrows should change the selected scene. Instead, they change the track selected on the screen.
7. When the Sidechain Trigger is set to Pad, the numbering used for Source Pad is wrong. The rows are reversed. For example, Pad 1 is labeled as Pad 9 and vice versa.
8. When the Sidechain Trigger is set to Pad, in some cases you can pick a source track that is not a one-shot.
9. When recording open ended sequences, there is a max number of steps of 256. If you keep recording past that, no notes will be recorded, but the sequence never ends or loops back to the beginning as it would with a fixed sequence length.
10. On multisample tracks, trying to Load WAVs into an already loaded track is not consistently reliable. The work around is to unload the track and reload it, or use Change Patch.